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Project on Police-Citizen Contacts: Final Report, 2007

**Prepared Exclusively for:
Colonel Frank Pawlowski
Commissioner, Pennsylvania State Police**

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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, 2007 – December 31, 2007. These data represent the sixth year of data collection for the voluntarily-initiated Project on Police-Citizen Contacts. The remainder of Section 1 summarizes the findings from the most recent previous report (Year 5 - 2006), the PSP response to that report, and an overview of the current Year 6 (2007) Report.

SUMMARY OF THE YEAR 5 (2006) REPORT

Prepared March 2008, the *Year 5 Final Report* (see Engel, Tillyer & Cherkauskas, 2008) summarized the data collected during the fifth year of data collection, from January 1, 2006 through December 31, 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. Of the 283,827 stops included in the final data set, only 2.5% had one or more items missing or invalid.

This report reviewed a number of statistical analyses including descriptive statistics for traffic stops in 2006, trend analyses of traffic stops and traffic stop outcomes from 2002-2006, an examination of post-stop outcomes, including a focus on searches and search success rates, and a series of recommendations. A brief summary of the major findings from these analyses is provided below:

- **Trends in Racial/Ethnic Characteristics of Drivers Stopped:**
 - Between 2002 and 2006, the racial/ethnic characteristics of drivers stopped were consistent with only slight variation in percentages from year to year.
 - Binomial analyses of the trends in traffic stops revealed ten and six stations, respectively, that had statistically significant elevated rates of stops of Black and Hispanic drivers in at least three comparisons between their 2006 rate and the rates in previous years.
 - These statistics cannot be used to determine the reasons for the changes in the racial composition of drivers stopped.
- **Trends in Racial/Ethnic Characteristics of Post-Stop Outcomes Drivers Received:**
 - Racial / ethnic differences in the rate of warnings have greatly diminished as the rate of warnings in 2006 was nearly equivalent for Whites, Blacks, and Hispanics.
 - Between 2002 and 2006, Whites were consistently the least cited racial/ethnic group, while Hispanics were consistently the most cited racial/ethnic group.
 - Hispanic drivers consistently had the highest proportion of arrests compared to Whites and Blacks, with the gap increasing in 2006 between White and Hispanic drivers arrested.
 - Between 2002 and 2006, Hispanic drivers had the highest rates of searches compared to other racial/ethnic groups. The trends in seizure rates, however,

indicate that searches of White drivers consistently produced the highest rates of contraband discovery compared to Black and Hispanic drivers.

- **Post-Stop Outcomes:**

- Based on the multivariate analysis of warnings, Hispanic drivers were 1.4 times *less* likely than White drivers to be issued warnings, but Troopers' decisions to issue warnings were most strongly based on legal factors.
- The multivariate analyses of citations and arrests revealed that Black and Hispanic drivers were *not* significantly more or less likely to be issued citations or arrested compared to White drivers. Instead issuing citations was explained primarily by legal factors.
- Multivariate analyses of searches revealed that Black and Hispanic drivers were 2.8 and 2.4 times *more* likely to be searched than White drivers, after controlling for other measured factors.

- **Search & Seizure:**

- In 2006, PSP Troopers conducted 3,364 searches (1.2% of all stops), the majority of which were conducted based on driver's consent (68.5%).
- Of the 283,827 traffic stops initiated by PSP Troopers in 2006, 2,798 drivers (1.0%) were asked for consent to search. Black and Hispanic drivers were significantly more likely than White drivers to be asked for consent to search and significantly more likely to give consent to search when asked.
- Of the 3,364 searches, 1,040 resulted in the seizure of contraband (30.9% success rate). Type II probable cause/reasonable suspicion searches were the most productive in recovering contraband (48.9%), while only 21.6% of Type III consent-only searches were successful in recovering contraband (21.6%).
- For both probable cause/reasonable suspicion and consent only searches, PSP Troopers were less likely to discover contraband during searches of Black and Hispanic drivers compared to searches of White drivers.

It is important to note that, although portions of these analyses reveal racial/ethnic disparities, these findings cannot be used to determine the exact causes of the trends reported. 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. For multivariate statistical models, not all factors that might influence officer decision-making can be included. Similarly, 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 sum, the interpretation of these findings must be made with caution and cannot determine the legality of and/or the presence of discrimination in individual stops or searches conducted by PSP Troopers.

Based on these findings, the *Year 5 Final Report* offered a series of training and policy recommendations to PSP officials:

- **Prioritize the full implementation of the CDR X-press system in all stations.** 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 should examine the specific stations that demonstrated statistically significant increases in the percentages of Black and Hispanic drivers stopped 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 organizational units 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 is not included in the Contact Data Reports.
- **Continued monitoring of racial/ethnic disparities in traffic stop outcomes, particularly searches and seizures, remains necessary.**
- **It is important to ensure that minority groups are proportionately represented within the PSP.** As communities develop, their racial/ethnic composition often changes. 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.
- **PSP should 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 Response to *Year 5 Final Report* Recommendations

Implementation of many of these recommendations has already occurred:

- **Recommendation: Prioritize the full implementation of the CDR X-press system in all stations.**
 - **PSP Response:** In 2008, the PSP began the process of developing a modified data collection mechanism, the TraCS system, to further streamline and authenticate the collection of all traffic stop information. This new system reduces the duplication of paperwork for all Troopers by auto populating common fields to the CDR from electronic version of the Police Warning Notice and the Traffic Citation. Recognizing an opportunity to further understand traffic stopping patterns, PSP administrators approved additional data collection fields to include

criminal history, vehicle condition, citizen behavior, and further clarification on consent searches. These new data fields are expected to become fully implemented in the near future.

- **Recommendation: PSP administrators should examine the specific stations that demonstrated statistically significant increases in the percentages of Black and Hispanic drivers stopped compared to previous years.**
 - **PSP Response:** In examining the specific stations that demonstrated statistically significant increases in the percentages of Black and Hispanic drivers stopped compared to previous years, research prepared by Penn State University State Data Center was reviewed. In almost all counties, minority population growth for both race were estimated to have increased from 2002 to 2006. While these estimates do not explain the full spectrum of circumstances that could be associated with increased percentages of Black and Hispanic drivers stopped, no other explanations were found. PSP will continue to examine and monitor these trends.
- **Recommendation: PSP administrators should examine the racial/ethnic disparities reported in search and seizure rates across organizational units to begin to better understand where and why these disparities exist.**
 - **PSP Response:** Continued examination of these statistics has not yielded clear reasons for the reported disparities. PSP administrators, however, continue to develop training initiatives focusing on potential reasons; enhanced diversity training is planned for spring 2010. Further, PSP utilizes a number of accountability measures designed to enhance transparency during police-citizen contacts. Two of the most prominent include mobile video and audio recording of traffic stops and written consent forms prepared in both Spanish and English. Finally, the PSP has strong anti-bias policing regulations, a particularly accessible complaint procedure and stringent internal investigation practices. In 2007, eight complaints of bias based policing were filed; only one was sustained.
- **Recommendation: Continued monitoring of racial/ethnic disparities in traffic stop outcomes, particularly searches and seizures, remains necessary.**
 - **PSP Response:** In response to the information presented in the previous report, PSP will continue to monitor and evaluate racial/ethnic disparities in traffic stop outcomes and continue with this study.
- **Recommendation: It is important to ensure that minority groups are proportionately represented within the PSP.**
 - **PSP Response:** The PSP is an equal opportunity employer and is firmly committed to promoting public confidence in the department's integrity and professional excellence. It is the policy of the PSP to proactively seek the most qualified candidates from the diverse cultural, gender, and ethnic backgrounds of the citizens of Pennsylvania. The PSP has expanded recruitment efforts in every area of the state and developed a host of new initiatives, aimed at gaining access to the most diverse and best qualified candidates available, including:
 - The administration of the Trooper written examination by the State Civil Service Commission allowing applicants to take the written examinations online.

- Aggressively seeking recruitment and testing facilities that are accessible to greater portions of the commonwealth population, including those who use public transportation.
- Collaborating with community leaders and elected officials to increase diversity recruitment opportunities.
- Establishment of Pennsylvania State Police Day events dedicated solely to recruitment in Philadelphia, Pittsburgh, Lancaster and state universities.
- The establishment of a mentoring program for candidates conducted by the PSP Recruitment and Special Services Section.
- Collaborating with Pennsylvania's Officer of Diversity Management. This initiative operates three workgroups which focus on integrated recruitment and hiring strategies for similar job functions across agencies, encourages women and minorities to investigate careers in public safety and streamlines parts of the application and hiring process that may have hindered recruitment.
- **Recommendation: PSP should continue to collect and analyze traffic stop data.**
 - **PSP Response:** In response to the information presented in the previous report, the PSP will continue to collect and analyze traffic stop data.

As demonstrated by their ongoing data collection (through 2009) and their responsiveness to the UC research team's recommendations from the Year 5 Final Report and other previous year's 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.

YEAR 6 (2007) REPORT OUTLINE

This report for data collected from January 1, 2007 through December 31, 2007 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 2007, 5) description and analyses of post-stop outcomes, 6) trend analyses of stop outcomes from 2002 through 2007, 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. It briefly describes the final police stop dataset that includes 299,957 member-initiated traffic stops in 2007 by summarizing 1) the percentage of stop data submitted by both the CDR X-press system and the scannable CDR form, and 2) the error rate for individual organizational units.

Section 3

Section 3 provides descriptive statistics for the traffic stop data collected for the time period from January 1, 2007 – December 31, 2007. 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, troop and station levels.

Section 4

Section 4 examines data collected over the six years of the research project (i.e., May 2002 – December 2007) and documents the stopping trends of Black and Hispanic drivers by PSP Troopers across the department, area, and troop levels during this time period. In contrast to previous reports, which used the binomial statistic to evaluate statistically significant differences over time, the current report adopts a standard deviation methodology to evaluate temporal trends.

Section 5

Section 5 reports the temporal trends for warnings, citations, arrests, searches, and seizures between 2002 and 2007. Using the standard deviation methodology described in Section 4, the 2007 rate of all traffic stop outcomes are compared to the five-year average at the department and area levels. Thereafter, the rate of traffic stop outcomes is reported within racial/ethnic groups at the department level. Finally, the rate of traffic stop outcomes for different racial/ethnic groups between 2003 and 2007 is reported at the area, troop, and station level for all traffic stop outcomes. .

Section 6

The analyses of post-stop outcomes (e.g., warning, citation, arrest, and search) are documented in Section 6. 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 6 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 7

Section 7 focuses specifically on search and seizure activity of the PSP. This focus is conducted due in part to findings in previous years' 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 Whites, 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.

Appendix A

Appendix A utilizes a series of figures to document the stopping trends of Black and Hispanic drivers by PSP Troopers at the station level between 2002 and 2007. This information is intended to supplement the information in Section 4 regarding the stopping trends of Black and Hispanic drivers at the department, area, and troop level.

Appendix B

Appendix B provides a series of figures that report the rates of post-stop outcomes (e.g., warnings, citations, arrests, and searches) at the troop and station levels between 2002 and 2007. It is intended to supplement the information provided in Section 5 at the department and area level.

2. TRAFFIC STOP DATA COLLECTION METHODOLOGY

OVERVIEW

This section documents the methodology utilized for the data collection effort, including a brief description of the information collected on all trooper-initiated traffic stops through the CDR X-press system or the Contact Data Report (CDR) form. Additional tables summarize the total number of traffic stops, the percent of data received through the CDR X-press system and on the CDR forms, as well as the overall error rate for all data by month. This information is also presented for the entire year across the department, area, troop, and station levels.

DATA COLLECTION

Throughout 2007, PSP personnel collected data on all trooper-initiated traffic stops. From January 1, 2007 – December 31, 2007, data were collected on 305,071 stops. This information was primarily collected using the CDR X-press system with the remainder of the information collected using the Contact Data Report (CDR) form (see Figure 2.1 below). Both data collection instruments gathered identical information on the following items:

- The Traffic Stop
 - Date/Time [month, day, hour]
 - Location [county and municipality identifiers]
 - Type of Roadway [interstate, state highway, county/local road, other]
 - Reason(s) for the Stop [speeding, other moving violation, equipment/Inspection, pre-existing information, registration, license, special traffic enforcement, other]
 - Duration [1-15 minutes, 16-30 minutes, 31-60 minutes, 61+ minutes]
 - Outcome [written warning, citation, arrest, search]
 - Consent Search Requested
 - Reason(s) for Search [consent, odor of drugs/alcohol, plain view, incident to arrest, canine alert, inventory, probable cause, search warrant, other]
 - Property seized during a search [cash, drugs, vehicle, weapons, stolen property, alcohol, other]
- The Driver
 - Gender [male, female]
 - Age [in years]
 - Race/Ethnicity [White, Black, White Hispanic, Black Hispanic, Native American, Middle Eastern, Asian/Pacific Islander, unknown]
 - Zip Code of Residency
- The Vehicle
 - State of Registration
 - Number of Passengers
- The Trooper
 - Station Identifier
 - Employee Identifier

Figure 2.1: Pennsylvania State Police Contact Data Report, Jan. 1, 2007 – Dec. 31, 2007.

SP 7-0045 (7-2003)

CONTACT DATA REPORT

PENNSYLVANIA STATE POLICE

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<p>7. Duration of Stop In Minutes</p> <p><input type="radio"/> 1-15 <input type="radio"/> 16-30 <input type="radio"/> 31-60 <input type="radio"/> 61+</p> <p style="text-align: center;">Initials - Supervisor</p>			<p>16. Station Code</p> <table style="width: 100%;"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> </table> <p>Employee #</p> <table style="width: 100%;"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> </table>			0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9																					
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In 2006, biweekly data updates were suspended and replaced with monthly reports detailing the number of traffic stops initiated in that time period. This information was supplemented with the rate of forms received through the CDR X-press system versus those received from the CDR form and the error rates associated with each system. Additionally, the number of warnings, citations, arrests, searches, and seizures was included. All this information was reported at the department, area, troop, and station level for review by the PSP administration and supervisors.

Table 2.1 reports the monthly number of traffic stops in the data set based on information received from through the CDR X-press system and the CDR forms. The rate of information received through these two methods is also reported by month for the entire department. The final column provides the collective error rate by month for both data sources. The error rate is the product of an internal auditing process in which all the data is checked for invalid / missing entries and logical inconsistencies. 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%, while our research team recommends a more stringent standard of less than 5% missing data.

Between January 1, 2007 and December 31, 2007, information on 305,071 traffic stops was reported using the CDR X-press system or using the CDR forms. Over 94% of that information was transmitted using the CDR X-press system. The department-wide error rate was 1.0%, which is considerably lower than the recommended 5%. This low rate is likely due to the widespread implementation of the CDR X-press and the conscientious efforts of PSP supervisors.

During a brief period of time after the introduction of the CDR X-press, a small error in the data collection system affected the proper and complete collection of data. The error occurred when the Trooper used the <Tab> key to move from one data field to another in the CDR X-press application. With this glitch in the application, some information entered by Troopers in the system was not saved; most important, information on the traffic stop outcome was not recorded. Once the problem was identified by the UCPI team, the glitch in the application was quickly corrected by PSP analysts. All 5,114 traffic stops (0.02%) recorded that were affected by this error were removed from the analyses within this report. Therefore, all further statistical analyses in this report were conducted only on the remaining 299,957 traffic stops with valid stop outcomes.

There is no reason to believe that removing these 5,114 cases influences the overall analyses or the conclusions drawn from those analyses for several reasons. First, the percentage of cases removed is very small in comparison to the overall number of traffic stops in the dataset (0.02%). Second, the error was technical in nature and was not related to any intentional attempt by PSP personnel to interrupt or distort the data collection effort. That is, the error was randomly distributed. Furthermore, the error was contained to a small period of time and was corrected quickly upon its discovery.

In 2007, the majority of months accounted for between 20,000 and 30,000 traffic stops. March and May were exceptions to this pattern, with March supplying the single largest contribution of 38,316 traffic stops. February was the other exception with only 17,608 traffic stops in the data set. Over the twelve months, the rate of traffic stops reported using the CDR X-press system incrementally increased and culminated in nearly 99% of the data received using this method. The error rate was consistently less than 2%, with most months experiencing around a 1% error rate.

Table 2.1: 2007 Traffic Stops by Month (CDR X-press vs. CDR)

Time Period	Total # in Dataset	% CDR X-press	% CDR	% Errors
2007 Total	299,957	94.1	5.9	1.0
January	20,246	91.5	8.5	0.9
February	17,608	91.4	8.6	0.9
March	38,316	93.2	6.8	0.9
April	27,279	93.9	6.1	0.9
May	32,771	93.5	6.5	1.1
June	25,065	94.2	5.8	0.9
July	27,164	94.2	5.8	1.1
August	23,641	93.9	6.1	1.3
September	21,769	93.2	6.8	1.5
October	20,220	94.7	5.3	1.1
November	25,156	96.8	3.2	0.7
December	20,722	98.7	1.3	0.7

Table 2.2 presents the total number of traffic stops, rate of data received by CDR X-press and CDR forms, and the error rate by department, area, troop, and station. Across the areas, Area I conducted the largest number of member-initiated traffic stops and accounted for slightly more than 30% of all traffic stop activity. The rate of CDR X-press usage varied slightly, but all areas were near or above 90% usage. No area reported more than a 1.5% error rate. Slightly greater variation in these rates is evident at the troop and station levels, and is directly related to the continued use of the CDR forms. Organizational units using the CDR X-press form were consistently around a 1% error rate in 2007.

Table 2.2: CDR Scan Form Report - 2007 (p. 1 of 3)

	Total # in Dataset	% CDR X-press	% CDR	% Errors
PSP Dept.*	299,957	94.1	5.9	1.0
AREA I	110,102	96.7	3.3	0.8
Troop H	29,007	97.6	2.4	0.6
Carlisle	8,807	98.2	1.8	0.7
Chambersburg	5,227	100.0	0.0	0.0
Gettysburg	2,347	100.0	0.0	0.8
Harrisburg	3,286	92.7	7.3	1.3
Lykens	1,759	100.0	0.0	0.1
Newport	3,021	90.1	9.9	0.8
York	4,560	100.0	0.0	0.5
Troop J	11,587	91.0	9.0	1.6
Avondale	3,621	93.5	6.5	1.7
Embreeville	3,769	98.8	1.2	0.2
Ephrata	1,132	99.9	0.1	0.1
Lancaster	3,065	75.0	25.0	3.7
Troop L	9,015	96.3	3.7	0.9
Frackville	998	100.0	0.0	0.8
Hamburg	1,845	87.9	12.1	1.5
Jonestown	3,005	100.0	0.0	0.7
Reading	1,733	100.0	0.0	0.2
Schuylkill Haven	1,444	92.7	7.3	1.5
Troop T	60,493	97.4	2.6	0.7
Bowmansville	7,349	94.3	5.7	0.9
Everett	12,657	99.9	0.1	0.3
Gibsonia	6,679	89.5	10.5	1.2
Highspire	29	100.0	0.0	55.2
King of Prussia	4,922	92.5	7.5	0.5
New Stanton	9,496	100.0	0.0	0.6
Newville	9,088	99.9	0.1	0.3
Pocono	4,940	99.9	0.1	0.6
Somerset (T)	5,325	99.1	0.9	1.0

* 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 - 2007 (p. 2 of 3)

	Total # in Dataset	% CDR X-press	% CDR	% Errors
AREA II	35,168	89.7	10.3	1.5
Troop F	17,267	96.4	3.6	0.9
Coudersport	2,108	99.9	0.1	0.3
Emporium	942	100.0	0.0	0.2
Lamar	2,033	69.6	30.4	3.5
Mansfield	1,172	99.8	0.2	1.2
Milton	3,036	100.0	0.0	0.6
Montoursville	3,054	100.0	0.0	0.5
Selinsgrove	3,049	100.0	0.0	0.8
Stonington	1,873	100.0	0.0	0.2
Troop P	8,380	93.3	6.7	1.0
Laporte	1,215	97.4	2.6	0.8
Shickshinny	1,251	100.0	0.0	0.2
Towanda	3,502	97.4	2.6	0.6
Tunkhannock	985	57.4	42.6	3.7
Wyoming	1,427	98.6	1.4	0.9
Troop R	9,521	74.4	25.6	3.2
Blooming Grove	2,382	89.5	10.5	2.1
Dunmore	3,826	69.6	30.4	4.3
Gibson	2,057	52.7	47.3	4.2
Honesdale	1,256	96.0	4.0	0.2
AREA III	58,528	88.8	11.2	1.1
Troop A	18,329	90.1	9.9	0.6
Ebensburg	5,064	82.4	17.6	0.5
Greensburg	4,719	87.7	12.3	1.0
Indiana	3,507	90.2	9.8	0.8
Kiski Valley	2,794	99.9	0.1	0.1
Somerset (A)	2,245	99.9	0.1	0.4
Troop B	18,393	80.6	19.4	1.8
Belle Vernon	1,168	100.0	0.0	0.9
Findlay	6,060	97.9	2.1	0.3
Uniontown	4,890	59.1	40.9	4.0
Washington	5,061	71.5	28.5	2.0
Waynesburg	1,214	100.0	0.0	1.0
Troop G	21,806	94.6	5.4	0.8
Bedford	2,427	100.0	0.0	0.3
Hollidaysburg	3,256	81.1	18.9	1.8
Huntingdon	2,154	100.0	0.0	0.1
Lewistown	4,130	97.5	2.5	0.7
McConnellsburg	2,564	100.0	0.0	1.0
Philipsburg	2,169	89.0	11.0	0.8
Rockview	5,106	95.7	4.3	0.6

Table 2.2: CDR Scan Form Report - 2007 (p. 3 of 3)

	Total # in Dataset	% CDR X-press	% CDR	% Errors
AREA IV	45,379	96.7	3.3	1.1
Troop C	18,701	97.1	2.9	1.0
Clarion	3,584	99.9	0.1	0.8
Clearfield	3,863	100.0	0.0	0.4
Dubois	2,228	100.0	0.0	0.9
Kane	1,654	83.3	16.7	4.1
Punxsutawney	2,412	89.5	10.5	0.9
Ridgway	3,187	99.5	0.5	0.8
Tionesta	1,773	100.0	0.0	0.1
Troop D	13,875	98.9	1.1	0.7
Beaver	2,719	98.0	2.0	0.3
Butler	3,388	100.0	0.0	0.8
Kittanning	2,585	100.0	0.0	0.1
Mercer	2,056	100.0	0.0	1.6
New Castle	3,127	96.8	3.2	0.7
Troop E	12,803	93.7	6.3	1.6
Corry	921	72.1	27.9	2.9
Erie	2,568	89.7	10.3	1.5
Franklin	2,057	99.9	0.1	0.4
Girard	2,156	99.6	0.4	1.6
Meadville	4,330	94.8	5.2	2.3
Warren	771	93.0	7.0	0.3
AREA V	50,692	95.2	4.8	0.9
Troop K	18,712	99.7	0.3	0.9
Media	4,926	99.9	0.1	0.5
Philadelphia	10,442	99.8	0.2	1.2
Skippack	3,344	99.0	1.0	0.5
Troop M	17,167	94.5	5.5	0.5
Belfast	3,048	93.5	6.5	0.6
Bethlehem	2,182	99.7	0.3	0.2
Dublin	3,572	99.9	0.1	0.3
Fogelsville	6,052	87.8	12.2	0.8
Treose	2,313	100.0	0.0	0.5
Troop N	14,813	90.5	9.5	1.3
Bloomsburg	2,230	100.0	0.0	0.2
Fern Ridge	2,717	99.6	0.4	0.7
Hazleton	2,748	76.9	23.1	2.6
Lehighton	2,212	100.0	0.0	0.4
Swiftwater	4,906	84.6	15.4	1.9

SECTION SUMMARY

Between January 1, 2007 and December 31, 2007, information was transmitted on all officer-initiated traffic stops through the CDR X-press system or by the paper CDR form. The information collected included stop, driver, vehicle, and officer characteristics. Regardless of the method of transfer from PSP to the research team, all information was collated into one data set for analysis.

In 2007, 305,071 traffic stops were initiated by PSP personnel and over 94% of that information was recorded using the CDR X-press system. Due to a small glitch in the CDR X-press system, 5,114 cases (0.02%) were eliminated from further analyses – the descriptive statistics documented within this report are based on the 299,957 traffic stops with valid information on the traffic stop outcome received by motorists. The overall error rate across the department for traffic stops with incorrect, missing, or contradictory information was 1.0%, which is considerably lower than the recommended rate of 5%. This low rate is likely due to the widespread implementation of the CDR X-press and the conscientious efforts of PSP supervisors.

In 2007, the majority of months accounted for between 20,000 and 30,000 traffic stops. Over the twelve months, the rate of traffic stops reported using the CDR X-press system incrementally increased and culminated in nearly 99% of the data received using this method by December 2007. The error rate was consistently less than 2%, with most months experiencing around a 1% error rate. At the area level, the rate of CDR X-press usage varied slightly, but all areas were near or above 90% usage. In addition, no area reported more than a 1.5% error rate. Slightly greater variation in these rates is evident at the troop and station levels, and is directly related to the continued use of the CDR forms. Organizational units using the CDR X-press form were consistently around a 1% error rate in 2007.

3. DESCRIPTION OF TRAFFIC STOP DATA

OVERVIEW

All trooper-initiated traffic stops reported with valid outcomes conducted between January 1, 2007 and December 31, 2007 are examined in this section (n=299,957). All descriptive statistics are reported at multiple organizational levels. First, the characteristics of traffic stops are reported, including the total number of stops, percentage of stops by weekday, daytime hours, work shift, roadway type, Pennsylvania registration, number of passengers, and duration of the stop. Table 3.1 reports these characteristics at the department, area, and troop level, while Table 3.2 summarizes this information at the station level. Table 3.3 reports the percent of traffic stops by month for all organizational units. Tables 3.4 & 3.5 report the reasons for traffic stops at the area, troop, and station level. Second, the characteristics of drivers involved in trooper-initiated traffic stops are reported, including drivers' age, gender, race/ethnicity, and residency. Tables 3.6 & 3.7 report this information at the department, area, troop, and station levels. Finally, the percentage of stops resulting in warning, citations, arrests, and searches are reported across all organizational units in Tables 3.8 – 3.10.

TRAFFIC STOP CHARACTERISTICS

A variety of traffic stop characteristics are summarized in Tables 3.1 and 3.2 below, 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 percent of traffic stops by their duration. Table 3.3 reports the monthly percentages of traffic stops at different organizational levels. Tables 3.4 and 3.5 report the reasons for traffic stops both “prior to” and “subsequent to” the stop are reported. These reasons include: 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. The average speed over the limit observed for traffic stops initiated for a speeding violation is also reported across all organizational levels.

Traffic Stop Descriptives

In 2007, PSP personnel collected valid information during 299,957 member-initiated traffic stops throughout the entire state. At the department level, the majority of traffic stops were initiated on a weekday (71.3%) and during the daytime (72.9%). The day shift (7:00 – 15:00) accounted for the highest percent of traffic stops (49.4%). Nearly half of the traffic stops occurred on a state highway (49.5%), followed by interstates (46.3%). Three-quarters of the vehicles stopped (75.1%) were registered in Pennsylvania and on average contained 0.7 passengers (the majority of vehicles stopped were single occupants). Nearly ninety percent (88.2%) of the traffic stops were completed within 15 minutes. Table 3.1 reports these characteristics at the area and troop level, while Table 3.2 summarizes this information at the station level.

Table 3.1: 2007 Traffic Stop Descriptives by Department, Area & Troop

	Total # of Stops	% Weekday	Time of Stop % Daytime	<u>Shift</u>			% Inter	<u>Roadway Type</u>			Regist. % PA	Passengers Avg/vehicle	<u>Duration of Stop (minutes)</u>			
				% 7-3	% 3-11	% 11-7		% State	% Local	% Other			% 1-15	% 16-30	% 31-60	% 61+
PSP Dept.	299,957	71.3	72.9	49.4	41.9	8.7	46.3	49.5	0.3	3.8	75.1	0.7	88.2	10.4	1.0	0.4
AREA I	110,102	70.4	74.0	49.6	42.0	8.4	65.8	30.2	0.1	3.9	72.0	0.7	89.6	9.4	0.8	0.2
Troop H	29,007	72.7	71.2	49.6	42.1	8.3	39.7	51.2	0.1	9.0	78.7	0.6	88.5	10.4	0.8	0.3
Troop J	11,587	73.4	66.3	44.4	40.2	15.4	0.8	90.2	0.7	8.4	86.2	0.5	81.4	15.7	2.3	0.6
Troop L	9,015	74.2	72.3	46.9	43.6	9.5	35.8	59.7	0.1	4.4	80.9	0.6	82.9	15.6	1.1	0.4
Troop T	60,493	68.1	77.1	51.0	42.1	6.9	95.2	4.3	0.0	0.5	64.7	0.8	92.7	6.8	0.4	0.1
AREA II	35,168	71.1	75.8	51.5	42.4	6.1	30.5	66.1	0.4	3.0	72.8	0.7	82.7	15.9	1.1	0.3
Troop F	17,267	71.1	74.7	51.1	41.2	7.7	19.9	76.0	0.2	3.8	79.7	0.7	87.8	10.8	1.1	0.4
Troop P	8,380	70.9	74.5	47.7	46.6	5.7	14.2	83.3	0.3	2.2	84.0	0.6	87.3	12.0	0.6	0.1
Troop R	9,521	71.3	79.1	55.6	40.9	3.6	64.0	33.1	0.7	2.3	50.3	0.7	69.5	28.6	1.6	0.3
AREA III	58,528	72.9	73.8	50.3	42.2	7.5	28.8	67.2	0.9	3.1	75.9	0.6	92.3	6.3	0.8	0.5
Troop A	18,329	72.1	74.5	48.9	43.6	7.4	1.5	93.9	0.7	4.0	85.6	0.5	93.4	5.1	0.7	0.7
Troop B	18,393	74.5	75.6	52.8	39.3	7.9	53.1	42.2	1.6	3.0	68.1	0.5	91.8	7.0	0.9	0.4
Troop G	21,806	72.1	71.8	49.4	43.3	7.2	31.4	65.8	0.4	2.5	74.2	0.7	91.9	6.8	0.7	0.6
AREA IV	45,379	69.8	72.0	48.3	43.5	8.2	34.9	61.2	0.2	3.7	76.2	0.7	89.7	8.6	1.0	0.8
Troop C	18,701	69.2	72.8	47.0	44.9	8.1	43.6	55.0	0.1	1.2	66.5	0.8	89.6	9.2	0.8	0.5
Troop D	13,875	71.9	72.4	50.4	41.7	7.9	18.4	76.2	0.2	5.2	88.7	0.6	90.7	7.2	1.1	1.0
Troop E	12,803	68.6	70.3	47.9	43.3	8.8	40.1	53.9	0.3	5.7	76.7	0.7	88.8	9.1	1.1	1.1
AREA V	50,692	72.7	68.3	47.5	39.7	12.8	45.6	49.0	0.3	5.2	81.6	0.6	82.8	14.9	1.8	0.5
Troop K	18,712	74.1	68.6	48.0	36.1	15.9	43.6	51.4	0.1	5.0	93.1	0.5	82.8	14.5	2.3	0.4
Troop M	17,167	72.3	63.9	44.8	41.8	13.3	38.7	53.4	0.5	7.4	82.7	0.6	82.9	15.1	1.6	0.5
Troop N	14,813	71.3	73.1	50.1	41.7	8.2	56.0	40.7	0.3	3.0	66.1	0.8	82.8	15.1	1.4	0.7

Table 3.2: 2007 Traffic Stop Descriptives by Station (p. 1 of 4)

	Total # of Stops	% Weekday	Time of Stop % Daytime	% 7-3	Shift % 3-11	% 11-7	% Inter.	Roadway Type			Regist. % PA	Passengers Avg/vehicle	Duration of Stop (minutes)			
								% State	% Local	% Other			% 1-15	% 16-30	% 31-60	% 61+
AREA I																
Troop H																
Carlisle	8,807	72.6	69.7	49.1	41.1	9.8	54.5	34.0	0.2	11.2	74.4	0.7	83.2	15.3	1.2	0.4
Chambersburg	5,227	71.1	69.3	47.4	45.9	6.7	35.5	42.1	0.0	22.4	84.8	0.6	91.2	8.1	0.5	0.1
Gettysburg	2,347	74.8	70.8	54.4	37.0	8.6	0.4	97.0	0.0	2.6	75.0	0.6	88.9	8.7	1.6	0.8
Harrisburg	3,286	75.2	77.2	55.1	37.8	7.1	54.9	41.8	0.4	2.9	70.4	0.6	90.4	8.7	0.7	0.2
Lykens	1,759	72.0	74.6	44.5	42.6	13.0	1.6	95.4	0.0	3.0	98.3	0.5	92.1	6.9	0.7	0.3
Newport	3,021	68.9	72.7	47.6	46.1	6.3	0.6	98.4	0.2	0.8	80.0	0.6	88.8	10.8	0.3	0.0
York	4,560	74.7	70.1	49.7	42.4	7.8	65.6	29.7	0.0	4.7	79.6	0.5	92.7	6.6	0.5	0.2
Troop J																
Avondale	3,621	77.3	68.6	40.5	47.2	12.3	1.4	88.6	0.7	9.3	84.7	0.6	77.2	19.8	2.3	0.7
Embreeville	3,769	70.3	63.1	42.8	38.9	18.3	0.1	94.0	0.2	5.7	95.9	0.5	90.3	8.0	1.1	0.6
Ephrata	1,132	68.6	70.6	48.2	43.3	8.5	0.0	79.9	0.0	20.1	97.3	0.5	89.5	9.5	0.6	0.4
Lancaster	3,065	74.5	65.8	49.4	32.4	18.2	1.2	91.1	1.6	6.2	71.8	0.5	72.5	22.7	4.1	0.6
Troop L																
Frackville	988	74.1	68.5	46.0	40.0	14.1	51.2	45.9	0.0	2.9	80.8	0.6	90.6	8.3	0.5	0.6
Hamburg	1,845	74.2	71.8	48.5	41.5	10.1	52.6	43.8	0.3	3.2	65.7	0.7	84.4	14.3	1.2	0.2
Jonestown	3,005	72.1	69.9	45.4	43.4	11.2	55.6	36.6	0.0	7.7	75.2	0.6	71.1	27.0	1.4	0.5
Reading	1,733	75.5	73.5	47.4	45.6	7.0	2.5	94.1	0.0	3.4	99.0	0.5	90.9	7.3	1.3	0.5
Schuylkill Haven	1,444	77.1	79.4	47.9	46.9	5.3	2.4	95.9	0.3	1.4	90.4	0.5	90.8	8.4	0.6	0.3
Troop T																
Bowmansville	7,349	68.1	80.0	52.7	44.1	3.2	99.4	0.5	0.0	0.1	77.8	0.8	92.2	7.5	0.3	0.1
Everett	12,657	66.8	74.9	49.6	41.9	8.5	99.7	0.1	0.0	0.1	54.3	0.9	96.4	3.2	0.2	0.2
Gibsonia	6,679	66.1	82.6	54.3	40.7	5.0	92.1	7.8	0.0	0.1	55.3	0.7	82.6	16.7	0.6	0.1
Highspire	29	93.1	48.3	20.7	51.7	27.6	79.3	20.7	0.0	0.0	69.0	0.5	82.8	10.3	3.4	3.4
King of Prussia	4,922	65.8	74.5	49.5	41.0	9.5	95.7	1.9	0.0	2.4	74.0	0.5	91.6	7.8	0.5	0.1
New Stanton	9,496	72.1	78.0	52.8	39.8	7.4	79.8	19.7	0.0	0.5	78.1	0.7	96.6	2.8	0.4	0.1
Newville	9,088	67.1	72.1	47.5	44.4	8.1	99.5	0.3	0.0	0.2	62.7	0.9	94.1	5.3	0.5	0.1
Pocono	4,940	69.4	79.7	50.7	44.9	4.3	97.8	0.4	0.0	1.8	78.0	0.8	89.6	10.1	0.3	0.0
Somerset (T)	5,325	68.9	78.7	52.2	39.8	8.0	99.5	0.4	0.0	0.1	42.3	0.8	92.1	7.4	0.5	0.1

Table 3.2: 2007 Traffic Stop Descriptives by Station (p. 2 of 4)

	Total # of Stops	% Weekday	Time of Stop % Daytime	% 7-3	Shift % 3-11	% 11-7	% Inter.	Roadway Type			Regist. % PA	Passengers Avg/vehicle	Duration of Stop (minutes)			
								% State	% Local	% Other			% 1-15	% 16-30	% 31-60	% 61+
AREA II																
Troop F																
Coudersport	2,108	67.3	69.2	42.4	46.6	11.0	0.2	98.1	0.0	1.6	89.9	0.7	89.7	9.5	0.7	0.1
Emporium	942	74.2	80.4	53.9	42.3	3.8	0.7	90.2	0.0	9.0	95.3	0.6	94.1	5.4	0.2	0.3
Lamar	2,033	65.1	72.4	48.3	43.5	8.0	70.2	26.1	1.8	1.9	36.9	0.9	90.4	8.3	0.9	0.4
Mansfield	1,172	69.3	66.6	39.5	54.2	6.3	4.3	94.2	0.0	1.5	72.5	0.7	90.4	7.8	1.4	0.4
Milton	3,036	71.6	82.5	59.2	35.1	5.7	49.4	50.1	0.0	0.5	67.1	0.8	93.0	5.8	0.9	0.4
Montoursville	3,054	76.2	74.4	48.3	44.0	7.7	14.5	73.3	0.0	12.2	90.7	0.6	79.2	18.6	1.6	0.6
Selinsgrove	3,049	70.7	77.9	59.7	32.4	7.9	0.0	98.6	0.0	1.4	88.8	0.6	92.0	6.0	1.4	0.5
Stonington	1,873	72.9	68.4	47.3	43.5	9.2	0.5	96.6	0.0	2.8	99.0	0.6	76.6	22.4	0.9	0.2
Troop P																
Laporte	1,215	68.9	75.0	47.8	47.7	4.4	0.1	98.7	0.1	1.2	87.5	0.7	82.7	16.4	0.7	0.2
Shickshinny	1,251	63.2	78.3	57.3	32.9	9.8	5.9	92.3	0.0	1.8	94.1	0.5	91.5	7.4	0.9	0.2
Towanda	3,502	74.8	70.5	42.1	54.3	3.6	4.3	94.8	0.1	0.9	90.6	0.6	93.1	6.6	0.3	0.1
Tunkhannock	985	64.8	68.4	41.7	51.6	6.7	4.9	88.3	2.6	4.2	54.3	0.6	76.4	22.7	0.7	0.1
Wyoming	1,427	73.7	84.4	57.2	35.4	7.4	64.2	30.7	0.0	5.1	76.5	0.6	80.9	18.0	0.9	0.1
Troop R																
Blooming Grove	2,382	71.2	75.8	49.0	46.9	4.1	57.3	36.9	1.0	4.7	60.0	0.7	56.9	41.7	1.1	0.3
Dunmore	3,826	72.1	82.6	59.0	38.1	2.9	76.3	21.7	0.6	1.5	49.7	0.7	70.6	27.3	1.8	0.3
Gibson	2,057	68.5	75.5	54.5	40.9	4.6	68.4	29.5	0.9	1.2	23.7	0.8	68.7	28.4	2.4	0.5
Honesdale	1,256	74.0	80.8	59.5	37.6	2.9	31.6	66.5	0.0	1.9	77.3	0.5	91.1	8.1	0.7	0.1
AREA III																
Troop A																
Ebensburg	5,064	72.0	74.0	50.0	43.3	6.7	0.3	97.9	0.9	0.8	78.4	0.6	94.6	3.9	0.6	0.9
Greensburg	4,719	72.4	69.1	47.7	44.4	7.9	2.6	90.4	0.8	6.1	85.6	0.5	93.1	5.2	0.9	0.8
Indiana	3,507	73.4	77.6	48.5	43.7	7.8	0.3	94.9	1.1	3.7	84.0	0.5	94.3	5.0	0.5	0.2
Kiski Valley	2,794	71.9	81.0	53.4	39.6	7.0	0.2	93.2	0.0	6.5	96.8	0.6	92.7	6.3	0.6	0.5
Somerset (A)	2,245	70.2	73.9	44.3	47.7	8.0	5.0	91.2	0.0	3.7	90.4	0.7	91.2	6.4	1.6	0.9

Table 3.2: 2007 Traffic Stop Descriptives by Station (p. 3 of 4)

	Total # of Stops	% Weekday	Time of Stop % Daytime	% 7-3	Shift % 3-11	% 11-7	% Inter.	Roadway Type			Regist. % PA	Passengers Avg/vehicle	Duration of Stop (minutes)			
								% State	% Local	% Other			% 1-15	% 16-30	% 31-60	% 61+
AREA III (cont.)																
Troop B																
Belle Vernon	1,168	79.7	77.8	56.8	34.6	8.6	55.0	41.4	0.0	3.6	86.6	0.6	92.0	7.3	0.6	0.2
Findlay	6,060	69.5	75.9	56.1	37.5	6.5	74.0	23.6	0.1	2.3	87.1	0.5	95.3	4.0	0.3	0.3
Uniontown	4,890	78.6	75.5	51.9	38.1	10.0	0.8	90.8	3.7	4.7	57.5	0.5	88.9	9.8	0.9	0.4
Washington	5,061	74.7	75.6	51.3	41.3	7.4	79.3	16.3	2.3	2.1	51.4	0.6	93.0	5.8	0.8	0.3
Waynesburg	1,214	76.9	72.2	43.0	49.5	7.5	48.0	48.4	0.0	3.6	68.2	0.7	80.1	14.5	4.8	0.7
Troop G																
Bedford	2,427	71.6	72.8	49.5	44.6	5.9	36.5	61.9	0.0	1.6	74.6	0.7	94.2	5.1	0.4	0.3
Hollidaysburg	3,256	74.4	75.5	50.2	44.8	5.0	70.8	24.7	1.5	2.9	60.0	0.7	75.2	22.6	1.9	0.3
Huntingdon	2,154	75.2	63.5	49.0	40.0	11.0	3.2	92.2	0.0	4.6	96.2	0.6	92.3	6.1	0.6	1.0
Lewistown	4,130	70.8	64.2	47.4	39.0	13.6	0.5	98.1	0.1	1.3	93.7	0.6	95.6	3.5	0.5	0.3
McConnellsburg	2,564	66.5	76.1	52.3	41.1	6.7	78.2	18.1	0.0	3.7	46.8	0.9	97.1	2.4	0.4	0.1
Philipsburg	2,169	72.2	70.6	46.3	45.5	8.2	13.6	80.5	1.1	4.8	74.7	0.6	92.5	6.2	0.4	0.9
Rockview	5,106	73.4	77.0	50.6	47.0	2.4	24.6	74.2	0.2	1.0	71.5	0.7	95.4	3.1	0.5	1.0
AREA IV																
Troop C																
Clarion	3,584	69.3	65.8	42.4	40.8	16.7	73.7	24.9	0.0	1.5	53.7	1.0	82.4	15.9	1.1	0.5
Clearfield	3,863	66.0	76.9	48.0	47.6	4.3	72.5	26.9	0.0	0.6	53.1	0.9	95.0	4.3	0.3	0.4
Dubois	2,228	64.8	74.5	47.3	45.6	7.1	80.3	18.5	0.0	1.2	51.3	0.9	93.5	5.1	0.7	0.6
Kane	1,654	67.0	70.5	47.2	46.9	5.9	3.7	92.1	0.6	3.6	68.3	0.7	90.8	8.3	0.5	0.4
Punxsutawney	2,412	72.8	75.0	45.4	47.0	7.5	16.2	82.3	0.3	1.2	79.5	0.6	89.8	9.4	0.4	0.4
Ridgway	3,187	70.1	72.2	48.4	43.9	7.7	2.2	96.9	0.0	0.9	87.2	0.7	89.1	9.1	1.3	0.6
Tionesta	1,773	76.6	76.3	52.9	43.7	3.4	22.8	76.4	0.0	0.8	83.5	0.6	86.6	12.0	0.8	0.6
Troop D																
Beaver	2,719	68.6	66.9	48.2	41.5	10.3	0.6	96.4	0.1	2.9	89.9	0.5	88.2	10.0	1.3	0.5
Butler	3,388	69.2	74.7	46.5	48.3	5.2	26.9	65.2	0.0	7.9	94.9	0.6	91.0	6.8	1.4	0.8
Kittanning	2,585	70.7	65.2	48.6	43.5	7.9	5.3	92.0	0.0	2.7	98.7	0.6	92.4	5.2	1.1	1.3
Mercer	2,056	70.5	75.8	52.5	36.7	10.8	67.7	29.4	0.0	3.0	61.3	0.9	89.8	6.5	0.8	2.9
New Castle	3,127	79.5	78.3	56.5	36.7	6.7	3.1	88.2	0.6	8.1	90.8	0.5	91.6	7.5	0.7	0.2

Table 3.2: 2007 Traffic Stop Descriptives by Station (p. 4 of 4)

	Total # of Stops	% Weekday	Time of Stop % Daytime	% 7-3	Shift % 3-11	% 11-7	% Inter.	Roadway Type			Regist. % PA	Passengers Avg/vehicle	Duration of Stop (minutes)			
								% State	% Local	% Other			% 1-15	% 16-30	% 31-60	% 61+
AREA IV (cont.)																
Troop E																
Corry	921	73.3	73.1	46.7	46.4	6.9	0.1	94.1	0.5	5.2	69.1	0.8	88.4	9.8	1.3	0.5
Erie	2,568	71.4	70.3	52.1	36.0	11.8	37.7	52.7	0.8	8.7	68.5	0.6	82.6	13.3	2.2	2.0
Franklin	2,057	67.0	64.8	44.2	50.4	5.3	17.5	69.2	0.0	13.3	87.3	0.7	91.2	7.4	0.8	0.6
Girard	2,156	67.1	70.3	46.6	44.1	9.3	46.2	50.4	0.0	3.4	79.6	0.7	88.1	9.5	0.9	1.5
Meadville	4,330	67.0	74.0	49.9	41.7	8.3	64.7	33.2	0.2	1.9	74.3	0.8	91.9	6.6	0.7	0.8
Warren	771	70.8	61.1	37.4	52.1	10.5	0.6	94.8	0.3	4.3	90.4	0.5	87.5	11.0	0.8	0.6
AREA V																
Troop K																
Media	4,926	74.2	55.9	39.3	36.9	23.7	36.3	57.4	0.0	6.3	88.5	0.5	81.4	15.3	2.8	0.5
Philadelphia	10,442	74.5	73.7	50.5	36.4	13.1	60.0	38.1	0.1	1.8	94.0	0.5	83.3	13.9	2.4	0.4
Skippack	3,344	72.8	71.1	52.8	34.2	13.0	2.9	84.2	0.1	12.8	96.7	0.5	83.3	15.3	1.2	0.3
Troop M																
Belfast	3,048	75.9	72.7	48.4	44.1	7.5	41.6	52.0	0.5	5.9	77.7	0.6	77.7	20.2	1.5	0.6
Bethlehem	2,182	71.2	50.2	35.1	47.0	17.9	0.8	90.6	0.0	8.6	97.2	0.5	87.6	10.8	1.1	0.5
Dublin	3,572	75.7	71.1	51.8	39.2	8.9	0.3	85.3	0.0	14.3	98.6	0.4	85.6	12.4	1.6	0.4
Fogelsville	6,052	68.4	59.1	39.7	43.7	16.5	57.4	36.9	1.0	4.8	71.0	0.6	85.9	11.6	1.9	0.6
Trevoze	2,313	73.2	66.4	51.8	33.0	15.2	81.2	14.5	0.0	4.3	81.2	0.5	72.9	25.4	1.3	0.3
Troop N																
Bloomsburg	2,230	68.8	76.1	52.5	38.8	8.7	87.4	11.1	0.0	1.6	61.6	0.9	84.3	15.0	0.3	0.4
Fern Ridge	2,717	70.1	72.5	47.6	46.2	6.1	71.8	26.8	0.0	1.4	64.0	0.9	72.5	25.5	1.7	0.2
Hazleton	2,748	71.0	78.0	54.8	36.4	8.9	62.5	33.0	0.7	3.8	58.8	0.8	85.8	12.6	1.3	0.4
Lehighton	2,212	72.0	74.6	54.2	40.1	5.7	0.2	93.4	0.0	6.4	98.6	0.6	80.9	18.3	0.7	0.1
Swiftwater	4,906	73.2	68.6	45.8	44.4	9.8	54.5	42.3	0.6	2.6	58.6	0.8	87.1	9.4	2.0	1.5

Traffic Stops By Month

Table 3.3 provides a monthly report of traffic stops for 2007 across all organizational units. March and May accounted for the largest percentage of traffic stops with 12.8% and 10.9% of all traffic stops, respectively. In contrast, February (5.9%), January (6.7%), and October (6.7%) contributed the smallest percentage of traffic stops in 2007. The monthly percentages are also reported at the area, troop, and station levels below.

Table 3.3: 2007 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.	299,957	6.7	5.9	12.8	9.1	10.9	8.4	9.1	7.9	7.3	6.7	8.4	6.9
AREA I	110,102	7.4	6.1	11.4	8.8	10.5	8.2	9.1	7.7	7.4	7.5	8.5	7.3
Troop H	29,007	8.0	5.6	11.6	9.4	11.6	8.8	8.4	7.2	7.4	6.3	7.8	7.8
Carlisle	8,807	6.7	6.3	11.0	8.2	10.1	11.3	9.0	7.6	7.9	6.9	8.2	6.7
Chambersburg	5,227	10.1	6.1	12.9	11.5	11.9	5.6	7.4	4.7	7.5	4.6	7.9	9.6
Gettysburg	2,347	7.5	5.7	8.0	7.6	12.3	6.1	8.4	7.3	7.3	8.6	9.3	11.8
Harrisburg	3,286	6.5	3.7	9.4	7.1	15.3	18.3	7.0	7.9	6.8	6.7	6.6	4.5
Lykens	1,759	6.8	3.8	9.6	8.9	10.8	5.5	9.2	7.8	8.5	7.8	12.5	9.0
Newport	3,021	9.1	5.5	14.1	9.9	11.2	5.2	9.8	7.0	6.3	7.1	6.2	8.6
York	4,560	9.5	5.8	14.1	11.5	11.4	5.9	8.2	8.3	7.1	4.5	6.5	7.1
Troop J	11,587	6.8	7.6	13.8	7.2	10.6	7.4	7.7	8.0	8.6	7.7	8.5	5.9
Avondale	3,621	6.7	7.3	13.6	8.8	10.6	7.5	8.4	7.1	10.4	7.2	6.6	5.8
Embreeville	3,769	6.7	9.0	14.7	6.9	10.7	7.6	6.7	8.9	8.6	6.4	8.8	4.9
Ephrata	1,132	7.6	6.4	10.2	6.0	11.2	6.9	7.7	8.7	6.1	11.5	11.4	6.3
Lancaster	3,065	6.9	6.7	14.2	6.2	10.3	7.3	8.1	7.5	7.6	8.4	9.5	7.2
Troop L	9,015	6.8	4.4	12.1	8.2	12.9	7.5	100.5	8.5	9.0	6.1	7.5	6.5
Frackville	988	7.6	5.8	11.6	9.8	10.9	6.5	8.8	8.2	8.4	4.7	9.6	8.1
Hamburg	1,845	4.2	3.8	16.5	10.8	17.5	8.0	7.3	8.1	8.9	2.8	6.1	6.1
Jonestown	3,005	7.5	5.5	8.4	8.6	12.5	7.6	10.9	7.4	9.6	10.2	6.9	5.0
Reading	1,733	8.3	2.5	6.5	6.6	11.4	8.1	11.8	11.1	10.9	5.1	8.9	8.7
Schuylkill Haven	1,444	6.6	4.0	21.4	5.1	10.9	6.7	13.2	8.4	6.2	3.9	7.1	6.6
Troop T	60,493	7.3	6.4	10.6	9.0	9.6	8.1	9.5	7.9	6.9	8.3	9.0	7.5
Bowmansville	7,349	7.2	4.5	7.7	9.0	9.4	9.2	11.8	8.2	7.4	9.2	8.7	7.8
Everett	12,657	7.7	8.4	11.9	10.4	6.6	8.0	8.4	7.2	6.2	7.9	10.3	7.2
Gibsonia	6,679	7.0	7.6	12.6	11.5	11.6	7.5	9.1	7.3	6.9	7.4	6.5	5.1
Highspire	29	0	0	3.4	34.5	13.8	41.4	0	0	3.4	0	0	3.4
King of Prussia	4,922	3.1	4.0	6.2	9.7	10.3	7.2	9.8	8.6	10.5	9.0	12.4	9.2
New Stanton	9,496	7.9	6.1	12.8	8.2	11.8	7.6	10.2	9.3	6.5	7.8	5.8	5.9
Newville	9,088	7.5	5.9	10.7	6.5	7.7	7.1	7.8	8.1	6.3	9.9	12.7	9.7
Pocono	4,940	8.0	5.7	8.3	10.7	10.5	9.5	11.6	6.7	6.0	6.9	8.2	8.0
Somerset (T)	5,325	9.2	6.8	11.4	5.7	12.1	10.0	9.2	7.2	7.4	7.6	6.0	7.3

Table 3.3: 2007 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	35,168	6.3	5.5	15.3	9.3	12.2	8.3	9.8	8.0	6.5	5.5	8.4	5.0
Troop F	17,267	5.6	5.6	15.8	10.5	11.7	7.8	10.2	8.2	5.7	5.9	8.0	4.9
Coudersport	2,108	6.1	5.2	9.7	9.9	11.6	6.8	9.3	7.9	5.2	10.3	8.5	9.5
Emporium	942	7.4	6.9	12.8	11.0	13.7	8.7	5.7	3.9	2.9	9.7	11.1	6.1
Lamar	2,033	2.7	2.5	17.1	11.3	13.9	6.3	7.1	4.8	7.5	9.5	11.6	5.8
Mansfield	1,172	9.6	8.1	23.7	8.4	12.0	10.0	10.3	5.1	1.7	3.1	5.5	2.4
Milton	3,036	6.4	7.4	15.4	12.5	9.4	7.9	10.1	7.8	7.3	4.8	6.0	4.9
Montoursville	3,054	3.2	2.6	23.0	5.4	9.2	9.8	14.8	13.9	5.4	4.2	5.6	2.8
Selinsgrove	3,049	4.5	6.9	11.9	14.1	12.9	6.6	10.9	8.5	6.4	3.3	10.1	3.9
Stonington	1,873	9.0	7.2	13.3	10.6	13.8	7.6	8.1	6.7	5.2	6.1	7.6	4.6
Troop P	8,380	6.2	6.0	16.4	8.5	11.6	9.5	9.6	8.6	6.9	4.5	7.9	4.4
Laporte	1,215	4.6	4.7	16.6	12.7	9.9	7.5	8.1	7.8	5.8	5.5	10.8	6.0
Shickshinny	1,251	8.9	6.6	16.5	12.5	11.2	10.1	8.4	5.8	4.5	4.4	6.1	5.0
Towanda	3,502	5.8	7.8	18.2	8.4	11.9	7.4	7.7	10.0	7.5	4.3	7.1	4.2
Tunkhannock	985	4.9	4.2	13.4	6.5	15.7	7.7	14.4	7.2	7.0	2.9	11.7	4.4
Wyoming	1,427	7.1	3.8	13.5	3.2	9.7	16.8	13.5	9.5	8.5	5.1	6.5	2.8
Troop R	9,521	7.8	4.7	13.3	7.6	13.6	8.3	9.3	7.3	7.6	5.4	9.4	5.6
Blooming Grove	2,382	8.7	4.2	11.0	7.1	11.5	6.8	8.6	5.2	7.3	6.9	12.8	9.9
Dunmore	3,826	5.3	1.7	12.9	5.3	14.2	10.8	11.4	11.0	10.7	6.2	6.7	3.8
Gibson	2,057	7.7	6.0	12.1	9.7	14.8	7.6	9.6	4.6	6.1	5.0	13.2	3.6
Honesdale	1,256	13.4	13.1	20.7	12.3	13.9	4.6	3.7	4.8	1.4	1.0	4.7	6.4
AREA III	58,528	6.5	6.4	13.5	9.9	10.9	8.4	8.6	7.5	6.9	6.5	8.1	6.8
Troop A	18,329	5.7	4.5	11.0	9.0	10.8	9.5	8.0	8.6	8.2	7.9	8.7	8.2
Ebensburg	5,064	5.5	5.3	11.3	8.5	7.8	8.6	7.9	9.8	7.3	10.7	9.6	7.7
Greensburg	4,719	5.1	3.1	10.8	12.3	16.1	11.7	7.0	6.4	7.2	5.3	8.6	6.4
Indiana	3,507	9.2	7.1	13.3	8.9	9.5	9.7	5.5	8.8	8.4	5.2	5.2	9.2
Kiski Valley	2,794	4.7	4.0	8.1	6.4	9.2	8.5	11.7	9.7	8.2	9.7	10.6	9.1
Somerset (A)	2,245	2.9	2.4	11.2	6.2	10.4	7.8	9.3	8.6	11.6	8.8	10.4	10.3
Troop B	18,393	6.2	6.9	15.4	10.2	13.1	8.4	7.4	7.2	6.0	5.3	8.7	5.2
Belle Vernon	1,168	6.7	3.2	14.2	13.14	21.3	9.9	7.9	9.5	3.1	1.5	5.7	4.0
Findlay	6,060	8.0	9.6	19.4	11.7	18.5	9.4	5.7	5.1	4.5	3.1	2.9	2.0
Uniontown	4,890	5.6	5.5	15.2	9.2	6.8	6.8	6.0	8.1	7.3	8.0	11.9	9.7
Washington	5,061	4.1	6.1	11.9	9.3	10.7	8.7	9.4	8.6	7.2	6.5	13.4	4.2
Waynesburg	1,214	8.0	6.4	11.7	7.5	13.4	7.3	11.7	7.1	6.2	5.0	8.0	7.7
Troop G	21,806	7.5	7.5	14.0	10.5	9.2	7.5	10.2	6.7	6.6	6.3	7.1	7.0
Bedford	2,427	8.4	7.7	18.5	10.6	8.9	6.7	8.7	5.1	7.2	4.7	8.5	5.0
Hollidaysburg	3,256	5.3	6.3	16.5	7.5	7.9	5.5	12.6	9.6	11.3	6.1	5.9	5.5
Huntingdon	2,154	6.5	7.5	14.5	13.0	8.3	4.5	11.1	4.5	4.4	8.2	10.0	7.5
Lewistown	4,130	7.0	7.9	10.3	12.8	10.6	7.7	7.3	6.4	4.8	6.1	8.0	11.1
McConnellsburg	2,564	7.3	8.2	9.5	9.6	14.5	9.6	11.3	4.5	6.1	4.8	8.5	6.2
Philipsburg	2,169	11.0	7.3	17.2	10.8	8.8	8.0	7.1	8.7	4.9	5.1	5.0	6.0
Rockview	5,106	7.8	7.4	13.7	9.7	6.9	8.8	12.2	7.2	6.7	8.0	5.5	6.0

Table 3.3: 2007 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	45,379	5.0	5.0	14.7	8.6	11.8	9.7	9.0	8.1	7.3	6.5	8.0	6.2
Troop C	18,701	4.9	5.3	14.5	9.4	13.1	10.1	9.9	7.4	6.0	5.5	7.7	6.3
Clarion	3,584	4.2	3.8	18.7	8.9	10.9	10.0	10.9	9.8	5.0	4.7	7.7	5.4
Clearfield	3,863	8.5	7.9	13.0	8.9	12.7	9.4	9.0	5.7	6.1	4.0	7.5	7.3
Dubois	2,228	4.1	5.2	12.6	9.9	11.8	9.6	10.4	5.3	4.4	4.4	12.0	10.3
Kane	1,654	3.4	2.1	6.6	8.3	21.6	14.1	12.5	6.5	8.0	8.3	4.2	4.4
Punxsutawney	2,412	3.4	4.1	14.6	8.9	16.1	11.2	8.3	8.5	6.2	5.7	7.6	5.5
Ridgway	3,187	4.3	5.6	15.5	12.0	10.6	8.0	8.8	8.2	6.7	7.8	7.7	4.7
Tionesta	1,773	3.6	6.7	16.7	8.5	12.9	10.4	10.8	6.5	6.0	4.3	6.5	7.0
Troop D	13,875	4.7	5.5	15.1	8.4	10.3	9.3	7.5	8.1	7.9	7.7	9.2	6.3
Beaver	2,719	7.2	7.7	20.1	7.8	9.9	9.6	4.7	4.0	6.3	7.0	10.7	5.0
Butler	3,388	3.9	5.0	14.3	8.4	12.5	8.8	8.7	9.7	6.6	6.8	8.1	7.1
Kittanning	2,585	6.3	6.5	17.9	9.9	10.5	7.7	5.3	9.0	7.1	4.9	8.5	6.2
Mercer	2,056	2.7	2.4	10.5	7.4	11.1	13.2	11.0	7.1	9.7	7.1	9.9	7.8
New Castle	3,127	3.5	5.5	12.2	8.3	7.4	8.3	8.0	10.0	10.2	11.8	9.1	5.8
Troop E	12,803	5.7	3.9	14.5	7.5	11.6	9.7	9.4	9.3	8.5	6.7	7.2	6.0
Corry	921	3.5	1.4	9.4	6.6	18.7	11.9	13.5	8.0	7.3	5.5	9.2	4.9
Erie	2,568	6.2	3.8	18.9	6.2	8.5	10.0	9.5	12.1	8.5	6.0	4.6	5.8
Franklin	2,057	6.5	4.2	13.1	7.9	9.0	7.9	10.1	11.3	9.0	8.1	8.3	4.6
Girard	2,156	7.6	2.4	15.1	10.2	12.5	9.9	8.2	9.7	7.4	4.4	5.2	7.5
Meadville	4,330	4.5	5.2	13.3	6.7	13.0	10.0	8.7	7.5	8.2	7.7	9.1	6.3
Warren	771	5.7	3.4	15.0	9.3	11.0	9.2	8.8	5.3	12.7	7.9	6.1	5.4
AREA V	50,692	7.4	5.8	11.6	9.0	10.2	7.5	9.0	8.3	7.8	6.5	8.8	8.2
Troop K	18,712	6.9	5.2	10.0	9.2	10.2	6.5	10.4	9.3	8.2	6.0	8.9	9.3
Media	4,926	8.8	7.2	13.0	8.6	8.7	5.1	9.7	8.9	10.2	6.9	8.1	4.8
Philadelphia	10,442	6.0	3.7	7.3	9.3	9.8	6.4	11.3	10.0	7.2	6.0	10.2	12.7
Skippack	3,344	7.2	6.9	13.7	9.7	13.5	8.6	8.3	7.8	8.0	4.9	6.3	5.0
Troop M	17,167	8.8	6.9	11.9	9.5	10.1	8.9	7.6	7.4	7.7	7.1	7.3	6.9
Belfast	3,048	6.2	8.8	12.6	10.5	11.9	11.7	6.2	4.8	6.9	7.1	6.5	6.8
Bethlehem	2,182	8.0	5.7	15.0	14.1	10.2	9.8	7.8	5.9	5.9	5.5	5.1	7.1
Dublin	3,572	10.0	8.0	13.1	8.6	8.9	7.0	9.7	6.9	7.8	6.3	6.5	7.3
Fogelsville	6,052	10.6	6.5	9.8	9.4	9.0	8.4	5.9	8.0	8.4	8.8	8.9	6.3
Trevoise	2,313	6.4	4.8	11.4	5.7	12.1	9.0	10.2	11.8	8.1	5.7	7.4	7.4
Troop N	14,813	6.2	5.3	13.4	8.2	10.5	7.0	8.9	8.0	7.6	6.2	10.4	8.3
Bloomsburg	2,230	5.8	9.6	16.6	7.6	12.4	4.4	7.5	9.2	5.4	6.4	9.1	5.8
Fern Ridge	2,717	2.0	1.2	15.8	6.9	8.1	6.6	12.8	7.5	5.8	8.0	13.6	11.7
Hazleton	2,748	7.8	4.9	13.3	5.6	12.2	7.5	9.3	9.9	8.6	3.6	11.1	6.1
Lehighton	2,212	4.8	4.9	11.2	9.7	11.9	6.3	8.7	6.4	7.6	7.3	10.4	10.7
Swiftwater	4,906	8.6	6.0	11.6	10.0	9.4	8.4	7.1	7.4	9.1	6.0	8.7	7.6

Reason for the Stop

Information is also collected regarding the reason(s) both “prior to” and “subsequent to” the initiated traffic stop. As reported in Tables 3.4 & 3.5, reasons for member-initiated traffic stops include: 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. In the case of traffic stops initiated for speeding, the average speed over the limit is also recorded. All information is reported at the department, area, and troop levels in Table 3.4, and at the station level in Table 3.5.

In 2007, traffic stops were initiated most frequently due to speeding. Across the department, 69.3% of all traffic stops were initiated due to a speeding violation, with the average speed reported at 19.5 miles per hour over the posted speed limit. Moving violations accounted for 16.8% of the reasons for the stop, and equipment inspections were noted as a reason prior to the stop in 9.1% of all trooper initiated traffic stops. No other reason accounted for more than 5% of the traffic stops as reported.

As shown in Table 3.4, at the area level, speeding was also the most common reason for the stop, and ranged from a high of 76.4% of all traffic stops in Area I to a low of 54.6% of all traffic stops in Area V. The average speed over the limit ranged from a low of 17.9 miles per hour in Area IV to a high of 23.0 miles per hour in Area V. Moving violations and equipment inspections were the next two most common reasons for traffic stops in each of the areas, respectively. Area V personnel initiated 22.5% of their traffic stops due to moving violations, while Area IV only initiated 11.3% of their traffic stops based on an equipment violation. Area V also had the highest percent of equipment inspections at 13.9% whereas, Area I initiated 5.9% of their traffic stops based on an equipment inspection. All other reasons for the stop at the area accounted for less than 5% of the traffic stops with the exception of Area V, which initiated 8.0% of their traffic stops for a reason related to registration. The reasons for the stop are reported at the troop level in Table 3.4 and at the station level in Table 3.5. These organizational units demonstrated greater variation in their reasons for the stop.

Table 3.4: Reason for Stop by Department, Area, & Troop - 2007

	Total # of Stops	% Speeding		Amt. over Limit (MPH)	% Moving Violation		% Equipment/ Inspection		% Preexisting Info		% Registration		% License		% Spec. Traf. Enf.	% Other	
		P	S		P	S	P	S	P	S	P	S	P	S		P	S
PSP Dept	299,957	69.3	0.0	19.5	16.8	0.1	9.1	2.4	0.1	0.3	4.2	2.5	0.7	3.6	0.6	1.0	2.6
AREA I	110,102	76.4	0.0	19.1	14.6	0.1	5.9	1.6	0.1	0.2	2.8	2.0	0.7	2.7	0.4	1.0	1.8
Troop H	29,007	72.4	0.0	19.4	15.7	0.0	7.2	1.4	0.1	0.0	4.2	1.1	0.7	2.5	0.2	1.3	2.6
Troop J	11,587	62.4	0.1	22.7	15.7	0.2	11.7	2.7	0.1	0.2	7.0	2.9	2.5	5.4	0.2	1.1	2.7
Troop L	9,015	69.9	0.2	19.8	18.3	0.1	7.3	2.9	0.1	0.8	3.5	3.4	0.7	4.7	3.5	1.4	2.8
Troop T	60,493	81.9	0.0	18.3	13.3	0.1	3.9	1.4	0.1	0.2	1.3	2.0	0.4	1.9	0.0	0.7	1.1
AREA II	35,168	66.3	0.0	18.8	17.8	0.1	11.6	2.7	0.1	0.1	3.2	2.4	0.8	3.7	0.5	0.9	2.9
Troop F	17,267	71.9	0.0	18.0	13.4	0.0	10.5	3.2	0.1	0.1	3.2	2.3	0.6	3.8	0.5	0.7	3.0
Troop P	8,380	62.8	0.0	19.2	18.3	0.2	13.8	2.8	0.1	0.3	3.7	3.4	1.1	4.0	1.1	1.0	4.7
Troop R	9,521	59.3	0.0	20.2	25.4	0.3	11.7	1.9	0.1	0.0	2.8	1.6	0.7	3.2	0.2	1.1	1.1
AREA III	58,528	67.2	0.0	19.7	19.8	0.1	8.4	3.3	0.1	0.7	4.5	2.9	0.7	4.3	0.6	0.5	2.7
Troop A	18,329	62.4	0.0	20.0	20.0	0.1	10.5	3.7	0.2	1.2	6.1	3.3	0.9	4.4	1.2	0.7	3.2
Troop B	18,393	60.4	0.0	21.0	26.5	0.2	7.6	2.8	0.1	0.7	5.1	2.6	1.2	5.2	0.3	0.7	2.7
Troop G	21,806	76.9	0.0	18.6	13.9	0.1	7.4	3.5	0.1	0.3	2.5	2.8	0.3	3.4	0.4	0.3	2.3
AREA IV	45,379	73.7	0.0	17.9	11.3	0.1	10.8	2.6	0.2	0.2	3.8	3.0	0.6	3.9	0.7	1.2	4.1
Troop C	18,701	81.6	0.0	17.2	9.0	0.0	7.8	2.4	0.2	0.3	2.1	2.5	0.5	3.2	0.4	1.3	3.7
Troop D	13,875	66.1	0.0	19.3	12.5	0.0	15.4	3.0	0.2	0.2	5.4	3.2	0.8	4.6	1.4	1.1	3.8
Troop E	12,803	70.3	0.0	17.8	13.4	0.1	10.2	2.6	0.2	0.2	4.6	3.6	0.4	4.4	0.4	1.4	5.2
AREA V	50,692	54.6	0.0	23.0	22.5	0.1	13.9	2.3	0.1	0.2	8.0	2.6	0.8	4.5	0.8	1.7	2.7
Troop K	18,712	49.0	0.0	25.8	25.6	0.0	11.7	2.2	0.2	0.3	11.8	2.5	1.1	5.1	0.7	2.7	3.1
Troop M	17,167	54.7	0.0	23.1	18.7	0.1	18.2	2.6	0.1	0.1	7.8	3.2	0.7	4.6	1.2	1.3	2.5
Troop N	14,813	61.5	0.0	19.9	22.9	0.1	11.6	2.0	0.0	0.3	3.6	1.9	0.6	3.6	0.5	0.9	2.3

NOTE: P=prior to stop, S=subsequent to stop

NOTE: Reasons for the stop may exceed 100% as more than one reason for the stop may be indicated for a traffic stop.

Table 3.5: Reason for Stop by Station – 2007 (p. 1 of 4)

	Total # of Stops	% Speeding		Amt. over Limit (MPH)	% Moving Violation		% Equipment/ Inspection		% Preexisting Info		% Registration		% License		% Spec. Traf. Enf.	% Other	
		P	S		P	S	P	S	P	S	P	S	P	S		P	S
AREA I																	
Troop H																	
Carlisle	8,807	80.9	0.1	19.0	7.5	0.0	6.2	1.4	0.0	0.0	5.3	1.3	0.8	3.3	0.0	1.0	4.9
Chambersburg	5,227	57.1	0.0	17.4	24.2	0.0	12.3	1.3	0.3	0.2	5.2	1.1	0.8	2.3	0.3	2.1	0.7
Gettysburg	2,347	72.9	0.0	18.9	13.7	0.0	8.9	1.5	0.0	0.0	3.8	1.2	0.7	3.4	0.9	1.4	1.2
Harrisburg	3,286	73.5	0.2	21.6	21.5	0.2	2.4	1.5	0.0	0.1	3.0	0.8	0.3	1.4	0.2	2.2	1.8
Lykens	1,759	62.4	0.0	18.2	17.7	0.0	11.6	1.9	0.2	0.0	5.6	1.5	1.5	2.6	0.6	1.3	1.5
Newport	3,021	85.6	0.0	20.1	11.4	0.1	1.6	1.2	0.1	0.0	1.4	0.9	0.4	1.4	0.0	0.4	1.1
York	4,560	67.6	0.0	21.0	20.4	0.0	7.7	1.4	0.0	0.0	3.3	1.0	0.4	2.4	0.0	1.2	2.7
Troop J																	
Avondale	3,621	44.7	0.1	23.0	20.8	0.1	17.7	3.4	0.2	0.1	7.7	4.9	4.5	6.1	0.3	1.8	1.2
Embreeville	3,769	79.9	0.0	23.2	12.1	0.0	4.5	1.8	0.0	0.0	3.6	1.5	0.3	3.9	0.0	0.6	1.8
Ephrata	1,132	83.2	0.0	21.4	7.0	0.0	6.9	1.8	0.0	0.0	3.3	2.7	0.3	4.6	0.0	0.1	1.4
Lancaster	3,065	54.0	0.2	22.2	17.3	0.6	15.1	3.2	0.2	0.5	11.7	2.2	3.6	6.9	0.2	1.4	5.8
Troop L																	
Frackville	988	67.0	0.0	19.1	18.4	0.0	9.3	2.0	0.5	0.0	5.2	2.4	1.4	8.3	0.1	1.6	1.9
Hamburg	1,845	75.1	0.6	20.1	14.9	0.5	5.3	3.9	0.2	3.0	4.2	3.4	1.0	3.0	7.5	2.6	2.4
Jonestown	3,005	72.1	0.0	19.3	16.2	0.0	8.9	2.8	0.1	0.2	3.3	3.1	0.5	4.8	2.5	1.4	3.0
Reading	1,733	74.4	0.0	21.5	13.2	0.0	7.0	2.0	0.0	0.0	3.1	4.0	0.3	3.8	1.2	0.8	3.3
Schuylkill Haven	1,444	55.4	0.3	18.8	32.9	0.1	5.8	3.3	0.0	0.5	2.2	4.2	1.0	5.1	5.8	0.6	3.0
Troop T																	
Bowmansville	7,349	75.1	0.0	18.2	20.7	0.1	2.6	0.5	0.0	0.0	1.3	0.8	0.2	1.3	0.0	0.9	0.5
Everett	12,657	96.0	0.0	18.8	3.2	0.0	2.6	1.1	0.0	0.1	0.5	1.2	0.2	1.5	0.0	0.3	0.5
Gibsonia	6,679	87.1	0.0	16.4	6.8	0.5	5.2	2.4	0.1	0.2	1.8	5.2	0.5	2.2	0.0	1.2	1.8
Highspire	29	75.9	0.0	20.7	0.0	20.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	3.4	0.0
King of Prussia	4,922	72.3	0.2	19.4	21.1	0.1	2.4	1.2	0.1	0.1	2.3	1.1	0.5	1.5	0.0	2.3	0.8
New Stanton	9,496	74.0	0.0	17.6	19.4	0.0	4.8	2.1	0.1	0.4	1.5	1.1	0.5	2.4	0.0	0.2	0.5
Newville	9,088	86.8	0.0	18.7	7.2	0.0	4.1	1.8	0.0	0.4	1.4	4.3	0.3	2.8	0.0	0.6	2.6
Pocono	4,940	80.5	0.0	19.0	10.9	0.0	6.8	0.7	0.0	0.0	1.6	1.7	0.7	2.1	0.0	0.9	1.5
Somerset (T)	5,325	67.2	0.0	17.9	30.0	0.0	3.9	0.5	0.1	0.0	0.4	0.5	0.4	0.8	0.2	0.5	1.1

NOTE: P=prior to stop, S=subsequent to stop

NOTE: Reasons for the stop may exceed 100% as more than one reason for the stop may be indicated for a traffic stop.

Table 3.5: Reason for Stop by Station - 2007 (p. 2 of 4)

	Total # of Stops	% Speeding		Amt. over Limit (MPH)	% Moving Violation		% Equipment/ Inspection		% Preexisting Info		% Registration		% License		% Spec. Traf. Enf.	% Other	
		P	S		P	S	P	S	P	S	P	S	P	S		P	S
AREA II																	
Troop F																	
Coudersport	2,108	69.8	0.0	16.4	9.3	0.0	15.7	1.8	0.0	0.0	4.0	2.2	0.6	3.0	0.1	0.7	1.4
Emporium	942	40.4	0.0	14.2	40.4	0.0	16.1	1.4	0.4	0.2	1.3	2.4	1.7	5.4	0.0	1.2	1.5
Lamar	2,033	79.6	0.0	17.3	11.2	0.2	6.1	2.5	0.3	0.8	2.1	1.7	0.5	1.9	0.3	0.8	1.9
Mansfield	1,172	65.9	0.0	17.1	13.1	0.0	16.7	4.3	0.0	0.2	2.6	4.3	0.1	4.6	0.1	1.2	5.9
Milton	3,036	75.6	0.0	19.4	17.9	0.0	5.1	3.5	0.1	0.0	1.9	1.2	0.7	3.0	0.0	0.1	0.8
Montoursville	3,054	72.0	0.0	18.1	13.8	0.0	8.8	3.1	0.0	0.1	3.3	2.0	0.8	4.0	2.0	1.1	3.7
Selinsgrove	3,049	79.5	0.0	19.1	7.8	0.0	8.3	3.1	0.1	0.0	4.2	1.4	0.4	2.2	0.2	0.8	4.7
Stonington	1,873	67.3	0.0	18.0	8.4	0.0	18.1	5.2	0.1	0.1	4.7	5.9	0.5	8.8	0.2	0.5	4.6
Troop P																	
Laporte	1,215	47.1	0.0	18.4	39.5	0.2	12.2	1.7	0.4	0.1	1.4	3.5	0.9	2.6	0.3	1.8	6.6
Shickshinny	1,251	66.1	0.0	20.4	14.3	0.0	10.6	1.9	0.0	0.2	5.5	3.4	1.0	4.1	0.1	0.6	4.2
Towanda	3,502	66.1	0.0	17.8	10.7	0.1	18.5	2.9	0.0	0.4	4.0	3.0	0.6	3.7	0.9	0.9	5.1
Tunkhannock	985	55.9	0.1	18.9	24.9	1.2	11.2	7.5	0.3	0.2	4.1	7.7	1.6	9.5	3.8	1.7	7.2
Wyoming	1,427	70.0	0.0	22.2	17.9	0.0	8.3	0.7	0.1	0.1	3.3	1.2	2.2	1.9	1.0	0.3	0.8
Troop R																	
Blooming Grove	2,382	49.3	0.0	19.1	21.0	0.0	25.1	1.3	0.2	0.0	3.0	1.3	0.9	1.8	0.3	1.3	1.0
Dunmore	3,826	61.6	0.0	21.5	28.8	0.4	5.3	2.4	0.1	0.0	3.1	1.6	0.7	3.8	0.1	1.2	1.0
Gibson	2,057	69.8	0.0	19.3	17.7	0.6	10.8	2.0	0.1	0.0	2.5	2.1	0.4	4.1	0.4	0.2	1.2
Honesdale	1,256	53.7	0.1	19.3	35.7	0.0	7.0	1.3	0.1	0.1	2.1	1.6	0.5	2.5	0.0	2.1	1.1
AREA III																	
Troop A																	
Ebensburg	5,064	70.7	0.1	19.7	15.9	0.2	8.1	6.1	0.2	2.5	4.0	4.5	0.3	3.8	0.0	0.3	3.0
Greensburg	4,719	49.4	0.0	20.2	25.6	0.1	13.8	3.0	0.1	0.3	10.1	1.9	1.3	5.2	0.3	0.8	2.6
Indiana	3,507	61.4	0.1	20.7	19.4	0.1	11.4	1.7	0.3	0.0	6.1	2.3	1.1	2.9	0.4	1.1	0.6
Kiski Valley	2,794	69.0	0.0	20.5	20.7	0.0	7.8	3.3	0.3	2.2	2.9	3.9	0.7	4.9	6.8	0.3	3.7
Somerset (A)	2,245	64.4	0.0	18.5	17.6	0.0	10.8	3.3	0.2	0.4	6.7	4.8	1.0	5.3	0.3	0.6	8.3

NOTE: P=prior to stop, S=subsequent to stop

NOTE: Reasons for the stop may exceed 100% as more than one reason for the stop may be indicated for a traffic stop.

Table 3.5: Reason for Stop by Station - 2007 (p. 3 of 4)

	Total # of Stops	% Speeding		Amt. over Limit (MPH)	% Moving Violation		% Equipment/ Inspection		% Preexisting Info		% Registration		% License		% Spec. Traf. Enf.		% Other	
		P	S		P	S	P	S	P	S	P	S	P	S	P	S	P	S
AREA III (cont.)																		
Troop B																		
Belle Vernon	1,168	57.8	0.0	23.5	18.8	0.0	12.5	2.8	0.3	0.2	9.8	1.2	1.7	5.8	0.0	0.8	1.1	
Findlay	6,060	64.7	0.0	22.1	28.0	0.0	5.0	2.6	0.0	1.9	3.6	2.2	0.6	4.1	0.7	0.7	1.6	
Uniontown	4,890	55.2	0.0	19.4	27.1	0.4	8.4	4.0	0.1	0.0	7.3	2.7	2.3	6.1	0.3	0.9	4.5	
Washington	5,061	59.6	0.0	20.9	27.9	0.4	7.7	2.1	0.1	0.1	3.9	3.4	0.6	6.1	0.1	0.4	2.8	
Waynesburg	1,214	66.3	0.0	19.4	18.4	0.0	11.6	1.7	0.5	0.0	5.1	1.8	1.0	3.5	0.1	0.9	1.6	
Troop G																		
Bedford	2,427	65.3	0.0	17.7	18.3	0.0	11.1	3.5	0.3	0.9	5.0	3.5	0.7	3.0	0.8	0.6	1.1	
Hollidaysburg	3,256	71.9	0.1	17.4	18.5	0.7	8.9	3.5	0.2	0.2	2.7	3.5	0.3	4.2	0.4	0.5	1.4	
Huntingdon	2,154	69.5	0.0	16.8	11.9	0.0	16.4	3.4	0.1	0.1	3.4	3.3	0.6	3.9	0.3	0.5	1.7	
Lewistown	4,130	83.8	0.0	18.7	8.5	0.0	5.9	4.8	0.1	0.3	2.3	3.9	0.3	5.8	0.0	0.4	4.4	
McConnellsburg	2,564	85.3	0.0	22.9	5.7	0.0	8.2	1.1	0.0	0.0	0.7	0.5	0.2	1.1	0.4	0.0	0.4	
Philipsburg	2,169	83.3	0.0	16.2	12.9	0.1	2.6	8.1	0.0	0.5	1.2	3.8	0.0	4.4	1.2	0.2	5.0	
Rockview	5,106	76.3	0.0	19.1	18.5	0.1	3.7	1.6	0.0	0.0	2.2	1.4	0.0	1.7	0.1	0.1	1.8	
AREA IV																		
Troop C																		
Clarion	3,584	81.2	0.0	19.0	9.0	0.0	7.7	3.6	0.5	0.2	2.5	2.9	0.6	3.0	0.0	1.0	3.9	
Clearfield	3,863	89.8	0.0	17.5	5.5	0.0	5.2	1.1	0.1	0.1	1.2	1.0	0.4	1.2	0.0	0.2	1.7	
Dubois	2,228	83.8	0.0	17.4	10.6	0.0	5.0	1.3	0.4	0.2	1.4	1.1	0.1	2.2	2.9	1.0	1.8	
Kane	1,654	70.2	0.1	16.9	9.5	0.4	14.9	2.5	0.1	0.1	4.5	2.3	0.2	3.6	0.0	0.7	4.4	
Punxsutawney	2,412	80.7	0.0	17.6	7.8	0.1	8.5	2.5	0.1	0.0	2.4	3.3	0.6	5.0	0.2	1.2	5.0	
Ridgway	3,187	76.3	0.0	15.4	13.2	0.0	8.5	1.9	0.3	0.7	2.1	3.6	1.0	4.0	0.0	3.7	4.8	
Tionesta	1,773	83.5	0.0	15.6	7.8	0.0	8.3	4.3	0.1	0.5	1.1	3.9	0.7	4.7	0.3	0.4	5.7	
Troop D																		
Beaver	2,719	54.6	0.1	20.3	12.8	0.0	21.7	5.8	0.0	0.1	10.0	3.1	0.4	6.0	0.1	0.7	2.5	
Butler	3,388	72.5	0.0	19.7	9.5	0.0	12.2	1.8	0.1	0.1	5.0	2.3	1.2	3.0	4.3	0.9	1.2	
Kittanning	2,585	69.8	0.0	20.3	13.6	0.0	12.4	2.2	0.3	0.0	4.4	3.7	0.9	4.6	0.9	1.0	4.8	
Mercer	2,056	82.2	0.0	17.6	8.3	0.0	7.3	2.6	0.0	0.1	2.8	1.9	0.6	2.5	0.1	0.7	3.3	
New Castle	3,127	55.7	0.1	18.4	17.5	0.1	21.0	2.9	0.4	0.4	4.2	4.8	0.8	6.5	0.4	2.0	7.2	

NOTE: P=prior to stop, S=subsequent to stop

NOTE: Reasons for the stop may exceed 100% as more than one reason for the stop may be indicated for a traffic stop.

Table 3.5: Reason for Stop by Station - 2007 (p. 4 of 4)

	Total # of Stops	% Speeding		Amt. over Limit (MPH)	% Moving Violation		% Equipment/ Inspection		% Preexisting Info		% Registration		% License		% Spec. Traf. Enf.		% Other	
		P	S		P	S	P	S	P	S	P	S	P	S	P	S	P	S
AREA IV (cont.)																		
Troop E																		
Corry	921	75.8	0.0	15.9	14.8	0.3	5.6	2.5	0.0	0.0	3.0	4.8	0.4	4.7	0.8	1.3	4.5	
Erie	2,568	62.1	0.1	19.1	20.1	0.4	8.3	3.3	0.3	0.4	5.9	5.4	0.2	4.8	1.0	1.9	8.2	
Franklin	2,057	53.3	0.0	16.2	18.0	0.0	20.0	3.1	0.1	0.0	6.8	3.4	0.9	5.3	0.5	1.3	3.9	
Girard	2,156	76.4	0.0	17.8	14.0	0.0	5.3	2.2	0.2	0.5	3.4	4.3	0.4	5.5	0.2	1.8	6.1	
Meadville	4,330	80.3	0.0	18.1	7.0	0.1	8.8	2.3	0.1	0.1	3.2	2.1	0.4	3.4	0.0	0.8	4.0	
Warren	771	62.9	0.1	17.8	10.9	0.0	17.0	2.3	0.3	0.1	7.8	3.2	0.3	2.7	0.5	1.8	3.4	
AREA V																		
Troop K																		
Media	4,926	39.0	0.0	24.5	35.9	0.0	11.2	2.3	0.5	0.4	14.6	2.3	0.8	5.5	0.1	2.6	2.6	
Philadelphia	10,442	49.7	0.0	27.3	23.1	0.0	12.0	2.1	0.1	0.2	12.3	1.8	1.3	4.5	0.1	2.9	1.7	
Skippack	3,344	61.5	0.0	23.3	18.4	0.1	11.7	2.5	0.1	0.5	6.0	5.4	0.7	6.5	3.6	2.4	8.1	
Troop M																		
Belfast	3,048	54.9	0.0	21.0	15.0	0.2	22.8	2.6	0.0	0.1	6.2	2.4	0.4	4.8	0.1	1.4	3.2	
Bethlehem	2,182	64.3	0.0	21.4	17.1	0.0	12.1	2.4	0.0	0.0	6.7	1.6	0.9	4.3	0.1	1.1	1.6	
Dublin	3,572	40.2	0.0	21.3	20.8	0.0	27.2	1.9	0.1	0.1	8.7	4.4	1.5	5.8	0.8	1.7	2.4	
Fogelsville	6,052	57.0	0.1	23.6	19.2	0.2	15.0	3.0	0.1	0.1	8.7	3.3	0.4	4.1	2.1	1.3	2.8	
Treose	2,313	62.0	0.0	28.1	20.8	0.0	12.0	2.5	0.1	0.2	6.9	3.4	0.7	4.4	1.9	1.0	1.8	
Troop N																		
Bloomsburg	2,230	62.6	0.0	19.2	32.8	0.0	3.0	0.9	0.0	0.0	1.2	1.4	0.3	2.2	0.2	2.3	2.6	
Fern Ridge	2,717	66.9	0.0	18.6	17.7	0.0	12.0	1.4	0.0	0.0	2.4	1.4	0.8	2.1	2.0	0.6	2.8	
Hazleton	2,748	63.4	0.0	20.6	20.3	0.2	10.3	2.5	0.0	0.1	6.2	2.1	1.1	6.0	0.3	0.9	2.1	
Lehighton	2,212	59.0	0.0	19.3	20.4	0.0	17.0	0.9	0.0	0.0	3.3	1.7	0.4	2.5	0.0	0.6	1.3	
Swiftwater	4,906	58.2	0.1	20.8	23.7	0.3	13.6	3.1	0.1	0.7	4.0	2.3	0.4	4.4	0.1	0.4	2.6	

NOTE: P=prior to stop, S=subsequent to stop

NOTE Reasons for the stop may exceed 100% as more than one reason for the stop may be indicated for a traffic stop.

DRIVERS' CHARACTERISTICS

Driver characteristics are reported in Tables 3.6 & 3.7 across all organizational units. The characteristics of the drivers are grouped by: 1) drivers' age and gender, 2) drivers' race/ethnicity, and 3) drivers' residency.

Drivers' Age & Gender

Table 3.6 reports the total number of traffic stops initiated by PSP personnel, the average age of the driver, and the percent of traffic stops involving male drivers at the department, area, and troop levels. Based on the 299,957 traffic stops, drivers' average age was 34.6 years-old, and 68.4% of all traffic stops involved a male driver. At the area level, the average age of drivers ranged from a high of 35.5 years-old in Area II to a low of 34.1 years-old in Area V. The percentage of male drivers varied from a high of 69.4% in Area V to a low of 67.3% in Area III. Drivers' average age varied more noticeably at the troop level (Table 3.6) and at the station level (Table 3.7).

Drivers' Race/Ethnicity

In all trooper initiated traffic stops, PSP personnel visually determined the racial/ethnic composition of the drivers based solely on their own perceptions. This method avoids asking drivers to self-identify their race/ethnicity. The collection of drivers' race/ethnicity raises reliability and validity concerns for data collection. Police may be reluctant to indicate drivers' race/ethnicity or may report that information incorrectly. Alternatively, PSP personnel may "disengage," or initiate fewer traffic stops overall.

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 traffic stop 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).

Across the department, the racial/ethnic composition of all drivers encountered during member-initiated traffic stops in 2007 is as follows:

- White = 83.6%
- Black = 8.9%
- Any Hispanic = 3.5%
 - White Hispanic = 3.2%

- Black Hispanic = 0.3%
- Native American = 0.1%
- Middle Eastern = 1.9%
- Asian = 1.7%
- Unknown¹ race/ethnicity or missing data 0.3%

Importantly, some variation in the racial/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. Further analyses are provided in Section 4, where the percentage of traffic stops by racial/ethnicity is compared with the percentage across previous years.

At the area level, the rate of traffic stops involving White drivers ranged from a high of 90.9% in Area III to a low of 71.4% in Area V (see Table 3.6). Traffic stops involving Black drivers reached a high of 16.0% in Area V and a low of 4.9% in Area II. Finally, Hispanic traffic stops was also highest in Area V (7.4%) and lowest in Area III (1.1%). Greater variation is reported at the troop and station levels in Tables 3.6 & 3.7, respectively.

Drivers' Residency

Tables 3.6 & 3.7 also report stopped drivers' residency based on reported residential zip codes. For every traffic stop, drivers' zip codes were recorded to determine the percentage of stops that occurred in locations where the drivers actually reside. Across the department, 95.1% of drivers stopped did not reside in the municipality where they were stopped, 63.9% did not reside in the county where they were stopped, and 24.2% did not reside in the state of Pennsylvania. The rates of out-of-state and out-of-county residents stopped varied noticeably across organizational units. At the area level, out-of-state traffic stops ranged from a high of 29.7% in Area I to a low of 17.4% in Area III, while out-of-county traffic stops ranged from a high of 73.1% in Area I to a low of 55.2 in Area III. These differences are likely partially related to the geographic locations of these organizational units and the traffic patterns that exist within those units. Table 3.6 provides a description of the troop rates, while station rates are reported in Table 3.7.

¹ In 2007, only three stations (Mansfield, Warren, and Somerset (T)) had an unknown/missing rate above 2.0%, which is directly attributed to PSP administrators' continued emphasis on Trooper compliance with the data collection effort.

Table 3.6: 2007 Characteristics of Drivers Stopped by Department, Area & Troop

	Total # of Stops	Average Age	% Male	% White	% Black	% White Hispanic	% Black Hispanic	% Any Hispanic	% Native American	% Middle Eastern	% Asian	% Missing/ Unknown	% stopped out of municipality	% stopped out of county	% stopped out of state
PSP Dept.	299,957	34.6	68.4	83.6	8.9	3.2	0.3	3.5	0.1	1.9	1.7	0.3	95.1	63.9	24.2
AREA I	110,102	34.4	68.6	80.9	10.3	3.7	0.4	4.1	0.1	2.3	2.0	0.3	97.3	73.1	29.7
Troop H	29,007	34.6	65.7	86.8	7.4	3.0	0.3	3.3	0.0	1.1	1.2	0.2	94.2	57.7	25.4
Troop J	11,587	32.9	68.7	77.3	10.7	9.1	0.5	9.6	0.1	0.9	1.3	0.1	94.5	35.6	10.3
Troop L	9,015	35.1	69.0	85.0	6.3	5.4	0.6	6.0	0.0	1.6	1.1	0.1	95.6	53.5	18.6
Troop T	60,493	34.5	69.8	78.2	12.2	2.7	0.4	3.1	0.1	3.3	2.6	0.5	99.6	90.5	37.2
AREA II	35,168	35.5	68.4	89.9	4.9	2.1	0.2	2.3	0.0	1.3	1.2	0.5	94.1	61.7	24.3
Troop F	17,267	35.5	67.4	90.0	5.2	1.7	0.3	1.9	0.0	1.2	1.0	0.6	94.4	66.2	22.6
Troop P	8,380	36.0	68.8	95.4	2.1	1.3	0.1	1.3	0.0	0.5	0.5	0.1	94.2	48.7	13.6
Troop R	9,521	35.0	69.8	84.8	6.7	3.7	0.3	4.0	0.0	2.1	2.0	0.5	93.3	65.0	36.8
AREA III	58,528	34.5	67.3	90.9	5.4	1.0	0.1	1.1	0.1	1.3	1.1	0.1	94.3	55.2	17.4
Troop A	18,329	34.5	67.7	94.5	3.4	0.6	0.1	0.7	0.0	0.8	0.6	0.1	93.1	47.8	7.5
Troop B	18,393	34.4	66.5	90.4	6.6	0.6	0.1	0.7	0.0	1.2	0.9	0.2	94.0	48.0	18.0
Troop G	21,806	34.7	67.6	88.2	6.2	1.7	0.2	1.9	0.1	1.8	1.8	0.1	95.6	67.6	25.3
AREA IV	45,379	35.3	68.4	89.3	5.3	1.7	0.2	1.9	0.1	1.9	1.3	0.3	94.1	60.2	24.4
Troop C	18,701	36.3	70.8	87.2	5.4	2.4	0.3	2.7	0.1	2.5	1.8	0.4	95.3	72.2	34.4
Troop D	13,875	33.8	66.5	90.6	6.0	1.2	0.1	1.3	0.1	1.2	0.7	0.2	93.1	53.2	14.0
Troop E	12,803	35.3	66.8	90.8	4.3	1.2	0.1	1.2	0.1	2.0	1.1	0.4	93.5	50.2	20.9
AREA V	50,692	34.1	69.4	71.4	16.0	6.7	0.7	7.4	0.0	2.2	2.6	0.4	92.8	58.8	19.8
Troop K	18,712	34.5	69.0	64.1	24.9	4.2	0.5	4.8	0.0	1.8	3.8	0.6	90.2	55.3	11.9
Troop M	17,167	33.9	70.0	75.8	10.2	8.8	0.8	9.7	0.0	2.4	1.7	0.2	95.1	56.2	17.5
Troop N	14,813	34.0	69.1	75.5	11.7	7.3	0.7	8.0	0.0	2.4	2.1	0.3	93.2	66.4	32.6

NOTE: Any Hispanic totals may appear to differ slightly from the combination of White Hispanic & Black Hispanic due to rounding.

