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TASK FORCE INFORMATION:

The I.D.O.T. Traffic Stop Data Task Force was established by Urbana City Council Resolution NO. 2014-01-002.

The Task Force is charged with identifying and studying any racial disparities that may exist in local traffic stop data supplied annually to the City by the Illinois Department of Transportation (I.D.O.T.), and attempting to find the source and cause of any disparity. The Task Force is directed to examine multiple aspects of the traffic stop data, including race, driver age, residence, stop time, stop location, the reason for the stop, vehicle age, and any other information the Task Force finds to be useful. The Task Force will also look beyond traffic stop data to consider census and unemployment data, high school graduation rates, and incarceration statistics from the September 2013 study of the Champaign County justice system.

FOR ADDITIONAL INFORMATION ABOUT THE TASK FORCE:

On the web, visit http://urbanaillinois.us/boards/idot-traffic-stop-data-task-force; or

Contact the Urbana Human Relations Office by mail to: 400 South Vine Street, Urbana, Illinois 61801-3336; by email to hro@urbanaillinois.us; by telephone to (217) 384-2455; or by fax to: (217) 328-8288.

Rev. 09/02/2015 - Note: Contains new section, "Section 8: Traffic Stops and Cannabis."

Statistical Appendix

Overview

This appendix contains the analyses reported in the Urbana IDOT Traffic Stop Data Task Forces final report. The appendix is organized as follows:

Section 1: IDOT Disparities presents the yearly disparity ratios from the IDOT report, as well as disparties for each racial group (Whites, African Americans, Hispanics, and Asians). Both the total and race-specific figures are calculated by comparing the proportion of stops that involve a minority driver (or specific racial group) to the estimated proportion of the driving population in Urbana that are minorities or from a specific racial group.

Section 2: Demographic and Socio-economic Differences explores demographic and socio-economic differences that may factor into the observed disparities in traffic stops. Specifically, this section examines differences in the driver age, vehicle age, and gender of drivers stopped. It also provides a description of driver residency.

Section 3: Traffic Stops and Patterns of Policing examines the relationship between calls for service, traffic stops, and the racial composition of neighborhoods in Urbana. The analysis is limited to 2010-2013 (the years for which data on calls for service are available). The primary unit of analysis here is the Urbana Police Department's geocode. Urbana is divided into five police beats. Each beat is divided into smaller regions called geocodes, which are used to report the locations of both stops and calls for service There are around a 140 unique geocodes in the data depending on the year. Geocodes vary in size. In residential neighborhoods, they generally correspond to several city blocks, and are somewhat larger in more commercial areas or sparsely populated sections of Urbana. Estimates for the minority population of each geocode were obtained from the 2010 U.S. Census. The data for the race of residents in Urbana are avaialbe at the Census block level. Estimates of the racial compositin of each geocode were obtained by taking a weighted average of corresponding census blocks contained within that geocode. The section also explores whether, conditional on the number of calls for service, the precent of minoirities living in a geocode also predicts the number of traffic stops, through regression analyses, some of which control for the possibility of spatial dependence in the data.

This section also provides local estimates of the disparity in traffic stops for each geocode. As with the measures reported in Section 1, for each geocode, we compare the proportion of stops involving a minority driver to the estimated minority population living in that area. Finally, the section also explores disparities in the Urbana Police Department's Selective Traffic Enforcement Program (STEP), a project designed to address high levels of accidents and other community concerns through concentrated policing.

Section 4: Testing for Racial Profiling Using the Veil of Darkness presents the results from a series of tests designed for racial profiling using a procedure called the "Veil of Darkness."[1]. The logic of this test is outlined in the main body of the report. The first pair of figures show the set of stops that occur during the inter-twilight period that are used in the analysis. The three tables correspond to set of logistic regressions with three different outcomes:

- Whether the driver stopped was a minority (1 if minority, 0 if white)
- Whether the driver stopped was African American (1 if African American, 0 if not)
- Whether the driver stopped was African American or White (1 if African American, 0 if white, Asian and Hispanic drivers are excluded from these models)

The first column in each table presents the simplest model, testing whether whether drivers stopped when it is dark out are more or less likely to be minority or African American. A negative coefficient here would

[1] See Grogger, Jeffrey, and Greg Ridgeway. "Testing for racial profiling in traffic stops from behind a veil of darkness." *Journal of the American Statistical Association* 101.475 (2006): 878-887.

suggest evidence of profiling since when it is dark out, it should be harder to determine the driver's race. The next model adds a control for time of day, since the driving population at 5 pm may differ from the driving population at 8 pm. The third model, also this effect to vary non-linearly through a cubic spline. The fourt model, then alows the effects of darkness to vary conditionally on the time of day. The final model then allows these conditional effects to vary by year as well. The figures associated each table are produced from the estimates of the fifth model. The solid line shows the predicted effect of darkness on the log-odds that a driver is a minority or African American at different times of day. The dotted lines provide a 95 percent confidence interval for these estimates. When the prediction (solid line) and its confidence interval (dotted lines) are below zero (dashed line) this provides evidence that is consistent with the presence of racial profiling.

Section 5 Disparities in Financial Impact examines the average fines and types of fines associated with traffic stops for each racial group.

Section 6: Additional Analysis contains a number of other descriptive summaries of the data, breaking down the types, rates of citation, searches, contraband and duration of stops by racial group.

Please feel free to contact Paul Testa (ptesta2@illinois.edu), the chair of the Task Force's Statistics Subcommittee, with any questions, comments, or concerns.

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1 IDOT Disparities

IDOT Disparity Ratios by Year

The State of Illinois requires that police departments collect information on traffic stops for the purpose of assessing racial bias, disparities and profiling in policing. One approach to measuring racial disparities with these data is to compare the proportion of minorities who are stopped to the estimated proportion of minority drivers in the population. The disparity measured by this ratio for Urbana, IL, from 2004 to 2013 ranges between a high of 1.7 in 2010 and a low of 1.07 in 2012.

Table 1: Yearly IDOT Disparity Ratios

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
# White Stops	1948	1707	2131	1854	2194	2240	1476	1463	2169	2365
# Minority Stops	1602	1348	1884	1527	1831	2037	1603	1367	1582	1930
% Stops White	54.9	55.9	53.1	54.8	54.5	52.4	47.9	51.7	57.8	55.1
% Stops Minority	45.1	44.1	46.9	45.2	45.5	47.6	52.1	48.3	42.2	44.9
Min % of Driv Pop	30.6	30.6	30.6	30.6	30.6	30.6	30.6	30.6	39.5	39.5
Disparity	**1.47**	**1.44**	**1.53**	**1.48**	**1.49**	**1.56**	**1.7**	**1.58**	**1.07**	**1.14**

Yearly Disparities by Race

The observed disparity among minorities as a whole is due almost entirely to disparities in the rates at which African Americans are stopped, which ranges from a low of 1.71 in 2012 and 2013 to a high of 2.18 in 2010.

Table 2: Yearly Disparities by Race

African Americans	**AA Stops**	**Total Stops**	**% Total**	**Est % Population**	**Disparity**
2004	1227	3548	0.35	0.17	1.99
2005	1005	3049	0.33	0.17	1.9
2006	1401	4014	0.35	0.17	2.01
2007	1160	3380	0.34	0.17	1.97
2008	1332	4024	0.33	0.17	1.9
2009	1458	4275	0.34	0.17	1.96
2010	1169	3077	0.38	0.17	2.18
2011	992	2829	0.35	0.17	2.02
2012	1116	3746	0.3	0.17	1.71
2013	1273	4287	0.3	0.17	1.71
Hispanics	**HS Stops**	**Total Stops**	**% Total**	**Est % Population**	**Disparity**
2004	112	3548	0.03	0.05	0.63
2005	107	3049	0.04	0.05	0.7
2006	138	4014	0.03	0.05	0.68
2007	115	3380	0.03	0.05	0.68
2008	171	4024	0.04	0.05	0.84
2009	186	4275	0.04	0.05	0.86
2010	139	3077	0.05	0.05	0.9
2011	130	2829	0.05	0.05	0.91
2012	133	3746	0.04	0.05	0.71
2013	157	4287	0.04	0.05	0.73
Asians	**AS Stops**	**Total Stops**	**% Total**	**Est % Population**	**Disparity**
2004	261	3548	0.07	0.14	0.52
2005	230	3049	0.08	0.14	0.53
2006	344	4014	0.09	0.14	0.61
2007	251	3380	0.07	0.14	0.53
2008	327	4024	0.08	0.14	0.57
2009	391	4275	0.09	0.14	0.65
2010	293	3077	0.1	0.14	0.67
2011	244	2829	0.09	0.14	0.61
2012	328	3746	0.09	0.14	0.62
2013	492	4287	0.11	0.14	0.81
Whites	**WH Stops**	**Total Stops**	**% Total**	**Est % Population**	**Disparity**
2004	1948	3548	0.55	0.63	0.87
2005	1707	3049	0.56	0.63	0.89
2006	2131	4014	0.53	0.63	0.84
2007	1854	3380	0.55	0.63	0.87
2008	2194	4024	0.55	0.63	0.86
2009	2240	4275	0.52	0.63	0.83
2010	1476	3077	0.48	0.63	0.76
2011	1463	2829	0.52	0.63	0.82
2012	2169	3746	0.58	0.63	0.92
2013	2365	4287	0.55	0.63	0.87

Note: In 29 stops the drivers identified themselves as Native American. These cases are not included in the analysis above.

2 Demographic and Socio-economic Differences

Driver Residency

Table 3: Traffic Stops and Driver Residency

Driver From:	# Stops	% Total
Urbana	18974	0.52
Urbana-Champaign	27242	0.75
Local	28384	0.78
Within 50 Miles	30875	0.85
Chicago	505	0.01
Illinois	35425	0.98

Just over half of the drivers stopped from 2004-2013 had addresses in Urbana, IL. Three-quarters lived in Urbana-Champaign (Local includes Savoy and St Jospeh),about 85 percent lived within 50 miles, and close to 98 percent lived in-state.

Driver Age

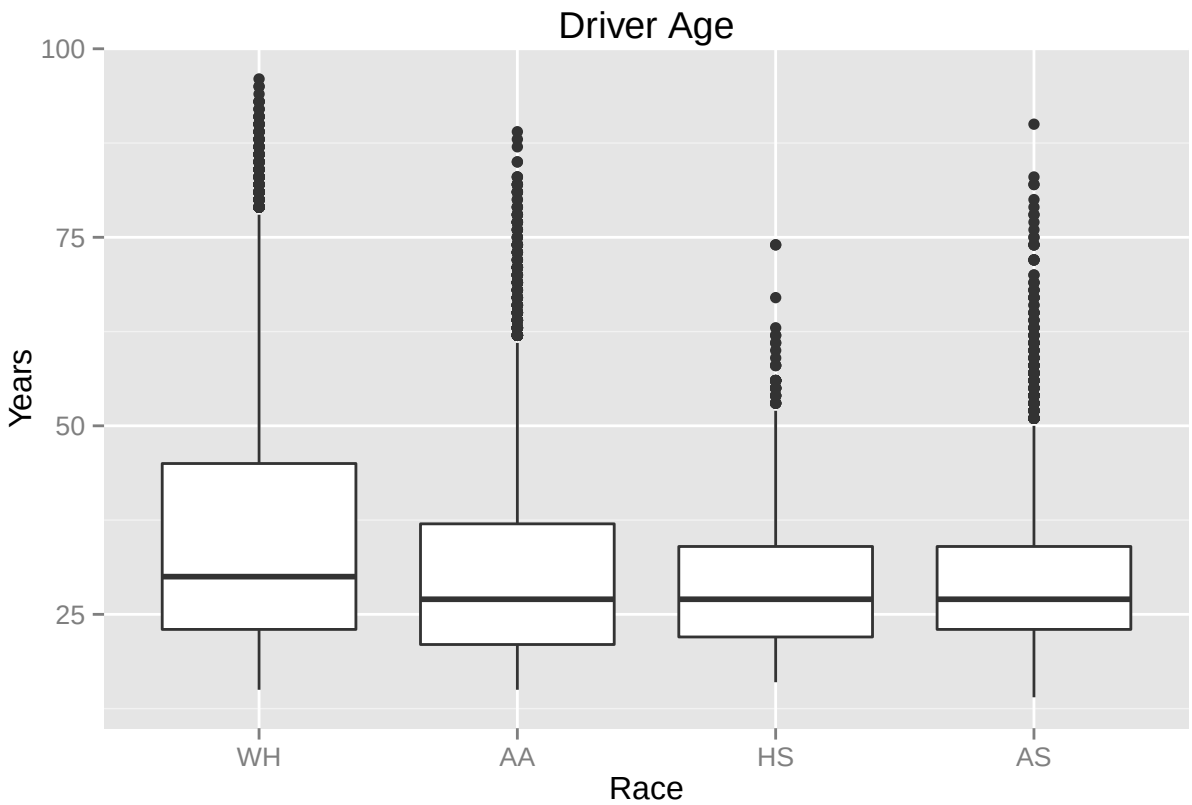


Figure 1: Distribution of Driver's Age by Race

Comments

There's greater variation in the age of white drivers, who also on average, tend to be slightly older than minority drivers.

