

ILLINOIS
AND
TRAFFIC
PEDESTRIAN
STOP STUDY

2018
ANNUAL
REPORT

Traffic Stop Analysis

Submitted by Alexander Weiss Consulting, LLC



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of Transportation

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Illinois Traffic Stop Study 2018 Annual Report

Introduction

This is the 15th annual report of the Illinois Traffic Stop Study. Alexander Weiss Consulting, LLC prepared this report for the Illinois Department of Transportation (IDOT). This report describes statewide results and related issues. A separate document includes the results from each agency that participated in the study.

This report examines several items:

- Reporting procedures
- Agency participation
- Stop data
- The ratio of stops of minority drivers to the estimated minority driving population
- The reasons for traffic stops
- The duration of traffic stops
- The outcome of traffic stops
- Consent searches
- Dog Sniffs

Illinois Traffic Stop Study Procedures

Since January 2004, police agencies in Illinois have been required to submit data about traffic stops to the Illinois Department of Transportation. This requirement is in place through 2019. ¹

A “traffic stop” occurs when an officer stops a motor vehicle for a violation of the Illinois vehicle code, or for a local traffic violation. The Traffic Stop Study data does not include traffic citations arising from traffic crashes, or in cases in which an officer stops a vehicle that has been linked to a specific crime, such as a vehicle wanted in connection with a robbery. ²

Our analysis of traffic stops in Illinois is based on the following data elements:

- Race of driver
- Reason for the stop

¹ Public Act 098-0686

² If an officer uses a traffic law violation as a pretext to stop a “suspicious” vehicle, that stop should be reported to IDOT.

- Duration of the stop
- Outcome of the stop
- Whether a consent search of the vehicle was requested and conducted
- Whether contraband was found during the consent search.
- Whether a dog sniff was conducted and the results of that sniff.

Agencies must submit traffic stop data for the calendar year to IDOT prior to March 1 of the following year. After a preliminary analysis is conducted the results are posted on a secure site at IDOT so that each agency may review its own results. Agencies have approximately ten days to identify possible errors in the report or to submit comments that are attached to agency reports.

Agency Participation

In 2018, 930 law enforcement agencies in Illinois submitted traffic stop data to IDOT. The complete list of non-complying agencies appears in Appendix “B”.

Traffic Stops

In 2018, law enforcement agencies in Illinois reported 2,470,322 traffic stops to IDOT. This continues an upward trend, due, in part to an increase in traffic stops by the Chicago Police Department. Figure 1 illustrates the number of traffic stops for the period of 2015-2018.

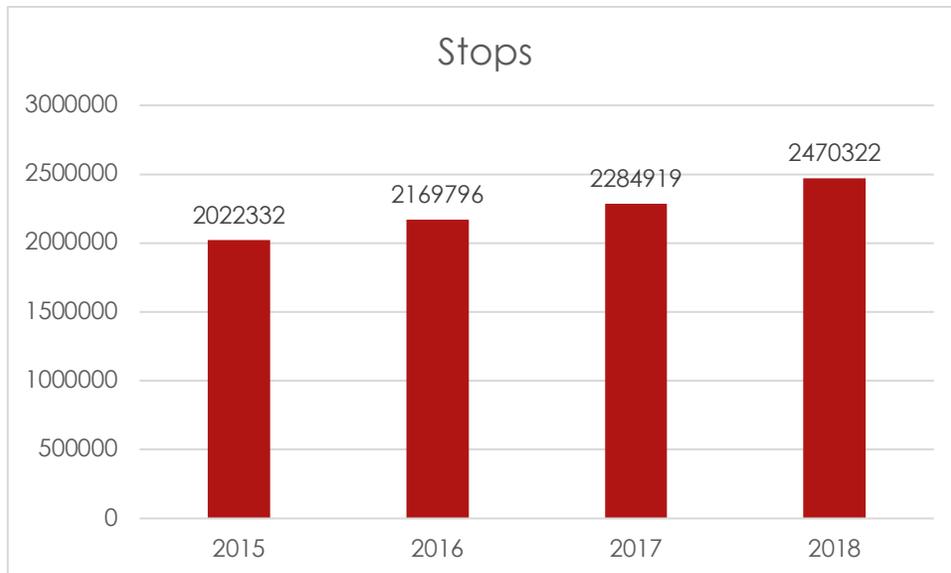


Figure 1 Traffic Stops 2015-2018

In Figure 2 we illustrate the percentage of stops for minority and white drivers.