Table 3.7: 2007 Characteristics of Drivers Stopped by Station (p. 1 of 4)

	Total # of Stops	Ave. Age	% Male	% White	% Black	% White Hispanic	% Black Hispanic	% Any 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	8,807	35.4	65.4	87.8	7.4	2.5	0.2	2.7	0.0	1.1	1.0	0.1	96.1	69.9	32.6
Chambersburg	5,227	34.3	62.7	87.9	6.4	3.4	0.2	3.6	0.0	0.8	0.9	0.5	89.2	37.0	23.5
Gettysburg	2,347	33.9	64.1	85.3	5.2	5.8	0.2	6.1	0.0	1.2	1.9	0.3	96.2	58.8	27.6
Harrisburg	3,286	34.7	72.2	81.8	9.3	5.1	0.5	5.6	0.0	1.6	1.3	0.4	96.0	72.7	28.7
Lykens	1,759	36.1	64.1	97.4	1.1	0.7	0.1	0.8	0.0	0.1	0.6	0.0	87.2	27.6	3.6
Newport	3,021	32.9	65.9	90.5	4.9	1.5	0.2	1.7	0.2	1.2	1.5	0.1	98.4	81.5	16.5
York	4,560	34.0	66.3	81.6	12.6	2.6	0.3	2.9	0.0	1.4	1.5	0.0	94.2	42.3	24.5
Troop J															
Avondale	3,621	33.6	67.6	71.8	9.9	15.8	0.4	16.2	0.1	0.8	1.2	0.1	94.3	35.1	16.3
Embreeville	3,769	32.7	67.7	76.5	14.9	4.9	0.3	5.1	0.0	1.3	2.0	0.1	96.8	41.9	8.1
Ephrata	1,132	31.9	66.4	85.9	5.8	5.0	0.3	5.3	0.2	0.4	1.6	0.8	96.6	36.6	6.0
Lancaster	3,065	32.6	72.0	81.4	8.1	8.1	0.8	8.9	0.0	0.8	0.6	0.1	91.1	28.2	7.6
Troop L															
Frackville	988	34.4	72.4	86.3	6.2	4.4	1.2	5.6	0.0	1.3	0.4	0.2	95.3	60.4	24.9
Hamburg	1,845	35.7	69.8	80.4	6.8	7.4	0.7	8.1	0.1	2.6	1.9	0.2	97.3	68.5	26.3
Jonestown	3,005	34.9	70.0	82.1	8.8	5.4	0.5	5.9	0.0	1.9	1.3	0.0	95.3	67.3	27.5
Reading	1,733	35.2	66.0	87.7	4.3	5.9	0.5	6.3	0.1	0.8	0.6	0.1	93.6	29.7	3.3
Schuylkill Haven	1,444	35.0	67.5	92.5	2.8	3.0	0.1	3.2	0.0	0.9	0.6	0.1	96.5	29.4	4.2
Troop T															
Bowmansville	7,349	33.0	67.0	76.3	12.6	4.3	0.4	4.7	0.0	3.2	3.0	0.1	99.8	92.9	26.4
Everett	12,657	34.5	68.8	74.3	15.1	2.9	0.2	3.1	0.0	3.9	3.5	0.1	100.0	99.4	47.1
Gibsonia	6,679	35.6	69.5	84.1	9.7	1.3	0.3	1.6	0.0	2.7	1.7	0.3	99.2	82.5	40.6
Highspire	29	35.8	89.7	72.4	24.1	0.0	0.0	0.0	0.0	3.4	0.0	0.0	93.1	79.3	37.9
King of Prussia	4,922	34.2	72.6	78.2	10.1	4.2	1.3	5.5	0.0	3.0	3.0	0.2	99.0	79.2	23.2
New Stanton	9,496	34.1	69.7	83.5	10.3	1.3	0.1	1.5	0.0	2.5	1.8	0.4	98.7	77.0	29.4
Newville	9,088	34.8	71.1	77.4	12.9	2.7	0.5	3.2	0.2	3.6	2.5	0.2	99.9	96.4	38.2
Pocono	4,940	33.7	67.9	82.6	8.9	2.6	0.4	3.0	0.2	2.1	2.1	1.1	99.8	92.5	24.5
Somerset (T)	5,325	36.8	73.7	71.1	15.3	3.0	0.2	3.3	0.1	4.8	3.0	2.4	99.9	98.9	60.5

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Table 3.7: 2007 Characteristics of Drivers Stopped by Station (p. 2 of 4)

	Total # of Stops	Ave. Age	% Male	% White	% Black	% White Hispanic	% Black Hispanic	% Any 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	2,108	38.6	71.4	98.3	0.6	0.2	0.1	0.3	0.1	0.2	0.4	0.0	90.4	59.6	16.3
Emporium	942	36.5	73.5	98.5	0.6	0.5	0.0	0.5	0.0	0.0	0.3	0.0	89.0	64.2	9.2
Lamar	2,033	34.7	70.3	83.2	6.6	2.8	0.5	3.3	0.0	3.5	2.2	1.5	98.2	84.7	44.1
Mansfield	1,172	36.0	67.4	88.1	4.4	1.1	0.1	1.2	0.0	1.6	0.8	3.9	94.4	57.3	32.7
Milton	3,036	33.7	63.7	82.2	9.3	3.2	0.7	3.9	0.0	2.3	1.9	0.3	97.8	88.1	36.1
Montoursville	3,054	35.2	66.8	88.8	8.2	1.2	0.0	1.2	0.0	0.7	0.8	0.2	92.3	46.9	14.6
Selinsgrove	3,049	35.5	66.3	92.1	4.3	1.5	0.2	1.7	0.0	0.8	1.0	0.2	97.3	77.4	19.7
Stonington	1,873	35.5	65.6	96.3	1.4	1.5	0.2	1.7	0.1	0.1	0.3	0.2	92.1	37.4	2.4
Troop P															
Laporte	1,215	39.9	73.7	98.4	0.7	0.3	0.0	0.3	0.1	0.1	0.3	0.0	94.3	78.0	12.5
Shickshinny	1,251	33.7	65.5	94.8	2.8	0.9	0.2	1.0	0.1	0.5	0.8	0.0	92.9	39.0	9.3
Towanda	3,502	36.0	66.0	97.5	1.2	0.7	0.0	0.7	0.0	0.4	0.3	0.0	93.5	33.0	11.5
Tunkhannock	985	35.2	71.8	94.9	1.8	2.1	0.1	2.2	0.1	0.8	0.1	0.1	94.5	69.2	8.6
Wyoming	1,427	35.7	72.3	88.7	5.3	3.2	0.2	3.4	0.0	1.2	0.9	0.5	96.7	56.8	26.7
Troop R															
Blooming Grove	2,382	36.1	69.9	85.0	7.2	5.3	0.3	5.5	0.0	0.8	1.2	0.4	88.4	67.0	37.4
Dunmore	3,826	34.2	69.0	84.4	6.7	3.9	0.4	4.3	0.0	2.3	1.9	0.5	95.7	63.8	31.2
Gibson	2,057	34.8	72.5	80.2	8.5	2.5	0.2	2.7	0.1	3.9	3.9	0.7	96.0	73.1	55.4
Honesdale	1,256	36.0	67.4	93.0	3.1	2.2	0.1	2.3	0.1	0.7	0.3	0.5	90.9	51.4	22.2
AREA III															
Troop A															
Ebensburg	5,064	35.1	68.8	95.1	2.9	0.5	0.1	0.6	0.0	0.8	0.5	0.1	92.0	53.9	6.9
Greensburg	4,719	34.4	65.5	95.0	3.5	0.5	0.0	0.5	0.0	0.4	0.5	0.1	92.6	25.9	3.8
Indiana	3,507	32.1	68.8	93.7	3.4	1.2	0.1	1.3	0.0	0.9	0.6	0.1	92.4	53.7	9.9
Kiski Valley	2,794	35.4	68.7	93.0	4.6	0.5	0.0	0.5	0.0	1.1	0.6	0.1	97.7	69.0	6.6
Somerset (A)	2,245	35.8	66.8	95.5	2.5	0.5	0.0	0.5	0.0	0.8	0.7	0.1	91.8	44.6	13.7

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Table 3.7: 2007 Characteristics of Drivers Stopped by Station (p. 3 of 4)

	Total # of Stops	Ave. Age	% Male	% White	% Black	% White Hispanic	% Black Hispanic	% Any 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	1,168	34.7	69.8	89.7	7.4	0.7	0.1	0.8	0.0	1.1	0.9	0.1	91.4	55.0	18.0
Findlay	6,060	34.3	67.4	87.8	7.9	0.9	0.1	1.0	0.0	1.8	1.3	0.1	95.8	49.9	16.8
Uniontown	4,890	34.6	65.0	93.9	5.5	0.3	0.0	0.3	0.0	0.1	0.2	0.1	92.2	26.6	4.6
Washington	5,061	34.3	65.6	90.1	6.6	0.5	0.1	0.6	0.0	1.4	0.9	0.3	94.4	61.1	28.5
Waynesburg	1,214	34.5	68.5	91.3	4.4	1.4	0.2	1.6	0.2	0.9	1.2	0.2	93.2	63.2	34.3
Troop G															
Bedford	2,427	34.1	67.3	90.0	6.1	1.0	0.2	1.2	0.0	1.6	1.2	0.0	96.3	60.2	27.3
Hollidaysburg	3,256	32.0	68.0	87.4	7.3	1.8	0.2	1.9	0.0	1.8	1.5	0.2	94.3	63.8	25.9
Huntingdon	2,154	36.2	67.4	96.3	2.4	0.6	0.0	0.7	0.0	0.3	0.2	0.0	96.4	53.2	6.8
Lewistown	4,130	34.4	67.4	91.5	4.3	1.4	0.2	1.6	0.0	1.0	1.6	0.0	93.8	63.3	9.3
McConnellsburg	2,564	37.0	69.8	75.4	14.1	2.0	0.4	2.3	0.7	3.8	3.3	0.3	96.1	88.6	60.5
Philipsburg	2,169	35.6	66.5	91.3	3.6	1.2	0.2	1.5	0.0	2.3	1.3	0.0	94.5	66.9	18.1
Rockview	5,106	34.8	67.2	86.9	5.9	2.5	0.2	2.7	0.0	2.0	2.3	2.0	97.6	72.7	30.0
AREA IV															
Troop C															
Clarion	3,584	35.5	71.8	78.5	9.4	4.3	0.6	4.8	0.0	3.3	3.4	0.6	97.4	83.3	51.1
Clearfield	3,863	35.0	68.6	81.6	7.5	3.1	0.5	3.7	0.1	4.2	2.6	0.3	97.5	78.2	48.2
Dubois	2,228	35.3	71.4	80.0	9.5	4.1	0.5	4.7	0.0	3.5	2.1	0.4	97.9	85.7	49.8
Kane	1,654	39.0	74.4	94.4	1.1	0.9	0.2	1.1	0.4	1.6	0.8	0.7	93.3	56.0	23.5
Punxsutawney	2,412	36.1	71.3	94.0	2.7	1.0	0.1	1.1	0.0	1.2	0.7	0.2	95.1	63.8	13.9
Ridgway	3,187	36.9	68.9	96.0	1.3	0.8	0.0	0.9	0.1	0.9	0.7	0.2	89.3	51.6	16.2
Tionesta	1,773	38.7	72.6	94.4	2.5	0.7	0.1	0.8	0.1	1.5	0.8	0.1	95.7	83.2	22.4
Troop D															
Beaver	2,719	33.5	65.8	90.1	7.8	0.7	0.0	0.7	0.0	0.7	0.4	0.2	94.0	47.8	13.5
Butler	3,388	33.3	65.9	94.6	3.0	0.6	0.1	0.7	0.1	1.0	0.6	0.1	92.1	54.1	8.8
Kittanning	2,585	32.3	66.2	92.5	5.1	0.8	0.1	0.9	0.0	0.7	0.6	0.1	96.6	50.5	4.6
Mercer	2,056	33.8	69.9	79.8	9.2	4.3	0.3	4.7	0.1	3.7	1.8	0.6	96.2	76.5	41.2
New Castle	3,127	35.9	65.9	92.2	6.4	0.6	0.0	0.6	0.0	0.4	0.4	0.0	88.3	43.7	10.0

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Table 3.7: 2007 Characteristics of Drivers Stopped by Station (p. 4 of 4)

	Total # of Stops	Ave. Age	% Male	% White	% Black	% White Hispanic	% Black Hispanic	% Any 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	921	35.8	66.8	98.9	0.7	0.0	0.0	0.0	0.0	0.1	0.2	0.2	94.5	35.8	5.4
Erie	2,568	35.7	68.3	90.0	4.8	0.9	0.0	1.0	0.1	2.5	1.6	0.0	91.6	38.1	25.4
Franklin	2,057	35.9	69.5	93.5	2.7	1.7	0.1	1.8	0.1	0.9	0.7	0.2	89.3	47.2	13.9
Girard	2,156	35.0	64.5	90.4	5.1	1.5	0.0	1.5	0.1	1.4	0.9	0.5	91.6	38.7	23.8
Meadville	4,330	34.9	65.1	87.8	5.8	1.3	0.1	1.4	0.0	3.1	1.5	0.3	97.5	70.2	25.9
Warren	771	35.8	70.3	95.1	0.9	0.6	0.0	0.6	0.1	0.3	0.1	2.9	92.5	34.5	7.4
AREA V															
Troop K															
Media	4,926	34.7	69.7	68.0	24.0	3.5	0.3	3.8	0.1	1.5	2.5	0.1	94.4	51.8	17.1
Philadelphia	10,442	34.3	69.7	57.9	29.2	4.3	0.7	5.0	0.1	2.0	4.8	1.0	86.4	61.6	11.4
Skippack	3,344	34.4	65.9	77.5	12.6	5.1	0.4	5.5	0.0	1.7	2.6	0.1	95.9	40.8	5.7
Troop M															
Belfast	3,048	33.4	71.4	71.4	12.4	11.7	0.8	12.6	0.1	2.0	1.3	0.2	97.6	65.2	22.4
Bethlehem	2,182	32.2	65.6	75.9	8.9	10.5	0.5	11.0	0.0	2.6	1.4	0.0	92.0	46.6	6.7
Dublin	3,572	34.9	70.2	89.7	3.8	3.4	0.8	4.2	0.0	1.1	1.1	0.2	92.4	50.4	4.5
Fogelsville	6,052	34.5	71.4	72.5	10.3	11.1	0.9	12.0	0.0	3.1	1.8	0.3	97.2	59.9	23.9
Trebose	2,313	33.0	68.5	68.5	17.8	6.1	1.0	7.0	0.0	3.0	3.2	0.4	93.7	53.1	24.3
Troop N															
Bloomsburg	2,230	32.9	66.5	77.7	10.7	4.5	0.7	5.2	0.0	3.4	2.8	0.3	99.1	89.8	40.9
Fern Ridge	2,717	34.0	70.8	74.5	10.7	8.3	1.0	9.3	0.0	2.5	2.7	0.3	88.0	73.8	41.8
Hazleton	2,748	32.9	68.5	73.3	10.1	11.5	1.2	12.7	0.0	2.0	1.5	0.5	96.1	66.7	33.2
Lehighton	2,212	35.7	64.9	91.0	3.8	3.3	0.4	3.6	0.1	0.4	0.6	0.5	87.6	43.9	5.5
Swiftwater	4,906	34.4	71.4	69.4	17.0	7.5	0.6	8.1	0.0	2.9	2.4	0.2	94.4	61.5	35.6

NOTE: Any Hispanic totals may appear to differ slightly from the combination of White Hispanic & Black Hispanic due to rounding.

TRAFFIC STOP OUTCOMES

Traffic stop outcomes, including the rate of warnings, citations, arrests, searches, and seizures of contraband, are provided at all organizational levels in Tables 3.8 & 3.9. These tables report: 1) the total number of stops; 2) the percentage of warnings, citations, and arrests issued to drivers and passengers; 3) the total number of searches conducted; 4) the percentage of occupants and/or vehicles searched; and 5) the percentage of searches resulting in contraband seizures (i.e., the “hit rate”). These percentages may exceed one-hundred percent, as drivers and passengers may experience one or more 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. Post-stop outcomes are discussed in greater detail in Sections 5 & 7 of this report.

Warnings

Based on the 299,957 traffic stops initiated in 2007, warnings were issued to drivers in 26.0% of those traffic stops. Passengers were warned in 0.2% of all department-wide traffic stops. At the area level, drivers received a warning most frequently in Area IV (36.5% of all stops) and least frequently in Area I (16.4%). Troop level rates of warnings are reported in Table 3.8 and at the station level in Table 3.9.

Citations

The most common traffic stop outcome issued to drivers in 2007 was a citation, which occurred in 87.4% of all traffic stops. Furthermore, 0.3% of all traffic stops involved one or more passengers receiving a citation. The rate of citations for drivers differed across areas. The highest rate of citations was reported in Area I (93.5%) while the lowest rate of citations occurred in Area IV (79.0%). These high and low areas are the direct inverse of the high and low rate of warnings as reported in Table 3.8. The percentages of citations at the troop and station levels are also reported in Tables 3.8 & 3.9.

Arrests

Compared to warnings and citations, member-initiated traffic stops that result in arrests of drivers or passengers are relatively rare events. In 2007, 1.5% of stops resulted in the arrest of the driver, while 0.1% of all traffic stops resulted in the arrest of a passenger. At the area level, the rate of arrest ranged from a high of 2.1% in Area V to a low of 1.1% in Area II. Troop level and station level rates of arrests demonstrate greater variation and are reported in Tables 3.8 & 3.9, respectively.

Searches

Similar to arrests, searches of vehicles or occupants are rare events and only occurred in 1.2% of all member-initiated traffic stops in 2007. Throughout the department, PSP

personnel reported 3,726 searches of vehicles or occupants.² At the area level, the rate of searches was highest in Area V, where roughly one-third of all searches were conducted. This organizational unit reported a search in 2.5% of all traffic stops. The fewest searches were conducted in Area II (n=383 searches), although they also had the fewest number of traffic stops. The lowest rate of searches was reported in Area I with searches occurring in 0.7% of their traffic stops. Tables 3.8 & 3.9 also report the raw number of searches and the rate of searches at the troop and station levels, respectively.

Seizures

The rate of contraband discovery during traffic stops is referred to as a “hit rate” or a “search success rate.” To calculate this rate, the number of traffic stops in which contraband was seized is divided by the number of traffic stops in which a search was conducted. This rate allows a comparison across organizational units regardless of the number of searches conducted. The search success rates reported in the tables below include searches for any reason. Additional analyses in Section 7 further examine search success rates by reason for the search.

In 2007, the search success rate across the department was 28.9%. In other words, contraband was discovered in slightly less than 30% of all traffic stops in which a search was reported. At the area level, the highest hit rate was reported in Area II at 32.1%, while Area V had the lowest hit rate at 26.3%. Interestingly, Area II conducted the fewest searches, but had the highest hit rate; conversely, Area V conducted the most searches, but had the lowest hit rate. Table 3.8 also reports the hit rates at the troop level, and Table 3.9 summarizes the hit rate for stations. It is important to note that at some of these organizational units, only a limited number of searches were conducted, thus an asterisk is placed beside the hit rates based on less than ten searches. These hit rates may be unstable due to the infrequent occurrence of a vehicle or occupant search.

² A search is defined by one of three conditions present on the CDR: a) ‘search initiated’ is indicated, b) ‘reason for the search’ is indicated, or c) ‘seizure of contraband’ is indicated.

Table 3.8: 2007 Driver Outcomes By Department, Area & Troop

	Total # of Stops	Warnings		Citations		Arrests		# of Searches	% Person or Vehicle Searched	% Seized
		% Drivers	% Passengers	% Drivers	% Passengers	% Drivers	% Passengers			
PSP Dept.	299,957	26.0	0.2	87.4	0.3	1.5	0.1	3,726	1.2	28.9
AREA I	110,102	16.4	0.1	93.5	0.3	1.2	0.1	813	0.7	30.4
Troop H	29,007	16.5	0.1	91.3	0.2	1.8	0.1	313	1.1	31.9
Troop J	11,587	27.9	0.2	94.6	0.4	3.8	0.3	332	2.9	30.4
Troop L	9,015	32.1	0.2	86.5	0.2	1.2	0.1	58	0.6	8.6
Troop T	60,493	11.7	0.1	95.5	0.3	0.5	0.0	110	0.2	37.3
AREA II	35,168	25.6	0.4	86.7	0.4	1.1	0.1	383	1.1	32.1
Troop F	17,267	26.7	0.7	84.4	0.6	1.3	0.2	157	0.9	36.9
Troop P	8,380	28.3	0.1	85.0	0.3	0.8	0.1	70	0.8	27.1
Troop R	9,521	21.1	0.2	92.4	0.3	0.9	0.1	156	1.6	29.5
AREA III	58,528	29.3	0.2	85.2	0.3	1.5	0.1	704	1.2	29.7
Troop A	18,329	29.9	0.2	87.2	0.3	1.8	0.1	273	1.5	38.5
Troop B	18,393	19.1	0.3	94.9	0.3	1.8	0.2	208	1.1	25.0
Troop G	21,806	37.6	0.2	75.5	0.2	1.1	0.1	223	1.0	23.3
AREA IV	45,379	36.5	0.2	79.0	0.3	1.5	0.2	548	1.2	29.4
Troop C	18,701	29.9	0.1	81.2	0.3	0.9	0.1	103	0.6	17.5
Troop D	13,875	42.6	0.3	77.8	0.4	1.9	0.4	338	2.4	33.4
Troop E	12,803	39.3	0.3	76.9	0.4	1.7	0.1	107	0.8	28.0
AREA V	50,692	33.8	0.2	84.7	0.4	2.1	0.3	1,277	2.5	26.3
Troop K	18,712	40.2	0.3	84.2	0.4	2.7	0.4	711	3.8	29.1
Troop M	17,167	37.7	0.2	81.1	0.2	2.0	0.2	338	2.0	19.5
Troop N	14,813	21.3	0.2	89.5	0.5	1.4	0.2	228	1.5	27.6

Table 3.9: 2007 Driver Outcomes By Station (p. 1 of 4)

	Total # of Stops	Warnings		Citations		Arrests		# of Searches	% Person or Vehicle Searched	% Seized
		% Drivers	% Passengers	% Drivers	% Passengers	% Drivers	% Passengers			
AREA I										
Troop H										
Carlisle	8,807	11.0	0.1	94.7	0.3	2.6	0.1	95	1.1	40.0
Chambersburg	5,227	23.6	0.1	90.3	0.4	1.5	0.2	61	1.2	27.9
Gettysburg	2,347	29.8	0.1	76.5	0.1	3.6	0.1	49	2.1	42.9
Harrisburg	3,286	13.6	0.1	94.5	0.1	0.5	0.0	26	0.8	3.8
Lykens	1,759	30.5	0.4	77.0	0.2	1.4	0.0	9	0.5	55.6*
Newport	3,021	11.4	0.1	95.1	0.1	0.8	0.1	12	0.4	41.7
York	4,560	12.2	0.1	93.8	0.3	1.7	0.2	61	1.3	21.3
Troop J										
Avondale	3,621	42.7	0.2	94.9	0.4	2.1	0.3	90	2.5	27.8
Embreeville	3,769	22.6	0.1	97.1	0.1	3.0	0.1	128	3.4	18.0
Ephrata	1,132	19.8	0.2	96.6	0.2	0.7	0.0	8	0.7	25.0*
Lancaster	3,065	20.1	0.3	90.3	0.6	8.0	0.7	106	3.5	48.1
Troop L										
Frackville	998	28.4	0.1	89.6	0.3	2.6	0.0	7	0.7	0.0*
Hamburg	1,845	31.4	0.1	90.5	0.2	0.2	0.0	0	--	--
Jonestown	3,005	32.1	0.2	81.7	0.1	1.9	0.1	39	1.3	5.1
Reading	1,733	34.6	0.3	86.6	0.1	1.0	0.1	11	0.6	18.2
Schuylkill Haven	1,444	32.9	0.0	89.2	0.1	0.4	0.0	1	0.1	0.0*
Troop T										
Bowmansville	7,349	6.8	0.0	98.6	0.1	0.0	0.0	15	0.2	26.7
Everett	12,657	8.3	0.0	95.4	0.1	0.1	0.0	10	0.1	50.0
Gibsonia	6,679	16.5	0.0	92.4	0.3	3.5	0.0	14	0.2	28.6
Highspire	29	55.2	0.0	51.7	0.0	0.0	0.0	3	10.3	33.3*
King of Prussia	4,922	11.4	0.1	94.6	0.1	0.1	0.1	7	0.1	42.9*
New Stanton	9,496	12.0	0.3	95.4	0.0	0.2	0.1	21	0.2	47.6
Newville	9,088	21.0	0.1	96.3	0.2	0.1	0.0	14	0.2	7.1
Pocono	4,940	10.3	0.0	94.1	0.1	0.1	0.1	7	0.1	28.6*
Somerset (T)	5,325	5.9	0.4	95.9	2.0	0.2	0.0	19	0.4	57.9

* Indicates fewer than 10 searches conducted. Interpret percentages with caution.

Table 3.9: 2007 Driver Outcomes By Station (p. 2 of 4)

	Total # of Stops	Warnings		Citations		Arrests		# of Searches	% Person or Vehicle Searched	% Seized
		% Drivers	% Passengers	% Drivers	% Passengers	% Drivers	% Passengers			
AREA II										
Troop F										
Coudersport	2,108	51.2	2.1	63.8	0.2	1.4	0.0	9	0.4	22.2*
Emporium	942	35.1	0.3	73.7	0.1	0.8	0.0	8	0.8	37.5*
Lamar	2,033	24.6	2.1	85.1	0.2	2.2	0.2	11	0.5	54.5
Mansfield	1,172	44.4	0.3	70.3	0.3	0.9	0.3	13	1.1	53.8
Milton	3,036	16.5	0.1	93.0	0.5	0.6	0.2	29	1.0	31.0
Montoursville	3,054	15.9	0.1	90.2	0.5	1.5	0.4	50	1.6	48.0
Selinsgrove	3,049	19.5	0.6	91.7	0.8	1.6	0.0	13	0.4	23.1
Stonington	1,873	31.7	0.4	86.2	2.1	1.0	0.0	24	1.3	16.7
Troop P										
Laporte	1,215	26.8	0.1	83.6	0.3	1.0	0.1	4	0.3	50.0*
Shickshinny	1,251	23.6	0.0	91.4	0.2	1.7	0.0	5	0.4	0.0*
Towanda	3,502	36.6	0.1	78.2	0.1	0.1	0.0	42	1.2	21.4
Tunkhannock	985	29.9	0.5	88.0	1.0	1.7	0.5	11	1.1	45.5
Wyoming	1,427	12.1	0.1	95.4	0.6	0.8	0.1	8	0.6	37.5*
Troop R										
Blooming Grove	2,382	31.4	0.4	88.5	0.4	0.6	0.0	38	1.6	21.1
Dunmore	3,826	20.1	0.2	92.6	0.2	0.9	0.2	66	1.7	33.3
Gibson	2,057	14.5	0.1	94.5	0.1	1.1	0.2	22	1.1	22.7
Honesdale	1,256	15.8	0.2	95.9	0.4	1.0	0.1	30	2.4	36.7
AREA III										
Troop A										
Ebensburg	5,064	22.9	0.0	86.2	0.1	2.2	0.1	51	1.0	29.4
Greensburg	4,719	39.2	0.2	87.3	0.3	1.9	0.3	101	2.1	52.5
Indiana	3,507	27.7	0.3	88.9	0.5	1.7	0.1	42	1.2	45.2
Kiski Valley	2,794	26.3	0.1	88.8	0.1	0.8	0.1	34	1.2	20.6
Somerset (A)	2,245	34.0	0.4	84.3	0.2	2.9	0.1	45	2.0	24.4

* Indicates fewer than 10 searches conducted. Interpret percentages with caution.

Table 3.9: 2007 Driver Outcomes By Station (p. 3 of 4)

	Total # of Stops	Warnings		Citations		Arrests		# of Searches	% Person or Vehicle Searched	% Seized
		% Drivers	% Passengers	% Drivers	% Passengers	% Drivers	% Passengers			
AREA III (cont.)										
Troop B										
Belle Vernon	1,168	22.8	0.4	94.6	0.1	0.8	0.0	17	1.5	23.5
Findlay	6,060	14.4	0.1	97.8	0.2	0.7	0.0	35	0.6	5.7
Uniontown	4,890	19.6	0.4	92.0	0.4	3.7	0.4	106	2.2	31.1
Washington	5,061	14.1	0.3	96.0	0.4	1.1	0.1	34	0.7	32.4
Waynesburg	1,214	57.2	1.1	87.6	0.7	2.8	0.2	16	1.3	12.5
Troop G										
Bedford	2,427	47.0	0.9	67.1	0.1	1.5	0.0	11	0.5	9.1
Hollidaysburg	3,256	44.0	0.1	73.8	0.6	0.6	0.1	92	2.8	12.0
Huntingdon	2,154	55.1	0.6	61.6	0.4	1.6	0.3	24	1.1	37.5
Lewistown	4,130	37.7	0.1	78.0	0.3	1.5	0.2	20	0.5	25.0
McConnellsburg	2,564	31.8	0.1	79.4	0.1	0.3	0.1	12	0.5	41.7
Philipsburg	2,169	47.1	0.0	72.4	0.1	1.0	0.0	7	0.3	14.3*
Rockview	5,106	20.4	0.0	83.8	0.1	1.2	0.2	57	1.1	35.1
AREA IV										
Troop C										
Clarion	3,584	32.2	0.1	79.5	0.2	1.1	0.1	29	0.8	17.2
Clearfield	3,863	17.4	0.1	91.1	0.2	0.7	0.0	15	0.4	13.3
Dubois	2,228	20.4	0.0	87.3	0.0	0.9	0.0	5	0.2	20.0*
Kane	1,654	40.1	0.3	69.6	0.8	1.8	0.1	23	1.4	26.1
Punxsutawney	2,412	26.6	0.1	85.4	0.3	1.1	0.0	11	0.5	0.0
Ridgway	3,187	34.0	0.1	79.1	0.4	0.7	0.0	7	0.2	14.3*
Tionesta	1,773	52.5	0.2	64.6	0.4	0.8	0.1	13	0.7	23.1
Troop D										
Beaver	2,719	47.3	0.2	71.8	0.1	1.2	0.1	88	3.2	20.5
Butler	3,388	47.9	0.4	81.0	0.4	2.6	0.4	67	2.0	40.3
Kittanning	2,585	42.2	0.3	73.9	0.4	2.5	0.8	103	4.0	52.4
Mercer	2,056	47.8	0.0	71.8	0.0	3.1	0.3	54	2.6	13.0
New Castle	3,127	29.7	0.4	87.0	0.6	0.7	0.3	26	0.8	26.9

* Indicates fewer than 10 searches conducted. Interpret percentages with caution.

Table 3.9: 2007 Driver Outcomes By Station (p. 4 of 4)

	Total # of Stops	Warnings		Citations		Arrests		# of Searches	% Person or Vehicle Searched	% Seized
		% Drivers	% Passengers	% Drivers	% Passengers	% Drivers	% Passengers			
AREA IV (cont.)										
Troop E										
Corry	921	34.0	0.4	74.7	0.7	1.7	0.0	0	--	--
Erie	2,568	42.6	0.2	78.9	0.4	2.2	0.2	38	1.5	23.7
Franklin	2,057	66.4	0.8	56.8	0.4	2.1	0.2	12	0.6	16.7
Girard	2,156	33.3	0.0	83.5	0.2	1.2	0.1	14	0.6	14.3
Meadville	4,330	28.8	0.1	82.9	0.3	1.2	0.0	31	0.7	45.2
Warren	771	38.5	0.4	76.9	0.6	1.9	0.0	12	1.6	25.0
AREA V										
Troop K										
Media	4,926	47.3	0.4	75.7	0.4	3.6	0.6	337	6.8	21.1
Philadelphia	10,442	34.9	0.2	88.3	0.5	2.2	0.4	317	3.0	38.2
Skippack	3,344	46.5	0.2	84.0	0.4	2.8	0.1	57	1.7	26.3
Troop M										
Belfast	3,048	22.5	0.1	88.6	0.2	1.4	0.2	48	1.6	27.1
Bethlehem	2,182	31.3	0.4	89.6	0.4	2.1	0.1	47	2.2	8.5
Dublin	3,572	48.9	0.2	74.9	0.2	2.7	0.3	63	1.8	17.5
Fogelsville	6,052	39.7	0.1	78.4	0.2	2.1	0.2	159	2.6	21.4
Trebose	2,313	41.1	0.3	79.5	0.3	1.2	0.0	21	0.9	19.0
Troop N										
Bloomsburg	2,230	16.5	0.5	95.0	0.1	0.5	0.1	15	0.7	20.0
Fern Ridge	2,717	13.7	0.3	95.0	0.8	0.9	0.1	10	0.4	40.0
Hazleton	2,748	22.0	0.2	88.7	0.3	1.4	0.5	71	2.6	28.2
Lehighton	2,212	21.4	0.1	88.4	0.1	1.4	0.1	6	0.3	50.0*
Swiftwater	4,906	27.3	0.1	84.8	0.8	2.2	0.3	126	2.6	26.2

* Indicates fewer than 10 searches conducted. Interpret percentages with caution.

Post-Stop Outcomes by Severity

All previous analyses on post-stop outcomes reported each disposition independently. The total percentages across outcomes may exceed 100% because drivers could receive multiple outcomes. An alternative way to examine these data is to use a severity index, where only the most severe outcome for each traffic stop is reported. A severity index was created using warnings, citations, and arrests.³ 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 only in the citation category. In the case of a citation and an arrest, the traffic stop would be categorized as resulting in an arrest.

Table 3.10 reports the severity index for all member-initiated traffic stops in 2007. Across the department, 11.9% of all traffic stops resulted in the issuance of a warning to the driver as the most severe disposition. A large majority of traffic stops resulted in a citation as the most severe outcome (86.7%), while only 1.5% of all traffic stops resulted in a drivers' arrest. Compared to the information reported in Table 3.8, there is a dramatic reduction in the percentage of warnings – the overwhelming majority of these warnings were issued in combination with either a citation or arrest.

³ Searches and seizures were removed from these analyses because they represent a special type of activity and were conducted independent of warnings, citation, and arrests. To create the severity index, all traffic stops that resulted in the classification of 'Other' (n=194) were removed due to their rare occurrence and the complexity they introduce to the development of a severity index. No traffic stops resulted in a disposition to a passenger and not a driver; thus, there is no need to consider traffic stop outcomes for passengers in this analysis.

Table 3.10: 2007 Driver Outcomes By Department, Area, Troop & Station (p. 1 of 3)*

	Total # of Stops	% Warning Only	% Citation Only	% Arrest Only
PSP Dept.	299,957	11.9	86.7	1.5
AREA I	110,102	5.9	92.8	1.2
Troop H	29,007	7.6	90.5	1.8
Carlisle	8,807	3.2	94.2	2.6
Chambersburg	5,227	9.3	89.2	1.5
Gettysburg	2,347	20.7	75.7	3.6
Harrisburg	3,286	5.4	94.1	0.5
Lykens	1,759	22.0	76.5	1.4
Newport	3,021	4.6	94.5	0.8
York	4,560	5.7	92.6	1.7
Troop J	11,587	3.5	92.7	3.8
Avondale	3,621	4.7	93.2	2.1
Embreeville	3,769	1.8	95.2	3.0
Ephrata	1,132	3.2	96.1	0.7
Lancaster	3,065	4.4	87.7	8.0
Troop L	9,015	13.1	85.6	1.2
Frackville	988	8.8	88.6	2.6
Hamburg	1,845	9.5	90.3	0.2
Jonestown	3,005	17.9	80.2	1.9
Reading	1,733	13.3	85.7	1.0
Schuylkill Haven	1,444	10.7	88.9	0.4
Troop T	60,493	4.5	95.1	0.5
Bowmansville	7,349	1.4	98.6	0.0
Everett	12,657	4.6	95.4	0.1
Gibsonia	6,679	7.3	89.3	3.5
Highspire	29	48.3	51.7	0.0
King of Prussia	4,922	5.3	94.6	0.1
New Stanton	9,496	4.5	95.3	0.2
Newville	9,088	3.7	96.2	0.1
Pocono	4,940	5.9	94.0	0.1
Somerset (T)	5,325	4.0	95.8	0.2

* 194 traffic stops were reported as Other and are not included in these percentages.

Table 3.10: 2007 Driver Outcomes By Department, Area, Troop & Station (p. 2 of 3)

	Total # of Stops	% Warning Only	% Citation Only	% Arrest Only
AREA II	35,168	12.7	86.2	1.1
Troop F	17,267	14.9	83.8	1.3
Coudersport	2,108	35.8	62.8	1.4
Emporium	942	25.7	73.4	0.9
Lamar	2,033	13.1	84.7	2.2
Mansfield	1,172	29.0	70.1	0.9
Milton	3,036	6.9	92.6	0.6
Montoursville	3,054	9.1	89.4	1.5
Selinsgrove	3,049	7.9	90.5	1.6
Stonington	1,873	13.0	86.1	1.0
Troop P	8,380	14.5	84.7	0.8
Laporte	1,215	15.6	83.4	1.0
Shickshinny	1,251	7.9	90.4	1.7
Towanda	3,502	21.6	78.2	0.2
Tunkhannock	985	11.2	87.1	1.7
Wyoming	1,427	4.2	95.0	0.8
Troop R	9,521	7.2	91.9	0.9
Blooming Grove	2,382	11.3	88.2	0.6
Dunmore	3,826	7.0	92.2	0.9
Gibson	2,057	5.4	93.5	1.1
Honesdale	1,256	3.4	95.5	1.0
AREA III	58,528	13.9	84.5	1.5
Troop A	18,329	11.7	86.4	1.9
Ebensburg	5,064	12.4	85.4	2.2
Greensburg	4,719	11.8	86.3	1.9
Indiana	3,507	9.9	88.5	1.7
Kiski Valley	2,794	11.1	88.2	0.8
Somerset (A)	2,245	13.6	83.5	2.9
Troop B	18,393	4.3	93.9	1.8
Belle Vernon	1,168	5.3	93.9	0.8
Findlay	6,060	2.1	97.3	0.7
Uniontown	4,890	6.2	90.1	3.7
Washington	5,061	3.2	95.6	1.1
Waynesburg	1,214	12.1	85.1	2.8
Troop G	21,806	23.9	75.0	1.1
Bedford	2,427	32.5	66.0	1.5
Hollidaysburg	3,256	26.0	73.4	0.6
Huntingdon	2,154	37.5	60.9	1.6
Lewistown	4,130	21.2	77.4	1.5
McConnellsburg	2,564	20.5	79.2	0.3
Philipsburg	2,169	27.0	72.0	1.0
Rockview	5,106	15.2	83.6	1.2

Table 3.10: 2007 Driver Outcomes By Department, Area, Troop & Station (p. 3 of 3)

	Total # of Stops	% Warning Only	% Citation Only	% Arrest Only
AREA IV	45,379	20.3	78.2	1.5
Troop C	18,701	18.4	80.7	0.9
Clarion	3,584	20.1	78.9	1.1
Clearfield	3,863	8.5	90.8	0.7
Dubois	2,228	12.5	86.7	0.9
Kane	1,654	30.3	68.0	1.8
Punxsutawney	2,412	14.2	84.7	1.1
Ridgway	3,187	20.2	79.1	0.7
Tionesta	1,773	35.3	63.9	0.8
Troop D	13,875	21.6	76.5	1.9
Beaver	2,719	27.7	71.1	1.2
Butler	3,388	18.3	79.1	2.6
Kittanning	2,585	24.8	72.7	2.5
Mercer	2,056	27.9	69.1	3.1
New Castle	3,127	13.0	86.3	0.7
Troop E	12,803	21.9	76.4	1.7
Corry	921	24.1	74.2	1.7
Erie	2,568	19.2	78.6	2.2
Franklin	2,057	42.1	55.8	2.1
Girard	2,156	17.1	81.3	1.5
Meadville	4,330	15.7	83.0	1.2
Warren	771	22.0	76.0	1.9
AREA V	50,692	14.2	83.7	2.1
Troop K	18,712	14.6	82.8	2.7
Media	4,926	22.6	73.8	3.6
Philadelphia	10,442	10.5	87.3	2.2
Skippack	3,344	15.5	81.7	2.8
Troop M	17,167	17.8	80.2	2.0
Belfast	3,048	10.6	88.0	1.4
Bethlehem	2,182	9.2	88.8	2.1
Dublin	3,572	23.4	73.9	2.7
Fogelsville	6,052	20.6	77.3	2.1
Trevose	2,313	19.5	79.3	1.2
Troop N	14,813	9.6	89.0	1.4
Bloomsburg	2,230	4.8	94.8	0.5
Fern Ridge	2,717	4.3	94.7	0.9
Hazleton	2,748	10.4	88.2	1.4
Lehighton	2,212	11.3	87.3	1.4
Swiftwater	4,906	13.5	84.4	2.2

SUMMARY

Section 3 reported the characteristics of traffic stops and stopped drivers at the department, area, troop, and station levels based on 299,957 member-initiated traffic stops from January 1, 2007 through December 31, 2007. Department-wide trends are reported below. Trends at the area, troop, and station levels are reported within this section.

- Across the department, the majority of traffic stops had the following characteristics:
 - Occurred on a weekday (71.3%)
 - Occurred during the daytime (72.9%)
 - Occurred on a state highway (49.5%) or an interstate (46.3%)
 - Involved a vehicle registered in Pennsylvania (75.1%)
 - involved vehicles with an average of 0.7 passengers
 - Lasted between 1-15 minutes (88.2%)
 - March and May 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 (69.3%), followed by moving violations (16.8%), equipment inspections (9.1%), and registration (4.2%)
 - average speed over the limit was 19.5 mph
- Across the department, characteristics of the drivers included:
 - average age of 34.6 years
 - 68.4% male
 - White (83.6%), Black (8.9%), Hispanic (3.5%), Middle Eastern (1.9%), Asian/Pacific Islander (1.7%), and Native American (0.1%)
 - Non-resident of the municipality in which they were stopped (95.1%), non-resident of the county in which they were stopped (63.9%), and non-Pennsylvania resident (24.2%)
- Across the department, traffic stop outcomes can be summarized by the following characteristics:
 - 26.0% of stops resulted in a warning issued to the driver
 - 87.4% 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, 28.9% resulted in the discovery of contraband
 - Severity scale:
 - Warning was most severe outcome = 11.9% of stops
 - Citation was most severe outcome = 86.7% of stops
 - Arrest was most severe outcome = 1.5% of stops

4. TREND ANALYSES I: TRAFFIC STOPS 2002 - 2007

INTRODUCTION

This section documents the stopping trends of Black and Hispanic drivers by PSP Troopers across the department, area, and troop levels between 2002 and 2007. Information regarding the station level is reported in Appendix A. The methodology for analyzing these temporal trends is described below.

TEMPORAL TRENDS

Analyzing data over time by organizational unit allows for two comparisons: 1) within organizational units across time and 2) across organizational units within a time period. The information in this section is best utilized as a measure of activity across time rather than comparisons between 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. Importantly, any effect of these factors (i.e., differences in traffic patterns, driver behaviors, and officer deployment) will be contained to within organizational units. In other words, changes in place will not impact analyses of another location. Any changes in the rates of traffic stops over time are restricted to either a changes in behavior by personnel assigned to an organizational unit and/or the impact of other factors within that organizational unit. As a result, the strength of documenting temporal trends is to examine differences within organizational units across time.

To report the temporal trends in traffic stops of Black and Hispanic drivers between 2002 and 2007, this report alters the style and analyses used in previous year-end reports. Most notably, this section contains no tables; instead, only graphs are presented. The types of analyses conducted are best displayed in graph format. Information in tabular form is available from the authors upon request.

In addition to the change in reporting style, this report also evaluates temporal trends using a standard deviation methodology. Past reports used the binomial statistic to identify geographic units (i.e., stations or counties) with statistically significant rates of traffic stops of Black and Hispanic drivers across time. As noted in previous reports, this technique has several limitations. First, the binomial statistic simply identified locations that achieved statistical significance, but did not offer a clear interpretation of the magnitude of these differences. In other words, the binomial statistic indicated which geographic units to monitor due to their statistical significance, but it did not report the actual extent of these elevated rates in relation to other points in time. Second, the binomial statistic only allows comparisons between two time periods. As a result, for any one geographic or organizational unit, a series of binomial statistics were required to assess that location's rates of traffic stops across time.⁴ Therefore, a standard deviation methodology is adopted for this section on traffic stop trends and also for traffic stop outcome trends reported in Section 5.

⁴ For example, using the 2007 data to assess the departmental rate of traffic stops of Black drivers would require five separate binomial analyses. The 2007 rate would need to be compared to the 2006 rate, and to the 2005 rate, and to the 2004 rate, etc. Using this method, 220 binomial statistics would need to be calculated to

Standard Deviation Methodology

Standard deviation methodology uses the existing data to develop an internal measure of traffic stops within that jurisdiction. The analysis follows the following steps:

- a. Calculate an average rate of traffic stops. This value was computed for the target population (i.e., Black or Hispanic drivers) within the jurisdiction of interest and was based on the previous five years of data. The current year (2007) was not included in the average because it is the data point of most interest and should not be included in the average for comparison purposes.
- b. Calculate standard deviation using five-year average rate of traffic stops. The standard deviation is a standardized measure of variability based on the changes in the rate of traffic stops across all years. Based on probability theory, the majority of values will fall within one standard deviation from the average. Fewer cases will be within two standard deviations of the average, and even fewer values within three standard deviations. Again, the 2007 rate was not included in the average as it is the focal point of this report. Inclusion of its rate would bias the development of the standard deviation.
- c. Compare the 2007 rate of traffic stops to the five-year average using the standard deviation. The five-year average and three standard deviations in either direction comprise the background of each graph. For all six years (i.e., 2002-2007), the actual values of traffic stops for the target group are plotted on the graph to allow an assessment of the 2007 rate of traffic stops in relation to the five-year average and the standard deviational values.

Interpretation of the Analysis

The standard deviational methodology is applied to traffic stops of Black and Hispanic drivers at the department, area, and troop levels. For each organizational unit and race/ethnicity, a graph is created showing the five-year average represented by a solid black line. Moving up and down from this central number are the values for one, two, and three standard deviations above and below the five-year average, respectively. The red line indicates the actual rate of traffic stops in 2002, 2003, etc... The interpretation is straightforward: if the red line is above the five-year average at one time point, the rate for that year was above the five-year average; similarly, if the red line is below the black line, the rate for that year was below the five-year average. Simultaneously, it is also possible to assess any one year's rate of traffic stops in standard deviational units.

For 2007, text is added to each graph indicating how many standard deviations the 2007 rate is away from the five-year average. For example, the text indicates if the 2007 rate was within one standard deviation, within one standard deviation above or below the five-year average, etc. This provides a simple method to visually locate any of the six years of data in relation to the five-year trend, while also offering substantive information regarding how far away the rate is from the average. Moreover, brief discussion is provided regarding the overall trend of the data in that organizational unit across all six years. In summary, each

compare the 2007 department, area, and troop traffic stopping rates to the previous five years. The breadth of analyses and number of results would be unwieldy to interpret and difficult to succinctly report in this section.

graph reports the following information: 1) the actual rate of traffic stops for each year, 2) each year's rate of traffic stops in relation to the five-year average, 3) each year's rate of traffic stops in standard deviational units, 4) the overall trend of traffic stops, and 5) all of the above information for the year of interest (2007).

The standard deviation is a measure of variation in the rate of traffic stops for one organizational unit. Note that no value assessment is offered to accompany the reporting of the 2007 rate of traffic stops in relation to the five-year average. The UCPI research team does not assign a "cutoff value" for an acceptable rate of traffic stops (i.e., a standard deviational value at which any rate of traffic stops above or below is concerning). This is strictly a tool to assess trends over time in the rate of traffic stops and to identify organizational units that are experiencing noticeable increases in their rate of traffic stops of Black or Hispanic drivers. There are numerous factors beyond the scope of this methodology that may be directly related to changes in the rate of traffic stops. For example:

- changes in the traffic population within that jurisdiction
- alterations to the reporting patterns by PSP troopers
- adjustments in PSP traffic stop behaviors
- differences in deployment patterns across time
- modifications of manpower allocation

Any single factor or a combination of these factors may influence the rate of traffic stops of minority drivers in any one year and result in an increase or decrease in the rates reported in the graphs below. The following graphs are to be interpreted with caution and cannot be used as evidence of overt biased policing by the PSP or any of its organizational units.

While no definitive conclusions regarding bias in traffic stops can be ascertained from the following graphs, they do offer a basic picture of the traffic stopping trends by organizational unit. The standard deviation is a statistical indicator that offers a range of roughly "average" values. Using this statistic, units experiencing rates of traffic stops within one standard deviation of the five-year average were operating in a similar fashion to the five-year average. Organizational units reporting rates of traffic stops more than two standard deviations outside their five-year average were experiencing a shift from previous years. Any rate of traffic stops beyond three standard deviations is roughly equivalent to achieving statistical significance using a statistical test. Such changes identified should be further examined by PSP administrators to identify the cause of these changes.

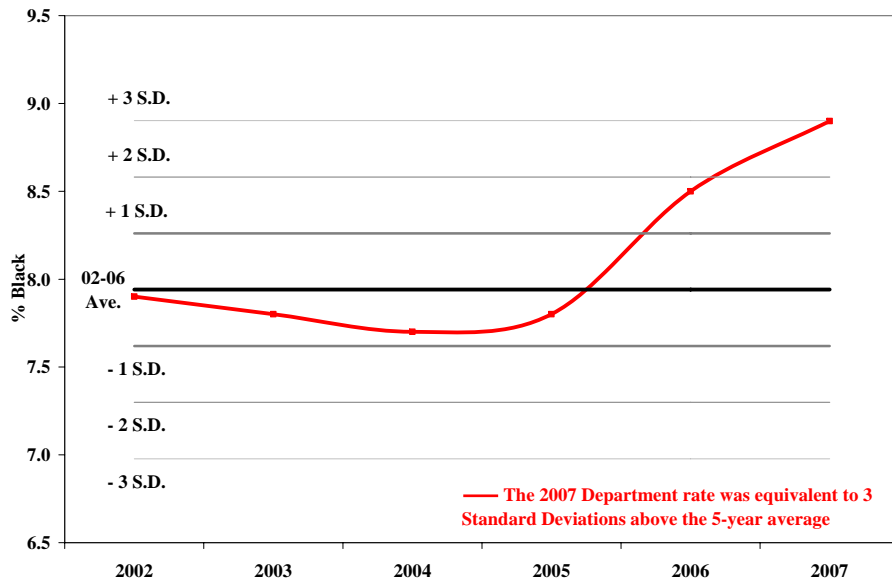
TRAFFIC STOPS: 2002 – 2007

This section documents the stopping trends of Black and Hispanic drivers by PSP Troopers across all department, area, and troop levels between 2002 and 2007. For each organizational unit, the rate of traffic stops of Black drivers is documented on the left side, and Hispanic drivers on the right. Information regarding the station level is reported in Appendix A.⁵

⁵ The graphs in Appendix A were not constructed using the standard deviation methodology; rather, they simply report the rate of traffic stops by race/ethnicity between 2002 and 2007. Additional standard deviation analyses at the station level are available from the authors upon request.

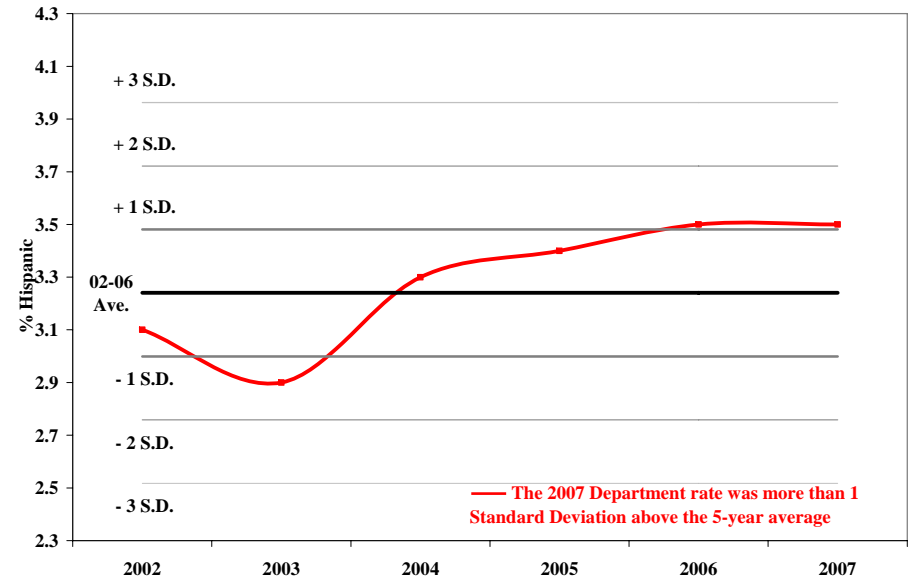
Department Level

Figure 4:1: Percent of Traffic Stops with Black Drivers – Department



Across the department, the rate of traffic stops involving Black drivers was 8.9% in 2007. As demonstrated in Figure 4.1, the rates of traffic stops have been increasing since 2006 after several years of relative stability. The 2007 rate was equivalent to three standard deviations above the five-year average (i.e., 2002-2006). The rates of traffic stops involving Black drivers need to be assessed at lower organizational levels to further assess the source of the increase. It is possible that the increase at the department level was reflective of changes across all organizational units or that only a segment of the department was primarily affecting this trend.

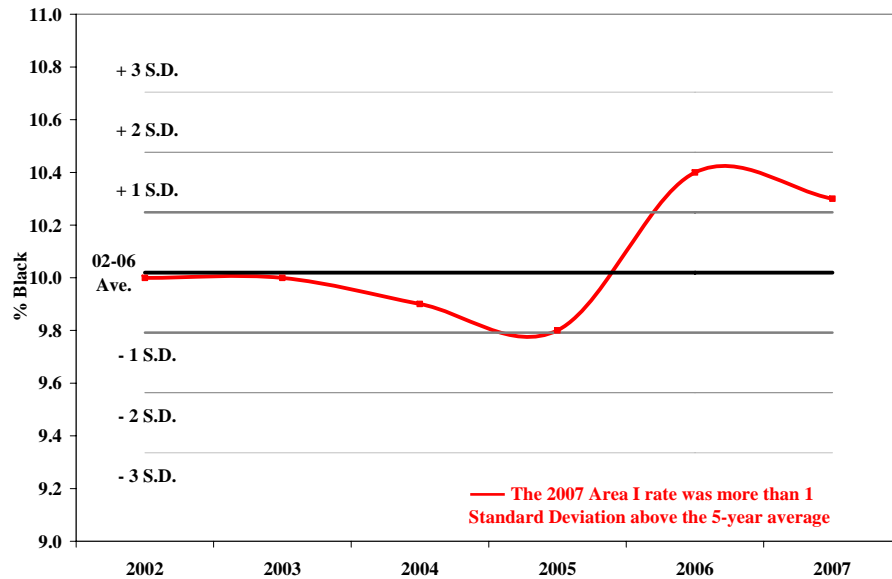
Figure 4:2: Percent of Traffic Stops with Hispanic Drivers – Department



As demonstrated in Figure 4.2, the rates of traffic stops involving Hispanic drivers leveled off in 2007 after increases in 2004-2006. The 2007 rate of 3.5% was slight more than one standard deviation above the five-year average (i.e., 2002-2006). The historical trend indicates that the lowest rate of traffic stops involving Hispanic drivers occurred in 2003 and has been increasing slowly until 2007.

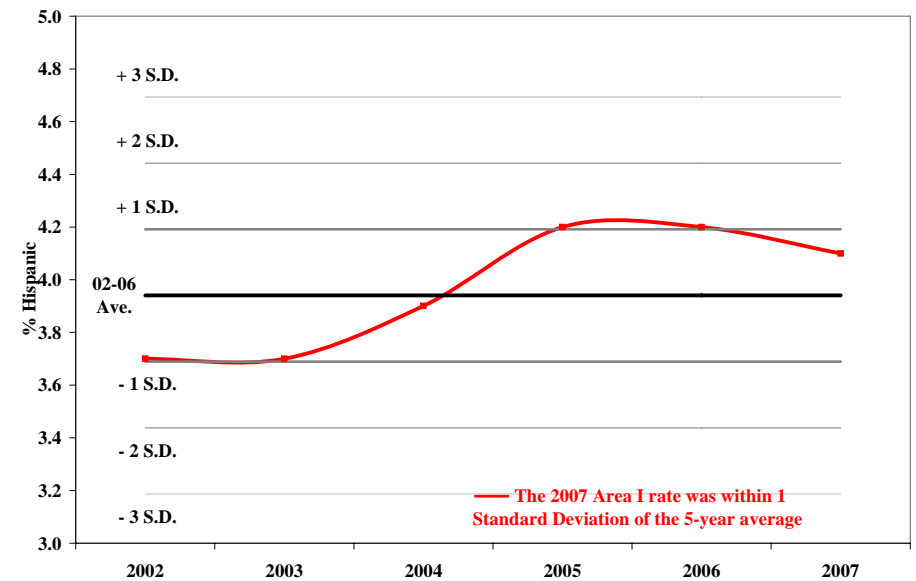
Area Level

Figure 4:3: Percent of Traffic Stops with Black Drivers – Area I



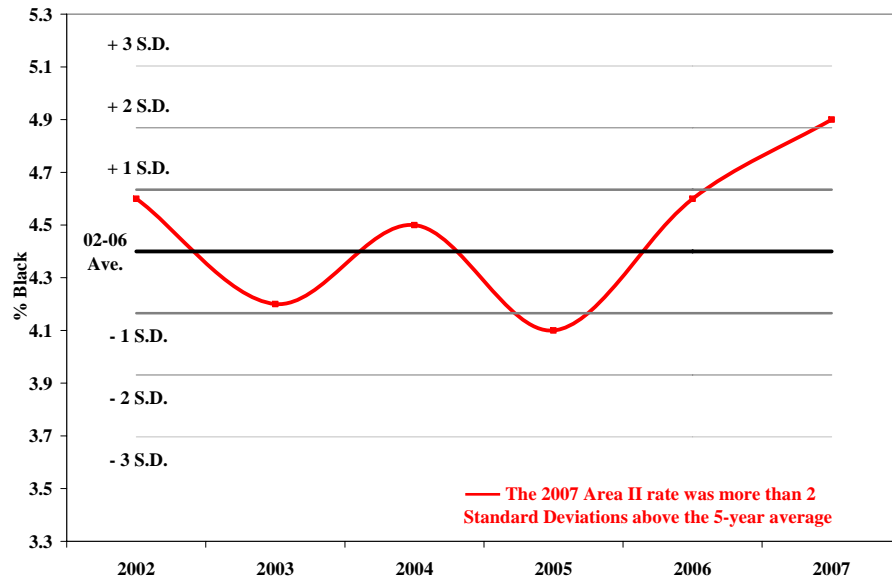
In Area I, the 2007 rate of traffic stops involving Black drivers decreased slightly from the previous year. The 2007 rate was more than one standard deviation above the five-year average for this organizational unit. As reported in Figure 4.3, the lowest rate of traffic stops involving Black drivers occurred in 2005 following a reduction in the previous years.

Figure 4:4: Percent of Traffic Stops with Hispanic Drivers – Area I



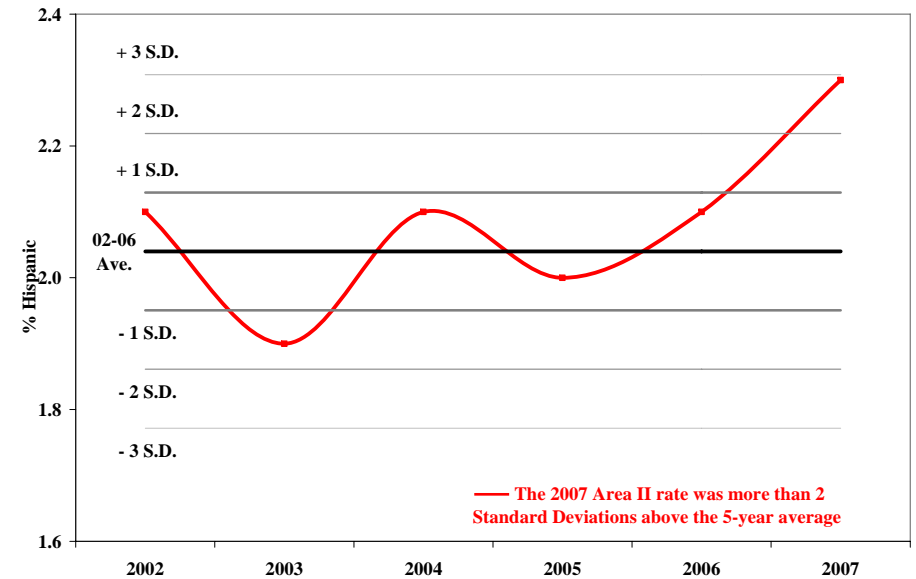
In Area I, the 2007 rate of traffic stops involving Hispanic drivers was within one standard deviation of the five-year average for this organizational unit. Across the six years, there has been relative stability in the rate as it has fluctuated between a low of 3.7% in 2002 to a high of 4.2% in 2005 & 2006. The 2007 rate dipped slightly to 4.1% as demonstrated in Figure 4.4.

Figure 4:5: Percent of Traffic Stops with Black Drivers – Area II



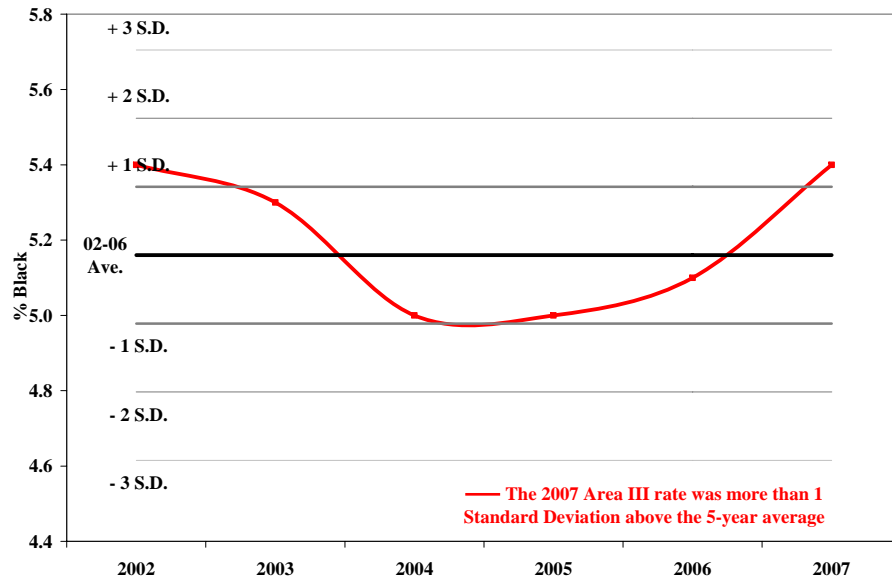
As reported in Figure 4.5, the rates of traffic stops involving Black drivers in Area II fluctuated throughout the six years of data collection. The 2007 rate represents the highest rate at 4.9%, in contrast to the lowest rate of 4.1% in 2005. The 2007 rate was also more than two standard deviations above the five-year average for this organizational unit.

Figure 4:6: Percent of Traffic Stops with Hispanic Drivers – Area II



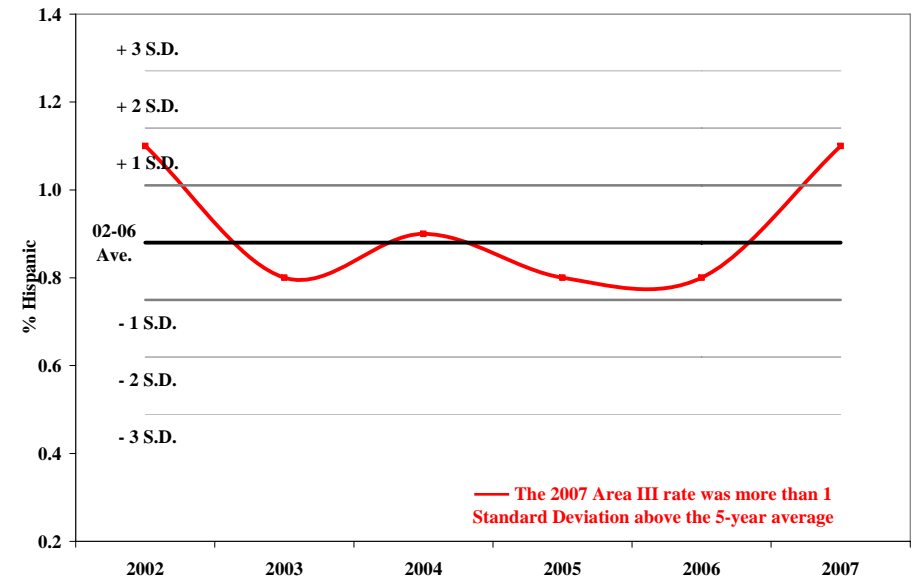
The rate of traffic stops involving Hispanic drivers in 2007 rose to more than two standard deviations above the five-year average for this organizational unit. Across all six years, the rates fluctuated from a low of 1.9% in 2003 to a high of 2.3% in 2007. The source of this increase is not clear and the Troop level rate of traffic stops of Hispanic drivers should be consulted to assess which organizational units contributed to this increase reported in Figure 4.6.

Figure 4:7: Percent of Traffic Stops with Black Drivers – Area III



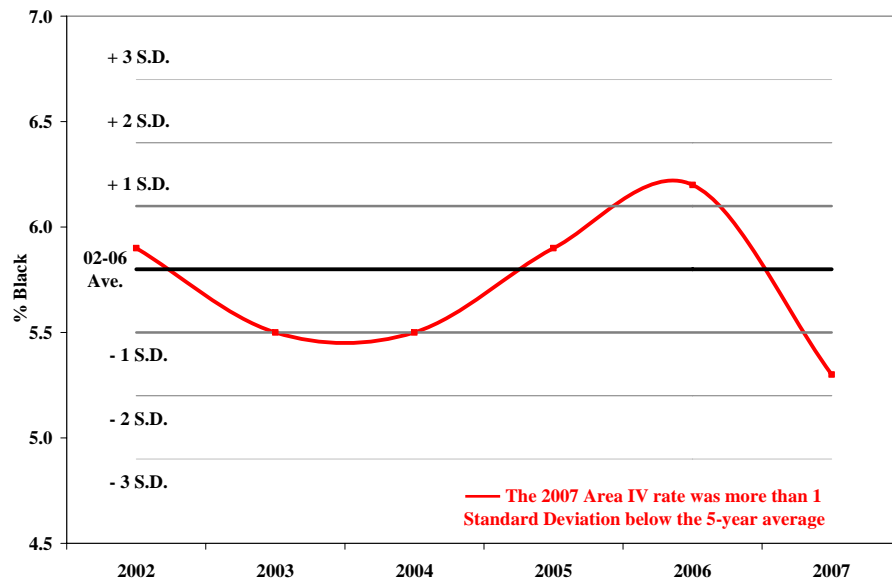
The 2007 rate of traffic stops involving Black drivers in Area III indicated a continuing upward trend since 2005. After higher rates in 2002 & 2003, the rates reached a low of 5.0% in 2004 & 2005. The 2007 rate was more than one standard deviation above the five-year average for this organizational unit as reported in Figure 4.7.

Figure 4:8: Percent of Traffic Stops with Hispanic Drivers – Area III



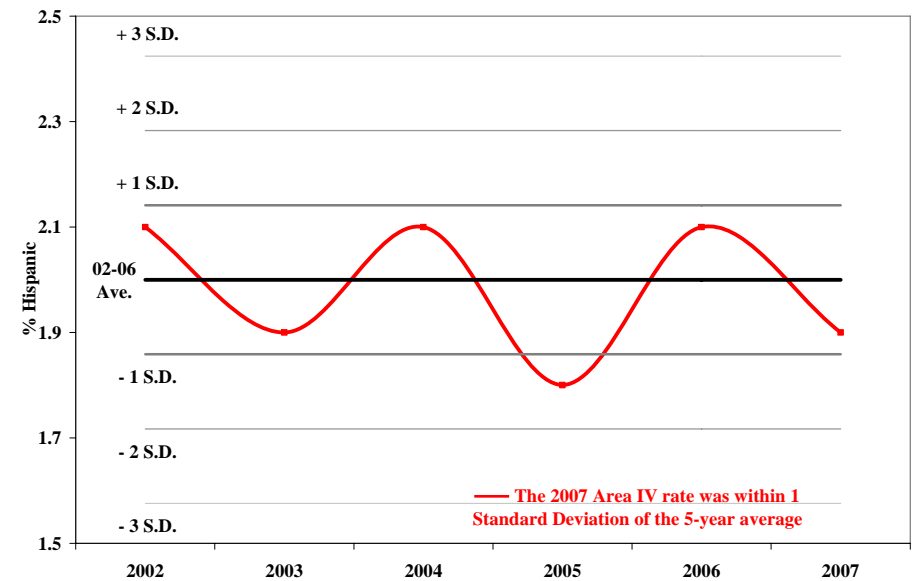
As reported in Figure 4.8 in Area III, the 2007 rate of traffic stops involving Hispanic drivers was more than one standard deviation above the five-year average for this organizational unit. Following a decrease in 2003, the rate maintained relative stability until this past year's increase. Importantly, the actual rate increase was from 0.8% to 1.1%; however, at this low frequency, a small increase is noticeable.

Figure 4:9: Percent of Traffic Stops with Black Drivers – Area IV



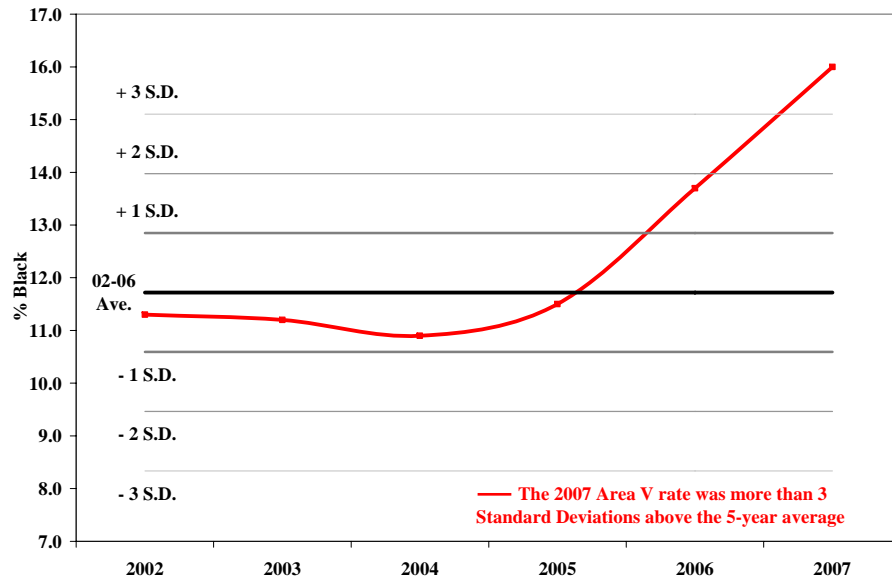
As reported in Figure 4.9, the rate of traffic stops for Black drivers in Area IV in 2007 was more than one standard deviation below the five-year average for this organizational unit. Furthermore, the 2007 rate represents the lowest rate of traffic stops throughout the six years of data collection. The 2007 rate followed the highest rate of traffic stops reported at 6.2% in 2006.

Figure 4:10: Percent of Traffic Stops with Hispanic Drivers – Area IV



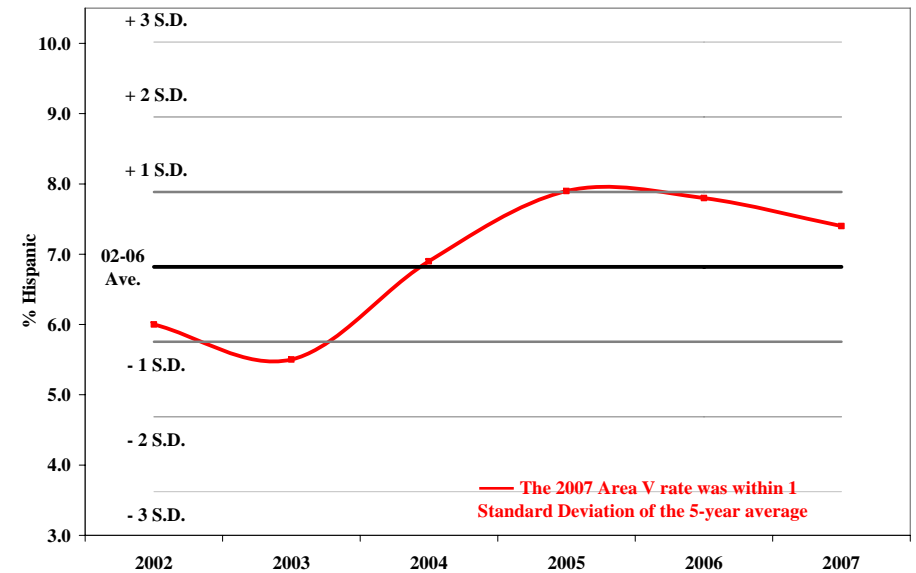
The rates of traffic stops involving Hispanic drivers in Area IV consistently fluctuated across all six years of data collection. As demonstrated in Figure 4.10, the 2007 rate represented one of the low points in this pattern, but was still within one standard deviation of the five-year average for this organizational unit. The overall change in the rates of traffic stops involving Hispanic drivers varied by only 0.3% across the six-year period.

Figure 4.11: Percent of Traffic Stops with Black Drivers – Area V



The rates of traffic stops involving Black drivers in Area V steadily increased since 2004 with a more noticeable upswing in the past two years as indicated in Figure 4.11. The 2007 rate was more than three standard deviations above the five-year average for this organizational unit. The rate of increase in Area V is strongly contributing to the overall increase reported across the department. Further examination at the Troop and Station levels will determine if this is indicative of all organizational units within Area V or if it is localized within specific units.

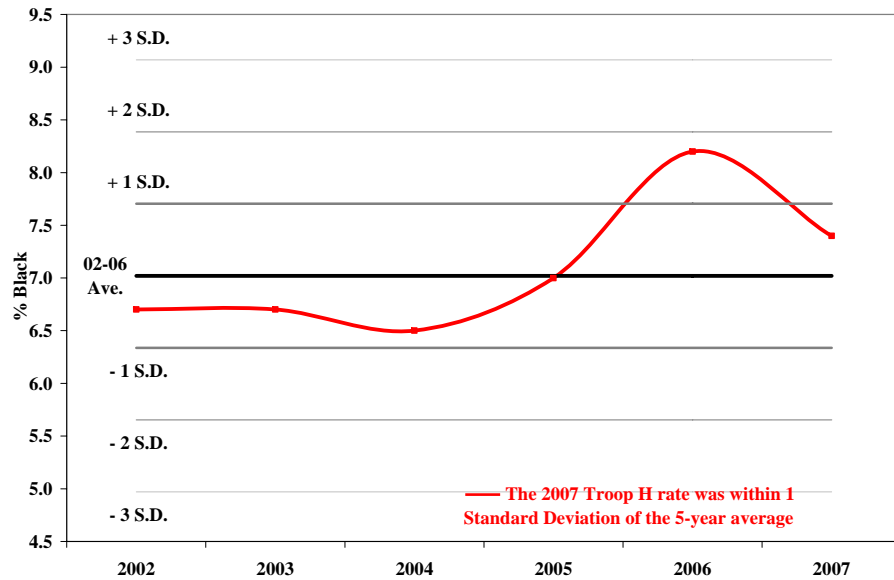
Figure 4.12: Percent of Traffic Stops with Hispanic Drivers – Area V



In Figure 4.12, the rates of traffic stops involving Hispanic drivers is reported. The 2007 rate was within one standard deviation of the five-year average for this organizational unit. This rate was a slight reduction from the high rate of 8.0% in 2005 and above the low rate of 5.5% in 2003.

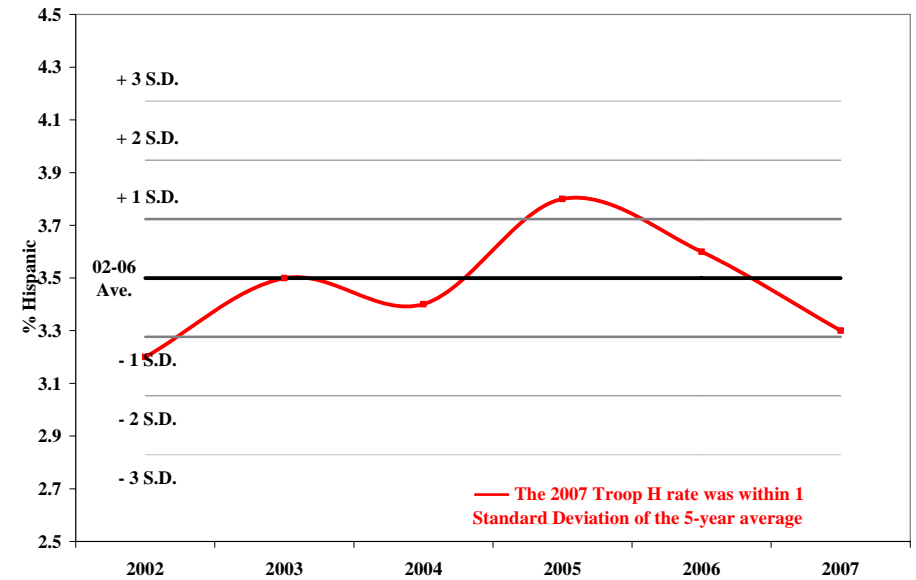
Troop Level

Figure 4.13: Percent of Traffic Stops with Black Drivers – Troop H



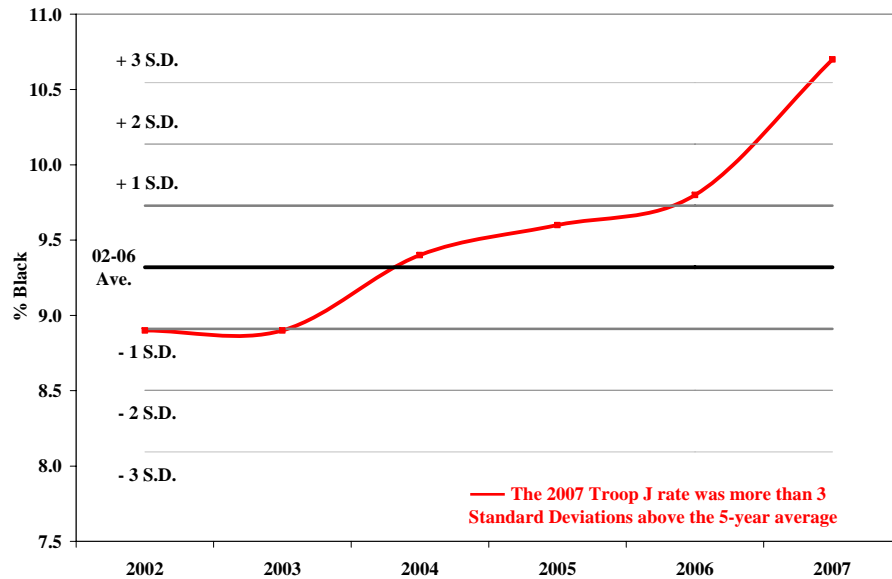
As reported in Figure 4.13, the 2007 rate of traffic stops involving Black drivers in Troop H was within one standard deviation of the five-year average for this organizational unit. This rate represented a decline from the 2006 rate, which was the highest rate of any data collection year.

Figure 4.14: Percent of Traffic Stops with Hispanic Drivers – Troop H



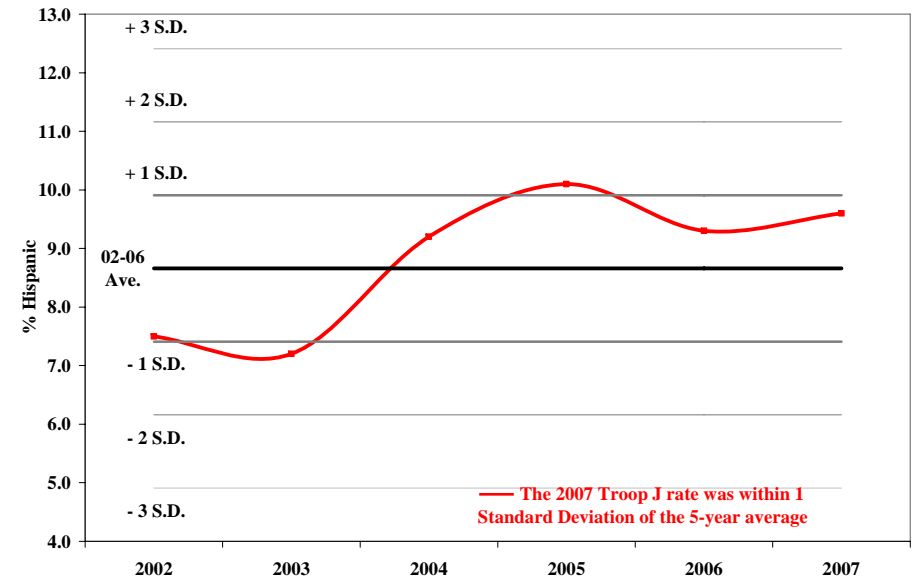
The rates of traffic stops involving Hispanic drivers in Troop H continued a downward trend started in 2005. Figure 4.14 shows the 2007 rate of 3.3% was within one standard deviation of the five-year average for this organizational unit, but below the actual average. The only other year with a lower rate was 2002 at 3.2%.

Figure 4:15: Percent of Traffic Stops with Black Drivers – Troop J



In Figure 4.15, the rates of traffic stops involving Black drivers in Troop J is reported. The 2007 rate was more than three standard deviations above the five-year average for this organizational unit. The yearly rates continued to move upward since its low of 8.9% in 2002 & 2003. The 2007 rate of 10.7% was the highest rate in any of the six years available for analysis.

Figure 4:16: Percent of Traffic Stops with Hispanic Drivers – Troop J



In Troop J, the rate of traffic stops involving Hispanic drivers in 2007 was relatively unchanged from the 2006 rate. As demonstrated in Figure 4.16, overall the rate was within one standard deviation of the five-year average for this organizational unit. The lowest rate occurred in 2003 and preceded an increase in the following two years.

Figure 4:17: Percent of Traffic Stops with Black Drivers – Troop L

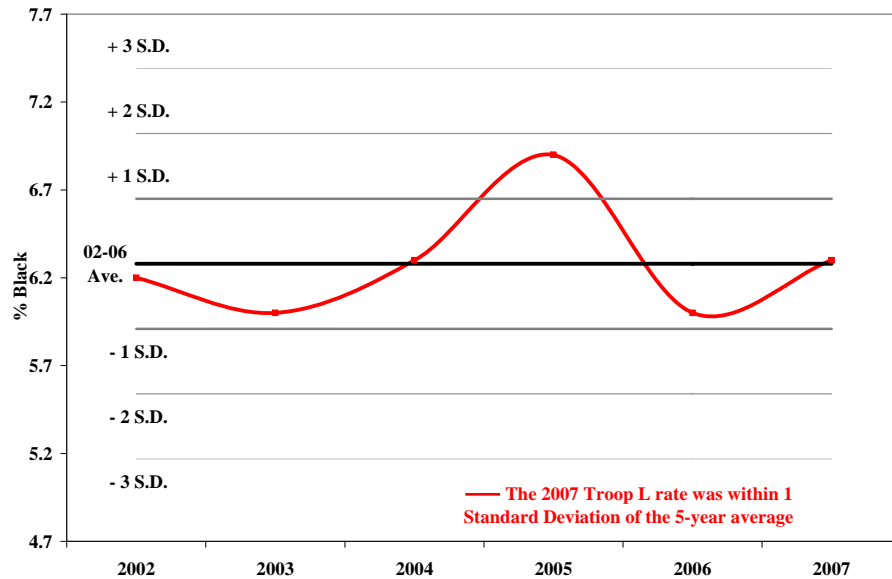
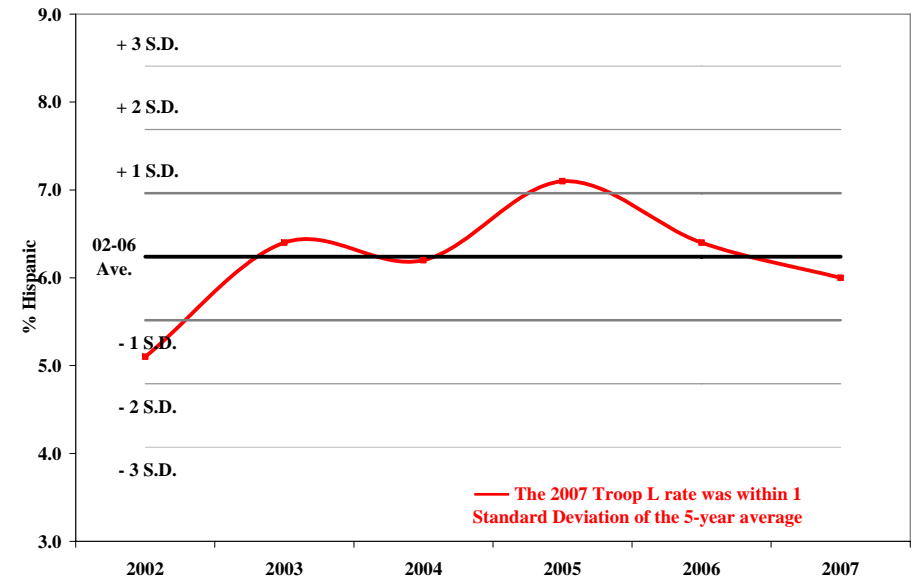


Figure 4.17 reports the rates of traffic stops involving Black drivers for Troop L. In 2007, the rate mirrored the five-year average for this organizational unit and represented a slight increase from 2006. The highest rate of traffic stops involving Black drivers occurred in 2005.

Figure 4:18: Percent of Traffic Stops with Hispanic Drivers – Troop L



The rate of traffic stops in 2007 involving Hispanic drivers was within one standard deviation of the five-year average for this organizational unit. As reported in Figure 4.18, the 2007 rate continued a slight downward trend initiated in 2005, which reported the highest rate. The lowest rate occurred in 2002 prior to a noticeable increase in 2003.

Figure 4:19: Percent of Traffic Stops with Black Drivers – Troop T

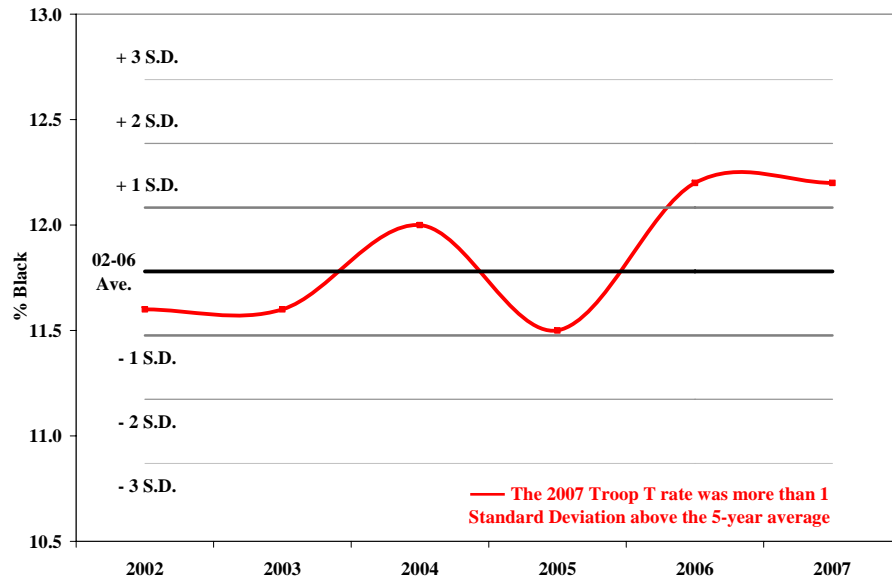
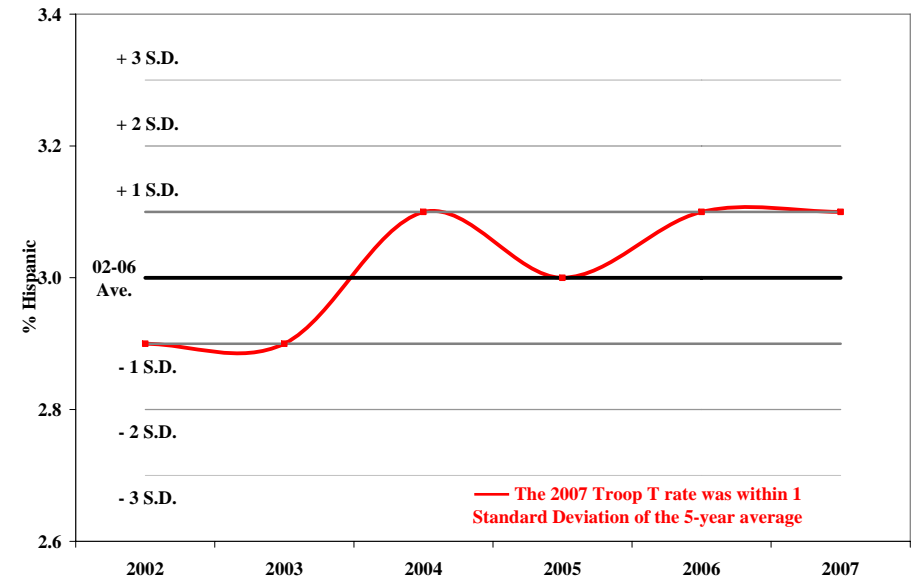


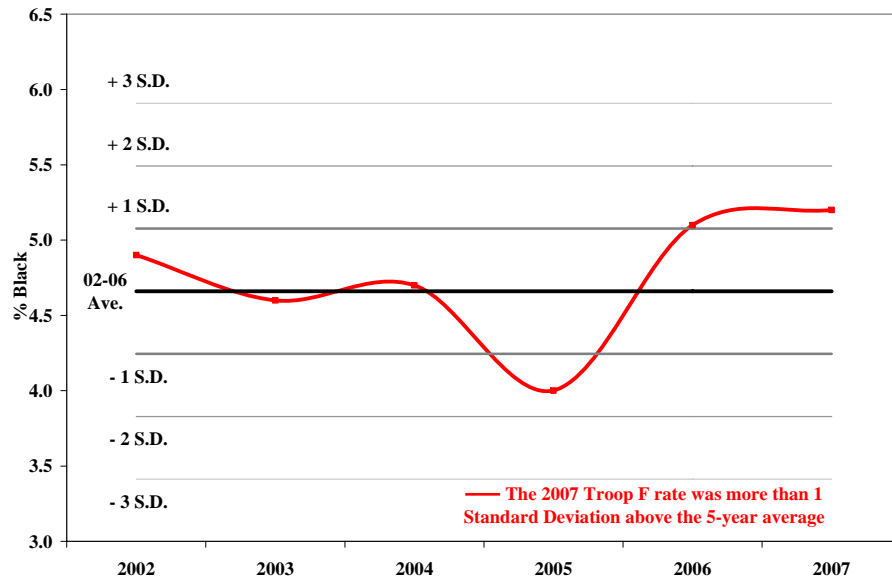
Figure 4.19 reports the rates of traffic stops involving Black drivers between 2002 & 2007 in Troop T. The 2007 rate was more than one standard deviation above the five-year average for this organizational unit and unchanged from the 2006 rate. These most recent years represent the highest rate of traffic stops involving Black drivers in any of the six years of data collection.

Figure 4:20: Percent of Traffic Stops with Hispanic Drivers – Troop T



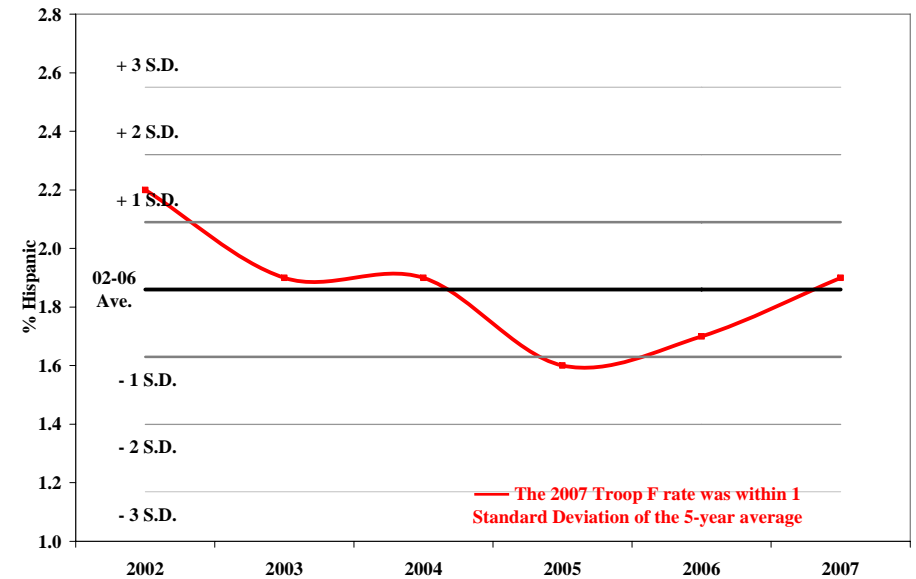
The rates of traffic stops involving Hispanic drivers is reported in Figure 4.20. The 2007 rate was unchanged from the 2006 rate and within one standard deviation of the five-year average for this organizational unit. The lowest rates of traffic stops involving Hispanic drivers occurred in 2002 & 2003.