Vehicle Age

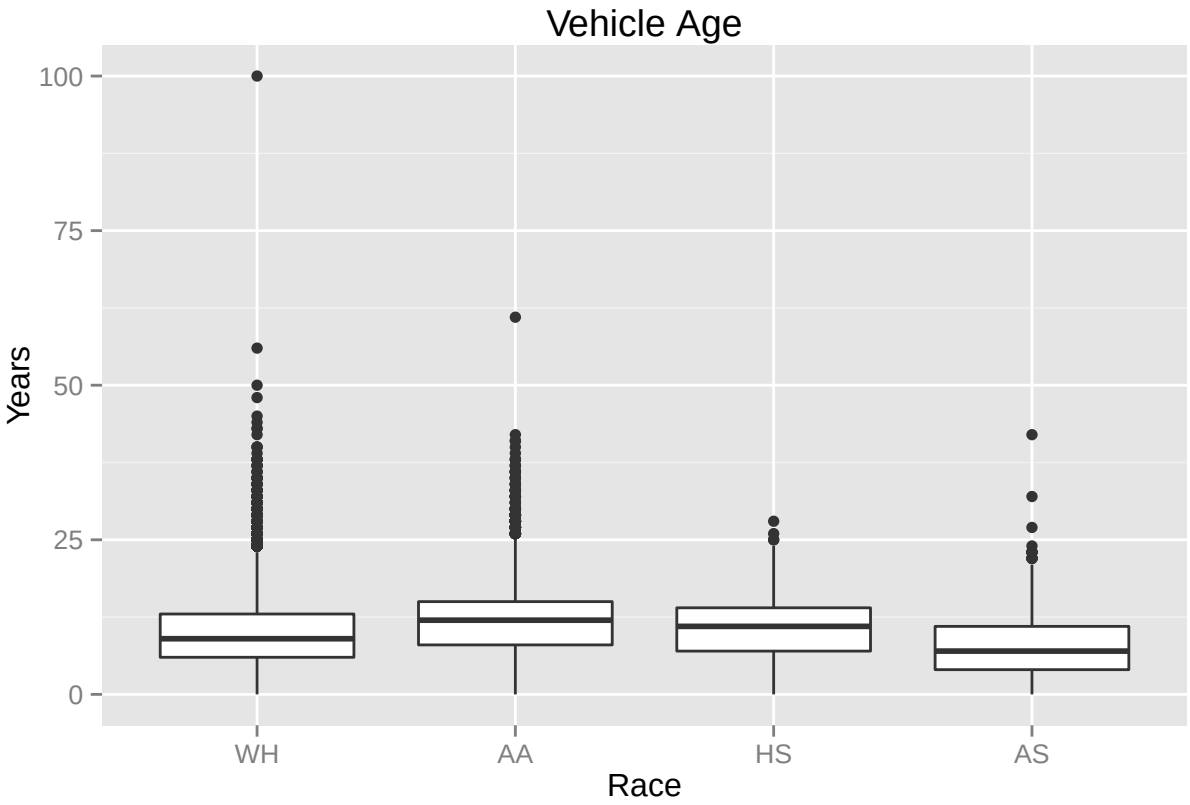


Figure 2: Distribution of Vehicle Age by Race

Comments

African Americans and Hispanics tend to drive slighltly older cars than Whites and Asians.

Gender

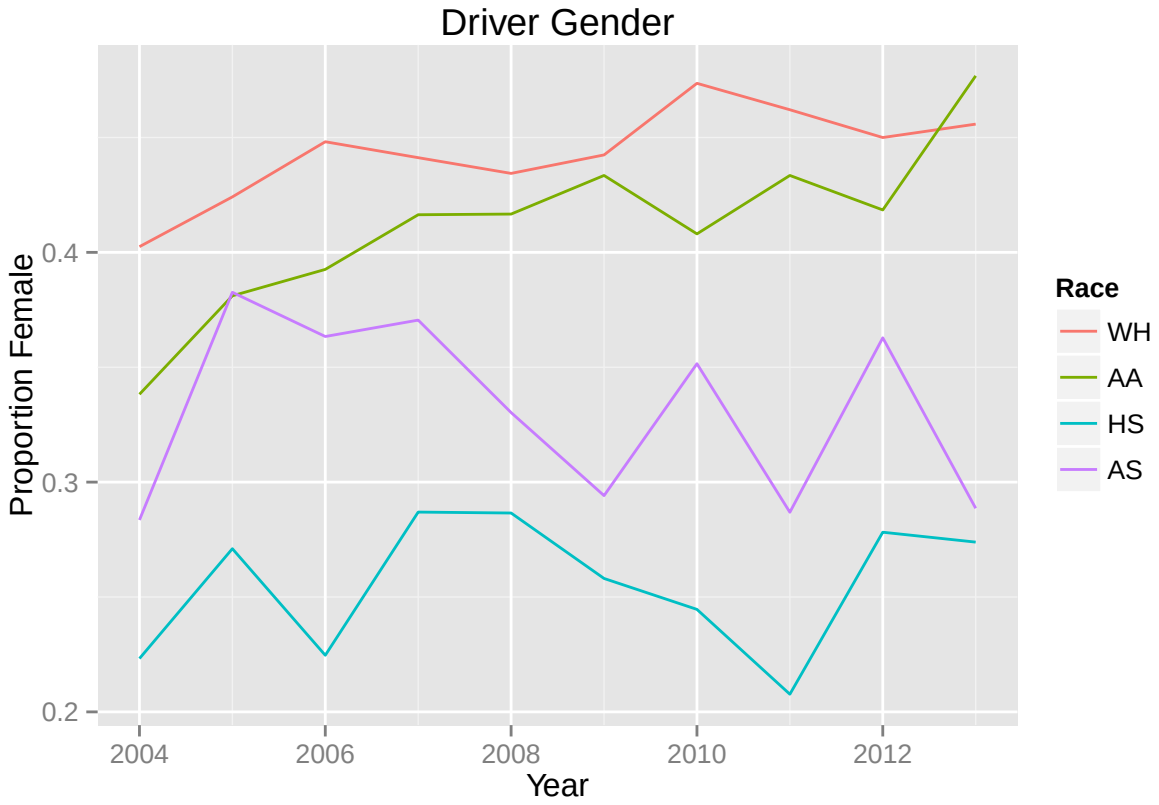


Figure 3: Proportion of Stopped Drivers who are Female

Comments

The figure shows the proportion of drivers stopped who are female for each racial group each year. For the most part, men are more likely to be stopped than women, particularly for Asians and Hispanics.

3 Traffic Stops and Patterns of Policing

Stops and Calls for Service

Calls for service 2010-2013

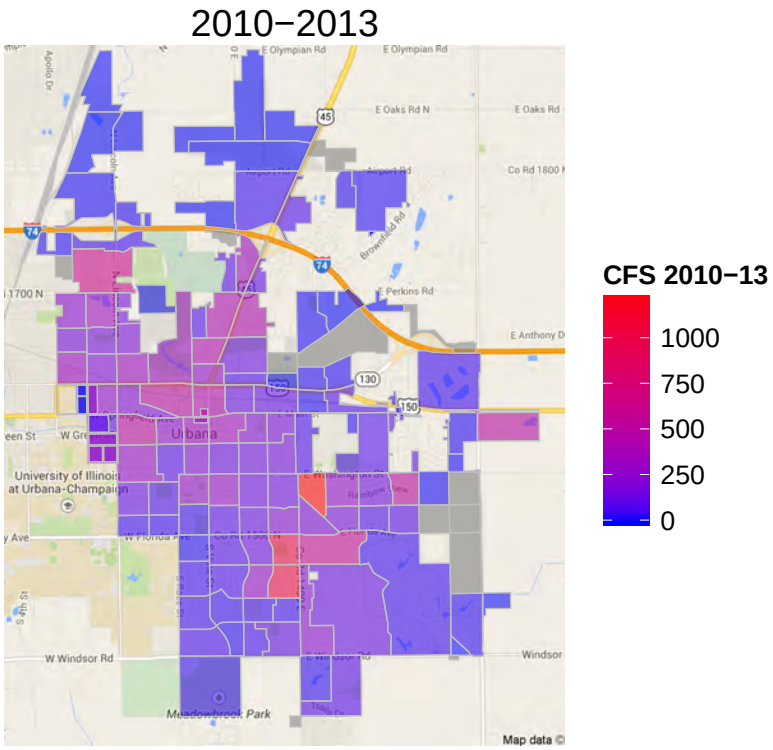


Figure 4: Total Calls for Service 2010-2013

Correlation between Calls for Service and Traffic Stops

Table 4: Correlations between CFS and Traffic Stops

	2010	**2011**	**2012**	**2013**	**2010-13**
Correlation	0.47	0.53	0.41	0.46	0.49

Table 5: Correlations between CFS and Minority Percent of Population

	2010	**2011**	**2012**	**2013**	**2010-13**
Correlation	0.30	0.33	0.29	0.29	0.31

Table 6: Correlations between CFS and Minority Percent of Population

	2010	**2011**	**2012**	**2013**	**2010-13**
Correlation	0.32	0.27	0.25	0.31	0.30

OLS Regressions of Stops on CFS and Minortiy population

The models below present the results from a series of regression analyses, examing how the total number of traffic stops in a police geocode varies accordding to the number of calls for service and the percentage of minorities that live in that geocode. The first set of models ignore the possibility for spatial dependence in the data which can bias the models estimates (i.e. that regions high or low values of our variables may cluster together). Statistical tests suggests there is spatial dependence in the data, and seem to a favor an autoregressive lag model.[2] Without controlling for spatial dependence, the minority population in the geocode is a larger positive predictor of the number of traffic stops in a region, when holding constant the number of calls for service. However, when the spatial dependence of the data is taken into account, the percent of minoirities living in an area is no longer a siginficant predictor of traffic stops.

