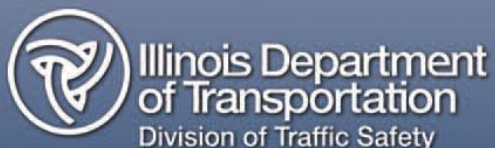
Illinois Traffic Stop Study

2011 Annual Report

Submitted by Alexander Weiss Consulting, LLC



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Introduction

This is the eighth annual report of the Illinois Traffic Stop Study. Alexander Weiss Consulting, LLC prepared it for the Illinois Department of Transportation (IDOT). This report describes statewide results and related issues. A separate document includes the results from each of the reporting law enforcement agencies.

This report examines several items:

- Reporting procedures
- Agency participation
- Stop and citation 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
- Next Year's Report

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 until July 1, 2015. [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
- 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.

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 then attached to the agency's final report.

[1] Public Act 096-0658

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

Agency participation

In 2011, 984 law enforcement agencies in Illinois submitted traffic stop data to IDOT. This number is up from 2010 when 982 agencies submitted data. The following thirty-two agencies failed to comply with the data submission requirement:[3]

ALTAMONT POLICE	NAPLATE POLICE
BLUFFS POLICE	NEPONSET POLICE
BRIDGEPORT POLICE	NORTH UTICA-UTICA POLICE
BUFFALO-MECHANICSBURG POLICE	ODIN POLICE
DALLAS CITY POLICE	SAN JOSE POLICE
DOWNS POLICE	SPAULDING POLICE
ENFIELD POLICE	ST. FRANCISVILLE POLICE
FAYETTEVILLE POLICE	SUMMERFIELD POLICE
FITHIAN POLICE	THEBES POLICE
GREAT LAKES NAVAL STATION	TILDEN POLICE
GREENVIEW POLICE	TISKILWA POLICE
HURST POLICE	TOULON POLICE
KEITHSBURG POLICE	VALIER POLICE
KINMUNDY POLICE	WARSAW POLICE
MAQUON POLICE	WASHBURN POLICE
MCNABB POLICE	WESTFIELD POLICE

Table 1 Non-complying Agencies

Traffic Stops

In 2011 law enforcement agencies in Illinois reported 2,167,550 traffic stops to IDOT. This is 210,301 fewer stops than 2010, or an 8.8% reduction. Figure 1 illustrates the number of traffic stops for the eight years of the Traffic Stop Study (2004-2011) on a statewide basis. We can observe a rather substantial decline beginning in 2010. Since 2008 traffic stops are down by 14%. While the reasons for this reduction in stops are not clear, it is consistent with significant reductions in police staffing and activities that have been observed since the onset of the economic downturn. [4] The stop data is also provided in Table 2.

[3] There are some agencies in Illinois that do not make any traffic stops, and thus they are not included in this analysis.

[4] "The Impact of the Economic Downturn on American Police Agencies." Office of Community Oriented Police Services. October 2011.

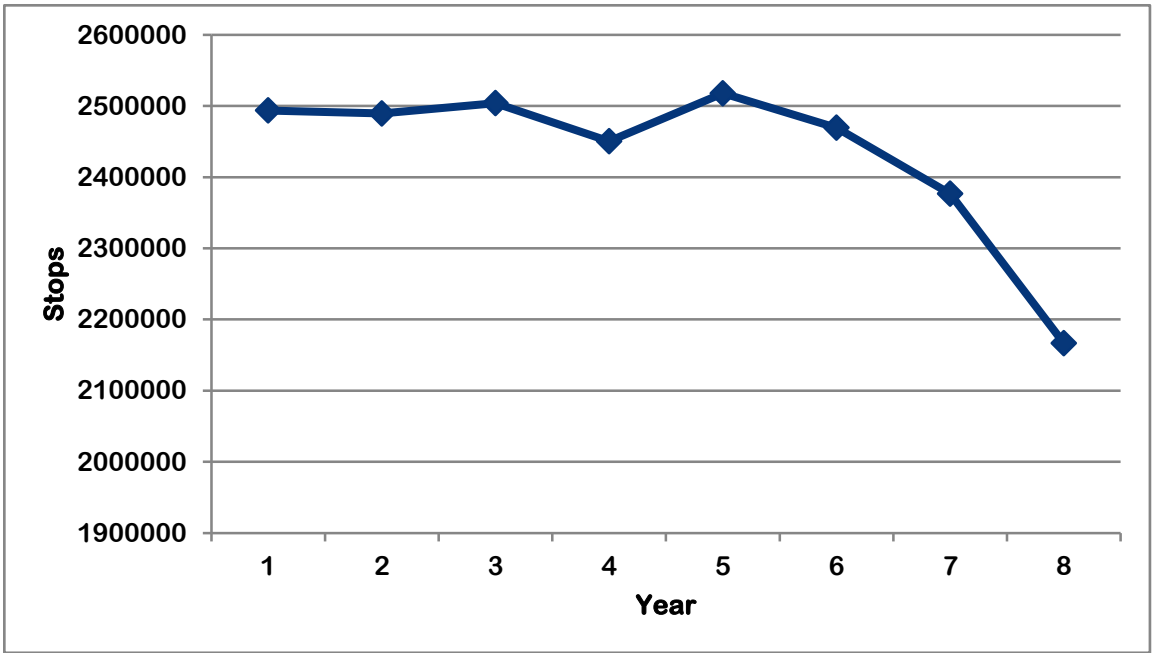

Figure 1 Traffic Stops 2004-2011

Year	Stops
2004	2493687
2005	2489326
2006	2503956
2007	2450348
2008	2517611
2009	2469404
2010	2376672
2011	2166613

Table 2 Traffic Stops 2004-2011

In Figure 2 we observe that the reduction in stops is not similar across races. Since 2008 the number of stops of Caucasian drivers has decreased 15%. For the same period stops of minority drivers have decreased by 12%.