Figure 4:21: Percent of Traffic Stops with Black Drivers – Troop F



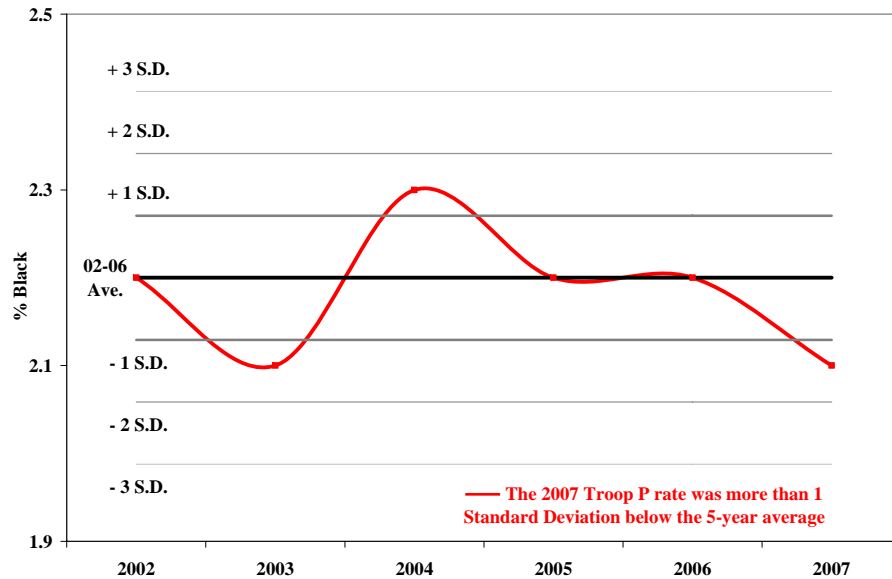
The rates of traffic stops involving Black drivers in Troop F are reported in Figure 4.21. The 2007 rate is more than one standard deviation above the five-year average for this organizational unit, and it represents the highest rate for any of the six years of data collection. The lowest rate was reported in 2005, but has increased in the past two years.

Figure 4:22: Percent of Traffic Stops with Hispanic Drivers – Troop F



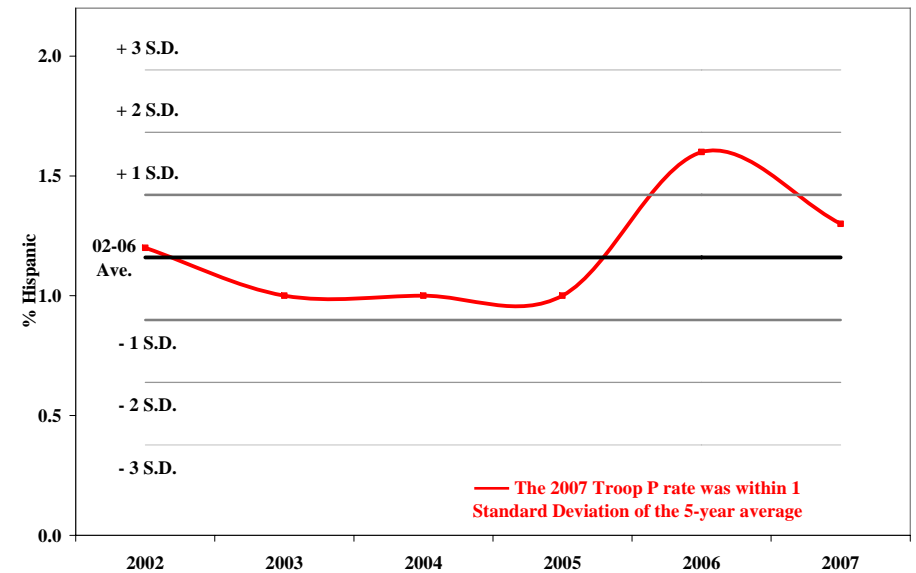
In 2007, the rate of traffic stops involving Hispanic drivers in Troop F was within one standard deviation of the five-year average for this organizational unit. As demonstrated in Figure 4.22, overall the rate declined steadily between 2002 & 2005 before increasing in the past two years.

Figure 4:23: Percent of Traffic Stops with Black Drivers – Troop P



The trend of traffic stops involving Black drivers in Troop P indicates that the 2007 rate matched the lowest rate in any of the six years of data collections. The 2007 rate continued a general downward trend initiated in 2005 and was more than one standard deviation below the five-year average for this organizational unit.

Figure 4:24: Percent of Traffic Stops with Hispanic Drivers – Troop P



The rates of traffic stops involving Hispanic drivers in Troop P are reported in Figure 4.24. The 2007 rate was within one standard deviation of the five-year average for this organizational unit. After several years of relative stability, the rate increased in 2006 prior to a slight reduction in 2007.

Figure 4:25: Percent of Traffic Stops with Black Drivers – Troop R

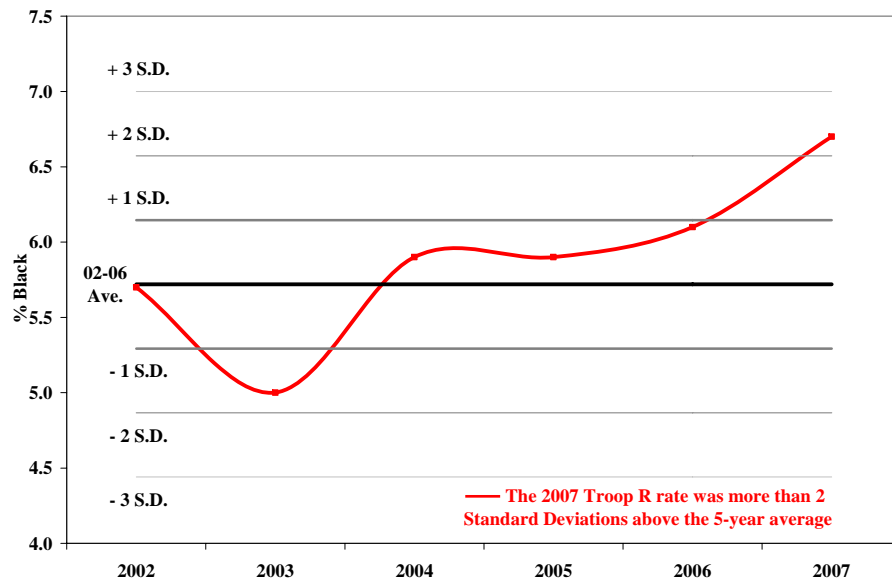
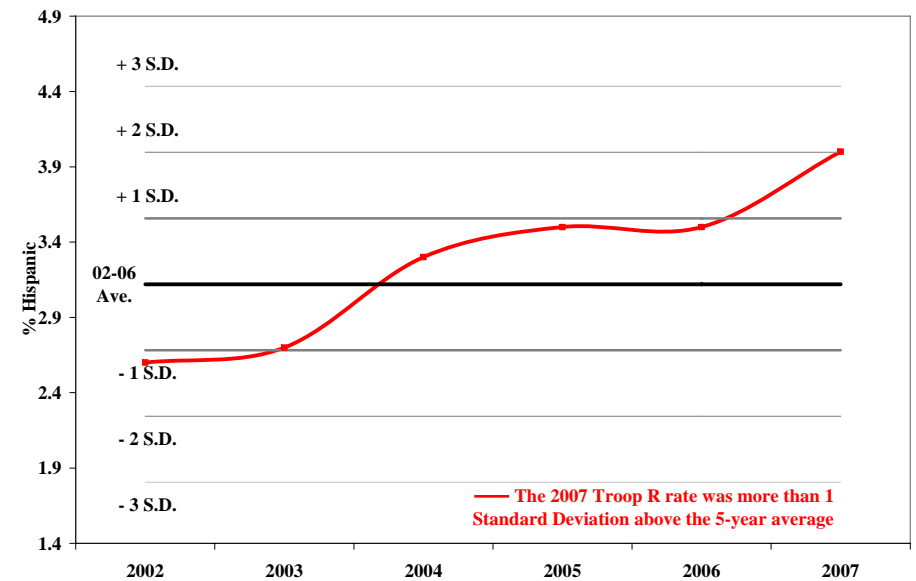


Figure 4.25 reports the rates of traffic stops involving Black drivers in Troop R. Since 2003, the rates demonstrated an increasing trend, culminating with the 2007 rate more than two standard deviations above the five-year average for this organizational unit. The 2007 rate of 6.7% was 1.7% percentage points higher than the rate of 5.0% in 2003.

Figure 4:26: Percent of Traffic Stops with Hispanic Drivers – Troop R



The rates of traffic stops involving Hispanic drivers have been steadily increasing since data collection began in 2002. As demonstrated in Figure 4.26, the lowest rate was 2.6% in 2002, while the 2007 rate was the highest at 4.0%. As a result, the 2007 rate was more than one standard deviation above the five-year average for this organizational unit.

Figure 4:27: Percent of Traffic Stops with Black Drivers – Troop A

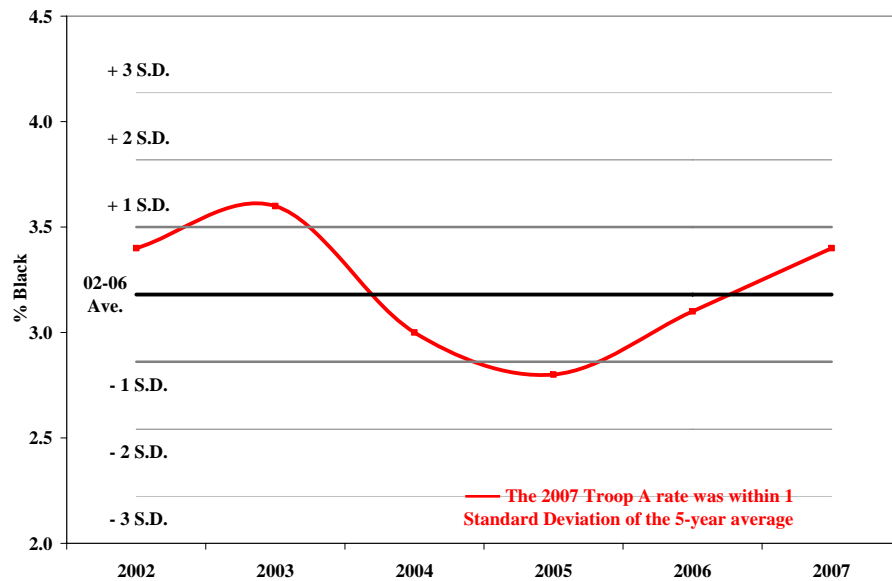
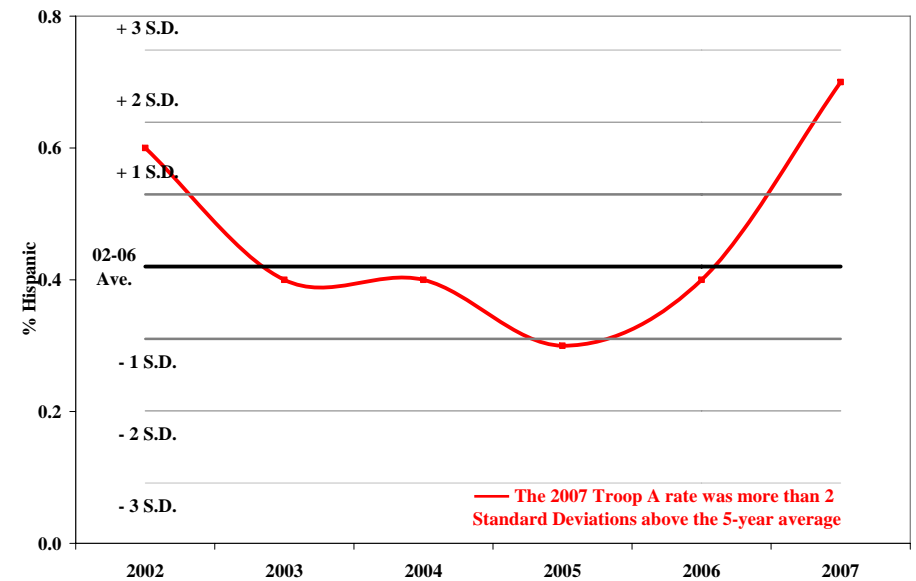


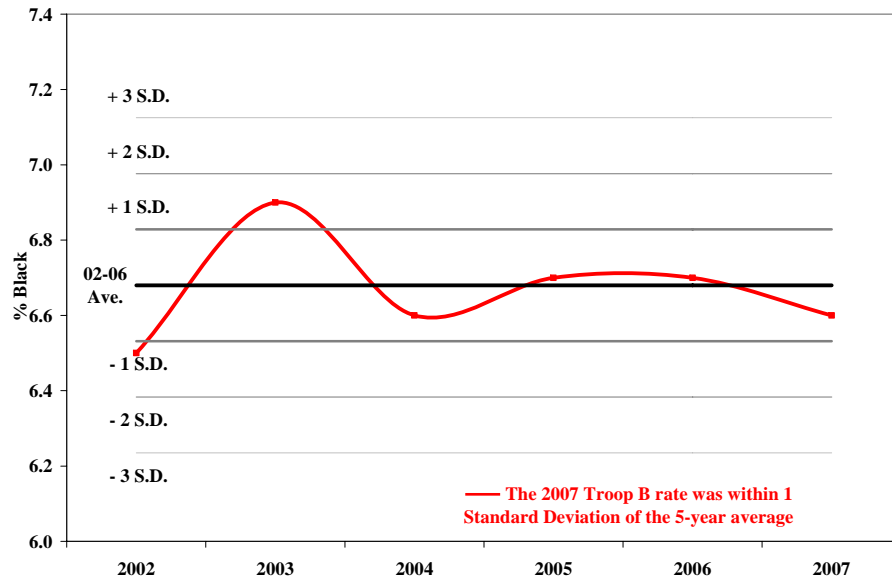
Figure 4.27 reports the rates of traffic stops for Black drivers in Troop A between 2002 & 2007. The 2007 rate was within one standard deviation of the five-year average for this organizational unit. After higher rates in 2002 & 2003, the rates fell in 2004 & 2005, prior to increasing in 2006 & 2007.

Figure 4:28: Percent of Traffic Stops with Hispanic Drivers – Troop A



The rates of traffic stops involving Hispanic drivers in Troop A are reported in Figure 4.28, and indicate an upward trend in the rate since 2006. The 2007 rate was more than two standard deviations above the five-year average for this organizational unit. Overall, the rates dipped between 2003 and 2005, prior to increasing in the past two years. Of note, the scale of these changes was quite small (range from 0.3% to 0.8%).

Figure 4:29: Percent of Traffic Stops with Black Drivers – Troop B



The rates of traffic stops involving Black drivers in Troop B remained relatively unchanged since 2004. This is evidenced by the 2007 rate, which was within one standard deviation of the five-year average for this organizational unit. The highest rate occurred in 2003 and followed the lowest rate recorded in 2002.

Figure 4:30: Percent of Traffic Stops with Hispanic Drivers – Troop B

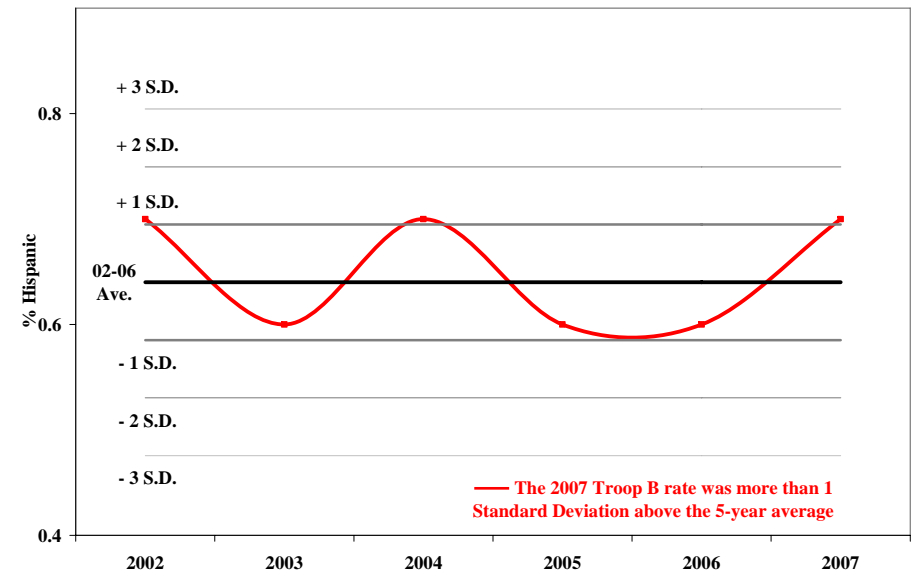


Figure 4.30 reports the rates of traffic stops involving Hispanic drivers in Troop B between 2002 and 2007. The 2007 rate was more than one standard deviation above the five-year average for this organizational unit. Across the six years of data collection, Troop B's rate fluctuated from a high of 0.4% in 2002, 2004, & 2007 to a low of 0.6% in 2003, 2005, & 2006. Overall, the change in rates is not large and indicates few encounters with Hispanic drivers in Troop B.

Figure 4:31: Percent of Traffic Stops with Black Drivers – Troop G

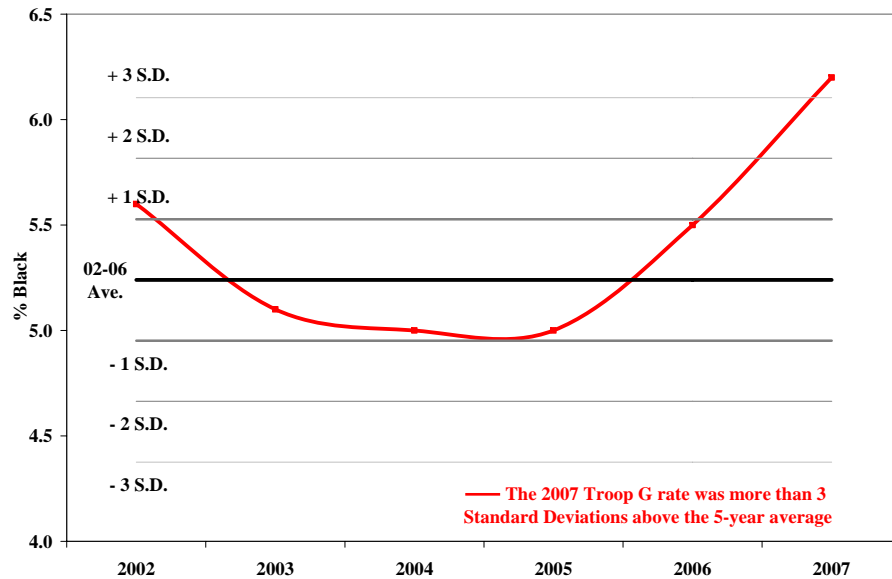
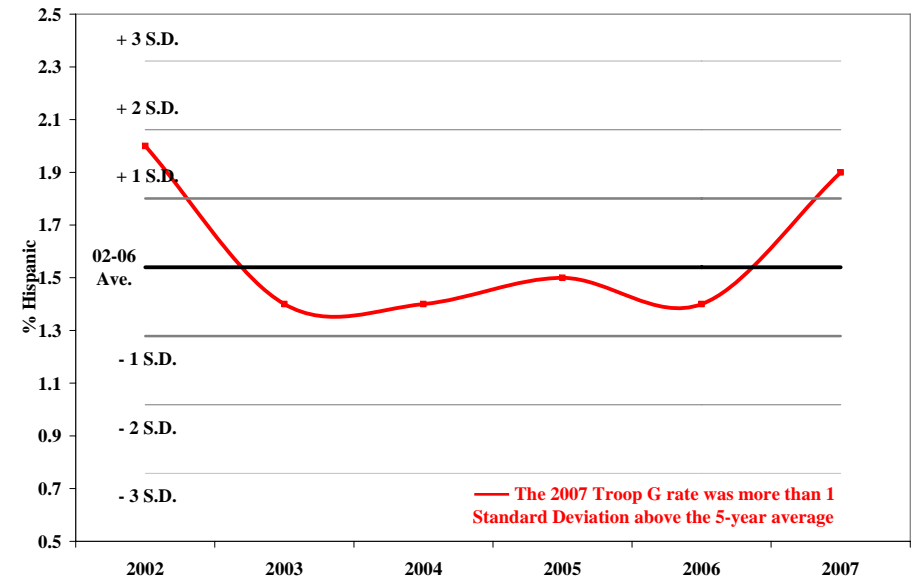


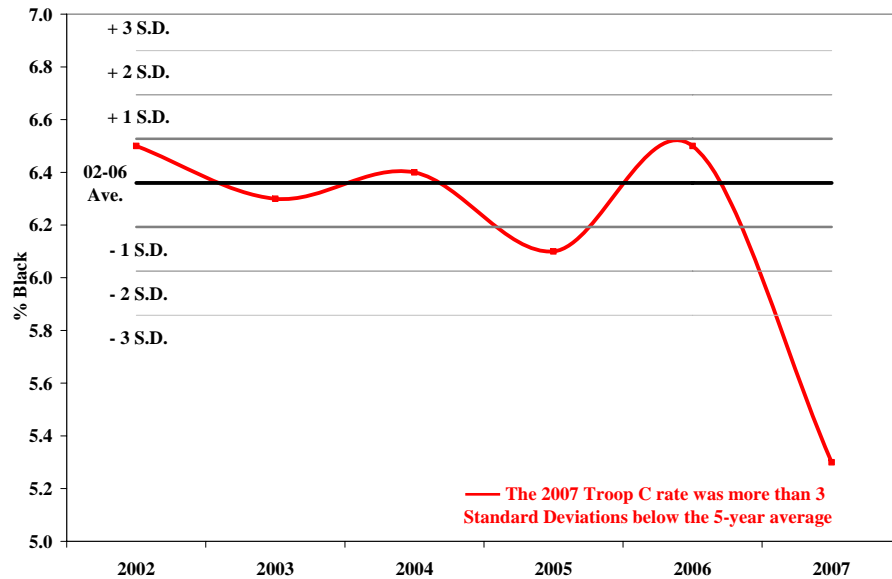
Figure 4.31 reports the rates of traffic stops for Black drivers in Troop G. The 2007 rate was more than three standard deviations above the five-year average for this organizational unit. The 2007 rate continued the upward trend which began in 2006. Assessing the longer trend indicates that the rates initially dipped in 2003 and remained relatively unchanged until the increase in 2006. This magnitude of change in this organizational unit is of note, as an increase of more than three standard deviations is considerable. Further examination of the stations within this Troop may be warranted to assess the source of the increase.

Figure 4:32: Percent of Traffic Stops with Hispanic Drivers – Troop G



The rates of traffic stops involving Hispanic drivers is reported in Figure 4.32 for Troop G. The 2007 rate was more than one standard deviation above the five-year average for this organizational unit. Throughout the six-year period of data collection, the highest rate occurred in 2002, while the subsequent four years reported relatively unchanged rates.

Figure 4:33: Percent of Traffic Stops with Black Drivers – Troop C



The rates of traffic stops involving Black drivers are reported for Troop C in Figure 4.33. The 2007 rate exhibited a noticeable reduction from previous years. In fact, the 2007 rate was more than three standard deviations below the five-year average for this organizational unit. Prior to 2007, the rate was relatively unchanged, with some variation in 2005 & 2006.

Figure 4:34: Percent of Traffic Stops with Hispanic Drivers – Troop C

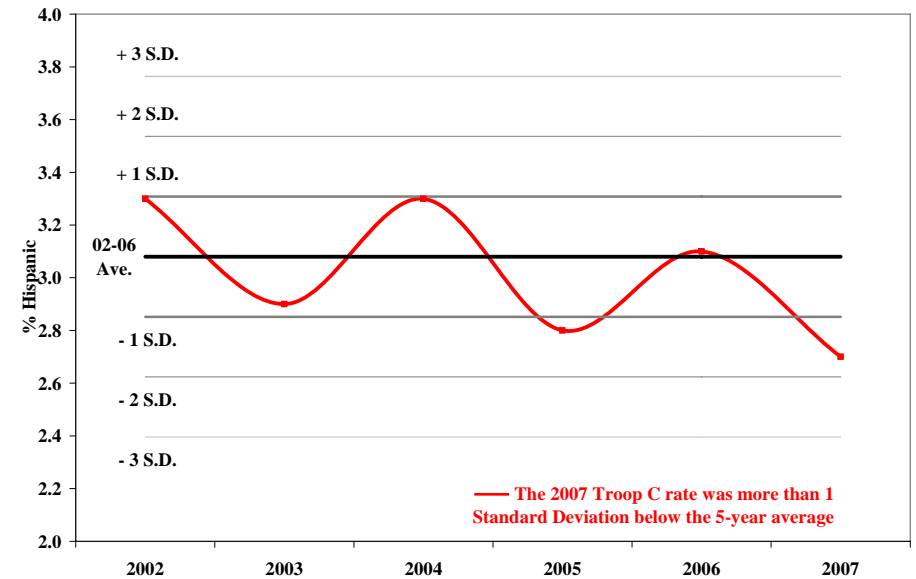


Figure 4.34 reports the rates of traffic stops for Hispanic drivers in Troop C between 2002 & 2007. The 2007 rate was more than one standard deviation below the five-year average for this organizational unit. The general trend for all six years is a slight decrease with year-to-year fluctuations. The highest rate occurred in 2002 & 2004, while 2007 reported the lowest rate to date.

Figure 4:35: Percent of Traffic Stops with Black Drivers – Troop D

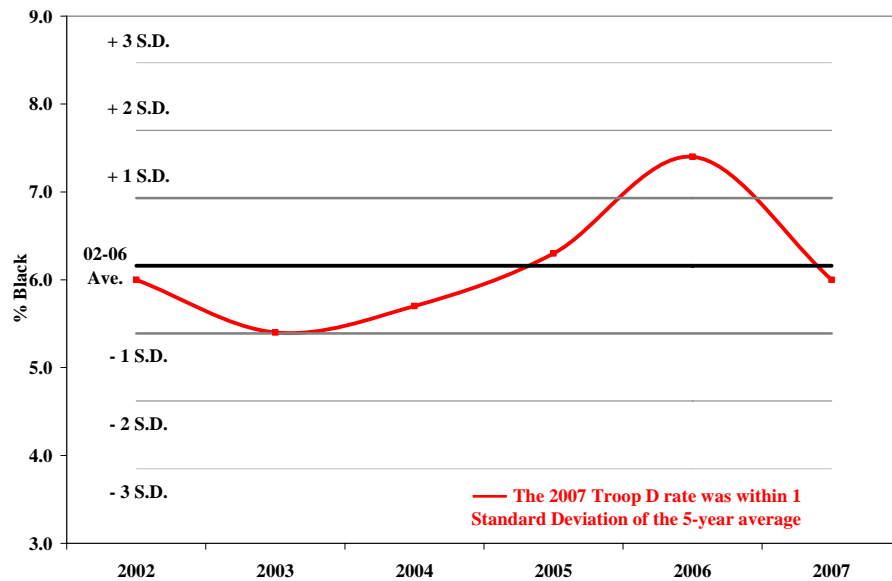
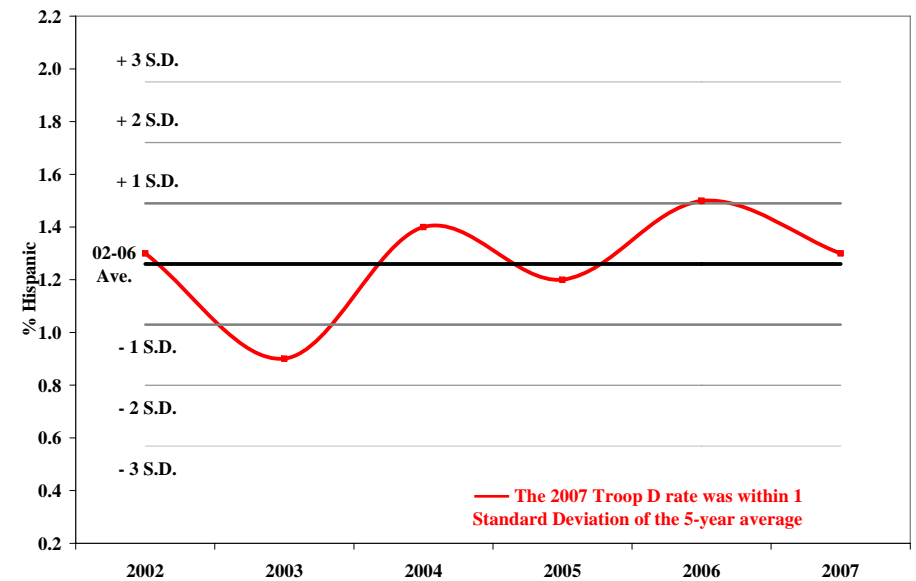


Figure 4.35 reports the rates of traffic stops involving Black drivers in Troop D between 2002 & 2007. The 2007 rate was relatively unchanged from the five-year average for this organizational unit and was within one standard deviation of the five-year average. Other than a spike in 2006, the rate has been stable in the other five years. The lowest rate occurred in 2003 and the highest rate in 2006.

Figure 4:36: Percent of Traffic Stops with Hispanic Drivers – Troop D



The rate of traffic stops involving Hispanic drivers in Troop D is reported in Figure 4.36. The 2007 rate was within one standard deviation of the five-year average for this organizational unit. The rate has been relatively unchanged in the past four years after its low in 2003.

Figure 4:37: Percent of Traffic Stops with Black Drivers – Troop E

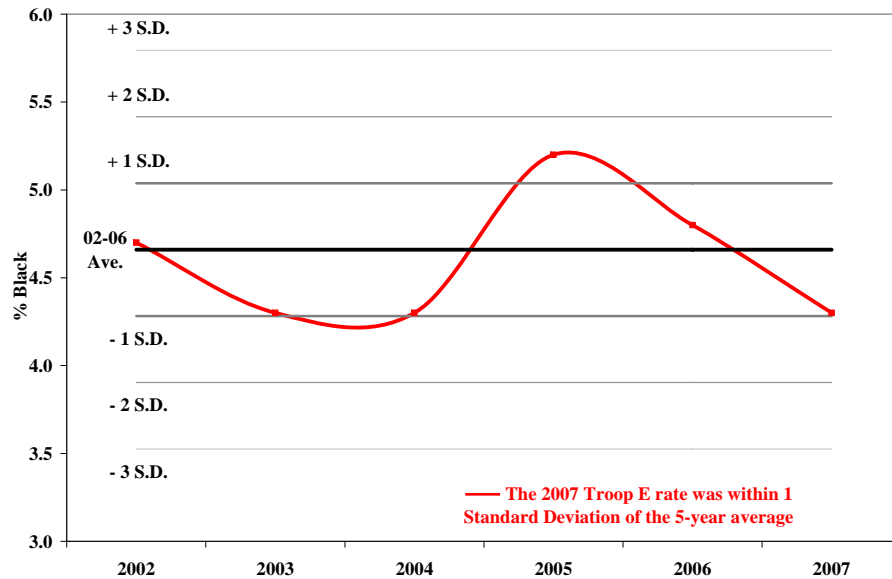
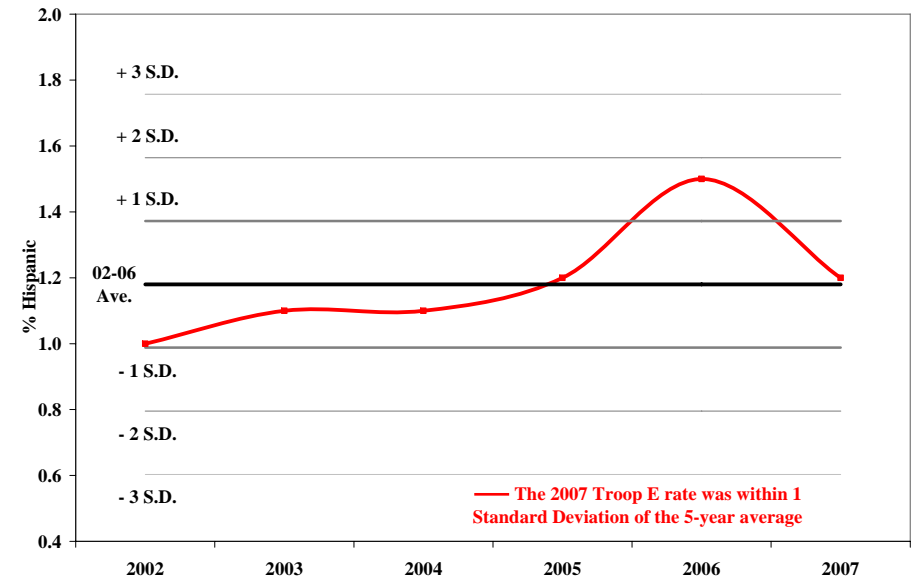


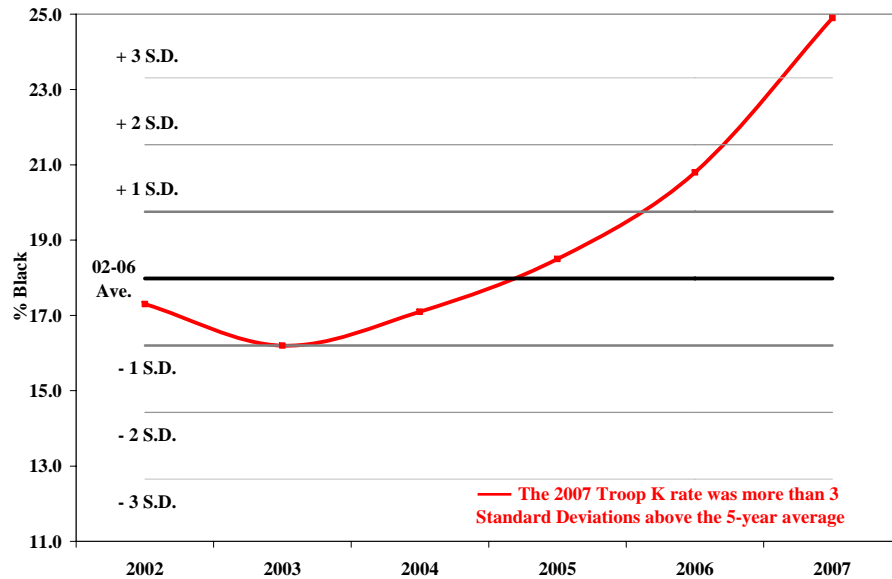
Figure 4.37 reports the rates of traffic stops involving Black drivers in Troop E. The 2007 rate continued a downward trend initiated in 2006, but was still within one standard deviation of the five-year average for this organizational unit. The 2005 rate represented the highest rate in any of the six years and was contrasted by lows in 2003, 2004, & 2007.

Figure 4:38: Percent of Traffic Stops with Hispanic Drivers – Troop E



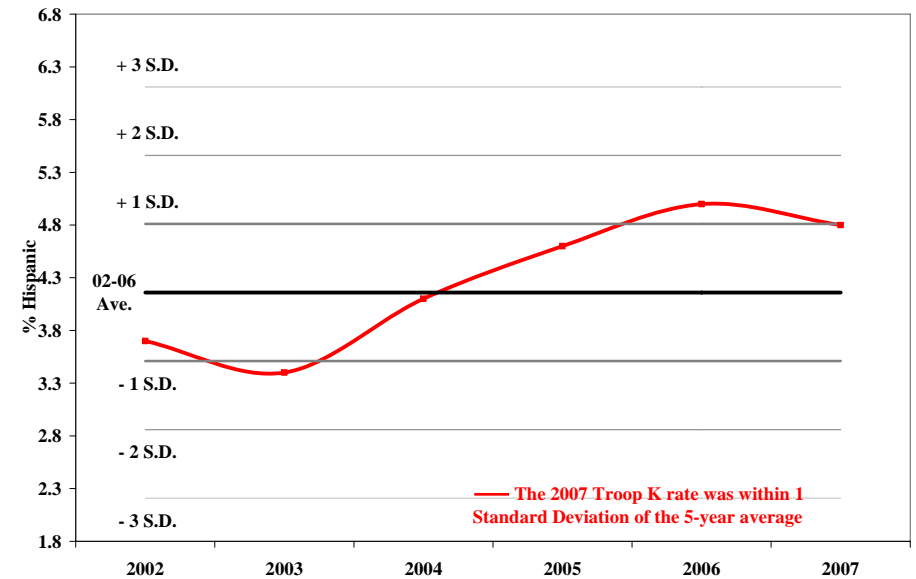
The rate of traffic stops involving Hispanic drivers in Troop E is reported in Figure 4.38. The 2007 rate was within one standard deviation of the five-year average for this organizational unit. Across the six years of data collection, the rates trended upward from a low in 2002 to a peak in 2006 before declining in 2007.

Figure 4:39: Percent of Traffic Stops with Black Drivers – Troop K



The 2007 rate of traffic stop involving Black drivers for Troop K was more than three standard deviations above the five-year average for this organizational unit. As reported in Figure 4.39, the rate began its increase in 2004 and maintained that trend through 2007. It is important to further examine the station level rates to assess their contribution to this increase.

Figure 4:40: Percent of Traffic Stops with Hispanic Drivers – Troop K



The rates of traffic stops involving Hispanic drivers in Troop K are reported in Figure 4.40. The 2007 rate was within one standard deviation of the five-year average for this organizational unit. The 2007 rate dipped slightly from the 2006 rate and broke the upward trend that began in 2004. The lowest rate occurred in 2003 after a decline from the 2002 rate.

Figure 4:41: Percent of Traffic Stops with Black Drivers – Troop M

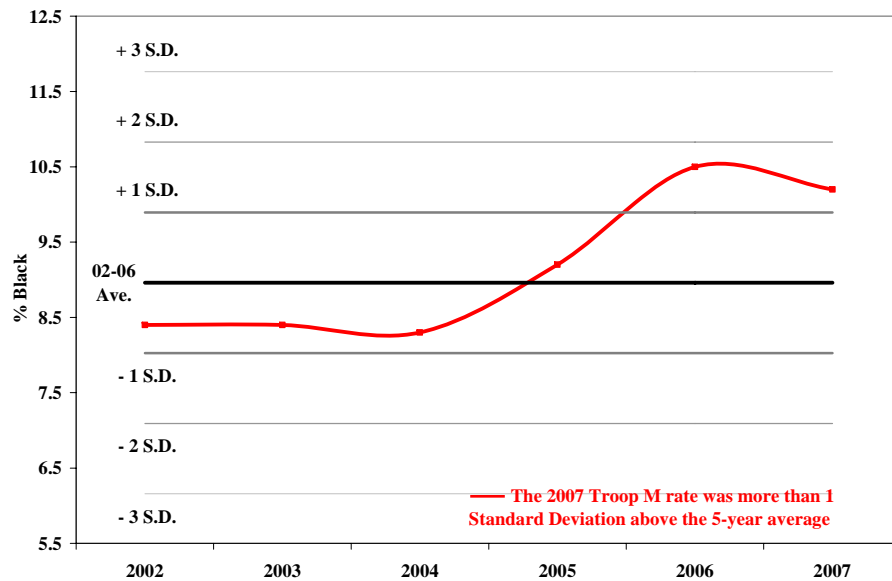
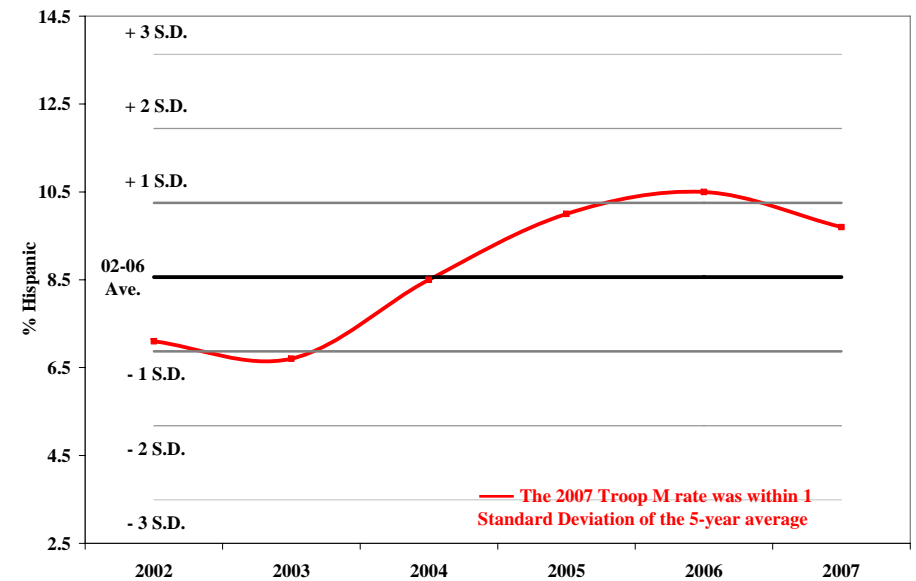


Figure 4.41 reports the rates of traffic stops involving Black drivers in Troop M between 2002 & 2007. The 2007 rate represented a slight reduction from the 2006 rate, but was more than one standard deviation above the five-year average for this organizational unit. The rate was relatively stable between 2002 & 2004 prior to rising in 2005 & 2006.

Figure 4:42: Percent of Traffic Stops with Hispanic Drivers – Troop M



The rates of traffic stops of Hispanic drivers in Troop M are reported in Figure 4.42. The 2007 rate was within one standard deviation of the five-year average for this organizational unit and indicated a slight reduction from the highest rate recorded in 2006. The 2006 rate capped an upward trend following the lowest rate recorded in 2003.

Figure 4:43: Percent of Traffic Stops with Black Drivers – Troop N

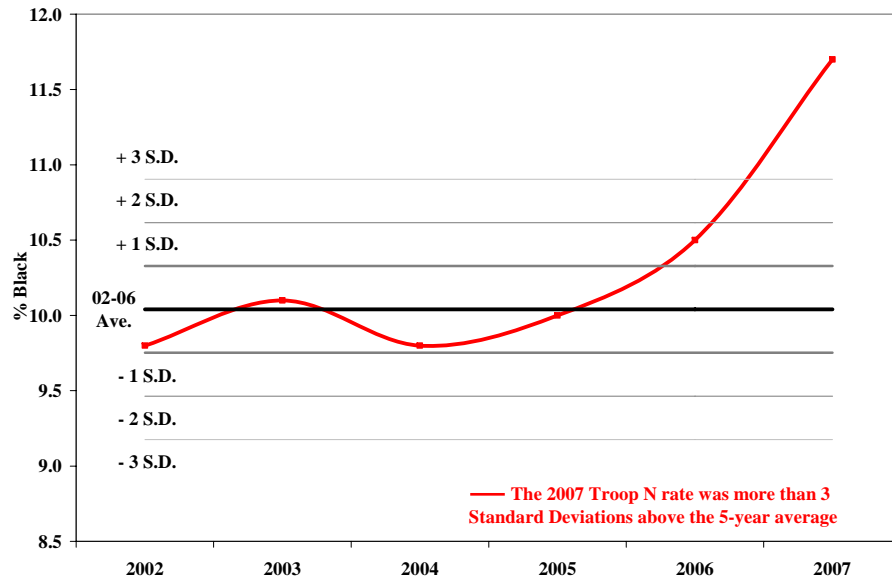


Figure 4.43 reports the rates of traffic stops involving Black drivers in Troop N between 2002 & 2007. The 2007 rate was more than three standard deviations above the five-year average for this organizational unit. The upward trend began in 2005 and accelerated in the subsequent years. Examination of the stations within this Troop would indicate if this trend is rooted in one station or is a product of all Troop N stations.

Figure 4:44: Percent of Traffic Stops with Hispanic Drivers – Troop N

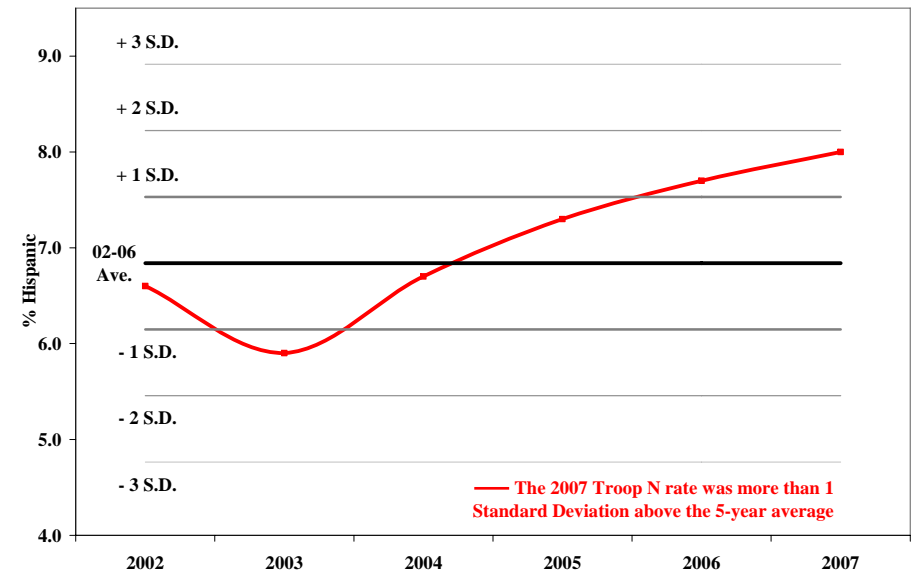


Figure 4.44 reports the rates of traffic stops for Hispanic drivers in Troop N between 2002 & 2007. The 2007 rate contributed to an upward trend initiated in 2004. The 2007 rate was more than one standard deviation above the five-year average for this organizational unit. The lowest rate occurred in 2003 and represented a decline from the 2002 rate.

SUMMARY

Section 4 reports trends in traffic stops for Black and Hispanic drivers between 2002 and 2007 at the department, area, and troop levels. It is important to note that the analyses reported in this section are descriptive and cannot be used to determine the causes of the trends reported. The available data simply cannot be used to determine why certain organizational units reported increases in the percentage of stops that were of Black or Hispanic drivers. Some factors potentially responsible for upward trends include:

- Changes in the racial/ethnic composition of residential populations serviced by those organizational units which have altered the racial/ethnic composition of drivers eligible to be stopped
- Alterations to the reporting patterns by PSP troopers
- Other changes in travel patterns that differentially impact the percentages of minority drivers on particular roadways
- Adjustments to 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
- Trooper behavior toward minority drivers may have changed across time

Importantly, it is not possible to conclusively determine that an upward trend in traffic stops indicates racially biased behavior. One factor or a combination of factors listed above may be responsible for such trends.

The major findings of the traffic stop temporal analyses are:

- Department wide, the 2007 rate of traffic stops involving Black drivers is equivalent to three standard deviation above the five-year average for that organizational unit. The level of this increased rate was primarily influenced by higher rates of Black drivers stopped in Area V, and more specifically Troops J, G, K, & N. Each of these troops reported rates of traffic stops involving Black drivers in 2007 that were more than three standard deviations above their five-year average.
- Department wide, the 2007 rate of traffic stops involving Hispanic drivers was more than one standard deviation above the five-year average. This slight increase was influenced mainly by increases in Hispanic stops reported in Areas II and III.

Area trends for **Black** drivers:

- Increases in the 2007 rate of traffic stops with **Black** drivers at the area level:
 - Areas I and III were more than one standard deviation above their five-year averages
 - Area II was more than two standard deviation above its five-year average
 - Area V was more than three standard deviation above its five-year average
- Decreases in the 2007 rate of traffic stops with **Black** drivers at the area level:
 - Areas IV was more than one standard deviation below its five-year average
 - No areas were more than two standard deviation below their five-year averages

- No areas were more than three standard deviation below their five-year averages

Area trends for **Hispanic** drivers:

- Areas I, IV and V reported no standard deviation changes in their 2007 rates of traffic stops with **Hispanic** drivers
- Increases in the 2007 rate of traffic stops with **Hispanic** drivers at the area level:
 - No areas were more than one standard deviation above their five-year averages
 - Area II was more than two standard deviation above its five-year average
 - No areas were more than three standard deviation above their five-year averages
- No areas reported significant decreases in the 2007 rate of traffic stops with **Hispanic** drivers

Troop trends for **Black** drivers (n=16 troops):

- 6 troops reported no standard deviation changes in their 2007 rates of traffic stops with **Black** drivers (Troops H, L, A, B, D & E)
- Increases in the 2007 rate of traffic stops with **Black** drivers at the troop level:
 - 3 troops were more than one standard deviation above their five-year averages (Troops T, F, & M)
 - 1 troop was more than two standard deviation above its five-year average (Troop R)
 - 4 troops were more than three standard deviation above their five-year averages (Troops J, G, K, & N)
- Decreases in the 2007 rate of traffic stops with **Black** drivers at the troop level:
 - 1 troops was more than one standard deviation below its five-year average (Troop P)
 - No troops were more than two standard deviation below their five-year averages
 - 1 troop was more than three standard deviation below its five-year average (Troop C)

Troop trends for **Hispanic** drivers:

- 10 troops reported no standard deviation changes in their 2007 rates of traffic stops with **Hispanic** drivers (Troops H, J, L, T, F, P, D, E, K, & M)
- Increases in the 2007 rate of traffic stops with **Hispanic** drivers at the troop level:
 - 4 troops were more than one standard deviation above their five-year averages (Troops R, B, G, & N)
 - 1 troop was more than two standard deviation above its five-year average (Troop A)
 - No troops were more than three standard deviation above their five-year averages
- Decreases in the 2007 rate of traffic stops with **Hispanic** drivers at the troop level:
 - 1 troop was more than one standard deviation below its five-year average (Troop C)

- No troops were more than two standard deviation below their five-year averages
- No troops were more than three standard deviation below their five-year averages

5. TRAFFIC STOP OUTCOMES 2002 - 2007

OVERVIEW

Section 5 reports the temporal trends for warnings, citations, arrests, searches, and seizures between 2002 and 2007. Using the standard deviation methodology, the 2007 rate of all traffic stop outcomes are compared to the five-year average at the department and area levels in Figures 5.1 – 5.30. The rates of traffic stop outcomes at the troop and station level are reported in graph format in Appendix AI. Thereafter, the rate of traffic stop outcomes is reported within racial/ethnic groups at the department level – the warning, citation, arrest, search, and seizure rate for White, Black, and Hispanic drivers between 2002 and 2007 are graphed in Figures 5.31 – 5.35. Finally, the rate of traffic stop outcomes for these racial/ethnic groups between 2003 and 2007 is reported at the area and troop level for all traffic stop outcomes in Table 5.1. Tables 5.2 – 5.3 report the rate of warnings, citations, arrests, and searches of White and non-White drivers at the station level between 2003 and 2007. Black, Hispanic, and “other” drivers are collapsed into a non-White category for comparisons at the station level due to the small number of minorities stopped in some stations.

TEMPORAL TREND ANALYSES OF TRAFFIC STOP OUTCOMES

As described in Section 4, analyzing data over time by organizational unit allows for two comparisons: 1) within organizational units across time and 2) across organizational units within a time period. The information in this section is best utilized as a measure of activity across time rather than comparisons between 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. Importantly, any effect of these factors (i.e., differences in traffic patterns, driver behaviors, and officer deployment) will be contained to within organizational unit across time.

To report the temporal trends in traffic stop outcomes of minority drivers between 2002 and 2007, this report alters the style and analyses used in previous yearly reports. Identical to the technique employed for traffic stops across time reported in Section 4, the standard deviation methodology is used to analyze traffic stop outcomes.

Each traffic stop outcome and organizational unit (i.e., department and area) is graphed by showing the five-year average in a solid black line. Moving up and down from this central number are the values for one, two, and three standard deviations above and below the five-year average, respectively. The red line indicates the actual rate of traffic stop outcomes in 2002, 2003, etc. The interpretation is straightforward: If the red line is above the five-year average at one time point, the rate for that year was above the five-year average; similarly, if the red line is below the black line, the rate for that year was below the five-year average. Simultaneously, it is also possible to assess any one year’s rate of traffic stop outcomes in standard deviational units. This provides a simple method to visually locate any of the six years of data in relation to the five-year trend while also offering substantive information regarding how far away the rate is from the five-year average. Each graph reports the

following information: 1) the actual rate of traffic stop outcomes for each year, 2) each year's rate of traffic stop outcomes in relation to the five-year average, 3) each year's rate of traffic stop outcomes in standard deviational units, 4) the overall trend of traffic stop outcomes, and 5) the above noted information specifically for the comparison year (2007).

Again, as in Section 4, no value assessment is offered to accompany the reporting of the 2007 rate of traffic stop outcomes in relation to the five-year average. These analyses assess trends over time in the rate of traffic stop outcomes and identify organizational units that are experiencing noticeable increases in their rate of traffic stop outcomes. There are numerous factors beyond the scope of this methodology that may be directly linked to changes in the rate of traffic stop outcomes. For example:

- Changes in the traffic population within that jurisdiction
- Alterations to the reporting patterns by PSP troopers
- Adjustments in PSP traffic stop behaviors
- Differences in deployment patterns across time
- Modifications of manpower allocation

Any single factor or a combination of these factors may have influenced the rate of traffic stop outcomes in any one year and resulted in an increase or decrease in the rates reported in the graphs below. Thus, the following graphs are to be interpreted with caution and not as evidence of overt biased policing by the PSP or any of its organizational units.

While no definitive conclusions regarding bias in traffic stop outcomes can be ascertained from the following graphs, they do offer a basic picture of the traffic stop outcome trends by organizational unit. The standard deviation is a statistical indicator that offers a range of roughly "average" values. Using this statistic, units experiencing rates of traffic stop outcomes within one standard deviation of the five-year average were operating in a similar fashion to the five-year average. Organizational units reporting rates of traffic stop outcomes more than two standard deviations outside their five-year average were experiencing a shift from previous years. Any rate of traffic stop outcomes beyond three standard deviations is roughly equivalent to achieving statistical significance using a statistical test. Such changes identified should be further examined by PSP administrators to identify the cause of these changes.

TRAFFIC STOP OUTCOMES: 2002 – 2007

This section documents the traffic stop outcome trends across the department and all areas between 2002 and 2007. For each organizational unit, the rates of warnings, citations, arrests, searches, and seizures are graphed (Figures 5.1 – 5.30). Information regarding the troop and station level is reported in Appendix AI.⁶

⁶ Of note, the graphs in Appendix AI are not constructed using the standard deviation methodology; rather, they simply report the rate of traffic stop outcomes by between 2002 and 2007. Standard deviation analyses for traffic stop outcomes at the troop and station level are available from the authors upon request.

Figure 5.1: Percent of Traffic Stops Resulting in Warnings – Department

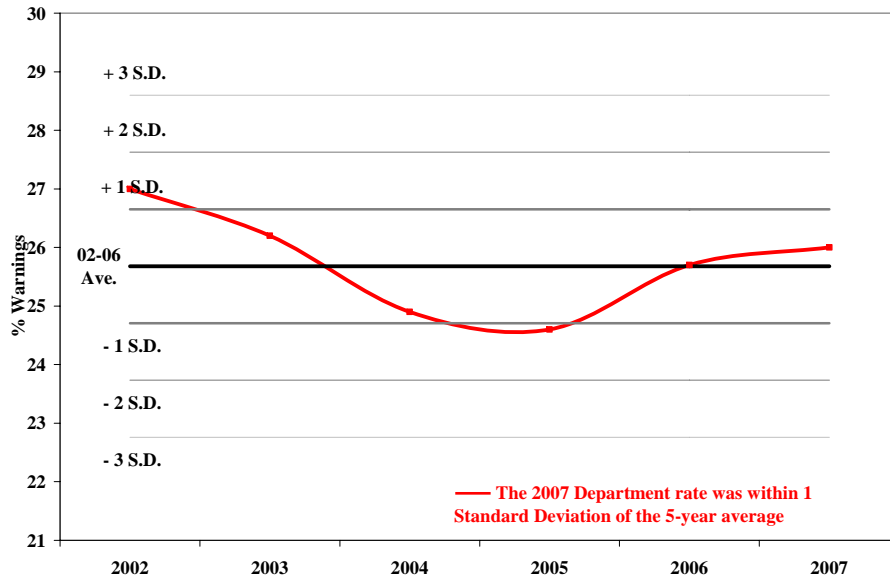
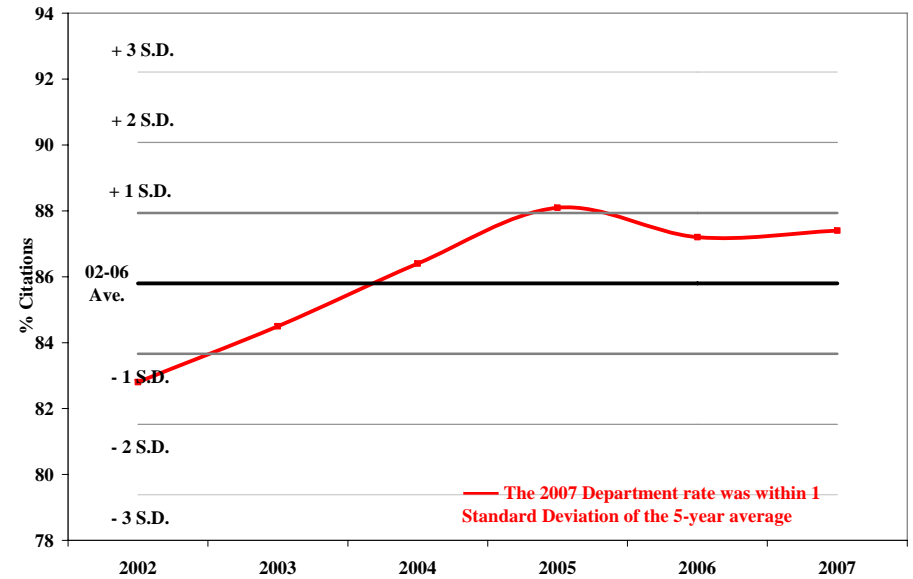


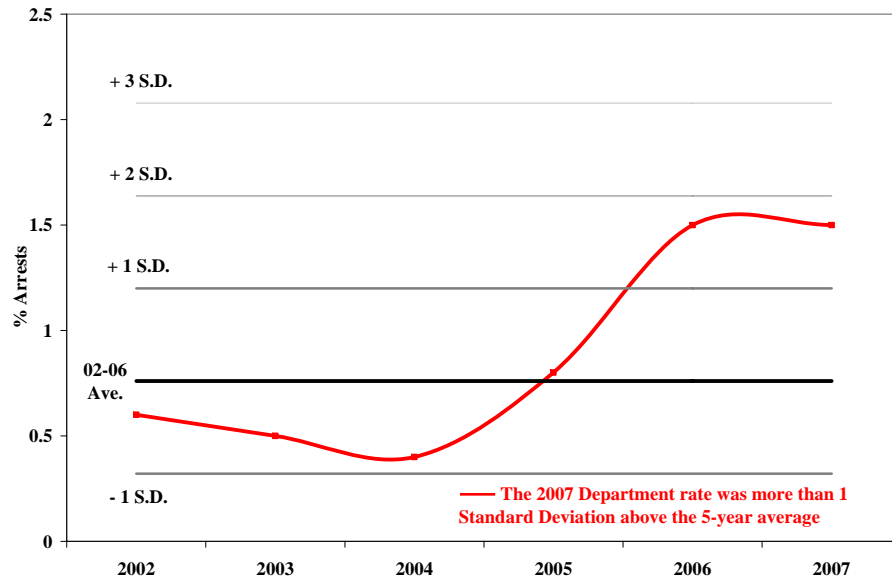
Figure 5.1 reports the rates of warnings (i.e., the number of traffic stops resulting in a warning divided by the total number of traffic stops) throughout the department between 2002 & 2007. The 2007 warning rate was within one standard deviation of the five-year average. Throughout the six years of data collection, the rates of warnings issued have been relatively stable, with a high of 27.0% in 2002 and a low of 24.5% in 2005.

Figure 5.2: Percent of Traffic Stops Resulting in Citations – Department



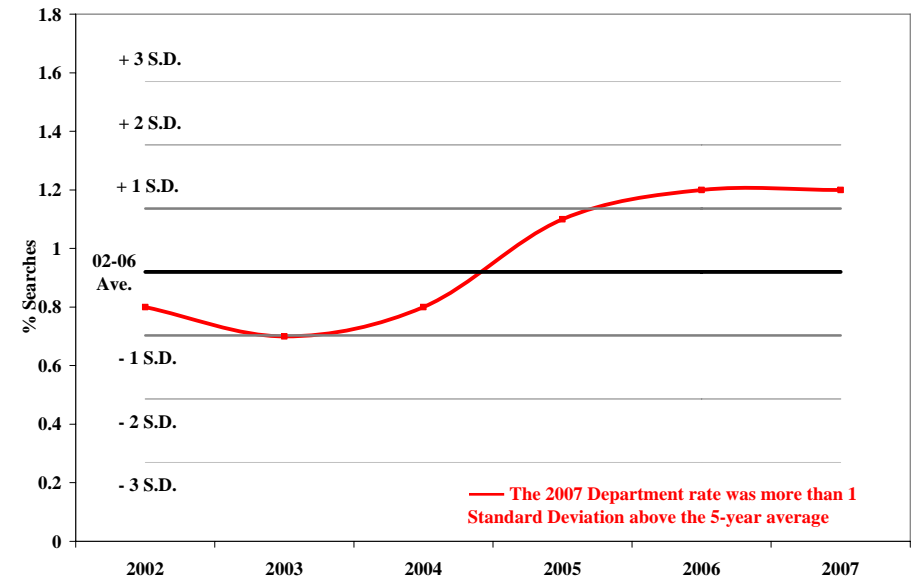
The citation rate (i.e., the number of traffic stops resulting in a citation divided by the total number of traffic stops) for the department between 2002 & 2007 is reported in Figure 5.2. The 2007 citation rate was within one standard deviation of the five-year average for this organizational unit. There are two trends evident based on the six years of data collection. Between 2002 & 2005, there was a steady increase in citation rates, from a low of 83.0% to a high of 88.1% in 2005. This increased use of citations is a trend that has continued into 2006 and 2007.

Figure 5:3: Percent of Traffic Stops Resulting in Arrest – Department



The arrest rates (i.e., the number of traffic stops resulting in arrests divided by the total number of traffic stops) for the department between 2002 & 2007 are summarized in Figure 5.3. The 2007 arrest rate was more than one standard deviation above the five-year average, although the 2007 rate is equivalent to the arrest rate in 2006. The six-year trend indicates that there was a considerable rise in the arrest rate between 2004 & 2006. This upswing is at least partially the result of discrepancies in the data collection regarding arrests prior to 2006, as documented in the *2003 - 2004 Final Report*. These data collection limitations were believed to result in an underreporting of arrests prior to 2006. Therefore, it is likely that this reported upswing is simply the result of more accurate reporting for 2006-2007, rather than changes in actual outcomes received by motorists.

Figure 5:4: Percent of Traffic Stops Resulting in Searches – Department



The search rate (i.e., the number of traffic stops resulting in a search divided by the total number of traffic stops) for the department between 2002 & 2007 is reported in Figure 5.4. The 2007 search rate was more than one standard deviation above the five-year average for this organizational unit. The six-year trend indicates relative stability in the past three years after an increase from the rate in previous years. Similar to the arrest rate, however, there were some data collection problems prior to 2006, which may have resulted in an underreporting of searches throughout the department. Please refer to the *2003 - 2004 Final Report* for further discussion of these limitations.

Figure 5:5: Percent of Searches Resulting in Seizures – Department

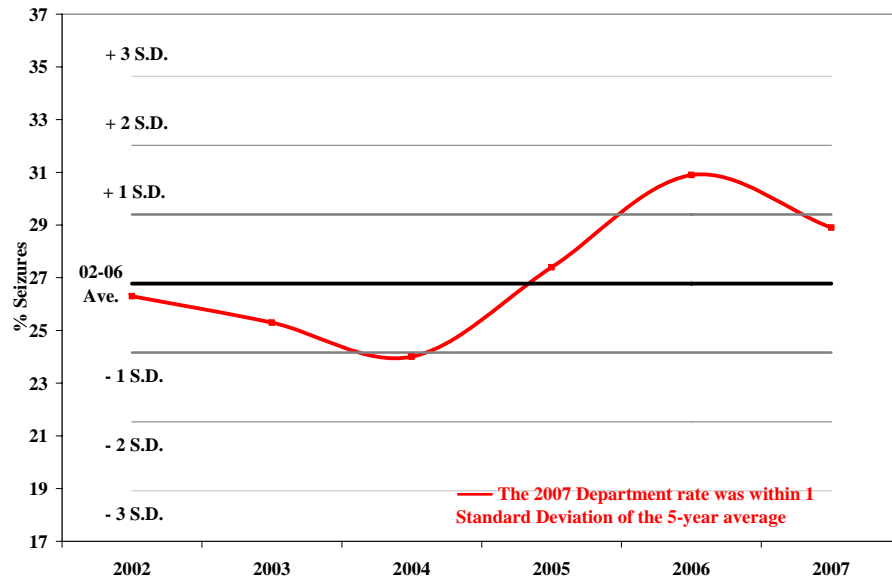
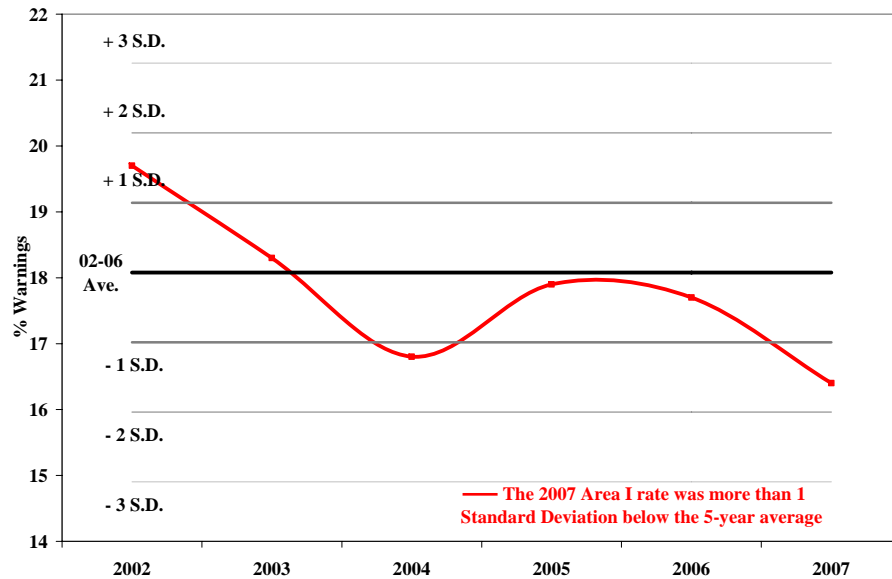


Figure 5.5 reports the seizure rate (i.e., the number of traffic stops resulting in the discovery of contraband divided by the number of traffic stops involving a search) for the department between 2002 & 2007. The 2007 seizure rate was within one standard deviation of the five-year average for this organizational unit. The 2007 seizure rate decreased slightly from 2006 and reversed an upward trend since 2004. Note that these seizure rates include the discovery of contraband from searches made for any reason. Further examination of *discretionary* searches is conducted in Section 7.

Figure 5:6: Percent of Traffic Stops Resulting in Warnings – Area I



The rates for warnings issued in Area I between 2002 & 2007 are reported in Figure 5.6. The 2007 warning rate is more than one standard deviation below the five-year average for this organizational unit. The overall trend throughout the six years of data collection is downward, with a slight exception in 2005 & 2006. The 2007 rate represents the lowest warning rate in Area I at 16.4%, compared to the highest rate of 19.7% in 2002.

Figure 5:7: Percent of Traffic Stops Resulting in Citations – Area I

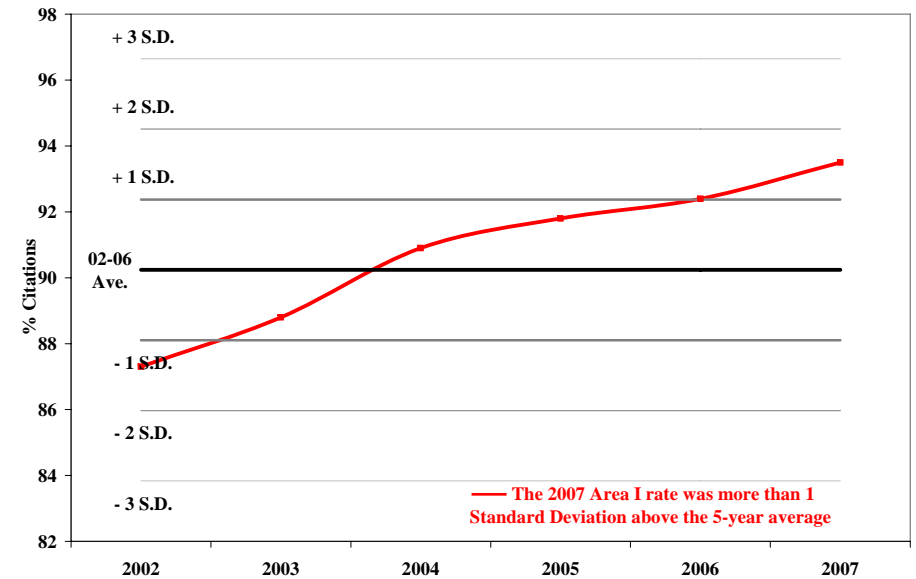
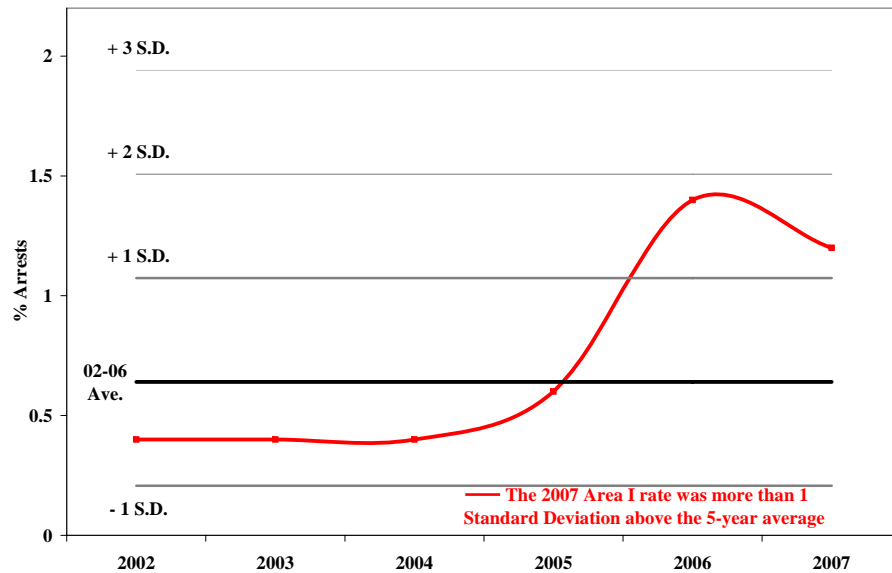


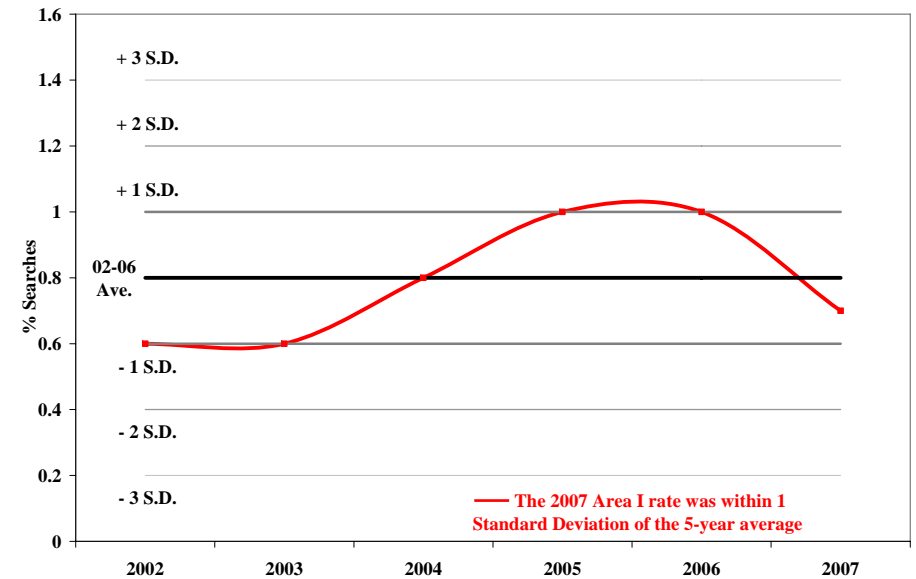
Figure 5.7 reports citation rates for Area I between 2002 & 2007. The 2007 citation rate was more than one standard deviation above the five-year average for this organizational unit. The overall six-year trend indicates an increase in citation rates every year, from a low of 87.3% in 2002 to a high of 93.5% in 2007.

Figure 5:8: Percent of Traffic Stops Resulting in Arrests – Area I



Arrest rates in Area I from 2002 through 2007 are reported in Figure 5.8. The 2007 arrest rate is more than one standard deviation above the five-year average for this organizational unit; however, as previously noted, the arrest rate prior to 2006 was influenced by an underreporting of arrests. Based on the last two years of data, the 2007 arrest rate is slightly lower than the 2006 arrest rate.

Figure 5:9: Percent of Traffic Stops Resulting in Searches – Area I



Search rates for Area I between 2002 & 2007 are reported in Figure 5.9. The 2007 search rate is within one standard deviation of the five-year average for this organizational unit. The 2007 search rate also demonstrated a noticeable decline from the 2006 arrest rate for this unit. Notwithstanding the data collection limitations in previous years, the six-year trend indicates a slight increase in 2005 & 2006, but relative stability in the other years.

Figure 5:10: Percent of Searches Resulting in Seizures – Area I

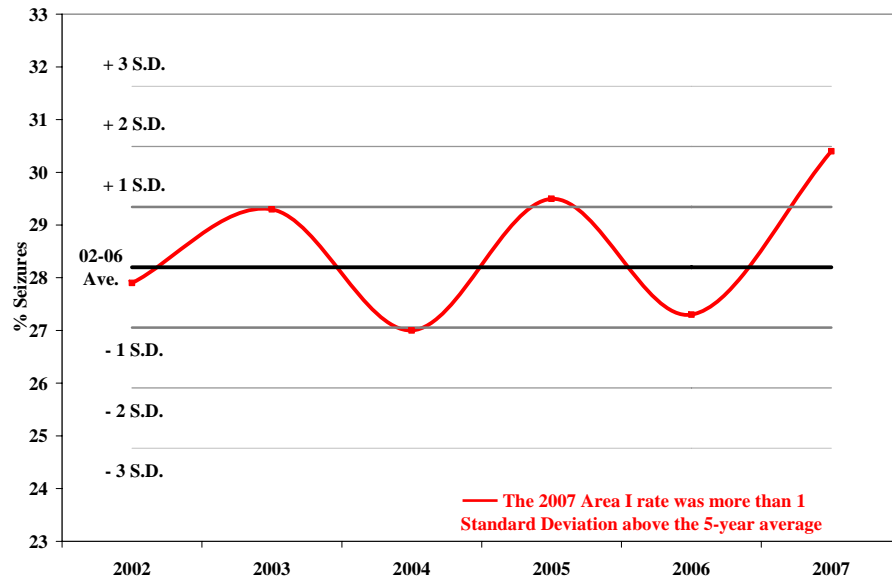
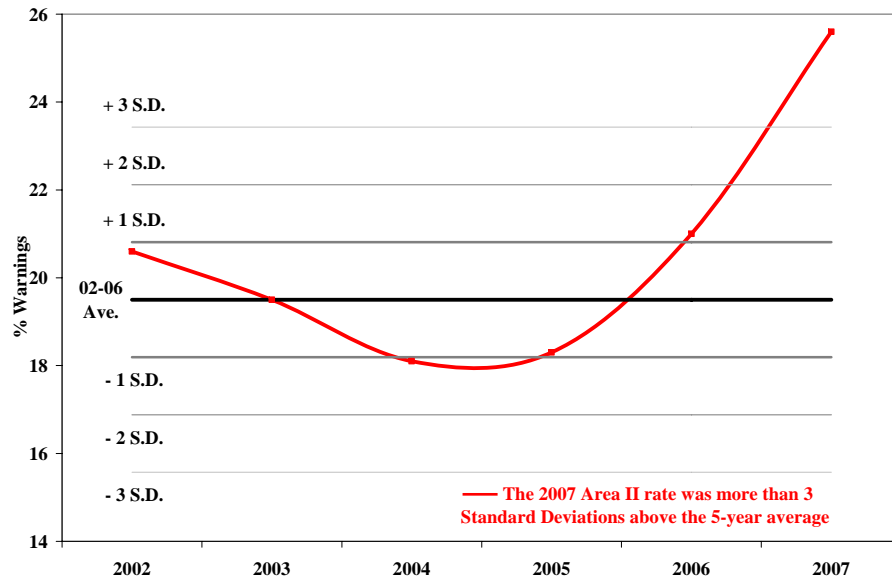


Figure 5.10 reports seizure rates for Area I between 2002 and 2007. The 2007 seizure rate was more than one standard deviation above the five-year average for this organizational unit; further, this rate also increased from the 2006 seizure rate. The six-year trend is not consistent and marked with a continual increase in one year followed by a decrease in the following year.

Figure 5:11: Percent of Traffic Stops Resulting in Warnings – Area II



Area II's warning rates between 2002 & 2007 are reported in Figure 5.11. As the figure demonstrates, the 2007 warning rate was more than three standard deviations above the five-year average for this organizational unit. This upward trend began in 2005 following the lowest warning rate recorded in any of the six years of data collection (i.e., 18.0% in 2004). The rate of increase has intensified in 2007.

Figure 5:12: Percent of Traffic Stops Resulting in Citations – Area II

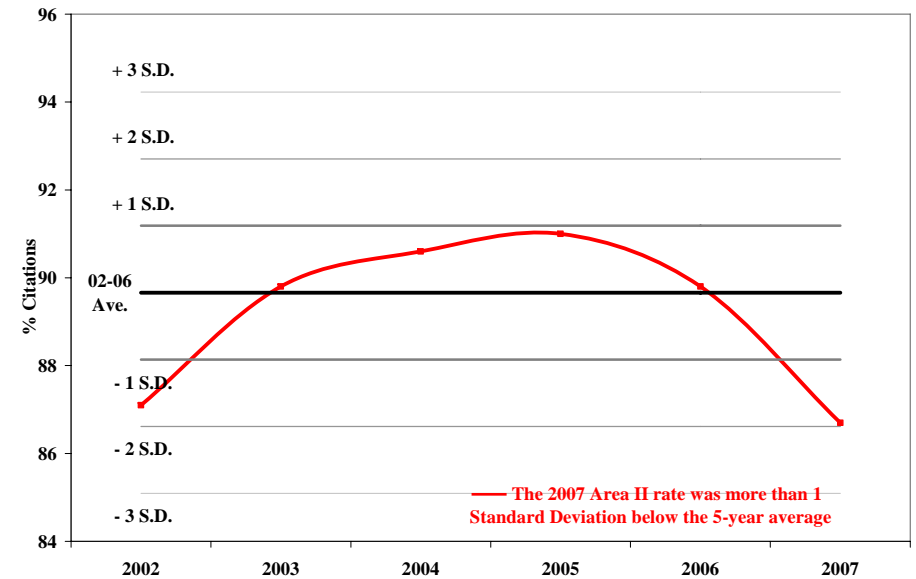
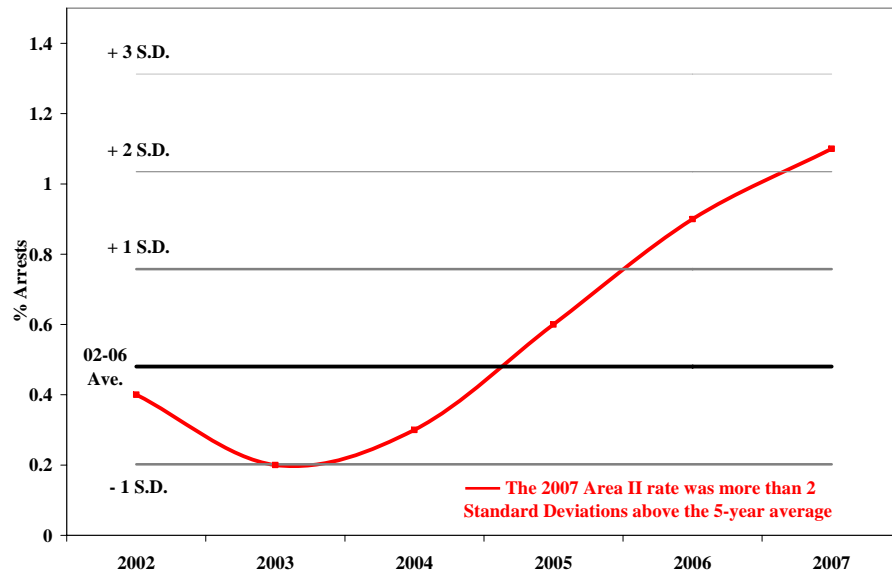


Figure 5.12 reports the citation rates between 2002 & 2007 for Area II. The 2007 rate was more than one standard deviation below the five-year average for this organizational unit. A downward trend began in 2006 and continued in 2007. In fact, the 2007 citation rate marked the lowest rate of any year since 2002 (compared to the highest citation rate recorded in 2005). Not surprisingly, the citation rate trend is the inverse of the trend demonstrated by the warning rate (see Figure 5.11).

Figure 5:13: Percent of Traffic Stops Resulting in Arrests – Area II



Area II's arrest rates from 2002 to 2007 are reported in Figure 5.13. The 2007 arrest rate was more than two standard deviations above the five-year average for this organizational unit and continued the upward trend initiated in 2004. Given the concerns of underreporting of arrests prior to 2006, attention should be directed to the increase in the arrest rate from 2006 to 2007. One explanation for the 2007 arrest rate being more than two standard deviations above the five-year average is that underreporting in previous years artificially lowered the average.

Figure 5:14: Percent of Traffic Stops Resulting in Searches – Area II

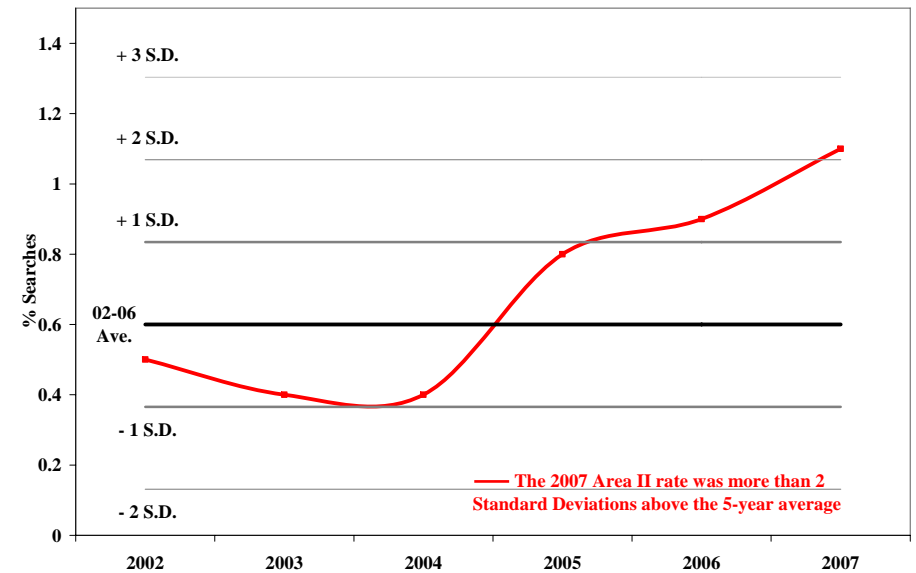


Figure 5.14 reports search rates for Area II from 2002 to 2007. The 2007 search rate was more than two standard deviations above the five-year average for this organizational unit. Since 2004, the general trend has been upward; although, this trend may be influenced by underreporting prior to 2006. The lowest search rates were reported in 2003 and 2004 at 0.4%, while the 2007 search rate (1.1%) represented the highest rate throughout the six-year period.

Figure 5:15: Percent of Searches Resulting in Seizures – Area II

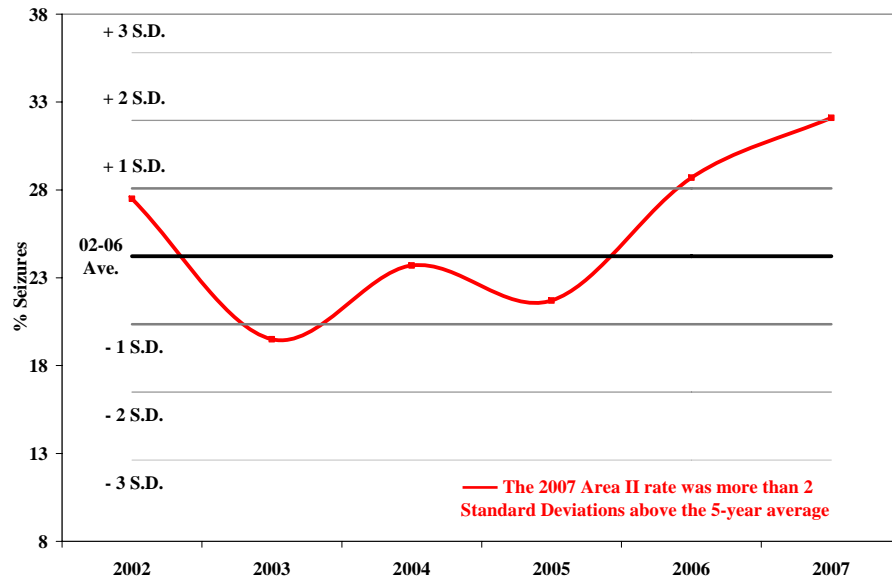
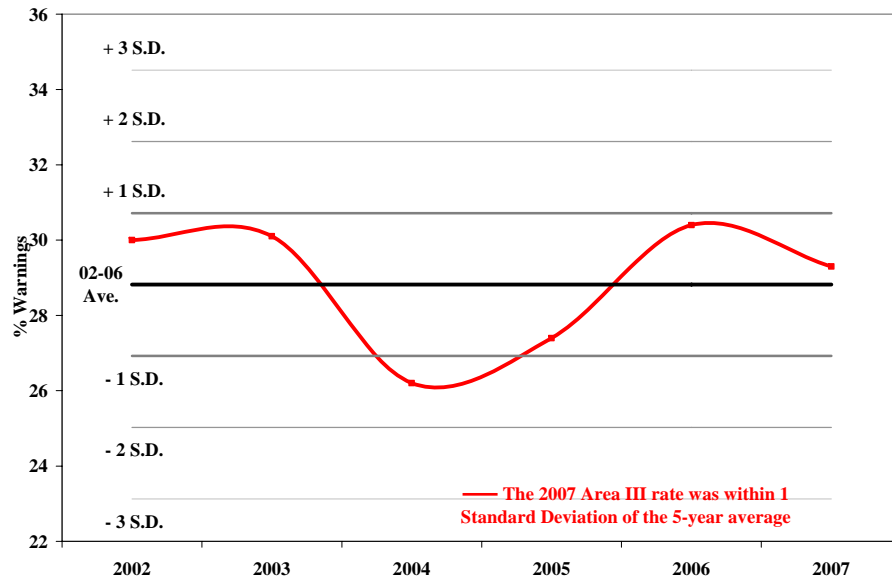


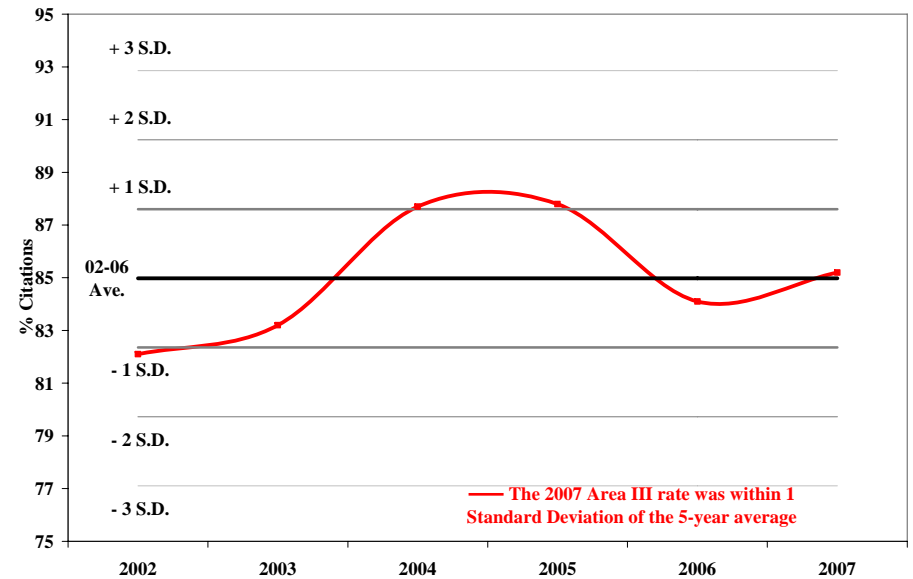
Figure 5.15 details the seizure rates for Area II between 2002 and 2007. The 2007 seizure rate was more than two standard deviations above the five-year average for this organizational unit. This rate (32.1%) also marks the highest seizure rate throughout the six years of data collection. The six-year trend indicates an initial decrease in 2003, some stability in 2004 and 2005, leading to an increase in the last two years (2006 and 2007).

Figure 5.16: Percent of Traffic Stops Resulting Warnings – Area III



Warning rates for Area III from 2002 to 2007 are summarized in Figure 5.16. The 2007 warning rate was within one standard deviation of the five-year average for this organizational unit. The six-year trend indicates decreases in 2004 and 2005, but relative stability in the other four years.

Figure 5.17: Percent of Traffic Stops Resulting in Citations – Area III



Area III's citation rates for 2002 to 2007 are reported in Figure 5.17. The 2007 citation rate is within one standard deviation of the five-year average for this organizational unit. The six-year citation rate trend is relatively stable except for a slight spike in 2004 and 2005. This pattern is similar to the trend for the warning rate except for the slight increases in 2004 & 2005, which are opposite from the warning rates. Overall, Area III has shown relative stability in its citations rates over time.

Figure 5:18: Percent of Traffic Stops Resulting in Arrests – Area III

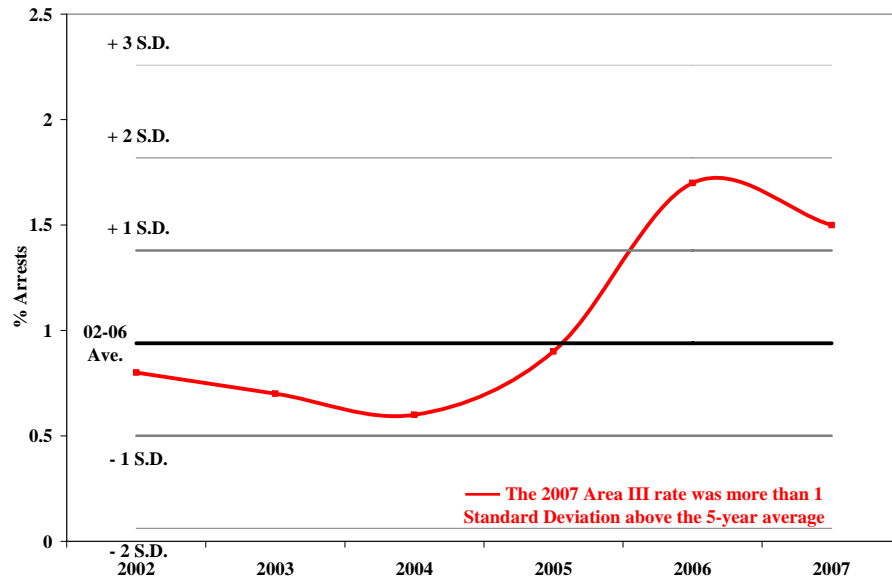


Figure 5.18 reports arrest rates for Area III from 2002 to 2007. The 2007 arrest rate was more than one standard deviation above the five-year average for this organizational unit, but was a slight reduction from the 2006 arrest rate. The six-year arrest trend indicates an upward trend beginning in 2005. Importantly, the underreporting of arrest prior to 2006 likely compromised the validity and accuracy of these early arrest rates. These data collection concerns may partially explain why the 2007 arrest rate was more than one standard deviation above the five-year average. It is possible that the five-year arrest rate average is artificially low due to underreporting in previous years.

Figure 5:19: Percent of Traffic Stops Resulting in Searches – Area III

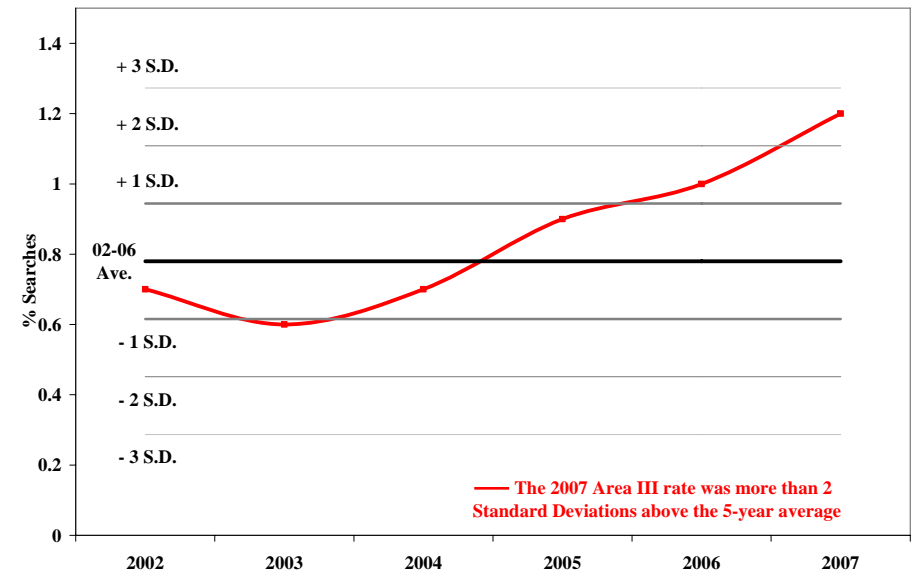
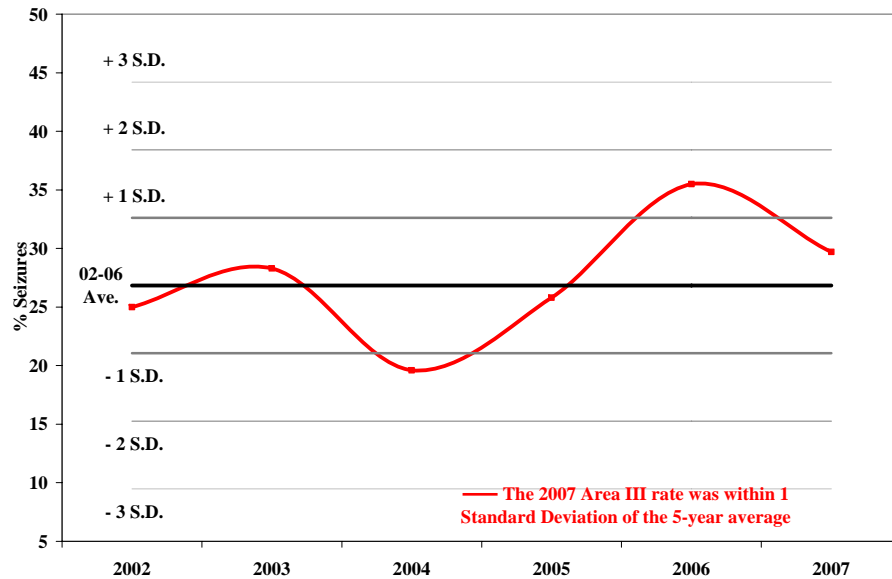


Figure 5.19 reports search rates for Area III from 2002 to 2007. The 2007 search rate is more than two standard deviations above the five-year average for this organizational unit. The longer trend indicates yearly increases in the search rate since 2004. Recall that potential underreporting of search activity occurred prior to 2006 and may be reflected in lower search rates in those years. Despite the potential of the five-year average to be artificially low, the 2007 search rate was higher than the 2006 search rate.