Table 7

	Dependent variable:				
	TotStops	TotStops10	TotStops11	TotStops12	TotStops13
	(1)	(2)	(3)	(4)	(5)
TotCFS	0.250***				
	(0.056)				
crime2010		0.206***			
		(0.049)			
crime2011			0.194***		
			(0.038)		
crime2012				0.224***	
				(0.066)	
crime2013					0.348***
					(0.079)
Min.p	86.495**	22.731**	10.624	22.898*	32.782**
	(40.804)	(9.151)	(7.532)	(12.673)	(13.680)
pop	0.035	0.011	0.007	0.016	0.003
	(0.035)	(0.008)	(0.007)	(0.011)	(0.012)
Constant	27.335	4.936	7.655**	7.183	6.966
	(16.855)	(3.793)	(3.098)	(5.265)	(5.680)
Observations	138	138	138	138	138
R^2	0.268	0.267	0.298	0.202	0.244
Adjusted R^2	0.251	0.251	0.283	0.184	0.227
Residual Std. Error (df = 134)	107.202	24.133	19.651	33.500	36.159
F Statistic (df = 3; 134)	16.324***	16.302***	18.996***	11.293***	14.422***
Note:					*p<0.1; **p<0.05; ***p<0.01

[2]We also estimated autorgressive error models, and used a n-nearest neighbors weighting matrix. The results are substantively the same to those reported above.

Results controlling for Spatial Dependence

Neighbor Matrix

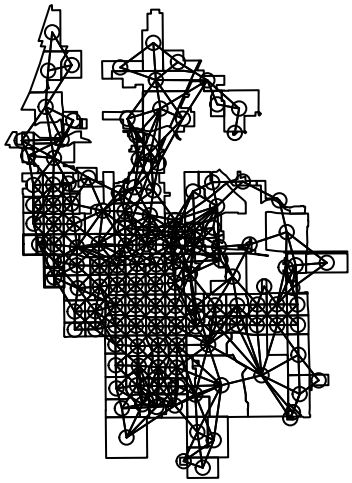


Table 8

	Dependent variable:				
	TotStops	TotStops10	TotStops11	TotStops12	TotStops13
	(1)	(2)	(3)	(4)	(5)
TotCFS	0.196***				
	(0.047)				
crime2010		0.175***			
		(0.041)			
crime2011			0.150***		
			(0.032)		
crime2012				0.169***	
				(0.058)	
crime2013					0.278***
					(0.069)
Min.p	27.400	7.395	3.178	8.045	13.278
	(35.002)	(7.842)	(6.397)	(11.253)	(12.099)
pop	0.005	0.005	0.001	0.008	−0.005
	(0.030)	(0.007)	(0.006)	(0.010)	(0.010)
Constant	1.900	−0.867	0.883	1.435	0.759
	(15.018)	(3.320)	(2.758)	(4.877)	(5.160)
Observations	138	138	138	138	138
Log Likelihood	−822.458	−616.065	−587.257	−666.629	−675.419
σ^2	8,232.247	412.572	271.271	871.020	987.938
Akaike Inf. Crit.	1,656.916	1,244.130	1,186.514	1,345.259	1,362.837
Wald Test (df = 1)	43.458***	46.260***	49.142***	30.576***	32.623***
LR Test (df = 1)	32.874***	34.102***	35.021***	23.495***	26.999***
Note:					*p<0.1; **p<0.05; ***p<0.01

Table 9

	Dependent variable:				
	TotStops	TotStops10	TotStops11	TotStops12	TotStops13
	(1)	(2)	(3)	(4)	(5)
TotCFS	0.217***				
	(0.049)				
crime2010		0.190***			
		(0.044)			
crime2011			0.164***		
			(0.034)		
crime2012				0.194***	
				(0.060)	
crime2013					0.298***
					(0.070)
Min.p	36.337	10.247	4.375	10.703	15.264
	(36.582)	(8.387)	(6.774)	(11.704)	(12.236)
pop	−0.007	0.003	−0.0003	0.006	−0.011
	(0.031)	(0.007)	(0.006)	(0.010)	(0.011)
Constant	2.627	−0.072	1.575	1.538	0.024
	(16.033)	(3.640)	(3.019)	(5.155)	(5.298)
Observations	138	138	138	138	138
Log Likelihood	−826.639	−622.712	−592.971	−670.086	−676.343
σ^2	8,937.304	468.077	302.843	934.684	1,008.693
Akaike Inf. Crit.	1,665.277	1,257.423	1,197.942	1,352.173	1,364.686
Wald Test (df = 1)	28.223***	22.917***	27.467***	17.897***	30.881***
LR Test (df = 1)	24.513***	20.808***	23.594***	16.581***	25.150***
Note:					*p<0.1; **p<0.05; ***p<0.01

Disparities by Geographic Region

Working with data from the 2010 census, we've produced population estimates weighted by the census block for the racial composition of the 130+ police geocodes.[3]

Population estimates by Geocode

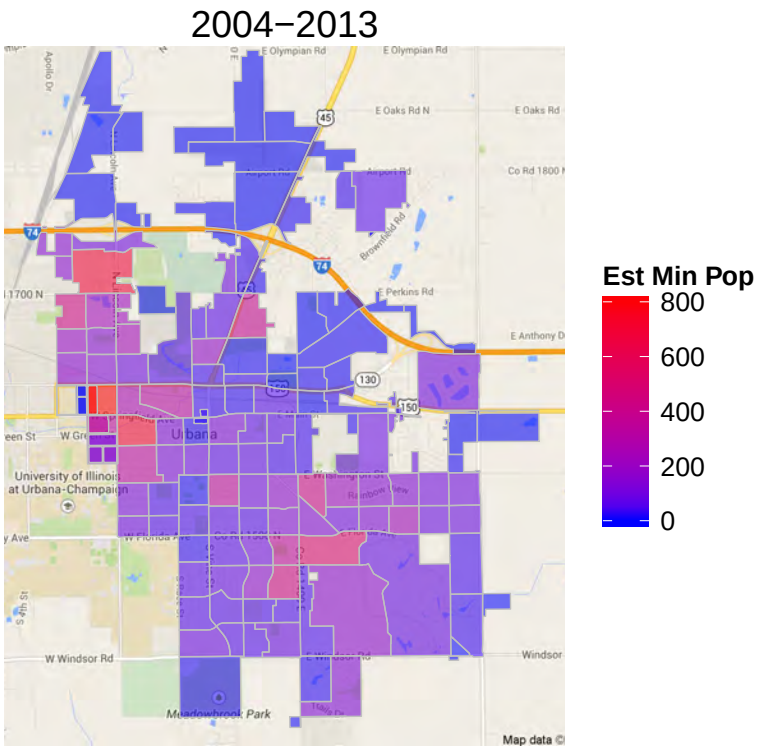


Figure 5: Estimated Minority Population

[3]Specifically, we overlayed the police geocode map onto the census block maps and then weighted populations for each block by the proportion of the blocks total area within the geocode. Consider a block with 10 people. If that block falls entirely within a geocode, all 10 are counted toward the estimated population of the geocode. If only half of the block falls within a geocode, that block would add 5 people to the estimate of the total population of that geocode.

Total Stops by Geocode

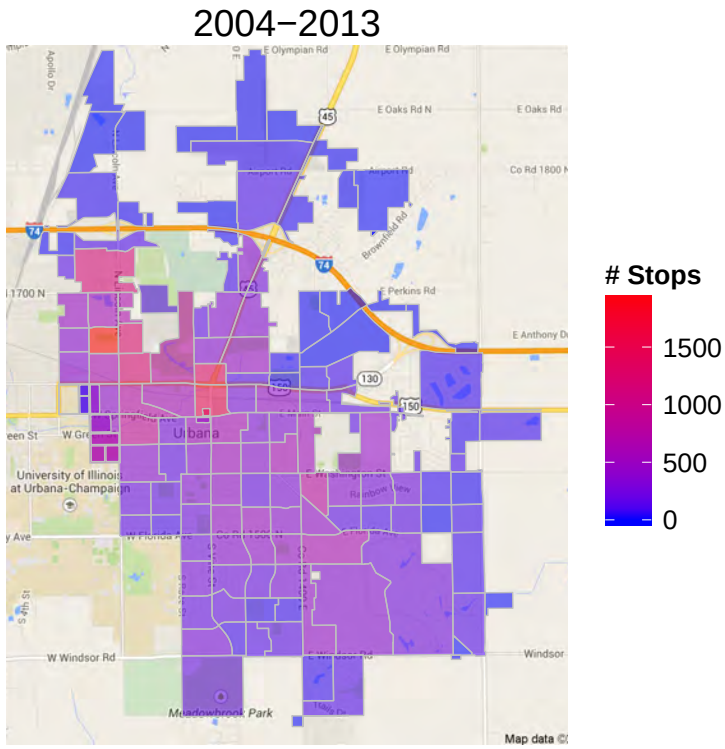


Figure 6: Estimated Minority Population

We can use information from the figures above to produce geocode-level measures of the IDOT disparity or relative risk of a minority being stopped based on the estimated minority population in each geocode. Spefically, for each geocode, i we calculate θ_i, a ratio of two proportions:

$$\theta_i = \frac{\frac{\text{Minority Stops}}{\text{Total Stops}}}{\frac{\text{Minority Population}}{\text{Total Population}}}$$

The figures below shows these estimates for each geocode, with blue being values below 1 (lower than expected risk of being stopped based on relative the proportion of minorities in the geocode's population), white being values close to 1 and red being values above 1 (more than expected risk). The same caveats about the IDOT measures apply to these, and note that when there few stops and/or small population in a geocode these estimates can be quite volatile.

Disparity Ratio 2004-2013

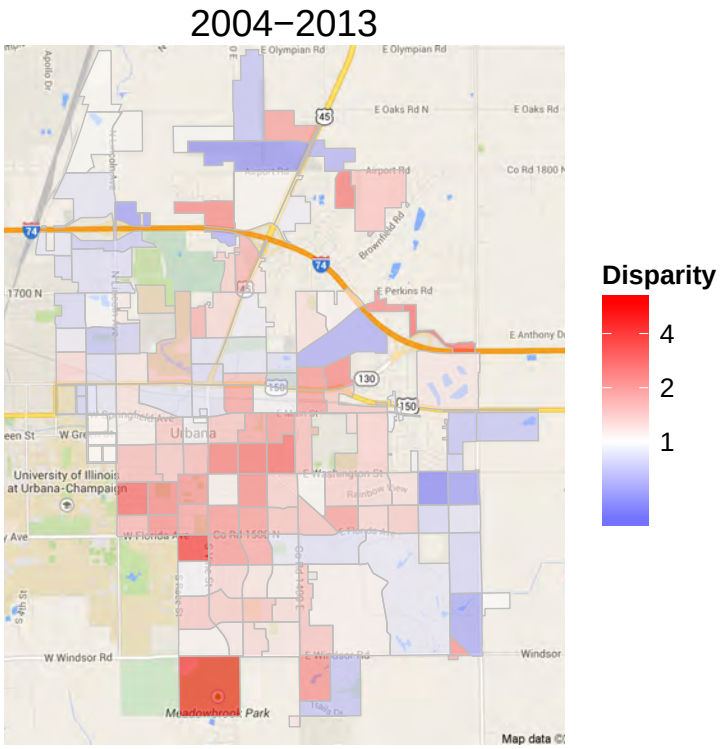


Figure 7: Disparty Ratio by Geocode

Recent Years: 2011-2013

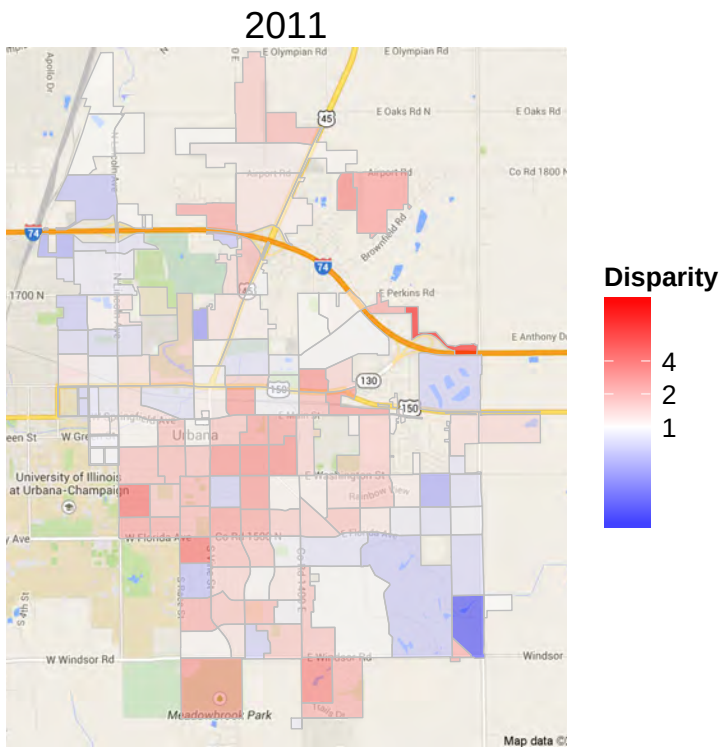


Figure 8: 2011 Disparty Ratio by Geocode

Only statistically significant disparties

To capture this volatility, we also constructed confidence intervals for the point estimates, that reflect the uncertainty of estimates where their are relatively few stops or small populations. The figures below shows the geocodes with $\theta > 1$ (i.e. more than expected risk) whose 95-percent confidence intervals do not include 1.