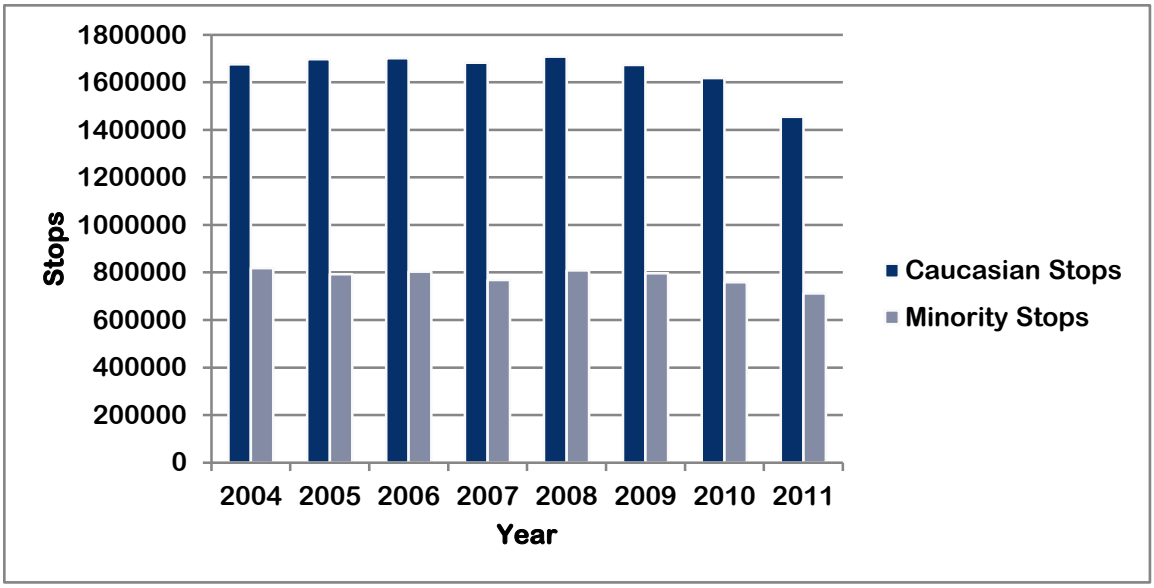

Figure 2 Statewide Traffic Stops 2004-2011 by Race

Citations

Next we turn to traffic citations. In 2011 law enforcement officers in Illinois wrote 1,185,830 citations during reported traffic stops. A citation was issued in 55% of all stops. Like traffic stops, the number of citations has been decreasing in recent years. Figure 3 illustrates the number of citations issued during each of the eight years of the study. Since 2008 citations have decreased by 22%.

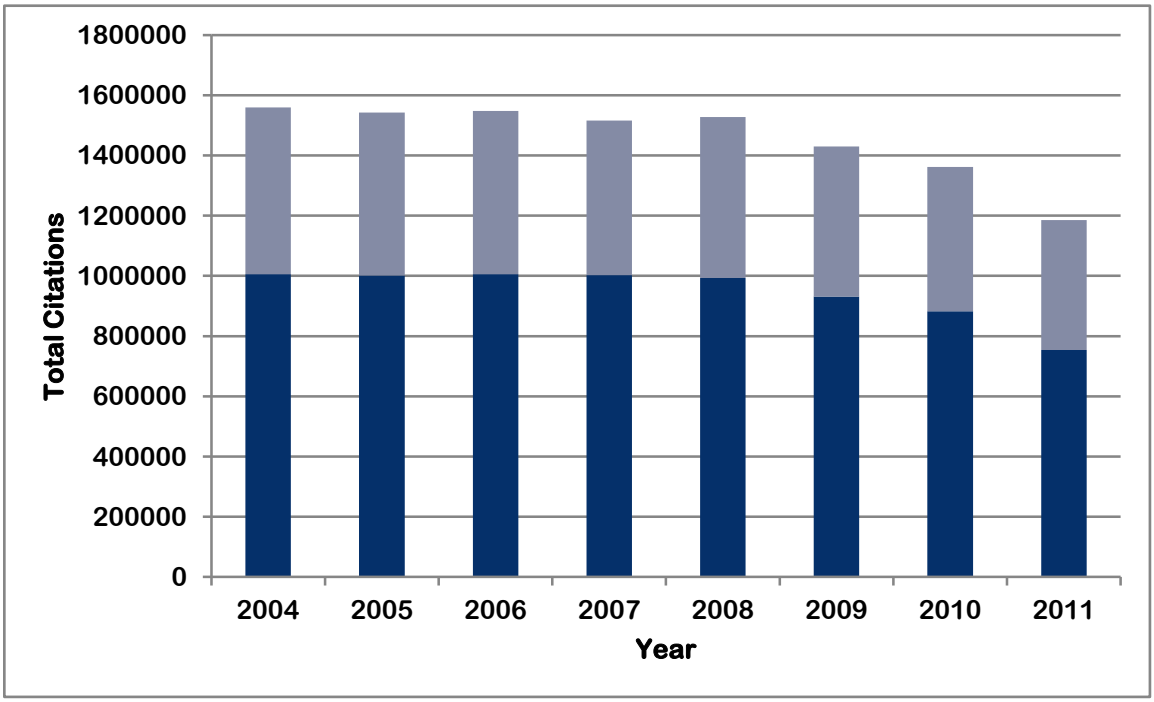

Figure 3 Total Citations by Year 2004-2011

In Figure 4 we examine the number of citations written each year by race. Since 2008 the number of citations written to Caucasian drivers has decreased by 24%. By contrast the number of citations issued to minority drivers has declined by 19%.