Figure 5:20: Percent of Searches Resulting in Seizures – Area III



Area III's seizure rates for 2002 to 2007 are reported in Figure 5.20. The 2007 seizure rate was within one standard deviation of the five-year average for this organizational unit. The highest seizure rate was reported in 2006 (35.0%), while the lowest seizure rate occurred in 2004 (20.0%).

Figure 5:21: Percent of Traffic Stops Resulting in Warnings – Area IV

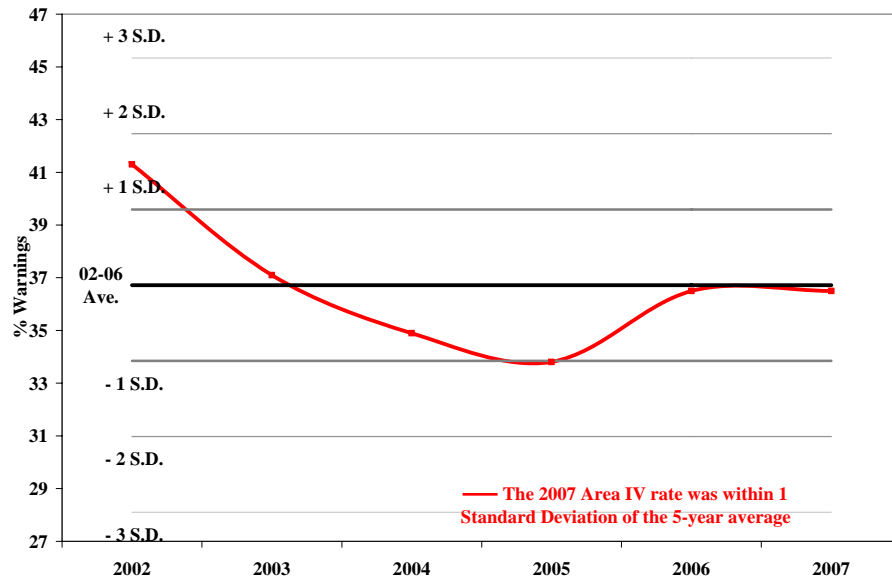
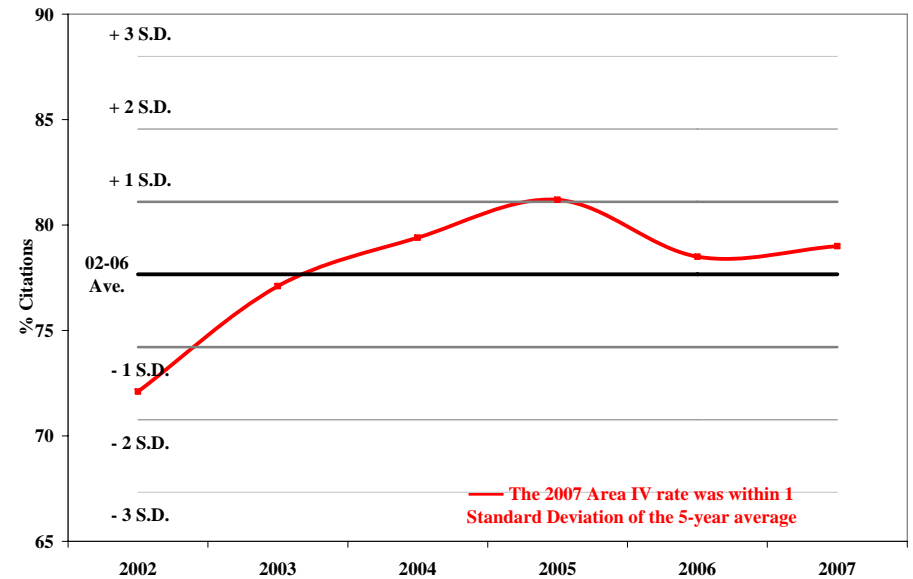


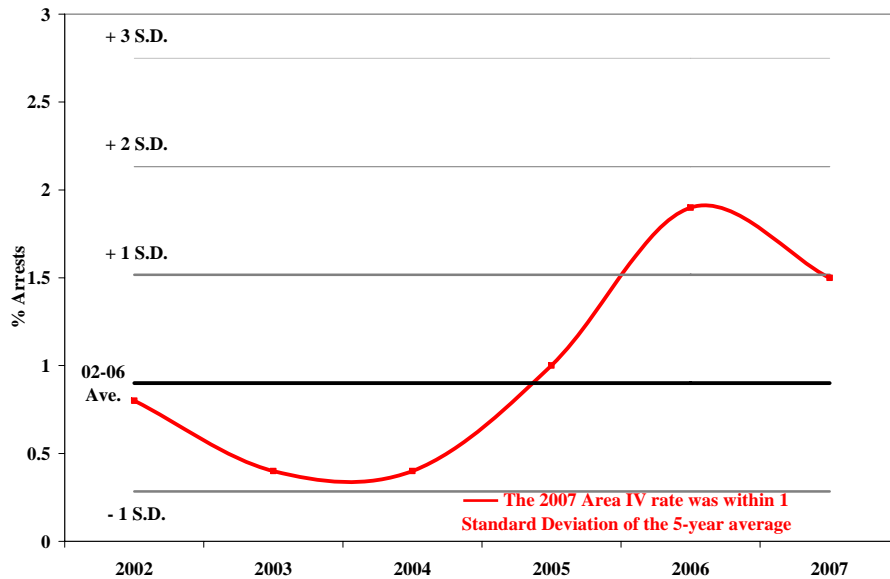
Figure 5.21 reports warning rates between 2002 and 2007 in Area IV. The 2007 warning rate was within one standard deviation of the five-year average for this organizational unit. The six-year warning rate trend is relatively stable after a decline in the first few years of data collection.

Figure 5:22: Percent of Traffic Stops Resulting in Citations – Area IV



Citation rates for Area IV from 2002 to 2007 are reported in Figure 5.22. The 2007 citation rate was within one standard deviation of the five-year average for this organizational unit. With the exception of 2002, the citation rate trend has been relatively consistent. The highest citation rate was recorded in 2005 at 81.2%, compared to lowest citations rate recorded in 2002 of 72.1%. Area IV's citation rates in 2006 and 2007 demonstrate a clear level of consistency in this activity.

Figure 5.23: Percent of Traffic Stops Resulting in Arrests – Area IV



The arrest rates for Area IV between 2002 and 2007 are summarized in Figure 5.23. The 2007 arrest rate is within one standard deviation of the five-year average for this organizational unit, and was a slight reduction from the 2006 arrest rate. Overall, the arrest rate increased between 2004 and 2006, but this increase is likely due in part to more accurate reporting procedures after 2006. When just the arrest rates from just 2006 and 2007 are considered, there appears to be a downward trend developing rather than the upward trend suggested by comparison to previous years with data of questionable accuracy.

Figure 5.24: Percent of Traffic Stops Resulting in Searches – Area IV

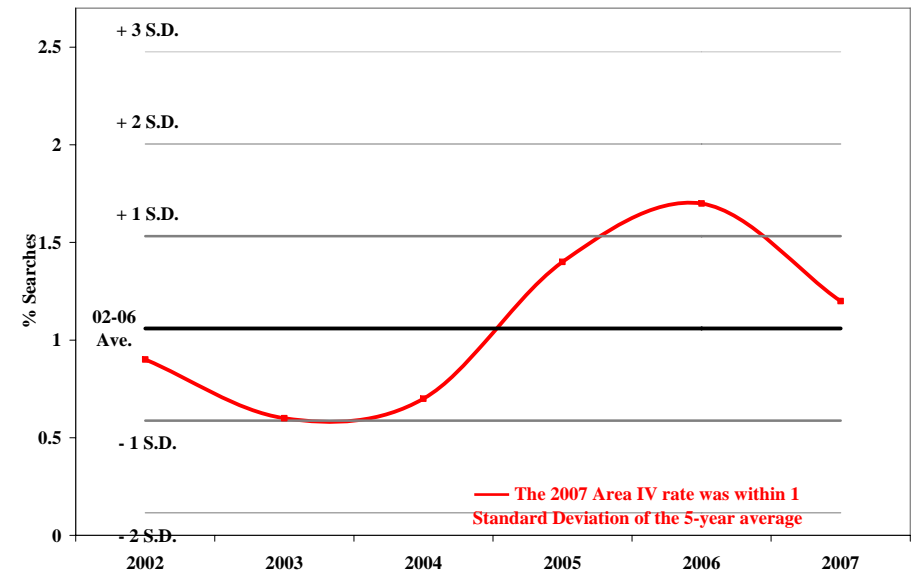
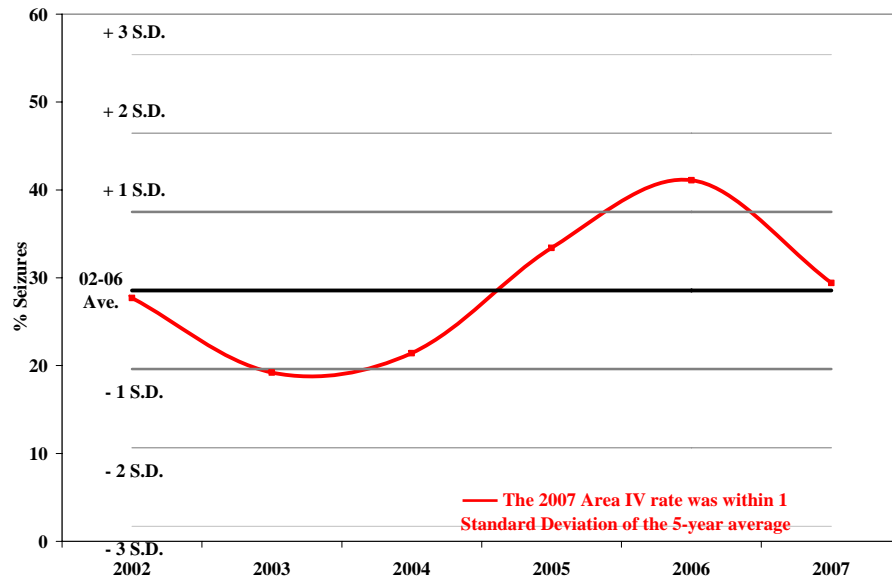


Figure 5.24 reports search rates for Area IV between 2002 and 2007. The 2007 search rate was within one standard deviation of the five-year average for this organizational unit. The six-year trend has fluctuated between a low of 0.6% in 2003 to a high of 1.7% in 2006. The lower search rates in the years prior to 2006 may be the result of potential underreporting documented previously.

Figure 5:25: Percent of Searches Resulting in Seizures – Area IV



Seizure rates for Area IV from 2002 to 2007 are reported in Figure 5.25. The 2007 seizure rate was within one standard deviation of the five-year average for this organizational unit. Across the six years of data collection, the seizure rate fluctuated between a low of 19.2% in 2003 to a high of 41.1% in 2006. Although the seizure rate in 2007 is consistent with the average reported across the previous 5-year period, it is significantly lower from the rate reported in 2006.

Figure 5:26: Percent of Traffic Stops Resulting in Warnings – Area V

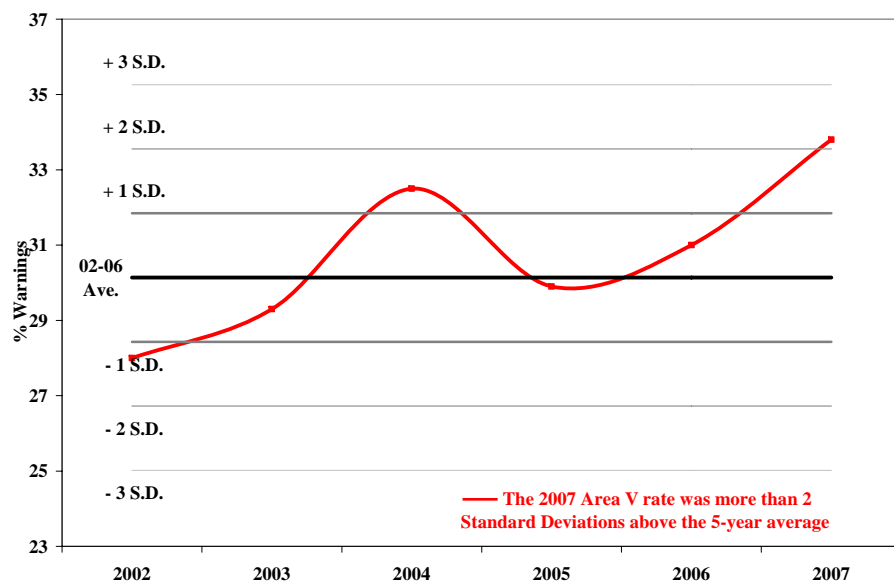
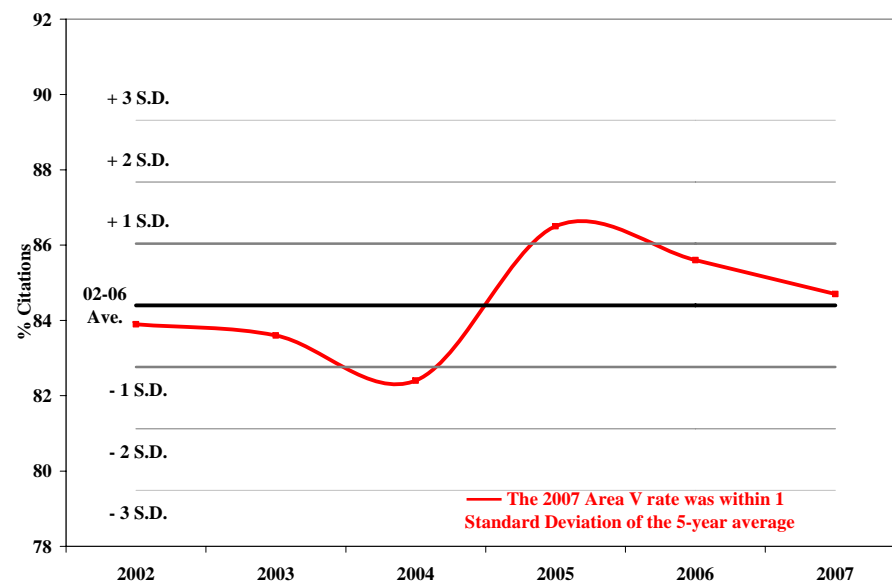


Figure 5.26 details the warning rates for Area V between 2002 and 2007. The 2007 warning rate was more than two standard deviations above the five-year average for this organizational unit. This rate continues an upward trend initially reported in 2006. The lowest warning rate for Area V occurred in 2002.

Figure 5:27: Percent of Traffic Stops Resulting in Citations – Area V



Citation rates for Area V from 2002 to 2007 are reported in Figure 5.27. The 2007 citation rate was within one standard deviation of the five-year average for this organizational unit. Throughout the six years of data collection, the citation rate has been relatively consistent. The 2007 rate approaches the mean of the previous five years.

Figure 5:28: Percent of Traffic Stops Resulting in Arrests – Area V

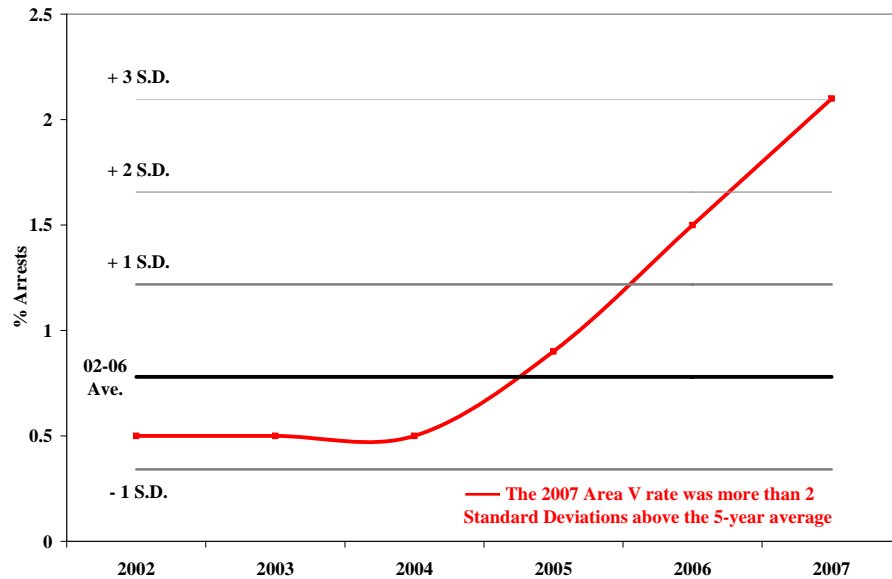
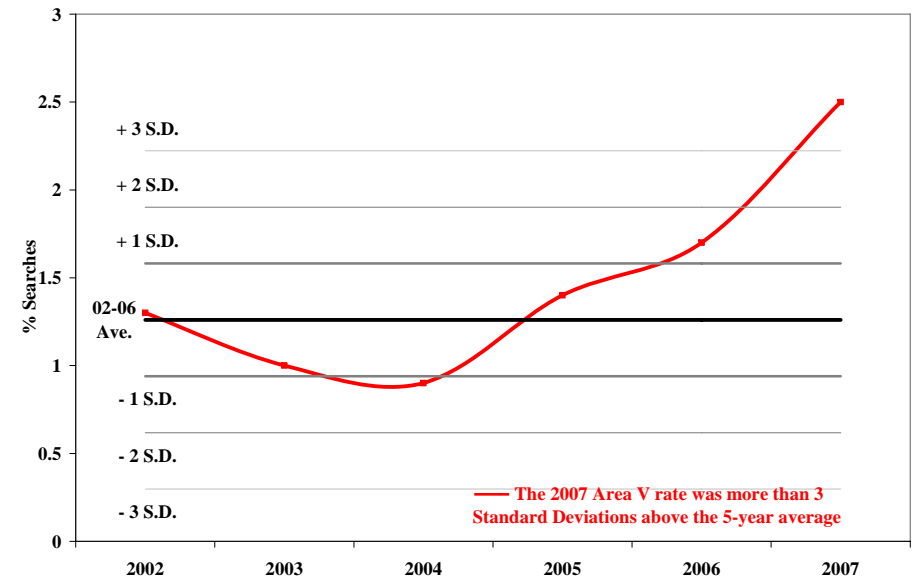


Figure 5.28 demonstrates the arrest rates for Area V between 2002 and 2007. The 2007 arrest rate was more than two standard deviations above the five-year average for this organizational unit. The 2007 arrest rate continued the upward trend demonstrated since 2004. While it is possible that data collection limitations artificially lowered the arrest rate in the initial years, the arrest rates in the past two years are not affected. Therefore, the dramatic upward trend in arrest rates since 2006 is likely a real difference in the trend.

Figure 5:29: Percent of Traffic Stops Resulting in Searches – Area V



Search rates for Area V from 2002 to 2007 are reported in Figure 5.29. The 2007 search rate was more than three standard deviations above the five-year average for this organizational unit. From its lowest rate of 0.9% in 2004, the search rate has demonstrated an upward trend in every year, culminating in the 2007 search rate of 2.5%. Again, part of this upward trend may be due to underreporting of searches prior to 2006, although the upward pattern remains after 2006.

Figure 5:30: Percent of Searches Resulting in Seizures – Area V

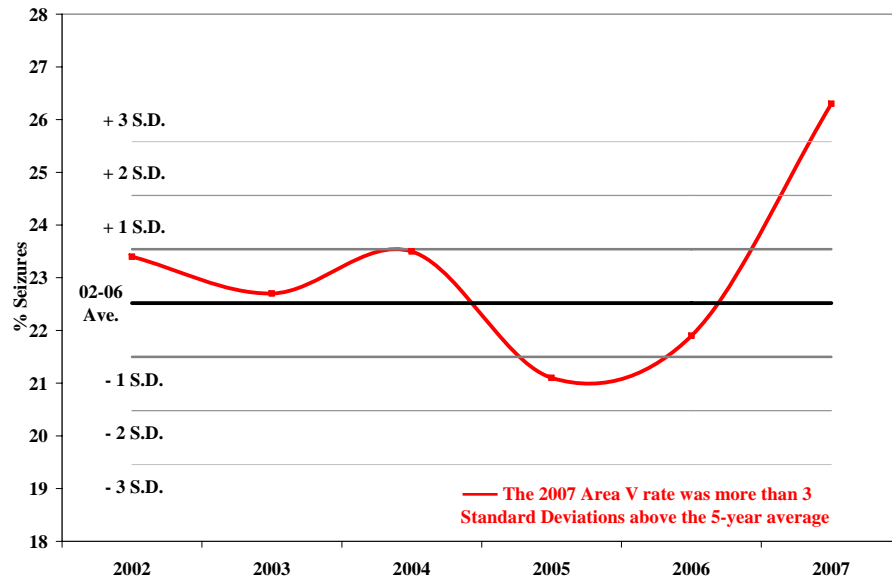


Figure 5.30 reports the seizure rates for Area V from 2002 to 2007. The 2007 seizure rate was more than three standard deviations above the five-year average for this organizational unit. The seizure rate has demonstrated increases since 2005, which was the lowest seizure rate of any year recorded (i.e., 21.1%). The 2007 seizure rate of 26.3% marked the highest level in any of the six years of data collection.

TRAFFIC STOP OUTCOMES BY RACE/ETHNICITY: 2002 – 2007

This section focuses specifically on traffic stop outcome patterns for specific racial/ethnic groups. The warning, citation, arrest, search, and seizure rates for each race/ethnicity are summarized at the department level from 2002 to 2007 in Figures 5.31 – 5.35. Due to the small number of traffic stops that occurred for some racial/ethnic groups (e.g., Native Americans, Asians, etc.), the statistics reported below are limited to comparisons of White, Black, and Hispanic drivers. These traffic stop outcomes are also summarized by racial/ethnic group at the area and troop level from 2003 to 2007 in Tables 5.1 – 5.5. Station level traffic stop outcome rates from 2003 to 2007 are reported for warnings, citations, arrests, and searches in Tables 5.6 & 5.7. These rates are based on a comparison between White and non-White drivers due to small number of cases in some racial/ethnic groups at the station level. Due to the small number of searches, seizure rates are not reported at the station level.

All percentages reported in the following figures and tables are calculated within each racial/ethnic group. For example, the warning rate for White drivers was calculated by taking the total number of warnings issued to White drivers and dividing it by the total number of White traffic stops. In this manner, the percentages reflect only the outcomes that occurred within a specific racial/ethnic group.

Department Level

Figure 5:31: Percent of Traffic Stops Resulting in Warnings by Race/Ethnicity – Department Wide

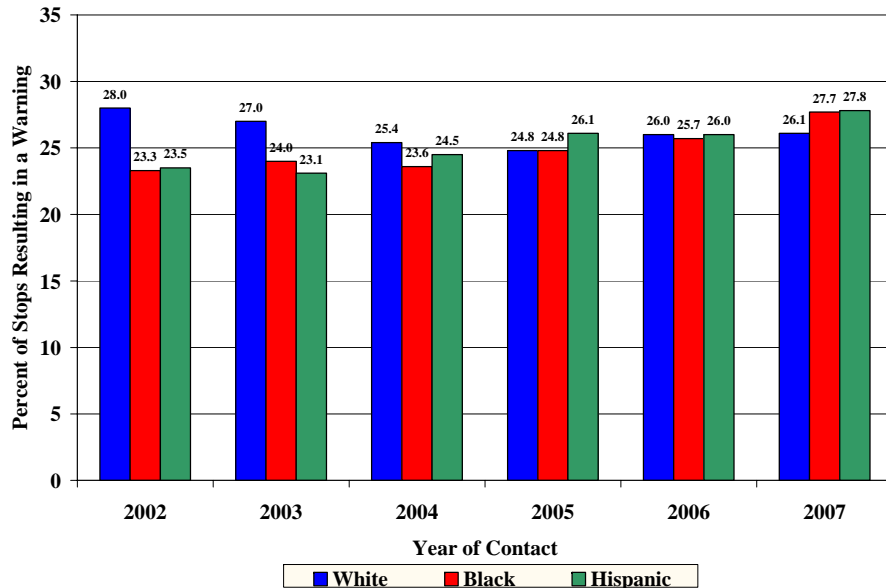
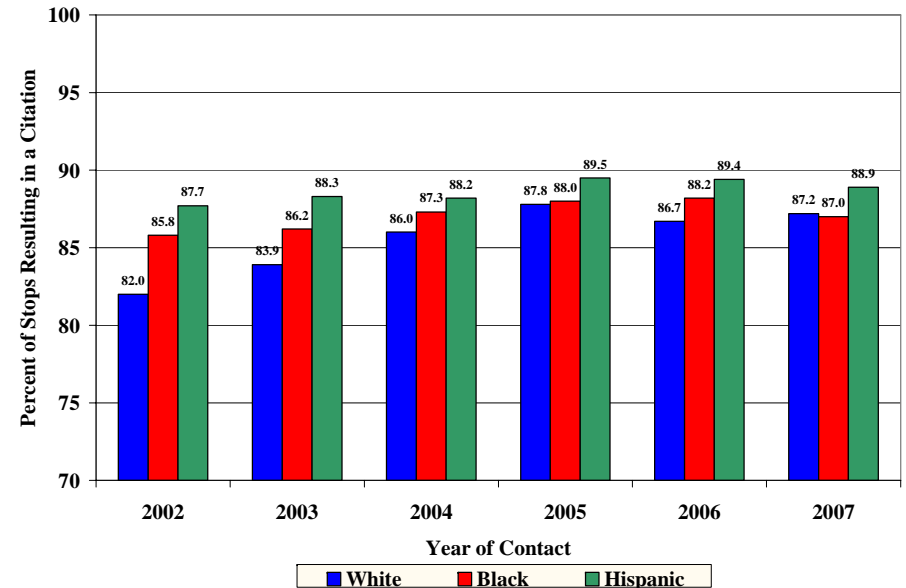


Figure 5.31 reports the department's rates of warnings issued to White, Black, and Hispanic drivers between 2002 and 2007. In 2007, the warning rates for Black and Hispanic drivers were slightly higher than the warning rates for White drivers. Across the six years, the warning rates for White drivers decreased between 2002 and 2005, but increased slightly in the last two years. The warning rates for Black and Hispanic drivers have increased in the past three years.

Figure 5:32: Percent of Traffic Stops Resulting in Citations by Race/Ethnicity – Department Wide



Citation rates for White, Black, and Hispanic drivers throughout the department from 2002 to 2007 are reported in Figure 5.32. In 2007, the citation rate for Hispanic drivers was higher than the rates for White or Black drivers. Throughout the six years of data collection, the citation rates for White drivers increased between 2002 and 2004, but stabilized in the past three years. The citation rates for Black drivers also rose in the initial few years, but dropped slightly in 2007. The citation rates for Hispanic drivers have been steady throughout the six years of data collection.

Figure 5:33: Percent of Traffic Stops Resulting in Arrests by Race/Ethnicity – Department Wide

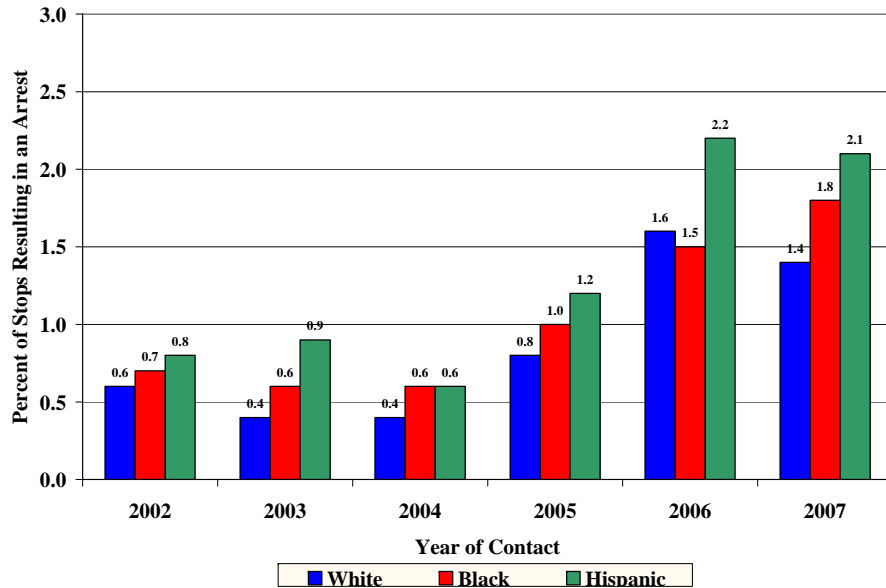
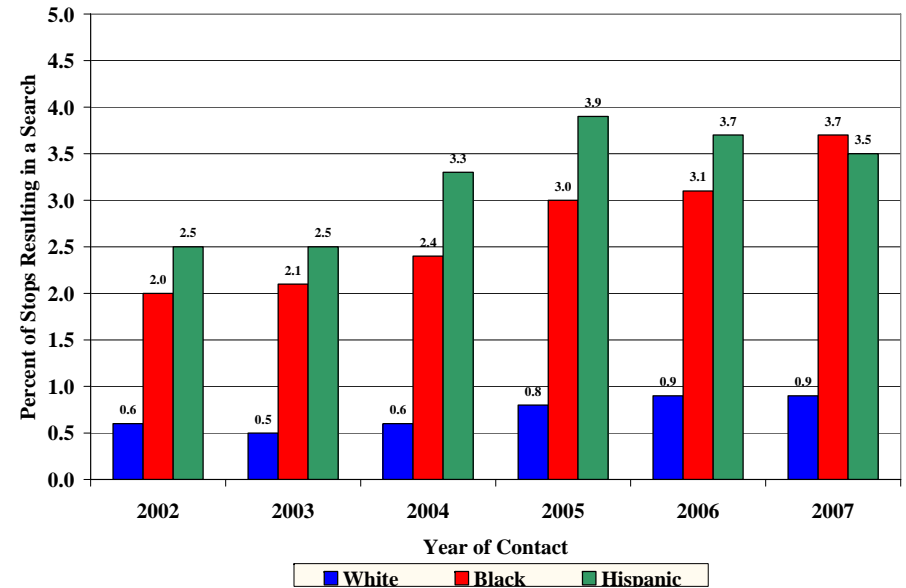


Figure 5.33 reports arrest rates for White, Black, and Hispanic drivers throughout the department from 2002 to 2007. The overall arrest rates prior to 2006 may have been artificially depressed due to underreporting of arrests in those years. This should not influence the differences across racial/ethnic groups, however. In 2007, the arrest rate was highest for Hispanic drivers, followed by Black and White drivers, respectively. The 2007 arrest rate for White and Hispanic drivers is slightly lower than in 2006, while the 2007 arrest rate for Black drivers is higher than 2006. Note that the discrepancies in arrest rates across racial/ethnic groups reported in 2006 persist in 2007.

Figure 5:34: Percent of Traffic Stops Resulting in Searches by Race/Ethnicity – Department Wide



Search rate for White, Black, and Hispanic drivers throughout the department from 2002 to 2007 are reported in Figure 5.34. In 2007, the search rate was highest for Black drivers, followed by Hispanic drivers and White drivers. Throughout the six years of data collection, the search rate of White drivers has been relatively stable, with a slight increase in more recent years. For Black drivers, the search rate indicates an upward trend since 2002. The search rate for Hispanic drivers also increased in early years of data collection, but began to decrease in 2006. Note, however, that the dramatic differences across racial/ethnic groups in terms of arrest rates have persisted across time.

Figure 5:35: Percent of Traffic Stops Resulting in Seizures by Race/Ethnicity – Department Wide

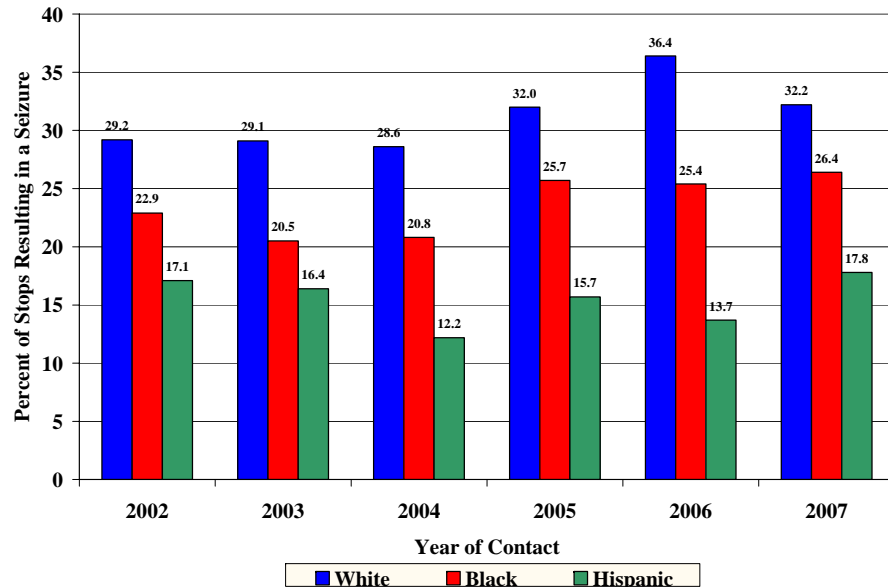


Figure 5.35 documents the seizure rates for White, Black, and Hispanic drivers throughout the department from 2002 to 2007. Again, these seizure rates include discoveries of contraband for searches based on any reason, including mandatory searches. In Section 7, seizure rates based strictly on *discretionary* searches are reported. In 2007, the seizure rate was highest for White driver, followed by Black drivers and Hispanic drivers, respectively. For White drivers, the 2007 seizure rate represents a slight decrease from 2006 seizure rate and more closely matches the seizure rate in 2005. In 2007, the seizure rate for Black drivers was comparable to the previous two years. The seizure rate for Hispanic drivers rose in 2007 compared to 2006.

Areas, Troops, and Stations

Tables 5.1 – 5.5 report rates of warnings, citations, arrests, searches, and seizure for White, Black, and Hispanic drivers at the area and troop levels from 2003 to 2007. For ease of presentation, these tables do not include rates for 2002.⁷

Tables 5.6 & 5.7 summarize the warning, citation, arrest, and search rates for White and non-White drivers at the station level from 2003 to 2007. Table 5.6 reports warning and citation rates at the station level, and Table 5.7 summarizes arrest and search rates at the station level. These rates are based on a comparison between White and non-White drivers due to the small number of cases in some racial/ethnic groups at the station level.

⁷ A five-year average is not necessary for these tables because the standard deviation methodology is not used. These tables simply report basic descriptive statistics regarding the warning, citation, arrest, search, and seizure rate for White, Black, and Hispanic drivers at the area and troop levels across the past five years. Standard deviation analyses for specific organizational units are available from the authors upon request.

Table 5.1: Traffic Stop WARNINGS by Department, Area & Troop – 2003-2007

	<u>White</u>					<u>Black</u>					<u>Hispanic</u>				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
PSP Dept.	27.0	25.4	24.8	26.0	26.1	24.0	23.6	24.8	25.7	27.7	23.1	24.5	26.1	26.0	27.8
AREA I	18.8	17.2	17.9	17.9	16.5	17.7	15.8	18.2	17.4	16.5	19.9	19.2	22.2	21.7	21.3
Troop H	25.2	22.5	23.7	21.3	16.6	26.4	20.5	25.4	22.1	16.4	23.9	20.9	26.4	23.8	18.2
Troop J	29.5	29.3	24.9	26.3	26.5	31.2	36.0	27.9	30.5	32.9	32.8	32.6	28.7	32.8	35.6
Troop L	30.6	29.6	28.1	31.5	32.0	32.2	25.6	28.7	31.8	34.2	27.1	28.8	27.7	31.9	33.7
Troop T	13.7	10.8	12.8	12.4	12.0	14.0	11.6	14.2	13.0	12.4	12.1	9.5	14.6	11.3	10.7
AREA II	20.2	18.7	18.9	21.4	25.9	12.5	14.3	14.9	17.7	27.1	16.6	12.3	15.0	21.0	21.8
Troop F	18.5	16.3	16.8	22.0	26.7	10.1	10.9	9.7	16.2	29.0	13.7	8.2	10.8	19.0	23.6
Troop P	26.2	26.4	26.3	25.4	28.7	22.4	21.9	22.9	20.8	23.6	30.0	17.1	17.5	27.0	22.3
Troop R	18.6	17.2	15.5	16.1	21.4	13.5	18.0	18.5	18.8	25.3	17.0	16.3	17.9	20.2	20.2
AREA III	30.6	26.6	27.6	30.7	29.2	29.5	24.4	27.0	30.3	32.7	21.2	19.6	25.2	31.6	35.6
Troop A	31.1	25.7	27.3	28.0	29.9	42.2	34.0	32.5	32.8	34.0	23.8	19.7	39.0	36.1	26.6
Troop B	23.4	22.4	24.5	23.4	18.7	26.2	23.0	28.7	27.3	23.9	21.4	16.7	28.1	28.7	26.9
Troop G	37.5	31.5	30.8	38.6	37.7	26.9	21.6	22.7	31.9	40.1	20.6	21.1	22.5	31.5	41.3
AREA IV	38.7	36.1	34.6	37.1	37.5	30.4	30.6	32.8	37.6	32.5	19.7	27.0	26.3	32.9	28.0
Troop C	36.4	34.3	34.7	34.5	31.6	23.3	22.1	27.4	26.7	20.7	17.6	19.7	24.2	25.6	20.2
Troop D	43.0	39.0	36.7	42.2	42.5	43.7	45.3	44.7	55.1	46.8	27.6	48.7	35.6	54.8	45.1
Troop E	38.3	35.5	32.2	35.2	40.3	31.5	28.2	25.6	29.9	32.6	22.7	28.9	22.6	30.8	33.3
AREA V	29.9	33.4	30.0	30.5	32.6	28.7	32.2	31.2	35.8	40.2	28.3	29.0	30.9	29.7	35.5
Troop K	31.6	35.0	33.7	39.8	38.7	34.4	37.7	34.1	44.6	45.1	36.2	36.9	34.9	39.1	40.6
Troop M	35.8	42.0	35.8	33.3	37.6	30.5	38.4	37.5	36.5	38.6	31.8	34.5	36.8	34.3	39.5
Troop N	21.7	20.8	20.5	19.9	20.1	19.1	18.5	20.1	18.6	28.9	19.9	16.4	18.6	17.2	26.0

Table 5.2: Traffic Stop CITATIONS by Department, Area & Troop – 2003-2007

	<u>White</u>					<u>Black</u>					<u>Hispanic</u>				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
PSP Dept.	83.9	86.0	87.8	86.7	87.2	86.2	87.3	88.0	88.2	87.0	88.3	88.2	89.5	89.4	88.9
AREA I	88.4	90.5	91.7	92.2	93.3	89.0	91.1	91.3	92.7	93.6	90.3	92.1	91.5	92.8	94.6
Troop H	81.6	85.1	86.7	88.6	91.0	81.0	87.3	86.9	88.7	92.0	86.3	88.8	87.0	88.5	93.7
Troop J	88.1	89.6	92.4	92.0	94.4	86.1	87.8	90.8	92.7	94.2	92.4	93.1	95.0	93.3	95.6
Troop L	82.6	85.5	88.1	88.1	86.7	81.2	85.2	87.3	86.0	80.9	86.0	87.9	90.9	91.4	89.9
Troop T	91.3	94.2	94.3	94.6	95.4	91.1	92.8	92.8	94.4	94.9	92.2	94.7	92.3	95.3	95.8
AREA II	89.3	90.2	90.6	89.4	86.6	93.9	93.9	93.4	92.7	85.5	93.7	95.0	94.8	92.2	89.8
Troop F	90.0	90.8	91.2	88.3	84.4	94.4	94.8	96.1	94.9	82.8	95.2	96.1	96.4	94.9	86.7
Troop P	84.3	85.8	86.0	86.5	84.9	83.9	90.4	87.1	89.0	84.8	87.5	90.2	88.8	84.4	91.1
Troop R	92.5	92.9	94.2	94.3	92.4	96.4	93.3	92.2	91.0	89.5	93.5	94.7	95.0	93.2	92.1
AREA III	82.8	87.4	87.6	83.9	85.5	85.7	90.4	89.2	85.3	81.7	89.3	93.5	88.8	85.4	76.1
Troop A	85.9	89.9	89.9	87.0	87.4	83.9	89.0	91.0	85.6	81.6	90.5	89.4	80.5	84.7	85.5
Troop B	87.3	89.3	89.7	92.1	94.9	86.7	91.6	89.3	91.4	93.6	90.7	96.4	92.1	91.1	91.8
Troop G	75.5	83.3	83.9	74.9	75.7	85.4	89.6	88.4	79.5	71.0	88.5	93.0	88.6	83.8	68.1
AREA IV	75.8	78.5	80.5	78.1	78.4	83.4	83.2	84.1	77.7	82.0	92.0	85.6	88.2	79.9	82.0
Troop C	78.7	79.4	79.4	78.3	79.9	89.1	88.9	86.5	84.0	89.5	94.4	91.7	87.6	86.7	88.9
Troop D	72.1	77.6	79.8	76.3	78.3	72.7	73.1	77.5	66.2	72.6	83.6	65.6	85.6	60.3	63.2
Troop E	75.1	78.4	82.5	79.7	76.2	82.2	85.2	88.9	84.1	82.6	87.5	86.1	92.7	80.8	81.8
AREA V	82.8	81.6	86.2	85.3	84.9	85.5	83.9	86.1	85.0	81.7	85.9	86.2	88.6	87.5	85.8
Troop K	83.0	83.2	83.3	81.6	84.6	83.8	83.9	85.4	84.4	81.5	84.9	87.0	89.9	88.5	86.9
Troop M	77.6	73.3	82.4	82.8	80.6	81.7	76.8	81.8	79.2	80.2	82.0	81.3	84.7	82.6	83.3
Troop N	88.8	91.6	92.8	90.9	90.2	91.6	91.8	92.1	92.4	83.5	91.5	93.9	95.0	94.1	88.3

Table 5.3: Traffic Stop ARRESTS by Department, Area & Troop – 2003-2007

	<u>White</u>					<u>Black</u>					<u>Hispanic</u>				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
PSP Dept.	0.4	0.4	0.8	1.6	1.4	0.6	0.6	1.0	1.5	1.8	0.9	0.6	1.2	2.2	2.1
AREA I	0.3	0.4	0.6	1.5	1.2	0.6	0.5	0.9	1.2	1.4	0.9	0.6	1.5	2.6	2.3
Troop H	0.9	0.9	1.2	2.1	1.7	1.3	1.0	1.2	1.9	2.9	2.0	1.1	2.1	3.8	2.9
Troop J	0.8	0.7	1.9	3.5	3.6	1.2	1.1	2.7	2.8	4.2	0.9	0.9	3.4	5.7	5.4
Troop L	0.5	0.7	0.8	1.6	1.3	1.1	0.5	0.8	1.7	0.4	1.2	0.5	1.3	1.4	2.0
Troop T	0.1	0.0	0.1	0.8	0.5	0.4	0.4	0.5	0.7	0.5	0.5	0.2	0.2	0.5	0.3
AREA II	0.2	0.3	0.6	0.9	1.0	0.2	0.7	0.7	1.6	1.5	0.8	0.7	0.6	1.2	2.1
Troop F	0.1	0.1	0.4	1.0	1.3	0.2	0.2	0.6	1.8	1.2	0.8	0.2	0.4	1.3	2.4
Troop P	0.2	0.6	0.6	0.8	0.8	0.6	1.6	0.6	2.3	3.4	0.0	6.1	2.5	0.8	0.9
Troop R	0.2	0.4	0.8	1.0	0.8	0.2	1.2	0.8	1.2	1.3	1.1	0.0	0.3	1.4	2.1
AREA III	0.7	0.7	0.9	1.7	1.6	0.7	0.5	1.1	1.8	1.5	0.4	0.2	1.3	1.8	1.4
Troop A	0.5	0.5	1.1	2.3	1.9	0.5	0.6	1.2	3.4	1.6	0.0	0.0	0.0	6.9	2.4
Troop B	0.9	0.9	0.9	1.5	1.7	0.7	0.5	1.4	1.9	2.4	0.0	0.0	1.8	1.0	0.7
Troop G	0.7	0.6	0.9	1.3	1.2	0.7	0.4	0.7	1.0	0.7	0.6	0.4	1.2	0.9	1.2
AREA IV	0.5	0.4	1.0	2.0	1.5	0.5	0.4	1.1	2.1	1.3	0.4	0.2	0.6	2.8	1.5
Troop C	0.3	0.3	0.5	1.1	1.0	0.3	0.1	0.3	1.1	0.6	0.0	0.0	0.2	1.1	0.6
Troop D	0.5	0.5	1.6	3.2	1.9	1.0	0.9	2.7	4.0	2.5	0.7	0.0	2.3	6.0	2.7
Troop E	0.6	0.4	1.0	1.8	1.8	0.3	0.4	0.4	0.9	0.5	1.7	1.0	0.0	4.2	3.1
AREA V	0.5	0.5	0.9	1.5	2.0	0.9	0.8	1.3	1.8	2.9	0.9	0.6	1.0	1.8	2.1
Troop K	1.0	0.9	1.2	2.0	2.5	1.3	1.1	2.1	2.0	3.6	2.3	0.7	1.0	3.1	2.6
Troop M	0.4	0.3	0.7	1.6	2.1	1.0	0.9	1.1	2.3	2.1	1.0	0.4	1.2	2.1	2.1
Troop N	0.2	0.4	0.8	1.0	1.5	0.2	0.5	0.4	0.8	1.6	0.1	0.8	0.5	0.6	1.8

Table 5.4: Traffic Stop SEARCHES by Department, Area, & Troop – 2003-2007

	<u>White</u>					<u>Black</u>					<u>Hispanic</u>				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
PSP Dept.	0.5	0.6	0.8	0.9	0.9	2.1	2.4	3.0	3.1	3.7	2.5	3.3	3.9	3.7	3.5
AREA I	0.5	0.6	0.8	0.7	0.6	1.3	1.7	2.0	1.9	1.5	1.8	2.4	3.4	3.4	2.1
Troop H	0.9	1.2	1.5	1.3	0.9	2.9	3.8	3.5	4.1	2.7	2.6	3.5	4.5	4.9	2.7
Troop J	1.3	2.0	2.6	2.7	2.6	2.5	3.5	7.0	5.3	4.0	2.8	4.6	7.1	7.1	4.6
Troop L	0.7	0.4	0.4	0.6	0.4	3.6	3.0	2.6	3.0	2.3	2.5	1.8	1.4	1.7	1.9
Troop T	0.2	0.2	0.2	0.1	0.1	0.8	0.9	0.9	0.7	0.6	1.1	1.2	1.5	1.0	0.3
AREA II	0.4	0.4	0.7	0.8	0.9	0.9	1.7	2.5	3.4	3.6	1.1	1.8	3.0	2.9	3.9
Troop F	0.3	0.2	0.4	0.5	0.8	0.5	1.3	1.0	3.0	3.1	0.5	1.0	0.8	0.8	2.1
Troop P	0.4	0.7	0.9	0.6	0.8	2.3	5.9	4.1	3.5	2.8	3.8	3.7	5.0	5.7	3.6
Troop R	0.6	0.5	1.1	1.4	1.3	1.2	1.1	3.8	4.0	4.5	1.1	2.5	4.3	3.4	5.5
AREA III	0.5	0.6	0.7	0.8	0.9	2.3	2.8	3.5	3.7	5.1	2.3	3.7	3.5	3.2	8.3
Troop A	0.4	0.6	1.1	1.2	1.3	1.4	3.8	4.4	5.5	6.2	1.6	3.0	12.2	8.3	5.6
Troop B	0.6	0.6	0.7	0.8	0.9	3.3	3.4	4.6	3.2	4.9	1.4	3.6	1.8	3.0	2.2
Troop G	0.5	0.4	0.5	0.5	0.5	1.3	1.5	1.9	3.4	4.7	2.8	3.9	3.1	2.1	11.1
AREA IV	0.4	0.6	1.1	1.4	1.0	1.9	2.7	4.6	4.7	3.8	2.1	4.3	5.1	5.2	4.1
Troop C	0.3	0.3	0.6	0.5	0.4	2.0	1.8	3.7	2.6	1.7	1.7	3.2	5.4	4.2	2.6
Troop D	0.5	1.1	2.3	3.2	2.0	2.8	4.8	8.9	8.6	7.4	6.7	9.4	8.0	10.6	9.3
Troop E	0.6	0.3	0.5	0.7	0.7	0.4	1.8	0.4	2.4	2.2	0.6	2.6	1.2	2.8	3.1
AREA V	0.7	0.7	0.8	1.0	1.6	3.3	2.1	3.1	4.2	6.1	2.6	2.1	4.0	4.0	4.1
Troop K	1.4	1.6	1.3	1.6	2.6	5.3	3.0	3.3	5.2	7.0	7.0	4.4	3.6	6.8	5.8
Troop M	0.5	0.5	1.0	0.9	1.5	2.7	2.2	3.4	3.9	4.4	2.3	2.2	5.3	4.7	4.0
Troop N	0.3	0.3	0.5	0.6	0.8	1.1	0.9	2.3	2.6	5.5	0.9	0.8	1.8	1.3	3.1

Table 5.5: Traffic Stop SEIZURES by Department, Area & Troop – 2003-2007

	<u>White</u>					<u>Black</u>					<u>Hispanic</u>				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
PSP Dept.	29.1	28.6	30.9	36.4	32.2	20.5	20.8	25.7	25.4	26.4	16.4	12.2	15.7	13.7	17.8
AREA I	33.8	30.6	31.2	32.6	32.0	23.4	25.4	32.3	24.1	28.4	18.9	15.3	22.7	13.9	23.7
Troop H	35.6	35.5	31.2	33.6	37.6	13.9	20.3	22.8	18.9	23.7	0.0	6.5	17.5	6.3	7.7
Troop J	34.3	22.0	26.7	33.3	28.7	9.5	25.0	35.5	22.4	34.7	26.3	27.8	30.3	23.0	33.3
Troop L	30.5	25.0	41.9	16.7	15.2	13.6	29.4	18.8	25.0	0.0	37.5	10.0	11.1	0.0	0.0
Troop T	32.7	29.9	36.6	36.8	36.7	36.4	30.0	41.7	34.6	35.4	13.6	9.5	15.4	5.3	50.0
AREA II	22.1	27.9	23.6	31.2	33.8	6.7	16.7	18.8	25.0	32.3	0.0	6.7	5.3	10.5	21.9
Troop F	25.0	17.6	20.4	27.9	39.3	20.0	15.4	16.7	28.6	35.7	0.0	0.0	0.0	50.0	14.3
Troop P	15.6	31.4	25.0	18.6	29.5	0.0	27.3	42.9	50.0	20.0	0.0	33.3	0.0	0.0	0.0
Troop R	23.5	31.8	24.7	38.5	30.1	0.0	0.0	10.5	14.3	31.0	0.0	0.0	7.7	10.0	28.6
AREA III	32.5	23.5	27.3	38.5	35.3	21.3	11.8	21.2	27.7	21.1	0.0	0.0	23.5	12.5	7.3
Troop A	26.6	22.1	23.0	39.7	40.8	11.1	11.1	5.3	40.6	28.9	0.0	0.0	40.0	16.7	14.3
Troop B	27.6	13.2	26.2	36.7	28.9	15.7	7.0	26.7	27.0	15.0	0.0	0.0	0.0	0.0	33.3
Troop G	41.7	40.8	36.2	38.1	32.0	46.7	26.7	20.0	18.6	22.2	0.0	0.0	20.0	14.3	4.4
AREA IV	21.8	27.3	38.7	45.3	34.1	16.9	15.9	27.0	38.9	17.6	4.3	2.0	4.8	12.0	14.3
Troop C	17.9	14.8	18.5	31.6	22.2	15.2	16.0	15.4	34.5	11.8	0.0	0.0	3.8	17.4	7.7
Troop D	22.1	30.2	44.5	50.8	38.0	21.7	18.2	33.8	43.0	21.0	11.1	4.8	7.1	9.5	11.8
Troop E	25.3	31.5	37.3	34.4	31.0	0.0	7.7	0.0	25.0	8.3	0.0	0.0	0.0	0.0	40.0
AREA V	29.2	26.8	27.0	27.7	27.0	16.9	20.6	19.4	18.4	28.3	17.2	19.7	12.5	14.8	18.1
Troop K	36.0	27.7	35.1	30.8	32.0	21.8	16.1	25.5	18.8	29.4	13.3	30.0	14.3	11.6	13.5
Troop M	21.9	27.4	22.1	23.5	20.6	5.1	29.7	11.3	10.2	19.5	23.1	18.4	9.0	18.3	15.2
Troop N	15.2	22.2	26.7	27.0	23.2	11.8	14.3	23.3	29.7	31.6	12.5	0.0	29.4	7.1	29.7

* Five or fewer searches; interpret percentage with caution.

Table 5.6: Traffic Stop Warnings & Citations by Station for White & Non-White Drivers: 2003-2007 (p. 1 of 4)

	<u>Warnings</u>										<u>Citations</u>									
	<u>2003</u> White	<u>2003</u> Non-White	<u>2004</u> White	<u>2004</u> Non-White	<u>2005</u> White	<u>2005</u> Non-White	<u>2006</u> White	<u>2006</u> Non-White	<u>2007</u> White	<u>2007</u> Non-White	<u>2003</u> White	<u>2003</u> Non-White	<u>2004</u> White	<u>2004</u> Non-White	<u>2005</u> White	<u>2005</u> Non-White	<u>2006</u> White	<u>2006</u> Non-White	<u>2007</u> White	<u>2007</u> Non-White
AREA I																				
Troop H																				
Carlisle	17.0	17.6	16.4	13.6	20.1	21.4	19.6	21.1	10.8	12.3	90.1	89.4	91.6	92.4	92.3	93.2	92.8	92.1	94.8	94.4
Chambers.	36.7	34.1	29.2	25.7	23.4	27.4	19.6	21.7	23.4	25.3	70.6	75.6	80.9	87.5	86.1	86.4	89.7	89.4	90.1	92.4
Gettysburg	44.5	43.5	47.0	43.0	39.2	31.9	37.0	34.9	31.0	23.3	61.7	69.9	58.5	66.7	66.8	77.6	69.3	77.7	74.8	86.3
Harrisburg	18.9	21.7	12.5	13.8	16.2	21.9	19.9	25.6	12.6	18.1	88.1	87.2	93.2	94.3	94.0	87.2	93.1	86.8	95.2	91.3
Lykens	36.4	19.4	31.9	43.8	30.4	35.5	37.4	51.7	30.8	20.0	81.3	83.9	88.3	84.4	87.0	83.9	77.7	79.3	76.9	82.2
Newport	14.2	12.0	11.9	9.6	17.0	19.6	16.5	12.7	11.6	8.7	89.5	91.2	93.5	93.4	91.5	90.2	90.6	92.9	95.0	96.2
York	19.6	20.5	17.4	17.1	25.3	24.0	17.0	15.5	12.5	10.8	84.8	85.4	87.2	88.5	84.8	87.6	90.1	91.4	93.6	94.6
Troop J																				
Avondale	38.3	36.6	33.8	37.8	36.6	35.0	42.2	39.6	42.3	43.7	90.6	91.5	91.5	91.1	92.2	93.3	89.4	93.5	94.7	95.5
Embreeville	31.6	31.9	31.9	35.5	23.7	31.5	22.1	24.7	21.1	27.5	84.1	85.4	87.8	87.8	94.9	91.7	95.6	97.4	96.7	98.3
Ephrata	16.4	14.3	18.0	17.4	22.5	16.8	17.6	22.1	19.5	21.3	92.4	95.8	94.1	96.2	90.3	98.5	95.8	95.3	96.4	97.5
Lancaster	23.6	22.5	26.3	31.8	17.4	18.6	20.3	29.0	19.1	24.6	86.8	87.3	87.1	88.2	91.4	91.3	89.7	87.4	90.8	88.0
Troop L																				
Frackville	36.9	24.3	39.9	26.8	36.6	37.0	30.4	25.6	29.0	25.2	77.6	88.6	83.3	91.5	83.6	87.0	88.9	96.2	88.9	94.1
Hamburg	33.8	24.5	30.6	23.5	35.5	34.4	26.3	21.8	32.6	26.2	89.9	92.9	89.0	92.4	91.8	94.7	92.4	95.7	89.3	95.0
Jonestown	25.1	26.2	23.5	24.9	19.3	19.2	29.9	31.4	31.6	34.4	82.3	80.8	85.0	84.8	87.9	89.0	86.4	82.6	82.5	77.9
Reading	24.8	31.5	24.8	26.7	27.0	30.8	35.1	44.2	33.6	41.3	83.8	82.0	88.1	86.6	86.4	82.9	86.5	88.4	86.8	85.0
Sch. Haven	40.0	50.9	37.1	32.7	31.9	34.8	36.4	33.3	32.1	42.6	80.3	83.6	81.5	86.7	88.1	86.1	87.0	91.1	89.8	81.5
Troop T																				
Bowmans.	8.1	8.2	5.5	6.7	8.9	11.9	7.9	8.2	6.4	8.1	96.0	96.6	98.0	97.2	98.6	96.8	96.6	97.0	98.6	98.6
Everett	12.3	10.2	12.9	11.0	12.0	10.6	10.2	8.1	8.5	7.8	93.3	94.7	92.9	94.2	93.5	93.9	93.9	95.4	95.2	96.1
Gibsonia	26.6	24.3	13.2	14.6	15.2	16.7	15.1	13.6	16.8	14.9	82.2	83.6	94.6	92.5	93.1	91.7	91.9	92.3	92.1	94.0
Highspire	70.6	70.0	0.0	100.0	0.0	16.7	0.0	0.0	57.1	50.0	52.9	60.0	50.0	0.0	100.0	83.3	100.0	100.0	52.4	50.0
K. of Prussia	19.7	18.3	12.2	12.6	13.7	16.2	8.6	9.4	11.2	12.1	87.5	87.7	92.2	91.8	90.9	89.2	94.6	93.9	94.6	94.6
New Stanton	13.3	14.6	15.3	13.1	16.0	16.6	10.7	10.3	12.2	10.9	92.2	91.5	91.6	93.0	93.3	91.7	94.9	95.2	95.4	95.5
Newville	11.7	11.1	10.5	8.9	17.5	16.2	27.7	28.2	21.6	18.9	92.3	92.6	93.2	94.1	94.9	95.3	94.9	95.4	96.2	96.6
Pocono	11.7	11.9	10.2	10.3	10.8	11.2	14.1	14.2	10.4	9.4	91.3	90.7	94.7	94.5	94.7	95.2	93.4	94.0	94.0	94.8
Somerset (T)	7.1	8.1	4.3	4.9	4.8	7.4	5.3	6.2	5.1	7.8	94.7	93.5	97.5	96.4	96.5	95.0	96.7	95.7	96.5	94.5

Table 5.6: Traffic Stop Warnings & Citations by Station for White & Non-White Drivers: 2003-2007 (p. 2 of 4)

	<u>2003</u>		<u>2004</u>		<u>Warnings</u> <u>2005</u>		<u>2006</u>		<u>2007</u>		<u>2003</u>		<u>2004</u>		<u>Citations</u> <u>2005</u>		<u>2006</u>		<u>2007</u>	
	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White
AREA II																				
Troop F																				
Coudersport	52.0	53.6	41.2	29.7	38.5	40.9	38.6	43.2	51.1	54.3	65.5	67.9	70.3	75.7	72.4	68.2	74.8	86.4	63.7	65.7
Emporium	33.9	35.7	25.1	33.3	23.8	37.5	26.0	23.9	26.1	25.5	82.3	78.6	84.4	75.0	84.7	100.0	86.7	89.4	87.2	88.7
Lamar	11.0	6.2	12.1	7.7	9.0	7.3	12.8	13.4	25.5	20.2	92.8	96.2	93.0	96.7	96.1	97.7	95.5	97.1	84.0	90.3
Mansfield	24.2	18.2	34.6	32.5	29.7	21.6	33.4	29.2	43.3	52.1	86.3	89.8	78.5	85.5	84.3	89.2	83.0	86.7	72.1	57.1
Milton	9.5	7.7	7.1	3.9	12.7	9.6	15.4	13.8	15.4	21.6	97.6	98.3	98.8	99.6	97.4	99.0	96.8	99.2	94.0	88.0
Montours.	10.1	13.5	8.8	10.6	8.2	4.8	9.3	14.9	14.2	29.0	94.8	93.5	95.2	94.7	95.3	97.8	93.1	94.0	91.4	80.6
Selinsgrove	6.2	4.8	7.2	3.7	5.4	6.1	11.2	8.5	19.7	17.0	97.4	98.3	96.3	97.9	96.9	95.8	91.5	92.5	91.6	92.1
Stonington	42.3	43.9	41.2	40.7	45.9	40.9	38.9	40.0	31.7	31.4	79.0	75.7	80.2	88.9	82.6	86.4	83.5	94.5	86.0	91.4
Troop P																				
Laporte	34.9	37.9	30.7	22.2	25.6	25.0	27.6	14.8	27.3	0.0	80.3	69.0	87.1	88.9	84.6	90.6	84.1	92.6	83.4	94.7
Shickshinny	24.6	16.7	25.6	16.9	27.1	34.8	22.4	11.6	24.0	15.4	85.2	94.4	82.6	89.8	83.0	87.0	86.5	90.7	91.2	93.8
Towanda	34.3	25.0	23.8	39.3	35.2	31.7	37.7	35.1	36.8	29.5	78.4	83.3	89.3	67.9	83.5	81.0	79.7	80.7	78.1	81.8
Tunkhan.	30.1	48.5	49.4	45.9	31.6	18.8	26.8	17.8	30.6	18.0	78.8	72.7	68.7	73.0	82.3	84.4	87.9	91.1	87.9	90.0
Wyoming	13.3	16.0	12.6	13.2	9.2	8.6	7.7	19.4	11.1	19.9	93.9	90.3	94.1	95.8	95.8	94.1	97.0	88.8	96.1	90.1
Troop R																				
Blooming G.	19.6	12.5	19.3	19.0	17.9	21.8	22.6	23.8	31.9	28.4	93.2	96.6	95.4	96.3	96.5	95.9	94.7	96.2	87.9	91.3
Dunmore	17.4	14.1	16.3	16.1	16.3	13.8	18.1	21.1	20.5	18.3	92.7	94.4	91.1	91.2	93.7	94.3	91.8	89.0	92.8	91.5
Gibson	28.1	14.6	19.3	13.8	15.3	15.4	9.8	7.3	14.4	15.0	92.4	97.0	93.5	96.8	94.0	94.6	94.9	96.2	94.5	94.3
Honesdale	14.6	11.1	14.1	9.1	12.2	11.4	11.1	8.9	15.8	15.9	91.7	94.5	91.8	94.5	92.8	92.7	97.1	95.9	96.2	92.0
AREA III																				
Troop A																				
Ebensburg	20.6	16.3	18.8	16.5	19.7	16.9	18.3	18.2	23.4	12.1	86.9	90.4	87.3	90.6	91.6	95.3	91.2	92.0	85.8	94.0
Greensburg	30.7	31.7	26.3	40.0	25.0	34.1	25.7	40.4	38.9	44.9	92.1	90.0	95.4	92.1	92.0	87.1	90.8	82.0	87.8	78.0
Indiana	29.8	33.1	22.9	21.6	28.5	20.9	28.2	29.1	27.5	30.5	87.5	88.2	91.3	93.1	90.0	89.9	85.8	87.3	89.1	85.0
Kiski Valley	43.3	55.1	30.9	39.2	35.2	44.4	34.7	36.9	26.3	26.5	77.3	79.3	88.0	86.2	89.2	93.8	83.5	86.6	89.0	85.2
Somerset (A)	36.5	35.7	34.5	30.2	33.7	19.6	46.5	57.1	33.5	44.7	76.5	73.8	82.1	81.1	84.1	93.5	74.3	59.5	85.2	65.0

Table 5.6: Traffic Stop Warnings & Citations by Station for White & Non-White Drivers: 2003-2007 (p. 3 of 4)

	<u>2003</u>		<u>2004</u>		<u>Warnings</u> <u>2005</u>		<u>2006</u>		<u>2007</u>		<u>2003</u>		<u>2004</u>		<u>Citations</u> <u>2005</u>		<u>2006</u>		<u>2007</u>	
	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White
AREA III cont.																				
Troop B																				
Belle Vernon	21.1	18.4	22.7	17.2	19.9	17.5	21.1	11.4	22.2	27.5	91.2	93.6	93.7	95.1	94.9	97.3	94.4	94.6	94.8	93.3
Findlay	12.9	21.2	14.4	17.6	26.1	31.6	21.4	25.9	14.2	15.8	95.6	93.1	95.0	95.4	91.1	90.7	94.4	93.2	97.9	97.0
Uniontown	41.2	42.8	34.1	31.8	31.3	38.7	20.7	29.7	18.7	33.8	70.4	67.1	76.0	83.1	81.5	77.1	89.4	87.8	92.2	88.2
Washington	21.3	21.9	16.3	16.3	11.9	18.0	16.7	19.8	14.0	15.4	86.4	86.4	91.0	93.9	93.5	92.7	92.8	91.6	96.0	96.0
Waynesburg	34.0	24.5	28.9	23.9	37.3	28.0	50.7	57.1	56.9	60.4	84.0	92.3	92.6	95.0	93.1	93.0	90.4	92.9	87.6	87.7
Troop G																				
Bedford	37.6	21.0	35.5	17.2	45.3	28.4	49.6	43.2	47.3	44.9	71.4	87.8	74.9	87.4	74.4	86.0	67.9	76.5	67.0	67.9
Hollidays.	45.2	38.3	36.0	30.3	33.0	32.9	56.3	57.1	42.0	57.4	74.2	84.5	83.6	85.5	80.7	74.7	62.7	57.9	76.9	52.8
Huntingdon	37.7	42.0	30.8	32.4	29.2	37.5	45.9	55.6	54.6	69.6	76.3	84.0	85.1	80.3	86.2	85.7	73.6	73.3	62.4	41.8
Lewistown	37.2	28.9	34.7	29.5	32.4	27.7	49.3	43.7	37.8	36.5	72.5	81.8	77.2	87.7	82.4	89.6	63.1	73.0	77.6	82.4
McConnells.	37.7	20.7	16.1	11.6	14.6	7.8	24.2	14.8	35.1	21.7	74.5	89.7	91.9	96.9	92.8	98.0	84.7	92.0	76.7	87.6
Philipsburg	50.5	38.0	38.5	21.1	30.9	16.0	41.2	32.1	47.8	39.7	70.5	81.4	86.2	94.0	87.8	95.4	80.0	84.5	71.6	81.0
Rockview	25.7	17.8	24.6	15.9	26.6	21.7	18.8	13.9	19.0	29.5	83.2	88.6	86.8	92.0	86.2	90.4	86.9	91.0	85.1	75.0
AREA IV																				
Troop C																				
Clarion	41.6	22.7	41.3	28.9	42.0	34.9	41.4	32.6	34.8	22.7	75.3	88.9	72.6	83.7	75.6	81.9	72.7	80.6	77.3	87.7
Clearfield	27.4	18.4	20.5	11.1	17.5	12.7	19.0	14.5	18.9	10.4	86.6	94.0	93.8	97.3	94.8	96.8	90.2	93.6	90.1	95.5
Dubois	23.8	11.4	27.0	13.1	27.4	19.8	28.7	20.2	22.3	12.6	85.0	94.5	83.4	94.3	83.2	88.5	82.2	87.1	85.6	93.7
Kane	36.2	34.4	34.6	17.1	29.1	24.6	35.4	20.5	40.7	30.1	81.9	90.2	79.7	93.3	82.2	86.0	78.6	87.2	69.3	74.2
Punxsutaw.	38.0	24.9	38.7	13.0	32.2	13.9	29.5	19.0	26.8	22.8	76.1	88.3	75.7	94.4	80.3	91.7	82.8	87.9	85.4	85.5
Ridgway	39.9	34.5	29.3	13.7	35.8	27.8	38.2	39.5	34.1	30.5	79.7	82.7	84.6	94.6	78.9	83.5	74.7	74.4	78.9	82.8
Tionesta	57.9	42.4	60.4	38.3	59.1	34.3	57.6	45.0	53.4	37.0	59.0	75.8	54.1	72.8	58.1	68.6	61.0	75.0	63.5	82.0
Troop D																				
Beaver	52.7	53.0	44.2	48.9	37.2	44.0	50.4	55.2	46.7	53.2	61.7	60.3	72.5	68.6	78.6	73.3	70.6	64.7	72.2	68.4
Butler	39.6	30.6	30.5	24.9	29.0	25.4	33.0	30.4	48.7	34.4	75.2	82.9	84.0	86.4	85.9	86.0	85.5	83.3	80.7	86.3
Kittanning	44.3	38.5	42.3	37.8	42.1	47.8	44.0	47.5	42.0	44.6	70.4	80.4	75.1	79.6	74.8	74.1	69.6	75.3	74.1	71.5
Mercer	37.2	30.6	44.0	49.3	39.7	41.9	53.4	64.2	46.7	51.8	80.0	82.5	77.2	67.3	83.2	83.3	71.3	52.8	74.2	62.7
New Castle	42.9	55.9	38.1	44.8	39.1	46.9	35.3	43.7	30.0	26.1	72.4	69.5	76.0	76.6	73.7	76.9	82.4	84.1	87.0	86.9

Table 5.6: Traffic Stop Warnings & Citations by Station for White & Non-White Drivers: 2003-2007 (p. 4 of 4)

	<u>Warnings</u>										<u>Citations</u>									
	<u>2003</u> White	<u>2003</u> Non-White	<u>2004</u> White	<u>2004</u> Non-White	<u>2005</u> White	<u>2005</u> Non-White	<u>2006</u> White	<u>2006</u> Non-White	<u>2007</u> White	<u>2007</u> Non-White	<u>2003</u> White	<u>2003</u> Non-White	<u>2004</u> White	<u>2004</u> Non-White	<u>2005</u> White	<u>2005</u> Non-White	<u>2006</u> White	<u>2006</u> Non-White	<u>2007</u> White	<u>2007</u> Non-White
AREA IV cont.																				
Troop E																				
Corry	45.4	55.9	42.5	31.4	42.2	60.0	43.0	29.4	34.1	30.0	70.5	70.6	71.0	82.9	71.4	46.7	71.0	82.4	74.6	80.0
Erie	27.1	20.1	26.8	23.9	36.7	32.3	34.1	35.6	42.9	39.8	81.5	87.3	83.7	85.0	85.6	88.5	81.6	74.0	78.5	82.0
Franklin	61.8	64.3	58.1	41.8	53.5	27.0	57.8	38.3	67.6	50.0	59.0	48.2	63.6	74.5	66.3	87.2	65.1	81.4	56.3	64.2
Girard	29.1	26.0	28.3	23.4	30.5	27.8	27.7	21.4	34.4	23.2	83.9	86.6	87.3	90.4	84.0	90.5	85.8	88.7	80.8	87.9
Meadville	49.5	33.5	33.5	20.3	20.4	13.7	25.6	21.8	29.7	22.5	65.2	78.2	77.2	88.9	89.0	92.9	86.5	93.3	82.8	88.3
Warren	32.0	37.5	29.5	26.1	30.4	16.7	39.9	56.5	39.0	28.9	79.1	62.5	80.8	87.0	79.3	83.3	72.6	65.2	76.8	78.9
AREA V																				
Troop K																				
Media	29.3	31.4	36.5	39.7	40.1	37.1	40.7	38.6	45.3	51.6	80.6	82.3	75.0	77.6	73.0	80.3	78.2	81.4	77.4	72.0
Philadelp.	26.9	32.7	29.2	30.5	25.0	30.1	37.3	43.5	32.0	38.8	88.5	85.9	87.4	89.7	87.8	87.7	85.0	86.7	89.0	87.2
Skippack	37.2	38.7	36.6	39.9	36.2	35.9	42.4	43.0	45.4	50.0	82.0	86.5	87.4	89.3	88.2	90.3	80.5	90.1	83.4	86.0
Troop M																				
Belfast	29.8	28.8	32.5	34.5	25.4	31.5	24.8	24.0	21.5	24.9	80.1	82.5	78.4	80.8	86.7	83.3	86.5	86.9	88.4	89.2
Bethlehem	30.8	34.3	29.3	28.1	29.2	33.3	30.4	34.9	28.8	38.9	80.8	80.0	85.3	87.4	86.8	90.5	86.8	85.4	90.1	88.0
Dublin	54.5	56.9	60.9	57.5	50.0	47.7	40.7	38.7	49.1	47.0	67.5	70.4	65.5	71.3	80.5	87.3	84.3	88.7	74.3	79.9
Fogelsville	33.3	29.7	34.8	31.2	35.9	36.9	30.6	35.1	39.4	40.6	79.2	83.2	76.4	80.3	79.1	80.2	81.3	79.3	78.3	78.7
Trevoze	19.3	19.3	51.5	40.4	36.5	38.1	41.8	42.3	41.0	41.3	86.6	86.3	58.7	70.8	79.7	79.1	74.6	72.3	78.9	80.9
Troop N																				
Blooms.	16.1	16.0	11.6	8.3	13.4	8.6	18.2	12.3	17.0	14.7	97.1	97.9	96.4	97.3	92.2	96.1	88.2	94.2	94.6	96.4
Fern Ridge	18.0	14.1	9.9	8.2	9.8	7.6	11.6	11.5	14.4	11.7	92.0	94.9	98.2	98.3	95.8	98.4	90.0	94.4	94.7	95.8
Hazleton	19.1	12.7	13.9	12.2	15.6	14.2	18.6	14.1	19.6	28.4	87.3	93.4	92.0	92.9	92.9	92.9	91.7	94.1	90.4	84.4
Lehighton	35.9	34.6	35.4	35.1	31.5	38.4	24.1	19.5	21.4	21.6	81.6	85.2	87.9	90.3	93.2	89.0	91.2	91.3	88.4	88.4
Swiftwater	19.4	19.6	29.6	29.8	26.1	25.5	22.8	22.2	24.7	33.0	87.3	88.7	85.8	85.7	91.1	92.8	92.2	93.3	86.4	81.3

Table 5.7: Traffic Stop Arrests & Searches by Station for White & Non-White Drivers: 2003-2007 (p. 1 of 4)

	<u>2003</u>		<u>2004</u>		<u>Arrests</u> <u>2005</u>		<u>2006</u>		<u>2007</u>		<u>2003</u>		<u>2004</u>		<u>Searches</u> <u>2005</u>		<u>2006</u>		<u>2007</u>	
	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White
AREA I																				
Troop H																				
Carlisle	0.0	0.0	0.3	0.9	1.2	1.4	2.0	1.6	2.6	2.5	0.3	3.7	0.7	4.9	2.1	5.4	1.8	5.5	0.9	2.5
Chambers.	2.7	3.4	1.5	1.7	2.1	1.6	1.6	2.6	1.2	3.2	2.2	5.1	2.6	6.0	2.7	3.2	1.0	3.9	0.8	3.5
Gettysburg	0.4	0.4	0.4	1.1	0.8	1.3	5.4	5.2	3.7	2.6	0.3	0.4	1.1	1.7	1.3	1.3	2.8	3.0	2.0	2.6
Harrisburg	0.1	0.5	0.0	0.0	0.3	0.2	1.0	1.4	0.4	1.0	0.4	1.2	0.3	1.6	0.5	5.5	0.4	6.1	0.3	2.8
Lykens	0.2	0.0	0.2	0.0	0.9	0.0	3.8	0.0	1.5	0.0	0.6	3.2	1.3	6.3	0.8	6.5	1.4	0.0	0.5	0.0
Newport	1.1	0.8	0.7	0.6	1.2	0.9	0.9	0.4	0.8	0.7	0.3	0.0	0.2	0.0	1.4	4.2	1.0	3.6	0.3	1.0
York	1.4	1.9	2.1	1.1	1.2	1.9	2.2	2.7	1.3	3.5	1.4	2.1	1.6	1.3	0.7	1.6	0.8	1.9	1.3	1.7
Troop J																				
Avondale	0.5	0.4	0.3	0.9	1.4	2.5	2.6	2.7	1.4	3.8	1.3	2.3	1.4	3.8	2.0	5.2	2.3	2.9	2.1	3.4
Embree.	0.5	1.2	0.3	0.6	1.3	2.3	2.7	2.5	3.3	2.0	1.1	2.1	1.8	4.4	2.8	6.3	2.9	4.4	3.5	2.9
Ephrata	0.9	2.5	0.6	1.6	0.9	0.0	0.6	1.7	0.7	0.6	0.9	2.5	0.6	2.2	0.1	3.1	0.4	4.7	0.5	1.9
Lancaster	1.6	0.4	1.7	1.0	3.2	5.1	5.8	7.7	7.5	10.2	1.8	2.5	3.4	3.5	3.7	10.1	3.4	10.7	2.7	6.7
Troop L																				
Frackville	0.7	0.7	0.5	1.2	0.3	0.0	0.6	0.5	2.9	0.7	1.7	1.4	0.6	2.4	0.7	2.8	0.4	0.0	0.8	0.0
Hamburg	0.2	0.3	0.6	0.2	0.2	0.2	0.7	1.1	0.2	0.3	0.0	0.0	0.3	0.5	0.1	0.2	0.0	1.1	0.0	0.0
Jonestown	0.6	1.7	1.3	4.8	1.7	0.8	3.8	2.3	1.9	1.7	1.0	6.5	0.3	0.6	0.4	1.6	1.4	4.2	0.8	3.7
Reading	0.5	0.7	0.3	0.3	0.8	3.3	1.4	0.5	0.9	1.4	0.3	0.7	0.3	0.7	0.9	4.6	0.8	0.5	0.4	2.3
Sch. Haven	0.4	1.8	0.5	0.0	0.1	0.0	0.4	0.0	0.4	0.0	0.2	1.8	0.5	1.0	0.4	0.9	0.2	1.1	0.1	0.0
Troop T																				
Bowmans.	0.0	0.0	0.0	0.1	0.0	0.3	0.1	0.1	0.0	0.1	0.1	0.2	0.0	0.1	0.1	0.2	0.1	0.4	0.1	0.5
Everett	0.2	0.6	0.1	0.5	0.1	0.4	0.2	0.2	0.0	0.2	0.2	0.7	0.1	0.8	0.1	0.4	0.1	0.3	0.0	0.2
Gibsonia	0.0	0.2	0.0	0.1	0.1	0.5	4.1	3.6	3.5	3.3	0.1	0.9	0.2	1.3	0.3	2.3	0.3	0.9	0.1	0.7
Highspire	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	0.0	37.5
K. of Prus.	0.1	0.2	0.0	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.4	0.2	0.8	0.1	0.3
N. Stanton	0.0	0.2	0.1	0.2	0.1	0.3	1.1	1.2	0.1	0.4	0.1	0.2	0.1	0.2	0.1	1.2	0.0	0.4	0.1	0.7
Newville	0.0	0.4	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.2	1.4	0.1	0.8	0.1	0.2	0.1	0.7	0.1	0.3
Pocono	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	0.1	0.1
Somerset (T)	0.2	0.2	0.2	0.4	0.3	0.6	0.1	0.3	0.2	0.1	0.6	0.8	0.9	1.7	0.9	2.0	0.4	1.2	0.2	0.8

Table 5.7: Traffic Stop Arrests & Searches by Station for White & Non-White Drivers: 2003-2007 (p. 2 of 4)

	<u>2003</u>		<u>2004</u>		<u>Arrests</u> <u>2005</u>		<u>2006</u>		<u>2007</u>		<u>2003</u>		<u>2004</u>		<u>Searches</u> <u>2005</u>		<u>2006</u>		<u>2007</u>	
	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White
AREA II																				
Troop F																				
Coudersport	0.4	0.0	0.1	0.0	0.5	0.0	1.5	0.0	1.4	0.0	1.0	0.0	0.1	0.0	0.4	0.0	0.3	0.0	0.4	0.0
Emporium	0.4	0.5	0.4	0.5	0.8	0.9	1.6	1.4	1.4	1.6	0.5	1.8	0.6	2.1	0.8	2.7	0.9	2.7	0.9	2.9
Lamar	0.0	0.1	0.0	0.4	0.2	0.3	0.4	0.6	2.5	0.6	0.1	0.1	0.1	0.4	0.1	0.9	0.0	0.3	0.5	0.6
Mansfield	0.1	1.1	0.1	1.3	0.1	0.0	0.2	0.0	1.0	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.1	0.0	1.2	0.7
Milton	0.0	0.0	0.0	0.0	0.4	0.0	0.6	1.3	0.4	1.5	0.2	1.0	0.1	0.2	0.2	0.7	0.6	1.9	0.6	2.6
Montours.	0.1	0.6	0.0	0.0	0.6	1.8	1.8	4.2	1.3	2.6	0.3	0.8	0.2	2.2	0.5	1.3	1.0	5.4	1.1	5.9
Selinsgrove	0.1	0.0	0.1	0.0	0.5	0.0	1.5	2.0	1.7	0.0	0.2	0.0	0.3	0.5	0.6	0.0	0.8	3.5	0.5	0.0
Stonington	0.7	2.4	0.2	0.0	0.3	0.0	0.9	1.8	0.9	2.9	0.2	0.0	0.1	3.7	0.6	0.0	0.6	1.8	1.2	4.3
Troop P																				
Laporte	0.1	0.0	0.9	2.8	0.4	0.0	0.2	0.0	0.9	5.3	0.1	0.0	0.3	0.0	0.3	0.0	0.0	0.0	0.3	5.3
Shickshinny	0.7	0.0	0.3	0.0	0.6	4.3	2.2	0.0	1.5	4.6	0.0	0.0	0.1	3.4	0.6	4.3	0.5	0.0	0.3	1.5
Towanda	0.1	0.0	0.3	3.6	0.4	0.0	0.7	0.0	0.2	1.1	0.7	2.8	1.1	17.9	0.9	1.6	0.7	3.5	1.1	3.4
Tunkhan.	0.6	0.0	1.9	8.1	2.0	3.1	1.0	2.2	1.8	0.0	0.4	0.0	0.5	0.0	2.4	12.5	0.8	2.2	1.2	0.0
Wyoming	0.0	0.6	0.1	1.6	0.2	0.7	0.4	1.9	0.7	1.2	0.6	3.4	0.8	4.2	0.5	3.3	0.7	4.9	0.3	2.5
Troop R																				
Bloom. Gr.	0.2	1.1	0.0	0.0	0.5	0.0	0.5	0.0	0.7	0.0	0.5	0.4	0.4	1.4	1.1	4.1	1.1	3.4	1.4	2.8
Dunmore	0.2	0.0	0.1	0.2	0.5	0.4	0.7	0.7	0.6	2.3	0.6	1.0	0.5	1.1	0.7	2.4	1.1	2.6	1.0	5.5
Gibson	0.4	0.7	1.4	1.1	2.8	1.8	2.7	1.8	1.3	0.0	0.4	0.3	0.6	0.4	1.7	2.4	1.0	1.5	0.8	2.2
Honesdale	0.3	0.7	0.3	0.9	0.3	0.8	0.4	0.8	0.9	2.3	0.7	2.1	0.8	3.6	1.4	6.5	2.5	5.7	2.5	1.1
AREA III																				
Troop A																				
Ebensburg	0.8	0.6	1.5	1.6	2.2	0.7	2.9	2.1	2.3	0.4	0.4	1.2	0.9	2.4	1.0	2.0	0.8	4.3	0.9	3.6
Greensburg	0.0	0.0	0.0	0.0	0.6	0.8	2.0	5.5	1.9	2.5	0.2	0.8	0.3	1.4	1.3	7.6	1.8	5.5	1.8	8.1
Indiana	0.4	0.6	0.2	0.5	0.9	2.2	2.1	4.1	1.7	1.4	0.5	1.7	0.6	4.4	1.9	4.3	1.2	6.0	1.1	2.7
Kiski Valley	0.2	0.4	0.1	0.0	0.5	0.6	1.2	0.6	0.7	1.5	0.4	0.8	0.6	1.6	0.5	4.4	1.4	2.8	1.2	2.0
Somer. (A)	1.6	2.4	0.8	0.0	1.0	0.0	3.2	0.0	3.0	1.0	0.7	2.4	1.0	9.4	0.6	2.2	0.6	7.1	1.5	11.7

Table 5.7: Traffic Stop Arrests & Searches by Station for White & Non-White Drivers: 2003-2007 (p. 3 of 4)

	<u>2003</u>		<u>2004</u>		<u>Arrests</u> <u>2005</u>		<u>2006</u>		<u>2007</u>		<u>2003</u>		<u>2004</u>		<u>Searches</u> <u>2005</u>		<u>2006</u>		<u>2007</u>	
	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White
AREA III cont.																				
Troop B																				
B. Vernon	3.0	0.8	4.9	0.9	2.4	2.4	2.1	1.2	0.8	0.8	0.2	1.8	0.4	2.3	1.1	4.7	0.7	3.0	1.2	3.3
Findlay	0.2	0.3	0.0	0.2	1.0	1.3	1.6	2.0	0.6	1.2	0.4	2.2	0.7	2.1	0.8	1.8	0.6	1.5	0.4	1.9
Uniontown	0.8	1.4	0.2	0.8	0.8	1.9	2.0	2.0	3.6	5.1	1.3	5.4	1.4	6.3	0.8	8.9	0.8	3.3	1.7	10.1
Washington	0.3	0.4	0.0	0.0	0.1	0.2	0.7	1.2	1.1	1.4	0.5	3.2	0.2	2.7	0.2	1.4	0.6	3.3	0.4	3.2
Waynesburg	1.2	0.0	0.2	0.6	1.1	0.0	1.7	0.0	3.1	0.0	0.6	1.4	0.4	1.1	1.1	2.2	1.7	2.9	1.3	1.9
Troop G																				
Bedford	1.2	0.0	0.9	0.0	1.0	1.4	1.0	0.7	1.6	0.8	0.3	1.7	0.4	0.9	0.3	1.4	0.4	3.5	0.3	2.1
Hollidays.	0.7	2.6	1.3	1.3	1.5	2.0	1.7	1.1	0.7	0.2	1.7	5.2	1.1	3.0	1.6	4.8	1.5	9.8	1.3	13.6
Huntingdon	2.8	4.0	1.5	1.4	1.5	1.8	1.9	0.0	1.6	1.3	0.6	4.0	0.3	7.0	0.6	0.0	0.6	4.4	0.7	11.4
Lewistown	0.5	0.4	0.3	0.4	0.5	0.0	1.1	1.3	1.6	0.6	0.6	0.8	0.5	0.9	0.5	2.0	0.3	0.6	0.3	2.0
McConnells.	0.1	0.5	0.1	0.0	0.4	0.0	0.8	0.3	0.3	0.2	0.1	0.9	0.4	1.0	0.3	0.3	0.3	0.1	0.5	0.3
Philipsburg	0.1	0.0	0.2	0.0	0.5	0.4	1.8	0.0	1.1	0.0	0.1	0.0	0.2	0.0	0.3	1.7	0.1	2.4	0.2	1.6
Rockview	0.0	0.1	0.1	0.0	0.7	0.2	1.4	0.8	1.1	1.6	0.2	1.0	0.1	2.0	0.2	1.0	0.3	1.3	0.4	5.7
AREA IV																				
Troop C																				
Clarion	0.3	0.2	0.1	0.2	0.4	0.1	0.9	0.6	1.2	0.5	0.4	2.5	0.4	2.5	0.9	4.3	0.8	3.0	0.6	1.7
Clearfield	0.0	0.0	0.1	0.0	0.4	0.8	0.9	1.1	0.7	0.6	0.2	0.8	0.3	1.1	0.4	2.4	0.3	2.8	0.2	1.4
Dubois	0.1	0.0	0.0	0.0	0.3	0.2	0.9	0.5	1.1	0.0	0.3	0.6	0.1	2.1	0.4	3.1	0.5	1.2	0.1	0.7
Kane	1.6	0.0	0.9	1.0	1.6	0.0	2.4	0.0	1.9	0.0	0.7	0.0	0.6	0.0	1.4	5.3	1.3	3.8	1.2	5.4
Punxsutaw.	0.2	0.5	0.3	0.0	0.6	0.0	1.0	1.7	1.1	0.7	0.3	0.5	0.2	0.0	0.2	1.9	0.3	0.0	0.3	2.8
Ridgway	0.3	0.9	0.8	0.6	0.4	0.0	1.2	0.0	0.7	0.0	0.5	0.9	0.3	1.2	0.6	3.8	0.5	1.2	0.1	2.3
Tionesta	0.8	0.0	0.5	0.0	0.1	0.0	1.1	0.0	0.8	1.0	0.3	3.0	0.1	0.0	0.1	0.0	0.1	0.0	0.7	2.0
Troop D																				
Beaver	0.5	1.7	0.4	0.5	0.4	1.0	1.0	2.2	1.1	1.9	0.3	2.1	0.3	1.6	1.0	2.6	1.2	4.7	2.7	7.8
Butler	0.7	0.8	0.8	0.0	1.1	1.3	2.4	0.4	2.6	2.2	0.5	2.0	0.8	0.5	0.7	2.5	1.5	3.3	1.9	3.8
Kittanning	0.9	0.6	0.7	1.4	4.2	7.6	5.7	8.5	2.4	3.6	0.7	0.6	1.5	6.1	6.4	15.9	8.9	16.3	3.8	6.2
Mercer	0.1	0.4	0.3	0.3	0.7	1.4	5.7	3.2	3.4	1.9	0.7	4.9	1.6	6.2	1.0	7.4	1.4	6.0	1.3	7.7
New Castle	0.1	0.0	0.0	0.7	0.4	0.0	0.8	2.6	0.6	2.0	0.3	0.0	1.1	5.5	0.6	5.4	0.9	6.6	0.5	4.5

Table 5.7: Traffic Stop Arrests & Searches by Station for White & Non-White Drivers: 2003-2007 (p. 4 of 4)

	<u>Arrests</u>										<u>Searches</u>									
	<u>2003</u> White	<u>2003</u> Non-White	<u>2004</u> White	<u>2004</u> Non-White	<u>2005</u> White	<u>2005</u> Non-White	<u>2006</u> White	<u>2006</u> Non-White	<u>2007</u> White	<u>2007</u> Non-White	<u>2003</u> White	<u>2003</u> Non-White	<u>2004</u> White	<u>2004</u> Non-White	<u>2005</u> White	<u>2005</u> Non-White	<u>2006</u> White	<u>2006</u> Non-White	<u>2007</u> White	<u>2007</u> Non-White
AREA IV cont.																				
Troop E																				
Corry	0.7	0.0	0.4	0.0	2.4	6.7	3.2	0.0	1.8	0.0	0.3	0.0	0.2	0.0	0.0	6.7	0.1	0.0	0.0	0.0
Erie	0.1	0.0	0.1	0.2	0.2	0.0	1.0	2.5	2.4	0.8	0.3	0.0	0.2	0.8	0.5	0.4	1.5	5.8	1.3	3.1
Franklin	0.6	0.0	0.2	1.3	0.6	0.7	1.3	1.8	2.2	0.7	0.6	0.0	0.2	4.6	0.3	1.4	0.2	0.0	0.4	3.0
Girard	0.4	0.8	0.4	0.5	1.1	0.3	2.7	1.3	1.6	0.5	0.4	0.6	0.5	1.3	0.2	0.3	0.4	0.4	0.5	2.4
Meadville	1.7	0.0	0.8	0.0	1.0	0.2	1.6	0.3	1.3	0.8	1.1	0.4	0.6	0.8	0.8	0.2	0.8	0.6	0.8	0.4
Warren	0.9	6.3	0.6	0.0	1.6	0.0	2.5	0.0	1.8	5.3	0.8	0.0	0.3	4.3	0.9	8.3	0.9	4.3	1.5	2.6
AREA V																				
Troop K																				
Media	1.3	2.1	1.3	1.7	1.9	2.6	1.9	2.6	3.4	4.0	2.3	7.3	2.7	4.2	2.0	4.5	1.9	5.5	4.5	11.8
Philadel.	0.8	0.7	0.5	0.6	0.9	1.5	1.2	1.3	1.7	3.0	0.8	2.7	1.4	1.9	0.9	2.4	1.7	5.1	2.0	4.5
Skippack	0.7	0.3	0.7	0.1	1.0	1.6	3.4	3.1	3.1	1.6	0.8	3.2	0.8	2.1	1.0	1.9	1.3	2.5	1.5	2.4
Troop M																				
Belfast	0.4	0.3	0.4	0.1	0.5	0.4	1.7	2.2	1.4	1.6	0.1	1.7	0.5	0.8	0.6	2.0	0.6	2.2	1.4	2.0
Bethlehem	0.6	0.7	0.2	0.6	0.3	0.7	2.1	3.1	1.9	2.7	0.7	1.5	0.2	0.8	0.5	2.6	0.9	5.2	1.4	4.4
Dublin	0.2	0.9	0.3	0.5	0.8	2.7	1.6	1.9	2.8	1.9	0.4	1.9	0.4	0.5	0.9	2.4	1.5	4.1	1.6	3.3
Fogelsville	0.2	0.9	0.5	0.6	1.0	1.1	1.3	1.1	2.2	2.0	0.3	2.3	0.6	3.9	1.7	7.5	0.8	5.1	1.7	5.0
Trevoze	0.7	1.1	0.2	0.6	1.2	1.2	2.0	2.6	1.3	1.0	0.9	2.6	0.5	1.5	0.8	1.6	0.5	1.7	0.5	1.8
Troop N																				
Bloomsb.	0.3	0.0	0.0	0.2	0.2	0.2	0.5	0.2	0.3	1.2	0.0	0.1	0.2	0.3	0.3	1.1	0.3	1.0	0.3	1.8
Fern Ridge	0.4	0.5	1.5	2.1	3.8	1.6	4.1	1.7	1.0	0.7	0.2	1.3	0.1	0.1	0.7	0.4	1.2	2.0	0.0	1.3
Hazleton	0.1	0.0	0.1	0.3	0.5	0.0	0.4	0.3	1.3	1.6	0.3	0.5	0.6	1.3	0.8	2.0	0.6	1.7	1.5	5.5
Lehighton	0.1	0.6	0.1	0.0	0.2	0.0	0.9	0.7	1.3	2.0	0.4	0.6	0.0	0.5	0.0	1.2	0.2	0.7	0.2	1.0
Swiftwater	0.1	0.1	0.2	0.0	0.2	0.6	0.7	0.6	2.5	1.5	0.4	1.2	0.5	1.2	0.5	2.6	0.8	2.0	1.6	4.9

SUMMARY

Traffic Stop Outcomes

- The 2007 warning rate was within one standard deviation of the five-year average for the department. Throughout the six years of data collection, the rate of warnings has been relatively stable.
- The 2007 citation rate was within one standard deviation of the five-year average for the department. After a steady increase in the first three years of data collection, citation rates have been relatively stable the past three years.
- The 2007 arrest rate was more than one standard deviation above the five-year average for this organizational unit. The six-year trend indicates that there was a considerable increase in arrest rates between 2004 and 2006. This increase is likely due to known problems with the underreporting of arrests prior to 2006. Therefore, firm conclusions regarding this upward trend cannot be made.
- The 2007 search rate was more than one standard deviation above the five-year average for the department. The six-year trend indicates relatively stability in the past three years, after an increase in the search rate from 2002 to 2005. Similar to the arrest rate, there were some data collection problems prior to 2006 that may have resulted in an underreporting of searches throughout the department.
- The 2007 seizure rate was within one standard deviation of the five-year average for the department. The 2007 seizure rate decreased slightly from 2006, and reversed an upward trend since 2004.
- Greater variations were reported in the rates of warning, citations, arrests, searches, and seizures at the area level.