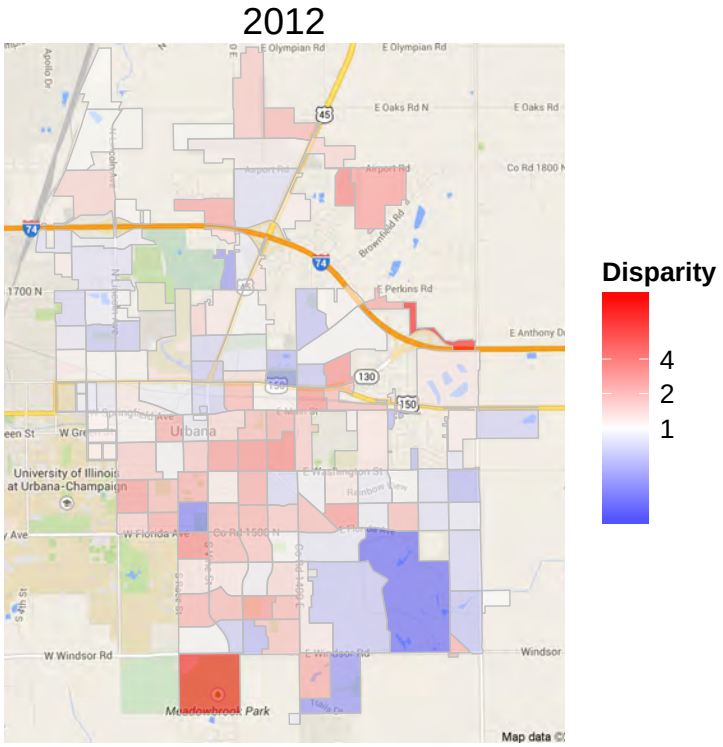


Figure 9: 2012 Disparty Ratio by Geocode

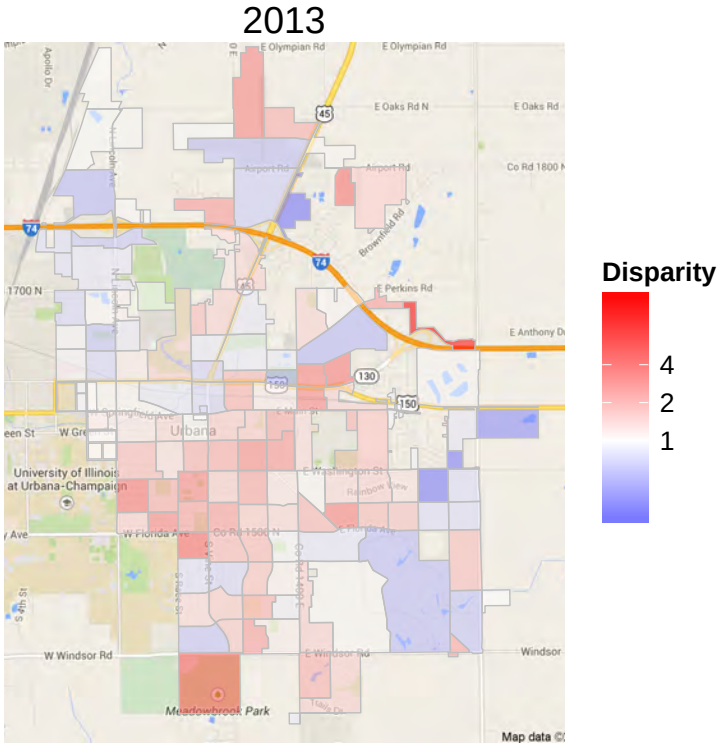


Figure 10: 2013 Disparty Ratio by Geocode

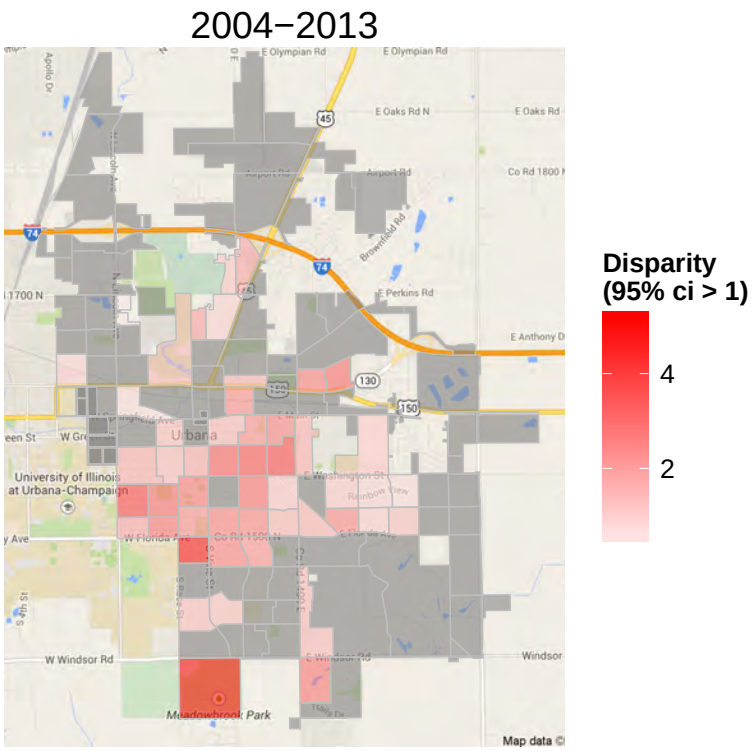


Figure 11: Statistically Significant Disparties by Geocode

Recent Years: 2011-2013 (Only statistically significant disparties)

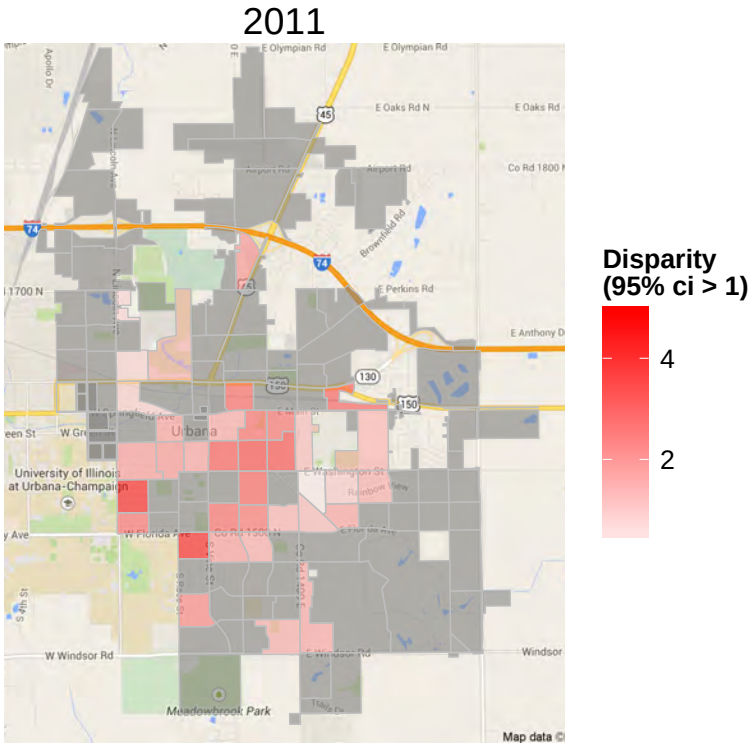


Figure 12: 2011 Disparty Ratio by Geocode

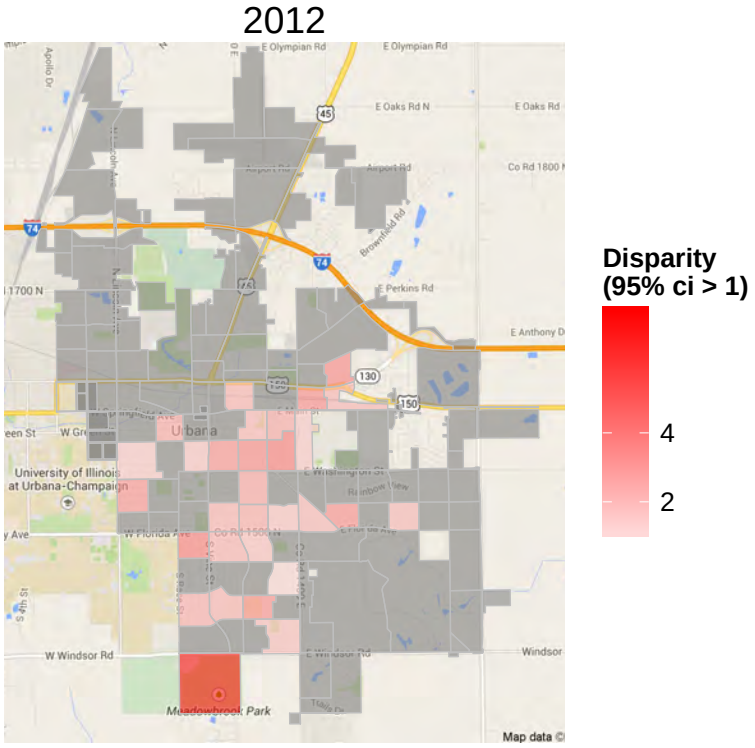


Figure 13: 2012 Disparty Ratio by Geocode

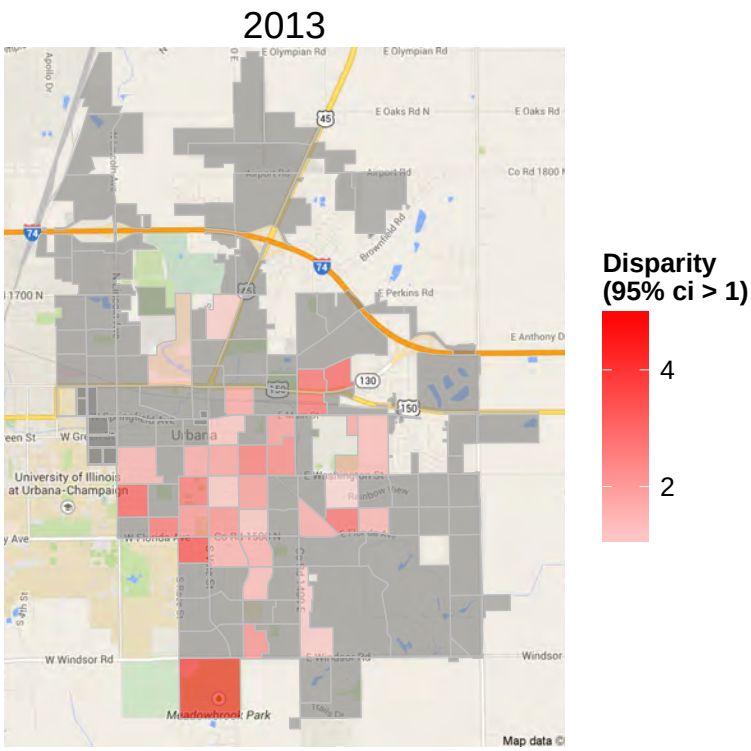


Figure 14: 2013 Disparty Ratio by Geocode

Stops and the STEPS program

Disparities are lower for STEP-stops relative to non-STEP stops

Table 10: Comparing Disparities in Steps vs Non-Steps Stops

	Est Pop %	STEPS	%	**STEPS Disp**	Non-STEPS	%	**Non-STEPS Disp**
White	63.14	588	65.33	**1.03**	1761	52.22	**0.83**
Black	17.39	195	21.67	**1.25**	1077	31.94	**1.84**
Hispanic	5.03	32	3.56	**0.71**	127	3.77	**0.75**
Asian	14.14	85	9.44	**0.67**	407	12.07	**0.85**
Minority	36.86	312	34.67	**0.94**	1611	47.78	**1.3**
Total		900	100		3372	0	