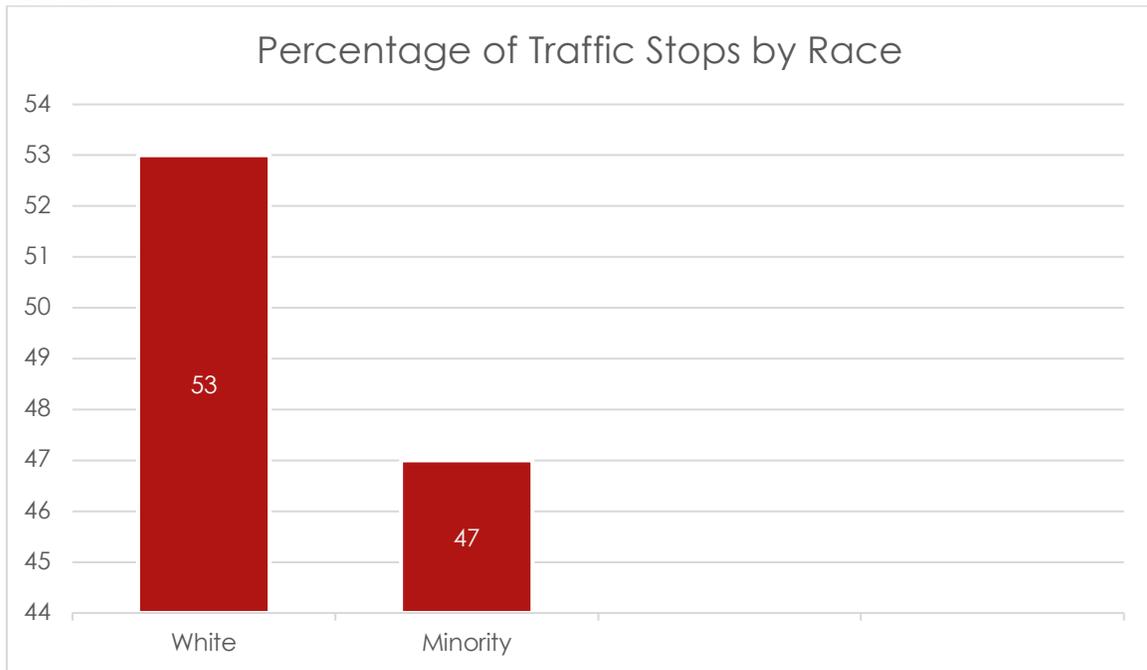


Figure 2 Statewide Traffic Stops by Race

Figure 3 shows traffic stops for each of the six racial categories:

- White (WH)
- African-American (AA)
- American Indian (AI)
- Hispanic (HIS)
- Asian (ASN)
- Native Hawaiian or Pacific Islander (NH)