Traffic Stop Outcomes by Race/Ethnicity

- Warnings: The 2007 warning rates for Black and Hispanic drivers were slightly higher than the 2007 warning rate for White drivers. Across the six year period, the warning rates for White drivers decreased between 2002 and 2005, but increased slightly in the last two years (2006 and 2007). The warning rates for Black and Hispanic drivers have increased in the past three years.
- Citations: The 2007 citation rate for Hispanic drivers was higher than the rates for White and Black drivers. Throughout the six years of data collection, the citation rates for all groups have been relatively stable, with the exception of higher rates for White drivers in the initial three years (2002, 2003, and 2004) of data collection.
- Arrests: The 2007 arrest rate was highest for Hispanic drivers, followed by Black and White drivers, respectively. The 2007 arrest rates for White and Hispanic drivers were slightly lower compared to 2006, while the 2007 arrest rates for Black drivers was higher compared to 2006. Arrest rates prior to 2006 may have been artificially lowered due to data collection limitations in those years. Consistent across all six years of data collection, however, are the large discrepancies in the arrest rates for individual racial/ethnic groups.

- Searches: The 2007 search rate was highest for Black drivers, followed by Hispanic and White drivers, respectively. For Black drivers, the search rate indicates an upward trend since 2002. The search rate for Hispanic drivers also increased in early years of data collection, but began to decrease in 2006. Consistent across all six years of data collection are the large discrepancies in the search rates for individual racial/ethnic groups.
- Seizures: The 2007 seizure rate was highest for White drivers, followed by Black and Hispanic drivers, respectively. For White drivers, the 2007 seizure rate represents a slight decrease from 2006 seizure rate, and more closely matches the seizure rate in 2005. In 2007, the seizure rate for Black drivers was comparable to the previous two years. The seizure rate for Hispanic drivers rose in 2007 compared to 2006. Consistent across all six years of data collection are the large discrepancies in the seizure rates for individual racial/ethnic groups.

The temporal trend of the search and seizure rates for White drivers indicates a lower rate of search, but a higher rate of seizure compared to Black and Hispanic drivers. In all years examined, White drivers had the lowest rates of searches, but the highest rates of seizures; conversely, Black and Hispanic drivers experienced the higher rates of searches, but lower rates of seizures. 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.

6. ANALYSES OF TRAFFIC STOP OUTCOMES

OVERVIEW

This section further examines traffic stop outcomes during member-initiated traffic stops conducted in 2007. Building on the descriptive statistics reported in Section 3, this section reports the results of statistical significance testing conducted on warnings, citations, arrests, and searches at the department, area, troop, and station levels. Two sets of analyses are the focal point of this section: 1) analyses examining the relationship between traffic stop outcomes and driver characteristics (i.e., drivers' race/ethnicity and gender) and 2) more sophisticated multivariate analyses on warnings, citations, arrests, and searches are summarized. Tables 6.1 & 6.2 document statistically significant differences between racial/ethnic and gender groups for warnings, citations, arrests, and searches across the department, area, and troop levels. All analyses are conducted using the chi-square statistic.⁸ Table 6.3 reports statistically significant differences between White and non-White drivers at the station level for warnings, citations, arrests, and searches. These traffic stop outcomes are further explored in hierarchical multivariate statistical analyses presented in Tables 6.4 & 6.5.

BIVARIATE ANALYSES OF TRAFFIC STOP OUTCOMES

All bivariate analyses were based on two comparisons. In separate analyses, drivers' race/ethnicity and drivers' gender were analyzed in relation to all four traffic stop outcomes (i.e., warnings, citations, arrests, and searches). Drivers' race/ethnicity is represented by three categories: White, Black, and Hispanic. Given the relatively small number traffic stops involving drivers identified as Middle Eastern, Asian, Native American, unknown, or missing, analyses of these stops are not reported. Analyses involving drivers' gender reflect all traffic stops in which drivers' gender was recorded. For each organizational unit, the tables report the total number of stops for each race/ethnicity and gender group and the percent of drivers from each group that were warned, cited, arrested, or searched. Statistically significant relationships are indicated with an asterisk.⁹

⁸ In Tables 6.1– 6.3, the asterisks indicate statistically significant differences in the outcomes received by racial/ethnic and gender groups based on bivariate chi-square associations. Chi-square statistics are based on the differences between groups while considering 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. Multivariate analyses address this limitation of bivariate analyses and also use asterisks to signify statistical significance (see Tables 6.4 & 6.5). These asterisks, however, represent statistical significance when other factors believed to influence the outcome of stops are taken into account.

⁹ The asterisk is only included in the first group of the comparison. For example, if the relationship between racial/ethnic groups (i.e., White, Black, and Hispanic drivers) and warnings was statistically significant, an asterisk is placed beside the rate of warning for White drivers. The correct interpretation of this result is that the rate of warnings significantly differs between the three races/ethnicities, and the actual rate of warnings for each

Table 6.1 illustrates the variation in post-stop outcomes (i.e., warnings, citations, arrests, and searches) by drivers' race/ethnicity and gender for both the department and area levels. Across the department, there were statistically significant differences between drivers' race/ethnicity in all traffic stop outcomes, based on bivariate analyses. Of the Hispanic and Black motorists stopped, 28% received warnings, compared to 26% of White drivers stopped. Conversely, Hispanic drivers (88.9%) had slightly higher rates of citations (88.9%), compared to White (87.2%) and Black (87.0%) drivers. In regard to arrests, the rates incrementally increased when comparing White drivers (1.4%), Black drivers (1.8%), and Hispanic drivers (2.1%). The largest differences across racial/ethnic groups were found for searches. Of all Black and Hispanic drivers stopped, 3.7% and 3.5% (respectively) were searched, compared to only 0.9% of White drivers stopped. All statistically significant results reported in Table 6.1 occurred at the 0.001 level indicating that these differences reflect a statistical difference between the groups 99.9% of the time. Based solely on the statistical significance, these results suggest that a difference exists in the rate of warnings, citations, arrests, and searches 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. Further, these statistical tests are influenced by the large sample size. 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.

Drivers' gender also produced statistically significant results when examining the data for the entire department. Statistically significant differences were reported for male and female drivers in regard to warnings and citations, but only at the 0.05 level. This level of significance indicates that a statistical difference between these groups 95% of the time. More statistically robust findings were reported for arrests and searches at the 0.001 level. Of all the male drivers stopped, 1.7% were arrested, compared to 0.9% of all female drivers stopped. Male drivers were also significantly more likely to be searched (1.6% of male drivers stopped) compared to female drivers (0.6% of female drivers stopped). As with the racial differences reported above, these results do not consider the impact of any other factors and should not be considered definitive evidence of disparity.

Area level data differences in traffic stop outcomes based on racial/ethnic characteristics are also displayed in Table 6.1. Analyses of warnings indicate racial/ethnic differences in all areas. At least one minority group received proportionately more warnings in all areas except for Area IV. All five areas also demonstrated statistically significant racial/ethnic differences in rates of citations. No clear trend can be discerned from these results as the statistical significance level and rank ordering of the racial/ethnic groups varied by areas. For arrests, three of the five areas reported statistically significant differences across

group should be consulted for the rank order of the groups. For each group, the number of asterisks indicates the degree of statistical significance as described at the bottom of all tables in this section. Statistical significance is reported at the 0.05, 0.01, and 0.001 levels.

racial/ethnic groups. In all three areas, minority drivers received proportionately higher rates of arrest. Finally, all five areas demonstrated statistically significant racial/ethnic differences in search rates, with minority drivers consistently being searched proportionately more frequently in all areas compared to White drivers.

Analyses of drivers' gender also demonstrated statistically significant differences. As demonstrated in Table 6.1, two areas reported statistically significant differences across gender for warnings, and three areas indicated statistically significant differences for citations. Statistically significant differences across gender groups were also evident in all five areas for both arrests and searches. In all cases, male drivers were arrested and searched disproportionately more than female drivers. Although these general patterns held across areas, there are specific differences in the rates across areas, reported in Table 6.1.

Again, it is important to recognize that racial/ethnic or gender differences are not evidence of bias policing because other factors related to these traffic stop outcomes were not considered in these analyses. Refer to the multivariate analyses for more definitive conclusions regarding the existence of racial/ethnic and/or gender differences in traffic stop outcomes.

Table 6.1: 2007 Stop Outcomes by Race and Gender for Department and Areas

	Drivers	Total # of stops	% drivers warned	% drivers cited	% drivers arrested	% drivers searched
PSP Dept	White	250,652	26.1***	87.2***	1.4***	0.9***
	Black	26,771	27.7	87.0	1.8	3.7
	Hispanic	10,556	27.8	88.9	2.1	3.5
	Male	205,145	26.1*	87.5*	1.7***	1.6***
	Female	94,767	25.7	87.2	0.9	0.6
AREA I	White	89,118	16.5***	93.3**	1.2***	0.6***
	Black	11,342	16.5	93.6	1.4	1.5
	Hispanic	4,470	21.3	94.6	2.3	2.1
	Male	75,475	16.6*	93.6*	1.4***	0.9***
	Female	34,616	16.0	93.3	0.8	0.4
AREA II	White	31,598	25.9*	86.6*	1.0**	0.9***
	Black	1,711	27.1	85.5	1.5	3.6
	Hispanic	824	21.8	89.8	2.1	3.9
	Male	24,042	25.5	87.0	1.2***	1.3***
	Female	11,116	25.7	86.3	0.6	0.6
AREA III	White	53,178	29.2***	85.5***	1.6	0.9***
	Black	3,187	32.7	81.7	1.5	5.1
	Hispanic	665	35.6	76.1	1.4	8.3
	Male	39,377	29.7**	85.0*	1.8***	1.5***
	Female	19,141	28.5	85.8	1.0	0.6
AREA IV	White	40,505	37.5***	78.4***	1.5	1.0***
	Black	2,396	32.5	82.0	1.3	3.8
	Hispanic	846	28.0	82.0	1.5	4.1
	Male	14,349	36.4	79.2	1.8***	1.5***
	Female	31,023	36.5	78.4	0.8	0.5
AREA V	White	36,182	32.6***	84.9***	2.0***	1.6***
	Black	8,127	40.2	81.7	2.9	6.1
	Hispanic	3,746	35.5	85.8	2.1	4.1
	Male	35,164	33.9	84.9*	2.5***	3.2***
	Female	15,521	33.7	84.1	1.2	1.1

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

Table 6.2 displays differences in traffic stop outcomes by drivers' race/ethnicity and gender at the troop level. Seven of sixteen troops experienced statistically significant racial/ethnic differences in warnings. Of the seven troops with statistically significant differences, five troops had at least one minority group with the highest rate of warnings, while in the other two troops White drivers received disproportionately more warnings. For citations, twelve of the sixteen troops reported a statistically significant difference between racial/ethnic groups. Of the twelve troops with statistically significant differences, seven troops reported at least one minority group with the highest rate of citations. In regard to arrests, seven of sixteen troops reported statistically significant differences across racial/ethnic groups, with minority drivers ranking highest in the rate of arrest in all seven organizational units. In addition, all sixteen troops demonstrated statistically significant racial/ethnic differences in the rate of searches, and in all cases, minority groups received proportionately more searches compared to White drivers. In some troops, the differences between races/ethnicities were quite large.

Table 6.2 also reports differences in traffic stop outcomes by drivers' gender at the troop level. Four of sixteen troops reported statistically significant differences in warnings; in three of these four troops, male drivers received proportionately more warnings compared to female drivers. For citations, seven of sixteen troops indicated statistically significant differences in the citation rate between male and female drivers. Male drivers received disproportionately more citations in five of the seven troops with statistically significant differences. Fourteen of sixteen troops demonstrated statistically significant gender differences in rates of arrest – male drivers arrested disproportionately more frequently than female drivers in thirteen of the fourteen troops. Finally, all sixteen troops indicated statistically significant differences in search rates for male and female drivers. In all troops, male drivers were searched disproportionately more frequently compared to female drivers.

Table 6.3 presents the results of bivariate analyses between drivers' race/ethnicity and traffic stop outcomes at the station level for 2007. In contrast to information provided in Tables 6.1 & 6.2, the racial/ethnic categories presented in Table 6.3 are restricted to White and non-White because the number of stops of some racial/ethnic groups is too small for individual comparisons at the station level. The "non-White" category includes Black, Black Hispanic, White Hispanic, Native American, Middle Eastern, and Asian drivers. Analyses examining the relationship between drivers' gender and traffic stops outcomes at the station level are not reported, however are available from the author(s) upon request.

Table 6.2: 2007 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	White	25,178	16.6	91.0**	1.7***	0.9***
	Black	2,153	16.4	92.0	2.9	2.7
	Hispanic	950	18.2	93.7	2.9	2.7
	Male	19,054	16.7	91.4	2.3***	1.4***
	Female	9,951	16.1	91.0	1.0	0.5
Area I, Troop J	White	8,952	26.5***	94.4	3.6*	2.6***
	Black	1,235	32.9	94.2	4.2	4.0
	Hispanic	1,113	35.6	95.6	5.4	4.6
	Male	7,956	28.3	94.5	4.5***	3.5***
	Female	3,626	27.2	94.7	2.3	1.6
Area I, Troop L	White	7,659	32.0	86.7***	1.3*	0.4***
	Black	564	34.2	80.9	0.4	2.3
	Hispanic	537	33.7	89.9	2.0	1.9
	Male	6,224	32.0	87.1*	1.4*	0.8*
	Female	2,790	32.5	85.2	0.9	0.3
Area I, Troop T	White	47,329	12.0	95.4	0.5	0.1***
	Black	7,390	12.4	94.9	0.5	0.6
	Hispanic	1,870	10.7	95.8	0.3	0.3
	Male	42,241	12.0**	95.4	0.5	0.2***
	Female	18,249	11.2	95.5	0.4	0.1
Area II, Troop F	White	15,541	26.7	84.4	1.3	0.8***
	Black	893	29.0	82.8	1.2	3.1
	Hispanic	330	23.6	86.7	2.4	2.1
	Male	11,638	27.1	84.3	1.5***	1.1***
	Female	5,627	25.8	84.6	0.8	0.5
Area II, Troop P	White	7,996	28.7	84.9	0.8***	0.8***
	Black	178	23.6	84.8	3.4	2.8
	Hispanic	112	22.3	91.1	0.9	3.6
	Male	5,766	27.8	85.4	0.4**	1.0*
	Female	2,613	29.4	84.2	1.0	0.5

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

Table 6.2: 2007 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 II, Troop R	White	8,061	21.4	92.4*	0.8*	1.3***
	Black	640	25.3	89.5	1.3	4.5
	Hispanic	382	20.2	92.1	2.1	5.5
	Male	6,638	20.7	92.9**	1.0	2.0***
	Female	2,876	22.1	91.3	0.6	0.8
Area III, Troop A	White	17,324	29.9	87.4***	1.9	1.3***
	Black	615	34.0	81.6	1.6	6.2
	Hispanic	124	26.6	85.5	2.4	5.6
	Male	12,400	29.9	86.9	2.2***	1.8***
	Female	5,924	29.8	87.6	1.1	0.8
Area III, Troop B	White	16,627	18.7***	94.9*	1.7	0.9***
	Black	1,220	23.9	93.6	2.4	4.9
	Hispanic	134	26.9	91.8	0.7	2.2
	Male	12,230	19.4	95.0	2.0***	1.4***
	Female	6,160	18.4	94.6	1.2	0.5
Area III, Troop G	White	19,227	37.7	75.7***	1.2	0.5***
	Black	1,352	40.1	71.0	0.7	4.7
	Hispanic	407	41.3	68.1	1.2	11.1
	Male	14,747	38.2**	75.0*	1.3***	1.3***
	Female	7,057	36.3	76.5	0.6	0.4
Area IV, Troop C	White	16,308	31.6***	79.9***	1.0	0.4***
	Black	1,007	20.7	89.5	0.6	1.7
	Hispanic	505	20.2	88.9	0.6	2.6
	Male	13,244	30.1	81.6*	1.0**	0.6*
	Female	5,454	29.8	80.3	0.6	0.3
Area IV, Troop D	White	12,570	42.5*	78.3***	1.9	2.0***
	Black	833	46.8	72.6	2.5	7.4
	Hispanic	182	45.1	63.2	2.7	9.3
	Male	9,231	42.8	78.0	2.4***	3.2***
	Female	4,644	42.2	77.5	0.9	0.9

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

Table 6.2: 2007 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 IV, Troop E	White	11,627	40.3***	76.2***	1.8*	0.7***
	Black	556	32.6	82.6	0.5	2.2
	Hispanic	159	33.3	81.8	3.1	3.1
	Male	8,548	39.7	76.8	2.1***	1.1***
	Female	4,251	38.6	77.0	0.8	0.3
Area V, Troop K	White	11,989	38.7***	84.6***	2.5***	2.6***
	Black	4,656	45.1	81.5	3.6	7.0
	Hispanic	894	40.6	86.9	2.6	5.8
	Male	12,916	40.3	84.6*	3.2***	4.7***
	Female	5,793	40.0	83.3	1.6	1.7
Area V, Troop M	White	13,007	37.6	80.6*	2.1	1.5***
	Black	1,743	38.6	80.2	2.1	4.4
	Hispanic	1,662	39.5	83.3	2.1	4.0
	Male	12,020	36.8***	81.9***	2.4***	2.4***
	Female	5,145	39.7	79.1	1.2	0.9
Area V, Troop N	White	11,186	20.1***	90.2***	1.5	0.8***
	Black	1,728	28.9	83.5	1.6	5.5
	Hispanic	1,190	26.0	88.3	1.8	3.1
	Male	10,228	22.3***	88.8***	1.7***	2.0***
	Female	4,583	19.1	90.9	0.8	0.5

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

Table 6.3: 2007 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	White	7,732	10.8	94.8	2.6	0.9***
	Non-White	1,073	12.4	94.4	2.5	2.5
Chambersburg	White	4,619	23.5	90.1	1.2***	0.8***
	Non-White	608	24.7	92.4	3.3	3.6
Gettysburg	White	2,009	31.0**	74.8***	3.7	2.0
	Non-White	338	22.8	86.7	2.7	2.7
Harrisburg	White	2,700	12.7*	95.1*	0.4	0.4***
	Non-White	586	17.7	91.8	1.0	2.6
Lykens	White	1,714	30.8	76.9	1.5	0.5
	Non-White	45	20.0	82.2	0.0	0.0
Newport	White	2,733	11.6	95.0	0.8	0.3
	Non-White	286	8.7	96.2	0.7	1.0
York	White	3,721	12.5	93.6	1.3***	1.3
	Non-White	839	10.8	94.6	3.5	1.7
AREA I, Troop J						
Avondale	White	2,602	42.3	94.7	1.4***	2.1*
	Non-White	1,019	43.7	95.5	3.8	3.4
Embreeville	White	2,887	21.2***	96.7*	3.3	3.5
	Non-White	882	27.4	98.3	2.0	2.9
Ephrata	White	981	19.5	96.4	0.7	0.5*
	Non-White	151	21.9	97.4	0.7	2.0
Lancaster	White	2,497	19.1**	90.7	7.5*	2.7***
	Non-White	567	24.5	88.2	10.1	6.7
AREA I, Troop L						
Frackville	White	855	29.0	88.8*	2.9	0.8
	Non-White	133	24.8	94.7	0.8	0.0
Hamburg	White	1,487	32.5*	89.4**	0.2	0.0
	Non-White	358	26.5	95.0	0.3	0.0
Jonestown	White	2,468	31.6	82.5*	1.9	0.8***
	Non-White	537	34.5	77.8	1.7	3.7
Reading	White	1,522	33.6*	86.8	0.9	0.4***
	Non-White	211	41.7	84.8	1.4	2.4
Schuylkill Haven	White	1,337	32.1*	89.8**	0.4	0.1
	Non-White	107	43.0	81.3	0.0	0.0
AREA I, Troop T						
Bowmansville	White	5,619	6.4*	98.6	0.0	0.1***
	Non-White	1,730	8.0	98.6	0.1	0.5
Everett	White	9,412	8.6	95.2*	0.0**	0.0**
	Non-White	3,245	7.7	96.1	0.2	0.2

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

Table 6.3: 2007 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	White	5,633	16.8	92.1*	3.5	0.1***
	Non-White	1,044	14.8	94.1	3.4	0.7
Highspire	White	21	57.1	52.4	0.0	0.0
	Non-White	8	50.0	50.0	0.0	37.5**
King of Prussia	White	3,855	11.2	94.6	0.1	0.1
	Non-White	1,065	12.1	94.6	0.1	0.3
New Stanton	White	971	12.2	95.4	0.1*	0.1***
	Non-White	170	11.1	95.3	0.4	0.7
Newville	White	7,044	21.6**	96.1	0.1	0.1*
	Non-White	2,044	18.8	96.7	0.1	0.3
Pocono	White	427	10.3	94.0	0.1*	0.1
	Non-White	80	9.9	94.4	0.4	0.1
Somerset (T)	White	3,915	5.3**	96.5***	0.2	0.2***
	Non-White	1,409	7.6	94.3	0.1	0.9
AREA II, Troop F						
Coudersport	White	2,074	51.2	63.7	1.4	0.4
	Non-White	34	52.9	64.7	0.0	0.0
Emporium	White	928	34.7	74.0*	0.9	0.9
	Non-White	14	64.3	50.0	0.0	0.0
Lamar	White	1,716	25.5*	84.0**	2.5*	0.5
	Non-White	314	19.7	90.8	0.6	0.6
Mansfield	White	1,078	44.5	70.5	0.9	1.1
	Non-White	94	42.6	68.1	0.0	1.1
Milton	White	2,505	15.3***	94.0***	0.4**	0.6***
	Non-White	531	21.8	87.9	1.5	2.4
Montoursville	White	2,720	14.2***	91.4***	1.4	1.1***
	Non-White	334	29.6	80.5	2.4	5.7
Selinsgrove	White	2,814	19.8	91.6	1.7*	0.5
	Non-White	235	16.2	92.3	0.0	0.0
Stonington	White	1,806	31.6	86.0	0.9	1.2*
	Non-White	67	32.8	91.0	3.0	4.5
AREA II, Troop P						
Laporte	White	1,196	27.3**	83.4	0.9	0.3***
	Non-White	19	0.0	94.7	5.3	5.3
Shickshinny	White	285	24.0	91.2	1.5	0.3
	Non-White	10	15.4	93.8	4.6	1.5
Towanda	White	1,257	36.8	78.1	0.2*	1.1
	Non-White	26	29.5	81.8	1.1	3.4
Tunkhannock	White	934	30.6	87.9	1.8	1.2
	Non-White	50	18.0	90.0	0.0	0.0

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

Table 6.3: 2007 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	White	1,273	11.2*	96.2***	0.7	0.3***
	Non-White	154	19.5	89.6	1.3	2.6
AREA II, Troop R						
Blooming Grove	White	2,028	32.0	87.9	0.7	1.4*
	Non-White	350	28.0	91.4	0.0	2.9
Dunmore	White	3,235	20.4	92.8	0.6***	1.0***
	Non-White	584	18.7	91.3	2.4	5.7
Gibson	White	1,661	14.3	94.6	1.3*	0.8**
	Non-White	394	15.2	94.2	0.0	2.3
Honesdale	White	1,174	15.8	96.3*	0.9	2.5
	Non-White	82	17.1	91.5	2.4	1.2
AREA III, Troop A						
Ebensburg	White	4,821	23.4***	85.8***	2.3	0.9***
	Non-White	242	11.6	94.2	0.4	3.7
Greensburg	White	4,484	38.8*	87.8***	1.9	1.8***
	Non-White	234	45.3	77.8	2.6	8.1
Indiana	White	3,290	27.6	89.1	1.7	1.1*
	Non-White	217	30.0	85.3	1.4	2.8
Kiski Valley	White	2,602	26.2	89.0	0.7	1.2
	Non-White	192	26.6	85.4	1.6	2.1
Somerset (A)	White	2,144	33.5*	85.3***	3.0	1.5***
	Non-White	101	44.6	64.4	1.0	11.9
AREA III, Troop B						
Belle Vernon	White	1,049	22.3	94.7	0.8	1.2
	Non-White	119	26.9	94.1	0.8	3.4
Pittsburgh	White	5,328	14.2	97.9	0.6*	0.4***
	Non-White	732	16.0	97.0	1.2	1.9
Uniontown	White	4,591	18.7***	92.2*	3.6	1.7***
	Non-White	295	33.9	88.1	5.1	10.2
Washington	White	4,576	14.0	96.0	1.1	0.4***
	Non-White	484	15.3	96.1	1.4	3.3
Waynesburg	White	1,111	57.0	87.7	3.1	1.3
	Non-White	103	59.2	87.4	0.0	1.9
AREA III, Troop G						
Bedford	White	2,184	47.3	67.0	1.6	0.3***
	Non-White	243	44.9	67.9	0.8	2.1
Hollidaysburg	White	2,844	42.0***	76.9***	0.7	1.3***
	Non-White	409	57.5	52.8	0.2	13.7
Huntingdon	White	2,076	54.6*	62.3***	1.6	0.7***
	Non-White	78	69.2	42.3	1.3	11.5

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

Table 6.3: 2007 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	White	3,778	37.7	77.6*	1.6	0.3***
	Non-White	352	36.6	82.4	0.6	2.0
McConnellsburg	White	1,942	35.1***	76.8***	0.3	0.5
	Non-White	622	21.7	87.5	0.2	0.3
Philipsburg	White	1,980	47.8*	71.6**	1.1	0.2**
	Non-White	189	39.7	81.0	0.0	1.6
Rockview	White	4,442	19.0***	85.1***	1.1	0.4***
	Non-White	664	29.5	75.0	1.7	5.7
AREA IV, Troop C						
Clarion	White	2,835	34.6***	77.5***	1.2	0.6**
	Non-White	749	23.1	87.4	0.5	1.7
Clearfield	White	3,165	18.9***	90.1***	0.7	0.2***
	Non-White	698	10.6	95.4	0.6	1.4
Dubois	White	1,790	22.2***	85.7***	1.1*	0.1*
	Non-White	438	12.8	93.6	0.0	0.7
Kane	White	1,571	40.6	69.4	1.8	1.1***
	Non-White	82	30.5	73.2	0.0	6.1
Punxsutawney	White	2,273	26.8	85.4	1.1	0.3***
	Non-White	139	22.3	85.6	0.7	2.9
Ridgway	White	3,065	34.1	79.0	0.7	0.1***
	Non-White	122	29.5	82.0	0.0	2.5
Tionesta	White	1,674	53.4***	63.5***	0.8	0.7
	Non-White	99	36.4	82.8	1.0	2.0
AREA IV, Troop D						
Beaver	White	2,456	46.7*	72.2	1.1	2.7***
	Non-White	263	53.6	67.7	1.9	8.0
Butler	White	3,207	48.7***	80.6*	2.6	1.9
	Non-White	181	34.3	86.7	2.2	3.9
Kittanning	White	2,395	42.0	74.1	2.4	3.8
	Non-White	190	44.2	71.6	3.7	6.3
Mercer	White	1,653	46.8	73.9***	3.4	1.4***
	Non-White	403	51.6	63.3	1.7	7.7
New Castle	White	2,882	30.0	87.0	0.6**	0.5***
	Non-White	245	26.1	86.9	2.0	4.5
AREA IV, Troop E						
Corry	White	911	34.1	74.5	1.8	0.0
	Non-White	9	22.2	88.9	0.0	0.0
Erie	White	2,312	42.9	78.5	2.4	1.3*
	Non-White	256	39.8	82.0	0.8	3.1

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

Table 6.3: 2007 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	White	1,928	67.4***	56.4	2.2	0.4***
	Non-White	129	51.9	62.8	0.8	3.1
Girard	White	1,959	34.3**	80.9*	1.6	0.5**
	Non-White	197	23.4	87.3	0.5	2.0
Meadville	White	3,813	29.7***	82.8***	1.3	0.8
	Non-White	517	22.2	88.6	0.8	0.4
Warren	White	755	38.4	77.2	1.7**	1.5
	Non-White	16	43.8	62.5	12.5	6.3
AREA V, Troop K						
Media	White	3,356	45.4***	77.4***	3.4	4.5***
	Non-White	1,570	51.6	72.0	4.0	11.8
Philadelphia	White	6,152	32.4***	88.9**	1.7***	2.1***
	Non-White	4,290	38.5	87.3	3.0	4.4
Skippack	White	2,595	45.5*	83.4	3.1*	1.5
	Non-White	749	49.9	86.1	1.6	2.4
AREA V, Troop M						
Belfast	White	2,184	21.5*	88.4	1.4	1.4
	Non-White	864	25.0	89.2	1.6	2.0
Bethlehem	White	1,657	28.8***	90.1	1.9	1.4***
	Non-White	525	38.9	88.0	2.7	4.4
Dublin	White	3,211	49.1	74.4*	2.8	1.6*
	Non-White	361	47.1	79.5	1.9	3.3
Fogelsville	White	4,400	39.4	78.3	2.2	1.7***
	Non-White	1,651	40.5	78.7	2.1	5.0
Trevoise	White	1,594	41.0	79.0	1.3	0.5**
	Non-White	2,313	41.1	80.7	1.0	1.8
AREA V, Troop N						
Bloomsburg	White	1,738	17.0	94.6	0.3**	0.3***
	Non-White	492	14.6	96.5	1.2	1.8
Fern Ridge	White	2,030	14.4	94.6	1.0	0.0***
	Non-White	687	11.6	95.9	0.7	1.3
Hazleton	White	2,023	19.7***	90.4***	1.3	1.5***
	Non-White	721	28.3	84.3	1.7	5.5
Lehighton	White	2,023	21.4	88.4	1.3	0.2*
	Non-White	189	21.7	87.8	2.1	1.1
Swiftwater	White	3,414	24.8***	86.4***	2.5*	1.6***
	Non-White	1,492	33.0	81.4	1.5	4.9

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

Tables 6.1 - 6.3 illustrate the wide variation in traffic stop outcomes across drivers' racial/ethnic and gender groups at the department, area, troop, and station levels for 2007. 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 6.1 – 6.3 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 TRAFFIC STOP OUTCOMES

A multivariate statistical model takes many different factors/variables into account when attempting to understand a particular behavior or outcome, such as the outcomes associated with traffic stops. 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.

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, vehicle characteristics, stop characteristics, reasons for the stop, other legal variables, and Trooper characteristics have all been hypothesized to influence post-stop outcomes. Multivariate analyses examine the independent effect of these predictor variables, while controlling for the influence of the other variables. For example, the influence of drivers' race/ethnicity can be examined while holding constant the predictive power of drivers' age, reason for the stop, time of day, etc.

Multivariate analyses are conducted on information collected at one level and reflect a one-to-one ratio between variables. In other words, all variables within the dataset are independent of other variables. Traffic stop data, however, do not conform to this rule because both traffic stop and Trooper characteristics are hypothesized to influence traffic stop outcomes, and one Trooper generally initiates more than one traffic stop. For example, one Trooper may initiate hundreds or thousands of traffic stops throughout the year thus creating a one-to-many ratio between Trooper characteristics and other traffic stop characteristics. Traffic stop datasets include information from two sources: 1) the traffic stop encounter information, such as traffic stop outcomes, driver characteristics, stop characteristics, etc., and 2) organizational information representing the aggregated characteristics of the Troopers within that unit (i.e., PSP stations), such as the average level of Trooper's education within each station, or the average Trooper age within each station, etc. A special type of multivariate modeling, referred to as hierarchical linear and nonlinear

modeling (bi-level modeling), is required for data reflecting more than one level of aggregation, such as traffic stops.¹⁰

These bi-level models are interpreted in a similar fashion to other multivariate models. The information of note is contained in two values produced from the analyses: 1) the coefficient, or predicted log-odds, and 2) the odds ratio for each independent variable in the model. The coefficient represents an additive expression of a particular variable. In the “coefficient” column, the asterisk reveals whether or not a significant relationship exists between the independent variable (e.g., male drivers) and the dependent variable (e.g., warnings). If an asterisk is not present, the relationship is not considered statistically significant. Due to the extremely large number of traffic stops at level 1, the statistical significance of the relationships is assessed at the 0.001 level. The coefficient is also accompanied by a sign (i.e., positive or negative), which 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.

The second important piece of information from the model is the odds ratio. The odds ratio indicates the strength of the relationship.¹¹ For example, an odds ratio of 3.0 indicates that the presence of the variable (e.g., a male driver) roughly leads to three times the likelihood of receiving the outcome (e.g., a warning).¹² 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. Therefore, the odds ratio is important to consider when determining the amount of influence particular factors have over the post-stop outcomes.

¹⁰ Using data at two or more levels of aggregation introduces a statistical dilemma where regression residuals for the level 1 cases (traffic stops) within the same level 2 units (station characteristics) may be correlated (i.e., are more similar than level 1 cases taken from independent stations). 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, U_i , which reflects the extra variation common to all level 1 cases within the level 2 unit, so the level 1 error term (R_{ij}) 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). To properly model the relationship between variables in a bi-level model, the traffic stop variables would be included at level 1 and the station characteristics (i.e., aggregated Trooper characteristics) would be included at level 2. Due to confidentiality restrictions, it is not possible to locate each traffic stop within a PSP station and link that information with a specific Trooper. Therefore, Trooper characteristics are included in the bi-level model at level 1.

¹¹ Technically, this odds ratio is a form of log-odds but the interpretation of this value is not intuitively straightforward; therefore, this type of coefficient is usually exponentiated to allow for interpretation in terms of odds (Liao, 1994). 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.

¹² For negative relationships, the odds ratio is presented as $1/\text{Exp}(b)$, for easier interpretation.

Multivariate Findings

Tables 6.4 & 6.5 display the results of four separate bi-level multivariate models that predict warnings, citations, arrests, and searches, respectively. These models demonstrate which factors likely influenced whether a particular traffic stop outcome was issued, other factors being equal. For each of these models, multiple independent variables were included that could potentially influence officers' actions. It is believed that each of these variables has the potential to influence officer behavior, and therefore must be statistically controlled to examine the variables of interest (i.e., drivers' race/ethnicity).¹³ As shown in the left hand column of Tables 6.4 & 6.5, the predictor variables at Level 1 included:

- Driver characteristics (values for each variable are in parentheses):
 - Race/ethnicity (four dichotomous variables: White, Black, Hispanic, other; White is the excluded comparison category in the analyses)
 - Gender (0=female; 1 = male)
 - Age (in years)
 - County residency where stop occurred (0=no; 1 = yes)
 - Pennsylvania residency (0= no; 1 = yes)
- Vehicle characteristics:
 - No registration (1 = no registration; 0 = PA or out-of-state registration)
 - Number of passengers in the vehicle (range = 0-5)
- Stop characteristics:
 - Daytime (0= nighttime; 1 = daytime)
 - Rush hour (0=no; 1=rush hour)
 - Weekday (0=weekend; 1 = weekday)
 - Summer (0=January – May & September – December; 1 = June, July & August)
 - Interstate (0=state road, county road, other; 1 = interstate)
- Legal variables:
 - Reason for the stop (0=other moving violations, equipment violations, pre-existing information, registration violations, license violations, special traffic enforcement programs, and “other” reasons not previously indicated; 1 = speeding)
 - Number of reasons for the stop (range = 1 - 6)
 - Evidence found during a search (0 = no evidence; 1 = any evidence)
- Trooper characteristics:
 - Gender (0=female; 1 = male)
 - Race/ethnicity (0=Non-White; 1 = White)
 - Experience (0=less than 5 years experience; 1 = more than 5 years)

¹³ Some variables were excluded from the models for comparison purposes. For example, drivers' race was captured in the model as Black, Hispanic, and “other.” The “other” category included Native American, Asian/Pacific Islander, and Middle Eastern. White was excluded from the model for comparison purposes. The effects of race/ethnicity variables reported in the models are *in comparison to Whites*. For examples, the odds ratio represents the likelihood of a Black driver being issued a citation compared to a White driver. The other dichotomous variables in the models were simply compared against their opposite (e.g., male drivers compared to female drivers).

- Education (range 1-6: 1=high school, 2=some college, no degree, 3=Associate's degree, 4=4 year degree, 5=1-2 years graduate level, 6= > 2 years graduate level)
- Assignment (0= non-Patrol; 1 = Patrol)

Warnings

As reported in Table 6.4, the results of the bi-level model for warnings indicated several statistically significant results. *Black drivers were 1.2 times more likely to be warned compared with White drivers, even when other potentially relevant variables were considered. Drivers of "other" race/ethnicity were 1.2 times less likely to be warned compared to White drivers.* Drivers' age was also statistically significant in relation to warnings; however, as mentioned, low odds ratios indicate marginal substantive significance as in the relationship between drivers' age and warnings. Based on the 2007 data, older drivers are slightly more likely to be warned than similarly situated younger drivers.

Bi-level analyses of warnings also indicated that traffic stops initiated during the daytime were 1.2 times less likely to result in a warning compared to traffic stop initiated in non-daytime hours. Moreover, traffic stops initiated as a result of speeding were 2.3 times less likely to result in a warning compared to traffic stops initiated for non-speeding reasons. Conversely, for each additional reason for the stop, the likelihood of a warning increased 4.3 times. Finally, the only Trooper characteristic that achieved statistical significance was patrol assignment. Based on the bi-level models, Troopers not assigned to patrol were 2.5 times more likely to issue a warning compared to Troopers assigned to patrol.

Collectively, these results suggest slight racial/ethnic differences in the likelihood of receiving warnings, but Troopers' decisions to issue warnings are most strongly based on legal factors.

Citations

Table 6.4 identifies statistically significant variables related to citations. *Black drivers were 1.3 times less likely to be cited compared to White drivers. Hispanic drivers were equally likely to be cited compared to White drivers in similar situations.* In contrast, drivers of "other" race/ethnicity and male drivers were 1.4 and 1.1 times more likely to be cited compared to White drivers and female drivers, respectively. Drivers' age was also statistically significant in relation to citations, but in a negative direction (younger drivers more likely to be cited).

Other findings include: traffic stops initiated during daytime hours were 1.7 times more likely to result in a citation compared to non-daytime traffic stops; traffic stops for speeding were 3.2 times more likely to result in a citation compared to non-speeding based traffic stops; the likelihood of being cited increased 1.7 times for every additional reason for the stop; and traffic stops resulting in the discovery of contraband were 5.9 times less likely to result in a citation compared to traffic stops in which no contraband was discovered (but more likely to result in arrest, see Table 6.5). Finally, traffic stops initiated by Troopers assigned to a patrol function were 4.4 times more likely to result in citations compared to traffic stops initiated by non-patrol assigned Troopers.

Collectively, these results demonstrate that Troopers' decisions to issue citations are most often based on legal factors and not drivers' or Troopers' characteristics.

Table 6.4: HLM Analyses Predicting WARNINGS and CITATIONS during all traffic stops in 2007

Level 1 Variables (N=298,733)	<u>Model 1: Warning</u>		<u>Model 2: Citation</u>	
Level 2 Variables (N=90)	Coefficient	Odds Ratio	Coefficient	Odds Ratio
Intercept	-1.04*	2.86	2.13*	8.44
<u>Driver Characteristics</u>				
Black	0.15*	1.16	-0.24*	1.27
Hispanic	-0.02	--	0.03	--
Other Race	-0.20*	1.22	0.35*	1.42
Male	-0.05	--	0.12*	1.13
Age	0.00*	1.00	-0.01*	1.01
County resident	0.08	--	-0.13	--
PA resident	0.02	--	0.03	--
<u>Vehicle Characteristics</u>				
PA registration	0.16	--	0.03	--
Number of Passengers	0.02	--	-0.02	--
<u>Stop Characteristics</u>				
Daytime	-0.18*	1.19	0.51*	1.66
Rush hour	-0.03	--	0.09	--
Weekday	0.07	--	-0.03	--
Summer	-0.07	--	0.05	--
Interstate	-0.07	--	0.07	--
<u>Legal variables</u>				
Speeding is reason for the stop	-0.83*	2.27	1.16*	3.19
Number of reasons for stop	1.46*	4.33	0.52*	1.68
Evidence found during search	-0.51*	--	-1.75*	5.88
<u>Trooper variables</u>				
Male	-0.18	--	-0.18	--
White	-0.06	--	0.03	--
More than 5 years experience	0.00	--	-0.23	--
Education scale	0.07	--	-0.08	--
Patrol assignment	-0.91*	2.50	1.47*	4.35

NOTE: * $p \leq .0001$

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

Arrests

A third bi-level model was computed for arrests and reported in Table 6.5. For arrests, there were no statistically significant racial differences for Black and Hispanic drivers when other factors were simultaneously considered. In other words, Black and Hispanic drivers were equally likely as White drivers to be arrested given similar circumstances surrounding the traffic stop. *Therefore, even though the rates of arrests were higher for Black and Hispanic drivers compared to Whites, once the factors associated with the traffic stops were considered, there were no racial/ethnic disparities in arrests.* In contrast drivers of “other” race/ethnicity were 2.3 times less likely to be arrested compared to White drivers.

Male drivers were 1.6 times more likely to be arrested compared to female drivers in similar situations. Drivers that lived in the county where the traffic stop occurred, or lived within the state of Pennsylvania were 1.5 and 2.2 times more likely to be arrested compared to non-county and non-state residents, respectively. Traffic stops involving vehicles without registration were 2.3 times less likely to end in an arrest, and fewer passengers in the vehicle indicated a 1.1 times lower likelihood of arrest.

Stop characteristics were also associated with arrest. As reported in Table 6.5, traffic stops initiated during the daytime, during rush hour, or on a weekday were all less likely to result in an arrest compared to non-daytime, non-rush hour, and weekend traffic stops. Daytime traffic stops were the strongest of these variables, as they were 6.7 times less likely to result in an arrest. Rush hour and weekday traffic stops were 2.0 and 2.2 times less likely to end in an arrest, respectively.

All three legal variables measured were statistically related to arrests. By a significant margin, traffic stop resulting in the discovery of contraband were more likely to end in an arrest (over 137 times more likely). Traffic stops initiated due to speeding were 3.5 times *less* likely to end in an arrest compared to non-speeding traffic stops, while the likelihood of arrest increased 1.5 times for each additional reason for the stop form. No Trooper characteristics were associated with arrests.

Collectively, these results demonstrate that the most severe sanction issued during traffic stops (i.e., arrests) are based on legal factors and not drivers’ race/ethnicity, or Trooper characteristics.

Table 6.5: HLM Analyses Predicting ARRESTS and SEARCHES during all traffic stops in 2007

Level 1 Variables (N=298,733) Level 2 Variables (N=90)	<u>Model 1: Arrest</u>		<u>Model 2: Search</u>	
	Coefficient	Odds Ratio	Coefficient	Odds Ratio
Intercept	-5.64*	0.00	-5.33*	0.00
<u>Driver Characteristics</u>				
Black	0.01	--	1.06*	2.89
Hispanic	0.11	--	0.80*	2.23
Other Race	-0.82*	2.27	-0.27	--
Male	0.48*	1.61	0.90*	2.45
Age	0.00	--	-0.03*	1.03
County resident	0.41*	1.51	0.15	--
PA resident	0.78*	2.19	-0.05	--
<u>Vehicle Characteristics</u>				
No registration	-0.82*	2.27	-0.52*	1.69
Number of Passengers	-0.10*	1.10	0.14*	1.15
<u>Stop Characteristics</u>				
Daytime	-1.89*	6.67	-0.60*	1.82
Rush hour	-0.70*	2.00	-0.35*	1.41
Weekday	-0.78*	2.17	-0.05	--
Summer	-0.00	--	-0.10	--
Interstate	-0.48	--	0.44*	1.55
<u>Legal variables</u>				
Speeding is reason for the stop	-1.25*	3.45	-1.22*	3.45
Number of reasons for stop	0.43*	1.53	0.66*	1.94
Evidence found during search	4.92*	137.60	--	--
<u>Trooper variables</u>				
Male	0.35	--	0.18	--
White	-0.64	--	0.03	--
More than 5 years experience	-0.03	--	0.18	--
Education scale	0.08	--	0.03	--
Patrol assignment	-0.31	--	-1.25*	3.45

NOTE: * p ≤ .0001

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

Searches

In Table 6.5, the bi-level model examining searches is reported. In contrast to the previous models predicting citations and arrests, racial/ethnic differences were identified. *Specifically, Black drivers were 2.9 times more likely to be searched compared White drivers. Likewise, Hispanic drivers were 2.2 times more likely than White drivers to be searched. These differences existed even after controlling for other known legal and extralegal factors.* In addition, male drivers were 2.5 times more likely to be searched compared to female drivers. Finally, younger drivers were slightly more likely to be arrested, but the substantive effects of this relationship are marginal.

Traffic stops involving vehicle with no registration were 1.7 times less likely to result in a search compared to traffic stops involving vehicles with registration, and there was a slightly higher likelihood of search if there were more passengers in the vehicle. Traffic stops initiated during the daytime and rush hour were 1.8 and 1.4 times *less* likely to result in a search compared to traffic stops initiated during non-daytime hours and non-rush hours, respectively. Traffic stops initiated on interstates were 1.6 times more likely to result in searches compared to non-interstate traffic stops.

Similar to arrests, traffic stops initiated due to speeding were 3.5 times *less* likely to result in searches compared to traffic stops initiated for non-speeding reasons. Conversely, the likelihood of a search increased 1.9 times for every additional reason for the stop noted on the form (i.e., multiple reasons for the stop were more likely to result in searches). Finally, traffic stops initiated by Troopers assigned to a patrol function were 3.5 times *less* likely to conduct searches compared to traffic stops initiated by Troopers not assigned to patrol.

Collectively, these results demonstrate that racial/ethnic differences in the rates of searches cannot be explained by the legal and extralegal factors captured on the traffic stop forms. Given similar situations (as measured on the traffic stop form), Black and Hispanic drivers are significantly more likely to be searched compared to White drivers. More detailed analyses examining searches and seizures are provided in Section 7.

SECTION SUMMARY

This summary highlights the bivariate and multivariate analyses of warnings, citations, arrests, and searches issued to drivers during member-initiated traffic stops conducted in 2007. When reviewing these results, it is important to remember that the bivariate analyses only consider two variables at a time (e.g., the race/ethnicity of the driver or the drivers' gender and the traffic 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. Conclusions based on any multivariate analyses are limited to the variables in the model, and do not consider the potential of a misspecified model. Misspecified models occur when important, pertinent variables related to the dependent variables are not included in the model. Thus, multivariate analyses can only 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

- At the department level, racial/ethnic and gender based statistically significant differences were noted for warnings, citations, arrests, and searches
 - Warnings:
 - Of the Black and Hispanic motorists stopped, 27.7% and 27.8% (respectively) were issued warnings, compared to 26.1% of White drivers

- Male drivers (26.1%) received more warnings compared to female drivers (25.7%)
- Citations:
 - Hispanic drivers had slightly higher rates of citations (88.9% of Hispanic drivers stopped were cited), compared to White (87.2%) and Black drivers (87.0%)
 - Male drivers received more citations (87.5% of male drivers stopped), compared to female drivers (87.2%)
- Arrests:
 - Hispanic and Black drivers had higher rates of arrest (1.8% of Black drivers stopped were arrest, 2.1% of Hispanic drivers stopped were arrested) compared to White drivers (1.4%)
 - Male drivers were arrested more frequently (1.7% of male drivers stopped) compared to female drivers (0.9%)
- Searches:
 - The largest racial/ethnic differences are found for searches
 - Black and Hispanic drivers had significantly higher rates of searches (3.7% and 3.5% of Black and Hispanic drivers stopped were searched, respectively) compared to White drivers (0.9%)
 - Male drivers (1.6%) were searched more frequently compared to female drivers (0.6%)
- These patterns and trends varied somewhat at the area level and more so at the troop and station levels.
- Racial, ethnic, and gender differences are not alone evidence of bias policing because other factors related to traffic stop outcomes were not considered in these analyses
- PSP supervisors should review these findings for the best understanding of trends in racial/ethnic and gender disparities in warnings and citations within their jurisdictions

Multivariate Analyses

- Multivariate statistical models take many different factors into account when attempting to explain traffic stop outcomes. 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. The findings summarized below represent the independent effects on traffic stop outcomes when other factors are statistically controlled.
- **Warnings**
 - Black drivers were 1.2 times *more* likely to be warned compared to White drivers
 - Drivers of “other” race/ethnicity were 1.2 times *less* likely to be warned compared to White drivers
 - Traffic stops initiated during the daytime were 1.2 times *less* likely to result in warnings compared to traffic stops during the evening and overnight hours
 - Traffic stops initiated as a result of speeding were 2.3 times *less* likely to result in a warning compared to traffic stops initiated for other non-speeding reasons.

- For each additional reason for the stop (traffic infraction), the likelihood of a warning *increased* 4.3 times
- Troopers not assigned to patrol were 2.5 times *more* likely to issue warnings compared to traffic stops involving Troopers assigned to other functions

Collectively, these results suggest slight racial/ethnic differences in the likelihood of receiving warnings, but Troopers' decisions to issue warnings are most strongly based on legal factors.

- **Citations**

- Black drivers were 1.3 times *less* likely to be cited, compared to White drivers
- Drivers of “other” race/ethnicity were 1.4 times *more* likely to be cited, compared to White drivers
- Male drivers were 1.1 times *more* likely to be cited compared to female drivers
- Younger drivers were *more* likely to be cited compared to older drivers
- Traffic stops initiated during daytime hours were 1.7 times *more* likely to result in a citation
- Traffic stops initiated due to speeding were 3.2 times *more* likely to result in a citation compared to stops initiated for non-speeding reasons
- The likelihood of being cited *increased* 1.7 times for every additional reason for the stop
- Traffic stops resulting in the discovery of contraband were 5.9 times *less* likely to result in a citation compared to stops with contraband discoveries
- Traffic stops initiated by Troopers assigned to a patrol function were 4.4 times *more* likely to result in a citation compared to stops with Troopers assigned to other non-patrol functions

Collectively, these results demonstrate that Troopers' decisions to issue citations are most often based on legal factors and not drivers' or Troopers' characteristics.

- **Arrests**

- Drivers of “other” race/ethnicity were 2.3 times *less* likely to be arrested compared to White drivers
- Male drivers were 1.6 times *more* likely to be arrested compared to female drivers
- Drivers that lived in the county where the traffic stop occurred were 1.5 times *more* likely to be arrested compared to traffic stops of non-county residents
- Drivers that lived within the state of Pennsylvania were 2.2 times *more* likely to be arrested compared to traffic stops of out-of-state residents
- Traffic stops involving vehicles without registration were 2.3 times *less* likely to end in an arrest compared to traffic stops with valid registrations
- Fewer passengers in vehicles indicated a 1.1 times *lower* likelihood of arrest
- Traffic stops initiated during the daytime were 6.7 times *less* likely to result in arrests compared to stops initiated in the evening or overnight hours
- Traffic stops initiated during rush hour were 2.0 times *less* likely to result in arrests compared to stops initiated during non-rush hour times

- Traffic stops initiated on weekdays were 2.2 times *less* likely to result in arrests compared to stops during weekends
- Traffic stops resulting in the discovery of contraband were 137.6 times *more* likely to end in arrest compared to traffic stops without contraband discoveries
- Traffic stops initiated due to speeding were 3.5 times *less* likely to end in arrests compared to stops initiated for other reasons
- The likelihood of arrest *increased* 1.5 times for each additional reason for the stop

Collectively, these results demonstrate that the most severe sanction issued during traffic stops (i.e., arrest) is based on legal factors and not drivers' race/ethnicity, or Troopers' characteristics.

- **Searches**

- Black drivers were 2.9 times *more* likely to be searched compared to White drivers
- Hispanic drivers were 2.2 times *more* likely to be searched compared to White driver
- Male drivers were 2.5 times *more* likely to be searched compared to female drivers
- Younger drivers were slightly *more* likely to be arrested compared to older drivers, but the substantive effects of this relationship are marginal
- Traffic stops involving vehicle with no registration were 1.7 times *less* likely to result in searches compared to vehicles with valid registration
- There was a slightly *higher* likelihood of search if there were more passengers in the vehicle
- Traffic stops initiated during the daytime were 1.8 times *less* likely to result in searches compared to stops initiated in evening and overnight hours
- Traffic stops initiated during rush hour were 1.4 times *less* likely to result in searches compared to stops conducted during non-rush hour times
- Traffic stops initiated on interstates were 1.6 times *more* likely to result in searches compared to non-interstate stops
- Traffic stops initiated due to speeding were 3.5 times *less* likely to result in searches compared to stops for non-speeding reasons
- The likelihood of searches *increased* 1.9 times for every additional reason for the stop
- Traffic stops initiated by Troopers assigned to patrol function were 3.5 times *less* likely to conduct searches compared to non-patrol assigned Troopers

Collectively, these results demonstrate that racial/ethnic differences in the rates of searches cannot be explained by the legal and extralegal factors captured on the traffic stop forms. Given similar situations (as measured on the traffic stop form), Black and Hispanic drivers are significantly more likely to be searched compared to White drivers. More detailed analyses examining searches and seizures are provided in Section 7.

Summary of Racial/Ethnic Differences in Traffic Stop Outcomes

- Black drivers have significantly higher rates of warnings, arrests, and searches compared to White drivers
- Hispanic drivers have significantly higher rates of warnings, citations, arrest, and searches compared to White drivers
- When other extralegal and legal factors are considered (i.e., given similar traffic stop situations):
 - Black drivers were 1.2 times *more* likely to be warned compared to White drivers
 - Hispanic drivers were *equally* likely to be warned compared to White drivers
 - Black drivers were 1.3 times *less* likely to be cited compared to White drivers
 - Hispanic drivers were *equally* likely to be cited compared to White drivers
 - Black drivers were *equally* likely to be arrested compared to White drivers
 - Hispanic drivers were *equally* likely to be arrested compared to White drivers
 - Black drivers were 2.9 times *more* likely to be searched compared to White drivers
 - Hispanic drivers were 2.2 times *more* likely to be searched compared to White drivers

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 6, 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 2.9 and 2.2 times more likely than Whites 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, Tables 3.8 and 3.9).

In Tables 7.1 and 7.2, the different types of searches conducted at the department, area, troop, and station levels. 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 and 7.5 report the different types of contraband seized by department, area, troop, and station, while Tables 7.6 – 7.9 report search success rates. Finally, Tables 7.10 – 7.12 presents a series of analyses focused specifically on consent searches. This section concludes with a summary of the main findings on PSP's search and seizure rates.

SEARCH RATES

As reported in Sections 3 and 5, 1.2% of all member-initiated traffic stops during the one-year period under review resulted in a search of the vehicle and/or driver. Despite the statistical infrequency with which PSP Troopers conduct searches, the physical and psychological intrusion of a person or vehicle search merits further scrutiny of this type of coercive police action.

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. This column partially duplicates information provided in the "consent" column, but excludes searches that were conducted based on consent in addition to another reason. Although specific information regarding the reason for the search is provided at the station level in Table 7.2, due to the small number of searches conducted in many stations, these percentages need to be interpreted with caution.

As shown in Table 7.1, 69.2% of drivers gave their consent to be searched at the department level in 2007. A smaller percentage of searched drivers, however, were searched based *solely* on consent (40.2%). This is consistent with data from previous years that also indicated consent

was the most common reason for searches during traffic stops. The second most frequently recorded reason for a search was inventory (16.9% of searches), followed by the odor of drugs (15.3%), incident to arrest (14.1%), reasonable suspicion or probable cause (8.9%), plain view (7.5%), canine alerts (1.9%), and search warrant (1.1%). For 9.1% of searches, the “other” category was indicated as the reason for the search. The exact reasons for “other,” however, are unknown.

Table 7.1 also illustrates the different reasons for searches across areas and troops. For example, 80.4% of searches conducted in Area II were based on consent, compared to only 59.7% 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	% Reas. Susp./ Prob. Cause	% Other	% Consent Only
PSP Dept.	3,726	14.1	16.9	1.1	7.5	1.9	15.3	69.2	8.9	9.1	40.2
AREA I	813	18.6	20.3	1.6	8.2	2.1	20.7	64.6	14.0	8.1	32.8
Troop H	313	26.2	8.9	1.9	9.3	1.9	28.4	69.0	17.9	8.3	35.8
Troop J	332	12.0	39.5	0.6	6.3	0.6	15.1	54.2	9.6	3.0	30.1
Troop L	58	32.8	1.7	1.7	1.7	3.4	12.1	55.2	10.3	15.5	31.0
Troop T	110	9.1	4.5	3.6	14.5	6.4	20.0	88.2	18.2	19.1	33.6
AREA II	383	11.7	2.6	2.1	8.1	4.7	15.7	80.4	13.1	13.1	43.9
Troop F	157	19.7	1.9	5.1	13.4	8.9	23.6	75.2	12.1	17.8	24.2
Troop P	70	8.6	2.9	0.0	7.1	2.9	8.6	82.9	10.0	11.4	54.3
Troop R	156	5.1	3.2	0.0	3.2	1.3	10.9	84.6	15.4	9.0	59.0
AREA III	704	8.7	2.0	0.7	12.5	2.0	12.8	79.3	7.4	10.5	49.3
Troop A	273	8.8	2.2	1.8	23.4	3.7	13.6	80.6	10.3	9.9	37.0
Troop B	208	13.0	2.4	0.0	6.3	1.4	17.3	70.2	5.8	9.1	45.7
Troop G	223	4.5	1.3	0.0	4.9	0.4	7.6	86.1	5.4	12.6	67.7
AREA IV	548	15.3	5.7	0.9	8.0	1.3	18.2	77.7	6.6	12.8	47.3
Troop C	103	18.4	1.0	1.9	6.8	1.9	6.8	78.6	10.7	12.6	49.5
Troop D	338	13.9	6.5	0.9	9.8	1.5	20.1	81.1	6.2	9.2	50.9
Troop E	107	16.8	7.5	0.0	3.7	0.0	23.4	66.4	3.7	24.3	33.6
AREA V	1,277	14.4	32.0	0.9	4.0	1.2	11.9	59.7	6.2	6.2	35.9
Troop K	711	14.3	42.9	1.0	4.2	0.4	11.5	56.4	7.6	3.7	31.1
Troop M	338	17.5	29.3	1.2	3.0	2.1	12.7	50.9	5.3	12.1	25.4
Troop N	228	10.1	2.2	0.0	4.8	2.2	11.8	83.3	3.1	5.3	66.2

Table7.2: Reasons for Search by Station (p. 1 of 4)

	# of Searches	% Incident to Arrest	% Inventory	% Search Warrant	% Plain View	% Canine Alert	% Drug Odor	% Consent	% Reas. Susp./ Prob. Cause	% Other	% Consent Only
AREA I											
Troop H											
Carlisle	95	17.9	11.6	4.2	15.8	2.1	33.7	69.5	11.6	3.2	29.5
Chambersburg	61	9.8	3.3	3.3	3.3	3.3	13.1	85.1	6.6	6.6	68.9
Gettysburg	49	67.3	16.3	0.0	18.4	0.0	63.3	20.4	67.3	2.0	4.1
Harrisburg	26	19.2	3.8	0.0	3.8	3.8	11.5	88.5	3.8	34.6	34.6
Lykens	9	33.3	0.0	0.0	11.1	0.0	33.3	66.7	11.1	22.2	11.1
Newport	12	8.3	0.0	0.0	0.0	0.0	8.3	66.7	16.7	16.7	50.0
York	61	27.9	9.8	0.0	1.6	1.6	18.0	73.8	6.6	8.2	39.3
Troop J											
Avondale	90	7.8	44.4	0.0	7.8	0.0	15.6	47.8	3.3	3.3	26.7
Embreeville	128	16.4	60.2	0.0	0.8	0.0	12.5	47.7	2.3	2.3	29.7
Ephrata	8	12.5	25.0	0.0	12.5	0.0	37.5	75.0	0.0	0.0	25.0
Lancaster	106	10.4	11.3	1.9	11.3	1.9	16.0	66.0	24.5	3.8	34.0
Troop L											
Frackville	7	85.7	0.0	0.0	0.0	0.0	71.4	14.3	0.0	0.0	0.0
Hamburg	0	--	--	--	--	--	--	--	--	--	--
Jonestown	39	33.3	0.0	2.6	2.6	2.6	2.6	51.3	7.7	20.5	33.3
Reading	11	0.0	9.1	0.0	0.0	9.1	9.1	90.9	18.2	9.1	45.5
Schuylkill Haven	1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0
Troop T											
Bowmansville	15	0.0	0.0	6.7	13.3	0.0	13.3	0.0	13.3	33.3	46.7
Everett	10	0.0	10.0	0.0	20.0	20.0	10.0	90.0	30.0	20.0	0.0
Gibsonia	14	14.3	0.0	0.0	0.0	7.1	14.3	85.7	7.1	7.1	50.0
Highspire	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	66.7	0.0
King of Prussia	7	14.3	28.6	0.0	28.6	28.6	28.6	0.0	57.1	0.0	14.3
New Stanton	21	28.6	4.8	9.5	38.1	4.8	42.9	85.7	28.6	19.0	9.5
Newville	14	7.1	0.0	0.0	0.0	0.0	7.1	71.4	21.4	35.7	35.7
Pocono	7	0.0	14.3	0.0	14.3	0.0	28.6	57.1	0.0	14.3	28.6
Somerset (T)	19	0.0	0.0	5.3	5.3	5.3	15.8	0.0	0.0	5.3	68.4

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	% Reas. Susp./ Prob. Cause	% Other	% Consent Only
AREA II											
Troop F											
Coudersport	9	0.0	11.1	0.0	11.1	0.0	0.0	55.6	22.2	44.4	44.4
Emporium	8	12.5	0.0	0.0	0.0	12.5	0.0	87.5	0.0	25.0	50.0
Lamar	11	0.0	0.0	0.0	9.1	0.0	0.0	100.0	9.1	18.2	63.6
Mansfield	13	30.8	7.7	7.7	23.1	23.1	23.1	92.3	30.8	0.0	15.4
Milton	29	13.8	0.0	0.0	10.3	6.9	27.6	75.9	6.9	17.2	37.9
Montoursville	50	12.0	0.0	14.0	18.0	12.0	22.0	72.0	20.0	26.0	16.0
Selinsgrove	13	30.8	7.7	0.0	15.4	7.7	15.4	53.8	0.0	15.4	23.1
Stonington	24	50.0	0.0	0.0	12.5	0.0	54.2	75.0	0.0	0.0	8.3
Troop P											
Laporte	4	0.0	0.0	0.0	25.0	0.0	25.0	50.0	0.0	25.0	0.0
Shickshinny	5	40.0	0.0	0.0	0.0	0.0	20.0	60.0	0.0	0.0	40.0
Towanda	42	4.8	0.0	0.0	2.4	0.0	4.8	95.2	11.9	9.5	71.4
Tunkhannock	11	18.2	18.2	0.0	27.3	0.0	0.0	63.6	9.1	0.0	45.5
Wyoming	8	0.0	0.0	0.0	0.0	25.0	25.0	75.0	12.5	37.5	12.5
Troop R											
Blooming Grove	38	2.6	5.3	0.0	2.6	2.6	7.9	76.3	21.1	10.5	57.9
Dunmore	66	3.0	4.5	0.0	4.5	0.0	10.6	89.4	1.5	6.1	75.8
Gibson	22	18.2	0.0	0.0	0.0	4.5	9.1	68.2	13.6	18.2	50.0
Honesdale	30	3.3	0.0	0.0	3.3	0.0	16.7	96.7	40.0	6.7	30.0
AREA III											
Troop A											
Ebensburg	51	17.6	0.0	0.0	9.8	0.0	2.0	66.7	17.6	7.8	45.1
Greensburg	101	5.0	1.0	3.0	19.8	5.9	19.8	90.1	6.9	5.9	50.5
Indiana	42	9.5	11.9	0.0	14.3	0.0	9.5	61.9	7.1	19.0	28.6
Kiski Valley	34	8.8	0.0	0.0	73.5	2.9	11.8	73.5	0.0	8.8	2.9
Somerset (A)	45	6.7	0.0	4.4	17.8	6.7	17.8	97.8	20.0	13.3	31.1

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	% Reas. Susp./ Prob. Cause	% Other	% Consent Only
AREA III (cont.)											
Troop B											
Belle Vernon	17	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	11.8	88.2
Findlay	35	31.4	5.7	0.0	0.0	0.0	28.6	85.7	0.0	2.9	42.9
Uniontown	106	7.5	1.9	0.0	7.5	1.9	17.9	64.2	8.5	7.5	46.2
Washington	34	11.8	2.9	0.0	11.8	2.9	8.8	58.8	5.9	17.6	32.4
Waynesburg	16	25.0	0.0	0.0	6.3	0.0	25.0	68.8	6.3	12.5	31.3
Troop G											
Bedford	11	0.0	0.0	0.0	9.1	0.0	18.2	8.8	0.0	27.3	54.5
Hollidaysburg	92	1.1	1.1	0.0	1.1	0.0	3.3	94.6	1.1	3.3	89.1
Huntingdon	24	16.7	0.0	0.0	12.5	0.0	12.5	66.7	0.0	20.8	50.0
Lewistown	20	5.0	0.0	0.0	0.0	0.0	5.0	95.0	40.0	10.0	40.0
McConnellsburg	12	25.0	8.3	0.0	25.0	0.0	16.7	41.7	8.3	8.3	16.7
Philipsburg	7	0.0	14.3	0.0	14.3	14.3	14.3	85.7	14.3	14.3	42.9
Rockview	57	1.8	0.0	0.0	3.5	0.0	8.8	87.7	1.8	22.8	66.7
AREA IV											
Troop C											
Clarion	29	31.0	3.4	6.9	10.3	6.9	6.9	62.1	10.6	27.6	27.6
Clearfield	15	0.0	0.0	0.0	6.7	0.0	6.7	100.0	6.7	0.0	80.0
Dubois	5	40.0	0.0	0.0	0.0	0.0	0.0	40.0	20.0	20.0	20.0
Kane	23	26.1	0.0	0.0	13.0	0.0	8.7	69.6	4.3	0.0	60.9
Punxsutawney	11	9.1	0.0	0.0	0.0	0.0	0.0	90.9	0.0	27.3	45.5
Ridgway	7	14.3	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	85.7
Tionesta	13	0.0	0.0	0.0	0.0	0.0	15.4	100.0	38.5	7.7	38.5
Troop D											
Beaver	88	12.5	1.1	2.3	5.7	1.1	15.9	80.7	0.0	5.7	59.1
Butler	67	6.0	1.5	1.5	13.4	1.5	17.9	88.7	10.4	14.9	49.3
Kittanning	103	25.2	18.4	0.0	11.7	1.9	29.1	74.8	11.7	4.9	40.8
Mercer	54	1.9	0.0	0.0	7.4	1.9	18.5	94.4	0.0	9.3	64.8
New Castle	26	19.2	3.8	0.0	11.5	0.0	7.7	61.5	7.7	23.1	38.5

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	% Reas. Susp./ Prob. Cause	% Other	% Consent Only
AREA IV (cont.)											
Troop E											
Corry	0	--	--	--	--	--	--	--	--	--	--
Erie	38	0.0	10.5	0.0	2.6	0.0	15.8	81.6	2.6	31.6	39.5
Franklin	12	8.3	16.7	0.0	8.3	0.0	8.3	66.7	0.0	25.0	41.7
Girard	14	14.3	0.0	0.0	0.0	0.0	14.3	85.7	14.3	35.7	21.4
Meadville	31	48.4	0.0	0.0	6.5	0.0	48.4	38.7	3.2	12.9	19.4
Warren	12	0.0	16.7	0.0	0.0	0.0	8.3	66.7	0.0	16.7	58.3
AREA V											
Troop K											
Media	337	10.1	52.5	0.9	5.6	0.9	13.4	48.4	5.3	4.2	25.2
Philadelphia	317	12.9	35.0	1.3	2.2	0.0	9.5	70.3	11.0	2.5	40.4
Skippack	57	47.4	29.8	0.0	7.0	0.0	12.3	26.3	1.8	7.0	14.0
Troop M											
Belfast	48	43.8	16.7	2.1	4.2	0.0	14.6	31.3	8.3	4.2	12.5
Bethlehem	47	8.5	31.9	0.0	2.1	4.3	17.0	57.4	4.3	8.5	31.9
Dublin	63	19.0	17.5	0.0	0.0	0.0	15.9	66.7	1.6	17.5	34.9
Fogelsville	159	10.7	35.2	1.9	3.8	3.1	10.7	48.4	6.9	11.9	23.9
Trevoze	21	23.8	42.9	0.0	4.8	0.0	4.8	52.4	0.0	23.8	23.8
Troop N											
Bloomsburg	15	0.0	0.0	0.0	13.3	0.0	6.7	80.0	0.0	26.7	60.0
Fern Ridge	10	0.0	0.0	0.0	0.0	10.0	30.0	90.0	20.0	10.0	50.0
Hazleton	71	9.9	2.8	0.0	4.2	0.0	14.1	83.1	1.4	8.5	59.2
Lehighton	6	50.0	33.3	0.0	50.0	0.0	66.7	16.7	0.0	0.0	0.0
Swiftwater	126	10.3	0.8	0.0	2.4	3.2	7.1	86.5	3.2	0.8	75.4

While examining the specific reasons for searches 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 Troopers 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.¹⁴ 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 significant differences in the percentages of search types across racial/ethnic groups. Specifically, White drivers were significantly more likely than Blacks and Hispanics to be searched for mandatory reasons. In contrast, Hispanics were least likely to be searched for probable cause/reasonable suspicion but most likely to be searched based solely on consent compared to Whites and Blacks.

A significantly larger percentage of drivers under 25 years-old was searched for probable cause/reasonable suspicion reasons, while 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. A considerably larger percentage of Pennsylvania residents were searched for mandatory (Type I) reasons, while a larger percentage of non-Pennsylvania residents were searched for consent reasons.

There were also differences in the reasons for a search based on Troopers’ characteristics. White Troopers were significantly more likely to conduct searches for mandatory and probable cause/reasonable suspicion reasons compared to non-White Troopers; in contrast, minority Troopers were significantly more likely than White Troopers to conduct searches based solely on consent. There were also differences in the types of searches conducted across Troopers’ gender, experience, and education. Female Troopers were significantly more likely to conduct searches for mandatory reasons compared to male Troopers, while male Troopers were significantly more likely than their female counterparts to conduct searches based solely on consent. In addition, more experienced Troopers were more likely to conduct consent 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 consent searches and less likely to conduct probable cause/reasonable suspicion searches compared to Troopers with less education. The

¹⁴ 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.

reasons for these differences may be assignment based – this explanation cannot be directly assessed in the bivariate analyses reported in Table 7.3.

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	3,726	29.3	29.7	41.0
By Drivers' Characteristics				
White Driver	2,253	31.5**	30.5***	38.0***
Black Driver	982	25.4	31.2	43.5
Hispanic Driver	368	28.3	20.1	51.6
Male Driver	3,165	28.7	29.4	41.9*
Female Driver	530	32.6	31.3	36.0
Driver under 25 years old	1,626	23.1***	36.3***	40.5
Driver over 25 years old or older	2,070	34.1	24.4	41.4
Driver PA Resident	2,811	34.3***	30.2	35.5***
Driver Non-PA Resident	885	13.4	27.9	58.6
By Troopers' Characteristics				
White Trooper	3,441	30.0***	30.0*	40.0***
Non-White Trooper	237	19.8	23.6	56.5
Male Trooper	3,522	28.3***	29.9	41.8***
Female Trooper	156	51.3	23.1	25.6
<5 years experience	1,780	32.9***	28.9	38.2***
>5 years experience	1,898	26.0	30.2	43.8
No College Degree	902	28.6	34.3***	37.1**
2 Year Degree	887	30.2	29.8	40.0
4 Year Degree or more	1,888	29.2	27.3	43.5

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 2007, there were 1,076 seizures of contraband resulting from 3,726 searches (28.9% of searches resulted in the discovery of contraband). A majority of the contraband seized was drugs (71.0%), followed distantly by “other” (13.5%)¹⁵, and alcohol (12.6%). Note that a single search could produce multiple types of contraband

¹⁵ The “other” category includes contraband which does not fit in the other given categories but was not specified on the original CDR. The CDR X-press does include a field where Troopers may manually enter this information. The most frequent type of “other” contraband indicated was drug paraphernalia.

seized; therefore, the sum of percentages in the various categories 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, with few exceptions, consistent across area and troop levels. More fluctuation was evident at the station level (shown in Table 7.5), particularly in locations with small numbers of contraband seizures.

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

	# of Seizures	% Cash	% Drugs	% Vehicle	% Weapons	% Stolen Prop.	% Alcohol	% Other
PSP Dept.	1,076	10.8	71.0	6.0	7.0	1.8	12.6	13.5
AREA I	247	8.5	67.2	3.6	6.5	2.8	18.6	13.8
Troop H	100	4.0	71.0	2.0	11.0	2.0	21.0	10.0
Troop J	101	7.9	64.4	1.0	4.0	1.0	21.8	15.8
Troop L	5	20.0	60.0	20.0	0.0	0.0	20.0	0.0
Troop T	41	19.5	65.9	12.2	2.4	9.8	4.9	19.5
AREA II	123	18.7	70.7	10.6	3.3	0.0	9.8	11.4
Troop F	58	22.4	60.3	13.8	6.9	0.0	12.1	15.5
Troop P	19	15.8	84.2	15.8	0.0	0.0	5.3	10.5
Troop R	46	15.2	78.3	4.3	0.0	0.0	8.7	6.5
AREA III	209	9.6	73.2	3.8	8.6	1.0	10.5	14.8
Troop A	105	9.5	74.3	3.8	6.7	1.0	14.3	16.2
Troop B	52	9.6	78.8	1.9	17.3	0.0	1.9	7.7
Troop G	52	9.6	65.4	5.8	3.8	1.9	11.5	19.2
AREA IV	161	5.0	67.7	5.0	9.3	3.1	15.5	19.3
Troop C	18	11.1	66.7	5.6	11.1	0.0	16.7	11.1
Troop D	113	5.3	74.3	3.5	11.5	4.4	15.0	15.0
Troop E	30	0.0	43.3	10.0	0.0	0.0	16.7	40.0
AREA V	336	13.1	74.1	8.0	6.5	1.5	9.2	10.4
Troop K	207	13.5	81.2	3.4	8.2	1.9	8.2	10.6
Troop M	66	4.5	59.1	19.7	1.5	1.5	13.6	12.1
Troop N	63	20.6	66.7	11.1	6.3	0.0	7.9	7.9

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	2.6	84.2	2.6	7.9	0.0	21.1	10.5
Chambersburg	17	11.8	88.2	0.0	5.9	5.9	5.9	0.0
Gettysburg	21	0.0	28.6	0.0	23.8	0.0	57.1	4.8
Harrisburg	1	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Lykens	5	0.0	80.0	20.0	20.0	0.0	0.0	0.0
Newport	5	20.0	60.0	0.0	0.0	0.0	0.0	60.0
York	13	0.0	76.9	0.0	7.7	7.7	0.0	15.4
Troop J								
Avondale	25	8.0	48.0	0.0	0.0	0.0	32.0	16.0
Embreeville	23	13.0	60.9	0.0	13.0	0.0	13.0	13.0
Ephrata	2	0.0	50.0	0.0	0.0	0.0	0.0	50.0
Lancaster	51	5.9	74.5	2.0	2.0	2.0	21.6	15.7
Troop L								
Frackville	--	--	--	--	--	--	--	--
Hamburg	--	--	--	--	--	--	--	--
Jonestown	2	0.0	100.0	0.0	0.0	0.0	50.0	0.0
Reading	2	50.0	50.0	0.0	0.0	0.0	0.0	0.0
Schuylkill Haven	1	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Troop T								
Bowmansville	4	50.0	75.0	0.0	0.0	0.0	0.0	0.0
Everett	5	0.0	60.0	0.0	0.0	0.0	20.0	20.0
Gibsonia	4	50.0	100.0	25.0	0.0	25.0	0.0	0.0
Highspire	1	100.0	0.0	0.0	0.0	0.0	0.0	0.0
King of Prussia	3	0.0	33.3	33.3	0.0	0.0	0.0	33.3
New Stanton	10	30.0	80.0	20.0	10.0	10.0	0.0	20.0
Newville	1	0.0	0.0	100.0	0.0	100.0	0.0	0.0
Pocono	2	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Somerset (T)	11	0.0	54.5	0.0	0.0	9.1	9.1	36.4

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	2	0.0	0.0	50.0	0.0	0.0	0.0	50.0
Emporium	3	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Lamar	6	33.3	50.0	0.0	16.7	0.0	0.0	33.3
Mansfield	7	0.0	100.0	0.0	0.0	0.0	0.0	14.3
Milton	9	11.1	55.6	11.1	11.1	0.0	22.2	11.1
Montoursville	24	37.5	66.7	16.7	8.3	0.0	8.3	8.3
Selinsgrove	3	33.3	33.3	33.3	0.0	0.0	0.0	33.3
Stonington	4	0.0	0.0	25.0	0.0	0.0	75.0	25.0
Troop P								
Laporte	2	50.0	50.0	0.0	0.0	0.0	0.0	0.0
Shickshinny	--	--	--	--	--	--	--	--
Towanda	9	0.0	77.8	11.1	0.0	0.0	11.1	11.1
Tunkhannock	5	20.0	100.0	20.0	0.0	0.0	0.0	0.0
Wyoming	3	33.3	100.0	33.3	0.0	0.0	0.0	33.3
Troop R								
Blooming Grove	8	25.0	37.5	0.0	0.0	0.0	25.0	25.0
Dunmore	22	18.2	90.9	9.1	0.0	0.0	0.0	4.5
Gibson	5	20.0	80.0	0.0	0.0	0.0	0.0	0.0
Honesdale	11	0.0	81.8	0.0	0.0	0.0	18.2	0.0
AREA III								
Troop A								
Ebensburg	15	6.7	73.3	0.0	0.0	0.0	26.7	0.0
Greensburg	53	1.9	77.4	0.0	1.9	0.0	15.1	20.8
Indiana	19	10.5	73.7	0.0	21.1	0.0	5.3	5.3
Kiski Valley	7	14.3	71.4	14.3	0.0	0.0	14.3	28.6
Somerset (A)	11	45.5	63.6	27.3	18.2	9.1	9.1	27.3
Troop B								
Belle Vernon	4	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Findlay	2	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Uniontown	33	12.1	72.7	0.0	18.2	0.0	3.0	12.1
Washington	11	9.1	81.8	9.1	18.2	0.0	0.0	0.0
Waynesburg	2	0.0	100.0	0.0	50.0	0.0	0.0	0.0
Troop G								
Bedford	1	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Hollidaysburg	11	27.3	81.8	9.1	9.1	0.0	9.1	0.0
Huntingdon	9	0.0	77.8	0.0	0.0	0.0	0.0	11.1
Lewistown	5	20.0	100.0	20.0	0.0	0.0	0.0	0.0
McConnellsburg	5	0.0	60.0	0.0	20.0	0.0	40.0	0.0
Philipsburg	1	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Rockview	20	5.0	40.0	5.0	0.0	5.0	10.0	45.0

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	5	20.0	60.0	20.0	20.0	0.0	20.0	0.0
Clearfield	2	50.0	50.0	0.0	0.0	0.0	0.0	50.0
Dubois	1	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Kane	6	0.0	66.7	0.0	0.0	0.0	33.3	16.7
Punxsutawney	0	--	--	--	--	--	--	--
Ridgway	1	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Tionesta	3	0.0	66.7	0.0	33.3	0.0	0.0	0.0
Troop D								
Beaver	18	11.1	72.2	0.0	16.7	5.6	5.6	33.3
Butler	27	3.7	77.8	3.7	7.4	3.7	14.8	18.5
Kittanning	54	5.6	72.2	3.7	9.3	3.7	18.5	11.1
Mercer	7	0.0	85.7	0.0	14.3	0.0	14.3	0.0
New Castle	7	0.0	71.4	14.3	28.6	14.3	14.3	0.0
Troop E								
Corry	0	--	--	--	--	--	--	--
Erie	9	55.6	11.1	0.0	0.0	0.0	22.2	22.2
Franklin	2	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Girard	2	0.0	50.0	50.0	0.0	0.0	0.0	0.0
Meadville	14	0.0	21.4	0.0	0.0	0.0	14.3	64.3
Warren	3	0.0	66.7	33.3	0.0	0.0	33.3	33.3
AREA V								
Troop K								
Media	71	9.9	70.4	5.6	9.9	2.8	15.5	16.9
Philadelphia	121	17.4	87.6	2.5	8.3	1.7	3.3	6.6
Skippack	15	0.0	80.0	0.0	0.0	0.0	13.3	13.3
Troop M								
Belfast	13	7.7	38.5	38.5	0.0	0.0	30.8	0.0
Bethlehem	4	0.0	75.0	0.0	25.0	0.0	0.0	0.0
Dublin	11	9.1	90.9	0.0	0.0	0.0	9.1	9.1
Fogelsville	34	2.9	58.8	14.7	0.0	2.9	11.8	17.6
Trevoose	4	0.0	25.0	75.0	0.0	0.0	0.0	25.0
Troop N								
Bloomsburg	3	33.3	66.7	0.0	0.0	0.0	0.0	0.0
Fern Ridge	4	25.0	75.0	25.0	0.0	0.0	0.0	0.0
Hazleton	20	25.0	60.0	5.0	15.0	0.0	0.0	5.0
Lehighton	3	0.0	66.7	0.0	0.0	0.0	100.0	0.0
Swiftwater	33	18.2	69.7	15.2	3.0	0.0	6.1	9.1

NOTE: Hamburg and Corry 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). 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). Some researchers have suggested 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 (Knowles, Persico, & Todd, 2001; Ayres, 2001). 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 Whites (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 that 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 search success 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, no definitive conclusions about racial bias can 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 by documenting 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 28.9% (i.e., 28.9% 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 90.5% success for search warrant searches to 13.0% success for searches based on “other” reasons. Searches based on inventory and “other” unspecified reason were the least likely to be successful in terms of

discovering contraband, with success rates at 21.1% and 13.0%, respectively. Searches likely to be moderately successful included: consent (29.7%), incident to arrest (33.0%), and reasonable suspicion/probable cause (42.9%). Note, however, that when searches conducted solely based on consent are examined, the hit rates decreases to 22.5%. In over half of the searches conducted for canine alerts (62.0%) or the odor of drugs or alcohol (52.3%), contraband was seized. Not surprisingly, searches based on search warrants (90.5%) and plain view (83.6%) 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	Reas. Susp./ PC Success Rate	Other Reason Success Rate	Consent Only Success Rate
PSP Dept.	28.9	33.0	21.1	90.5	83.6	62.0	52.3	29.7	42.9	13.0	22.5
AREA I	30.4	31.1	20.6	92.3	89.6	64.7	53.0	32.0	44.7	12.1	22.1
AREA II	32.1	44.4	80.0	100.0	87.1	72.2	50.0	31.5	30.0	14.0	23.8
AREA III	29.7	29.5	28.6	80.0*	70.5	57.1	53.3	26.7	46.2	21.6	16.4
AREA IV	29.4	39.3	41.9	80.0	90.9	42.9	50.0	28.9	58.3	11.4	20.1
AREA V	26.3	29.9	18.1	90.9	90.2	60.0	53.3	29.9	39.2	6.3	28.4

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 (38.5%), while Type III consent searches were the least successful (22.5%). 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.	28.9	26.2	38.5	22.5
AREA I	30.4	27.0	42.0	22.3
AREA II	32.1	51.8	32.7	23.8
AREA III	29.7	31.6	44.0	16.3
AREA IV	29.4	40.2	36.1	20.2
AREA V	26.3	19.7	34.9	28.1

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 solely on officer discretion (i.e., are not mandatory to perform or 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.

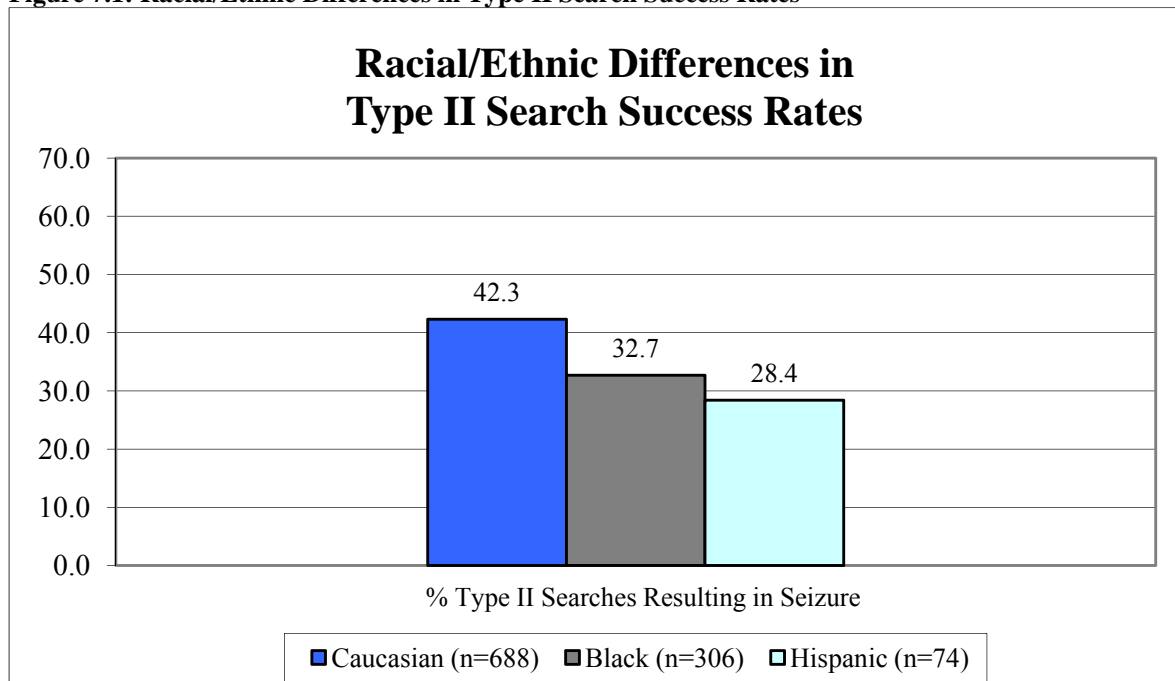
Table 7.8: Probable cause/reasonable suspicion Search Success Rates by Driver & Trooper Characteristics

	Total # Searches	Total # of Type II Probable cause/reasonable suspicion Searches	Type II: Probable cause/reasonable suspicion Search Success Rate
All Drivers	3,726	1,097	38.5
By Drivers' Characteristics			
White Driver	2,280	688	42.3**
Black Driver	982	306	32.7
Hispanic Driver	371	74	28.4
Male Driver	3,188	931	38.3
Female Driver	537	166	39.2
Driver under 25 years old	1,636	591	41.5**
Driver over 25 years old or older	2,090	506	35.0
Driver PA Resident	2,840	850	42.7***
Driver Non-PA Resident	886	247	23.9
By Troopers' Characteristics			
White Trooper	3,469	1,033	38.0
Non-White Trooper	239	56	44.6
Male Trooper	3,551	1,053	38.3
Female Trooper	157	36	41.7
Less than 5 years experience	1,794	515	38.4
5 years experience or more	1,914	574	38.3
No College Degree	909	309	34.6
2 Year Degree	893	264	37.5
4 Year Degree or more	1,905	515	41.2

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 White 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, 42.3% of probable cause/reasonable suspicion searches of White drivers were successful, compared to 32.7% of searches of Black drivers, and only 28.4% of searches of Hispanic drivers.

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



NOTE: Differences across the racial/ethnic groups presented in this figure are statistically significant at $p \leq .01$

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 under 25 years-old were significantly more likely to be successful than searches of drivers over 25 years-old. 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 and type of contraband discovered during these searches, however, has not been fully examined. Importantly, 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 Whites 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 Whites 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 the 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 the PSP, along with focus groups conducted with officers from other state police agencies including the Ohio State Highway Patrol, Nebraska State Patrol, and Arizona Department of Public Safety 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 limited 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*, and reiterated in the *Year 5 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 by the PSP; however, racial/ethnic disparities in search and seizure rates persist.

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 within the larger Type II search category. Specifically, racial/ethnic differences in search success rates based on drug odor searches, plain view, canine alert, probable cause, and other reasons are reported. As shown, search success rates are fairly comparable across racial/ethnic groups for searches based on drug odor and plain view. More noticeable differences are evident for searches based on canine alerts, probable cause, and “other” reasons, although these differences reach statistical significance only for searches based on probable cause. Specifically, for probable cause

searches, 49.5% of searches of White drivers result in the seizure of contraband, compared to only 33.0% of searches of Black drivers and 25.0% of searches of Hispanic drivers. These differences are deserving of further scrutiny.

It is plausible that Troopers hold different thresholds for reasonable suspicion either overtly or subconsciously for different racial/ethnic groups. For example, Smith and Alpert (2007) proposed a theory of police behavior, rooted in social-psychological research on stereotypes, which suggests that officers have unintentional but biased response to minority citizens. Specifically, they suggest that police may develop subconscious, cognitive scripts based on exposure to societal or media conceptions about particular groups, vicarious experiences, and their own personal contacts with groups that they repeatedly encounter in situations involving criminal activity (see also, Smith, Makarios, & Alpert, 2006). These scripts are easily recalled in individual stops and may cause officers to be more likely to be suspicious of specific minority group members. It has been argued that this differential assessment of suspicion therefore can affect police decision making and produce disparate outcomes among racial/ethnic groups.

When applied to searches, the social conditioning theory would suggest that some of the racial/ethnic disparity in probable cause search success rates could be due to Troopers relying on these cognitive scripts that unintentionally cause them to differentially assess the suspiciousness of stops with members of different racial/ethnic groups. If an officer's suspicion is subconsciously triggered more often in situations with minority drivers, this may contribute to lower search success rates of these drivers.

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 Searches	Probable Cause Search Success Rate	# Other Searches	Other Search Success Rate
White Driver	396	52.3	204	82.8	35	68.6	200	49.5**	194	12.4
Black Driver	130	50.8	56	85.7	27	59.3	95	33.0	107	15.0
Hispanic Driver	37	51.4	15	86.7	8	50.0	24	25.0	27	7.4

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

SPOTLIGHT ON CONSENT SEARCHES

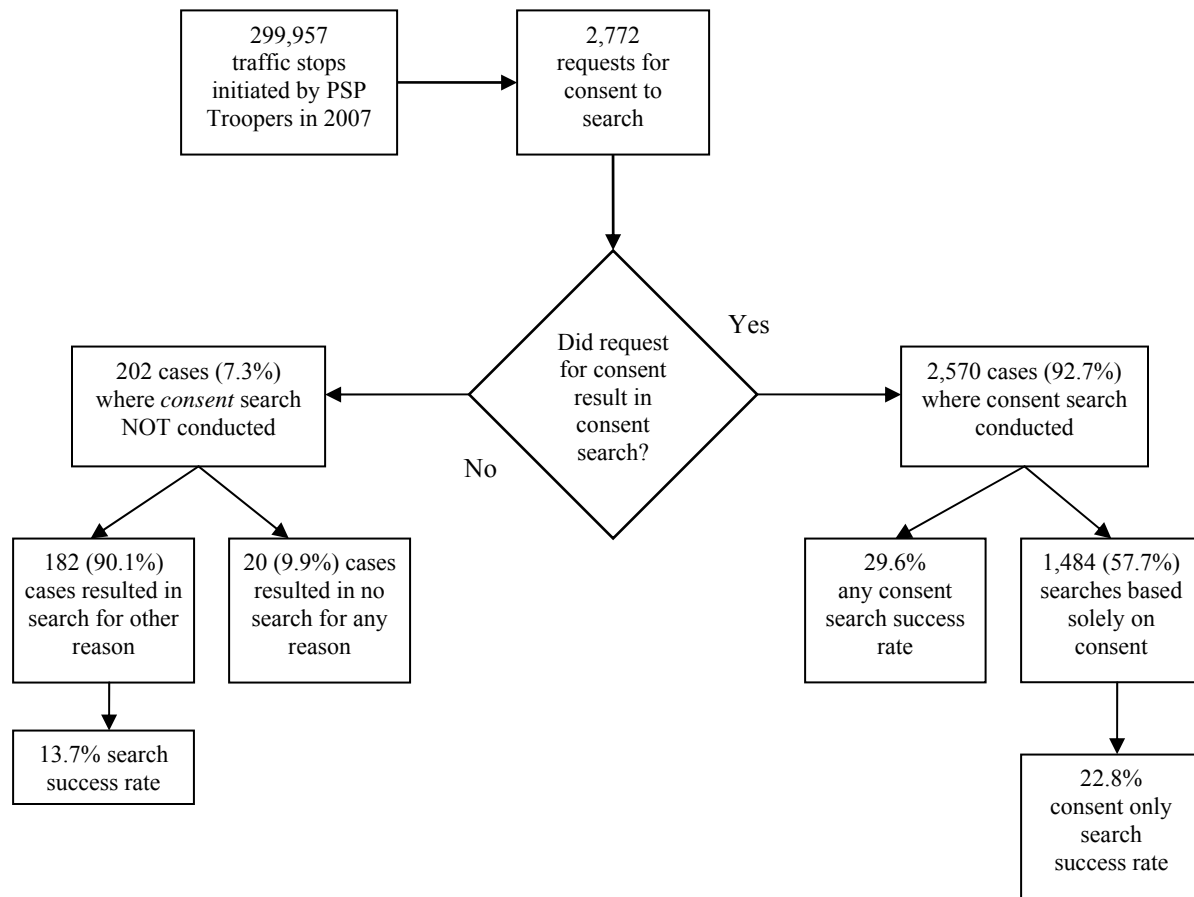
As noted previously, a substantial percentage of PSP searches in 2007 were based *solely* on drivers' consent (40.2%).¹⁶ Yet, of the reasons identified on the Contact Data Report, "solely consent" is one of the least productive search reasons in terms of discovering contraband. Only 22.5% of searches 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 unwise 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 (citizens always have the right to refuse). As such, one of the underlying assumptions 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 the PSP to better understand consent searches and their productivity, analyses examining racial/ethnic differences in consent search success rates are provided with the strong caveat that this information cannot be used to assess officer bias. 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 299,957 traffic stops initiated by PSP Troopers in 2007, 2,772 drivers (0.9%) were asked for consent to search.