4 Testing for Racial Profiling Using the Veil of Darkness

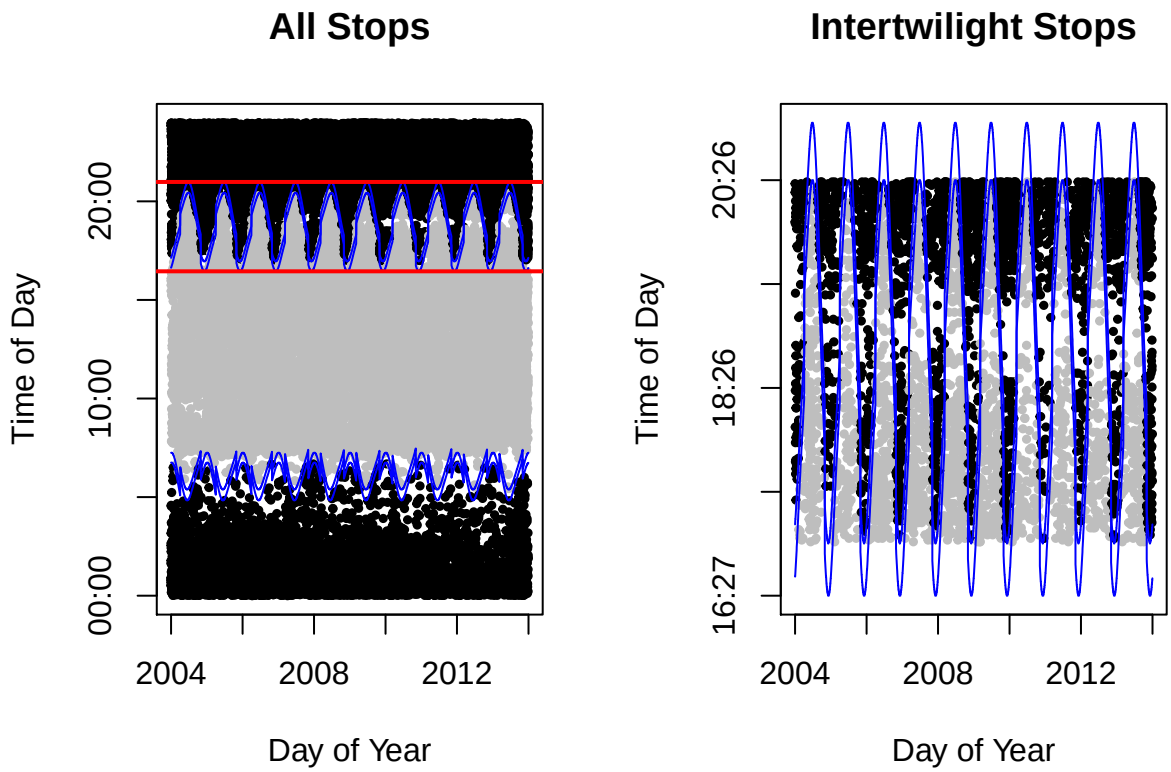


Figure 15: **Traffic Stops by Time of Day:** Grey dots show stops that occured during the day and black dots show stops that occurred at night. Blue lines show dawn,sunrise,sunset,dusk. Red lines (left panel) denote the intertwilight period (right panel) used in the veil of darkness analysis

Models

	No Time of Day	Linear Effect	Cubic Spline	Interaction	Year FE
Dark Out	0.12*	−0.13	−0.12	−0.97	−0.93
	(0.06)	(0.07)	(0.07)	(0.51)	(0.51)
Time of Day		0.00***			
		(0.00)			
Spline(Time of Day) 1			0.27	0.19	0.19
			(0.21)	(0.25)	(0.25)
Spline(Time of Day) 2			0.74*	0.42	0.42
			(0.34)	(0.45)	(0.45)
Spline(Time of Day) 3			0.88***	1.12***	1.12***
			(0.22)	(0.31)	(0.31)
Spline(Time of Day) 4			0.78***	0.32	0.35
			(0.18)	(0.34)	(0.34)
Spline(Time of Day) 5			1.30**	0.98	0.96
			(0.40)	(0.51)	(0.51)
Spline(Time of Day) 6			0.54**	0.63	0.56
			(0.17)	(0.48)	(0.49)
Dark Out X Spline(Time of Day) 1				0.72	0.67
				(0.53)	(0.53)
Dark Out X Spline(Time of Day) 2				1.20	1.22
				(0.81)	(0.81)
Dark Out X Spline(Time of Day) 3				0.30	0.25
				(0.58)	(0.58)
Dark Out X Spline(Time of Day) 4				1.05*	0.98*
				(0.50)	(0.50)
Dark Out X Spline(Time of Day) 5				1.90	1.90
				(1.16)	(1.16)
Dark Out X Spline(Time of Day) 6				0.01	0.08
				(0.53)	(0.54)
AIC	5991.48	5940.06	5945.93	5951.22	5948.63
BIC	6004.24	5959.19	5996.95	6040.52	6095.33
Log Likelihood	-2993.74	-2967.03	-2964.96	-2961.61	-2951.32
Deviance	5987.48	5934.06	5929.93	5923.22	5902.63
Num. obs.	4351	4351	4351	4351	4351

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

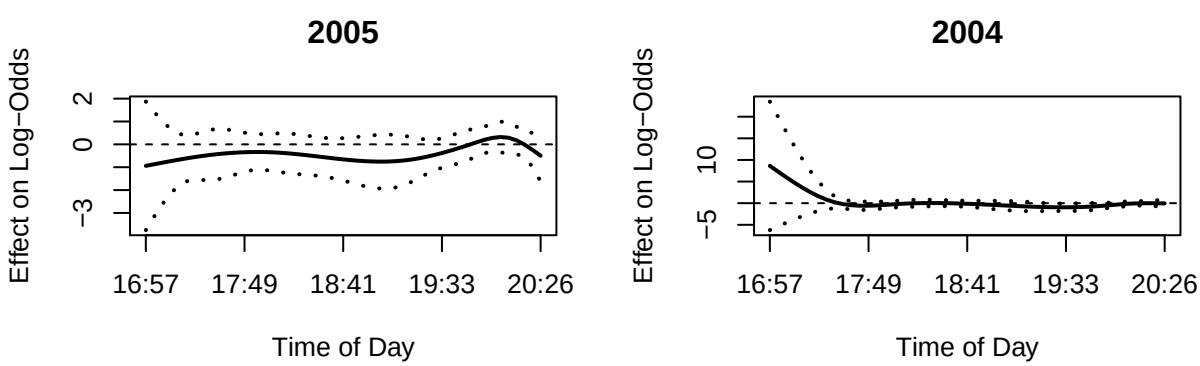
Table 11: Testing for Racial Profiling of Minorities

Yearly Estimates of Racial Profiling of Minorities with Log-Odds

	No Time of Day	Linear Effect	Cubic Spline	Interaction	Year FE
Dark Out	0.15*	−0.11	−0.10	−1.02	−0.92
	(0.06)	(0.07)	(0.07)	(0.56)	(0.56)
Time of Day		0.00***			
		(0.00)			
Spline(Time of Day) 1			−0.04	−0.11	−0.09
			(0.22)	(0.27)	(0.27)
Spline(Time of Day) 2			0.72*	0.41	0.34
			(0.36)	(0.47)	(0.48)
Spline(Time of Day) 3			0.83***	1.15***	1.18***
			(0.23)	(0.31)	(0.32)
Spline(Time of Day) 4			0.62**	0.06	0.06
			(0.19)	(0.36)	(0.36)
Spline(Time of Day) 5			0.94*	0.43	0.41
			(0.43)	(0.54)	(0.54)
Spline(Time of Day) 6			0.52**	0.52	0.48
			(0.18)	(0.50)	(0.50)
Dark Out X Spline(Time of Day) 1				0.71	0.57
				(0.58)	(0.58)
Dark Out X Spline(Time of Day) 2				1.19	1.21
				(0.87)	(0.87)
Dark Out X Spline(Time of Day) 3				0.23	0.10
				(0.63)	(0.63)
Dark Out X Spline(Time of Day) 4				1.21*	1.11*
				(0.53)	(0.53)
Dark Out X Spline(Time of Day) 5				2.32	2.23
				(1.28)	(1.27)
Dark Out X Spline(Time of Day) 6				0.05	0.06
				(0.55)	(0.56)
AIC	5564.53	5512.76	5513.80	5515.47	5506.23
BIC	5577.29	5531.89	5564.83	5604.76	5652.93
Log Likelihood	-2780.27	-2753.38	-2748.90	-2743.73	-2730.12
Deviance	5560.53	5506.76	5497.80	5487.47	5460.23
Num. obs.	4351	4351	4351	4351	4351

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

Table 12: Testing for Racial Profiling of African Americans



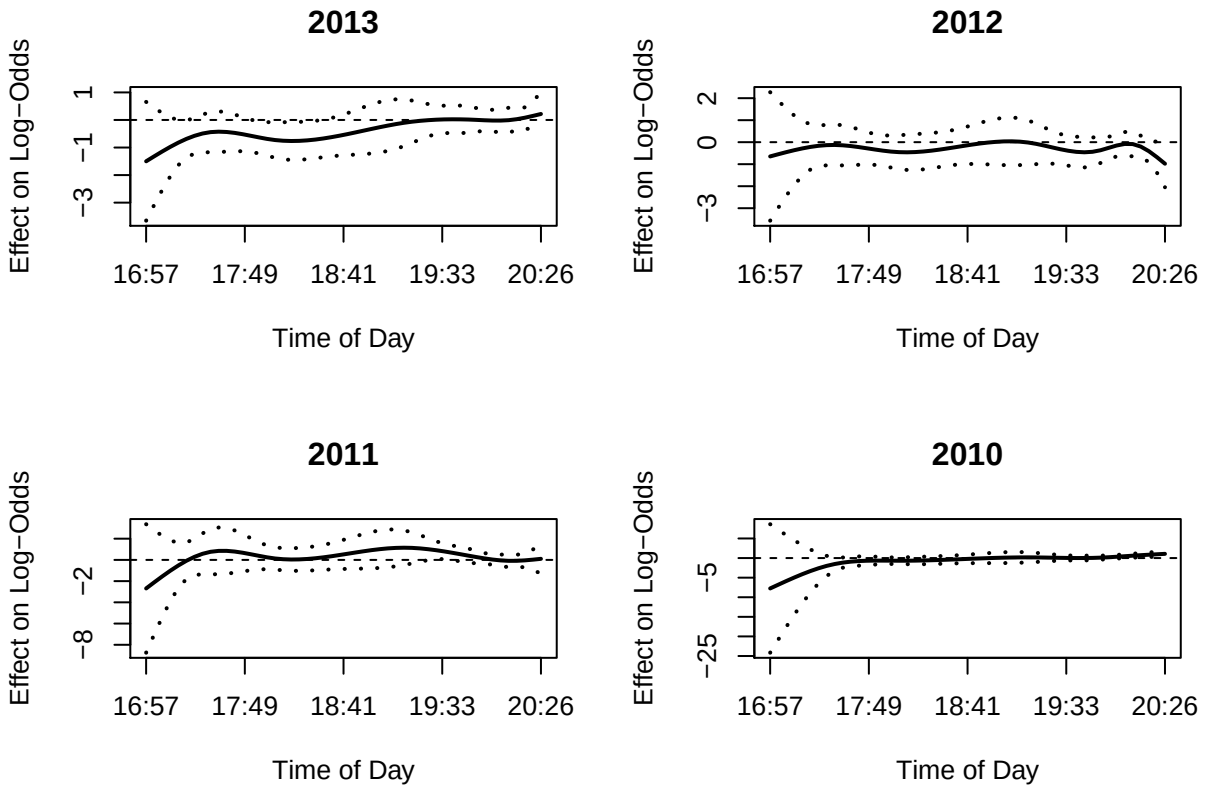


Figure 16: Yearly Estimates of Racial Profiling of Minorities (2000-13)