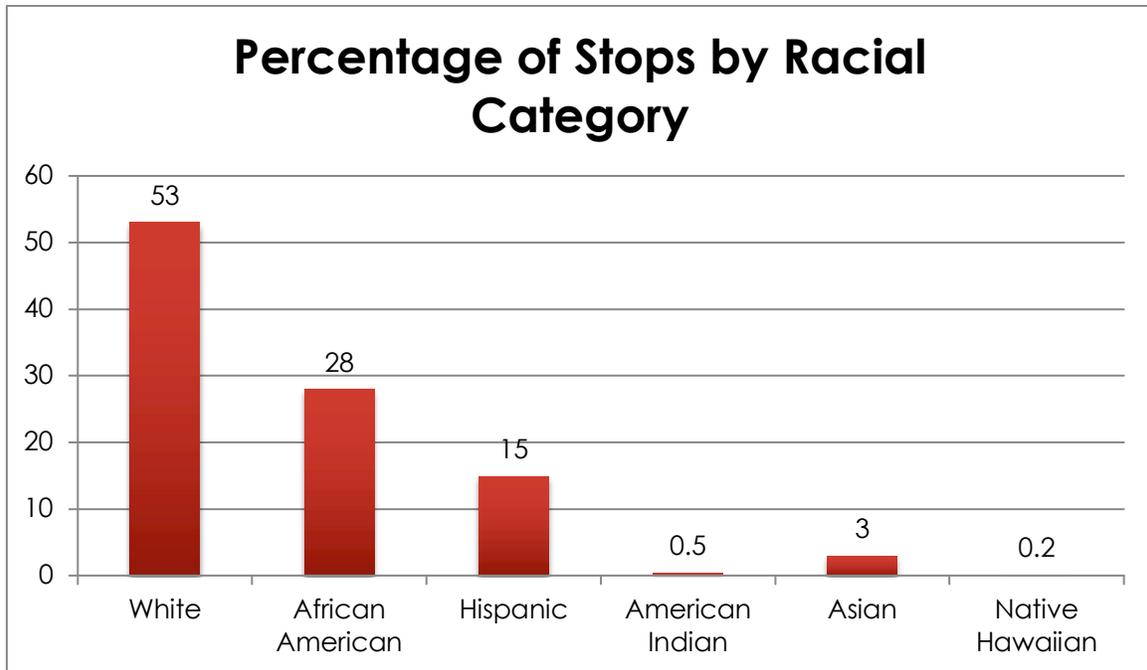


Figure 3 Percentage of Stops by Racial Category

Ratios

Our analysis uses several measures to test the extent to which race plays a part in traffic stops. We have classified these measures as “pre-stop” measures and “post-stop” measures. Pre-stop measures examine behaviors related to the stopping of the vehicle, and post-stop measures illustrate what happens after the vehicle has been stopped and the officer contacts the driver.

The first pre-stop measure is the “ratio”. This measure looks at the likelihood that minority drivers will be stopped by a law enforcement agency. To quantify this likelihood, we calculate the ratio between the percentage of minority stops of an agency and that community’s estimated minority driving population, or as it is often called, the “benchmark”.³

To illustrate this idea, consider an agency in which 22% of traffic stops involved minority drivers. In this same community the estimated minority driving population was 20%. The ratio for this agency would be 22/20 or 1.1. In other words, in this community, a minority driver is 10% more likely to be stopped than we would expect based on the estimated minority driving

³ For a detailed description of the construction of the estimated driving population see the 2004 Annual Report available from IDOT.

population. A ratio of 2, for example, would indicate that a minority driver was twice (100%) as likely to be stopped than we would expect.⁴

In 2018, the statewide ratio was 1.61, up from 2017 when the ratio was 1.49. Figure 4 illustrates the distribution of ratios across the reporting agencies. We note that 19% of the law enforcement agencies had ratios of 2 or greater.

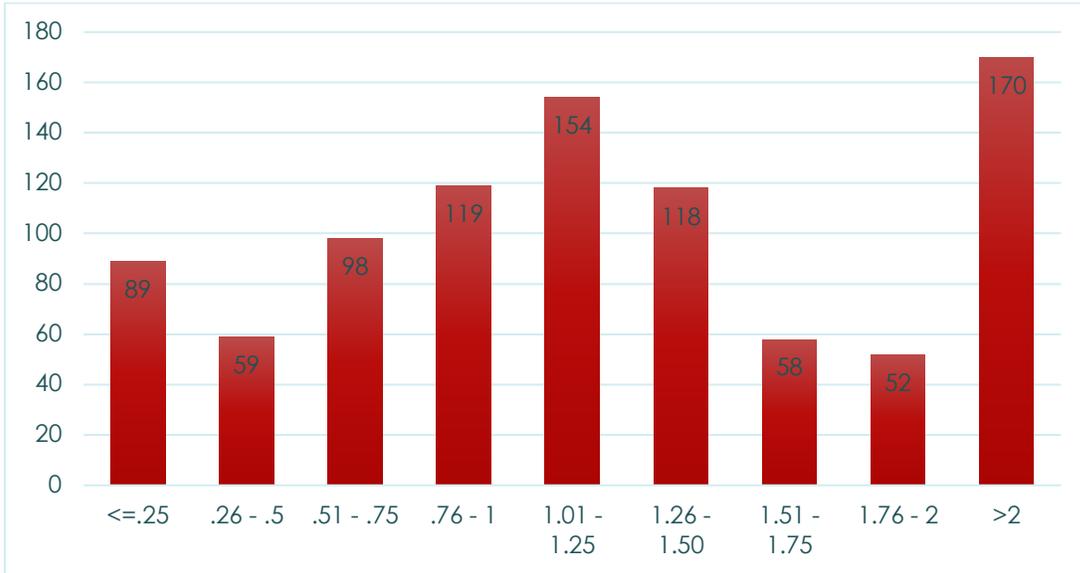


Figure 4 Distribution of Agency Ratios

Reason for Stop

The second pre-stop measure is the reason for the stop. We are seeking to determine whether race is a determinant factor in the decision to make a traffic stop. To do this we examine the distribution of reasons within race, assuming that if race is not a factor the distribution of reasons within each race will be similar. This is illustrated in Figure 5. In this figure we see the reason for the stop expressed as a percentage of all the stops for that race.