- Of these 2,772 requests, 92.7% (2,570 requests) resulted in a consent search being conducted, while only 7.3% (202) did not. That is, an overwhelming majority of drivers gave their consent to be searched when asked by Troopers. This percentage is approximately 10 percentage points higher than the consent rate in 2006.
- Of the 2,570 consent searches that were conducted, 761 resulted in the discovery of contraband (i.e., 29.6% search success rate).
- Of the 2,570 consent searches that were conducted, 57.7% (1,484 searches) were based *solely* on consent; that is, there was no other reason indicated by the Trooper for the search. Of these 1,484 searches based *solely* on consent, 338 resulted in the discovery of contraband (i.e., 22.8% search success rate).
- Of the 202 consent search requests that did not result in consent searches, 90.1% resulted in a search based on some other reason (182 searches). In these cases, the search success rate was lower than in the cases of searches based on consent. Specifically, 13.7% of the 182 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 20 search requests is not calculable because these search requests did not result in a search being conducted for any other reason.

¹⁶ 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.

Figure 7.2: 2007 PSP Requests for Consent and Consent Searches



Driver and Trooper Differences in Requests for Consent

As noted above, of the 299,957 traffic stops initiated by PSP Troopers in 2007, 2,772 (0.9%) 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.

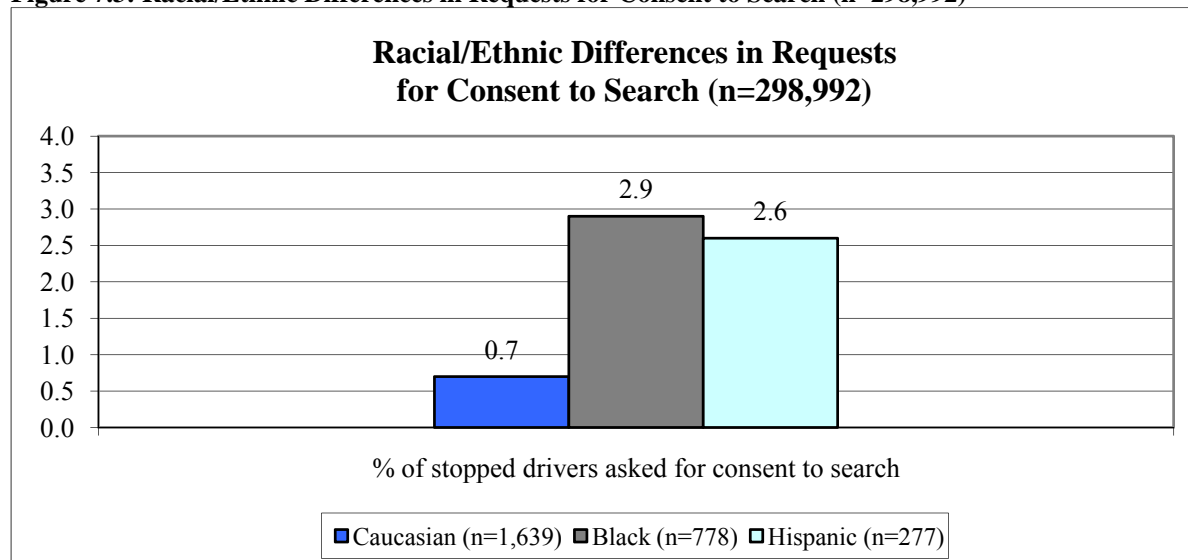
Table 7.10: Trooper and Driver Differences in Requests for Consent

	Total # Requests for Consent to Search	% of Stops Resulting in Request for Consent to Search
All Drivers	2,772	0.9
By Drivers' Characteristics		
White Driver	1,639	0.7***
Black Driver	778	2.9
Hispanic Driver	277	2.6
Male Driver	2,393	1.2***
Female Driver	379	0.4
Driver 25 years old or under	1,307	1.4***
Driver over 25 years old	1,465	0.7
Driver PA Resident	1,993	0.9***
Driver Non-PA Resident	779	1.1
By Troopers' Characteristics		
White Trooper	2,558	0.9
Non-White Trooper	201	0.9
Male Trooper	2,666	0.9
Female Trooper	93	0.8
Less than 5 years experience	1,309	1.2***
5 years experience or more	1,450	0.8
No College Degree	696	0.7***
2 Year Degree	641	0.9
4 Year Degree or more	1,421	1.1

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, 2.9% of Black drivers and 2.6% of Hispanic drivers were asked for consent to search, compared to only 0.7% of White drivers.

Figure 7.3: Racial/Ethnic Differences in Requests for Consent to Search (n=298,992)



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 drivers' gender and age. Specifically, male drivers, drivers 25 or younger, and out-of-state drivers were significantly more likely to be asked for consent to search than females, drivers older than 25, and Pennsylvania residents.

Table 7.10 also shows some significant differences in requests for consent based on Trooper experience and education, although no significant racial or gender differences are evident. Less experienced and more educated Troopers were significantly more likely to ask for consent to search compared to more experienced and less educated Troopers.

Driver and Trooper Differences in Granting and Obtaining Consent

Table 7.11 below compares the percentages of drivers who gave their consent to be searched based on race/ethnicity, gender, age, and residency. As shown, no significant differences are evident based on any of these driver characteristics. This is in contrast to previous years where differences in granting consent were evident by various drivers' demographic characteristics (i.e., Blacks and Hispanics more likely to comply with request for consent than Whites). It is also important to note that the percentages of drivers granting consent have increased across all categories of drivers. Table 7.11 documents the differences in obtaining consent across different types of troopers. Similar to previous years, different types of Troopers were not more or less likely to obtain consent from drivers with but one exception: Troopers with a 2 year degree were slightly less likely to obtain consent from drivers compared to Troopers with no college degree or a 4 year degree.

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	2,772	92.7
By Drivers' Characteristics		
White Driver	1,639	92.5
Black Driver	778	92.0
Hispanic Driver	277	94.9
Male Driver	2,393	92.6
Female Driver	379	93.7
Driver 25 years old or under	1,307	92.3
Driver over 25 years old	1,465	93.1
Driver PA Resident	1,993	92.3
Driver Non-PA Resident	779	93.7
By Troopers' Characteristics		
White Trooper	2,558	92.5
Non-White Trooper	201	95.0
Male Trooper	2,666	92.7
Female Trooper	93	93.5
Less than 5 years experience	1,309	93.4
5 years experience or more	1,450	92.1
No College Degree	696	93.2*
2 Year Degree	641	90.0
4 Year Degree or more	1,421	93.7

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

Table 7.12 documents the 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 White 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, with the differences between White and Hispanic drivers being particularly dramatic. Specifically, 25.7% of searches of Whites based solely on consent were successful, compared to 23.1% of searches of Black drivers, and only 9.7% 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 Whites, however, were still

significantly more likely to result in the discovery of contraband (33.2%), compared to searches of Blacks (27.9%) and Hispanics (15.2%).

Table 7.12 also shows that consent searches of female drivers, younger drivers and Pennsylvania residents were significantly more likely to result in the discovery of contraband compared to searches of male, older, and out-of-state drivers. Some differences in consent search success rates were also evident based on trooper characteristics, although no statistically significant differences exist by Trooper's race/ethnicity. Troopers with less experience were less likely than troopers with more experience to be successful in recovering contraband during searches based solely and partially on consent. Troopers with no college degree were also significantly more likely to discover contraband during consent-only and any consent searches than troopers with 2 or 4 year degrees.

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	3,726	1,484	22.8	2,570	29.6
Driver Characteristics					
White Driver	2,280	839	25.7***	1,516	33.2***
Black Driver	982	415	23.1	716	27.9
Hispanic Driver	371	186	9.7	263	15.2
Male Driver	3,188	1,297	21.9*	2,215	28.7*
Female Driver	537	187	28.9	355	35.2
Driver 25 years old or under	1,636	646	23.8	1,206	33.0***
Driver over 25 years old	2,090	838	22.0	1,364	26.6
Driver PA Resident	2,840	975	26.8***	1,840	33.4***
Driver Non-PA Resident	886	509	15.1	730	20.1
Trooper Characteristics					
White Trooper	3,469	1,347	22.6	2,367	29.5
Non-White Trooper	239	131	22.1	191	29.3
Male Trooper	3,551	1,438	22.7	2,471	29.6
Female Trooper	157	40	20.0	87	27.6
Less than 5 years experience	1,794	665	19.2**	1,222	26.9**
5 years experience or more	1,914	813	25.3	1,336	31.9
No College Degree	909	327	33.0***	649	35.0**
2 Year Degree	893	342	19.9	577	28.1
4 Year Degree or more	1,905	809	19.5	1,331	27.5

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 Whites 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 this is unlikely. In 2007, a very small percentage of all drivers refuse consent and there were no statistically significant racial/ethnic differences in the rates of granting consent. Furthermore, in previous years, analyses of consent search requests have indicated that it is White drivers who were significantly more likely to refuse to consent to search. 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 in their ability to offer causal explanations for racial/ethnic disparities.

SUMMARY

- For the year 2007, PSP Troopers conducted 3,726 searches, or 1.2% of all stops.
- In 2007, most searches (69.2%) by Troopers were conducted based on drivers’ consent. In addition, 40.2% of searched drivers were searched based solely on consent.
- The next most common reasons for a search included: inventory (16.9%), the odor of drugs (15.3%), incident to arrest (14.1% of searches), other (9.1%), reasonable suspicion or probable cause (8.9%), and plain view (7.5%).
- Racial/ethnic differences in the types of searches (i.e., mandatory, probable cause/reasonable suspicion, and consent) conducted by PSP Troopers were evident:
 - White drivers were significantly more likely than Blacks and Hispanics to be searched for mandatory reasons.
 - Hispanics, when compared to Whites and Blacks, were least likely to be searched for probable cause/reasonable suspicion but most likely to be searched based solely on consent.
- For the year 2007, there were 1,076 seizures of contraband resulting from the 3,726 searches (28.9%).
- A majority of the contraband seized was drugs (71.0%), followed distantly by “other” (13.5%) and alcohol (12.6%).
- Search success rates varied dramatically across the type of search authority.
 - Searches based on inventory and “other” unspecified reason were the least likely to be successful in terms of discovering contraband, with success rates at 21.1% and 13.0%, respectively.
 - Searches likely to be moderately successful included: consent (29.7%), incident to arrest (33.0%), and reasonable suspicion/probable cause (42.9%). Note, however,

- that the search success rate for searches conducted solely based on consent is 22.5%.
- In over half of the searches conducted for canine alerts (62.0%) or the odor of drugs or alcohol (52.3%), contraband was seized.
 - Searches based on search warrants (90.5%) and plain view (83.6%) were the most likely to be successful in terms of seizing contraband.
- Type II probable cause/reasonable suspicion searches were the most successful in terms of recovering contraband (38.5%), while Type III consent-only searches were the least successful (22.5%). The search success rate for mandatory Type I searches was 26.2%.
 - Probable cause/reasonable suspicion (Type II) searches of minority drivers were less successful in recovering contraband compared to searches of White drivers. Specifically, 42.3% of probable cause/reasonable suspicion searches of White drivers resulted in the seizure of contraband, compared to 32.7% of searches of Black drivers, and only 28.4% of searches of Hispanic drivers.
 - An examination of specific categories of Type II search success rates reveals that statistically significant racial/ethnic differences in search success rates exist only for searches based on probable cause. Specifically, for probable cause searches, 49.5% of searches of White drivers result in the seizure of contraband, compared to 33.0% of searches of Black drivers and 25.0% of searches of Hispanic drivers.
 - Of the 299,957 traffic stops initiated by PSP Troopers in 2007, 2,772 drivers (0.9%) were asked for consent to search.
 - Of these 2,772 requests, 92.7% (2,570 requests) resulted in a consent search being conducted, while 7.3% (202) did not. This percentage is approximately 10 percentage points higher than the consent rate in 2006.
 - Of the 2,570 consent searches that were conducted, 761 resulted in the discovery of contraband (i.e., 29.6% search success rate).
 - Of the 2,570 consent searches that were conducted, 57.7% (1,484 searches) were based *solely* on consent; that is, there was no other reason indicated by the Trooper for the search. Of these 1,484 searches based *solely* on consent, 338 resulted in the discovery of contraband (i.e., 22.8% search success rate).
 - Of the 202 consent search requests that did not result in consent searches, 90.1% resulted in a search based on some other reason (182 searches). In these cases, the search success rate was lower than in the cases of searches based on consent. Specifically, 13.7% of the 182 searches where consent was refused but the search was conducted based on another reason resulted in the discovery of contraband.
 - Black (2.9%) and Hispanic (2.6%) drivers were significantly more likely than White (0.7%) drivers to be asked for consent to search.
 - No significant racial/ethnic differences in the likelihood of granting consent were evident. This is in contrast to previous years where differences in granting consent were evident

by drivers' race/ethnicity (i.e., Blacks and Hispanics more likely to comply with request for consent than Whites).

- 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*.
 - White 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

The final section of this report summarizes the major findings provided within each of the sections of this report and documents the UCPI team's recommendations for consideration by PSP officials.

SUMMARY

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, 2007 – December 31, 2007. These data represent the sixth year of data collection for the Project on Police-Citizen Contacts. Information was collected on either the written Contact Data Form or by the electronic CDR X-press system 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 2007, over 94% of the data collected was transmitted using the CDR X-press system. Of the 299,957 CDR and CDR X-press forms included in the final data set, only 1.0% had one or more items missing or invalid, which is considerably lower than the recommended 5% threshold.

Basic descriptive analyses were conducted on the 299,957 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 (71.3%)
 - Occurred during the daytime (72.9%)
 - Occurred on a state highway (49.5%) or an interstate (46.3%)
 - Involved a vehicle registered in Pennsylvania (75.1%)
 - Involved vehicles with an average of 0.7 passengers
 - Lasted between 1-15 minutes (88.2%)
 - March and May 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 (69.3%), followed by moving violations (16.8%), equipment inspections (9.1%), and registration (4.2%)
 - Average speed over the limit was 19.5 mph
- Across the department, characteristics of the drivers included:
 - Average age of 34.6 years
 - 68.4% male
 - White (83.6%), Black (8.9%), Hispanic (3.5%), Middle Eastern (1.9%), Asian/Pacific Islander (1.7%), and Native American (0.1%)
 - Non-resident of the municipality in which they were stopped (95.1%), non-resident of the county in which they were stopped (63.9%), and non-Pennsylvania resident (24.2%)

- Across the department, traffic stop outcomes can be summarized by the following characteristics:
 - 11.9% of stops resulted in a warning as the most severe outcome
 - 26.0% of stops resulted in a warning issued to the driver
 - 86.7% of stops resulted in a citation as the most severe outcome
 - 87.4% 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, 28.9% resulted in the discovery of contraband

In addition to analyzing the 2007 traffic stops, data collected between 2002 and 2007 at the department, area, and troop 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 of the traffic stop temporal analyses include:

- Department wide, the 2007 rate of traffic stops involving Black drivers is equivalent to three standard deviations above the five-year average for that organizational unit. The level of this increased rate was primarily influenced by higher rates of Black drivers stopped in Area V, and more specifically Troops J, G, K, & N. Each of these troops reported rates of traffic stops involving Black drivers in 2007 that were more than three standard deviations above their five-year average.
- At the area level, increases in the 2007 rate of traffic stops with **Black** drivers:
 - Areas I and III were more than one standard deviation above their five-year averages
 - Area II was more than two standard deviation above its five-year average
 - Area V was more than three standard deviation above its five-year average
- At the area level, decreases in the 2007 rate of traffic stops with **Black** drivers:
 - Areas IV was more than one standard deviation below its five-year average
 - No areas were more than two standard deviation below their five-year averages
 - No areas were more than three standard deviation below their five-year averages
- Department wide, the 2007 rate of traffic stops involving Hispanic drivers was more than one standard deviation above the five-year average. This slight increase was influenced mainly by increases in Hispanic stops reported in Areas II and III.
- At the area level, Areas I, IV and V reported no standard deviation changes in their 2007 rates of traffic stops with **Hispanic** drivers
- At the area level, increases in the 2007 rate of traffic stops with **Hispanic** drivers at the area level:
 - No areas were more than one standard deviation above their five-year averages
 - Area II was more than two standard deviation above its five-year average
 - No areas were more than three standard deviation above their five-year averages
- No areas reported significant decreases in the 2007 rate of traffic stops with **Hispanic** drivers

The available data simply cannot be used to determine why certain organizational units reported increases in the percentage of stops that were of Black or Hispanic drivers. Some factors potentially responsible for upward trends include:

- Changes in the racial/ethnic composition of residential populations serviced by those organizational units which have altered the racial/ethnic composition of drivers eligible to be stopped
- Alterations to the reporting patterns by PSP troopers
- Other changes in travel patterns that differentially impact the percentages of minority drivers on particular roadways
- Adjustments to 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
- Trooper behavior toward minority drivers may have changed across time.

Trend analyses were also conducted for traffic stop outcomes between 2002 and 2007. Using the same standard deviation methodology employed for the temporal analyses of traffic stops, the 2007 rate of all traffic stop outcomes are compared to the five-year average:

- The 2007 warning rate was within one standard deviation of the five-year average for the department. Throughout the six years of data collection, the warning rate issued has been relatively stable.
- The 2007 citation rate was within one standard deviation of the five-year average for the department. After a steady increase in the first three years of data collection, citation rates have been relatively stable the past three years.
- The 2007 arrest rate was more than one standard deviation above the five-year average for this organizational unit. The six-year trend indicates that there was a considerable increase in arrest rates between 2004 and 2006. This increase is likely due to known problems with the underreporting of arrests prior to 2006. Therefore, firm conclusions regarding this upward trend cannot be made.
- The 2007 search rate was more than one standard deviation above the five-year average for the department. The six-year trend indicates relatively stability in the past three years, after an increase in the search rate from 2002 to 2005. Similar to the arrest rate, there were some data collection problems prior to 2006 that may have resulted in an underreporting of searches throughout the department.
- The 2007 seizure rate was within one standard deviation of the five-year average for the department. The 2007 seizure rate decreased slightly from 2006, and reversed an upward trend since 2004.

The rate of traffic stop outcomes within racial/ethnic groups is also compared over time:

- Warnings: The 2007 warning rates for Black and Hispanic drivers were slightly higher than the 2007 warning rate for White drivers. Across the six year period, the warning rates for White drivers decreased between 2002 and 2005, but increased slightly in the last two years (2006 and 2007). The warning rates for Black and Hispanic drivers have increased in the past three years.
- Citations: The 2007 citation rate for Hispanic drivers was higher than the rates for White and Black drivers. Throughout the six years of data collection, the citation rates for all groups have been relatively stable, with the exception of higher rates for White drivers in the initial three years (2002, 2003, and 2004) of data collection.

- Arrests: The 2007 arrest rate was highest for Hispanic drivers, followed by Black and White drivers, respectively. The 2007 arrest rates for White and Hispanic drivers were slightly lower compared to 2006, while the 2007 arrest rates for Black drivers was higher compared to 2006. Arrest rates prior to 2006 may have been artificially lowered due to data collection limitations in those years. Consistent across all six years of data collection, however, are the large discrepancies in the arrest rates for individual racial/ethnic groups.
- Searches: The 2007 search rate was highest for Black drivers, followed by Hispanic and White drivers, respectively. For Black drivers, the search rate indicates an upward trend since 2002. The search rate for Hispanic drivers also increased in early years of data collection, but began to decrease in 2006. Consistent across all six years of data collection are the large discrepancies in the search rates for individual racial/ethnic groups.
- Seizures: The 2007 seizure rate was highest for White drivers, followed by Black and Hispanic drivers, respectively. For White drivers, the 2007 seizure rate represents a slight decrease from 2006 seizure rate, and more closely matches the seizure rate in 2005. In 2007, the seizure rate for Black drivers was comparable to the previous two years. The seizure rate for Hispanic drivers rose in 2007 compared to 2006. Consistent across all six years of data collection are the large discrepancies in the seizure rates for individual racial/ethnic groups.

The temporal trend of the search and seizure rates for White drivers indicates a lower rate of search, but a higher rate of seizure compared to Black and Hispanic drivers. In all years examined, White drivers had the lowest rates of searches, but the highest rates of seizures; conversely, Black and Hispanic drivers experienced the higher rates of searches, but lower rates of seizures. There are a number of possible explanations for these racial disparities in post-stop outcomes. As a result, any interpretation of these findings must be made with caution.

In addition to the trend analyses of stop outcomes, the 2007 post-stop outcomes were examined in detail. This process involved both bivariate analyses and multivariate analyses of warnings, citations, arrests, and searches issued to drivers during member-initiated traffic stops conducted in 2007. When reviewing these results, it is important to remember that the bivariate analyses only consider two variables at a time. As a result, the interpretation of these findings should be made with caution and cannot determine the existence of racial bias.

Bivariate Analysis

- At the department level, statistically significant racial/ethnic differences were noted for warnings, citations, arrests, and searches.
 - Of the Black and Hispanic motorists stopped, 27.7% and 27.8% (respectively) were issued warnings, compared to 26.1% of White drivers
 - Hispanic drivers had slightly higher rates of citations (88.9% of Hispanic drivers stopped were cited), compared to White (87.2%) and Black drivers (87.0%)
 - Hispanic and Black drivers had higher rates of arrest (1.8% of Black drivers stopped were arrest, 2.1% of Hispanic drivers stopped were arrested) compared to White drivers (1.4%)

- The largest racial/ethnic differences are found for searches: Black and Hispanic drivers had significantly higher rates of searches (3.7% and 3.5%, respectively) compared to White drivers (0.9%)
- These patterns and trends varied somewhat at the area level and more so at the troop and station levels.
- Racial, ethnic, and gender differences are not alone evidence of bias policing because other factors related to traffic stop outcomes were not considered in these analyses.
- PSP supervisors should review these findings for the best understanding of trends in racial/ethnic in stop outcomes within their jurisdictions.

Multivariate Analyses

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. Conclusions based on any multivariate analyses are limited to the variables in the model, and do not consider the potential of a misspecified model. Misspecified models occur when important, pertinent variables related to the dependent variables are not included in the model. Thus, multivariate analyses can only demonstrate racial/ethnic disparities that exist after statistically controlling for other factors that might influence officer decision making that are measured with these data. The findings summarized below represent the independent effects of driver race/ethnicity on traffic stop outcomes when other factors are statistically controlled.

- **Warnings**
 - Black drivers were 1.2 times *more* likely to be warned compared to White drivers
 - Drivers of “other” race/ethnicity were 1.2 times *less* likely to be warned compared to White drivers
 - Traffic stops initiated as a result of speeding were 2.3 times *less* likely to result in a warning compared to traffic stops initiated for other non-speeding reasons.
 - For each additional reason for the stop (traffic infraction), the likelihood of a warning *increased* 4.3 times

Collectively, these results suggest slight racial/ethnic differences in the likelihood of receiving warnings, but Troopers’ decisions to issue warnings are most strongly based on legal factors.

- **Citations**
 - Black drivers were 1.3 times *less* likely to be cited, compared to White drivers
 - Drivers of “other” race/ethnicity were 1.4 times *more* likely to be cited, compared to White drivers
 - Traffic stops initiated due to speeding were 3.2 times *more* likely to result in a citation compared to stops initiated for non-speeding reasons
 - The likelihood of being cited *increased* 1.7 times for every additional reason for the stop
 - Traffic stops resulting in the discovery of contraband were 5.9 times *less* likely to result in a citation compared to stops with contraband discoveries

Collectively, these results demonstrate that Troopers' decisions to issue citations are most often based on legal factors and not drivers' or Troopers' characteristics.

- **Arrests**

- Drivers of "other" race/ethnicity were 2.3 times *less* likely to be arrested compared to White drivers
- Male drivers were 1.6 times *more* likely to be arrested compared to female drivers
- Drivers that lived in the county where the traffic stop occurred were 1.5 times *more* likely to be arrested compared to traffic stops of non-county residents
- Drivers that lived within the state of Pennsylvania were 2.2 times *more* likely to be arrested compared to traffic stops of out-of-state residents
- Traffic stops involving vehicles without registration were 2.3 times *less* likely to end in an arrest compared to traffic stops with valid registrations
- Traffic stops resulting in the discovery of contraband were 137.6 times *more* likely to end in arrest compared to traffic stops without contraband discoveries
- Traffic stops initiated due to speeding were 3.5 times *less* likely to end in arrests compared to stops initiated for other reasons
- The likelihood of arrest *increased* 1.5 times for each additional reason for the stop

Collectively, these results demonstrate that the most severe sanction issued during traffic stops (i.e., arrest) is based on legal factors and not drivers' race/ethnicity, or Troopers' characteristics.

- **Searches**

- Black and Hispanic drivers were 2.9 and 2.2 times *more* likely to be searched compared to White drivers, respectively
- Male drivers were 2.5 times *more* likely to be searched compared to female drivers
- Younger drivers were slightly *more* likely to be arrested compared to older drivers, but the substantive effects of this relationship are marginal
- Traffic stops involving vehicle with no registration were 1.7 times *less* likely to result in searches compared to vehicles with valid registration
- Traffic stops initiated due to speeding were 3.5 times *less* likely to result in searches compared to stops for non-speeding reasons
- The likelihood of searches *increased* 1.9 times for every additional reason for the stop

Collectively, these results demonstrate that racial/ethnic differences in the rates of searches cannot be explained by the legal and extralegal factors captured on the traffic stop forms. Given similar situations (as measured on the traffic stop form), Black and Hispanic drivers are significantly more likely to be searched compared to White drivers.

Due in part to the persistent racial/ethnic disparities evident in searches and search success rates, further analyses were conducted on 2007 search and seizure activity.

- For the year 2007, PSP Troopers conducted 3,726 searches, or 1.2% of all stops.
- In 2007, most searches (69.2%) by Troopers were conducted based on drivers' consent. In addition, 40.2% of searched drivers were searched based solely on consent.
- The next most common reasons for a search included: inventory (16.9%), the odor of drugs (15.3%), incident to arrest (14.1% of searches), other (9.1%), reasonable suspicion or probable cause (8.9%), and plain view (7.5%).
- Racial/ethnic differences in the types of searches (i.e., mandatory, probable cause/reasonable suspicion, and consent) conducted by PSP Troopers were evident:
 - White drivers were significantly more likely than Blacks and Hispanics to be searched for mandatory reasons.
 - Hispanics, when compared to Whites and Blacks, were least likely to be searched for probable cause/reasonable suspicion but most likely to be searched based solely on consent.
- For the year 2007, there were 1,076 seizures of contraband resulting from the 3,726 searches (28.9%).
- A majority of the contraband seized was drugs (71.0%), followed distantly by "other" (13.5%) and alcohol (12.6%).
- Search success rates varied dramatically across the type of search authority.
- Type II probable cause/reasonable suspicion searches were the most successful in terms of recovering contraband (38.5%), while Type III consent-only searches were the least successful (22.5%). The search success rate for mandatory Type I searches was 26.2%.
- Probable cause/reasonable suspicion (Type II) searches of minority drivers were less successful in recovering contraband compared to searches of White drivers. Specifically, 42.3% of probable cause/reasonable suspicion searches of White drivers resulted in the seizure of contraband, compared to 32.7% of searches of Black drivers, and only 28.4% of searches of Hispanic drivers.
 - An examination of specific categories of Type II search success rates reveals that statistically significant racial/ethnic differences in search success rates exist only for searches based on probable cause. Specifically, for probable cause searches, 49.5% of searches of White drivers result in the seizure of contraband, compared to 33.0% of searches of Black drivers and 25.0% of searches of Hispanic drivers.
- Of the 299,957 traffic stops initiated by PSP Troopers in 2007, 2,772 drivers (0.9%) were asked for consent to search.

- Of these 2,772 requests, 92.7% (2,570 requests) resulted in a consent search being conducted. This percentage is approximately 10 percentage points higher than the consent rate in 2006.
 - Of the 2,570 consent searches that were conducted, 761 resulted in the discovery of contraband (i.e., 29.6% search success rate).
 - Of the 2,570 consent searches that were conducted, 57.7% (1,484 searches) were based *solely* on consent; that is, there was no other reason indicated by the Trooper for the search. Of these 1,484 searches based *solely* on consent, 338 resulted in the discovery of contraband (i.e., 22.8% search success rate).
 - Of the 202 consent search requests that did not result in consent searches, 90.1% resulted in a search based on some other reason (182 searches). In these cases, the search success rate was lower than in the cases of searches based on consent. Specifically, 13.7% of the 182 searches where consent was refused but the search was conducted based on another reason resulted in the discovery of contraband.
- Black (2.9%) and Hispanic (2.6%) drivers were significantly more likely than White (0.7%) drivers to be asked for consent to search.
 - No significant racial/ethnic differences in the likelihood of granting consent were evident. This is in contrast to previous years where differences in granting consent were evident by drivers' race/ethnicity (i.e., Blacks and Hispanics more likely to comply with request for consent than Whites).
 - 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*.
 - White 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.

Collectively these results demonstrate that Blacks and Hispanics motorists who were searched based on probable cause/reasonable suspicion or consent were significantly less likely than searched Whites to be found in possession of contraband. These statistical analyses, however, cannot be used to determine the legality of and/or the presence of officer bias in individual searches conducted by PSP Troopers.

RECOMMENDATIONS

As documented in Section 1, based on the findings from the *Year 5 Report*, the Pennsylvania State Police implemented a series of policy and training recommendations as they have also done in response to all previous yearly 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 searches and seizures, however, 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.

When the results of this Year 6 Report are viewed in context of the previous reports, there are a number of consistent patterns. First, across these six years of data, there has been no consistent evidence to suggest that PSP Troopers disproportionately stop minority motorists. Second, there has been continual improvement in the data collection process over time. Third, there has been a continual effort by PSP administrators to promote and measure equitable treatment across racial/ethnic groups. Fourth, nearly all of the racial/ethnic disparities in traffic stop outcomes have decreased and/or been eliminated over time. This is likely due to: 1) increased scrutiny in traffic stops, 2) advances in training, 3) administrative priorities placed on equitable treatment, 4) increased field supervisory oversight, and 5) increased reliability and validity of the traffic stop data itself. And finally, despite the above noted advancements, there has been a persistent findings of racial/ethnic disparities involving discretionary and consent searches, and the seizure of contraband during these searches. This is the only consistently problematic issue uncovered in the data analyses. Therefore, the following recommendations are based nearly exclusively on addressing the lingering racial/ethnic disparities in the PSP search and seizure activities.

- **It is recommended that more advanced analyses be conducted at the troop and station levels that will pinpoint the exact locations where the largest racial/ethnic disparities in searches exist.** These types of analyses often cannot be conducted on one year of data because there are too few searches and/or seizures for all racial/ethnic groups within stations to provide meaningful comparisons. It is possible, however, to drill down to the station level when multiple years of data are combined. Therefore, it is the recommendation of this research team that the data from 2006 be combined with data collected during 2007 and 2008 to perform more specific analyses examining searches and seizures at the station level. Once the stations with the highest racial/ethnic disparities in search and seizure rates are identified, the possible explanations regarding these elevated disparities can be examined.
- **It is recommended that the commanders of the stations and troops identified be directly interviewed.** The purpose of the interviews is to gain a better understanding of the patterns and practices within those locations. 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 is not included in the Contact Data Reports.
- **Continued monitoring of racial/ethnic disparities in traffic stop outcomes, particularly searches and seizures, remains necessary. PSP should 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 traffic stop 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 effort, which is currently in its eighth year, as well as their continued implementation of the UC research team's annual recommendations. This report, as well as previous final reports, has documented that racial and ethnic disparities in traffic stops and post-stop outcomes are rare within the PSP. The only remaining areas in need of further attention are searches and seizures. The racial/ethnic disparities in searches and search success rates 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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APPENDIX A:
TRAFFIC STOPS 2002 – 2007 BY STATION

DRAFT

Appendix A includes a series of figures documenting the stopping trends of Black and Hispanic drivers by PSP Troopers at the station level between 2002 and 2007.¹⁷ Within each PSP troop, the rates of traffic stops of Black drivers for each station in the troop are documented on the left side, and Hispanic drivers on the right. This information is intended to supplement the information in Section 4 regarding the stopping trends of Black and Hispanic drivers at the department, area, and troop level. The graphs in Appendix A were not constructed using the standard deviation methodology utilized for examining the trends at the department, area, and troop level in Section 4. The graphs provided here simply report the rate of traffic stops by race/ethnicity between 2002 and 2007.¹⁸

As described in Section 4, analyzing data over time by organizational unit allows for two comparisons: 1) within organizational units across time and 2) across organizational units within a time period. Similar to the comparisons in Section 4, the information in this Appendix As best utilized as a measure of activity across time rather than comparisons between 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. Importantly, any effect of these factors (i.e., differences in traffic patterns, driver behaviors, and officer deployment) will be contained to within organizational units. Any changes in the rates of traffic stops over time are restricted to either a changes in behavior by personnel assigned to an organizational unit and/or the impact of other factors within that organizational unit.

Comparisons in the rates of traffic stops of Black and Hispanic drivers over time are useful for identifying organizational units that are experiencing noticeable increases in their rate of traffic stops of Black or Hispanic drivers. There are, however, numerous factors beyond the scope of these comparisons that may be directly related to changes in the rate of traffic stops, including:

- changes in the traffic population within that jurisdiction
- alterations to the reporting patterns by PSP troopers
- adjustments in PSP traffic stop behaviors
- differences in deployment patterns across time
- modifications of manpower allocation

Any single factor or a combination of these factors may influence the rate of traffic stops of minority drivers in any one year and result in an increase or decrease in the rates reported in the graphs below. The following graphs are to be interpreted with caution and cannot be used as evidence of overt biased policing by the PSP or any of its organizational units. While no definitive conclusions regarding bias in traffic stops can be ascertained from the following graphs, they do offer a descriptive picture of the traffic stopping trends by organizational unit.

¹⁷ As noted in the *Project on Police-Citizen Contact: Final Report, 2006* (Engel et al., 2008), traffic stops initiated by canine handlers are included in the station totals, rather than separated by assignment. 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. The potential impact of canine handlers is considered in the multivariate analyses examining post-stop outcomes (see Section 5).

¹⁸ Additional standard deviation analyses at the station level are available from the authors upon request.

Figure 0:1: Percent of Traffic Stops Involving Black Drivers – Troop H

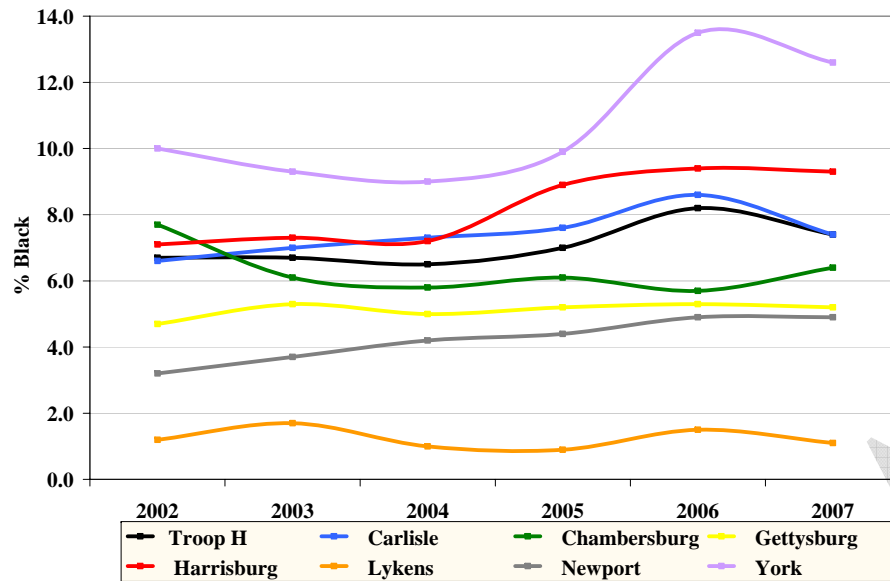


Figure 11.1 reports the stopping trends of Black drivers between 2002 and 2007 in Troop H.

- Chambersburg experienced a slight increase from 2006 to 2007, continuing a trend of small, alternating decreases and increases since 2002.
- Between 2006 and 2007, the remaining stations experienced decreases in the percent of Black drivers stopped, some over 1.0%, but most of the decreases were very small.
 - Carlisle and York experienced decreases 0.8% and 0.9%, respectively.
 - Gettysburg, Harrisburg, Lykens, and Newport showed decreases of 0.4% or less in the percent of Black drivers stopped.
- Gettysburg and Lykens continued, in 2007, to be relatively consistent in their percent of traffic stops involving Black drivers as has been the case between 2002 and 2006.

Figure 0:2: Percent of Traffic Stops Involving Hispanic Drivers – Troop H

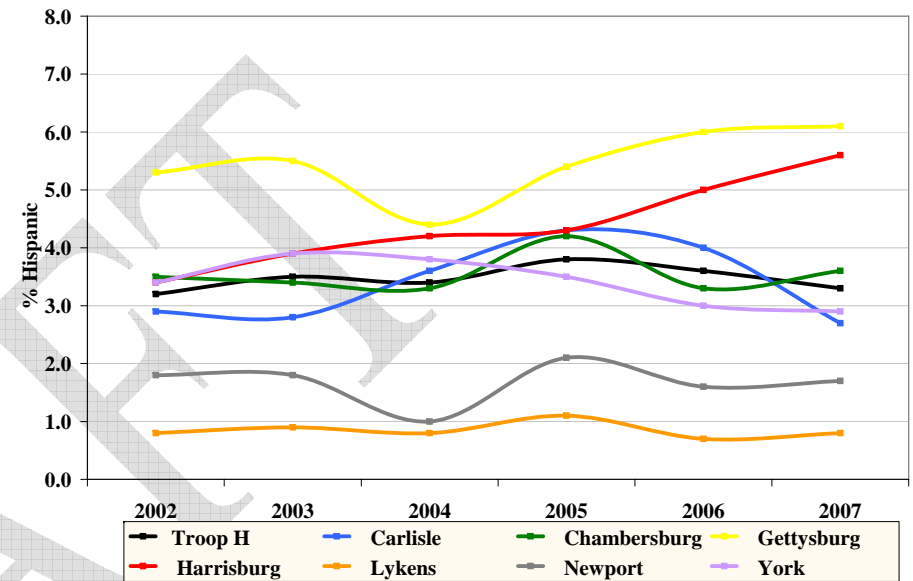


Figure 11.2 reports the stopping trends of Hispanic drivers between 2002 and 2007 in Troop H.

- Between 2006 and 2007, the only noticeable increases in the percent of Hispanic drivers stopped occurred in Chambersburg and Harrisburg, but even these were less than 1.0%. Harrisburg, however, has shown steady increases in the rate of Hispanic drivers stopped since data collection began in 2002.
- Carlisle showed a substantial drop in the percent of Hispanic drivers stopped between 2006 and 2007, returning in 2007 to a rate similar to those recorded in 2002 and 2003.
- The remaining stations showed negligible increases (Gettysburg, Lykens, and Newport) or a small decrease (York) in the percent of Hispanic drivers stopped. York's decrease in 2007 continues a trend of smaller percentages of Hispanic drivers stopped each year since 2003.

Figure 0:3: Percent of Traffic Stops Involving Black Drivers – Troop J

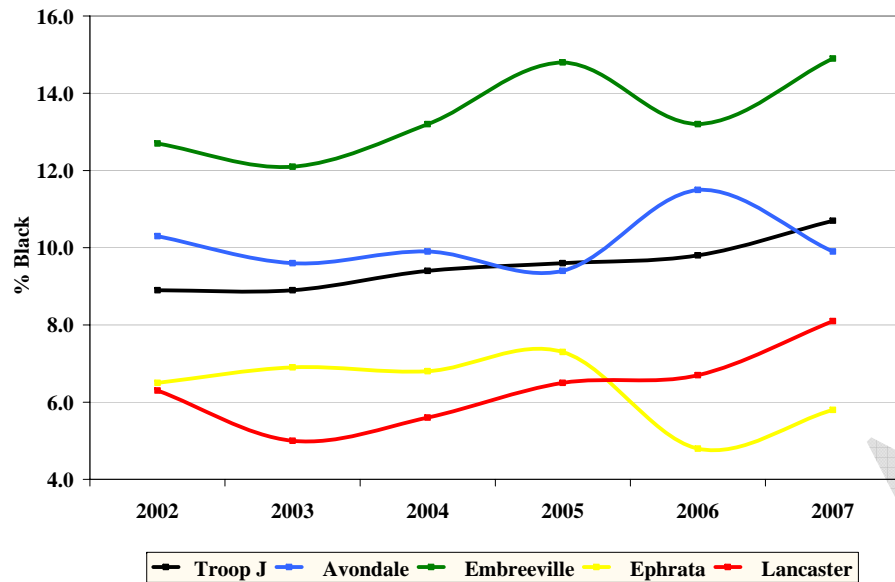


Figure 11.3 displays the percentages of Black drivers stopped in Troop J between 2002 and 2007.

- After a noticeable increase in 2006, Avondale's rate of stopping Black drivers returned, in 2007, to the consistent level established prior to 2006.
- In 2007, Embreeville reported a noticeable increase in the percent of Black drivers stopped that is similar to the previous high established in 2005.
- After four years of limited change in Ephrata, this station demonstrated a noticeable decrease of 2.5% in 2006. Although the 2007 rate increased by a percentage point, it still remained lower than the original rate in 2002.
- In 2007, Lancaster continued its steady increase in the rate of stops of black drivers (1.4%) that began in 2003.

Figure 0:4: Percent of Traffic Stops Involving Hispanic Drivers – Troop J

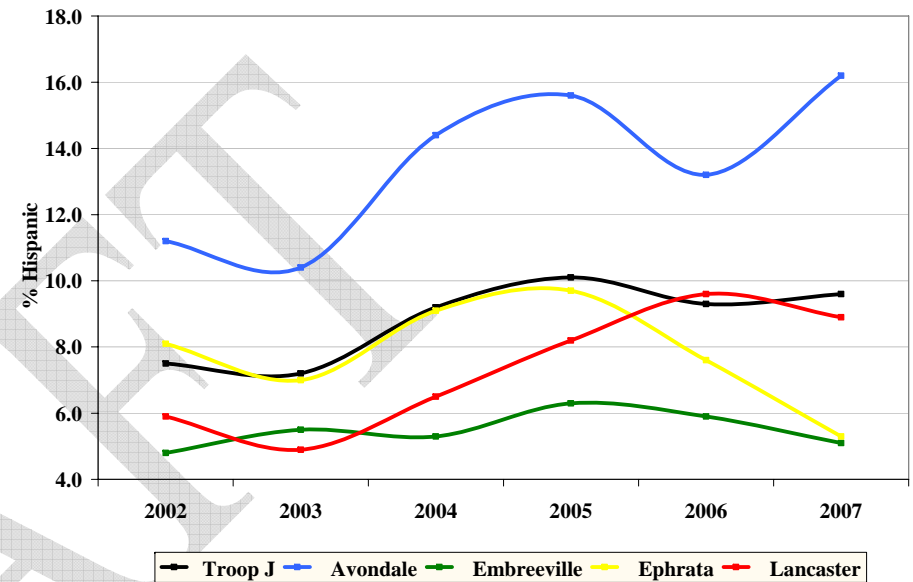


Figure 11.4 reports the stopping trends of Hispanic drivers between 2002 and 2007 in Troop J.

- After a 2.4% decrease in 2006, the percent of Hispanic drivers stopped in Avondale in 2007 increased by 3 percentage points to its highest rate since data collection began in 2002.
- In 2007, the percent of Hispanic drivers stopped in Embreeville continued the downward trend that began in 2006, returning to a rate close to the rate reported in 2002.
- Ephrata also continued a downward trend that began in 2006, reaching its lowest rate of Hispanic drivers stopped since data collection began.
- After an upward trend that began in 2003 and continued through 2006, the rate of Hispanic drivers stopped in Lancaster decreased by 0.7% in 2007.

Figure 0:5: Percent of Traffic Stops Involving Black Drivers – Troop L

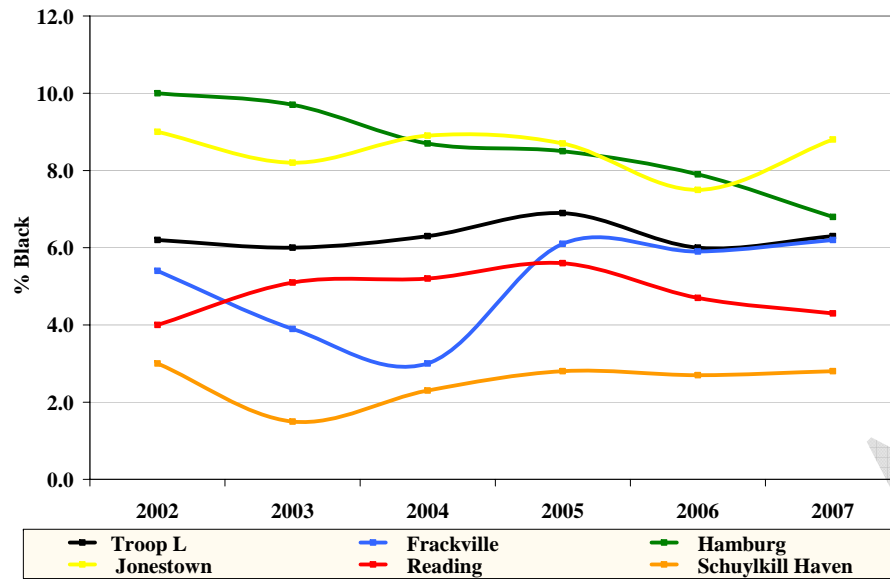


Figure 11.5 displays the percentages of Black drivers stopped in Troop L between 2002 and 2007.

- In Frackville, the rate of Black drivers stopped fluctuated considerably between 2002 and 2005, but has remained consistent for the last 3 years.
- In Hamburg, the 2007 rate of Black drivers stopped continued a steady decrease occurring since 2002, including a 1.1% decrease between 2006 and 2007.
- The percentage of Black drivers stopped in Jonestown has remained consistent between 2002 and 2007, with the exception of a larger decrease in 2006, prior to stabilizing in 2007 around its previous rates.
- In Reading, the percent of Black drivers increased between 2002 and 2005, prior to a downward trend in 2006 and 2007 to a rate in 2007 that is similar to the 2002 rate.
- In Schuylkill Haven, the rate of Black drivers stopped has remained very consistent for the last 3 years, after some initial fluctuation in the first 3 years of data collection.

Figure 0:6: Percent of Traffic Stops Involving Hispanic Drivers – Troop L

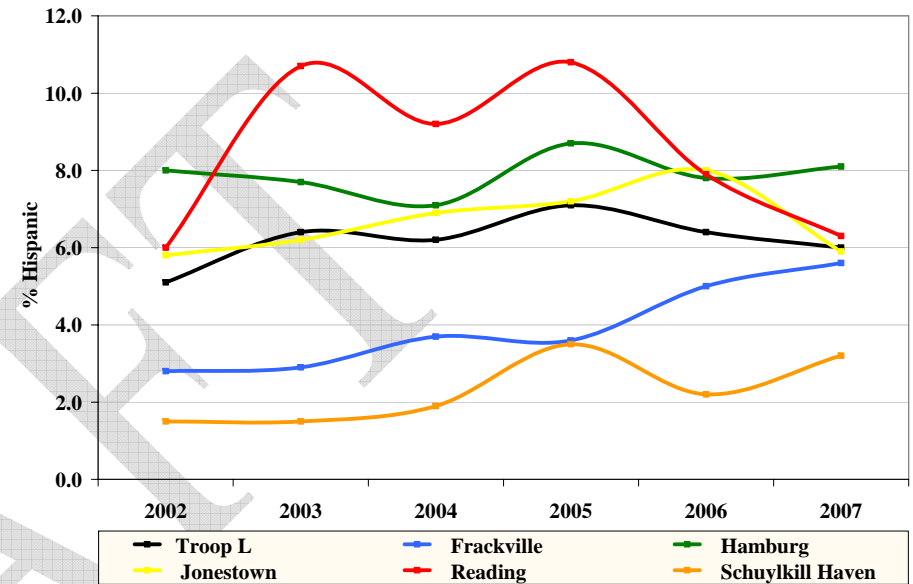


Figure 11.6 displays the percentages of Hispanic drivers stopped in Troop L between 2002 and 2007.

- Frackville experienced a slight overall increase in their percentage of Hispanic drivers stopped between 2002 and 2005, with a more noticeable increase in 2006, and a continuing upward trend in 2007.
- Hamburg's rate of Hispanic drivers stopped has fluctuated slightly between 2002 and 2007, with its most noticeable difference of 1.6% between 2004 and 2005, but an overall trend of general stability.
- Jonestown's percentage of Hispanic drivers stopped incrementally increased between 2002 and 2006, prior to a 2.1% decrease in 2007.
- Reading's rate of Hispanic drivers stopped has demonstrated great variability, with a large increase in 2003 and then alternating decreases and increases over the next four years, prior to a decrease in 2007 to a rate similar to that recorded in 2002.
- After stability in the rate of Hispanic drivers stopped for the first 3 years of data collection, Schuylkill Haven's rate of Hispanic drivers increased by 1.6% in 2005, decreased again in 2006, and then returned, in 2007, to a rate close to the highest rate of 3.5% in 2005.

Figure 0:7: Percent of Traffic Stops Involving Black Drivers – Troop T

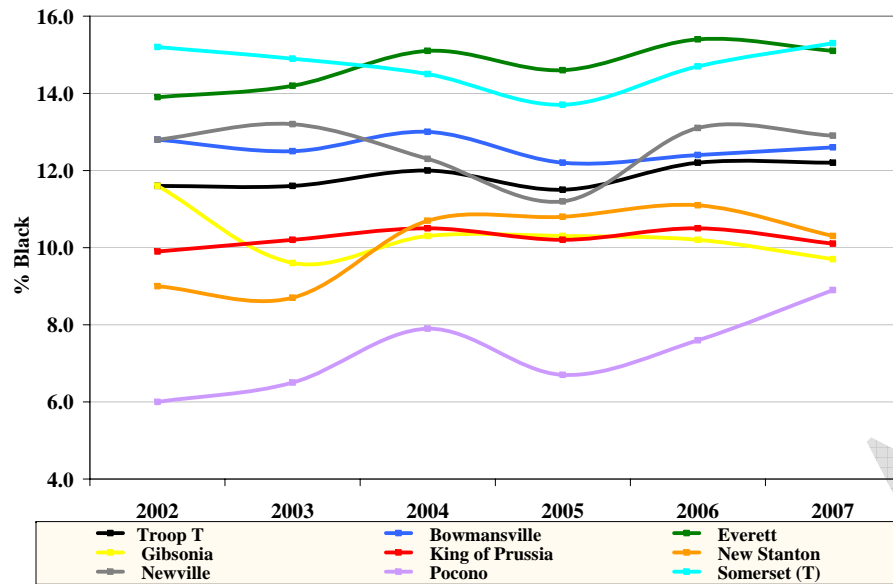


Figure 11.7 documents the percentage of Black drivers stopped in Troop T between 2002 and 2007.

- Seven of eight stations exhibited negligible (less than 0.8%) increases or decreases in the percent of Black drivers stopped in 2007 as compared to 2006.
 - Bowmansville (+0.2%), Somerset (+0.6%)
 - Everett (-0.3%), Gibsonia (-0.5%), King of Prussia (-0.4%), New Stanton (-0.8%), Newville (-0.2%)
- The remaining station, Pocono, increased by 1.3% between 2006 and 2007, continuing an upward trend over the last two years.
- Most of the Troop T stations have remained relatively consistent in their percentage of Black drivers stopped over the last 6 years.

Figure 0:8: Percent of Traffic Stops Involving Hispanic Drivers – Troop T

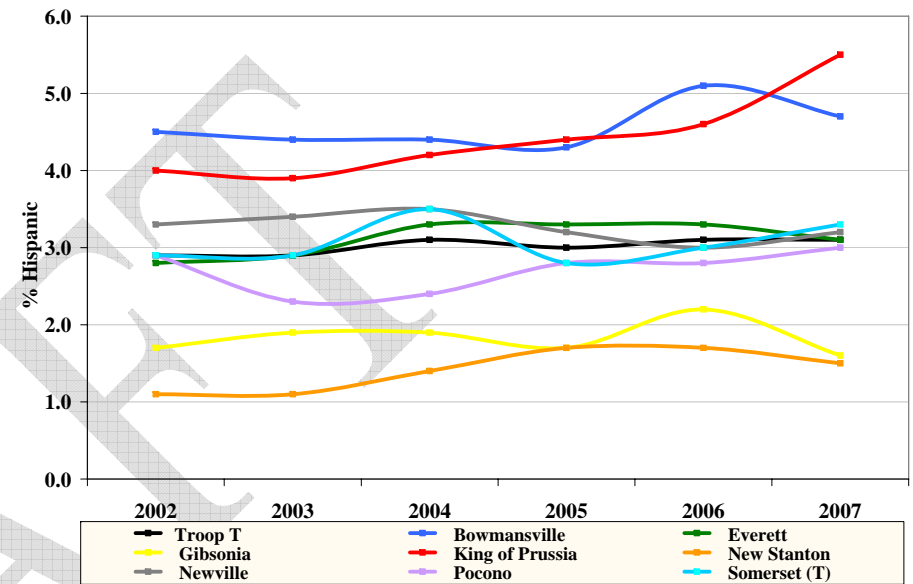


Figure 11.8 reports the percentages of Hispanic drivers stopped in Troop T between 2002 and 2007.

- Between 2006 and 2007, six stations reported small decreases or increases (0.6% or less).
 - Newville (+0.2%), Pocono (+0.2%), Somerset (+0.3%)
 - Bowmansville (-0.4%), Everett (-0.2%), New Stanton (-0.2%), Gibsonia (-0.6%)
- The rate of Hispanic drivers stopped in King of Prussia increased by 0.9% between 2006 and 2007. This increase represents a continuation of an upward trend that began between 2003 and 2004.
- Overall, most of the Troop T stations have remained relatively consistent in their percentage of Hispanic drivers stopped between 2002 and 2007.

Figure 0:9: Percent of Traffic Stops Involving Black Drivers – Troop F

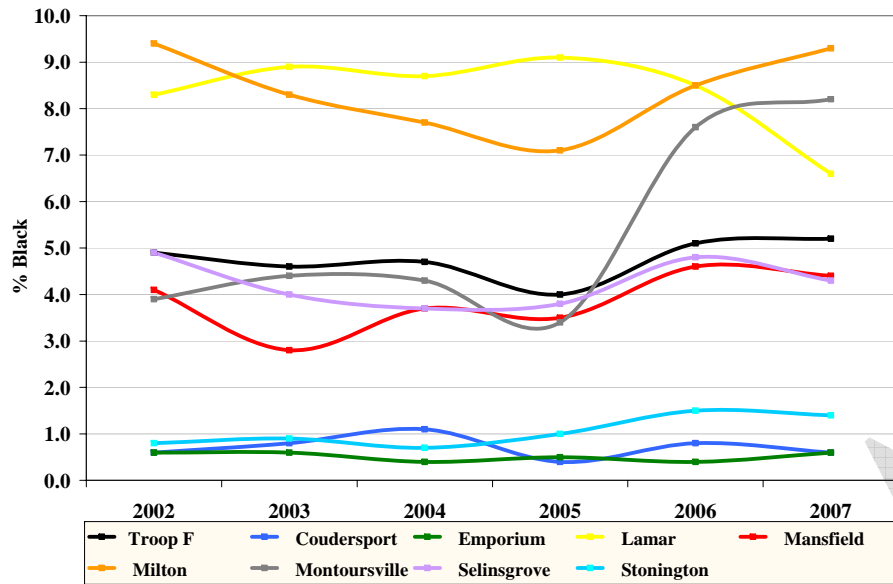


Figure 11.9 reports the percentages of Black drivers stopped in Troop F between 2002 and 2007.

- Coudersport, Emporium, Selinsgrove and Stonington all demonstrated relative stability over the six years of data collection, with only minor fluctuations in the percent of Black drivers stopped.
- Lamar experienced generally stable rates of Black drivers stopped between 2002 and 2006, prior to a nearly 2 point decrease in 2007.
- Mansfield experienced a 1.3% decrease in the rate of Black drivers stopped between 2002 and 2003, but has generally increased in recent years.
- After three years of decreasing rates of Black drivers stopped, Milton exhibited a 1.4% increase in 2006 and a 0.8% increase in 2007.
- Between 2002 and 2007, Montoursville more than doubled the percent of Black drivers stopped, from 3.9% in 2002 to 8.2% in 2007.

Figure 0:10: Percent of Traffic Stops Involving Hispanic Drivers – Troop F

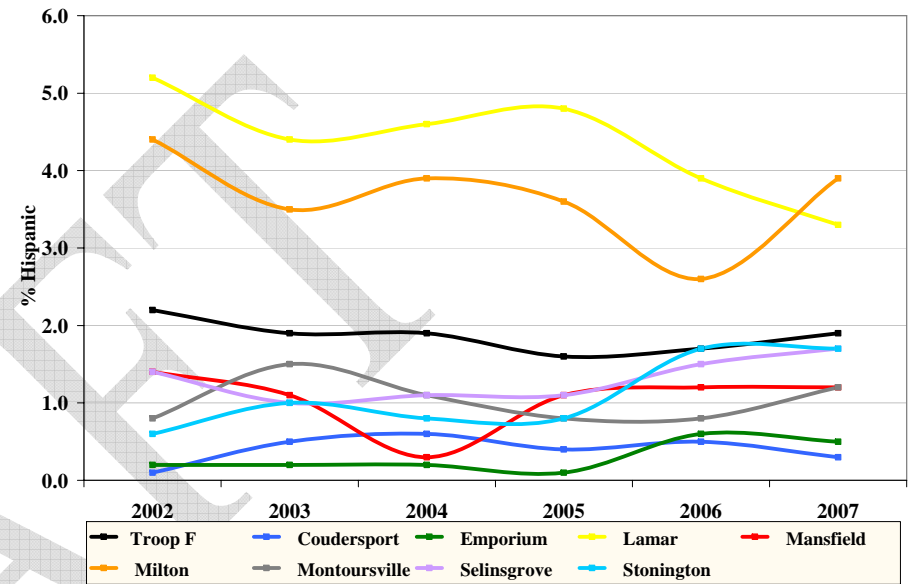


Figure 11.10 reports the percentages of Hispanic drivers stopped in Troop F between 2002 and 2007.

- Coudersport and Emporium showed minor fluctuation (no more than 0.5% in either direction) in the rate of Hispanic drivers stopped.
- Lamar's rate of Hispanic drivers stopped has shown an overall decrease of 1.9% between 2002 and 2007.
- Mansfield's rate of Hispanic drivers stopped decreased from 2002 to 2004, prior to rebounding in 2005 and remaining stable in 2006 and 2007 at a rate nearly equivalent to that of 2002.
- Milton's rate of Hispanic drivers stopped has fluctuated considerably between 2002 and 2007, including a 0.9% increase in 2003, a 1.0% decrease in 2006, and then a 1.3% increase in 2007.
- Montoursville and Selinsgrove's rates of Hispanic drivers stopped have fluctuated slightly over the six years of data collection; both showed minor increases between 2006 and 2007.
- Stonington's rate of Hispanic drivers stopped was relatively stable between 2002 and 2005, and then increased to 1.7% in 2006 and stabilized at that rate in 2007.

Figure 0:11: Percent of Traffic Stops Involving Black Drivers – Troop P

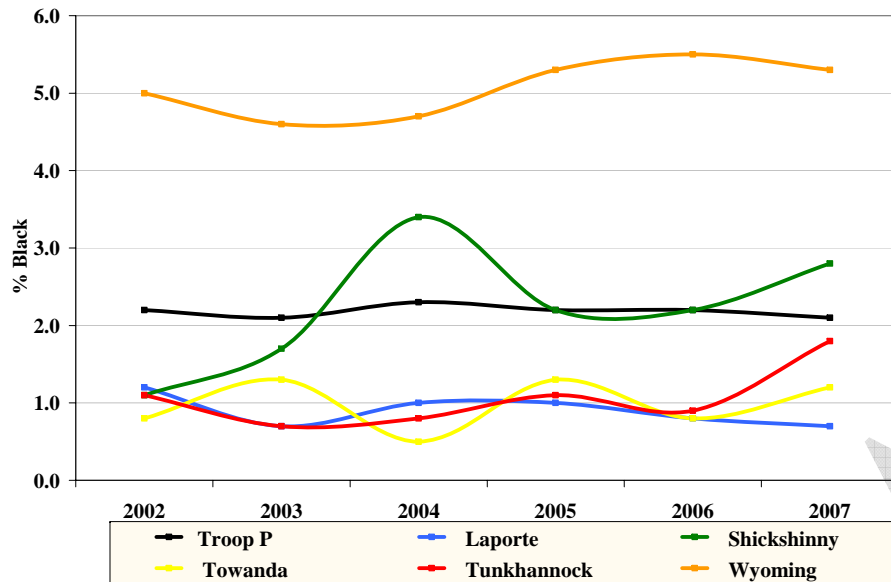


Figure 11.11 reports the rate of Black drivers stopped in Troop P between 2002 and 2007.

- Laporte's overall rate of Black drivers stopped has shown a small decrease between 2002 and 2007 of 0.5%.
- The rate of Black drivers stopped in Shickshinny increased by 1.7% between 2003 and 2004, prior to a 1.2% decrease in 2005. After no change in 2006, Shickshinny demonstrated an increase of 0.6% percent in 2007.
- The rate of Black drivers stopped in Towanda has shown alternating increases and decreases between 2002 and 2007, with only 0.4% difference between the initial and most recent year's rates.
- The rate of Black drivers stopped in Tunkhannock remained relatively stable between 2002 and 2006, prior to 0.9% increase in 2007.
- Wyoming's rate of Black drivers has also remained relatively stable between 2002 and 2007 with only 0.9% difference between the highest and lowest rates (4.6% in 2003 and 5.5% in 2006).

Figure 0:12: Percent of Traffic Stops Involving Hispanic Drivers – Troop P

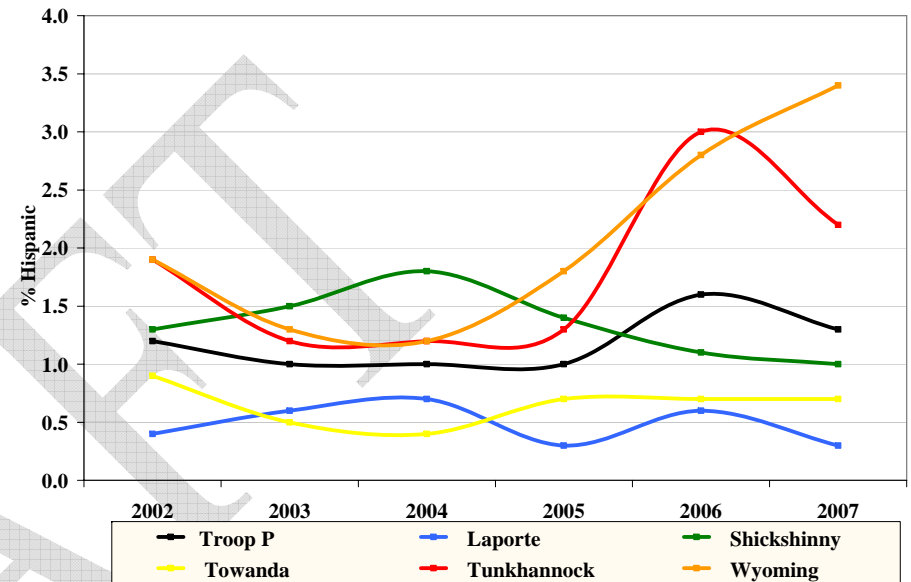


Figure 11.12 reports the stopping rates of Hispanic drivers between 2002 and 2007 in Troop P.

- Laporte, Shickshinny, and Towanda each reported no more than a 0.3% change in the percent of Hispanic drivers stopped between 2006 and 2007, and less than a 0.3% difference in their rates when compared to rates from 2002.
- After a 1.7% increase from 2005-2006, Tunkhannock's rate of stopping Hispanic drivers decreased by 0.8% in 2007, returning to a rate similar to that reported in 2002.
- In 2007, Wyoming continued its upward trend in the rate of Hispanic drivers stopped that began in 2005, reaching its highest rate of 3.4% (a 0.6% increase from 2006).

Figure 0:13: Percent of Traffic Stops Involving Black Drivers – Troop R

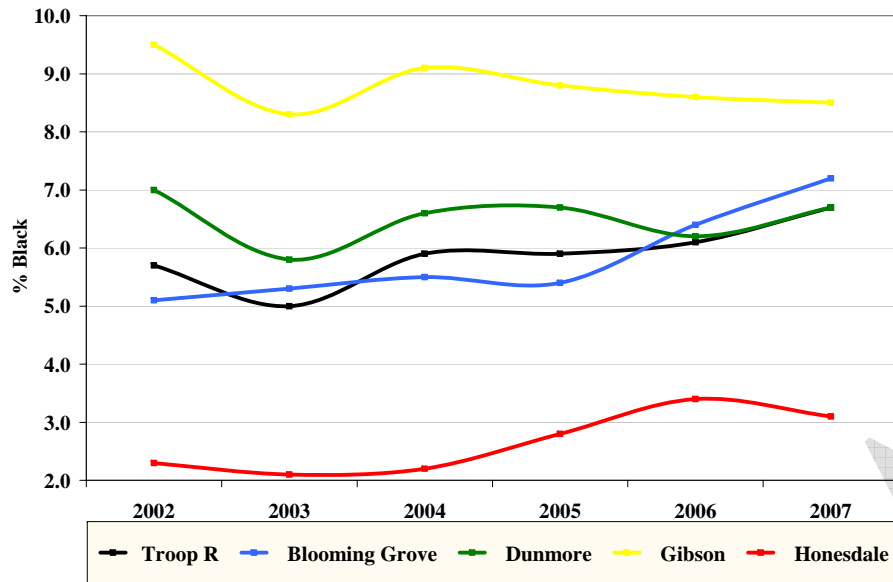


Figure 11.13 reports the percentage of Black drivers stopped in Troop R between 2002 and 2007.

- In 2007, Blooming Grove continued its generally increasing upward trend in the percent of Black drivers stopped, reaching its highest rate since data collection began.
- Dunmore reported an increase of 0.5% between 2006 and 2007, returning to a rate similar to that recorded in 2004 and 2005.
- Gibson's rate of Black drivers stopped in 2007, though slightly smaller, is generally consistent with the previous two years.
- In 2007, Honesdale reported a small decrease from its 2006 rate, although it still remains 0.8% higher than the rate reported in 2002.

Figure 0:14: Percent of Traffic Stops Involving Hispanic Drivers – Troop R

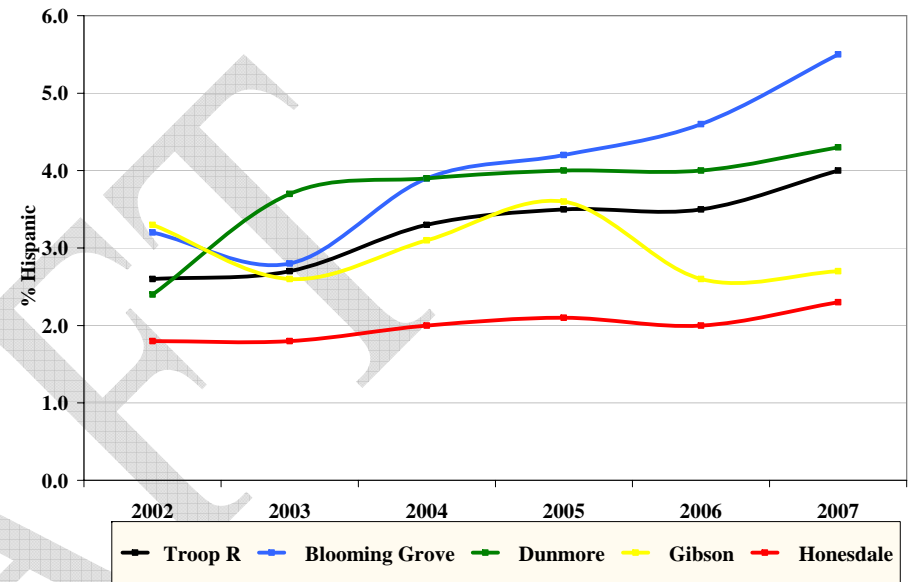


Figure 11.14 details the percentage of traffic stops involving Hispanic drivers between 2002 and 2007 in Troop R.

- Blooming Grove increased its rate of stops of Hispanic drivers by 0.9% between 2006 and 2007, a continuation of an upward trend that began between 2003 and 2004.
- The rate of Hispanic drivers stopped has also continued a slight, steady upward trend in Dunmore since data collection began, including a 0.3% increase between 2006 and 2007.
- Gibson and Honesdale reported slight increases in their rates of stopping Hispanic drivers in 2007. Gibson's rate is still lower than the original percentage in 2002, while Honesdale's increase continues a slight upward trend since data collection began.
- Gibson demonstrated a 1% decrease in 2006, although this is less than a 1% decrease overall since 2002.

Figure 0:15: Percent of Traffic Stops Involving Black Drivers – Troop A

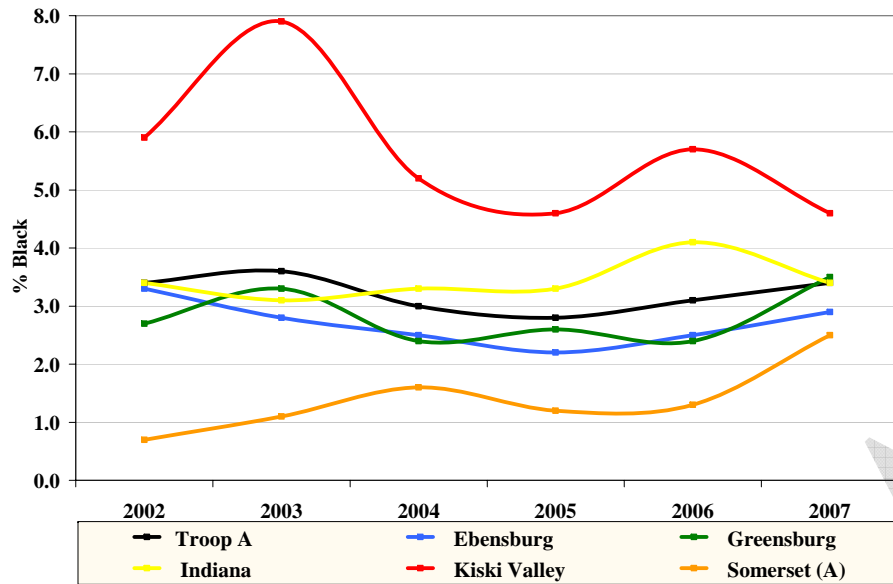


Figure 11.15 reports the rate of Black drivers stopped in Troop A between 2002 and 2007.

- Between 2002 and 2005, the rate of Black drivers stopped in Ebensburg decreased 1.1% prior to an upward trend in 2006 and 2007.
- The rate of Black drivers stopped in Greensburg has alternately increased and decreased between 2002 and 2007, with an increase of 1.1% in 2007 to the highest rate of Black drivers stopped since data collection began.
- After no more than 0.5% difference between individual years from 2002 to 2006, Somerset (A) experienced an increase in of 1.2% in 2007.
- Indiana experienced relatively stable rates of Black drivers stopped between 2002 and 2007, with the exception of a 0.8% increase in 2006, which, in 2007, returned to the same level recorded in 2002.
- Kiski Valley's rate of Black drivers stopped increased 2% in 2003, but was followed by a 3.3% decrease in the next two years. In 2006, the rate of Black drivers stopped was similar to that in 2002, but it dropped again in 2007 by 1.1%.

Figure 0:16: Percent of Traffic Stops Involving Hispanic Drivers – Troop A

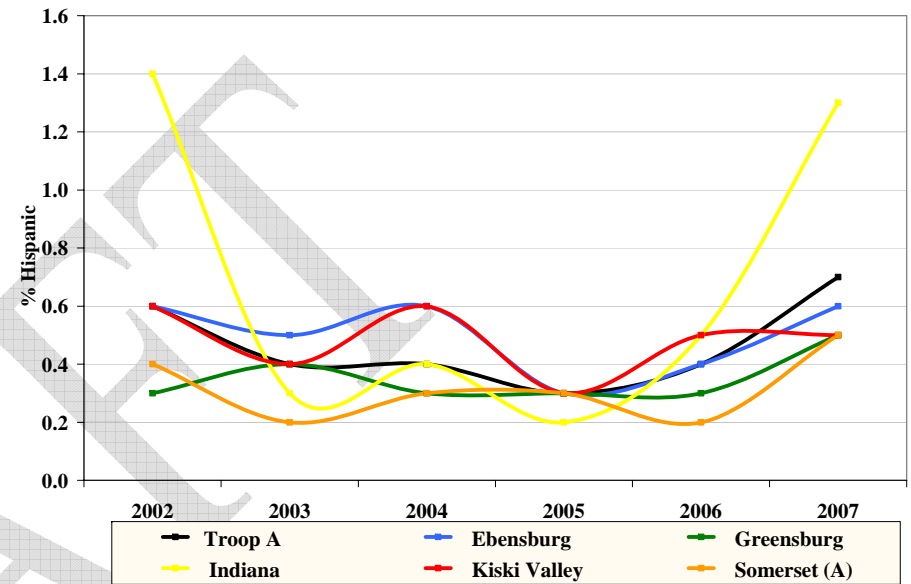


Figure 11.16 displays the percentages of Hispanic drivers stopped in Troop A between 2002 and 2007.

- The rates of Hispanic drivers stopped between 2002 and 2007 have remained relatively stable in Ebensburg, Greensburg, Kiski Valley and Somerset (A).
- The greatest variation reported was in Indiana, which had a 1.1% decrease in the percent of Hispanic drivers stopped between 2002 and 2003, but then reported a 0.8% increase in traffic stops involving Hispanic drivers between 2006 and 2007.

Figure 0:17: Percent of Traffic Stops Involving Black Drivers – Troop B

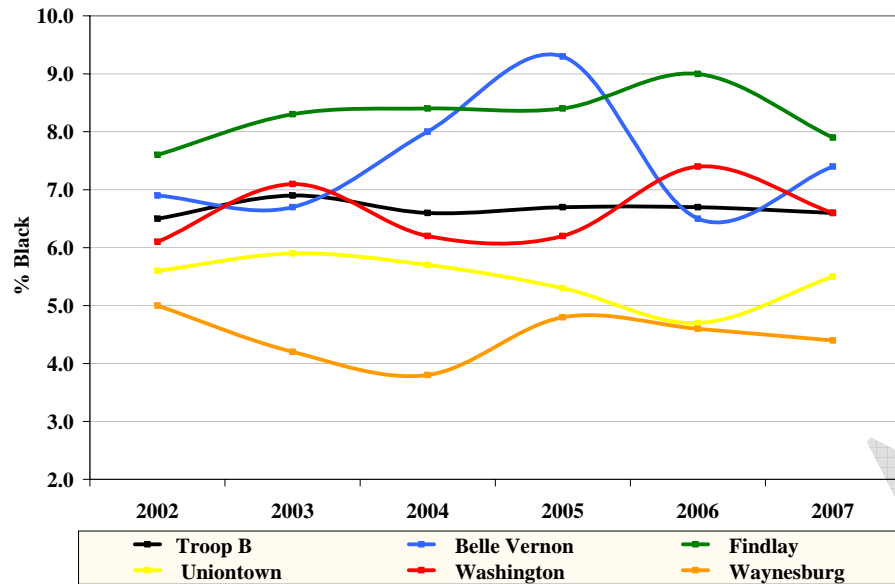


Figure 11.17 reports the percentage of Black drivers stopped in Troop B between 2002 and 2007.

- 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%. In 2006, however, this rate dropped 2.8% to its lowest percentage yet prior to increasing again in 2007 by 0.9%.
- Between 2002 and 2006, the rate of Black drivers stopped in Findlay steadily increased by 1.4%, while in 2007 the rate dropped by 1.1%.
- After a steady decrease from 2003 to 2006, Uniontown reported an increase of 0.8% in 2007, returning to within 0.1% of the level established in 2002.
- Washington's rate of Black drivers stopped has fluctuated between 2002 and 2007, with highs of 7.1% and 7.4% in 2003 and 2006, and a rate of 6.6% in 2007 that is only 0.5% higher than the rate in 2002.
- Waynesburg's rate of Black drivers stopped decreased steadily between 2002 and 2004, prior to a 1.0% increase in 2005 and small 0.2% decreases in the past two years to a rate that is 0.6 percentage points smaller than in 2002.

Figure 0:18: Percent of Traffic Stops Involving Hispanic Drivers – Troop B

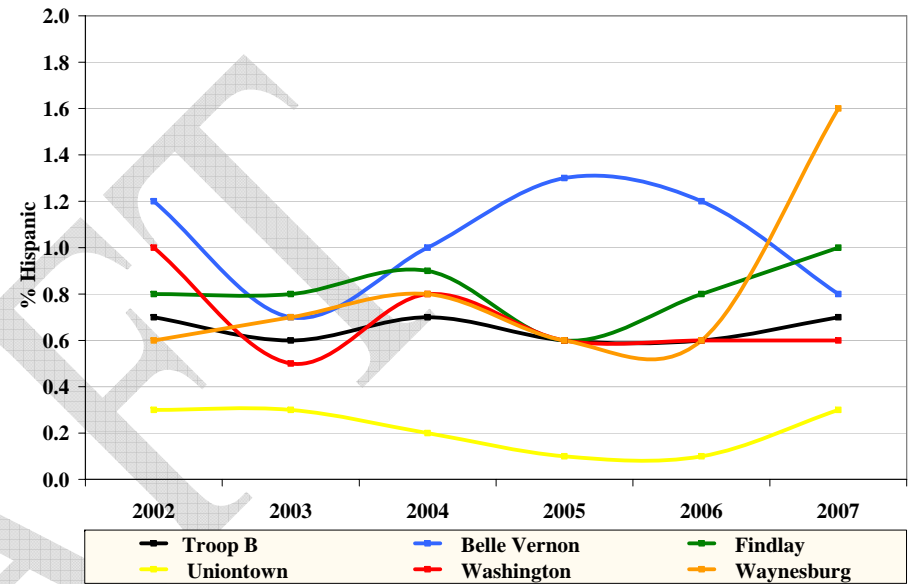


Figure 11.18 reports the percentage of Hispanic drivers stopped in Troop B between 2002 and 2007.

- Belle Vernon's rate of Hispanic drivers stopped has fluctuated up and down between 2002 and 2007, but with only a difference of 0.6% between the highest and lowest years.
- The rates of Hispanic drivers stopped have remained very stable in Findlay and Uniontown between 2002 and 2007.
- Washington, after a 0.5% decrease between 2002 and 2003 and a 0.3% increase in 2004, has displayed little change in the percent of traffic stops involving Hispanic drivers between 2004 and 2007.
- Waynesburg after maintaining relative stability in rate of Hispanic drivers stopped between 2002 and 2006, showed an increase of 1% in 2007.

Figure 0:19: Percent of Traffic Stops Involving Black Drivers – Troop G

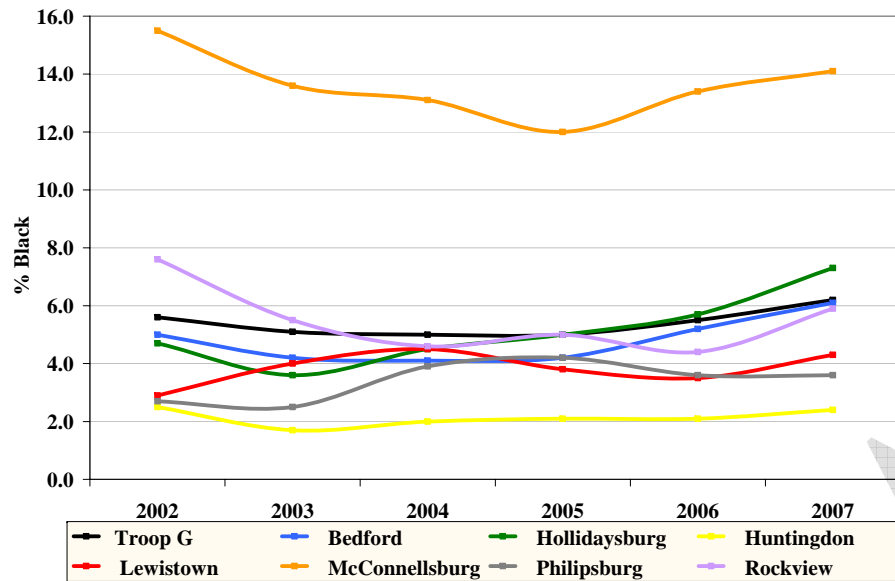


Figure 11.19 reports the rate of Black drivers stopped in Troop G between 2002 and 2007.

- The percent of Black drivers stopped increased between 2006 and 2007 in Hollidaysburg and Rockview by 1.6% and 1.5%, respectively. For Hollidaysburg, this continues a trend since 2004 of an increasing percentage of Black drivers stopped. In Rockview, this continues a trend of alternating decreases and increases since 2004.
- All other stations in Troop G had slight or no alterations between 2006 and 2007 of less than 1%, with some stations increasing their rates (Bedford, Huntingdon, Lewistown, McConnellsburg) of traffic stops involving Black drivers and Philipsburg remaining constant from 2006.

Figure 0:20: Percent of Traffic Stops Involving Hispanic Drivers – Troop G

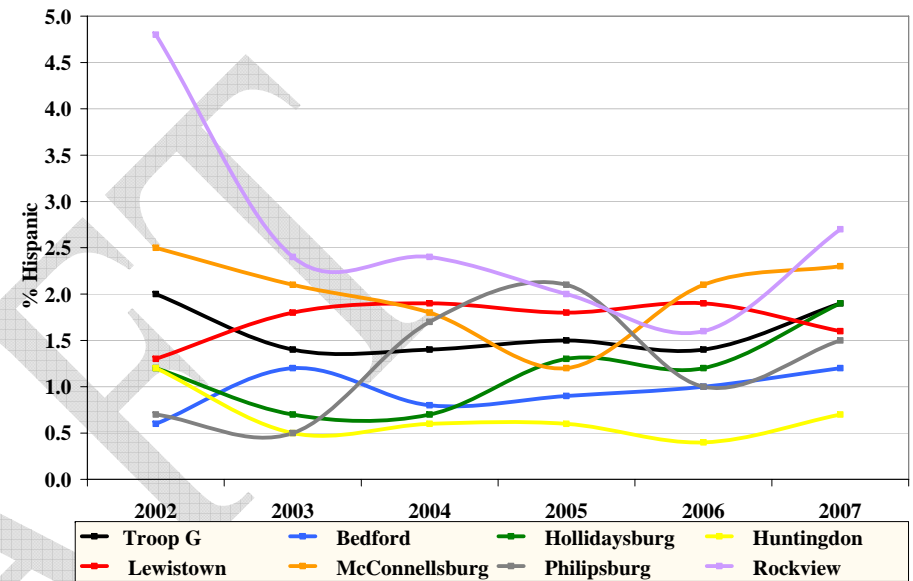


Figure 11.20 reports the trends in Troop G for Hispanic drivers between 2002 and 2007.

- The rates of Hispanic drivers stopped have remained fairly stable in Bedford and Lewistown between 2002 and 2007, with changes of 0.6% or less in either direction.
- The rate of Hispanic drivers stopped decreased 0.5% in 2003, before an overall increase between 2004 and 2007 of 1.2%.
- After a 0.7% decrease between 2002 and 2003, the rate of Hispanic drivers stopped has remained very stable in Huntingdon.
- In McConnellsburg, the rate of Hispanic drivers stopped decreased 1.3% overall between 2002 and 2005, before increasing again to 2.3% in 2007.
- Philipsburg's rate of Hispanic drivers has fluctuated considerably between 2002 and 2007, with increases in 2004 and 2005, before a 1.1% decrease in 2006 and a slight increase again in 2007.
- The rate of stops involving Hispanic drivers in Rockview showed a steady downward trend from 2002 to 2006 before an increase of 1.1% in 2007.

Figure 0:21: Percent of Traffic Stops Involving Black Drivers – Troop C

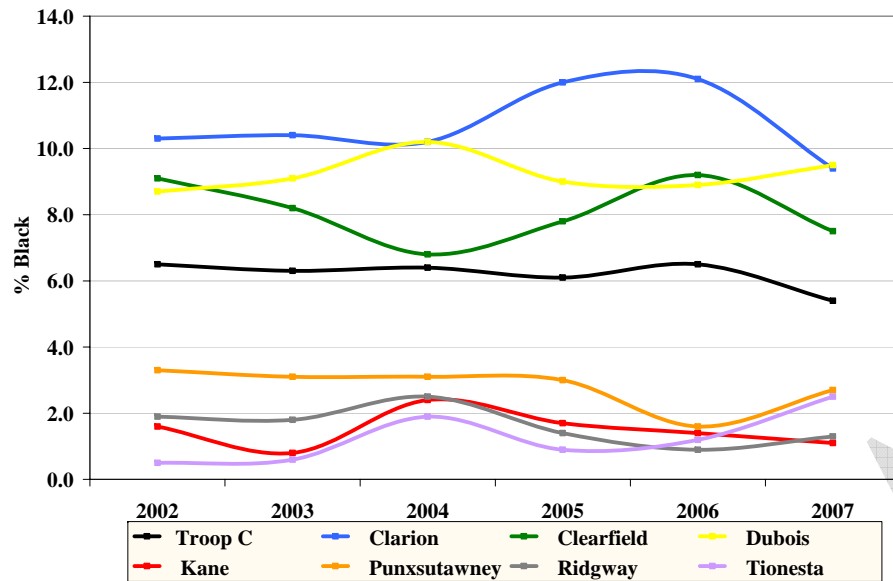


Figure 11.21 reports the percentage of Black drivers stopped in Troop C between 2002 and 2007.

- The rate of Black drivers stopped in Clarion remained stable between 2002 and 2004 prior to a 1.8% increase in 2005. The 2007 rate decreased 2.7% to the lowest point since data collection began.
- Clearfield's rate of Black drivers stopped decreased steadily from 2002 to 2004 by 2.3% before increasing again in 2005 and 2006 by 2.4%. In 2007, the rate dropped again to 7.5%.
- Dubois experienced an increase of 1.5% in the rate of Black drivers stopped between 2002 and 2004 before decreases in 2005 and 2006. The 2007 rate increased 0.6% from 2006.
- The rates of Black drivers stopped in Kane, Ridgway, and Tionesta have all fluctuated between 2002 and 2007, including both decreasing and increasing trends.
- Punxsutawney's rate of Black drivers stopped remained stable between 2002 and 2005 prior to a 1.4% increase in 2006 and then a 1.1% increase in 2007.

Figure 0:22: Percent of Traffic Stops Involving Hispanic Drivers – Troop C

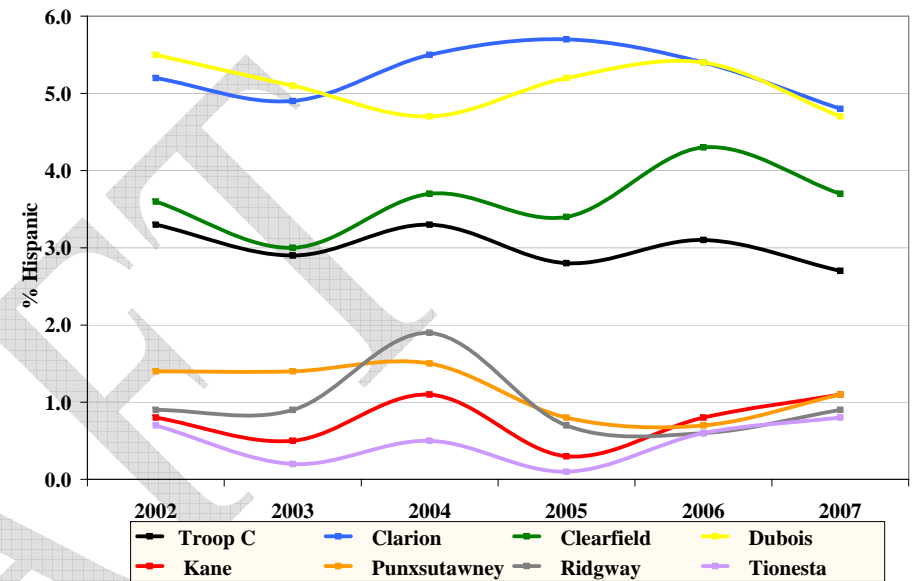


Figure 11.22 reports the traffic stops involving Hispanic drivers in Troop C between 2002 and 2007.

- The rates of Hispanic drivers stopped in Clarion and Dubois have fluctuated slightly between 2002 and 2007, demonstrating no more than 0.8% difference between the highest and lowest years. Both stations, however, experienced decreases between 2006 and 2007.
- The rate of Hispanic drivers stopped has also fluctuated in Clearfield, including a 0.9% increase in 2006 and a 0.6% decrease in 2007.
- The rates of Hispanic drivers stopped in Kane, Ridgway, and Tionesta mirror one another, showing increases in 2004, and then decreasing in 2005 prior to upward trends in 2006 and 2007.
- After 3 years of stable rates of Hispanic drivers stopped, Punxsutawney's rate decreased by 0.7% in 2005. The 2007 rate slightly increased in 2007.

Figure 0:23: Percent of Traffic Stops Involving Black Drivers – Troop D

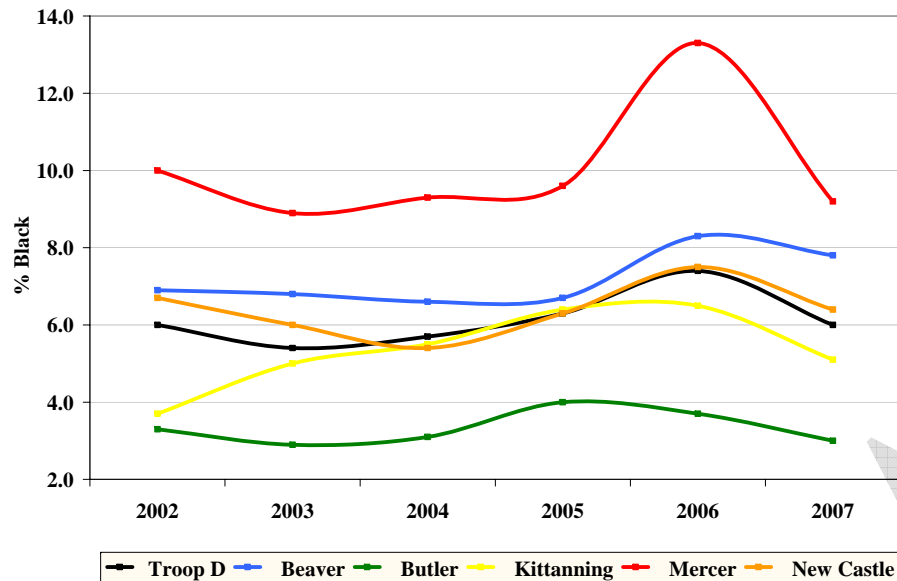


Figure 11.23 reports the rate of Black drivers stopped in Troop D between 2002 and 2007.

- Beaver's rate of Black drivers stopped was stable between 2002 and 2005 prior to a 1.6% increase in 2006 and a small decrease in 2007.
- Butler's rate of Black drivers stopped was stable between 2002 and 2004 before a 0.9% increase in 2005 and then a downward trend in 2006 and 2007.
- Kittanning's rate of Black drivers stopped increased steadily between 2002 and 2006, including 1.3% and 0.9% increases in 2003 and 2005, respectively. The 2007 rate, however, dropped 1.4% to a level similar to 2003.
- The rate of Black drivers stopped in Mercer was fairly stable between 2002 and 2005 before a 3.7% increase in 2006. The 2007 rate, however, fell to approximately the same level as in the first four years of data collection.
- New Castle's rate of Black drivers stopped decreased 1.3% between 2002 and 2004 before increasing 2.1% between 2004 and 2006. The 2007 rate dropped by 1.1% to 6.4%.

Figure 0:24: Percent of Traffic Stops Involving Hispanic Drivers – Troop D

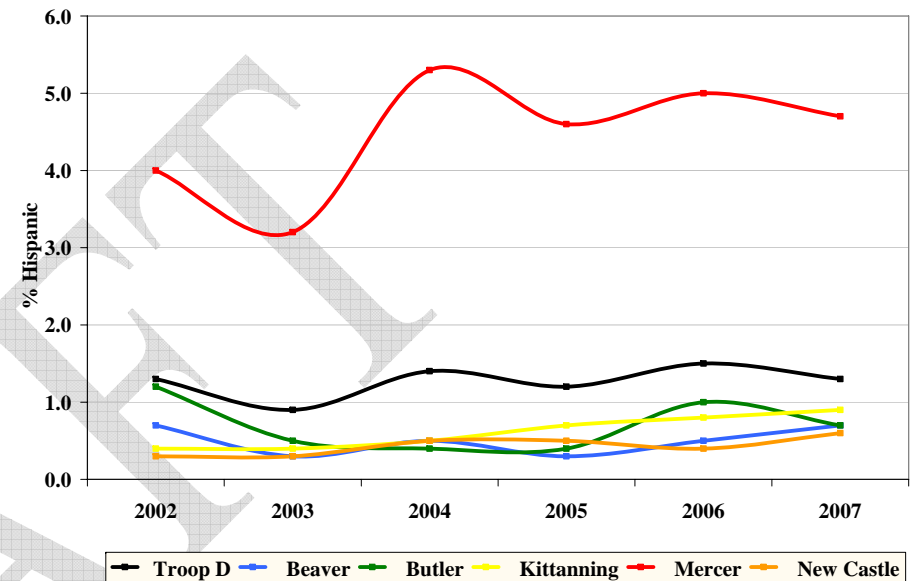


Figure 11.24 reports the percentages of Hispanic stopped in Troop D between 2002 and 2007.