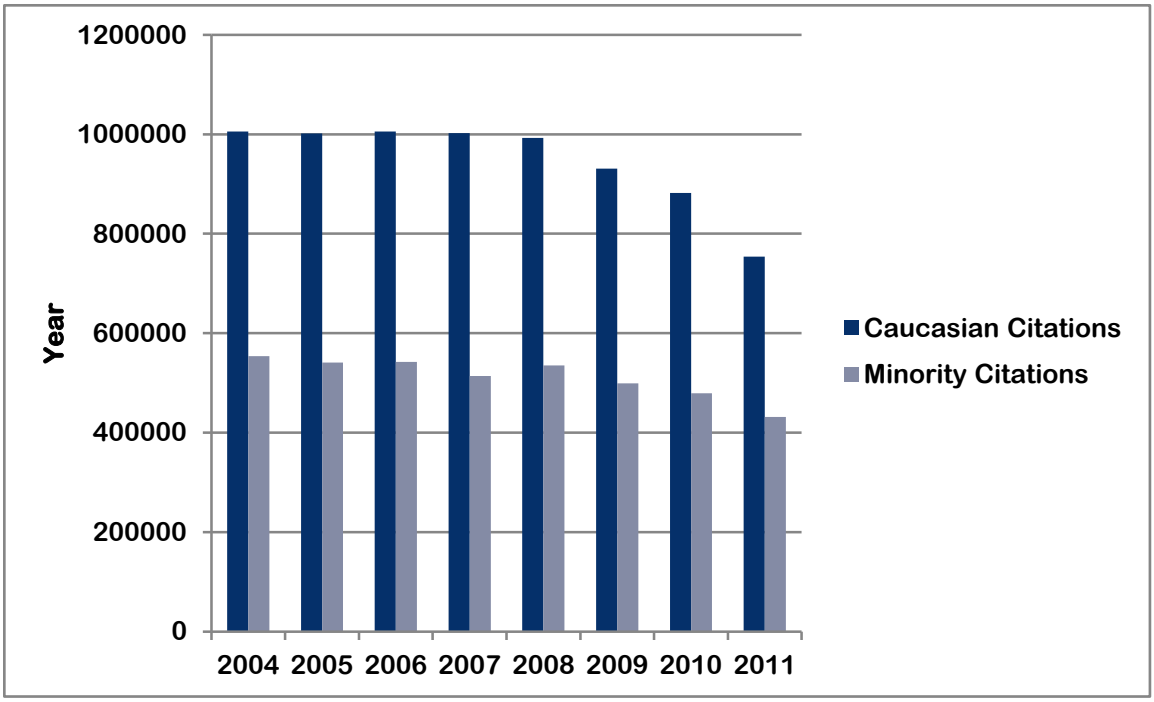

Figure 4 Stops and Citations by Year

Figure 5 shows the number of stops and citations by race for 2011.

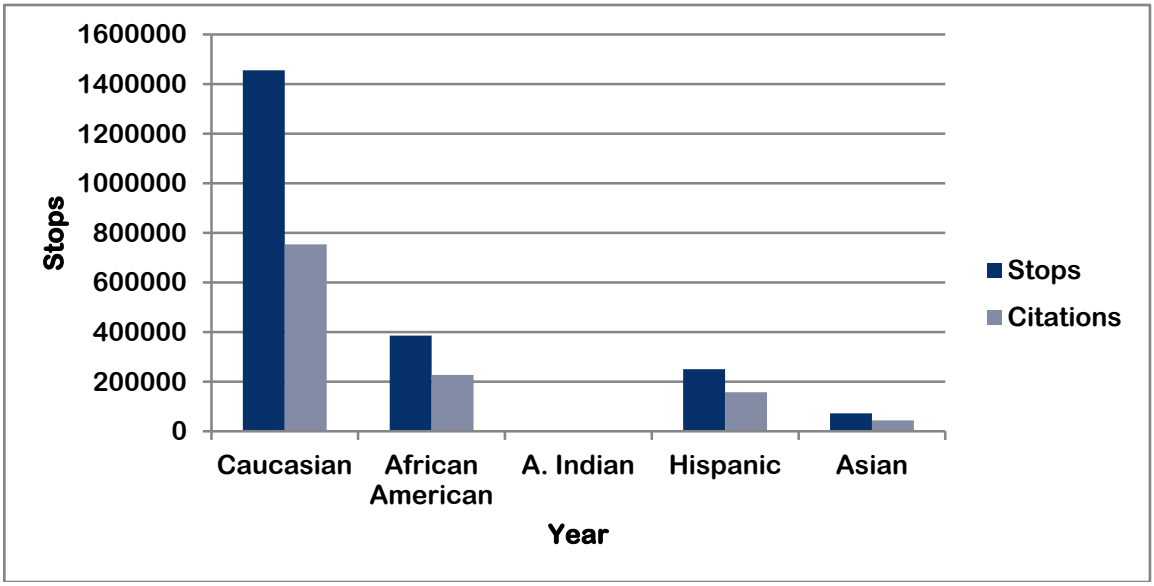

Figure 5 Statewide Stops and Citations by Race 2011

Ratios

Our analysis uses several measures to test the extent to which race plays a part in traffic stops. We have classified theses 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 driving population, or as it is often called, the "benchmark". [5]