⁴ A ratio of zero occurs when an agency makes no stops of minority drivers.

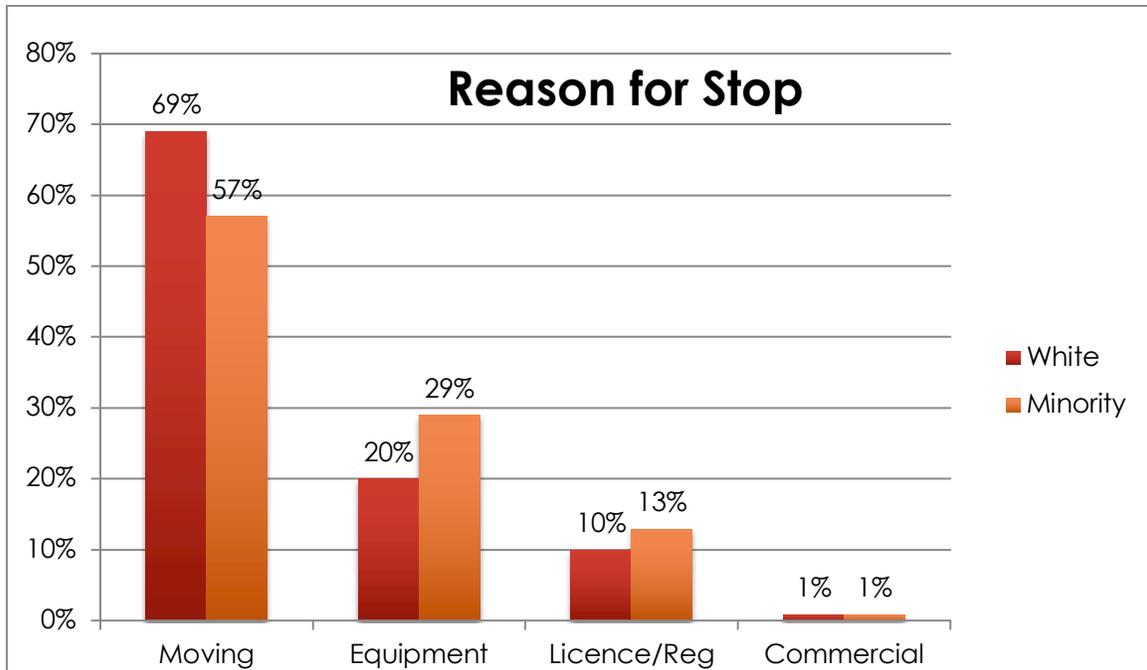


Figure 5 Reason for Stop by Race

Duration of Stop

Our first post-stop measure is the duration of the stop. Post-stop measures may be more instructive because by this point in the encounter the officer has contacted the driver and drawn a conclusion about the driver's race.

In our analysis we included two measures of average duration, the *mean* and *median*. The mean is calculated by summing the total time for all traffic stops and then dividing by the number of stops. The mean is susceptible to extreme values. That is, an unusually long traffic stop can cause the mean to be larger, and thus it may not be representative of a central or average value. If we take the times for all the stops and place them in order we can derive the median. The median represents the value *in the middle* of the ordered distribution. Another way of explaining this is that half of the values in the distribution are below the median and half are above. In agencies with a large number of stops the mean is less likely to be skewed by extreme values.

In 2018, the mean duration for stops of white drivers was 11 minutes and was 12 minutes for minority drivers. In 2017 the mean duration for both minority and white drivers was 11 minutes.

Table 1 illustrates the mean duration times by race for statewide data.

Race	Mean Duration in Minutes
All Drivers	11
White	11
African American	12
American Indian	11
Hispanic	12
Asian	10
Native Hawaiian	10

Table 1 Mean Traffic Stop Duration

Outcome of Stop

The next post-stop measure is the outcome of the stop. We use three categories to define the outcome: citation, written warning, and verbal warning/stop card.⁵ Table 2 compares white drivers and minority drivers on the three possible outcomes. It illustrates the percentage of drivers in the racial category to receive that outcome. For example, 38% of white drivers were cited and 31% of minority drivers were cited.