- Four of the five stations (Beaver, Butler, Kittanning, and New Castle) showed little variation in the percent of Hispanic drivers stopped between 2002 and 2007, with changes of less than 1% for these stations.
- Mercer's rate of Hispanic drivers stopped showed considerable variation across the six years of data collection, with alternating decreases and increases that resulted in a 2007 rate of 4.7%.

Figure 0:25: Percent of Traffic Stops Involving Black Drivers – Troop E

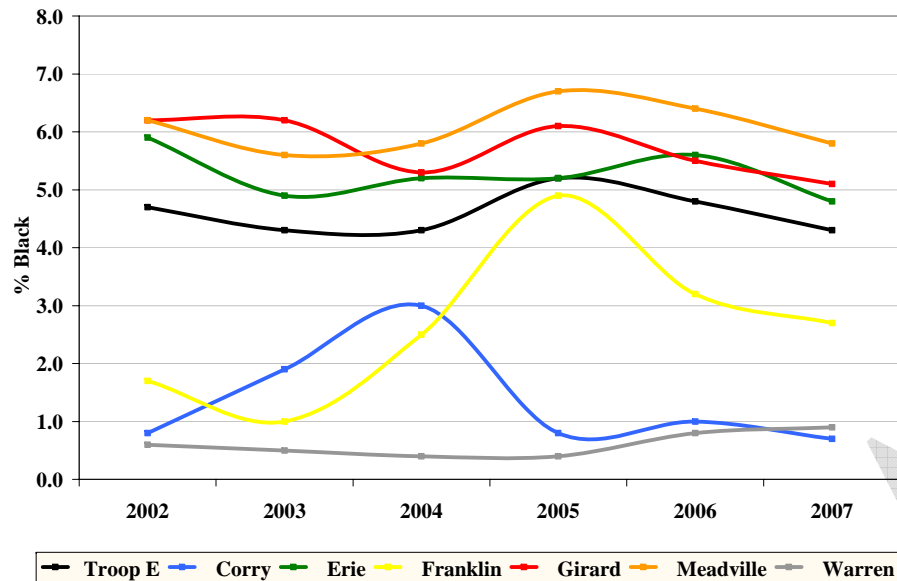


Figure 11.25 reports the percentage of Black drivers stopped in Troop E between 2002 and 2007.

- The rate of Black drivers stopped in Corry showed a marked increase between 2002 and 2004 prior to a 2.2% decrease in 2005 to a rate that has remained fairly stable since then.
- Erie showed a 1.0% decrease in Black drivers stopped between 2002 and 2003, and then showed a stable rate between 2004 and 2006. The 2007 rate decreased by 0.8% to its lowest rate since 2002.
- Between 2002 and 2005, the rate of Black drivers stopped in Franklin increased by 3.2%. Since then, the rate of Black drivers stopped has decreased by 2.2% during 2006 and 2007.
- Girard's rate of Black drivers stopped began at a rate of 6.2% before dropping 0.9% in 2004, then returning in 2005 to 6.1%. The rates in 2006 and 2007, however, have steadily decreased to 5.1%.
- Meadville has shown slight fluctuation in the rate of Black drivers stopped between 2002 and 2007, but no differences larger than 0.9%.
- Warren's rate of Black drivers stopped remained relatively unchanged between 2002 and 2005, before a small increase in 2006 and 2007.

Figure 0:26: Percent of Traffic Stops Involving Hispanic Drivers – Troop E

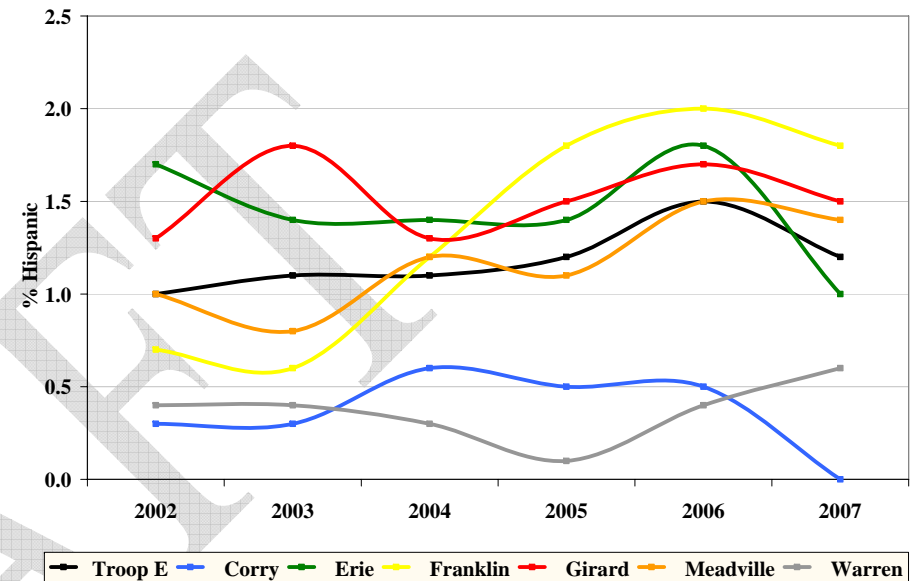


Figure 11.26 reports the stopping trends for Hispanic drivers in Troop E between 2002 and 2007.

- Corry's rate of Hispanic drivers stopped increased slightly between 2003 and 2004 to a stable level between 2004 and 2006. The 2007 rate, however, decrease by 0.5% to 0.0% Hispanic drivers stopped.
- Erie's rate of Hispanic drivers stopped was fairly stable between 2002 and 2006 prior to a 0.8% decrease in 2007 to its lowest rate of 1.0%
- The rate of Hispanic drivers stopped in Franklin steadily increased between 2003 and 2006 by 1.4% overall. The 2007 rate decreased slightly but remained higher than all previous years other than 2006.
- Girard's rate has fluctuated slightly between 2002 and 2007 with only 0.5% as the largest difference between any two years.
- Meadville's rate of Hispanic drivers has also fluctuated from a low of 0.8% in 2003 to a high of 1.5% in 2006. The 2007 rate is fairly consistent with the rate in 2006.
- The rate of Hispanic drivers stopped in Warren decreased by 0.3% between 2002 and 2005, prior to slightly but steadily increasing in 2006 and 2007.

Figure 0:27: Percent of Traffic Stops Involving Black Drivers – Troop K

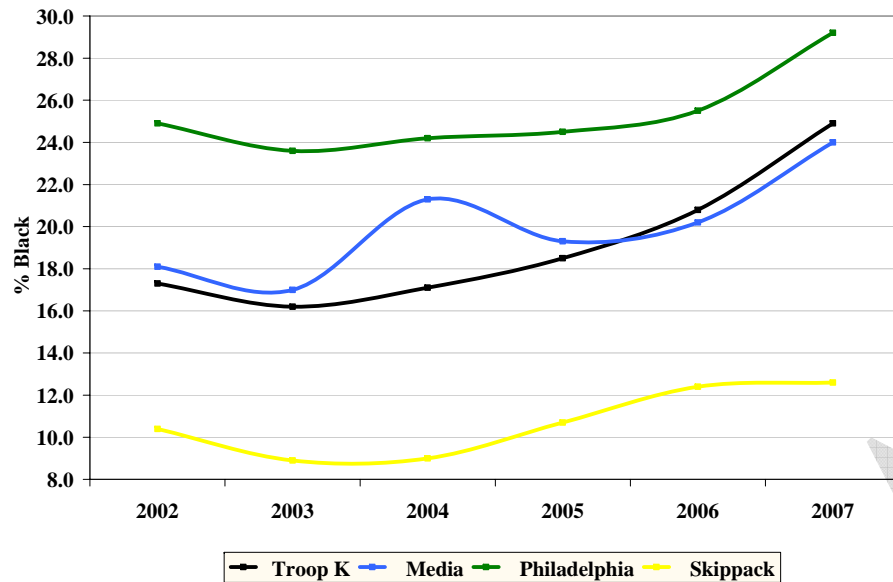


Figure 11.27 reports the rate of Black drivers stopped in Troop K between 2002 and 2007.

- The rate of Black drivers stopped was generally stable between 2002 and 2005 in Philadelphia and Skippack, while the rate in Media experienced a marked increase in 2004.
- All three stations exhibited increases in their rates of Black drivers stopped between 2006 and 2007: 3.8% in Media, 3.7% in Philadelphia, but only 0.2% in Skippack.
- Each of these stations' rates of stops for Black drivers in 2007 represent their highest rate since data collection began.

Figure 0:28: Percent of Traffic Stops Involving Hispanic Drivers – Troop K

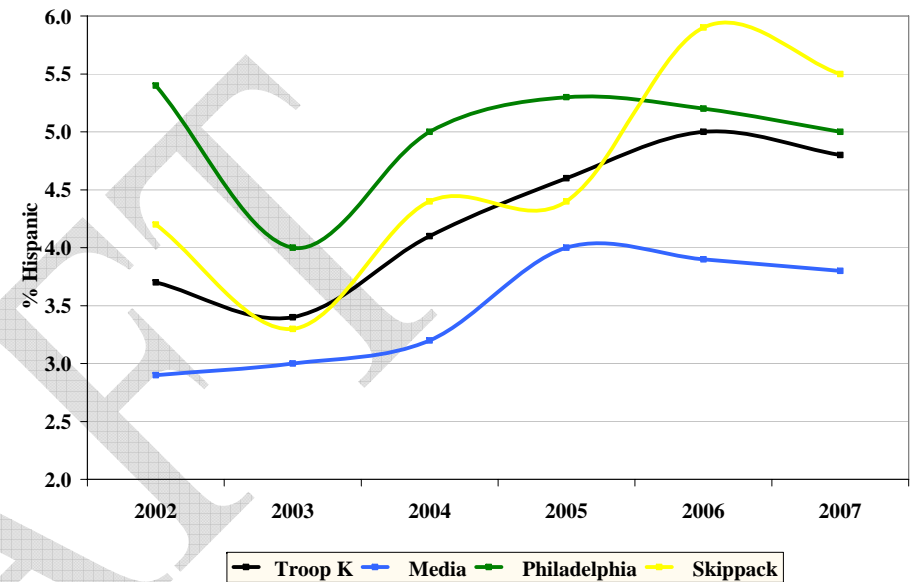


Figure 11.28 reports the trends for stops of Hispanic drivers in Troop K between 2002 and 2007.

- The rate of Hispanic drivers stopped in Media was generally stable between 2002 and 2004, prior to a 0.8% increase in 2005 that has since leveled off in 2006 and 2007, including a negligible decrease of 0.1% in 2007.
- Philadelphia's percent of Black drivers stopped showed an initial decrease of 1.4% between 2002 and 2003, before stabilizing around 5.0% between 2004 and 2007.
- The rate of Hispanic drivers stopped in Skippack has fluctuated considerably between 2002 and 2007. The rate initially dropped between 2002 and 2003 to 3.3%, the station's lowest rate over the six year period. It increased 1.1% in 2004 and stabilized at that rate in 2005 before a 1.5% increase in 2006. In 2007, the rate decreased 0.4% to 5.5% but remained higher than all previous years except 2006.

Figure 0:29: Percent of Traffic Stops Involving Black Drivers – Troop M

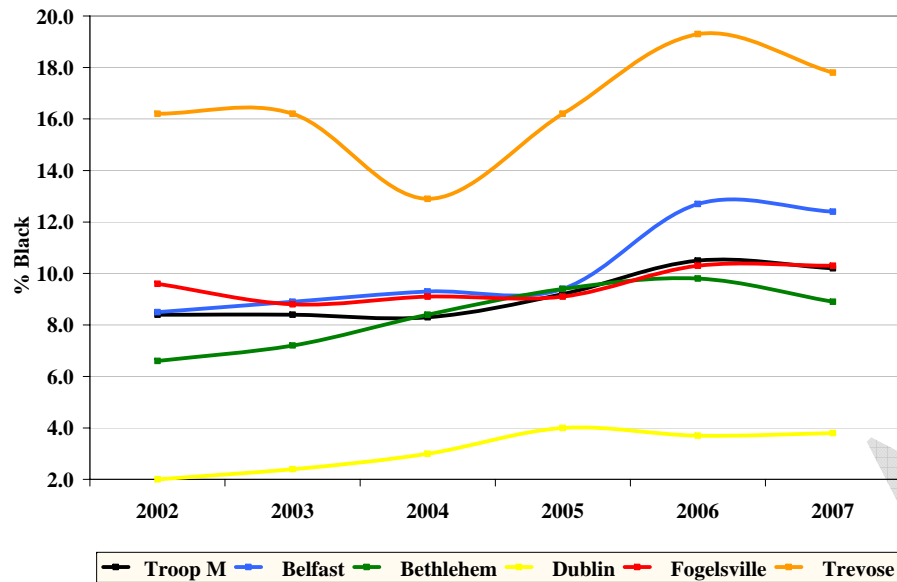


Figure 11.29 reports the rate of Black drivers stopped in Troop M between 2002 and 2007.

- The percent of Black drivers stopped in Belfast was fairly stable between 2002 and 2005, prior to a 3.3% increase to 12.7% in 2006 that only slightly decreased in 2007.
- In 2007, Bethlehem broke from its pattern of increasing rates of Black drivers stopped between 2002 and 2006 with a slight decrease of 0.9%.
- Dublin's rate of Black drivers stopped increased by 2.0% between 2002 and 2005, prior to stabilizing near that level in 2006 and 2007.
- Fogelsville's rate of Black drivers stopped was fairly consistent between 2002 and 2005, prior to a 1.2% increase in 2006. Fogelsville reported no change in the percent of Black drivers stopped in 2007.
- The rate of Black drivers stopped in Trevoise has shown considerable fluctuation between 2002 and 2007. After stable rates between 2002 and 2003, the rate decreased by 3.3% in 2004 before returning to the 2003 level in 2005. In 2006, the rate again showed a marked increase by 3.1% to its highest level during the six year period. In 2007, the rate decreased again by 1.5%.

Figure 0:30: Percent of Traffic Stops Involving Hispanic Drivers – Troop M

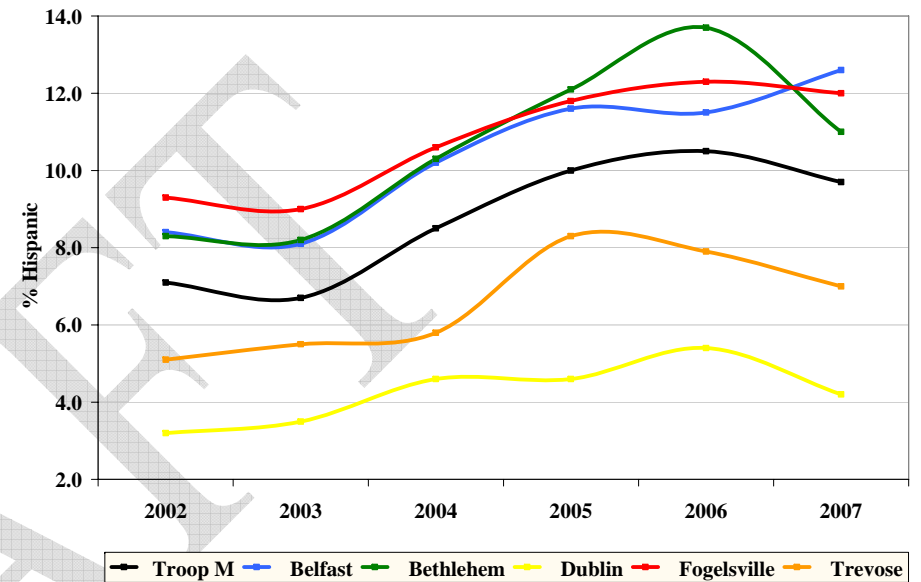


Figure 11.30 reports the trends of traffic stops involving Hispanic drivers in Troop M between 2002 and 2007.

- The rate of Hispanic drivers stopped in Belfast has, with only minor exceptions, steadily increased between 2002 and 2007, culminating in a rate in 2007 of 12.6%, over 4 percentage points higher than in 2002.
- Bethlehem's rate of Hispanic drivers stopped has increased overall between 2002 and 2007, but shown varying degrees of fluctuation during that time, including increases of 1.5-2.0% in each year between 2003 and 2006, followed by a 2.7% decrease in 2007.
- Dublin's rate of Hispanic drivers stopped steadily increased between 2002 and 2006 to a high of 5.4%, but dropped by 1.2% in 2007.
- The rate of Hispanic drivers stopped has increased approximately 3 percentage points overall in Fogelsville between 2002 and 2007, but showed a slight decrease in 2007.
- Trevoise's rate of Hispanic drivers stopped remained stable from 2002-2004, but showed a marked increase of 2.5% in 2005. The rate has since steadily declined in both 2006 and 2007.

Figure 0:31: Percent of Traffic Stops Involving Black Drivers – Troop N

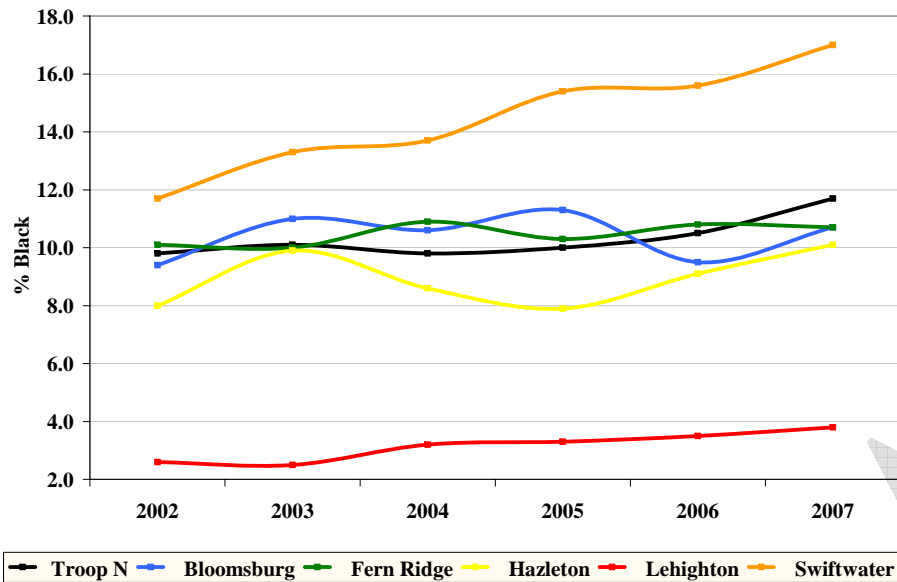


Figure 11.31 reports the rate of Black drivers stopped in Troop N between 2002 and 2007.

- The rate of Black drivers stopped in Bloomsburg has fluctuated over the six years of data collection. Following an increase of 1.6% in 2003, the rate stabilized until 2006, when a decrease of 1.8% was recorded. The 2007 rate, however, increased again by 1.2%.
- Fern Ridge's rate of Black drivers stopped was very consistent between 2002 and 2007 with a range of 10.0% to 10.9%.
- The rate of Black drivers stopped has also fluctuated in Hazleton, with an initial increase of nearly 2.0% in 2003, followed by a two-year period of decline and then a marked increase of 2.2% between 2005 and 2007.
- Lehigh's rate of Black drivers stopped has shown a slight but consistent increase over time, from a low of 2.5% in 2003 to a high of 3.8% in 2007.
- Swiftwater displayed an upward trend in the rate of Black drivers stopped across all six years. This station has experienced an overall increase of over 5% from 11.7% in 2002 to 17.0% in 2007.

Figure 0:32: Percent of Traffic Stops Involving Hispanic Drivers – Troop N

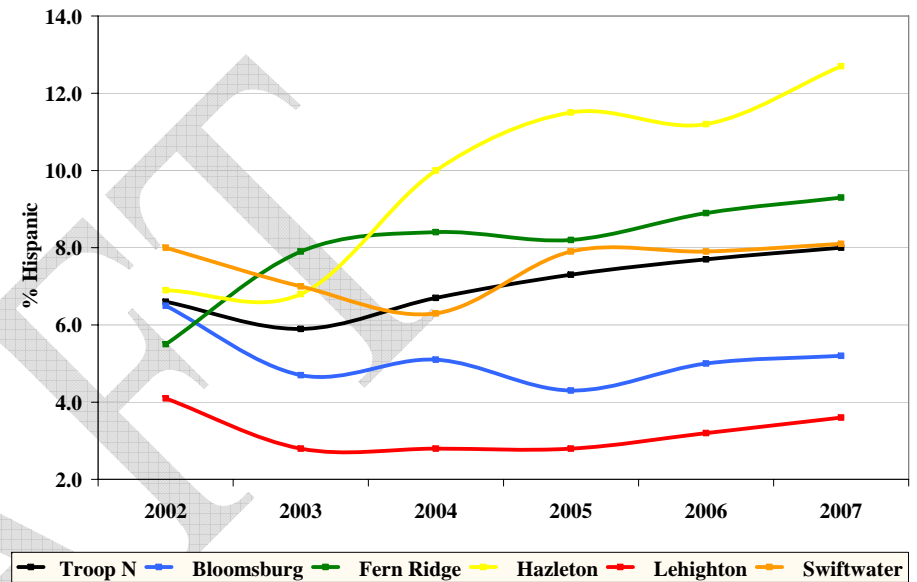


Figure 11.32 reports the rate of Hispanic drivers stopped between 2002 and 2007.

- Bloomsburg's rate of Hispanic drivers stopped has fluctuated between 2002 and 2007, with alternating decreases and increases for the first 5 years. The 2007 rate represents a slight increase since 2006 but remains lower than the initial rate in 2002.
- Fern Ridge's rate of Hispanic drivers stopped has steadily increased between 2002 and 2007 by approximately four percentage points.
- The rate of Hispanic drivers stopped in Hazleton has increased by nearly six percentage points overall between 2002 and 2007, including a 3.2% increase in 2004 and a 1.5% increase in 2007.
- Lehigh's rate of Hispanic drivers stopped decreased initially and then stabilized at 2.8%, prior to an upward trend in 2006 and 2007.
- The rate of Hispanic drivers stopped in Swiftwater declined between 2002 and 2004, prior to an increase of 1.6% in 2005 and stabilizing near that rate in 2006 and 2007.

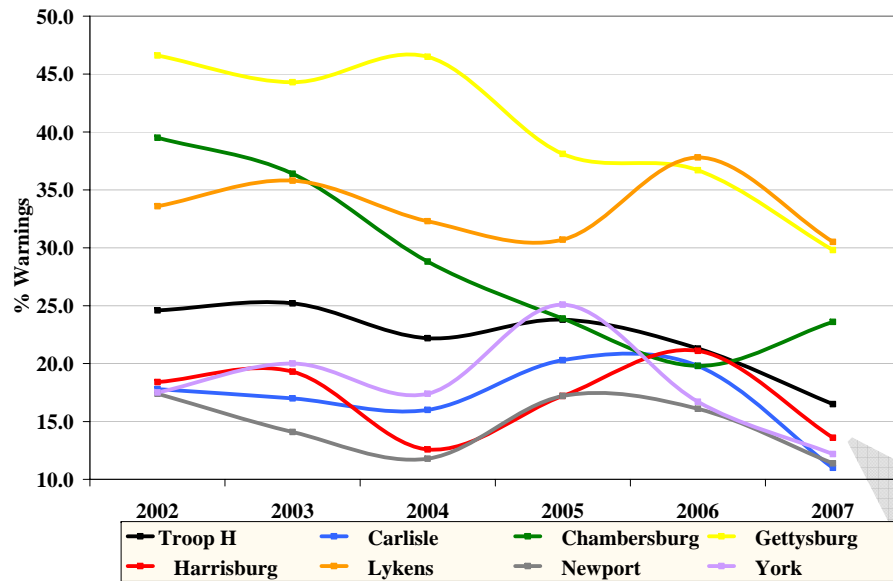
APPENDIX B:
TRAFFIC STOPS OUTCOMES 2002 – 2007

DRAFT

Appendix B provides a series of figures reporting the rates of post-stop outcomes (e.g., warnings, citations, arrests, and searches) at the troop and station levels between 2002 and 2007. It is intended to supplement the information provided in Section 5 (Figures 5.1 – 5.30). As described in Sections 4 and 5, 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 Appendix 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 important to note that 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, and searches during traffic stops.

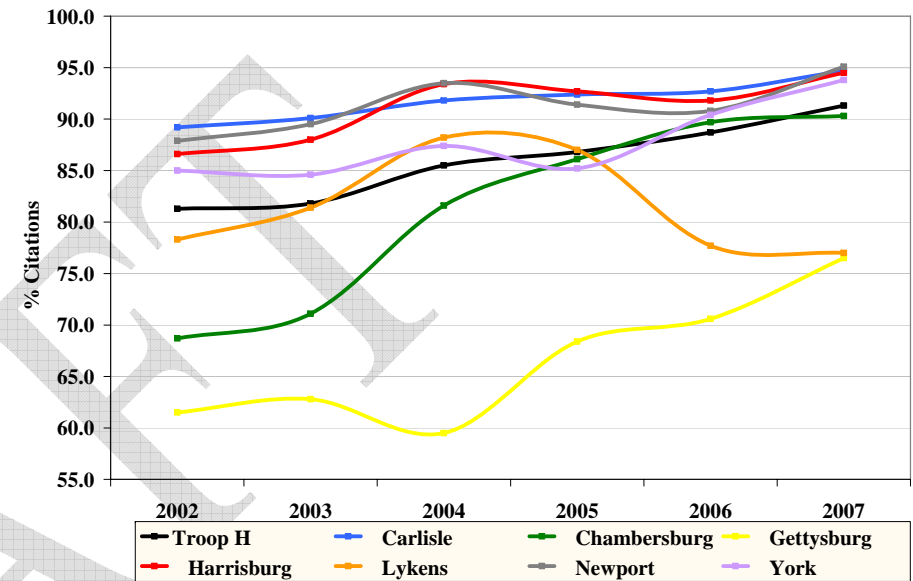
For the trends in arrests and searches during traffic stops, it is important to remember that, prior to 2006 there were some data inconsistencies for these outcomes. As documented in the 2003-2004 Final Report, during focus groups conducted with PSP Troopers in August 2005 it was discovered that there were some problems associated with the ongoing data collection project. Specifically, it became apparent that not all Troopers were completing the Contact Data Reports during all member-initiated stops and were, in particular, underreporting traffic stops resulting in arrests and/or searches that resulted in the discovery of contraband. Upon discovery of these discrepancies, the PSP immediately addressed and corrected these issues. Nevertheless, based on the known problems of underreporting of arrests and searches, firm conclusions regarding trends in these outcomes cannot be made.

Figure 0:1: Percent of Traffic Stops Resulting in a Warning – Troop H



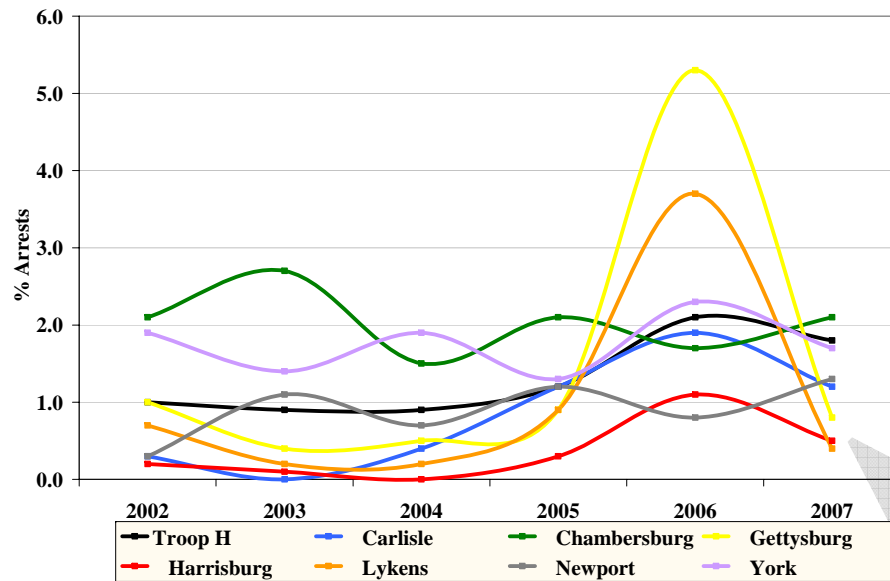
- Figure 12.1 reports the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop H and shows an overall decrease in the rate of warnings, including a nearly 5 point drop from 2006 to 2007.
- Carlisle and Newport showed steady decreases between 2002 and 2004, then an increase in 2005, only to decrease again in 2006 & 2007, dropping to a 2007 warning rate lower than all previous years.
- Chambersburg showed an increase in the rate of warnings from 2006 to 2007, but the 2007 percentage (23.6%) was still considerably lower than the initial rates of warnings in 2002 and 2003 that exceeded 35%.
- Gettysburg was fairly consistent between 2002 and 2004, showing steady decreases since, including a nearly 7 point drop from 2006 to 2007.
- Harrisburg, after a drop from 2003-2004, showed steady increases through 2006, prior to a 7.5 point decrease in 2007.
- The rate of warnings in Lykens has been more variable, with an increase between 2005 and 2006 and then a drop from 2006-2007 to a rate lower than all previous years.
- York has also displayed variable warning rates, alternating increases and decreases from 2002-2006, before a drop of 4.5 points in 2007.

Figure 0:2: Percent of Traffic Stops Resulting in a Citation – Troop H



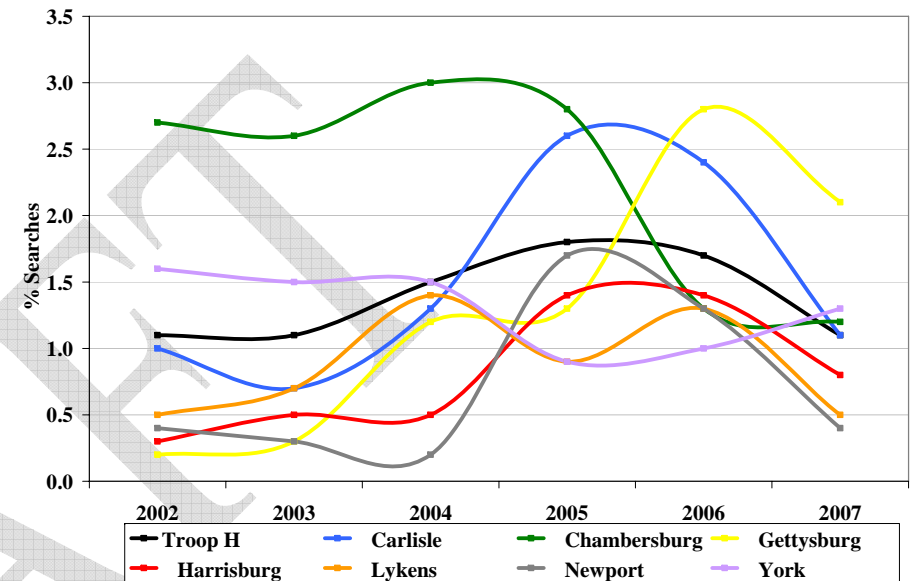
- Figure 12.2 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop H and shows an increasing rate of citations over that time period, culminating in a high of 91.3% in 2007.
- Carlisle and Chambersburg both demonstrated steady increases in citations since 2002 to highs in 2007 of 94.7% and 90.3%. In particular Chambersburg demonstrated a large spike in citations from 2003-2004.
- The citation rate in Gettysburg has increased overall between 2002 and 2007, including a nearly 6 point increase from 2006 to 2007.
- Harrisburg and Newport displayed increases in citations between 2002 and 2004, and then experienced decreases between 2004 and 2006, only to increase in 2007 to citation rates higher than the previous highs in 2004.
- Lykens showed similar trends in increases until 2004, followed by decreases in 2005 and 2006. Lykens, however, did not return to its previously higher rates in 2007.
- York displayed fairly consistent trends between 2002 and 2005, but the citation rate has increased steadily since 2005, including a more than 3 point increase from 2006 to 2007.

Figure 0:3: Percent of Traffic Stops Resulting in an Arrest – Troop H



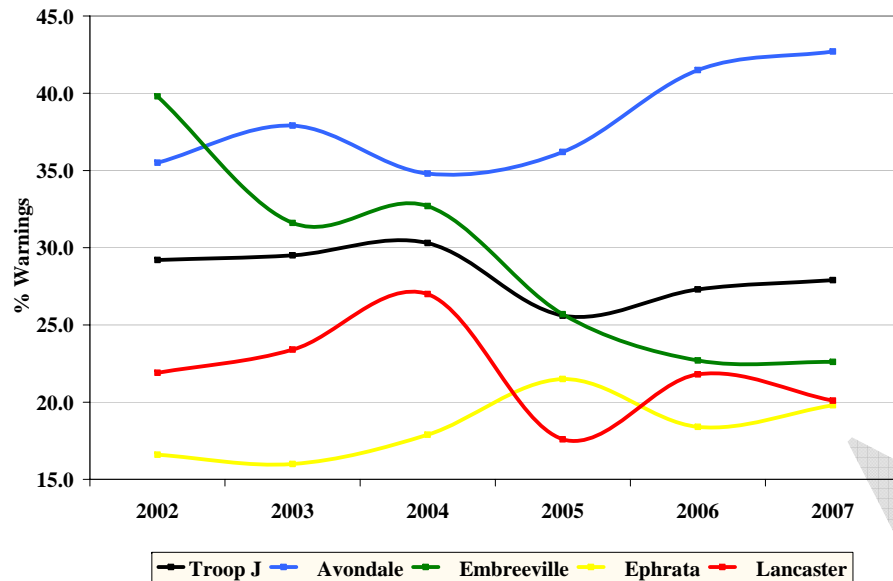
- Figure 12.3 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop H and shows consistent trends between 2002 and 2005, before an overall increase in 2006 and 2007.
- Carlisle reported very low rates of arrest from 2002-2004, prior to increases in 2005 and 2006, with a 2007 rate that, despite being lower than the 2006 rate, was an overall increase across the entire time period. Harrisburg displayed similar trends, except that the increase in that station did not occur until 2006.
- Chambersburg has shown consistent arrest rates between 2002 and 2007, with only slight decreases in 2004 and 2006.
- Gettysburg and Lykens both showed lower arrest rates in 2003 and 2004, compared to 2002, prior to an increase in 2005. Both stations also experienced a large spike in their rates of arrest in 2006, prior to the 2007 rates returning to 2005 rates or below.
- Newport showed variation in its arrest rates, alternating increases and decreases across the entire time period. York also displayed variable arrest rates, alternating decreases and increases from 2002-2007, with the 2007 rate (1.7%) being very similar to the rate in 2002.

Figure 0:4: Percent of Traffic Stops Resulting in a Search – Troop H



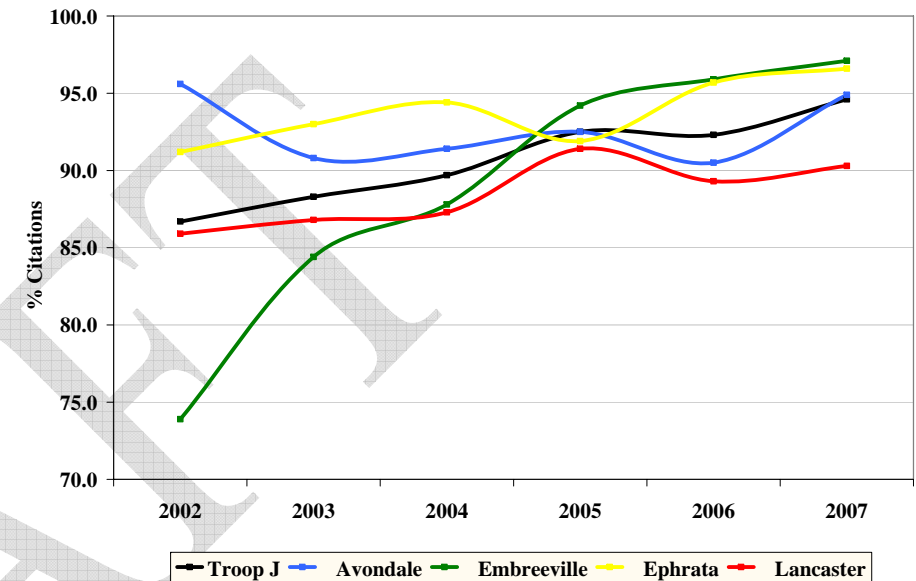
- Figure 12.2 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop H and shows a generally consistent trend during that time period, despite small increases in 2005 and 2006.
- Carlisle experienced increases in its search rates in 2004 and 2005, before holding relatively steady in 2006 and experiencing a 1.3 point decrease in 2007 to its 2002 levels.
- Chambersburg's search rates remained consistent from 2002-2005 before a 1.5 point decrease in 2006 and a similar rate in 2007. A similar trend is evident in York's search rates, although its decrease came in 2005.
- Gettysburg's search rates began very low in 2002 and 2003, with an increase of a percentage point in 2004 and 2005, before a large increase in 2006. The 2007 search rate, though lower than the 2006 rate, is a considerable increase in its rates from years prior to 2006.
- Harrisburg and Newport reported very low search rates from 2002-2004, before increases in 2005 that remained steady in 2006. Both stations experienced decreases in their 2007 search rates compared to 2006.
- Lykens displayed a variable trend in its search rates with alternating increases and decreases between 2003 and 2007.

Figure 0:5: Percent of Traffic Stops Resulting in a Warning – Troop J



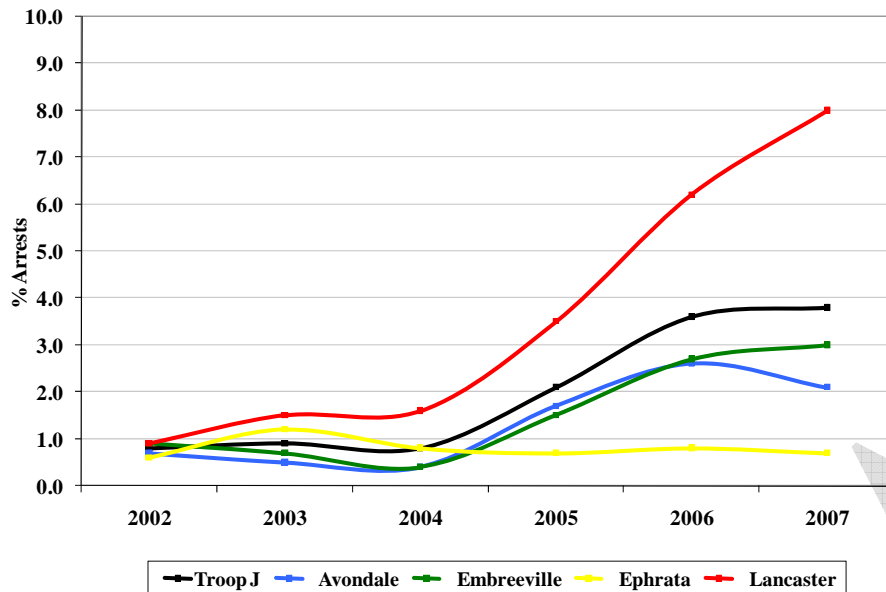
- Figure 12.5 reports the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop J and shows a consistent trend in the rate of warnings from 2002-2004, prior to a nearly 5 point drop in 2005. The 2006 and 2007 rates increased from 2005, but remained lower than the initial rate in 2002.
- The rate of warnings reported in Avondale decreased between 2003 and 2004, but has steadily increased since then, including a large jump from 2005-2006 and another 1.2 point increase from 2006-2007.
- Embreeville's rate of warnings has steadily decreased since 2002, except for a small increase from 2003-2004, with the 2007 rate being the lowest of all previous years.
- Ephrata's rate of warnings increased by 3.6 points in 2005 prior to lower rates in 2006 and 2007. The 2007 rate is higher than the rate in 2006.
- Lancaster has experienced some variability in its rate of warnings, with a steady increase between 2002-2004, then a sharp decrease in 2005, prior to 2006 and 2007 rates (21.8% and 20.1%, respectively) that are similar to the rate in 2002 (21.9%).

Figure 0:6: Percent of Traffic Stops Resulting in a Citation – Troop J



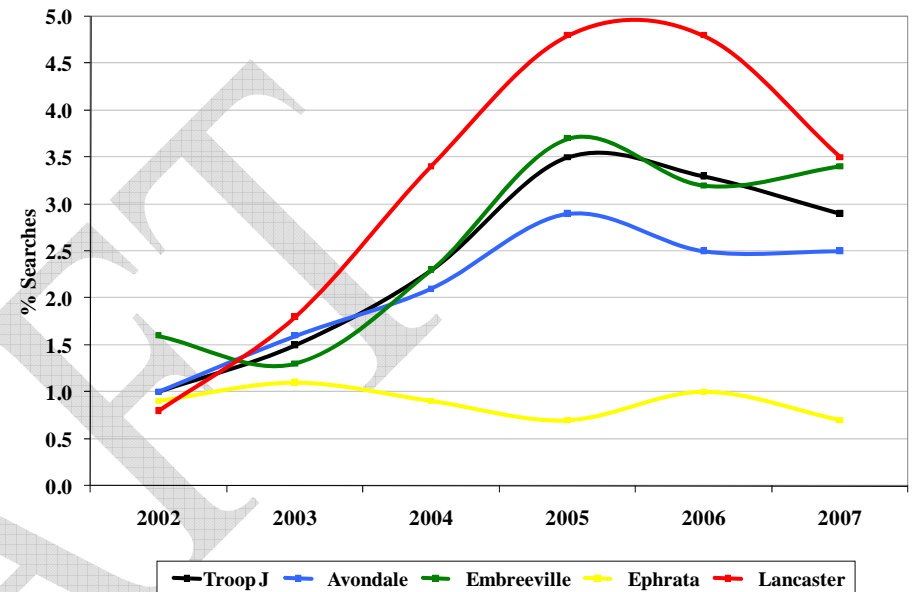
- Figure 12.6 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop J and shows a generally increasing trend over the 6 year period, culminating in a high of 94.6% in 2007.
- Avondale shows a variable trend in its rates of citations, experiencing a decrease between 2002 and 2003, followed by a steady increase for 3 years, with another decrease in 2006 and an increase in 2007 to a rate that is nearly equivalent to its 2002 rate.
- Embreeville's rate of citations has steadily increased since 2002, with its largest jump from 2002-2003, and a 1.2 point increase between 2006 and 2007.
- Ephrata's percentage of citations increased steadily through 2004, prior to a 2005 decrease. The rates in 2006 and 2007 have since increased, whereby the 2007 rate is over 5 percentage points higher than in 2002.
- Lancaster experienced a steady increase between 2002 and 2005, prior to a drop in the citation rate in 2006 and only a slight increase from that rate in 2007.

Figure 0:7: Percent of Traffic Stops Resulting in an Arrest – Troop J



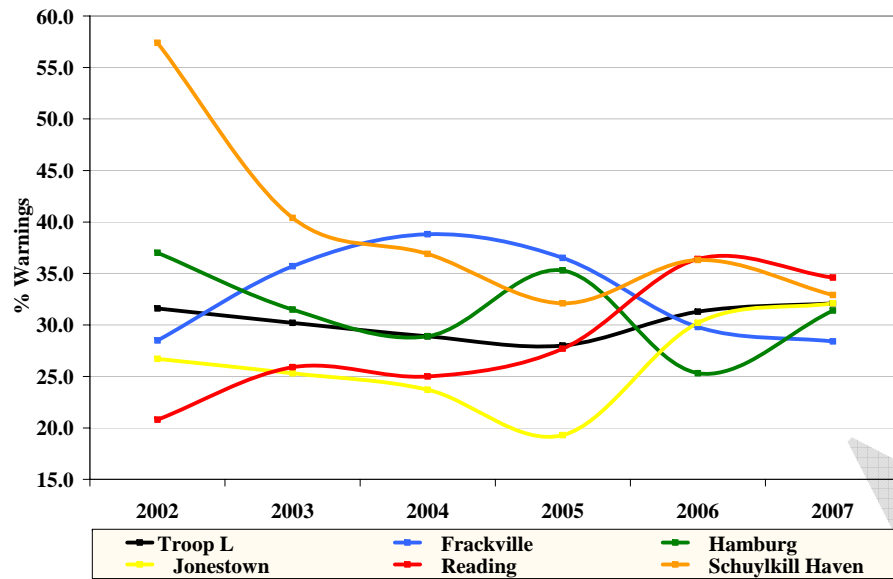
- Figure 12.7 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop J and shows consistent trends between 2002 and 2004, before more substantial increases from 2005-2007.
- The arrest rates reported in Avondale and Embreeville mirror the troop-level trend, in that the rates are relatively consistent from 2002-2004, but show a large increase in 2005 that continues to grow in 2006 and 2007.
- With the exception of a small increase in 2003, the arrest rate in Ephrata has remained very stable since data collection began.
- Lancaster's arrest rate has steadily increased each year since 2002, including a 1.8% increase between 2006 and 2007.

Figure 0:8: Percent of Traffic Stops Resulting in a Search – Troop J



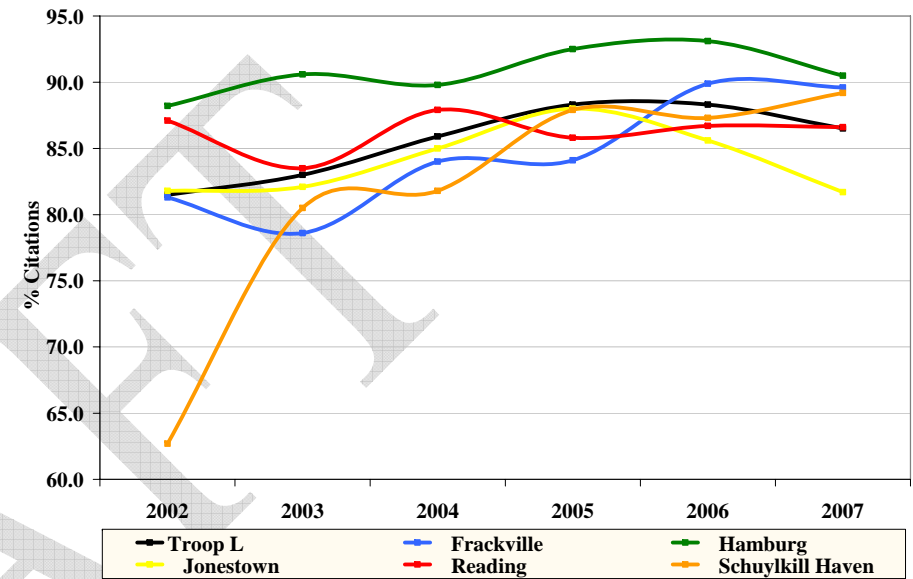
- Figure 12.8 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop J and shows a steady increase between 2002 and 2005, and has slightly decreased in 2006 and 2007.
- The rate of searches in Avondale mirrors the troop-level trend, increasing between 2002 and 2005 and decreasing in 2006-2007.
- The rate of searches in Embreeville has fluctuated up and down over the last six years, reaching a percentage of 3.4% in 2007, which is the second highest rate of searches since 2002.
- Ephrata's rate of searches has fluctuated slightly over the last six years, but the 2007 rate (0.7%) varies from previous years by no more than 0.4 percentage points.
- Lancaster's rate of searches increased steadily from 2002 to 2005, and then stabilized in 2006 prior to a 1.3% decrease in 2007.

Figure 0:9: Percent of Traffic Stops Resulting in a Warning – Troop L



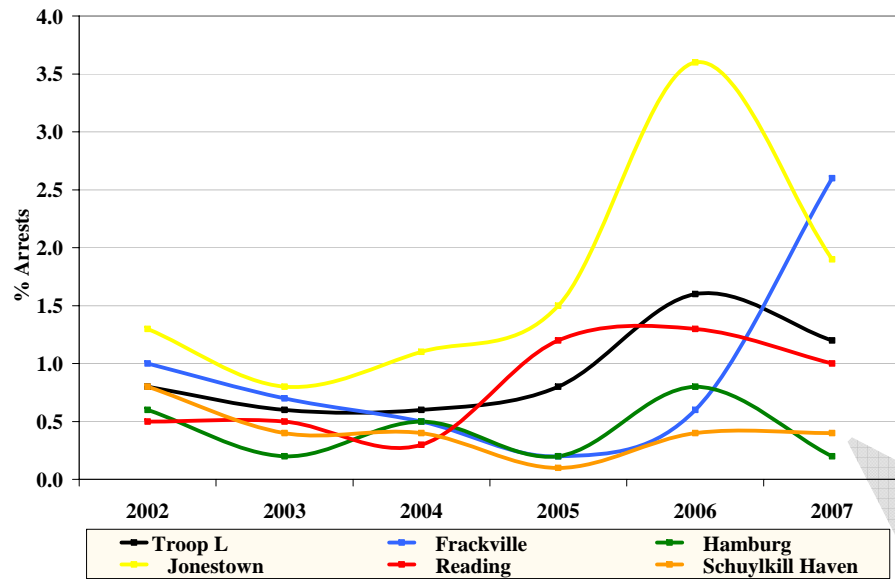
- Figure 12.9 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop L and shows a decline between 2002 and 2005, prior to increases in 2006 and 2007 that return the rate of warnings in 2007 to a rate similar to 2002.
- Frackville displayed an increase in warning rates between 2002 and 2004, followed by a downward trend between 2005 and 2007 to a rate in 2007 that is similar to the rate in 2002.
- After an initial drop from 2002 to 2004, the rate of warnings in Hamburg has shown alternating increases and decreases in its warning rates between 2004 and 2007.
- Jonestown's rate of warnings decreased steadily from 2002 to 2005, prior to a dramatic increase (10.9%) in 2006 and another smaller increase of nearly 2% in 2007.
- The rate of warnings in Reading increased between 2002 and 2003, leveling off in 2004. Rates then increased again in 2005 and 2006 with a slight drop-off in 2007.
- Schuylkill Haven warning rates consistently decreased between 2002 and 2007 by 24.5%, with only a slight increase in 2006.

Figure 0:10: Percent of Traffic Stops Resulting in a Citation – Troop L



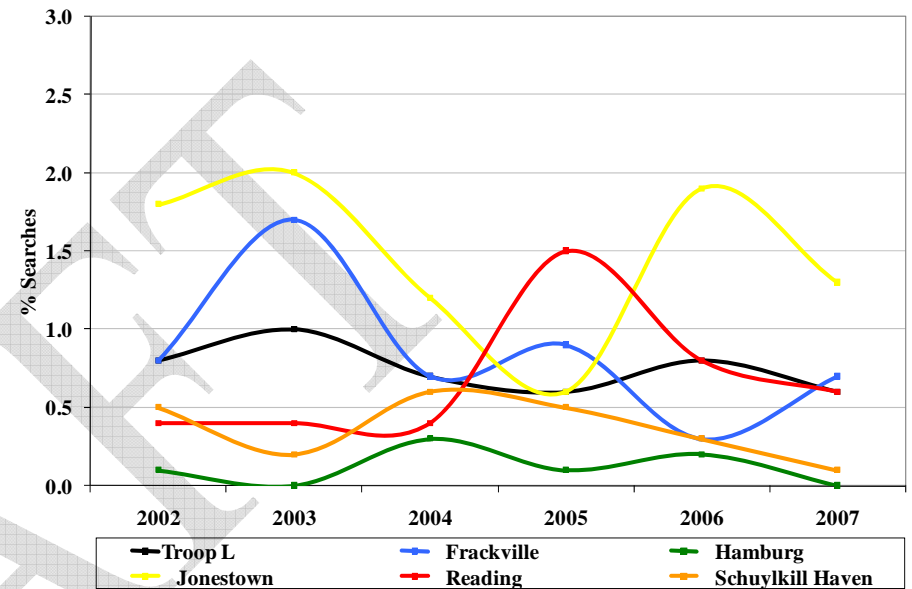
- Figure 12.10 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop L, showing an increasing rate of citations between 2002 and 2006, prior to a nearly 2 point decrease between 2006 and 2007. The 2007 rate of citations, however, remains higher than the initial rate in 2002.
- Between 2002 and 2007, the citation rates of Frackville increased by 8.3% with only one substantial decrease of 2.7% in 2003.
- Hamburg and Jonestown's citation rates mirrored the troop trends with a slight increase from 2002 to 2005; however, a more dramatic decrease appeared in Jonestown after 2006.
- The citation rates of Reading remained relatively stable during the six year period of data collection after an initial decrease in 2003.
- The rates of citations reported in Schuylkill Haven increased dramatically, with the largest appearing between 2002 and 2003 (17.8%). A further increase of 6.1% occurred in 2005 before leveling off in 2006 and slightly increasing in 2007.

Figure 0:11: Percent of Traffic Stops Resulting in an Arrest – Troop L



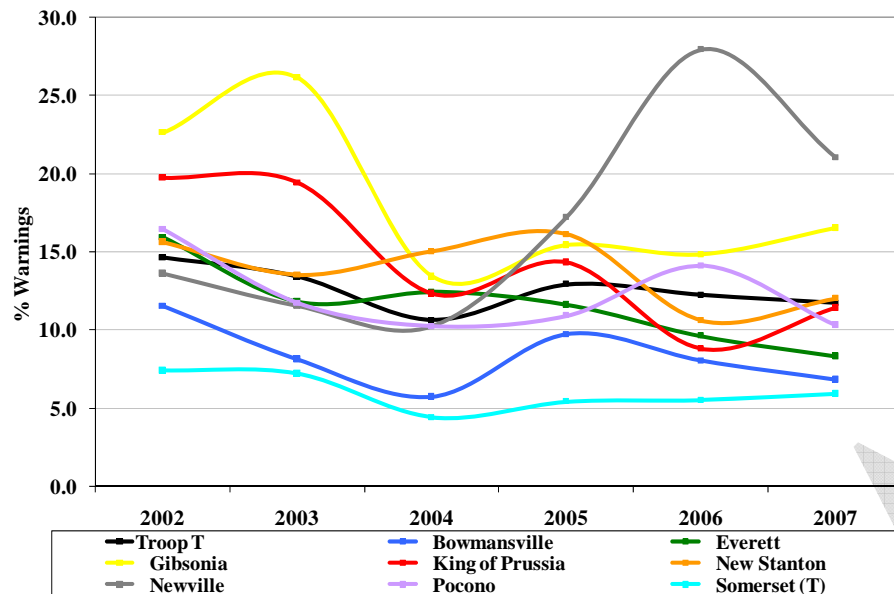
- Figure 12.11 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop L and shows consistent trends between 2002 and 2005, before an overall increase in 2006 and 2007.
- The rates of arrests in Frackville steadily decreased from 2002 to 2005 (0.8%) before a slight increase in 2006 and an increase of 2.0% in 2007.
- Hamburg's arrest rates showed fluctuation throughout with alternating periods of moderate increase and decrease, culminating in a 0.4% decrease overall.
- Jonestown's arrest rates generally mirrored troop level trends with stable rates between 2002 and 2005, followed by an overall increase in 2006 and 2007.
- The arrest rates of Reading remained stable from 2002 to 2004, followed by an increase of 0.9% in 2005 before another period of consistency.
- Following a decrease in 2003 (0.4%), Schuylkill Haven's arrest rates fluctuated only slightly over the last six years, remaining stable at 0.4% other than in 2005.

Figure 0:12: Percent of Traffic Stops Resulting in a Search – Troop L



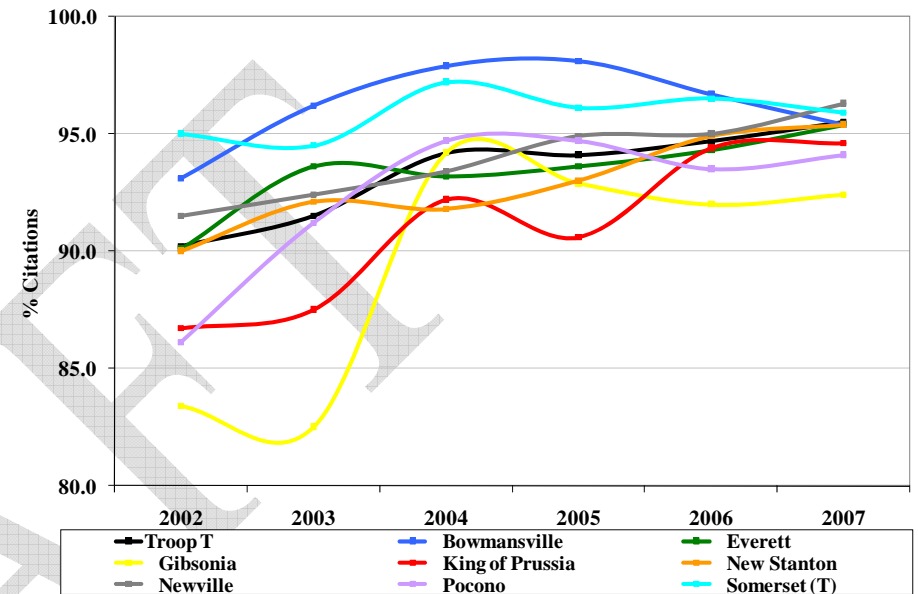
- Figure 12.12 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop L and shows a relatively stable rate of searches across that time period.
- Frackville's search rates fluctuated greatly between 2002 and 2007, with alternating periods of increase and decrease. The 2007 rates, however, were similar to 2002.
- Hamburg experienced very low search rates between 2002 and 2007 with only slight fluctuation from year to year.
- The search rates for Jonestown varied greatly between 2002 and 2007 with a decrease of 1.4% between 2003 and 2005, followed by an increase of 1.3% in 2006 and another drop in 2007 of 0.6%.
- The rate of searches in Reading remained stable from 2002 to 2004, and then experienced an increase of 1.1% in 2005, followed by decreases in 2006 and 2007 that returned the rate to nearly the same level as in 2002.
- Schuylkill Haven's search rates fluctuated prior to 2004, from which a steady decrease of 0.5% resulted between 2004 and 2007.

Figure 0:13: Percent of Traffic Stops Resulting in a Warning – Troop T



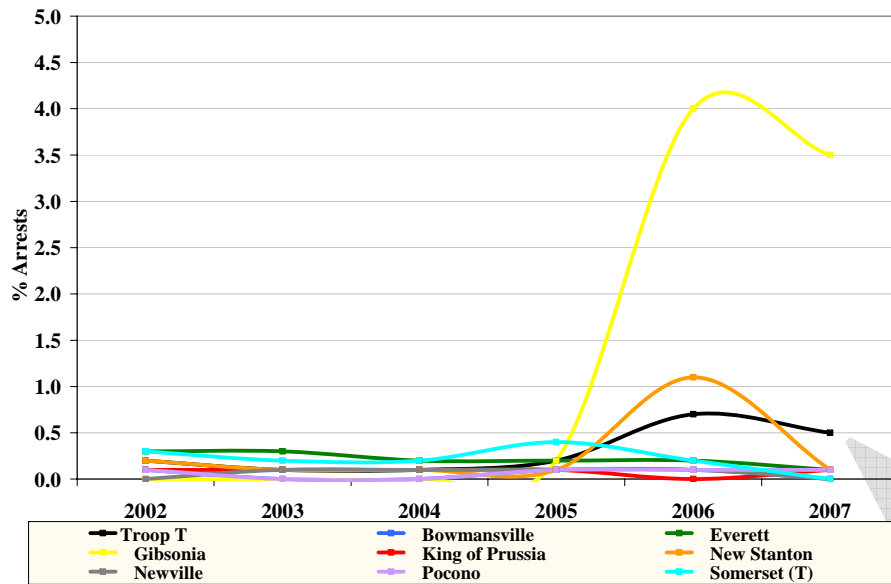
- Figure 12.13 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop T and shows a generally decreasing trend in the rate of warnings over that time period.
- Bowmansville, Everett, Pocono, and Somerset (T) warning rates mirrored the overall troop level trend with an overall and generally consistent decrease between 2002 and 2007.
- After a slight increase in 2003, warning rates in Gibsonsia dropped dramatically in 2004 (12.7%), followed by a slight increase through 2007; this rate, however, was still 6.1 percentage points lower than in 2002. King of Prussia experience a similar pattern, but with a slightly smaller decrease in 2004 and greater fluctuation in the last three years.
- The warning rates for New Stanton have fluctuated between 2002 and 2007, with an initial decrease of 2.1%, followed by an upward trend for two years (+2.6%). The rate in 2006 dropped by 5.5% before rebounding slightly in 2007.
- The warning rates for Newville initially dropped slightly from 2002 to 2004, but then increased dramatically through 2006 (10.2% in 2004 to 27.9% in 2006), after which rates decreased again to 21.0%.

Figure 0:14: Percent of Traffic Stops Resulting in a Citation – Troop T



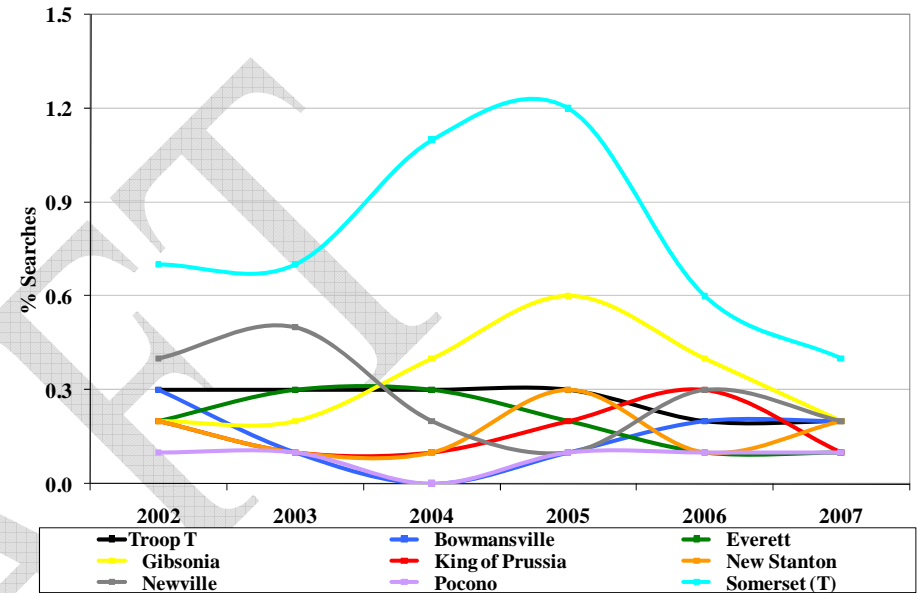
- Figure 12.14 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop T and shows an increasing rate of citations over that time period, culminating in a high of 95.5% in 2007.
- Warning rates for Bowmansville increased steadily through 2005, but then decreased in 2006 and 2007 resulting in an overall increase of 2.3%.
- Everett, King of Prussia, New Stanton, and Newville all experienced a similar rise in citation rates as was seen in the troop rates. King of Prussia experienced the largest increase (7.9%).
- Gibsonsia's citation rates initially decreased from 2002 to 2003, but then increased in 2004 by 11.7%. Rates then declined marginally through 2007.
- Since a sharp increase in citation rates between 2002 and 2004 (8.6%), percentages have been generally stable in Pocono.
- The warning rates in Somerset (T) have generally remained stable throughout, with a small increase in 2004.

Figure 0:15: Percent of Traffic Stops Resulting in an Arrest – Troop T



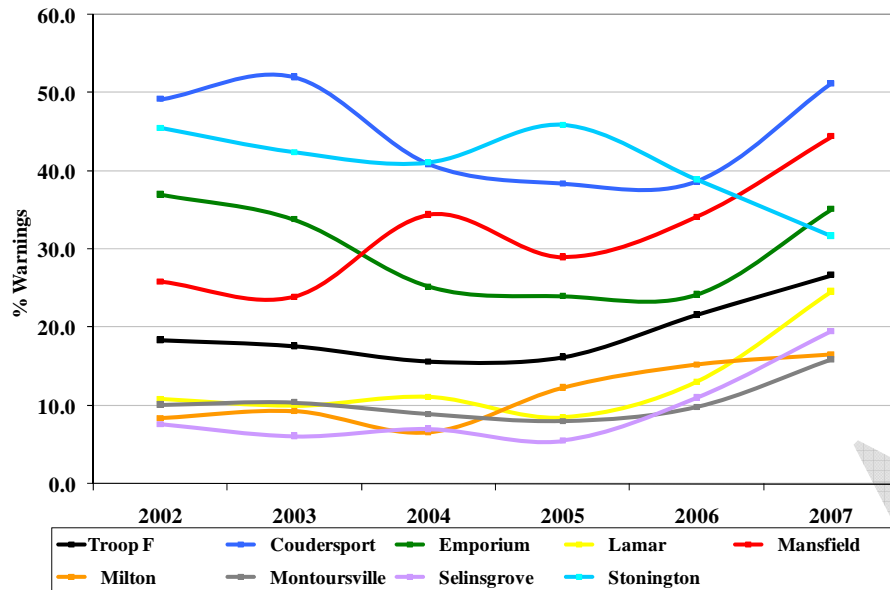
- Figure 12.15 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop T and shows consistent trends between 2002 and 2005, before an overall increase in 2006 and 2007.
- The arrest rates in Bowmansville, Everett, King of Prussia, Newville, Pocono, and Somerset (T) remained stable from 2002 to 2007 with little to no variation in the percent of arrests from year to year.
- Gibsonia and New Stanton's arrest rates were consistent from 2002 to 2005, but rates increased greatly in 2006 and were followed by decreases of varying magnitudes in 2007. Gibsonia's arrest rate showed an increase of 3.8% in 2006, while New Stanton's increase of 1.0% in 2006 was equivalent to the size of the rate's decrease in 2007. It is important to remember that the observed increases in 2006 may be a function of known data collection discrepancies between 2002 and 2005.

Figure 0:16: Percent of Traffic Stops Resulting in a Search – Troop T



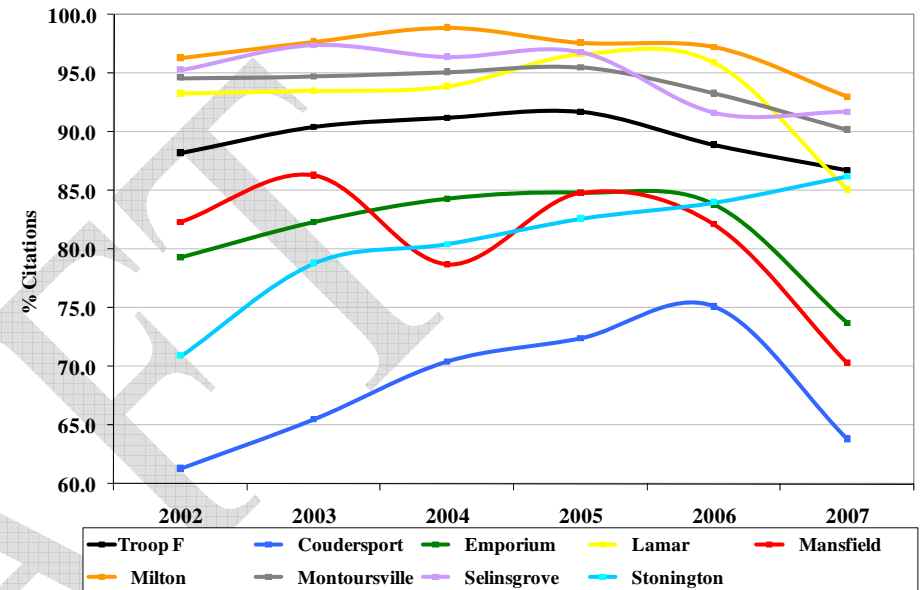
- Figure 12.16 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop T and shows a very stable rate of searches over that time period, with only a 0.1% change between 2005 and 2006.
- The search rates for Bowmansville, Everett, King of Prussia, New Stanton, and Pocono remained very stable between 2002 and 2007.
- From 2003 to 2005, Gibsonia's search rates increased (0.4%); however, an equal decrease occurred from 2005 to 2007.
- The search rates in Newville have shown minor fluctuation between 2002 and 2007, but the difference between the highest and lowest rates is only 0.4%.
- Somerset (T)'s search rates increased steadily by 0.5% from 2003 to 2005 (0.5%), but then decreased by 0.8% through 2007 to a rate lower than the initial 2002 rate.

Figure 0:17: Percent of Traffic Stops Resulting in a Warning – Troop F



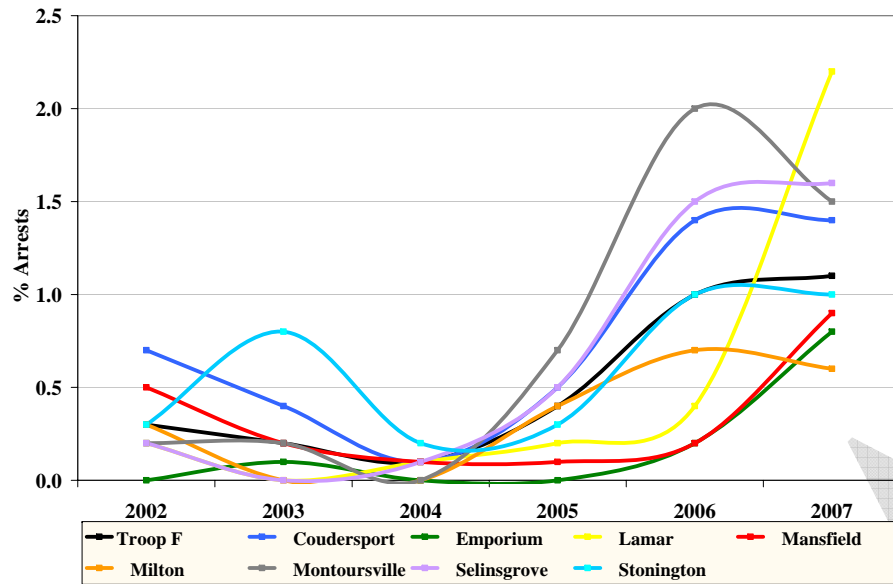
- Figure 12.17 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop F and shows an approximate 3 point decline between 2002 and 2004, before a small increase in 2005 and 5 point increases in 2006 and 2007, with a rate of warnings of 26.7% in 2007.
- Coudersport and Emporium's warning rates showed a decline of approximately 11-13% between 2004 and 2006, but in 2007 returned to approximately the same levels as initially recorded in 2002 and 2003.
- Rates of warnings for Lamar, Milton, Montoursville, and Selinsgrove resemble the troop level trend with periods of stability from 2002 to 2005 followed by a steady increase to their highest rates in 2007. This upward trend, however, occurred one year earlier, in 2004, for Milton.
- Following a sharp increase in 2004 (10.5%) and a somewhat smaller decrease in 2005 (5.4%), Mansfield's warning rates have risen steadily to a high of 44.4% in 2007.
- Stonington's warning rates decreased moderately (4.4%) from 2002 to 2004, rose briefly in 2005, and then declined more dramatically to a low of 31.7% in 2007.

Figure 0:18: Percent of Traffic Stops Resulting in a Citation – Troop F



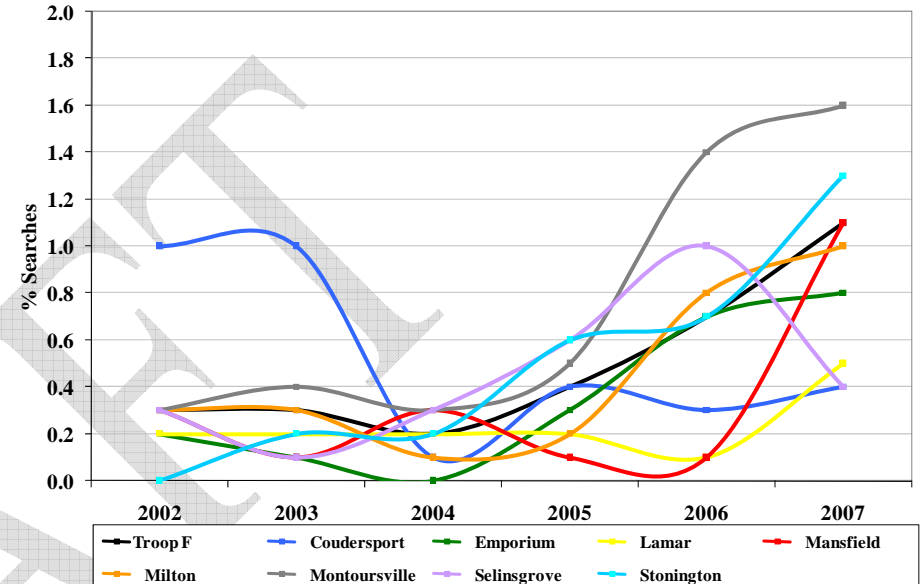
- Figure 12.18 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop F and shows an increase in citations until 2005, prior to approximately 2 point decreases in 2006 and 2007.
- Coudersport's rate of citations increased from 2002 to 2006 (13.8%) before seeing a sharp decline of 11.3% in 2007.
- Emporium's rate of citations steadily increased by 5.5% between 2002 and 2005. Lamar's citation rates changed little from 2002 to 2004 before an increase of 2.7% to 96.6% in 2005. Mansfield's rate of citations has fluctuated for the past six years, including alternating periods of increase and decline from 2002-2006. Each of these three stations showed a dramatic decline in citation rates in 2007(roughly 10-12 percentage points) to their lowest rates since data collection began.
- Milton and Montoursville's citation rates both showed gradual increases from 2002-2005, followed by slight decreases in 2006 and 2007.
- Following relative stability from 2002 to 2005, Selinsgrove's citation rates fell off in 2006 (5.2%) and stabilized at that lower rate in 2007.
- Stonington's rate of citations showed an increase of nearly 8% in 2003 and has steadily increased since to a high of 86.2% in 2007.

Figure 0:19: Percent of Traffic Stops Resulting in an Arrest – Troop F



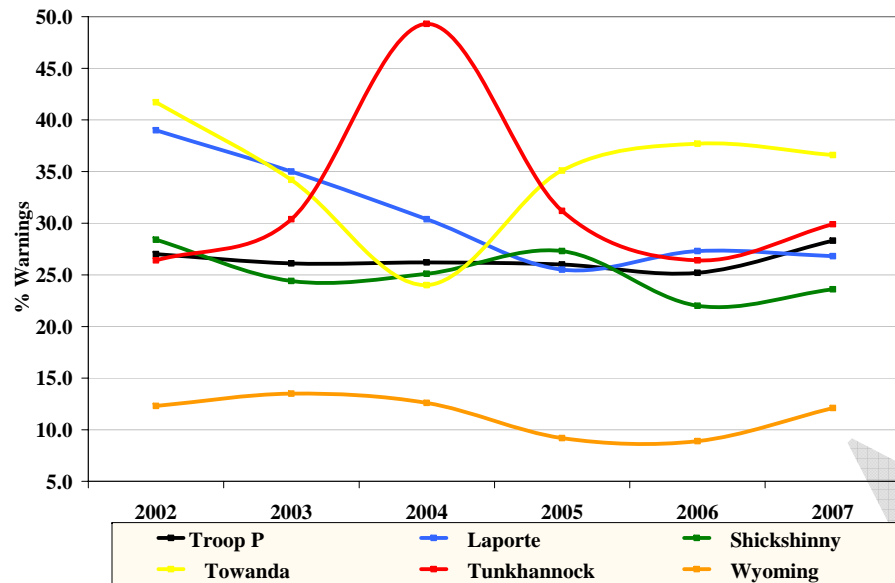
- Figure 12.19 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop F and shows consistent trends between 2002 and 2005, before an overall increase in 2006 and 2007.
- The arrest rates for Coudersport declined from 2002 to 2004, followed by increase in 2005 and 2006 that produced a 2007 rate which is double the 2002 rate.
- Emporium, Lamar, Milton, Montoursville, and Selinsgrove's arrest rates resembled the troop data with consistent rates from 2002 to 2005, before overall increases in 2006 and 2007. Lamar, in particular, showed a dramatic increase in 2007 of 1.8%.
- After an initial drop of 0.3% in 2003, Mansfield's rates of arrests remained relatively constant until 2006 before a 2007 increase of 0.7%.
- The rates of arrests in Stonington displayed a great amount of fluctuation with an increase in 2003, a decrease in 2004, and an upward trend since then.

Figure 0:20: Percent of Traffic Stops Resulting in a Search – Troop F



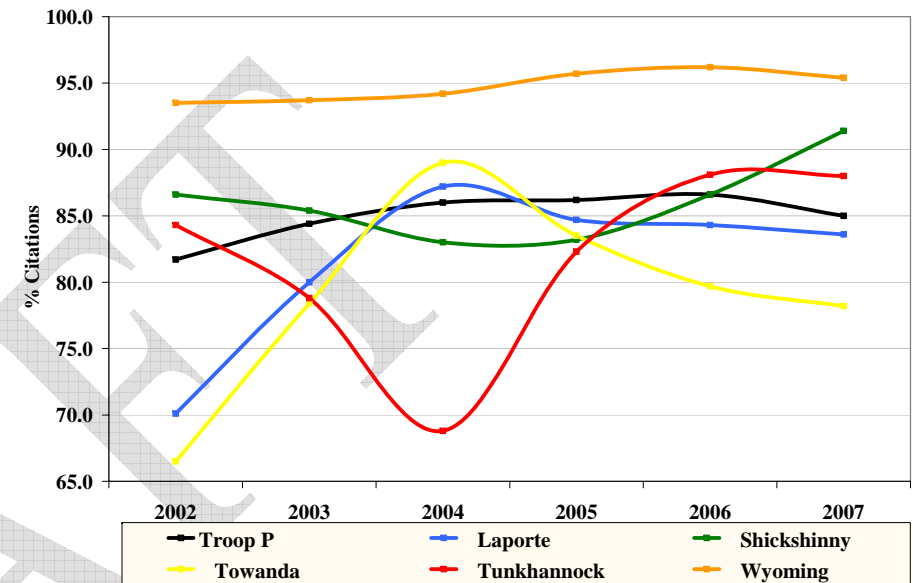
- Figure 12.20 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop F and shows a stable rate until 2005, prior to small increases in 2006 and 2007 to the Troop's highest rate of searches of 1.1% in 2007.
- The rates of searches for Coudersport dropped off significantly in 2004 (0.9%), and stabilized at those levels through 2007.
- Emporium, Milton, and Montoursville, and Stonington's search rates resemble the troop rates with a period of stability from 2002 to 2005, before increasing in 2006 and 2007.
- The search rates in Lamar and Mansfield are also similar to the troop data; however, the upward trends were not evident until 2007 rather than 2006.
- Selinsgrove's search rates were generally stable from 2002-2004, but doubled in 2005 and continued to increase in 2006. The 2007 rate, however, dropped to 0.4%, only a small net increase from the 2002 rate.

Figure 0:21: Percent of Traffic Stops Resulting in a Warning – Troop P



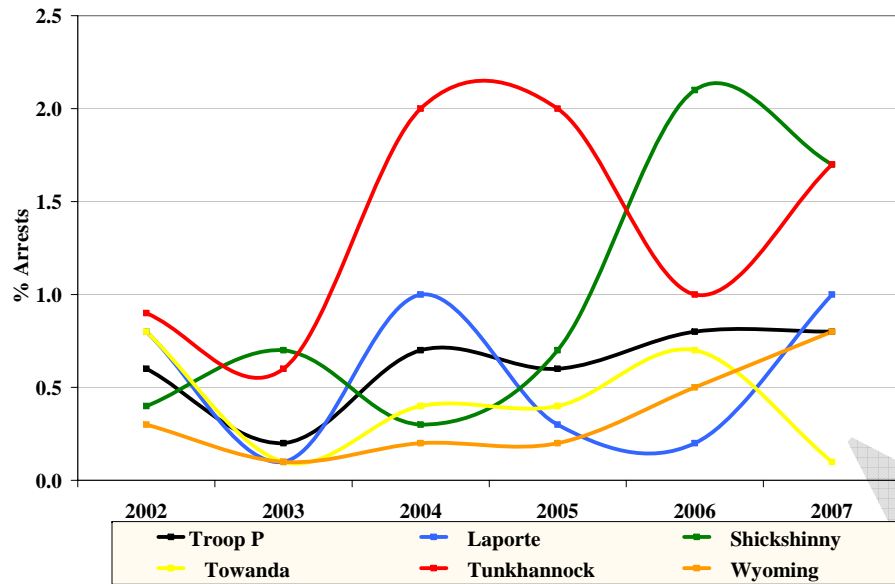
- Figure 12.21 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop P and shows a stable rate between 2003 and 2005, prior to a small decrease in 2006 and a 3 point increase in 2007 to a rate of warnings of 28.3%.
- Laporte's warning rates decreased steadily from 2002 to 2005 for an overall decline of 13.5%. The rates have since stabilized near that level.
- The rate of warnings for Shickshinny displayed marginal fluctuation from 2002 through 2005 before a more than 5 point decrease in 2006 which has since partially rebounded in 2007.
- Towanda's warning rates decreased 17.7% overall from 2002 to 2004, followed by a rebound of over 11 percentage points in 2005 to a rate that has been fairly stable since then.
- Tunkhannock's rate of warnings rapidly increased from 26.4% in 2002 to 49.3% in 2004, but was followed by an equal decrease through 2006 and a minor increase in 2007 to 29.9%.
- Wyoming's rate of warnings remained relatively consistent between 2002 and 2004, prior to a downward trend in 2005 and 2006 with an overall decline of 3.9%. The 2007 rate, however, returned to nearly the same level as was evident in 2002.

Figure 0:22: Percent of Traffic Stops Resulting in a Citation – Troop P



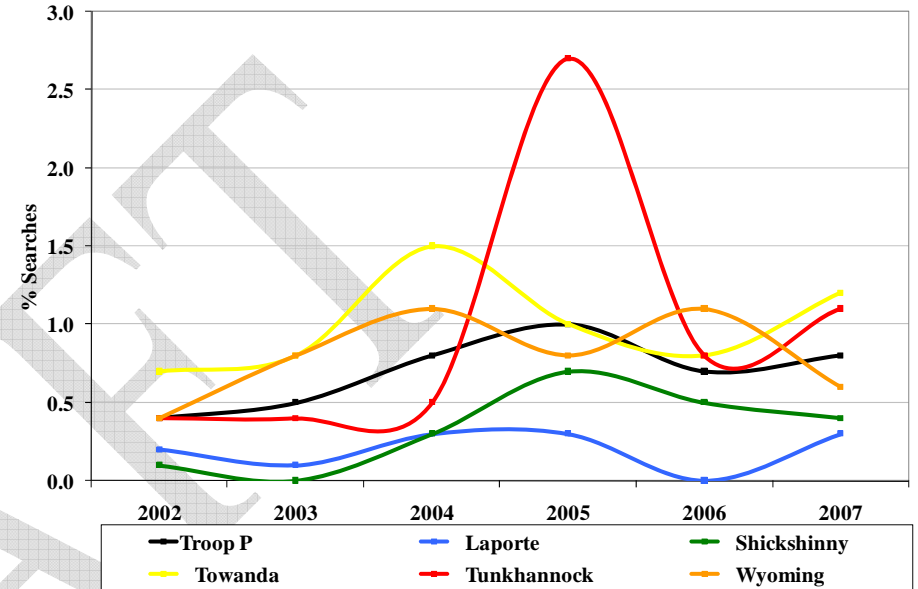
- Figure 12.22 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop P and shows that, between 2002 and 2006, the rate of citations steadily increased prior to a 1.6% decrease in 2007.
- The citation rates in Laporte and Towanda saw a dramatic increase from 2002 to 2004 before a gradual decline through 2007.
- Shickshinny's citation rates decreased through 2004, but then rose through 2007, including an increase of 4.8% between 2006 and 2007 to the highest rate of citations in that station since 2002 (91.4%).
- Tunkhannock's rates of citations rapidly decreased through 2004 (15.5%), before an even greater increase through 2006 and 2007.
- The rates of citations for Wyoming steadily increased by about three percentage points through 2006, prior to a small decrease of 0.8% in 2007. Overall, however, this station's rate of citations showed great stability between 2002 and 2007.

Figure 0:23: Percent of Traffic Stops Resulting in an Arrest – Troop P



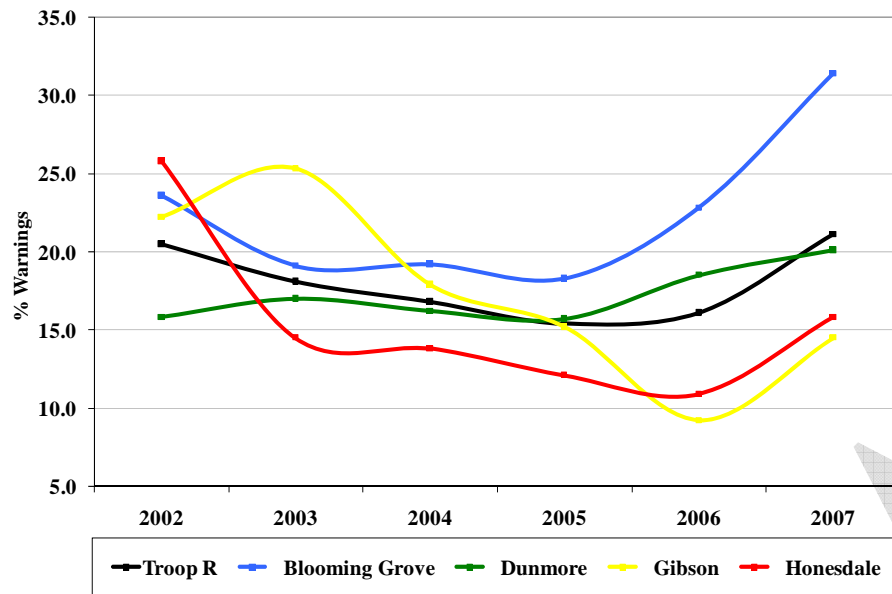
- Figure 12.23 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop P and shows consistent trends between 2002 and 2005, before an overall increase in 2006 and 2007.
- Laporte's arrest rate fluctuated between 2002 and 2007, including an increase of 0.8% between 2006 and 2007. The net difference, however, between the 2002 and 2007 arrest rates was only 0.2%.
- The arrest rates for Shickshinny remained relatively stable through 2005, before an increase of 1.4% in 2006. The 2007 rate dropped off slightly but remained higher than all previous years other than 2006.
- Following a decline in 2003, Towanda's arrest rates increased steadily through 2006, before a drop in 2007 to a rate equivalent to the lowest rate observed during the six year data collection period.
- Tunkhannock's arrest rates fluctuated between 2002 and 2007 with alternating periods of growth and decline. The 2007 rate of 1.7% represents a 0.7% increase since 2006 but is lower than the rates observed in 2004 and 2005.
- Wyoming's arrest rates were consistent from 2002-2005 prior to steady increases in 2006 and 2007.

Figure 0:24: Percent of Traffic Stops Resulting in a Search – Troop P



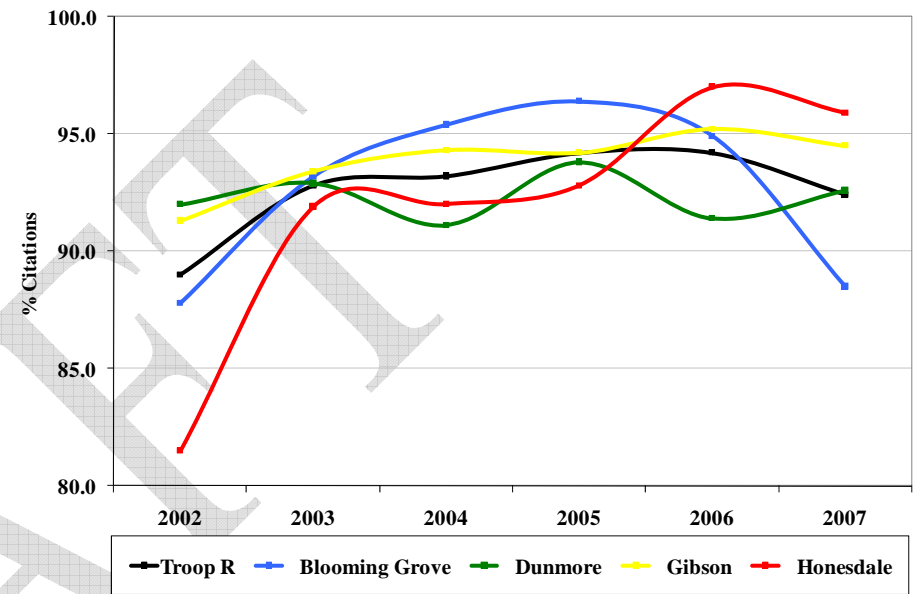
- Figure 12.24 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop P and shows that the rate of searches increased steadily from 2002 to 2005, followed by a small decrease in 2006 and 2007.
- Laporte's search rates remained consistently very low between 2002 and 2007.
- The search rates for Shickshinny were similar to the troop level trend with a steady increase through 2005, followed by small decreases in 2006 and 2007.
- Tunkhannock's search rates spiked in 2005; then declined in 2006 to rates that were still higher than 2002 percentages. The 2007 rate showed an increase from 2006, but remained considerably lower than the rate in 2005.
- Wyoming's search rates fluctuated between 2002 and 2007, with alternating increases and decreases. The 2007 rate declined by 0.5% from 2006 but remained higher than the initial rate in 2002.

Figure 0:25: Percent of Traffic Stops Resulting in a Warning – Troop R



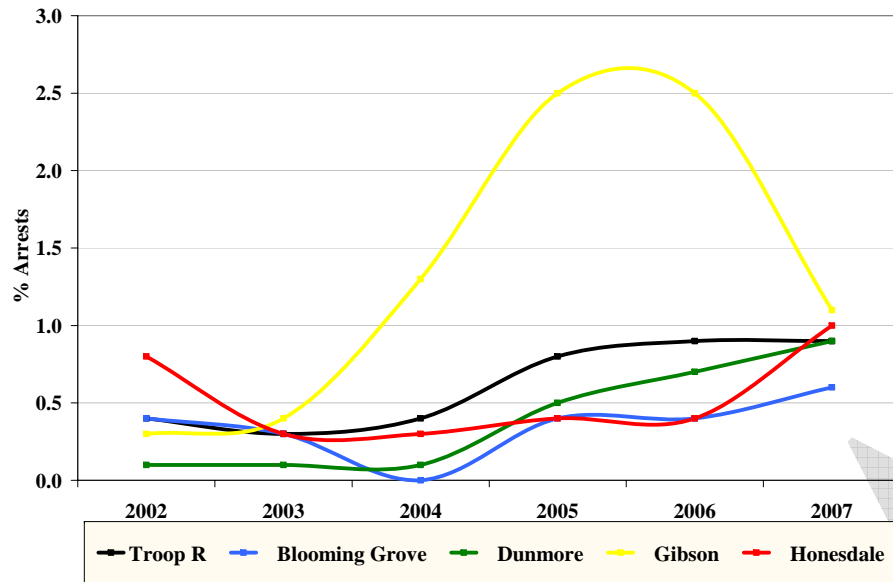
- Figure 12.25 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop R and shows that the rate of warnings decreased steadily between 2002 and 2005, prior to a small increase in 2006 and a 5 point increase in 2007 to the station's highest rate of warnings (21.1%) since data collection began.
- Blooming Grove's warning rates mirrored the troop level trend with a steady decline from 2002 to 2005, followed by increases in 2006 and 2007 that surpassed 2002 levels.
- The warning rates for Dunmore remained consistent throughout, with a gradual increase in 2006 and 2007 that resulted in an overall increase of 4.3% over the six years of data collection.
- The rates of warning in Gibson declined steadily from 2003 to 2006, but partially rebounded in 2007 to a rate of 14.5%, nearly 8 points lower than in 2002.
- After an initially marked decrease in 2003 (11.3%), Honesdale's warning rates diminished at a more gradual rate through 2006, before an increase of 4.9% to 15.8% in 2007.

Figure 0:26: Percent of Traffic Stops Resulting in a Citation – Troop R



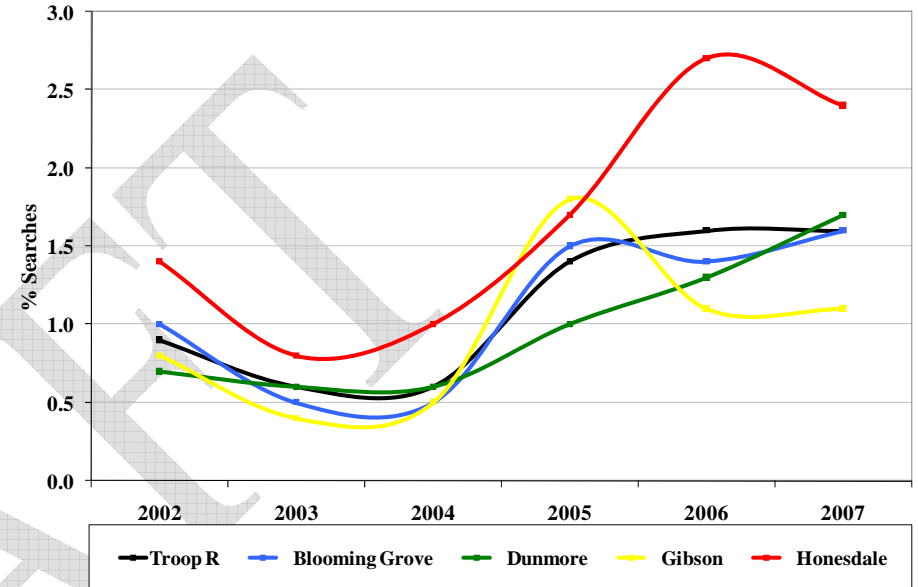
- Figure 12.26 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop R and shows that the rate of citations increased steadily from 2002 to 2005, prior to stabilizing in 2006 and decreasing close to 2 percentage points in 2007.
- Blooming Grove's citation rates grew steadily through 2005, but declined nearly the same amount through 2007.
- The citation rates of Dunmore fluctuated slightly, but remained generally consistent between 2002 and 2007, with the largest changes being no more than 3.0%.
- Gibson's citation rates increased slightly but steadily through 2006, before a small decrease of 0.7% in 2007.
- Honesdale's citation rates grew sporadically with large increases in 2003 and 2006 interspersed by periods of stabilization.