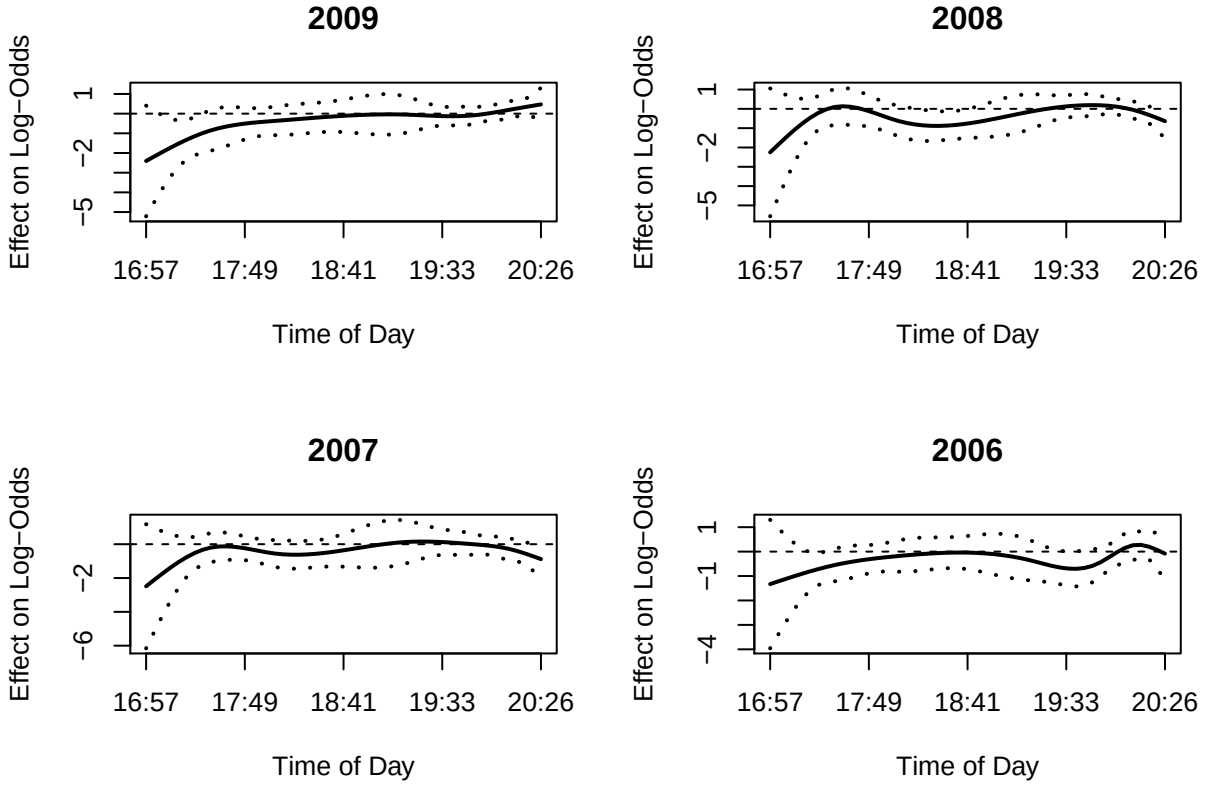


Figure 17: Yearly Estimates of Racial Profiling of Minorities (2006-09)

	No Time of Day	Linear Effect	Cubic Spline	Interaction	Year FE
Dark Out	0.15*	−0.13	−0.12	−1.06	−0.98
	(0.07)	(0.08)	(0.08)	(0.56)	(0.56)
Time of Day		0.00***			
		(0.00)			
Spline(Time of Day) 1			0.07	−0.00	0.01
			(0.23)	(0.28)	(0.28)
Spline(Time of Day) 2			0.81*	0.46	0.38
			(0.37)	(0.49)	(0.49)
Spline(Time of Day) 3			0.92***	1.23***	1.27***
			(0.24)	(0.33)	(0.33)
Spline(Time of Day) 4			0.76***	0.19	0.18
			(0.20)	(0.37)	(0.37)
Spline(Time of Day) 5			1.18**	0.70	0.66
			(0.44)	(0.56)	(0.56)
Spline(Time of Day) 6			0.58**	0.62	0.57
			(0.18)	(0.52)	(0.52)
Dark Out X Spline(Time of Day) 1				0.74	0.61
				(0.59)	(0.59)
Dark Out X Spline(Time of Day) 2				1.27	1.33
				(0.89)	(0.89)
Dark Out X Spline(Time of Day) 3				0.25	0.14
				(0.64)	(0.64)
Dark Out X Spline(Time of Day) 4				1.23*	1.14*
				(0.54)	(0.54)
Dark Out X Spline(Time of Day) 5				2.29	2.24
				(1.29)	(1.29)
Dark Out X Spline(Time of Day) 6				0.03	0.05
				(0.57)	(0.57)
AIC	5123.67	5066.12	5069.45	5072.35	5065.71
BIC	5136.18	5084.89	5119.51	5159.95	5209.63
Log Likelihood	-2559.83	-2530.06	-2526.73	-2522.18	-2509.86
Deviance	5119.67	5060.12	5053.45	5044.35	5019.71
Num. obs.	3855	3855	3855	3855	3855

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

Table 13: Testing for Racial Profiling of African Americans (Other Minorities Excluded)

Yearly Estimates of Racial Profiling of African Americans with Log-Odds

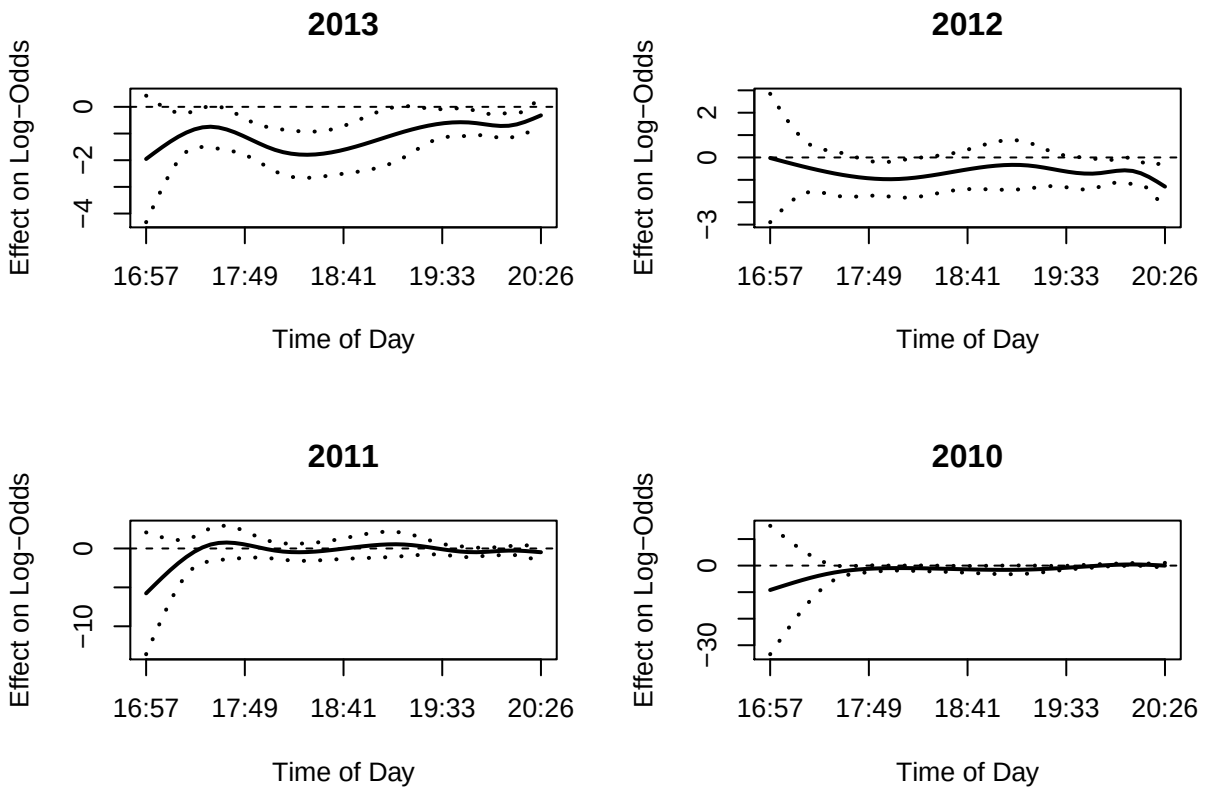
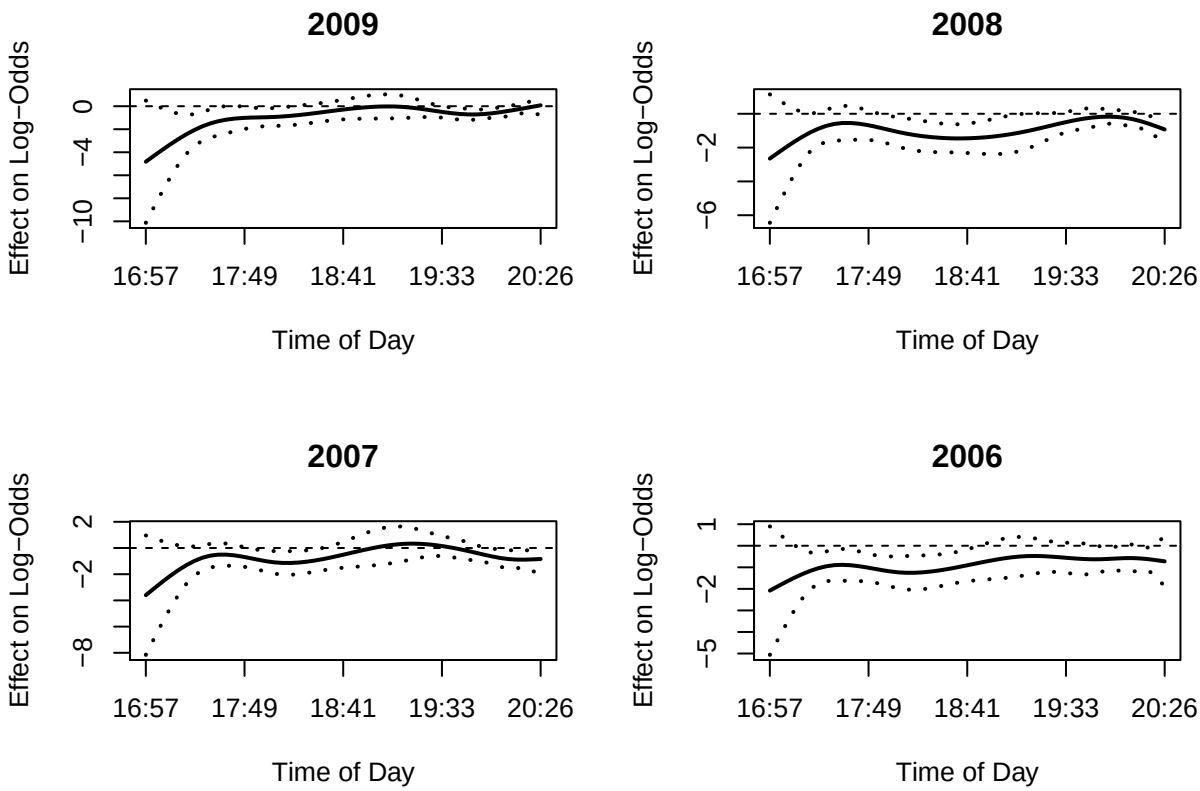