	White	Minority
Citation	38%	31%
Written Warning	37%	22%
Verbal Warning/Stop Card	25%	46%

Table 2 Traffic Stop Outcomes by Race

In 2018, there were 863,547 traffic stops in which a citation was issued⁶. A citation was issued in 35% of all stops.

Figure 6 shows the relationship between race and whether a citation was issued during a stop.

⁵ Not all agencies issue written warnings.

⁶ Some stops may result in more than one citation.

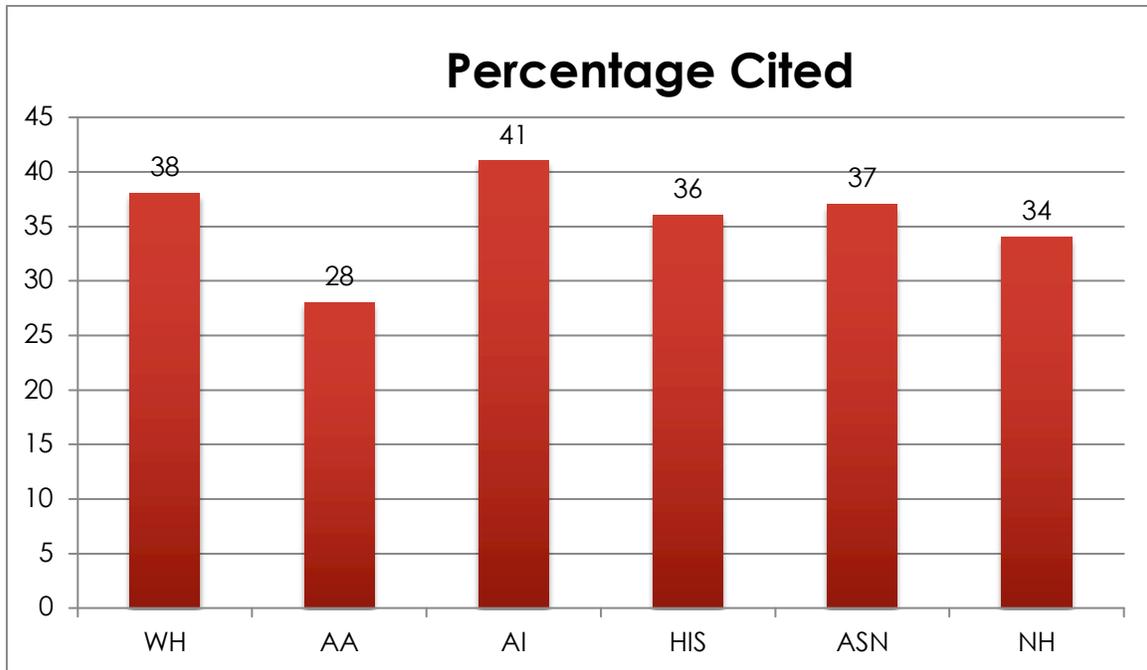


Figure 6 Percentage Cited by Race

Consent Searches

The next post-stop analysis examines vehicle consent searches⁷. Consent searches are an important element in the examination of bias in traffic stops. Police officers have many legal justifications for searching motor vehicles without a warrant. Courts have, in general, given police officers wide latitude in conducting such searches, because when the vehicle is "released" any evidence in the vehicle may be unrecoverable. We are particularly interested in consent searches, those in which the decision to request a search is largely that of the individual officer.

In our analysis we treat the consent search as a four step-process:

1. Was a consent search requested?
2. Was permission to conduct the search granted?
3. Was the search conducted?
4. Was contraband found during the consent search?

In 2018 police officers performed 23,516 vehicle consent searches. This equates to a consent search occurring in slightly less than one percent of all stops. It is interesting to note that in the first year of the study (2004)

⁷ Data is also collected concerning consent searches of drivers and passengers; however, this analysis only examines consent searches of vehicles.

officers conducted 33,361 consent searches, far more than in 2018.

The following table illustrates consent searches performed by race.