To illustrate this idea, consider an agency in which 22% of traffic stops involved minority drivers. In this same community the estimated 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 population. A ratio of 2, for example, would indicate that a minority driver was twice as likely to be stopped than we would expect.[6]

In 2011 the statewide ratio was 1.16, up slightly from 2010 when the ratio was 1.14. Figure 6 illustrates the distribution of ratios across the reporting agencies. As we can see 56% of the law enforcement agencies had ratios below 1.25, while 19% had ratios of 2 or greater.

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

[6] A ratio of zero occurs when an agency makes no stops of minority drivers.

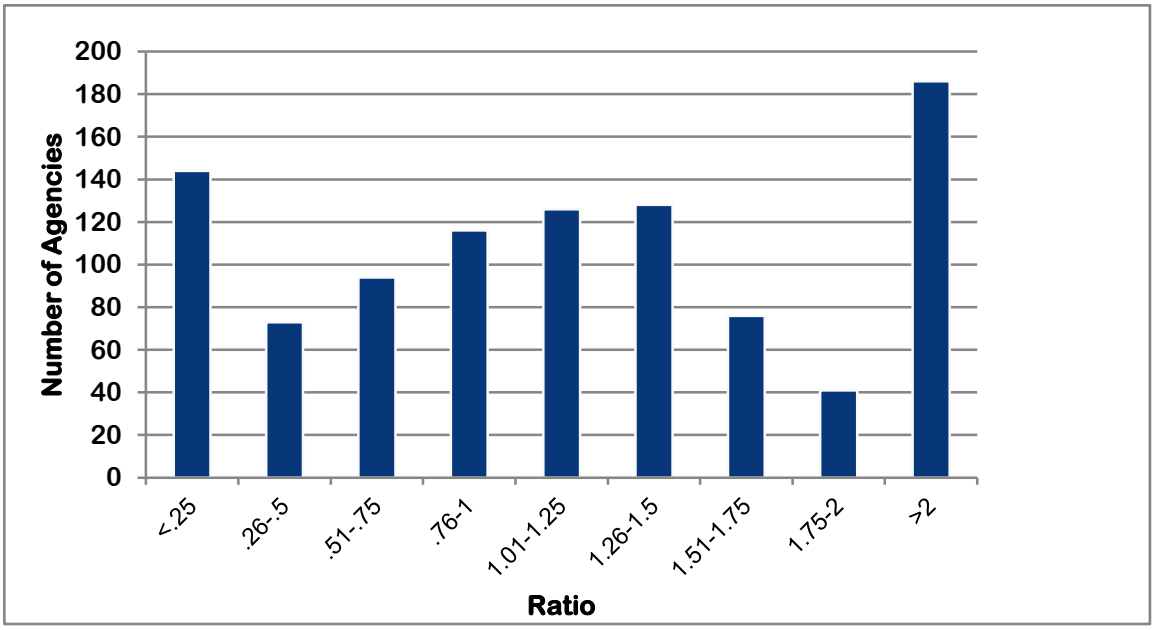

Figure 6 Distributions of Ratios by Agency, 2011

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 7. As we can see, on a statewide basis minority drivers are less likely to be stopped for a moving violation, but the differences are not very large, and the distribution is very similar to prior years.

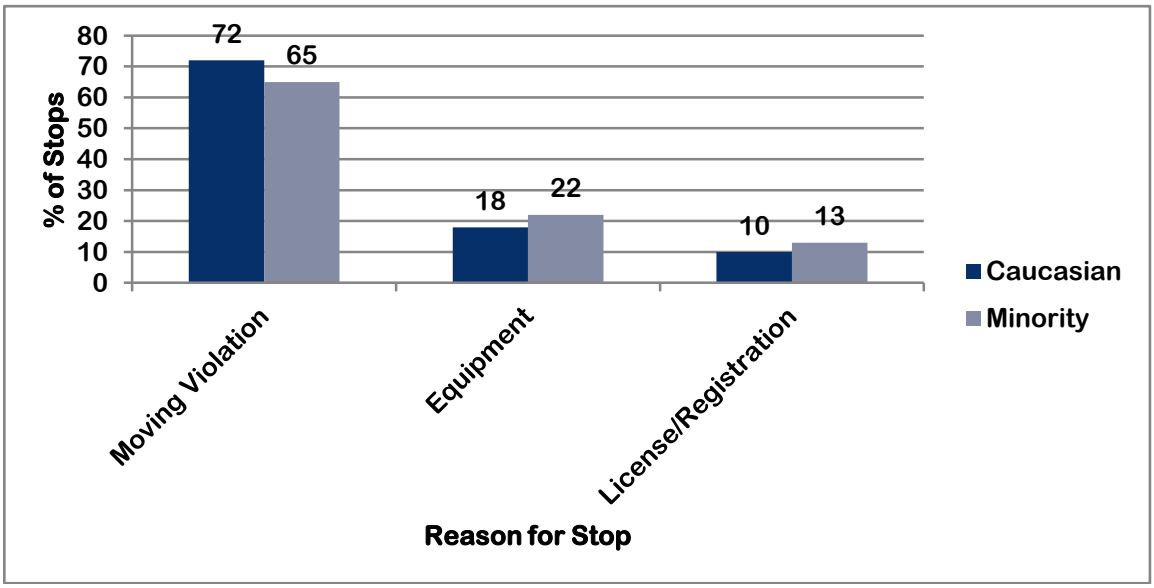

Figure 7 Reasons for Stop by Race

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.