Figure 18: Yearly Estimates of Racial Profiling of African Americans(2000-13)



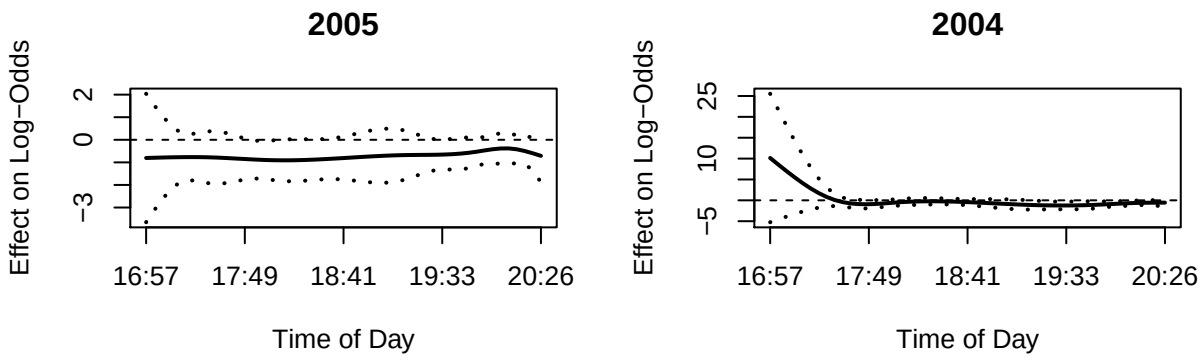


Figure 19: Yearly Estimates of Racial Profiling of African Americans (2004-06)

Yearly Estimates of Racial Profiling of African Americans with Log-Odds (Excluding Other Minoriities from Analysis)

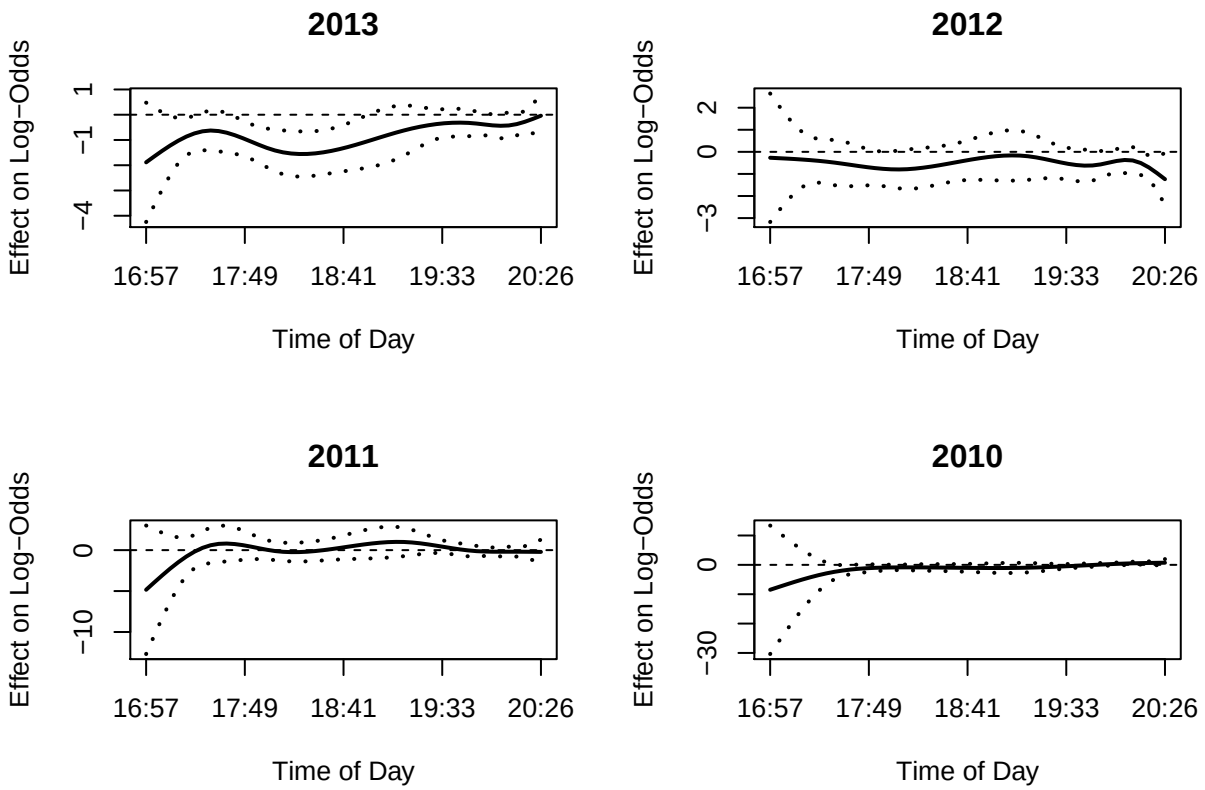
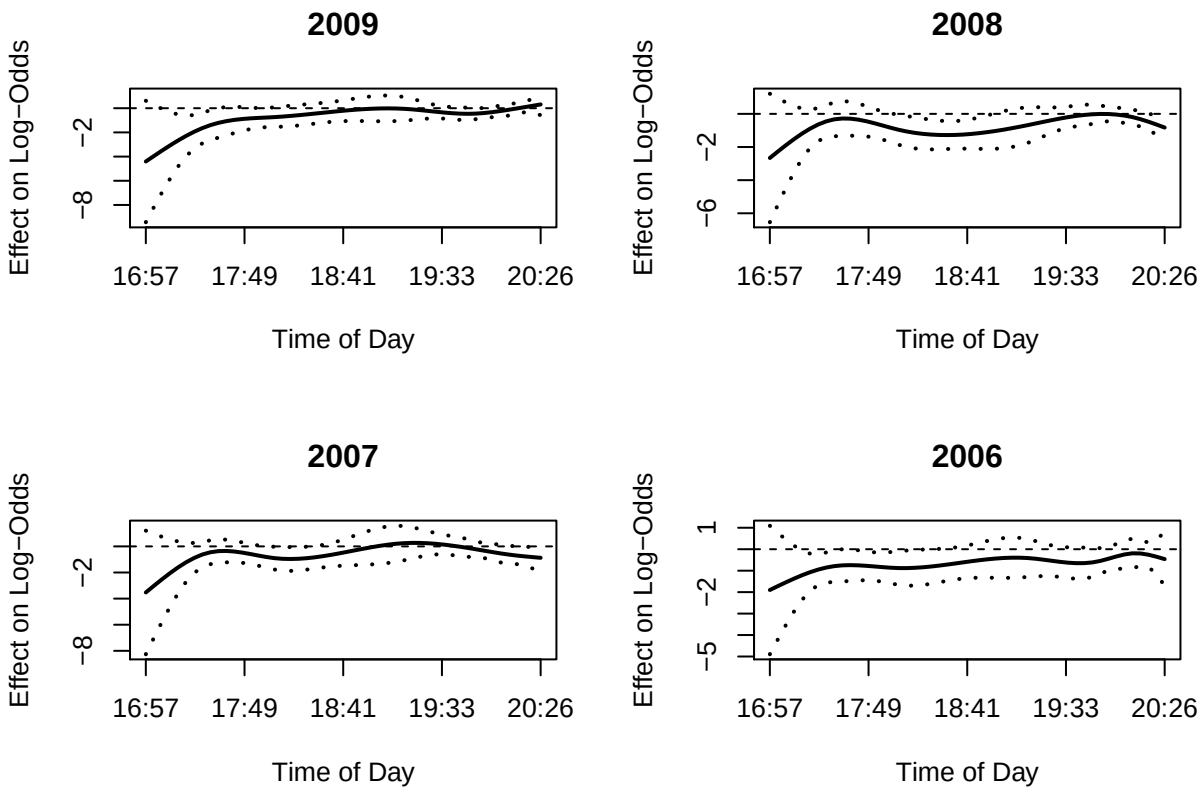


Figure 20: Yearly Estimates of Racial Profiling of African Americans(2000-13)


2009
Effect on Log−Odds
−8
−2
16:57
17:49
18:41
19:33
20:26
Time of Day
2008
Effect on Log−Odds
−6
−2
16:57
17:49
18:41
19:33
20:26
Time of Day
2007
Effect on Log−Odds
−8
−2
16:57
17:49
18:41
19:33
20:26
Time of Day
2006
Effect on Log−Odds
−5
−2
1
16:57
17:49
18:41
19:33
20:26
Time of Day

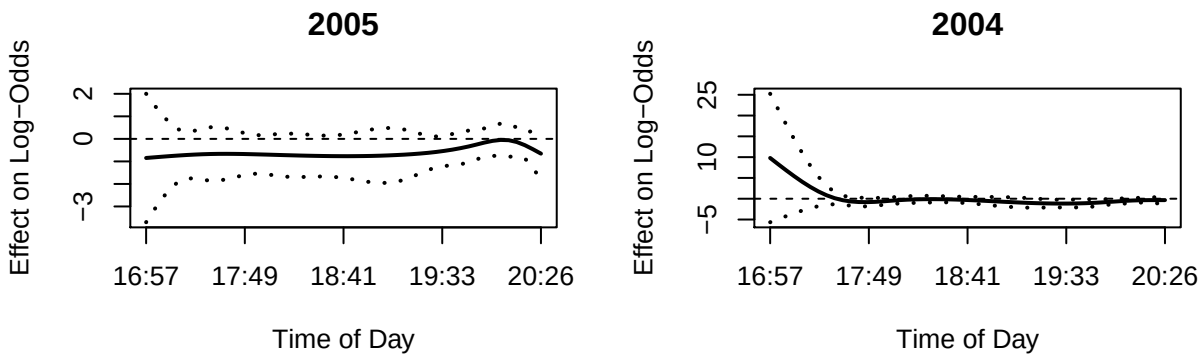


Figure 21: Yearly Estimates of Racial Profiling of African Americans (2004-06)

5 Disparities in Financial Impact

Merging IDOT Data with Court Data

To obtain estimates of the financial impact of traffic stops, we merged data on driver's race from the IDOT data with the Champaign County Court data on traffic citations from 2004 to 2014 using the driver's first and last names.There are a total of 40,868 charges, with 26,389 unique defendants, with some defendants receiving multiple charges. Overall, we were able to match 77 percent of the court records with the IDOT data. In a given year, we are able to match between 15 and 20 percent of the cases, while in 2014, 58 percent of the cases are unknown (labeled "UK" below). Since there are only 13 respondents who identify as Native American or Alaskan, they are excluded from subsequent analyis.