Figure 0:27: Percent of Traffic Stops Resulting in an Arrest – Troop R



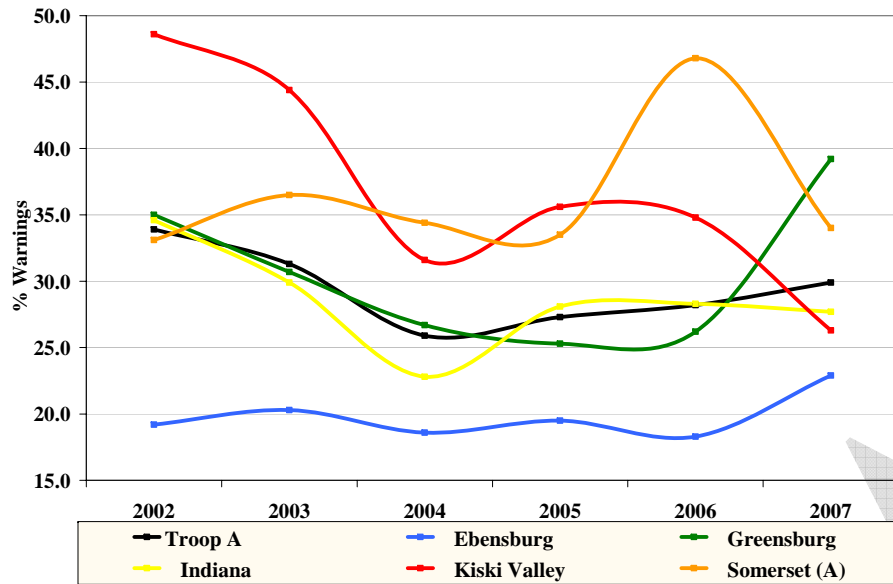
- Figure 12.27 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop R and shows that the rate of arrests was stable between 2002 and 2004 prior to doubling in 2005 and stabilizing at that rate in 2006 and 2007.
- Blooming Grove's arrest rates remained consistent throughout, with the exception of 2004, where rates fell to 0.0%.
- Dunmore's arrest rates displayed no variation through 2004, after which rates increased consistently from 0.1% in 2004 to 0.9% in 2007.
- Gibson's arrest rates rose steadily through 2005 from 0.3% in 2002 to 2.5% in 2005, including increases of over 1% in 2004 and 2005. The 2007 rate, however, fell to 1.1%.
- Following a decrease in 2003, Honesdale's rates of citations stabilized through 2006 before more than doubling in 2007 to 1.0%, the highest arrest rate for that station since data collection began.

Figure 0:28: Percent of Traffic Stops Resulting in a Search – Troop R



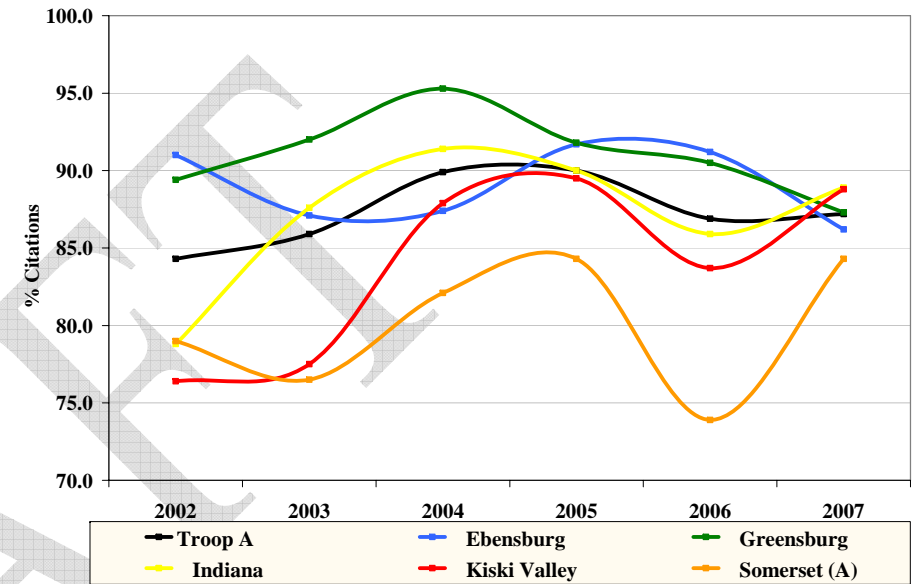
- Figure 12.28 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop R and shows that after decreasing from 2002 to 2003, the rate of searches increased by 0.8% in 2005 to later stabilize at 1.6% in the last two years.
- After a drop in 2003 the rate of searches in Blooming Grove was stable through 2004. Rates then increased by 1.0% to 1.5% in 2005 after which the 2006 and 2007 rates stabilized near that level.
- Dunmore's search rates remained consistent through 2004, after which rates steadily increased from 2005-2007, culminating in the station's highest search rate of 1.7% in 2007.
- The search rates for Gibson fluctuated between 2002 and 2007, initially showing a decrease in 2003 prior to an upward trend in 2004 and 2005. The 2006 rate declined again to 1.1% where it stabilized in 2007.
- Honesdale's search rates initially decreased in 2003, but then increased by 1.9% through 2006 to the station's highest search rate during the six year period of 2.7%. The 2007 rate declined slightly to 2.4% but remained considerably higher than most of the previous years.

Figure 0:29: Percent of Traffic Stops Resulting in a Warning – Troop A



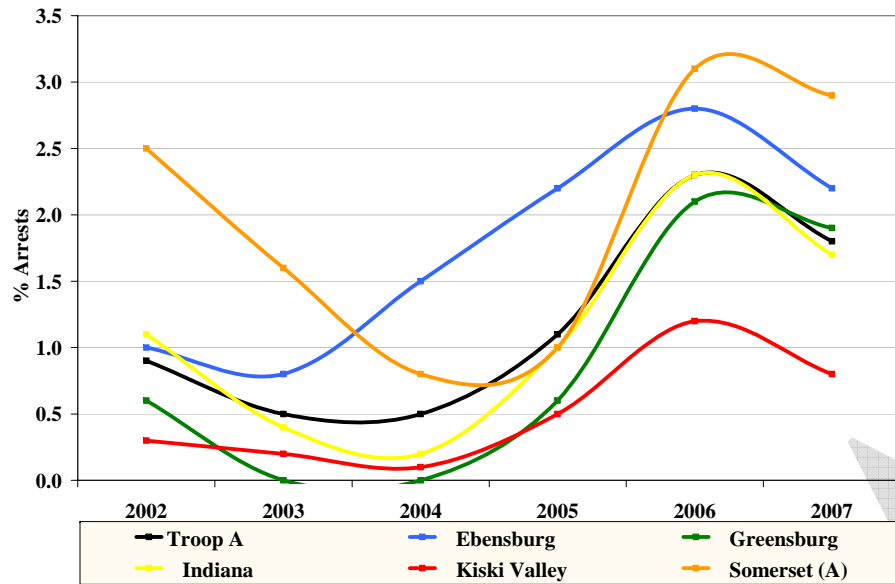
- Figure 12.29 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop A and shows that the rate of warnings decreased steadily between 2002 and 2004, prior to steadily increasing after 2005 to a 2007 rate that remains lower than the initial rates of warnings in 2002 and 2003.
- Ebensburg's warning rates remained relatively stable from 2002 to 2006, prior to a moderate increase of 4.6% in 2007.
- Greensburg's rate of warnings decreased steadily from 2002 to 2005, before stabilizing in 2006 and increasing by 13% in 2007 to the station's highest rate of citations (39.2%).
- Indiana's warning rates decreased by about 12% through 2004, followed by an increase of over 5% in 2005 and only minor fluctuation since then.
- Kiski Valley's rate of warnings dropped by 17.0% from 2002 to 2004 prior to a slight increase in 2005. Rates then stabilized in 2006 before a larger decline in 2007.
- The rates of warnings for Somerset (A) remained relatively stable through 2005 prior to an increase of 13.3% in 2006 and a nearly equivalent decrease in 2007 back to the level of previous years.

Figure 0:30: Percent of Traffic Stops Resulting in a Citation – Troop A



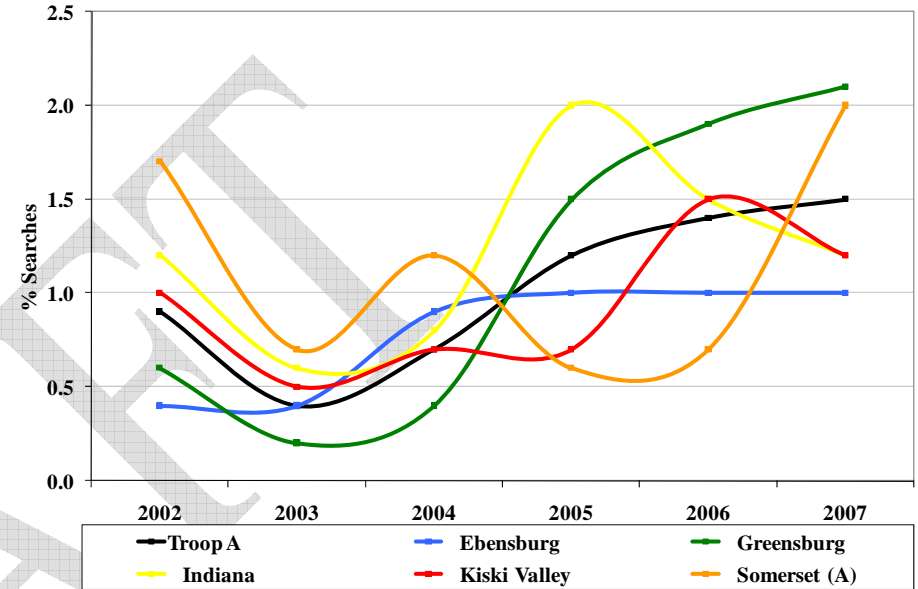
- Figure 12.30 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop A and shows a rate of citations that steadily increased from 2002 to 2005, prior to a 3.1% decrease in 2006 that increased only slightly in 2007 to 87.2%.
- Ebensburg's citation rates fluctuated between 2002 and 2007, showing an initial decrease in 2003 prior to steadily increasing through 2005. In 2006, only a small decrease was recorded, but the 2007 rate declined by 5.0% to the station's lowest rate of citations since data collection began.
- Greensburg's rates of citations rose through 2004, prior to steadily decreasing through 2007 to the station's lowest rate of citations during the six years of data collection.
- Citation rate trends in Indiana, Kiski Valley, and Somerset (A) resembled the troop level trend with increases through 2005, declines in 2006, and further increases in 2007. While the troop level increase in 2007 was only a small one, the changes at the station level ranged from 4% in Indiana to 10.4% in Somerset (A).

Figure 0:31: Percent of Traffic Stops Resulting in an Arrest – Troop A



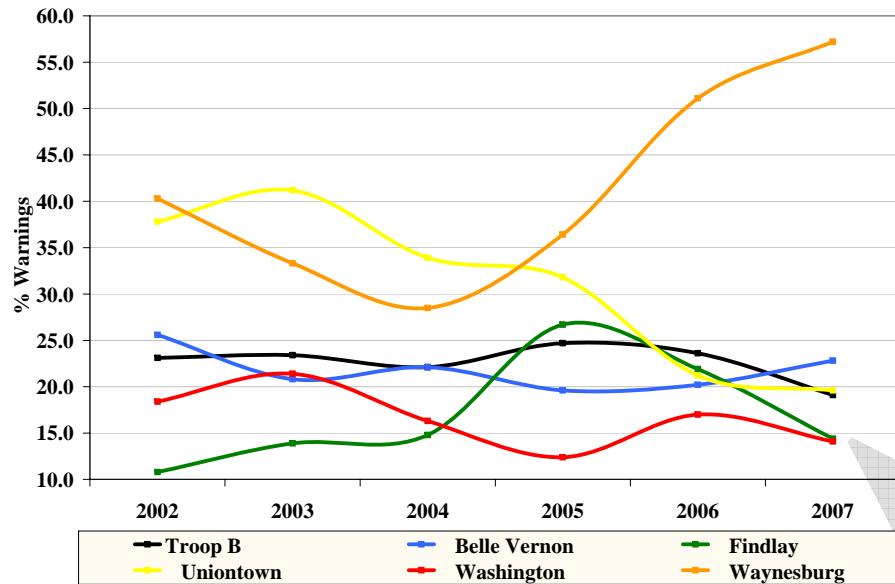
- Figure 12.31 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop A and shows that the rate of arrests decreased after 2002, prior to increasing steadily from 2004 to 2006. The 2007 rate, while slightly smaller than in 2006, it remains twice as high as the arrest rate in 2002.
- Ebensburg's arrest rate declined initially before steadily increasing from 2003-2006. Like the troop level trend, the arrest rate in Ebensburg declined slightly in 2007.
- Greensburg, Indiana, Kiski Valley, and Somerset (A)'s arrest rates mirrored the troop trends with a decrease through 2004, followed by increases through 2006, and minor declines in 2007. Rates for all four stations were higher in 2007 than in 2002.

Figure 0:32: Percent of Traffic Stops Resulting in a Search – Troop A



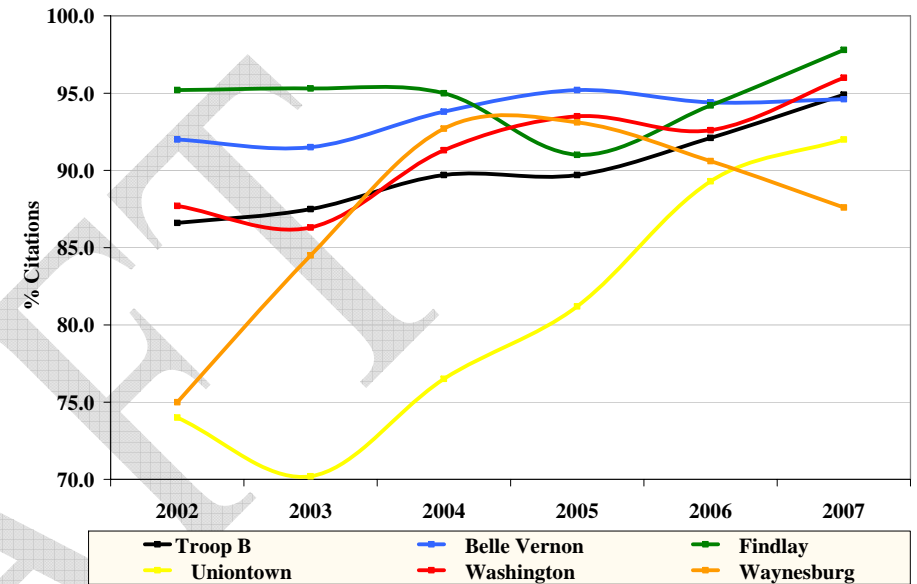
- Figure 12.32 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop A and shows that the rate of searches decreased between 2002 and 2003, prior to steadily increasing since then, culminating in the station's highest rate of searches (1.5%) in 2007.
- Ebensburg's search rates increased by 0.5% between 2003 and 2004 before stabilizing at 1.0% between 2005 and 2007.
- Greensburg's search rates were similar to troop trends with a decrease in 2003, followed by a steady increase through 2007 to 2.1%, the station's highest search rate since data collection began.
- The rates of searches for Indiana dropped in 2003, before an increase of 1.4% through 2005. From that high of 2.0%, the search rate has since fallen to 1.2% in 2007.
- Kiski Valley's search rates declined initially in 2003 and then stabilized through 2005. In 2006, the search rate doubled to its highest level since data collection began, but has since declined slightly in 2007.
- Somerset (A)'s search rates fluctuated between 2002 and 2007 with alternating periods of increase and decrease, including a 1.3% increase in 2007 to the highest search rate since data collection began.

Figure 0:33: Percent of Traffic Stops Resulting in a Warning – Troop B



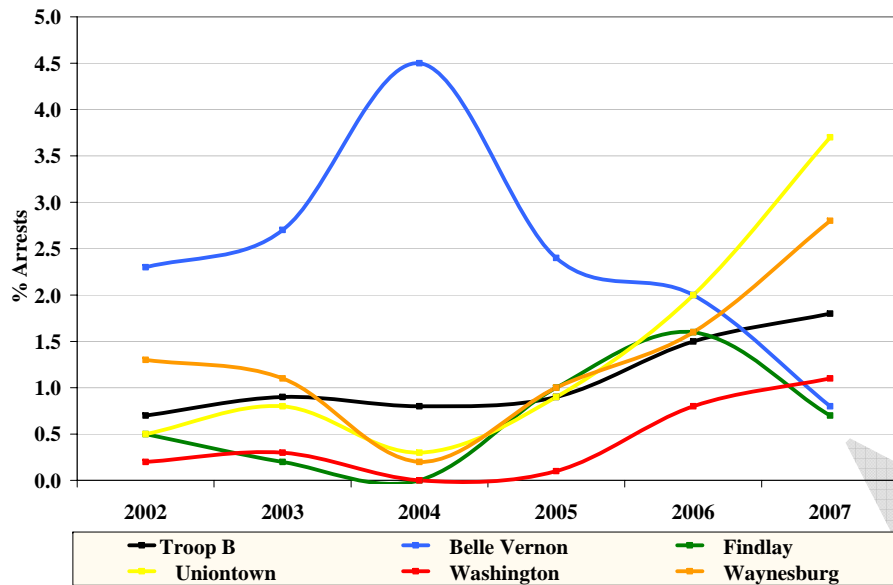
- Figure 12.33 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop B and shows a fluctuating rate of warnings. Of note is that the 2007 rate dropped 4.5% between 2006 and 2007 to the station's lowest rate of warnings (19.1%) since data collection began.
- Belle Vernon and Washington's warning rates fluctuated throughout the six years of data collection with alternating periods of increase and decline.
- The warning rates for Findlay steadily increased through 2005 prior to a downward trend that began in 2006 and saw a decline of 7.5% in 2007.
- After 2003, Uniontown's warning rates decreased steadily through 2007 to the lowest rate since data collection began (19.6%).
- Waynesburg's warning rates fell from 2002 to 2004 by nearly 12% before markedly increasing through 2007 by nearly 30 percentage points. The 2007 rate of warnings (57.2%) is the highest for that station since data collection began.

Figure 0:34: Percent of Traffic Stops Resulting in a Citation – Troop B



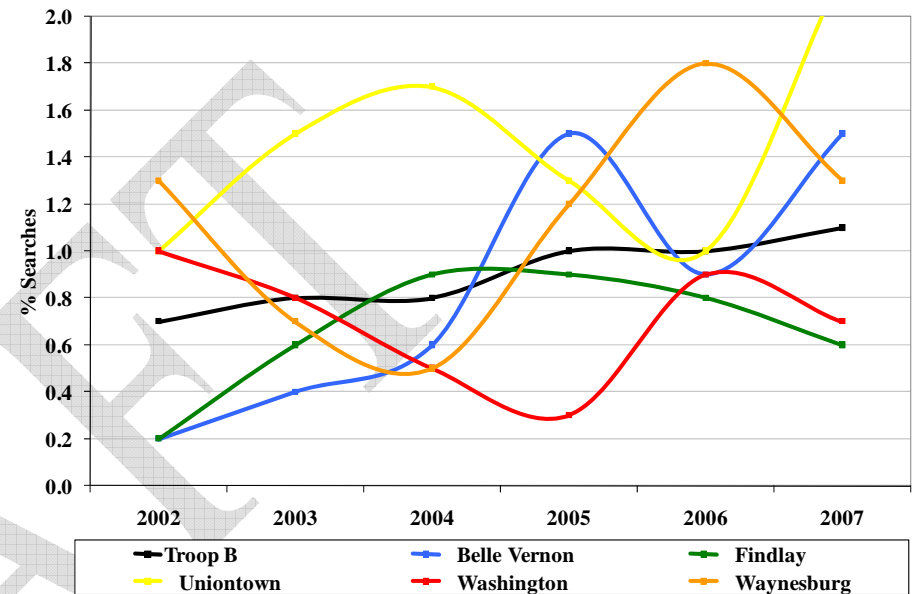
- Figure 12.34 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop B and shows that the rate of citations has steadily increased since 2002, including a 2.8% increase to 94.9% in 2007 to the highest rate of citations since data collection began.
- Belle Vernon's citation rates have fluctuated to a small degree, but remained generally consistent between 92 and 95% throughout data collection period.
- Following a period of stability from 2002 to 2004, Findlay's citation rate dropped in 2005 before rising again through 2007 to 97.8%, the highest percentage of citations during the six year data collection period.
- Uniontown's citation rates decreased by 3.8% in 2003, before steadily increasing by more than 20 percentage points through 2007 to 92.0%.
- With the exception of a minor decrease in 2006, the rate of citations in Washington steadily increased through 2007 to the station's highest rate of 96.0%.
- Waynesburg's citation rates rose more than 18% through 2005 before decreasing to a lesser degree through 2007. The 2007 rate, however, was still more than 12 percentage points higher than the initial rate in 2002.

Figure 0:35: Percent of Traffic Stops Resulting in an Arrest – Troop B



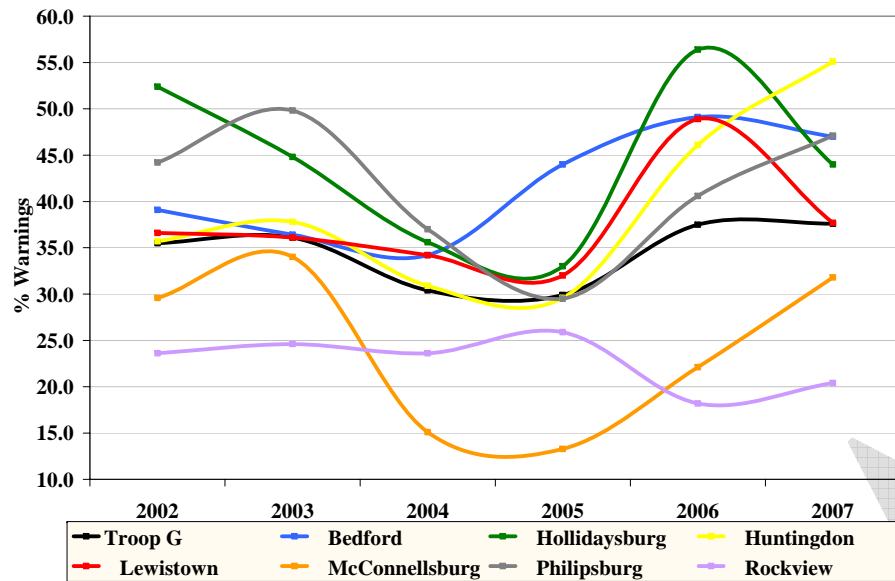
- Figure 12.35 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop B and shows that the rate of arrests was generally stable between 2002 and 2005, prior to increasing in 2006 and 2007 to a rate of 1.8% in 2007, more than double the rate in 2002.
- Belle Vernon's arrest rates grew through 2004, before falling off in following years, to its lowest percentage in 2007 (0.8%).
- Findlay's arrest rates increased from 2004 to 2006 prior to a drop in 2007 to 0.7%, a rate that was similar but slightly higher than the 2002 rate.
- After minor fluctuation between 2002 and 2004, the arrest rates in Uniontown consistently increased in the next three years of data collection to the station's highest arrest of 3.7%.
- Similar to the troop level trend, Washington's arrest rates remained stable through 2005, before increasing by 1.0% in 2006 and 2007 to 1.1%.
- Waynesburg's arrest rate was generally stable between 2002 and 2006 with the exception of a decrease to 0.2% in 2004. The 2007 rate, however, increased by 1.2% to the station's highest rate since data collection began.

Figure 0:36: Percent of Traffic Stops Resulting in a Search – Troop B



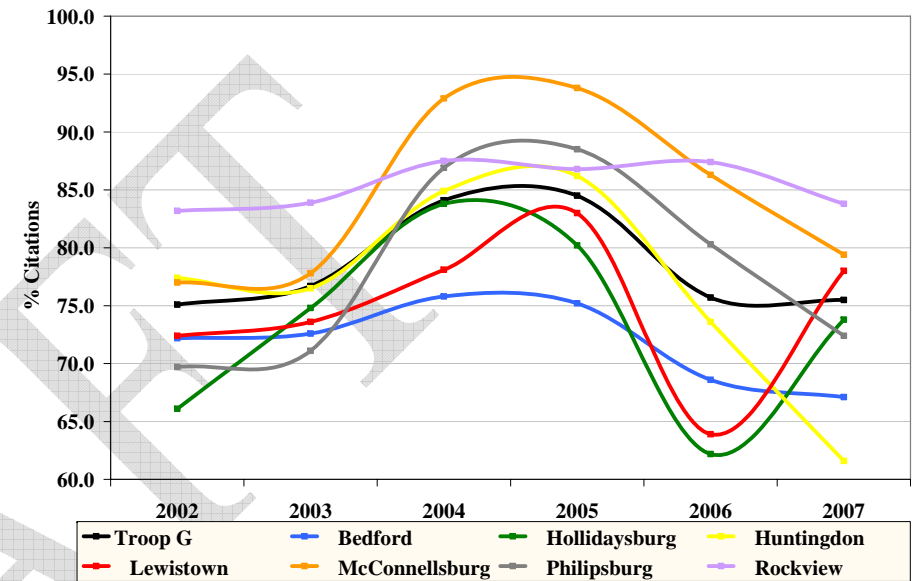
- Figure 12.36 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop B and shows a slightly increasing rate of searches over that time period.
- Following a steady increase from 2002 to 2004, Belle Vernon's search rates fluctuated greatly through 2007, including a 0.9% increase in 2005, a 0.6% decrease in 2006 and a return in 2007 to the same rate as in 2005.
- Findlay's search rates initially steadily increased from 2002-2004 prior to stabilizing in 2005 and then slightly declining in 2006 and 2007.
- Uniontown's search rates fluctuated throughout the six years of data collection, with a steady increase between 2002 and 2004 followed by a steady decline in 2005 and 2006 to a rate equivalent to that in 2002. The 2007 rate, however, more than doubled from 2006 to its highest rate of 2.2%.
- Washington's search rates decreased from 2002 to 2005, prior to an increase of 0.6% in 2006 and then a minor decrease in 2007.
- Waynesburg's search rates varied drastically throughout the time period, with a 2007 rate equal to 2002.

Figure 0:37: Percent of Traffic Stops Resulting in a Warning – Troop G



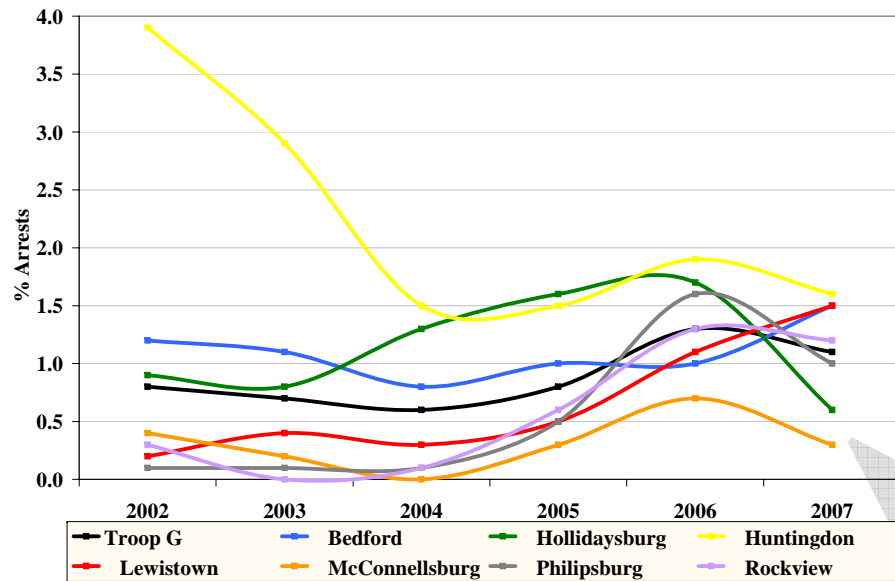
- Figure 12.37 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop G and shows a fluctuating trend. In 2004, the rate of warnings dropped nearly 6 percentage points, whereas in 2006 the rate jumped 7.6% from 2005. In 2007, the rate stabilized at a level approximately 2 points higher than in 2002.
- After a 4.9% decrease through 2004, Bedford's warning rates climbed 14.9% to 49.1% in 2006, before dropping off slightly in 2007 to 47.0%.
- Hollidaysburg and Lewistown's warning rates decreased through 2005, prior to dramatic increases (23.4% and 16.9%, respectively) in 2006 and subsequent declines of more than 10 percentage points in 2007.
- The warning rates of Huntingdon and Philipsburg decreased from 2003 to 2005, before rising dramatically through 2007. In Huntingdon, the 2007 warning rate rose to its highest rate since data collection began.
- McConnellsburg's warning rates fluctuated greatly between 2002 and 2007 with a slight increase in 2003, a dramatic drop between 2003 and 2005, and a similarly large increase through 2007.
- Rockview's warning rates remained relatively stable through 2005, prior to a decrease of 7.7% in 2006. The 2007 rate rebounded slightly but remained lower than the initial rates recorded between 2002 and 2005.

Figure 0:38: Percent of Traffic Stops Resulting in a Citation – Troop G



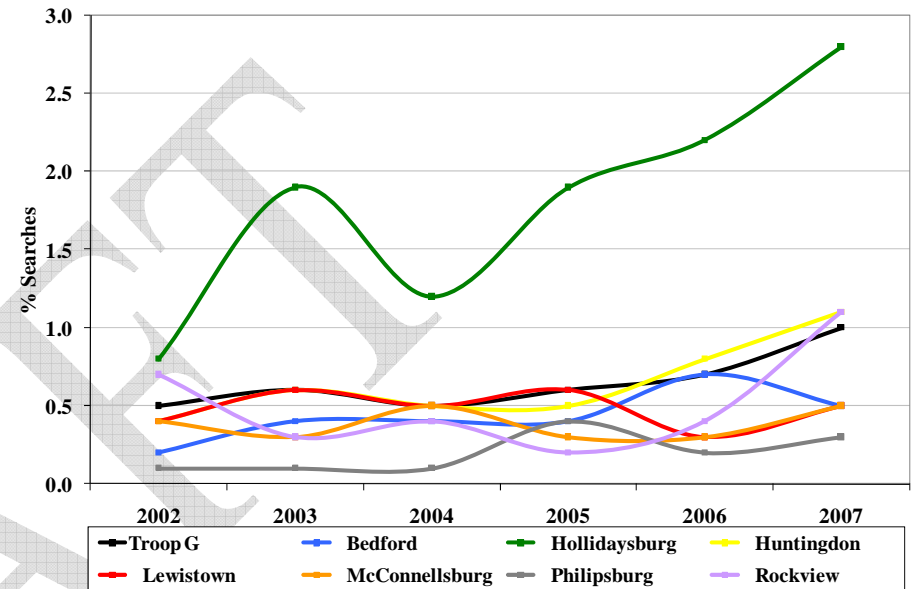
- Figure 12.38 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop G and shows an increasing rate of citations between 2002 and 2005, prior to a substantial decrease between 2005 and 2006 that stabilized in 2007 at a rate similar to that of 2002.
- To varying degrees, the citation rates in Bedford, Huntingdon, McConnellsburg, and Philipsburg increased through 2005, prior to a drop through 2007.
- Hollidaysburg's rate of citations has fluctuated considerably between 2002 and 2007, displaying an increase of 17.7% through 2004 prior to a greater decrease of 21.6% through 2006. The 2007 rate, however, increased again by 11.6% to 73.8%.
- Lewistown's citation rates steadily increased through 2005, before a nearly 20 point decrease in 2006. The 2007 rate increased by nearly 14% but remained lower than the highest citation rate, recorded in 2005.
- Rockview's citation rates remained relatively stable throughout, with a minor increase in 2004, a period of stability at that rate, and then a nearly equivalent decrease in 2007.

Figure 0:39: Percent of Traffic Stops Resulting in an Arrest – Troop G



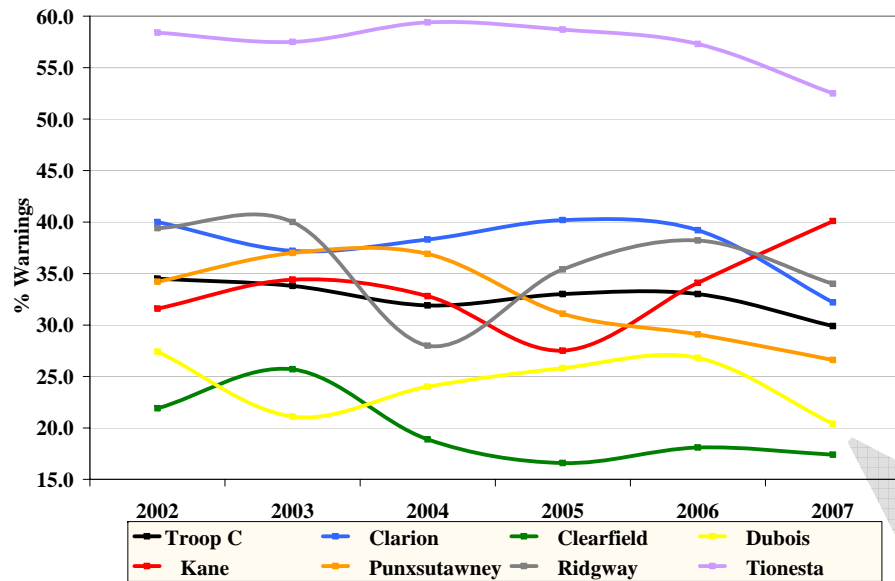
- Figure 12.39 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop G and shows that the rate of arrests was generally stable between 2002 and 2005. Between 2005 and 2006 the rate increased by 0.5%, prior to a small decrease in 2007 to 1.1%.
- Bedford's arrest rates maintained a relatively stable percentage between 2002 and 2007, though the 2007 rate represents the highest arrest rate for the station during the six year period.
- Following two years of stable rates, Hollidaysburg's arrest rates more than doubled through 2006 but then decreased by 1.1% in 2007 to the station's lowest arrest rate since data collection began.
- Huntingdon's arrest rates fell 2.4% through 2004, before stabilizing near that level through 2007.
- Lewistown's arrest rates were stable from 2002 to 2005 prior to steady increases in 2006 and 2007 to the highest arrest rate for the station.
- The arrest rates for McConnellsburg were very low from 2002 to 2007, with only small decreases and increases recorded in any one year.
- Philipsburg and Rockview's arrest rates were very low and generally stable between 2002 and 2004, before increasing through 2006 and slight decreases in 2007.

Figure 0:40: Percent of Traffic Stops Resulting in a Search – Troop G



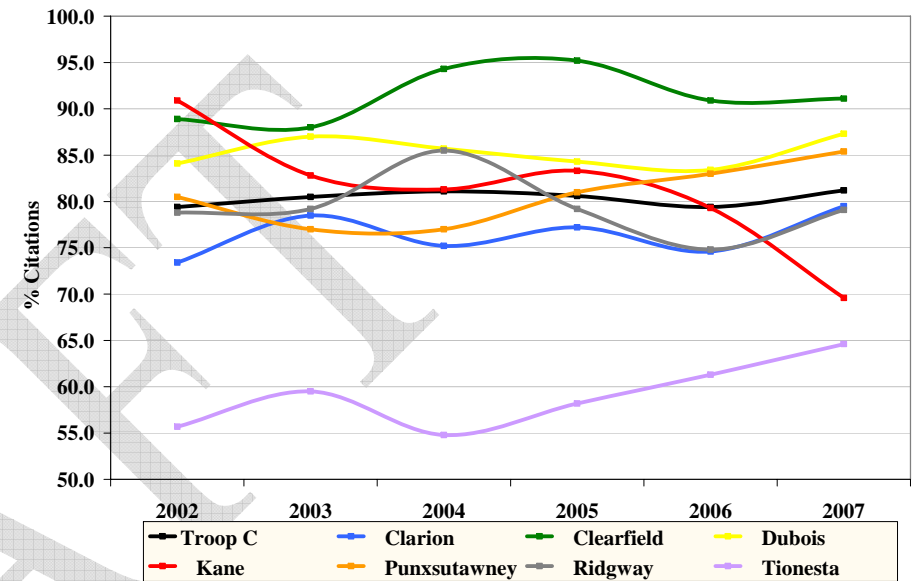
- Figure 12.40 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop G and shows a generally stable trend until a 0.3% increase in 2007 to 1.0%.
- Bedford, Lewistown, McConnellsburg, and Philipsburg's maintained relatively stable search rates throughout the six year data collection period.
- Hollidaysburg's search rates more than doubled in 2003 and then decreased to a lesser degree in 2004. The search rate has since more than doubled again, increasing from 1.2% in 2004 to 2.8% in 2007.
- The rate of searches for Huntingdon was stable from 2002 to 2005, before a slight increase through 2007 to 1.1%, the station's highest rate since data collection began.
- Rockview's search rates dropped slightly in 2003, maintained a stable rate through 2006, and jumped 0.7% in 2007 to the station's highest search rate.

Figure 0:41: Percent of Traffic Stops Resulting in a Warning – Troop C



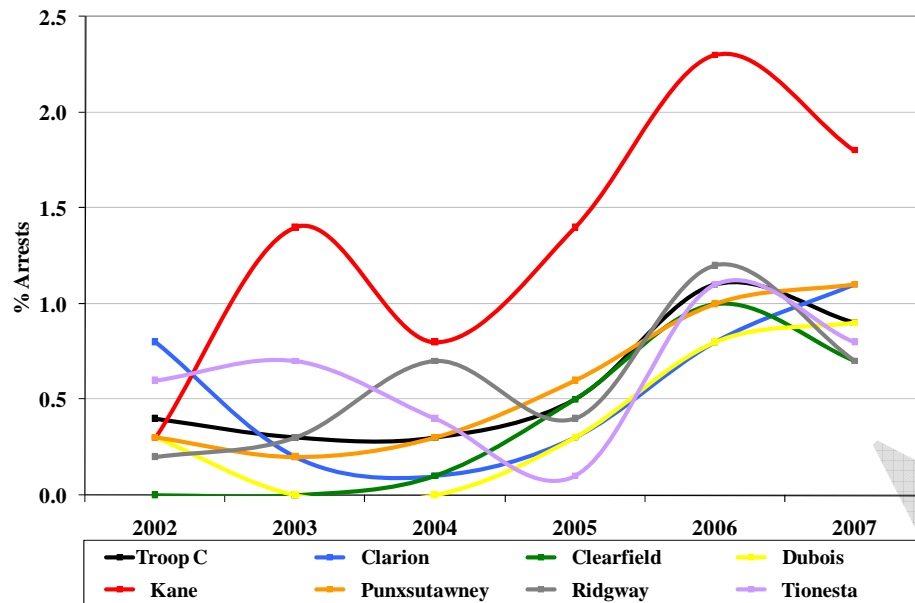
- Figure 12.41 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop C and shows that the rate of warnings has fluctuated during that time, including a 3.1% decrease between 2006 and 2007.
- Clarion, Dubois, and Tionesta's warning rates mirrored the troop level trend with fluctuation through 2006, prior to decreases in 2007 to each of the station's lowest rate of warnings since data collection began.
- After an initial increase, Clearfield's warning rates decreased from 2003 to 2005, before stabilizing near that level in 2006 and 2007.
- Kane's warning rates were fairly stable from 2002 to 2004, before decreasing by more than 5% in 2005 and increasing through 2007 to the station's highest rate of warnings since data collection began.
- Following a period of stability, Punxsutawney's warning rates fell more than 10 percentage points from 2004 to 2007 to the station's lowest rate of warnings (26.6%).
- After a decrease of 12% in 2004, Ridgway's warning rates increased through 2006 and then decreased slightly in 2007.

Figure 0:42: Percent of Traffic Stops Resulting in a Citation – Troop C



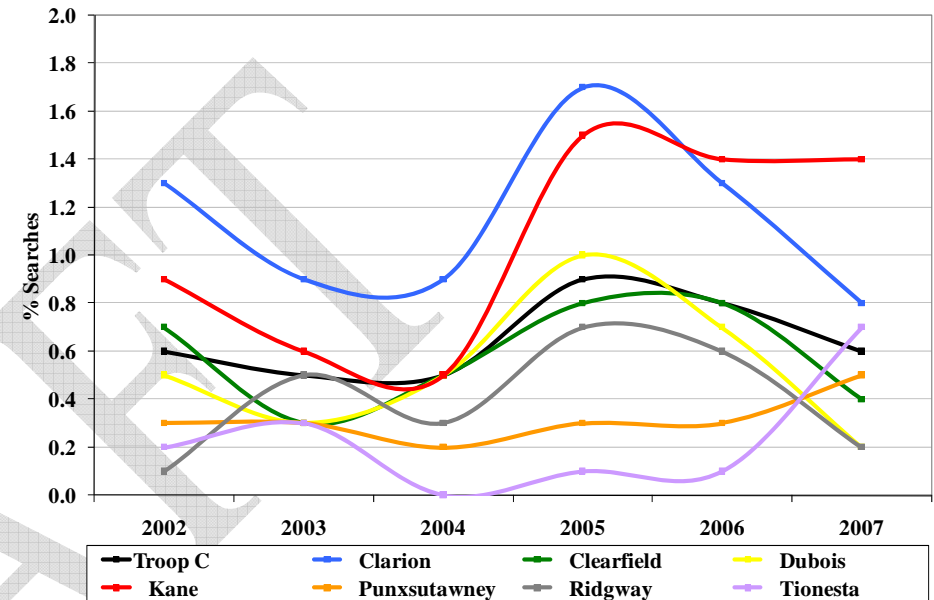
- Figure 12.42 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop C and shows that the rate of citations during that time has fluctuated., including an increase from the lowest rate of citations in 2006 (79.4%) to the highest rate in 2007 (81.2%).
- Clarion and Dubois' citation rates mirrored the troop level trend with slight fluctuation, before an increase in 2007 to their highest rates.
- Clearfield's citation rates fluctuated between 2002 and 2007, initially decreasing slightly before increasing to its highest rate of citations in 2005 (95.2%). In 2006 and 2007, rates dropped and stabilized near 91%.
- Following a drop in 2003, Kane's citation rates stabilized through 2005, before decreasing again in 2006 and 2007 to its lowest rate of 69.6% in 2007.
- Punxsutawney's citation rates were generally stable through 2005, before approximately 2 percentage point increases in 2006 and 2007.
- The citation rates for Ridgway were generally stable with the exceptions of an approximate 6 point increase in 2004 and a 4.4% decrease in 2006.
- Following some fluctuation from 2002 to 2004, Tionesta's citation rates steadily climbed through 2007 to 64.6%.

Figure 0:43: Percent of Traffic Stops Resulting in an Arrest – Troop C



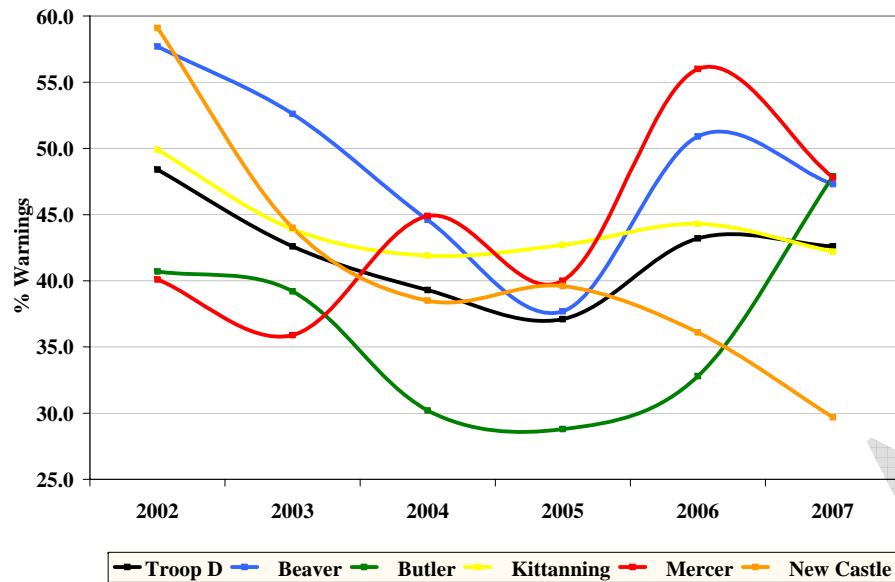
- Figure 12.43 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop C and shows consistent trends between 2002 and 2005, before an overall increase in 2006 and 2007.
- Clarion and Dubois' arrest rates fell from 2002 to 2004, prior to steady increases through 2007 to both stations' highest arrest rates.
- Clearfield and Punxsutawney's arrest rates showed increases from 2003 to 2006. In 2007, Clearfield's arrest rate decreased by 0.3% while Punxsutawney's rate increased slightly.
- Kane's arrest rates increased by more than 1% in 2003 before a small decrease in 2004. Between 2004 and 2006, however, the rate again increased to its highest rate of 2.3% in 2006. The 2007 rate declined by 0.5% from 2006.
- Ridgway and Tionesta's arrest rates fluctuated between 2002 and 2007. In 2005, both stations' rates dropped before larger increases in 2006. In 2007, however, both rates decreased slightly.

Figure 0:44: Percent of Traffic Stops Resulting in a Search – Troop C



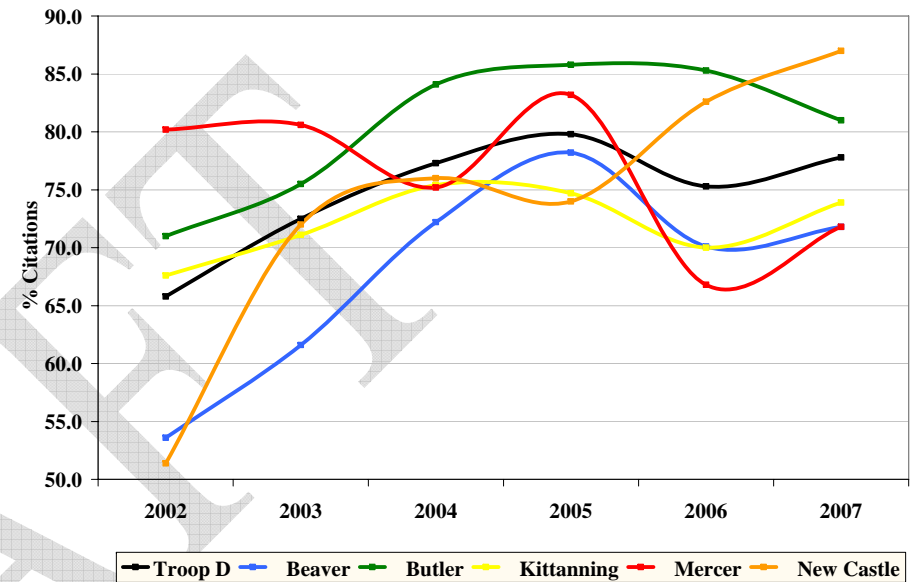
- Figure 12.44 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop C and shows three years of stability between 2002 and 2004, prior to a small increase in 2005 and 2006, and then a return to the 2002 rate of 0.6%.
- The search rates of Clarion, Clearfield, and Dubois fluctuated with alternating periods of increase and decrease, with an overall decrease in each station's search rates between 2002 and 2007, including declines of 0.4-0.5% between 2006 and 2007.
- Following a steady decrease from 2002 to 2004, Kane's search rates jumped by 1.0% in 2005 and stabilized near that level in 2006 and 2007.
- Punxsutawney's search rates were stable through 2006, before a minor increase of 0.2% in 2007.
- Ridgway's rate of searches fluctuated slightly between 2002 and 2007, but there was only 0.6 percentage points between the highest and lowest rates.
- Before an increase of 0.6% in 2007, Tionesta's search rates had been fairly stable since 2002.

Figure 0:45: Percent of Traffic Stops Resulting in a Warning – Troop D



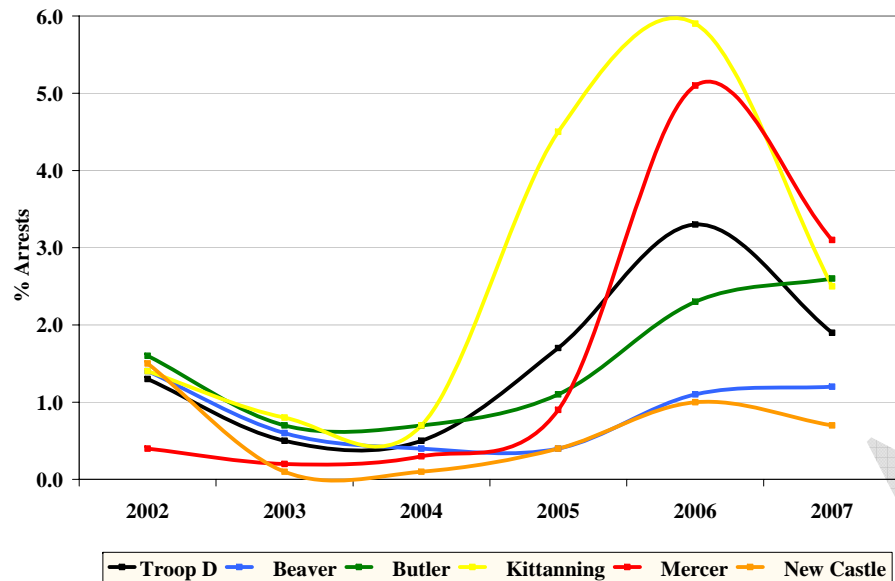
- Figure 12.45 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop D and shows a consistent downward trend in the rate of warnings from 2002-2005, prior to a 6.1% point increase to 43.2% between 2005 and 2006. The 2007 rate decreased slightly from 2006 but remained nearly 6 points lower than the rate in 2002.
- Beaver's warning rates decreased steadily from 2002 to 2005 before a more than 13 point increase in 2006 and a minor drop in 2007.
- Following a steady decrease through 2005, Butler's warning rates showed a considerable increase of nearly 20 points through 2007.
- Kittanning's rate of warnings fell 6% in 2003 before stabilizing near that level for the next four years.
- Mercer's warning rates fluctuated greatly between 2002 and 2007. The rate in 2007 represents a 8.2% decrease from 2006 but is the station's second highest rate of warnings since data collection began.
- The rate of warnings for New Castle fell dramatically between 2002 and 2007, with an overall decline of 29.4%.

Figure 0:46: Percent of Traffic Stops Resulting in a Citation – Troop D



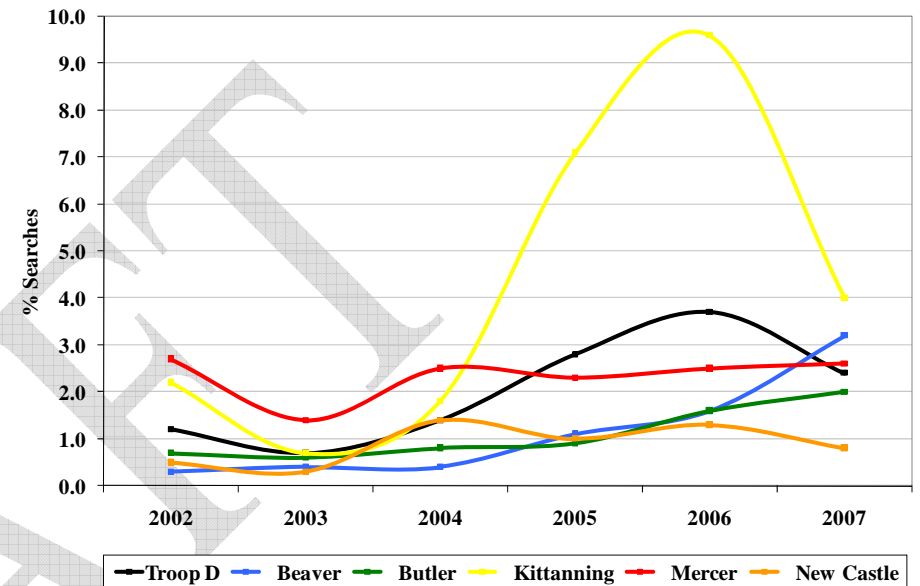
- Figure 12.46 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop D and shows a steadily increasing rate of citations between 2002 and 2005, prior to a 4.5% decrease in 2006. The 2007 rate increased again although it is not the highest rate of citations in the last six years.
- Beaver and Kittanning's citation rates resembled the troop level trend with an increase through 2005, followed by a decrease in 2006, and further increase in 2007.
- The citation rates of Butler rose dramatically from 71.0% in 2002 to 85.8% in 2005, prior to stabilizing at that level in 2006 and declining somewhat in 2007.
- Mercer's citation rates fluctuated considerably between 2002 and 2007. The 2007 citation rate is the station's second lowest rate since 2002.
- The citation rates of New Castle showed a marked increase of 35.6% between 2002 and 2007, including large increases in 2003 and 2006.

Figure 0:47: Percent of Traffic Stops Resulting in an Arrest – Troop D



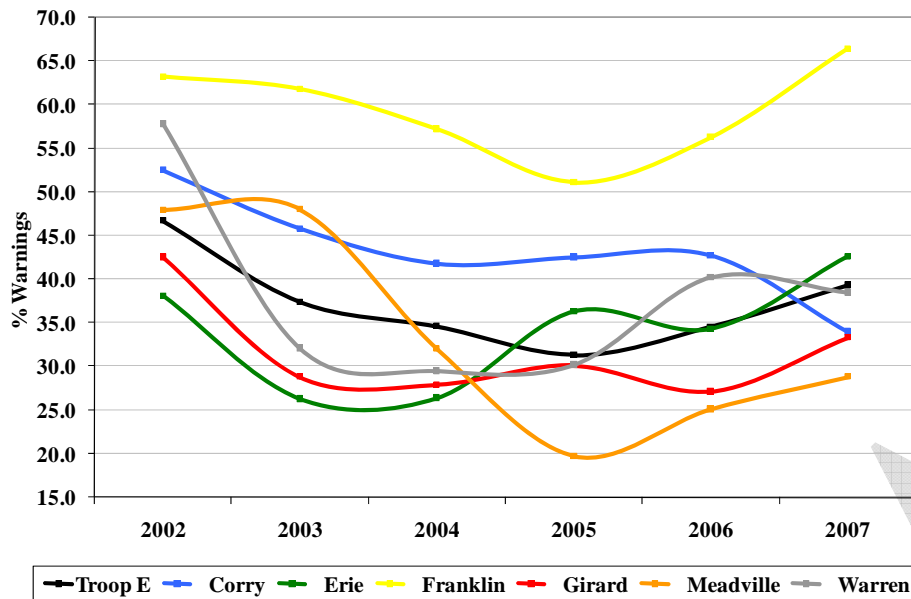
- Figure 12.47 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop D and shows a rate of arrests that has fluctuated considerably, from a low of 0.5% in 2003 and 2004 to a high of 3.3% in 2006. The 2007 rate decreased 1.4% from 2006 and is only 0.6% higher than the rate in 2002.
- Following a decrease in 2003, Beaver and Butler's arrest rates stabilized, before displaying increases between 2005 and 2007.
- Kittanning's arrest rates increased dramatically from 2004 to 2006, prior to a large decrease in 2007.
- The arrest rates for Mercer showed stability through 2005, prior to a large increase in 2006 and 2 point decrease in 2007 to 3.1%, a rate still considerably higher than those between 2002 and 2005.
- After a decrease in 2003, New Castle's arrest rates stabilized until a small increase in 2006.

Figure 0:48: Percent of Traffic Stops Resulting in a Search – Troop D



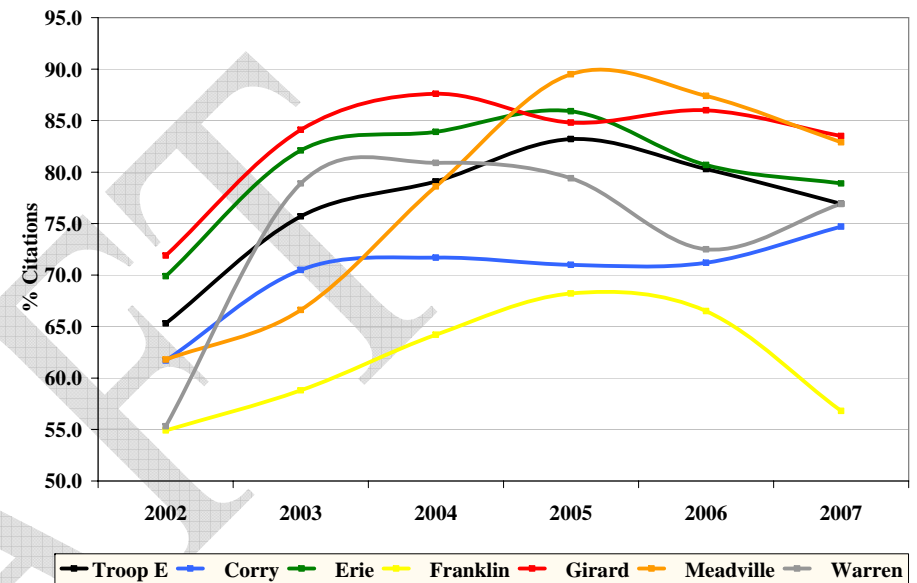
- Figure 12.48 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop L and shows a rate of searches that has fluctuated, decreasing initially from 2002-2003, increasing steadily from 2003-2006, and then decreasing again in 2007 to a rate that is still double the rate in 2002.
- After a period of stability from 2002 to 2004, Beaver and Butler's search rates rose through 2007 to each station's highest rate since data collection began.
- After an initial decline of 1.5%, Kittanning's search rates increased dramatically from 2004 to 2006 to a high of 9.6%. In 2007, however, Kittanning's search rate fell by 5.6%, but remained higher than the initial years' rates.
- Following some fluctuation from 2002 to 2004, Mercer and New Castle's search rates stabilized. In 2007, New Castle's search rate declined slightly.

Figure 0:49: Percent of Traffic Stops Resulting in a Warning – Troop E



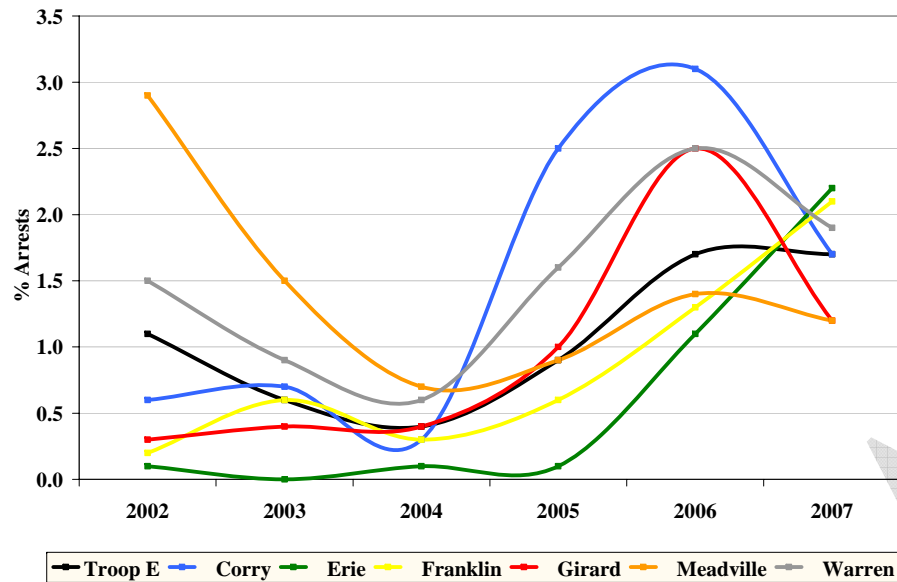
- Figure 12.49 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop E and shows a dramatic decrease between 2002 and 2005, from 46.7% in 2002 to 31.3% in 2005. The rate of warnings has consistently increased since then to 39.3% in 2007, but remained more than 7 points lower than the initial rate in 2002.
- After a steady decline from 2002 to 2004, Corry's warning rates stabilized in 2005 and 2006 before a decrease of 8.7% in 2007.
- Erie's warning rates fell 11.8% in 2003, prior to an overall increase between 2004 and 2007 to 42.6%, the station's highest rate of warnings.
- Franklin's rate of warnings decreased steadily from 2002 to 2005 prior to steady increases in 2006 and 2007 to 66.4%, the station's highest rate.
- Following a large decrease in 2003, Girard's warning rates stabilized through 2006 prior to a slight increase in 2007.
- The warning rates for Meadville dropped dramatically from 2003 to 2005 by 28.3%, before minor increases through 2007.
- Warren's warning rates fell dramatically in 2003 (25.7%), before stabilizing through 2005. Rates then increased in 2006 but remained, in 2007, at a level far below the rate in 2002.

Figure 0:50: Percent of Traffic Stops Resulting in a Citation – Troop E



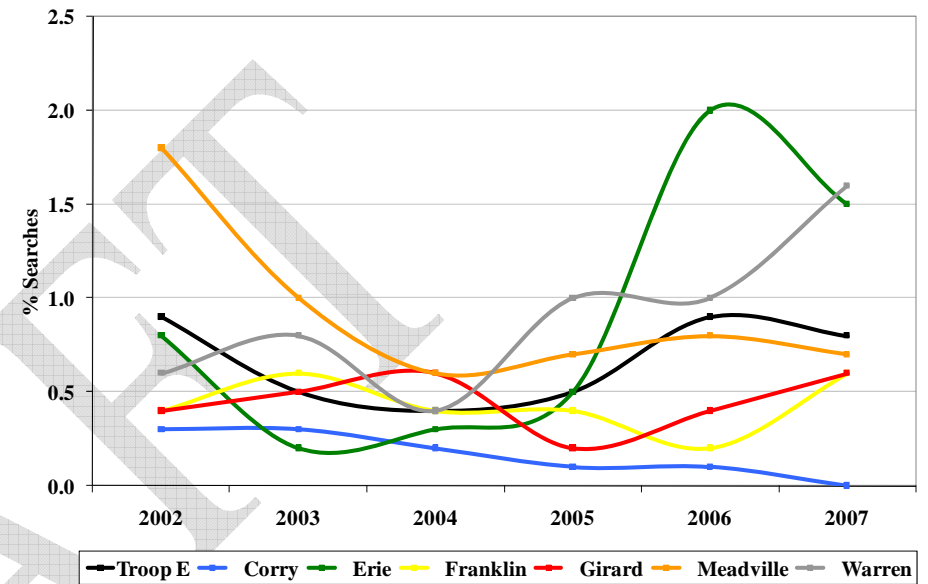
- Figure 12.50 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop E and shows that the rate of citations increased substantially between 2002 (65.3%) and 2005 (83.2%). The rate of citations has since decreased to a 2007 rate (76.9%) that still remains more than 11 points higher than the rate in 2002.
- After an initial increase between 2002 and 2003, Corry's citation rate remained stable between 2003 and 2006. The rate in 2007 increased slightly to 74.7%, the station's highest rate of citations.
- Similar to the troop level trend, the citation rates for Erie, Franklin and Meadville increased through 2005, before declining through 2007 to various degrees.
- After a steady increase through 2004 to the station's highest citation rate (87.6%), Girard's citation rate stabilized at slightly below that level through 2007.
- Following a drastic increase in 2003, Warren's citation rate remained near 80% until 2006 when the rate decreased by nearly 7%. The 2007 rate rebounded slightly to 76.9%.

Figure 0:51: Percent of Traffic Stops Resulting in an Arrest – Troop E



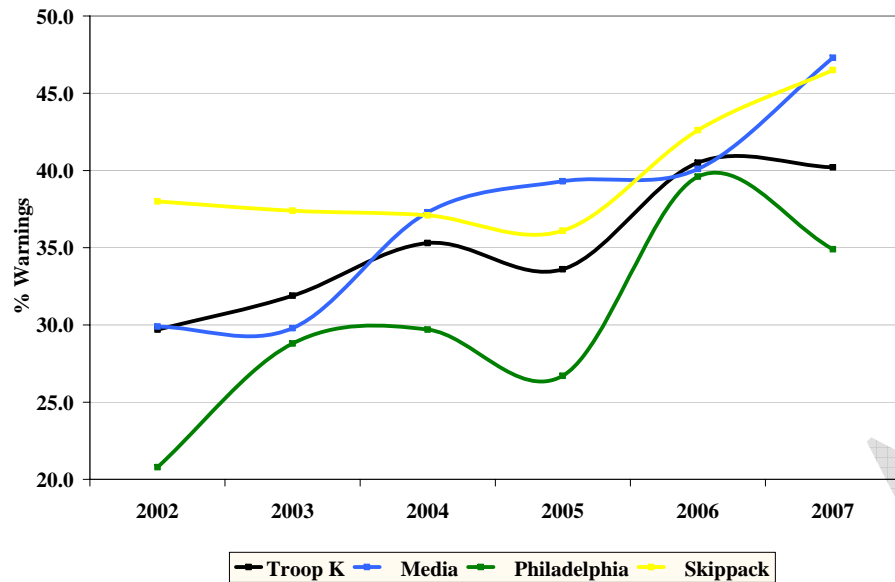
- Figure 12.51 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop E and shows that the rate decreased initially between 2002 and 2004, but rebounded in 2006 and 2007 to 1.7%, the highest rate of arrests since data collection began.
- Corry, Meadville, and Warren's arrest rates fell through 2004, before increasing through 2006. Each of these stations also reported a decrease in their arrest rates in 2007, though the difference was most notable for Corry.
- After a period of stability at a very low rate of arrests, Erie's arrest rate increased dramatically from 0.1% in 2005 to 2.2% in 2007.
- After a period of minor fluctuation, Franklin's arrest rate more than doubled in 2006 and continued to increase in 2007 to 2.1%.
- Girard's arrest rates spiked from 2005 to 2006 to the station's highest arrest rate of 2.5% before a substantial decrease in 2007 to 1.2%.

Figure 0:52: Percent of Traffic Stops Resulting in a Search – Troop E



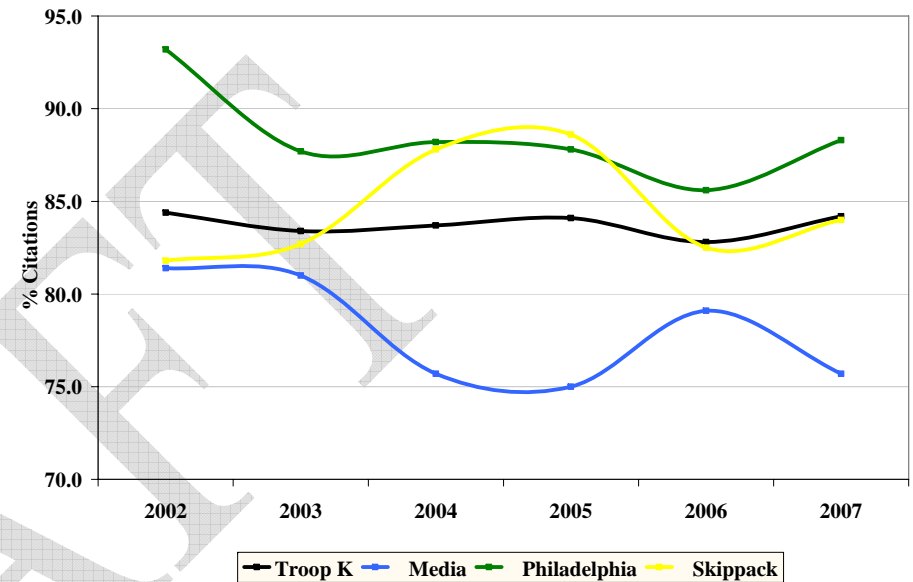
- Figure 12.52 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop E and shows that the rate of searches in 2007 is consistent with the rate from 2002, despite a decreasing trend between 2003 and 2005.
- Corry's very low search rate decreased steadily from 2002 to 2007.
- After an initial decrease in 2003, Erie's search rates spiked in 2006 before decreasing in 2007 to 1.5%, a rate still considerably higher than in previous years.
- The rate of searches in Franklin and Girard were relatively stable between 2002 and 2007 with only marginal fluctuation.
- Meadville's rate of searches fell from 2002 to 2004, before stabilizing.
- After a period of minor fluctuation, Warren's search rates increased between 2005 and 2007 to the station's highest rate of searches (1.6%).

Figure 0:53: Percent of Traffic Stops Resulting in a Warning – Troop K



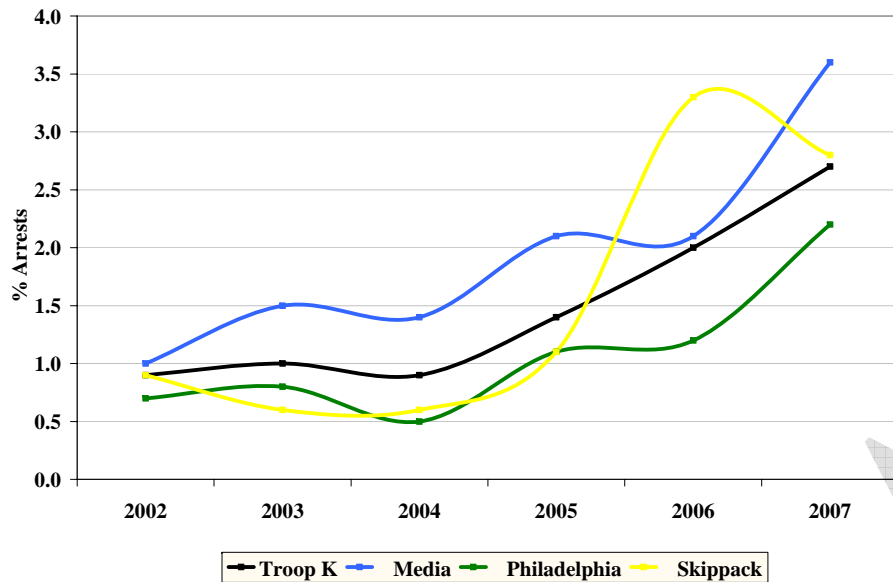
- Figure 12.53 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop K and shows a rate of warnings that has increased more than 10 percentage points overall, despite small decreases in individual years.
- Media's warning rates were stable from 2002 to 2003 and from 2005 to 2006, but increased by more than seven percentage points in both 2004 and 2007.
- Similar to the troop level trend, Philadelphia's rate of warnings increased more than 10 percentage points between 2002 and 2007, despite small decreases in individual years.
- After a period of stability between 2002 and 2005, Skippack's warning rate increased through 2007 by 10.4% to the station's highest rate since data collection began.

Figure 0:54: Percent of Traffic Stops Resulting in a Citation – Troop K



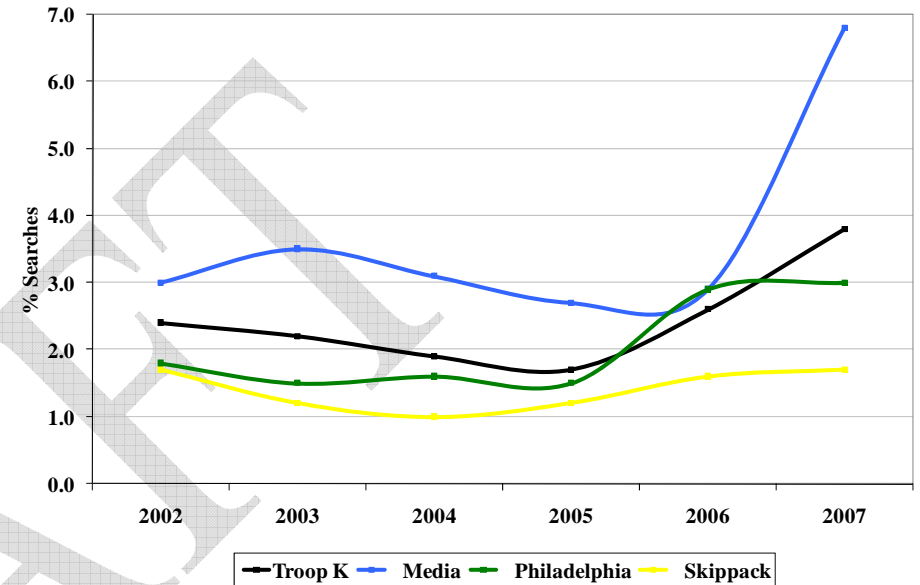
- Figure 12.54 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop K and shows a rate of citations that has been fairly stable over that time period, with only 1.6% difference between the years with highest and lowest rates of citations.
- After a drop of 6.4% between 2002 and 2005, Media's rate of citations increased in 2006 to 79.1% but dropped again in 2007 to close to the lowest citation rate recorded in the past six years.
- Philadelphia's citation rates dropped in 2003, prior to stabilizing around 88% between 2003 and 2007. The exception was in 2006 when a small decrease to less than 86% occurred.
- Skippack's rate of citations steadily increased through 2005 to the station's highest citation rate of 88.6% before dropping in 2006 to a rate similar to those observed in 2002 and 2003. The 2007 rate saw a small increase again.

Figure 0:55: Percent of Traffic Stops Resulting in an Arrest – Troop K



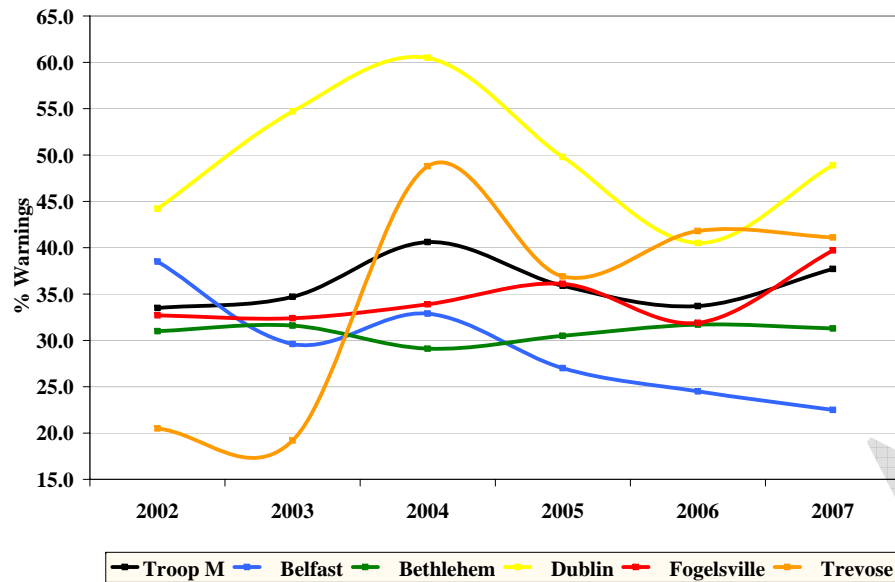
- Figure 12.55 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop K and shows consistent trends in the rate of arrests between 2002 and 2004, but has steadily increased since then, culminating in the troop's highest rate of arrests in 2007 (2.7%).
- Media's rate of arrests fluctuated between periods of increase and stability, resulting in the station's highest arrest rate in 2007 (3.6%).
- Philadelphia maintained relatively stable arrest rates through 2004, prior to steady increases between 2004 and 2007 to the station's highest arrest rate of 2.2% in 2007.
- After a period of stability from 2002 to 2004, Skippack's arrest rates rose dramatically through 2006 to 3.3%. Despite a slight drop in 2007 to 2.8%, the 2007 rate was still higher than in 2002 by 1.9%.

Figure 0:56: Percent of Traffic Stops Resulting in a Search – Troop K



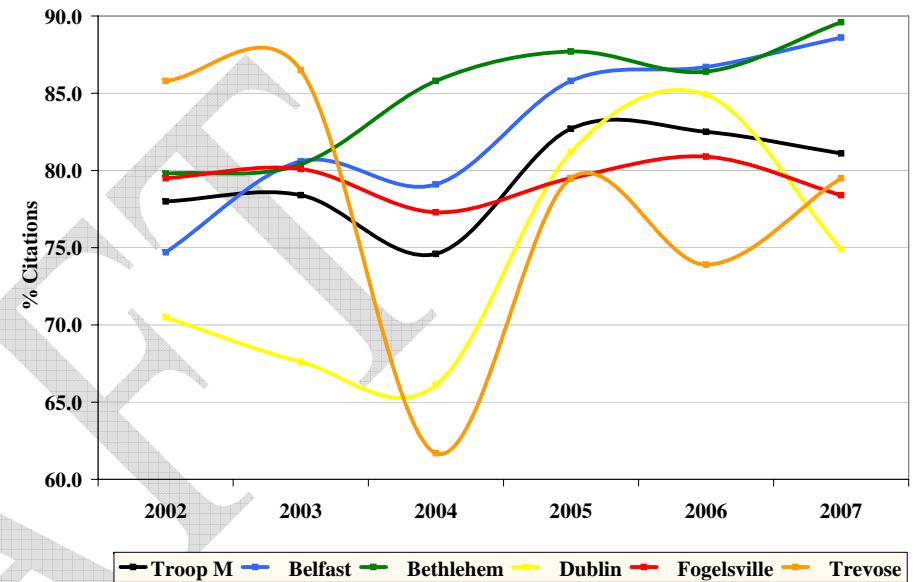
- Figure 12.56 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop K and shows a rate that has fluctuated over time. Between 2002 and 2005, the rate of searches decreased from 2.4% to 1.7%, but it has since increased substantially in both 2006 and 2007, including a 1.2% increase from 2.6% in 2006 to 3.8% in 2007.
- Media's search rates decreased from 2003 to 2005, prior to a small increase in 2006 and a dramatic increase in 2007. Specifically, the 2007 search rate of 6.8% is more than double the rate in 2006 and more than 3 percentage points higher than the previous highest rate of 3.5% in 2003.
- Philadelphia's search rates were stable from 2002 to 2005 before increasing 1.5% in 2006 and stabilizing at that level in 2007.
- After a slight decrease from 2002 to 2004, Skippack's search rates returned to previous levels in 2007.

Figure 0:57: Percent of Traffic Stops Resulting in a Warning – Troop M



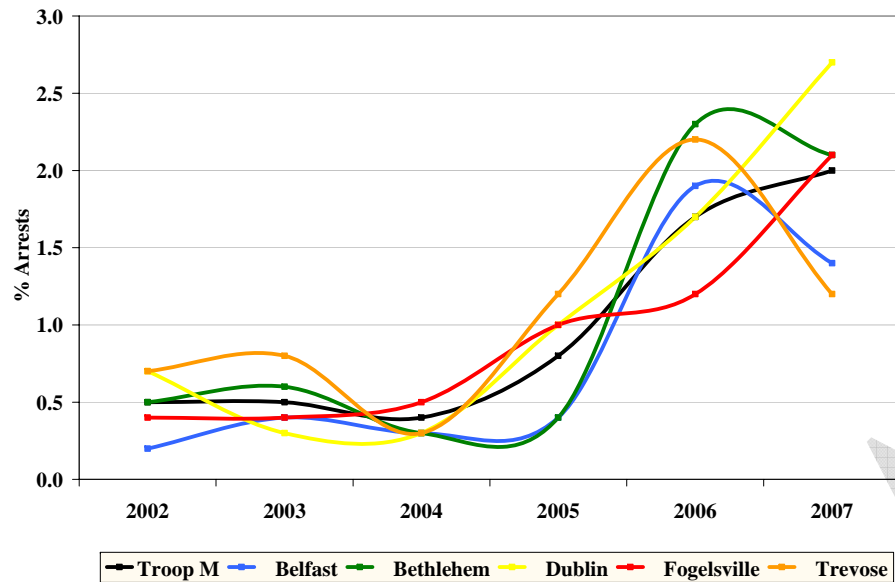
- Figure 12.57 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop M, showing a fluctuating trend in the rate of warnings during that time, with a low of 33.5% in 2002, a high of 40.6% in 2004, and a 2007 rate of 37.7% in the middle of the two.
- Belfast's warning rates steadily decreased by 16 percentage points between 2002 and 2007, with the exception of a minor period of increase in 2004.
- The rate of warnings in Bethlehem remained stable between 2002 and 2007, with only minor changes coming between 2003 and 2005.
- Fogelsville's rate of warnings steadily increased between 2003 and 2005, prior to a more than 4 point drop in 2006 that was followed by an increase in 2007 to the station's highest rate of warnings yet (39.7%).
- The rate of warnings for Dublin rose between 2002 and 2004 before declining through 2006 to the station's lowest recorded rate and then increasing again in 2007 by more than 8 percentage points.
- Trevoise's warning rates increased dramatically in 2004 (+29.6%), before decreasing slightly in 2005 and then stabilizing at approximately 41% in 2006 and 2007.

Figure 0:58: Percent of Traffic Stops Resulting in a Citation – Troop M



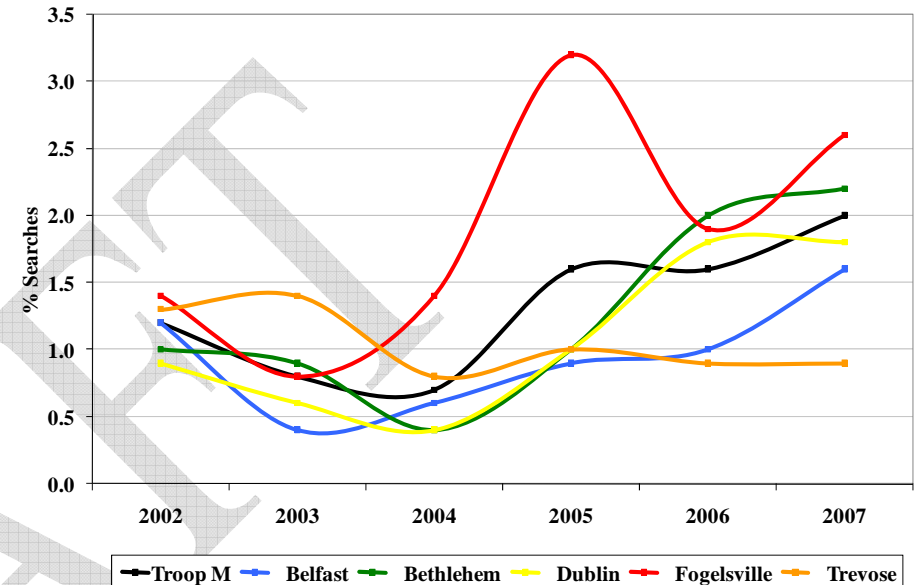
- Figure 12.58 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop M and shows a fluctuating rate of citations. There was a nearly 4 point decrease between 2003-2004, followed by an 8 point increase between 2004-2005 to 82.7% that has since decreased slightly in 2006 and 2007.
- Despite minor decreases in individual years, the rate of citations in Belfast and Bethlehem increased 13.9% and 9.8%, respectively, between 2002 and 2007. Both stations reported their highest rate of citations in 2007.
- After a steady decrease from 2002 to 2004, Dublin's citation rates rose dramatically through 2006 to the station's highest rate of citations (84.9%) before dropping in 2007 to a rate only 4.4% higher than in 2002.
- Fogelsville's citation rates were fairly stable between 2002 and 2007, with only minor fluctuation of less than 4 percentage points reported.
- The rate of citations for Trevoise fluctuated greatly during the six year data collection period, including a dramatic decrease in 2004 of nearly 25%. The rate rebounded in 2005 to nearly 80% only to be followed by another decline in 2006 and equivalent increase in 2007.

Figure 0:59: Percent of Traffic Stops Resulting in an Arrest – Troop M



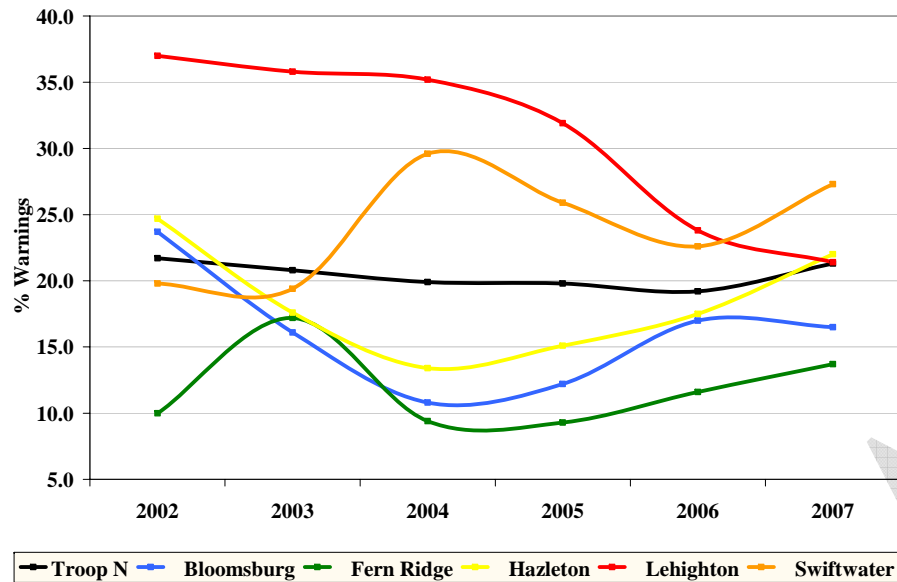
- Figure 12.59 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop M and shows consistent trends between 2002 and 2004, before a steadily increasing rate of arrests between 2004 and 2007, culminating in a high of 2.0% in 2007.
- Belfast and Bethlehem's arrest rates were stable from 2002 to 2005, prior to increases of more than 1.5% in 2006 that fell off slightly in 2007.
- After a slight drop in 2003, Dublin's arrest rate stabilized in 2003 and 2004, before steadily increasing through 2007 to the station's highest arrest rate of 2.7%.
- Fogelsville displayed a stable arrest rate from 2002 to 2004 before steady increases from 2005 to 2007, resulting in the station's highest arrest rate in 2007 of 2.1%.
- Trevose's arrest rates fluctuated considerably, showing a 0.5% decrease in 2004, followed by two years of approximately 1.0% increases. The 2007 rate, however, declined by 1.0% to a rate equivalent to that recorded in 2005.

Figure 0:60: Percent of Traffic Stops Resulting in a Search – Troop M



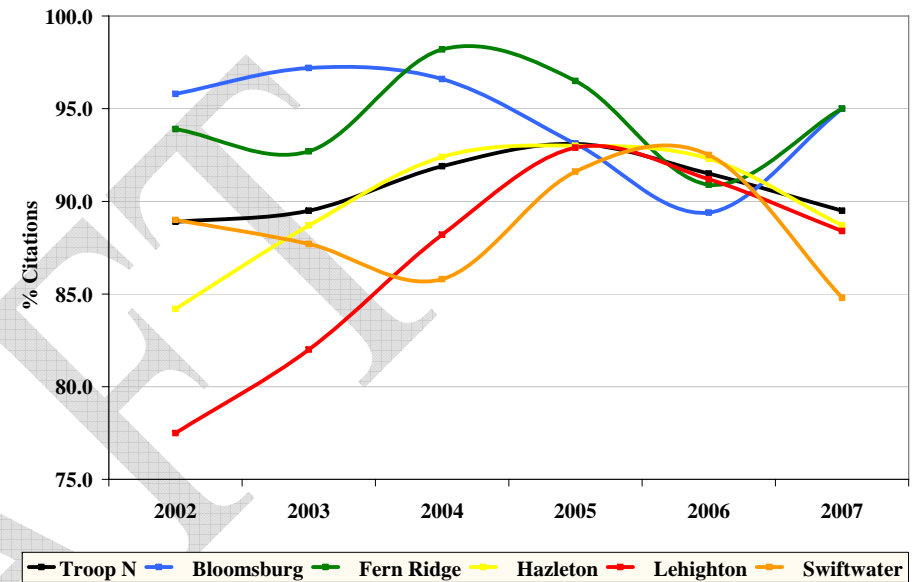
- Figure 12.60 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop M and shows that the rate of searches declined between 2002 and 2004 and has since increased, reaching a high of 2.0% in 2007.
- After a decrease of 0.8% in 2003, Belfast's rate of searches steadily rose through 2007 to the station's highest search rate of 1.6%.
- Bethlehem and Dublin's search rates declined from 2002 to 2004 before increasing by more than 1 percentage point through 2007. In 2007, the rate in Dublin stabilized at the search rate reported in 2006 while the rate in Bethlehem continued a steady increase.
- Fogelsville's search rates fluctuated greatly throughout the six year data collection period with a low of 0.8% in 2003 and a high of 3.2% in 2005. The 2007 search rate of 2.6% represented an increase of 0.7% from 2006.
- Despite a small decrease of 0.6% in 2004, Trevose's search rates were relatively stable between 2002 and 2007.

Figure 0:61: Percent of Traffic Stops Resulting in a Warning – Troop N



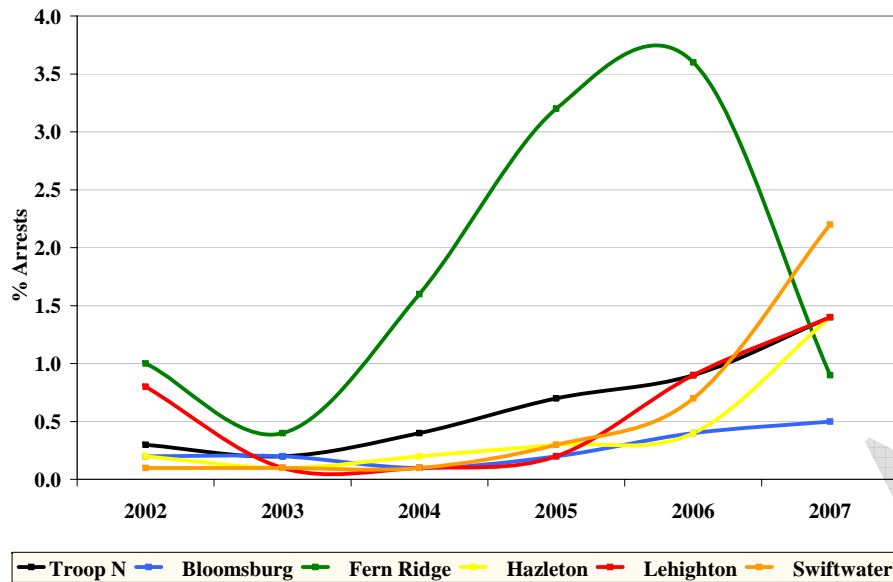
- Figure 12.61 displays the percentages of traffic stops resulting in warnings between 2002 and 2007 in Troop N and shows a slowly declining rate of warnings between 2002 and 2006 from 21.7% to 19.2%, prior to a return, in 2007, to a near-2002 rate of warnings at 21.3%.
- Bloomsburg's warning rates steadily declined from 2002 to 2004 before increasing in 2005 and 2006 and then showing a minor decrease in 2007.
- After fluctuation from 2002 to 2004, Fern Ridge's warning rates steadily increased through 2007 from 9.3% in 2005 to 13.7% in 2007. This rate, however, remained 3.5 percentage points lower than the station's highest warning rate observed in 2003.
- Hazleton's warning rates fell steadily through 2004 prior to a more gradual increase through 2007 to 22.0%, a rate still lower than initially reported in 2002.
- Lehigh's warning rates steadily decreased throughout the six year data collection period; with the largest decline of 8.1% coming in 2006.
- The rate of warning for Swiftwater demonstrated fluctuation between 2002 and 2007 with a marked increase in 2004, a period of slight decline and another increase of nearly 5% in 2007.

Figure 0:62: Percent of Traffic Stops Resulting in a Citation – Troop N



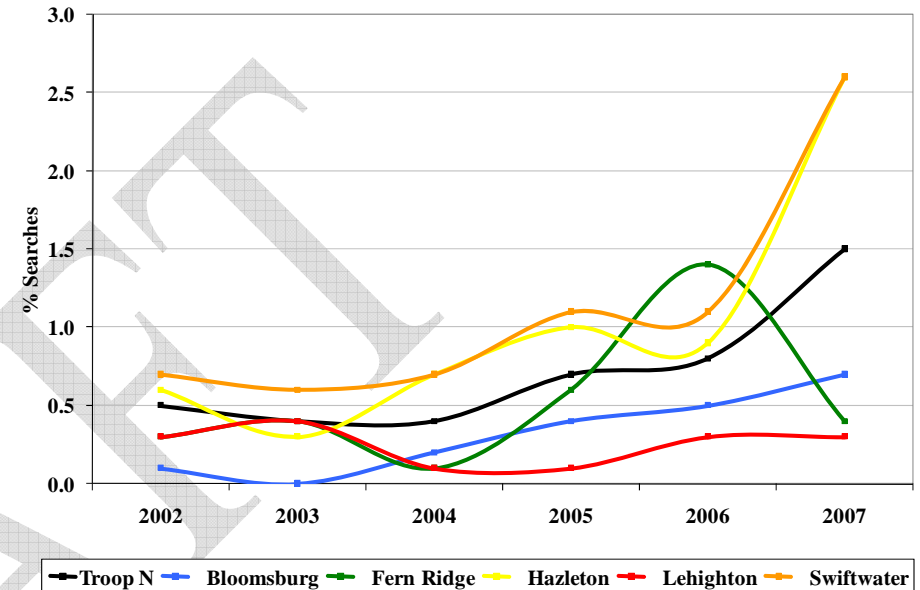
- Figure 12.62 reports the percentages of traffic stops resulting in citations between 2002 and 2007 in Troop N and shows a steadily increasing rate of citations between 2002 and 2005, prior to decreases in 2006 and 2007 to a rate of 89.5% in 2007 that is very similar to the initial rates of citations in 2002 and 2003.
- The rate of citations for Bloomsburg held steady through 2004 before a downward trend in 2005 and 2006 that was followed by a more than 5 point increase in 2007.
- Fern Ridge's citation rates fluctuated considerably between 2002 and 2007, with alternating periods of increase and decline. The 2007 rate represents a 4.1% increase from 2006 but is lower than two of the previous years' citation rates.
- Hazleton and Lehigh's citation rates steadily increased through 2005, prior to smaller decreases through 2007.
- The rate of citations for Swiftwater declined steadily between 2002 and 2004 before increasing steadily through 2006. The 2007 rate (94.8%), however, dropped to the station's lowest citation rate since data collection began.

Figure 0:63: Percent of Traffic Stops Resulting in an Arrest – Troop N



- Figure 12.63 reports the percentages of traffic stops resulting in arrests between 2002 and 2007 in Troop N and shows consistent trends between 2002 and 2004, before a steadily increasing rate of arrests since, culminating in the troop's highest rate of arrests in 2007 (1.4%).
- Bloomsburg, Hazleton, and Swiftwater's arrest rates were stable from 2002 to 2005, before small increases in 2006. Bloomsburg's arrest rate continued a slight increase in 2007, while the rise in arrest rates for Hazleton and Swiftwater was more dramatic (1.0% and 1.5%, respectively).
- Fern Ridge's arrest rates fluctuated greatly, with a small decrease in 2003, steady increases between 2003 and 2006 to the station's highest arrest rate of 3.6%, and then a dramatic decline of 2.7% to the station's second lowest arrest rate in 2007 (0.9%).
- After a decrease of 0.7% in 2003, Lehigh's arrest rate stabilized for 3 years before a marked increase in 2006 and 2007 from 0.2% in 2005 to 1.4% in 2007.

Figure 0:64: Percent of Traffic Stops Resulting in a Search – Troop N



- Figure 12.64 reports the percentages of traffic stops resulting in searches between 2002 and 2007 in Troop N and shows that the rate of searches was stable between 2002 and 2004, prior to steadily increasing since, including nearly doubling between 2006 and 2007 to a rate of 1.5%.
- After a period of stability, Bloomsburg's search rates slightly but steadily increased through 2007 to 0.7%.
- Fern Ridge's search rates have fluctuated slightly including a 1.3% increase between 2004 and 2006 that was followed by a 1.0% decrease in 2007.
- The rate of searches in Hazleton and Swiftwater both demonstrated some fluctuation throughout the six year data collection period. The greatest increases for both stations occurred in 2007, when Hazleton's rate increased by 1.7% and Swiftwater's rate rose by 1.5%, respectively.
- With minor fluctuation, Lehigh's rate of searches was relatively stable throughout.