Race	Number of Vehicle Consent Searches
WH	11835
AA	7405
AI	160
HIS	3828
ASN	264
NH	24

Table 3 Vehicle Consent Searches by Race

Most law enforcement agencies perform few, if any vehicle consent searches. In fact, in 2018, only 44 agencies (about four percent of the participating agencies) performed 100 or more vehicle consent searches. Table 4 illustrates the agencies that conducted more than one hundred vehicle consent searches, and the number of searches conducted.

AURORA POLICE	879	JOLIET POLICE	236
BELLEVILLE POLICE	328	LOVES PARK POLICE	117
BLOOMINGTON POLICE	173	MATTOON POLICE	281
CARPENTERSVILLE POLICE	112	MCHENRY COUNTY SHERIFF	152
CASEYVILLE POLICE	228	MCLEAN COUNTY SHERIFF	187
CHICAGO POLICE	1621	MONROE COUNTY SHERIFF	151
CHICAGO HEIGHTS POLICE	106	MORRIS POLICE	117
CICERO POLICE	116	MUNDELEIN POLICE	281
COLLINSVILLE POLICE	154	NAPERVILLE POLICE	141
COOK COUNTY SHERIFF	176	O'FALLON POLICE	133
DANVILLE POLICE	117	OAK LAWN POLICE	151
EFFINGHAM COUNTY SHERIFF	274	PEORIA POLICE	207
EFFINGHAM POLICE	413	POSEN POLICE	138
ELGIN POLICE	104	ROBINSON POLICE	111
ELMWOOD PARK POLICE	190	ROCKFORD POLICE	518
EVERGREEN PARK POLICE	373	SCHAUMBURG POLICE	150
GRANITE CITY POLICE	229	SPRINGFIELD POLICE	377
GRUNDY COUNTY SHERIFF	228	VERMILION COUNTY SHERIFF	108
HANOVER PARK POLICE	297	WAUKEGAN POLICE	237
HICKORY HILLS POLICE	202	WILL COUNTY SHERIFF	235
HOFFMAN ESTATES POLICE	203	WINNEBAGO COUNTY SHERIFF	394
ILLINOIS STATE POLICE	2053	WOODRIDGE POLICE	104

Table 4 Agencies that Conducted More than 100 Vehicle Consent Searches

In Table 5, we examine more closely the consent search data by individual race for 2018. There is important information in these findings. First, we observe how infrequently consent searches are requested. Second, we observe the decision to permit the consent search does vary by race. Third, African American and Hispanic drivers are more likely to be the subject of a vehicle consent search than other drivers, relative to how frequently they are stopped, but the difference between those drivers and white drivers is not very large.⁸

	White	African American	American Indian	Hispanic	Asian	NH
Stops	1311025	681225	12318	380661	79805	5287
Requested	14624	8816	196	4336	303	27
Granted (% Of Requested)	12404 (85%)	7625 (86%)	179 (91%)	3958 (91%)	274 (90%)	24 (88%)
Performed (% of Stops)	11835 (.9%)	7405 (1.1%)	160 (1.3%)	3828 (1%)	264 (.3%)	24 (.5%)

Table 5 Consent Search Process by Race

Next, we examine whether a consent search resulted in a seizure of contraband, defined as drugs, drug paraphernalia, weapons, stolen property, alcohol, or “other” contraband. Knowing whether or not contraband is found allows us to calculate the “hit rate,” or the likelihood that a consent search results in the seizure of contraband.

In 2018 when the vehicle of a white driver was consent searched, police officers found contraband **34%** of the time. By contrast, when a vehicle driven by a minority driver was consent searched, officers found contraband **25%** of the time.

⁸ We also observe disparity with respect to American Indian consent searches, however, the number of stops is relatively small.

In Figure 7, we illustrate the relationship between driver race for the three largest categories and whether contraband was found. For example, white drivers were involved in 50% of all stops in which a consent search was performed, but 58% of the time contraband was found during a stop it was in a vehicle driven by a white driver. By contrast, Hispanic drivers were involved in 16% of consent searches but in 16% of the cases in which contraband was found.