Since January 2007, police officers have been required to include data about the duration of traffic stops. The purpose of adding this data element was to test whether minority drivers are subjected to longer stops than Caucasian drivers.

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.[7] In 2011 the mean duration for stops of Caucasian drivers was 11 minutes and for minority drivers it was 12. The median duration for both groups was 10 minutes.

Figure 8 illustrates the mean and median duration times by race for statewide data.

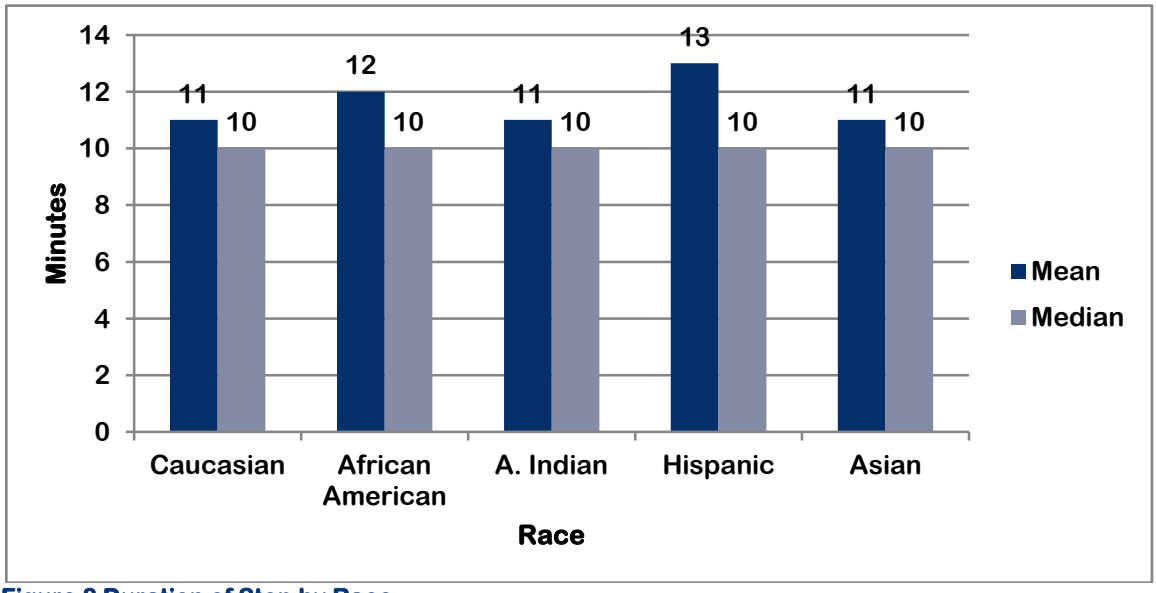

Figure 8 Duration of Stop by Race

[7] If an agency finds big differences between the mean and median duration times it is important to closely examine the data to determine whether there are real differences by race or anomalies related to data collection.

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. [8] The following figures illustrate the results of this analysis. Figure 9 compares Caucasian drivers and minority drivers on the three possible outcomes. Figure 10 looks at citation rates for individual races. These figures illustrate that there are different outcomes for minority drivers, and particularly, that minority drivers are more likely to be cited than Caucasian drivers.

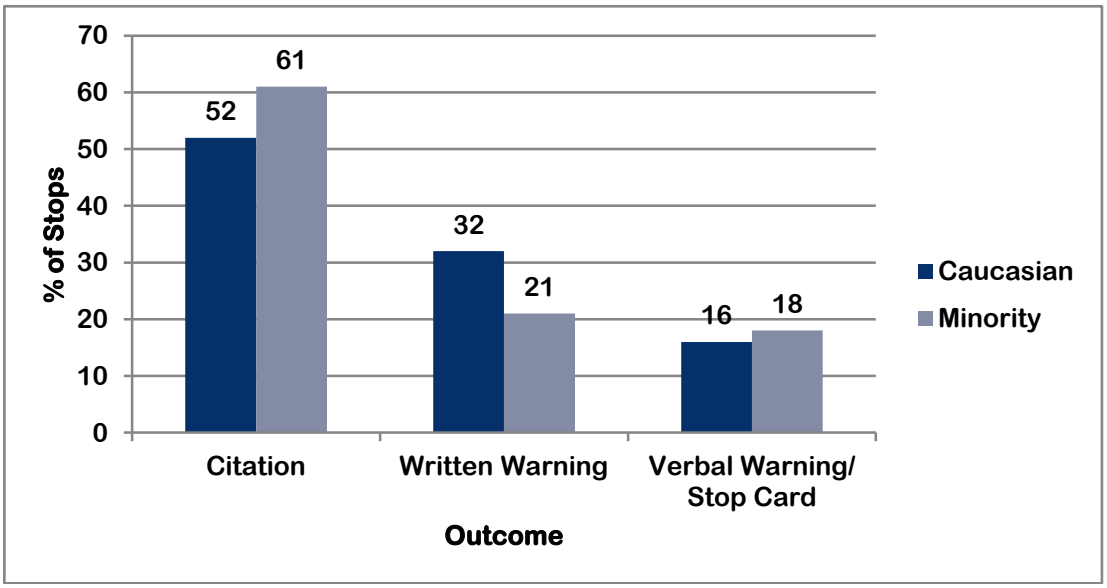

Figure 9 Outcomes of Stops by Race

[8] Not all agencies issue written warnings.

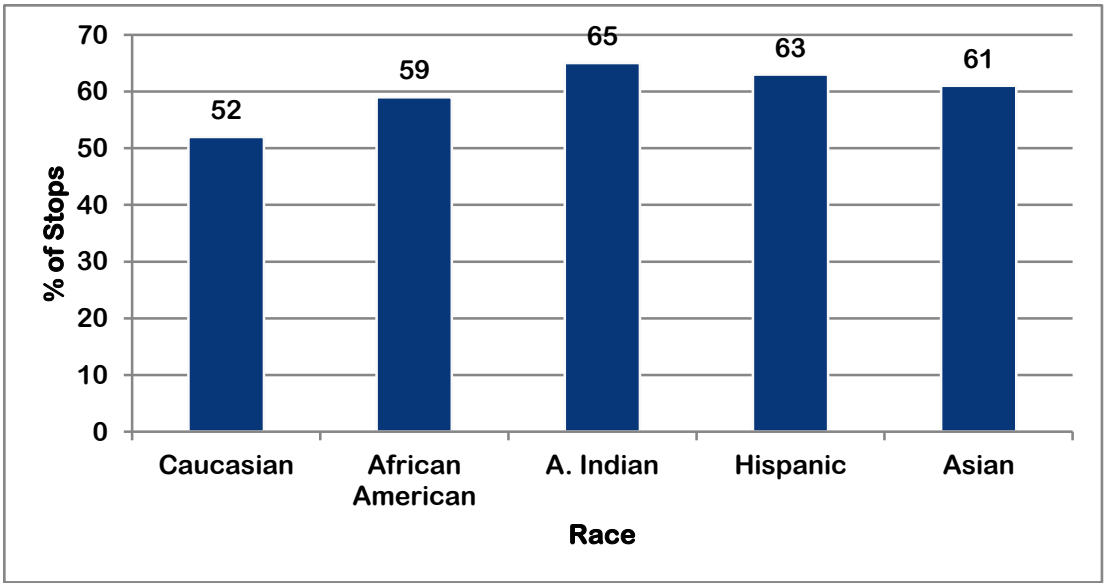

Figure 10 Percentages of Stops Resulting in a Citation by Race

Consent Searches

The final post-stop analysis examines consent searches. 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.

Consent searches are often a point of contention. For example, the City Council of Fayetteville, North Carolina recently imposed a moratorium on consent searches after an analysis suggested a disproportionate use of the technique. The moratorium was subsequently lifted, but officers in that city must now obtain written consent before conducting the search. [9]

In prior reports we have demonstrated that consent searches are applied disproportionately by race in Illinois, however, this year the data suggests that the situation is improving. We begin by examining how often consent searches take place. In our analysis we treat the consent search has a four step-process:

- Was a consent search requested?
- Was permission to conduct the search granted?
- Was the search conducted?
- Was contraband found during the consent search?

In 2011, police officers performed 25,148 vehicle consent searches. Figure 11 illustrates the total number of searches performed and the number performed by race. As we can see the total number of consent searches performed has dropped nearly every year since the study began. In fact, the number of searches conducted in 2011 was 44% lower than 2004. Figure 11 also indicates that the number of consent searches performed of the vehicles of minority drivers has decreased by 55% since 2004. By comparison, consent searches of Caucasian drivers have been reduced by 30% since 2004.