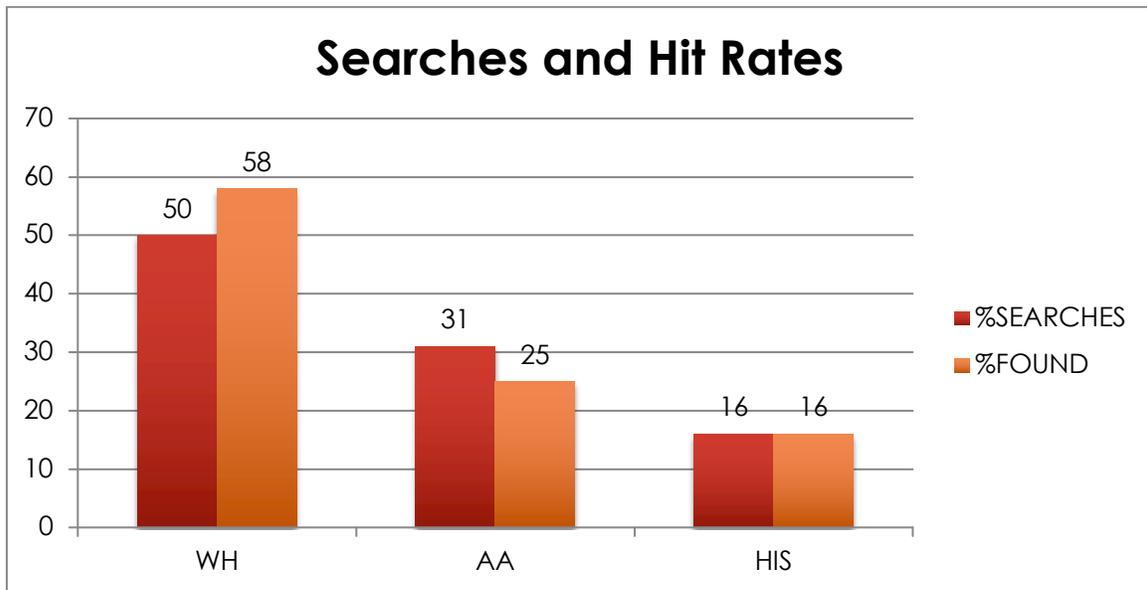


Figure 7 Searches and Hit Rates by Race

Dog Sniffs

In 2018 agencies reported 7,924 dog sniffs. Dog Sniffs were conducted in .34% of stops with white drivers, and .29% of stops in which the driver was a minority. Table 6 lists agencies that conducted 100 or more dog sniffs.

AURORA POLICE	261
BELVIDERE POLICE	160
BLOOMINGTON POLICE	150
DANVILLE POLICE	146
DECATUR POLICE	215
EFFINGHAM POLICE	112
FREEPORT POLICE	177
ILLINOIS STATE POLICE	1541
MACON COUNTY SHERIFF	144
MCLEAN COUNTY SHERIFF	227
MOUNT CARMEL POLICE	158
NORMAL POLICE	115
ROCKFORD POLICE	216
WINNEBAGO COUNTY SHERIFF	181

Table 6 Agencies with More Than 100 Dog Sniffs

In addition to the number of sniffs conducted, data is also gathered to identify how often the dog alerts, how often a subsequent search of the vehicle is conducted and whether or not contraband is found. The results are shown in Table 7. It is interesting to observe that the results of searches based on dog sniffs are more productive (that is the hit rate is higher) than those of consent searches.

	White	Minority
Total Dog Sniff Searches	4518	3406
Dog Alerts (% of Searches)	3634(80%)	2716(80%)
Search Performed (% Alerts)	3512 (97%)	2627 (97%)
Contraband Found (% Performed)	2259 (64%)	1516(58%)

Table 7 Results of Dog Sniff Searches

Appendix A: Interpreting Agency Reports

In this section we illustrate how to interpret an agency report. There are two components to each report. The first provides a comparison by race on several measures. The second part provides the “raw” data that is used to conduct the analysis. We begin with the analysis section. The first part of the report provides summary information on the number of stops of White and Minority drivers, the estimated minority driving population for that community, and the ratio.

The next part of the report provides information about the reason for the stop. The percentages provided describe the distribution *within each race*. For example, we observe that there were 1,978 stops of minority drivers for equipment violations. This represented about 28% of all the minority stops.

In the third section we describe the outcome of the stop. You will observe that not all agencies issue written warnings, and thus each stop will be classified as either a citation or a verbal warning/stop card.

Next, we can see information about consent searches. Although we include consent search data for all agencies, readers should take great care in drawing conclusions when an agency has fewer than 50 consent searches per year.

Finally, we can observe data about the use of drug detection dogs.