[9]http://abclocal.go.com/wtvd/story?section=news/local&id=8565333

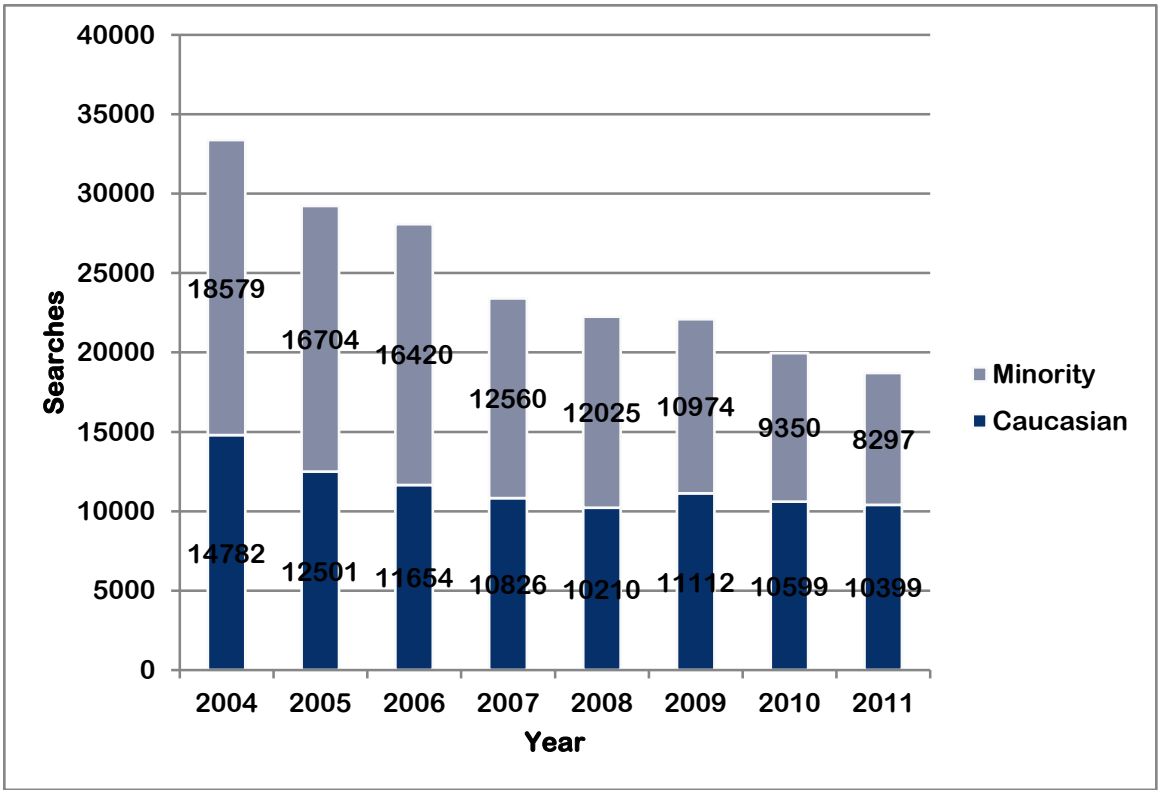

Figure 11 Consent Searches Performed 2004-2011 by Race

In Table 3 we examine the consent search data by individual race for 2011. There are important data in these findings. First, we observe how infrequently consent searches are conducted. Second, we observe the decision to permit a consent search of a vehicle varies by race. Hispanic and Asian drivers are much more likely to consent to a search than other drivers. Second, African American and Hispanic drivers are still more likely to be the subject of a vehicle consent search than other drivers, relative to how frequently they are stopped.

	Caucasian	African American	American Indian	Hispanic	Asian
Stops	1454508	385838	3639	250737	71891
Requested	14947	6299	26	3621	255
Granted (% Of Requested)	10864 (73%)	5202 (83%)	22 (85%)	3266 (90%)	232 (91%)
Performed (% of Stops)	10399 (.7%)	4917 (1.3%)	22 (.6%)	3133 (1.2%)	225 (.3%)

Table 3 Consent Search Process by Race

Interestingly the disparity between consent searches for Caucasian, Hispanic and African-American drivers is getting smaller. This is illustrated in Figure 12. In 2004 an African-American driver was three times as likely to be consent searched than a Caucasian driver. In 2011 that ratio was less than two.

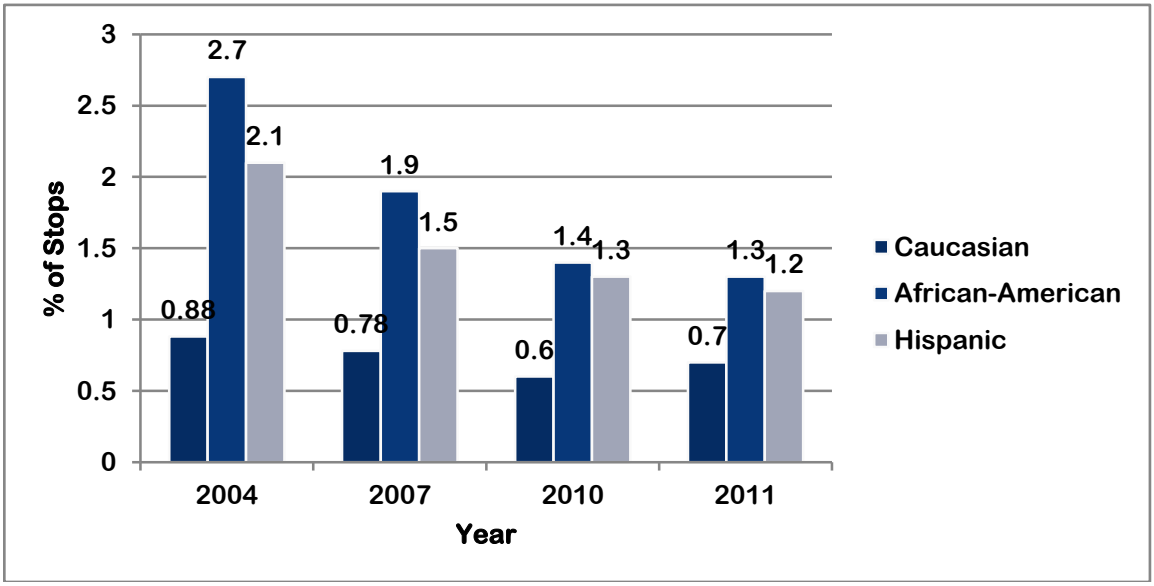

Figure 12 Percentages of Stops Resulting in a Consent Search by Race

Next we examine whether a consent search resulted in a seizure of contraband, defined as drugs, drug paraphernalia, alcohol, weapons, stolen property 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 2011 when the vehicle of a Caucasian driver was consent searched, police officers found contraband **26%** of the time. By contrast when a vehicle driven by a minority driver was consent searched, officers found contraband **20%** of the time. In Table 4 we describe the hit rates by individual race.

	Caucasian	African American	American Indian	Hispanic	Asian
Stops	1454508	385838	3639	250737	71891
Performed	10399	4917	22	3133	225
Contraband Found (% of Performed)	2733 (26%)	1053 (21%)	5 (23%)	546 (17%)	44 (20%)

Table 4 Consent Search "Hit Rates" by Race

In Figure 13 we illustrate the relationship between driver race and whether contraband was found. For example, Caucasian drivers were involved in 56% of all

stops in which a consent search was performed, but 63% of the time contraband was found during a stop it was in a vehicle driven by a Caucasian driver. By contrast, Hispanic drivers were involved in 17% of consent searches but in only 12% of the cases in which contraband was found.

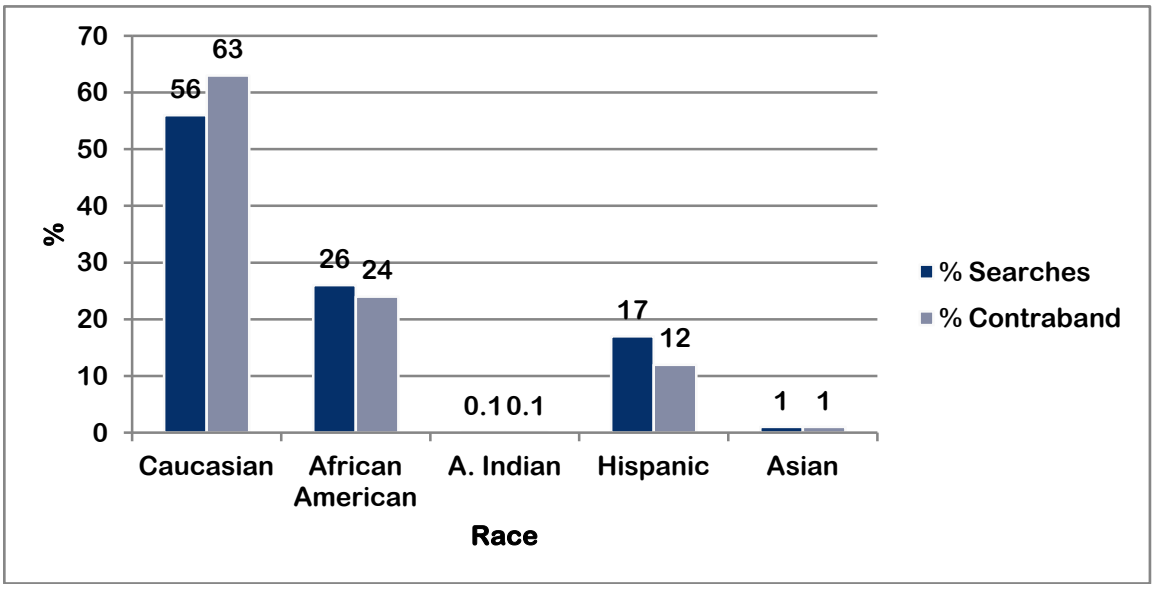

Figure 13 Races and Found Contraband

Next Year's Report

In 2011 the Illinois State Legislature mandated two significant changes to the Traffic Stops Statistics Study. For the 2012 Annual Report the study will use a different set of racial classifications. The new categories are:

- Black or African American
- Hispanic or Latino
- Asian
- Native Hawaiian or Other Pacific Islander
- American Indian or Alaska Native
- White

The second change to the report will be the inclusion of data concerning the use of drug sniffing police canines. We will report on the frequency of these searches and their results.

Finally, we will introduce new minority driving estimates based on the 2010 US Census.

Appendix: 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 Caucasian 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 321 stops of minority drivers for equipment violations. This represented 30.34 % 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.

Finally, 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.

ILLINOIS TRAFFIC STOP STUDY, 2011	
Agency:	NORTHBROOK POLICE

Stops		
	Caucasian Drivers	Minority Drivers
Total Stops	3574	1058
Percentage Stops	77.16	22.84
Duration (Mean\Median)	9\8	11\10
Estimated Minority Driving Population		19.61
Ratio		1.16

Reason for Stop				
	Caucasian Drivers		Minority Drivers	
Total	3574		1058	
Moving Violations	2590	72.47%	616	58.22%
Equipment Violations	622	17.40%	321	30.34%
Licensing / Registration Violations	362	10.13%	121	11.44%

Outcome for Stop				
	Caucasian Drivers		Minority Drivers	
Total	3574		1058	
Citation	1104	30.89%	358	33.84%
Written Warning	1737	48.60%	409	38.66%
Verbal Warning/ Stop Card	733	20.51%	291	27.50%

Consent Searches				
	Caucasian Drivers		Minority Drivers	
Total	3574		1058	
Requested	59	1.65%	13	1.23%
Granted	50	84.75%	13	100%
Performed	48	96%	13	100%
Found	4	8.33%	3	23.08%

Key Indicators		Total	Caucasian	African American	Am. Indian	Hispanic	Asian	N/S
Stops		4632	3574	207	7	502	342	0
Duration(Mean/Median)		10\8	9\8	10\8	9\10	13\10	9\8	0\0
Reason For Stop	Moving	3206	2590	113	5	241	257	0
	Equipment	943	622	61	1	189	70	0
	License	483	362	33	1	72	15	0
	N/S	0	0	0	0	0	0	0
Outcome Of Stop	Citation	1462	1104	55	4	181	118	0
	Written Warning	2146	1737	94	2	174	139	0
	Verbal Warning/ SC	1024	733	58	1	147	85	0
	N/S	0	0	0	0	0	0	0
Consent Searches	Requested	72	59	3	0	6	4	0
	Granted	63	50	3	0	6	4	0
	Performed	61	48	3	0	6	4	0
	Found	7	4	1	0	0	2	0