ILLINOIS TRAFFIC STOP STUDY, 2018	
Agency:	ROCKFORD POLICE

Stops		
	White Drivers	Minority Drivers
Total Stops	5021	7150
Percentage Stops	41.25	58.75
Duration (Mean\Median)	11\10	11\10
Estimated Minority Driving Population		34.93
Ratio		1.68

Reason for Stop				
	White Drivers		Minority Drivers	
Total Stops	5021		7150	
Moving Violations	3045	60.65%	3897	54.50%
Equipment Violations	1082	21.55%	1978	27.66%
Licensing / Registration Violations	892	17.77%	1273	17.80%
Commercial Vehicle Violations	2	0.04%	2	0.03%

Outcome of Stop				
	White Drivers		Minority Drivers	
Total Stops	5021		7150	
Citation	1856	36.96%	2814	39.36%
Written Warning	1039	20.69%	1085	15.17%
Verbal Warning/ Stop Card	2126	42.34%	3251	45.47%

Vehicle Consent Searches				
	White Drivers		Minority Drivers	
Total Stops	5021		7150	
Requested	179	3.57%	449	6.28%
Granted	159	88.83%	398	88.64%
Performed	146	91.82%	372	93.47%
Found	23	15.75%	43	11.56%

Dog Sniff Searches				
	White Drivers		Minority Drivers	
Total Stops	5021		7150	
Vehicle Dog Sniff Searches	73	1.45%	143	2.00%
Dog Alerts	38	52.05%	77	53.85%
Search Performed	36	94.74%	66	85.71%
Contraband Found	27	75%	35	53.03%

Key Indicators	Total	WH	AA	AI	HIS	ASN	NH	N/S
Stops	12171	5021	5226	1182	541	179	22	0
Duration(Mean/Median)	11\10	11\10	11\10	12\10	10\10	10\10	8\8	0\0
Reason For Stop	Moving	6942	3045	2766	740	260	117	0
	Equipment	3060	1082	1482	287	167	36	0
	License	2165	892	978	154	113	26	0
	Commercial Vehicle	4	2	0	1	1	0	0
	N/S	0	0	0	0	0	0	0
Outcome of Stop	Citation	4670	1856	1985	646	97	81	0
	Written Warning	2124	1039	750	253	47	25	0
	Verbal Warning/SC	5377	2126	2491	283	397	73	0
	NS	0	0	0	0	0	0	0
Vehicle Consent Searches	Requested	628	179	387	28	29	5	0
	Granted	557	159	341	25	27	5	0
	Performed	518	146	318	22	27	5	0
	Found	66	23	35	6	2	0	0
Dog Sniff Searches	Sniffs	216	73	116	14	12	0	1
	Alerts	115	38	68	6	2	0	1
	Alert Search	102	36	57	6	2	0	1
	Found	62	27	32	2	1	0	0

Appendix B: Non-complying Agencies

APPLE RIVER POLICE
BAYVIEW GARDENS POLICE
BEMENT POLICE
BRADFORD POLICE
BUDA POLICE
BUFFALO-MECHANICSBURG POLICE
BUREAU POLICE
CAVE-IN-ROCK POLICE
CHICAGO METRA POLICE
CREAL SPRINGS POLICE
CROSSVILLE POLICE
EARLVILLE POLICE
ELKVILLE POLICE
ENFIELD POLICE
EWING POLICE
FAIRBURY POLICE
FAIRVIEW POLICE
FAYETTEVILLE POLICE
FILLMORE POLICE
FITHIAN POLICE
FREEMAN SPUR POLICE
GOREVILLE POLICE
HUTSONVILLE POLICE
INDIANOLA POLICE
IRVING POLICE
JOPPA POLICE
KILBOURNE POLICE

MARINE POLICE
MAZON POLICE
MCNABB POLICE
NAUVOO POLICE
NEW BOSTON POLICE
NIANTIC POLICE
PETERSBURG POLICE
PLYMOUTH POLICE
POCAHONTAS POLICE
PRAIRIE DU ROCHER POLICE
RAYMOND POLICE
RIDGWAY POLICE
ROSSVILLE POLICE
SPAULDING POLICE
ST. FRANCISVILLE POLICE
ST. JOHNS POLICE
STEWARDSON POLICE
TAMMS POLICE
THOMPSONVILLE POLICE
TOLEDO POLICE
VILLA GROVE POLICE
WARSAW POLICE
WAYNE CITY POLICE
WESTFIELD POLICE
WINCHESTER POLICE
XENIA POLICE
ZEIGLER POLICE