Table 14: Defendants by Race (2004-2013)

	AA	AS	HS	NA	WH	UK
Count	6184	1968	988	13	11060	6176
Proportion	0.23	0.07	0.04	0	0.42	0.23

Average Fine by Race

In the sample, the average fine paid by a person in given case, (for which there may be multiple charges) is about $186.68. The median fine is $77 dollars. The distribution of fines is very skewed. About 22 percent of the sample pay no fine, while 6 percent of the sample pay over $600 in fines.

Looking at the distribution of fines by race, we see that African Americans and Hispancis, on average, are ordered to pay more fines than Whites and Asians. There are several possible reasons for this disparity, each of which we explore in more detail below.

Table 15: Average Fines by Race (2004-2014)

Race	Average Fine	Stnd Dev	50th percentile	75 percentile	Maximum
AA	204.03	516.39	77	164.0	16235
AS	154.50	386.01	120	122.0	12191
HS	295.38	607.29	120	300.0	7593
WH	171.60	388.80	77	121.0	7614
UK	186.72	449.85	115	156.0	17442

Types of Charges by Race

First, the distribution of charges may vary across racial groups. African Americans and Hispanics, may be more likely to be charged with offenses that carry a higher fine. The table below provides some evidence of this. Driving without insurance or on a revoked license carry higher average fines than moving violations, and are more common among African Americans and Hispancis, than Whites and Asians.

Table 16: Top 10 Charges by Race (2004-2014)

White	**Count**	**Mean Fine**
Driving 15-20 Mph Above Limit	2411	$108.25
Operate Uninsured Mtr Vehicle	2125	$100.75
Driving 11-14 Mph Above Limit	2003	$104.17
Disregard Stop Sign	1702	$101.5
Seat Belt Required/driver	717	$52.92
Disreg Traffic Control Light	636	$100.05
Fail To Reduce Speed	578	$112.03
Driving On Suspended License	464	$238.34
Driving 1-10 Mph Above Limit	423	$102.64
Drvg Under Influ Of Alcohol	421	$790.87
African American	**Count**	**Mean Fine**
Operate Uninsured Mtr Vehicle	2503	$186.67
Driving On Suspended License	1121	$209.82
Driving 15-20 Mph Above Limit	969	$92.81
Unlicensed	893	$171.87
Driving 11-14 Mph Above Limit	828	$92.08
Disregard Stop Sign	760	$82.17
Op Veh W/loud System >75 Ft	452	$65.89
Driving On Revoked License	426	$90.45
Seat Belt Required/driver	333	$44.06
Fail To Reduce Speed	297	$83.53
Hispanic	**Count**	**Mean Fine**
Unlicensed	475	$172.02
Operate Uninsured Mtr Vehicle	394	$295.78
Driving 15-20 Mph Above Limit	136	$104.56
Disregard Stop Sign	118	$86.19
Driving 11-14 Mph Above Limit	103	$90.55
Driving On Suspended License	94	$311.28
Drvg Under Influ Of Alcohol	61	$244.93
Improper Traffic Lane Usage	43	$73.86
Disreg Traffic Control Light	41	$88.05
Drvg Under Influ/bac 0.08	41	$179.44
Asian	**Count**	**Mean Fine**
Driving 15-20 Mph Above Limit	528	$107.06
Driving 11-14 Mph Above Limit	317	$105.95
Operate Uninsured Mtr Vehicle	303	$70.73
Disregard Stop Sign	298	$100.96
Disreg Traffic Control Light	160	$107.03
Unlicensed	97	$49.93
Unsafe Equipment/1st and 2nd	90	$243.19
Fail To Reduce Speed	84	$135.35
Driving 21-25 Mph Above Limit	70	$120.86
Improper Traffic Lane Usage	55	$107.73

Number of Charges by Race

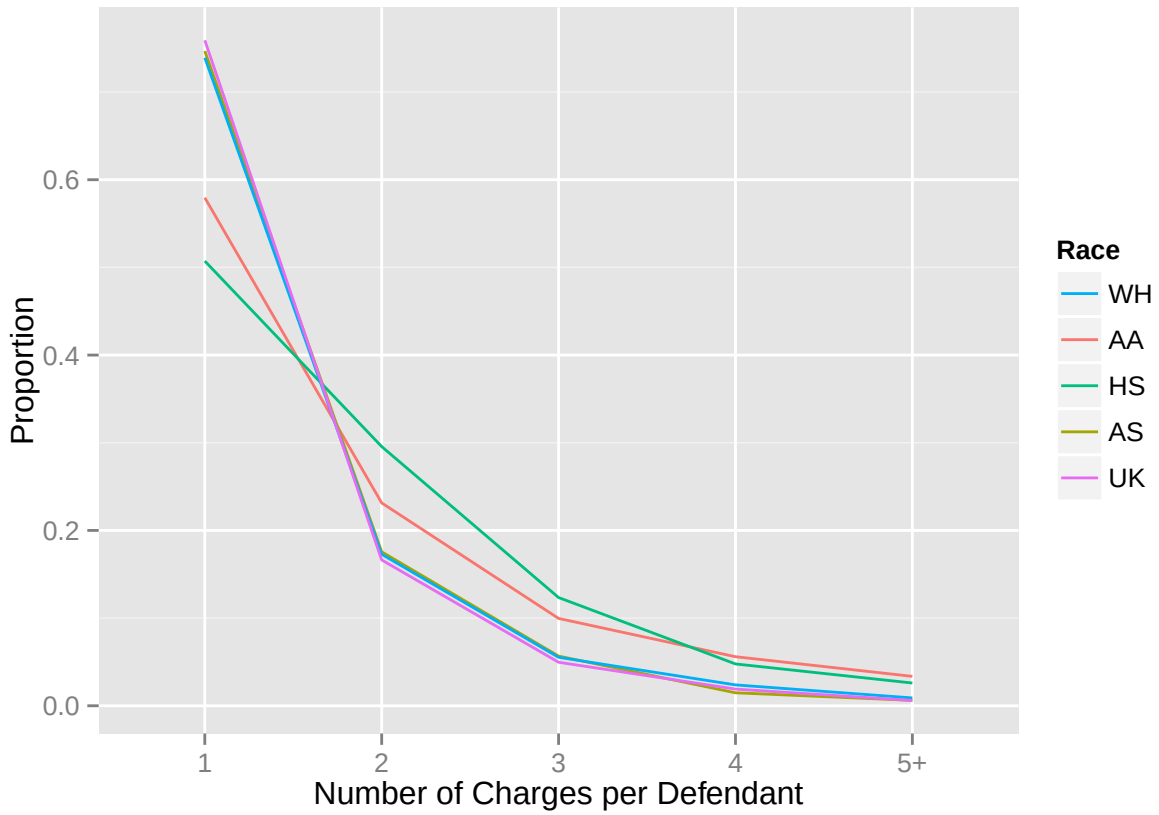
Second, members of different racial groups may be more or less likely to be charged with multiple offenses (e.g. speeding and driving without insurance), which would raise the average fine per person in these groups. Again, the data support this view. Fourty-two percent of African Americans and 49 percent of Hispanics are charged with more than one violation, compared to 25 percent of Asians and 26 percent of Whites. Individuals with one charge, pay between $100 and $130 dollars in fines. Those charged with more than one fine pay about $300 to $400 dollars more

Table 17: Number of Charges by Race (2004-2014)

	One	Two	Three	Four	Five +
AA	3489	1393	600	337	202
AS	1463	344	111	29	12
HS	489	285	119	46	25
WH	8103	1894	606	261	98
UK	4664	1022	305	117	37

Table 18: Proportion of Multipe Charges by Race (2004-2014)

	One	Two	Three	Four	Five +
AA	0.58	0.23	0.10	0.06	0.03
AS	0.75	0.18	0.06	0.01	0.01
HS	0.51	0.30	0.12	0.05	0.03
WH	0.74	0.17	0.06	0.02	0.01
UK	0.76	0.17	0.05	0.02	0.01


Proportion
0.6
0.4
0.2
0.0
1
2
3
4
5+
Number of Charges per Defendant
Race
WH
AA
HS
AS
UK

Average Fine by Violation and Race

Finally, it is possible, that for the same offense, different minorty groups recieve different fines. The evidence here is mixed. African Americans and Hispancis are significantly more likely to pay higher fines for driving without insurance and being unlicensed. Whites pay more for moving violations and DUIs compared to African Americans and Hispanics, but not Asians. Asians are fined more for traffic lane violations

Table 19: Differences in Average Fines for Selected Charges by Race (2004-2014)

White-African American	**Mean WH Fine**	**Mean AA Fine**	**Difference**
Driving 15-20 Mph Above Limit	108.25	92.81	-15.44*
Driving 11-14 Mph Above Limit	104.17	92.08	-12.09*
Seat Belt Required/driver	52.92	44.06	-8.86*
Disregard Stop Sign	101.5	82.17	-19.32*
Improper Traffic Lane Usage	65.49	63.65	-1.84
Operate Uninsured Mtr Vehicle	100.75	186.67	85.92*
Unlicensed	90.32	171.87	81.56*
Driving On Suspended License	238.34	209.82	-28.53
Driving On Revoked License	121.9	90.45	-31.45
Drvg Under Influ Of Alcohol	790.87	439.77	-351.11*
White-Hispanic	**Mean WH Fine**	**Mean HS Fine**	**Difference**
Driving 15-20 Mph Above Limit	108.25	104.56	-3.69
Driving 11-14 Mph Above Limit	104.17	90.55	-13.62*
Seat Belt Required/driver	52.92	34.71	-18.21*
Disregard Stop Sign	101.5	86.19	-15.31*
Improper Traffic Lane Usage	65.49	73.86	8.37
Operate Uninsured Mtr Vehicle	100.75	295.78	195.03*
Unlicensed	90.32	172.02	81.7*
Driving On Suspended License	238.34	311.28	72.93
Driving On Revoked License	121.9	185.12	63.21
Drvg Under Influ Of Alcohol	790.87	244.93	-545.94*
White-Asian	**Mean WH Fine**	**Mean AS Fine**	**Difference**
Driving 15-20 Mph Above Limit	108.25	107.06	-1.19
Driving 11-14 Mph Above Limit	104.17	105.95	1.78
Seat Belt Required/driver	52.92	50.93	-2
Disregard Stop Sign	101.5	100.96	-0.54
Improper Traffic Lane Usage	65.49	107.73	42.24*
Operate Uninsured Mtr Vehicle	100.75	70.73	-30.03
Unlicensed	90.32	49.93	-40.39*
Driving On Suspended License	238.34	252.15	13.8
Driving On Revoked License	121.9	175.8	53.9
Drvg Under Influ Of Alcohol	790.87	952.8	161.93

Note:*$p < 0.05$

6 Additional Analyses

Complete Summary of Stops, Citations, Searches, and Contraband by Race

Type of Stop

Total Stops

Figure 22: Total Number of Stops by Year and Race

The figure shows the total number of stops by year and type of stop for each racial group.

Comments

- Moving violations are the most common reason for stop, followed by equipment violations, and stops for License plates/Registration (L/R)
- Increase in total stops peaks at 2009, driven by rises in the number of equipment and L/R stops.
- Increase from 2011-2013 reflects increase across all type of stops.
- White and African American drivers make up the majority of stops.

Percent of Total Stops

Figure 23: Proportion of Yearly Stops by Race

The figure shows for a given year and type of stop, what proportion of the stops are from what racial group. - The proportion of total stops by race is relatively constant over the years. - Whites and African Americans account for generally over 90 percent of all stops - Whites make up the majority of moving violations - African Americans account for the plurality of Equipment and L/R stops

Type of Stop by Race

The figure shows the proportion of each racial group's total stops that are for moving violations, equipment, and L/R.

Comments

- Moving violations are the most common type of stop for all races
- Equipment and L/R stops tend to be more common among African Americans and Hispanics

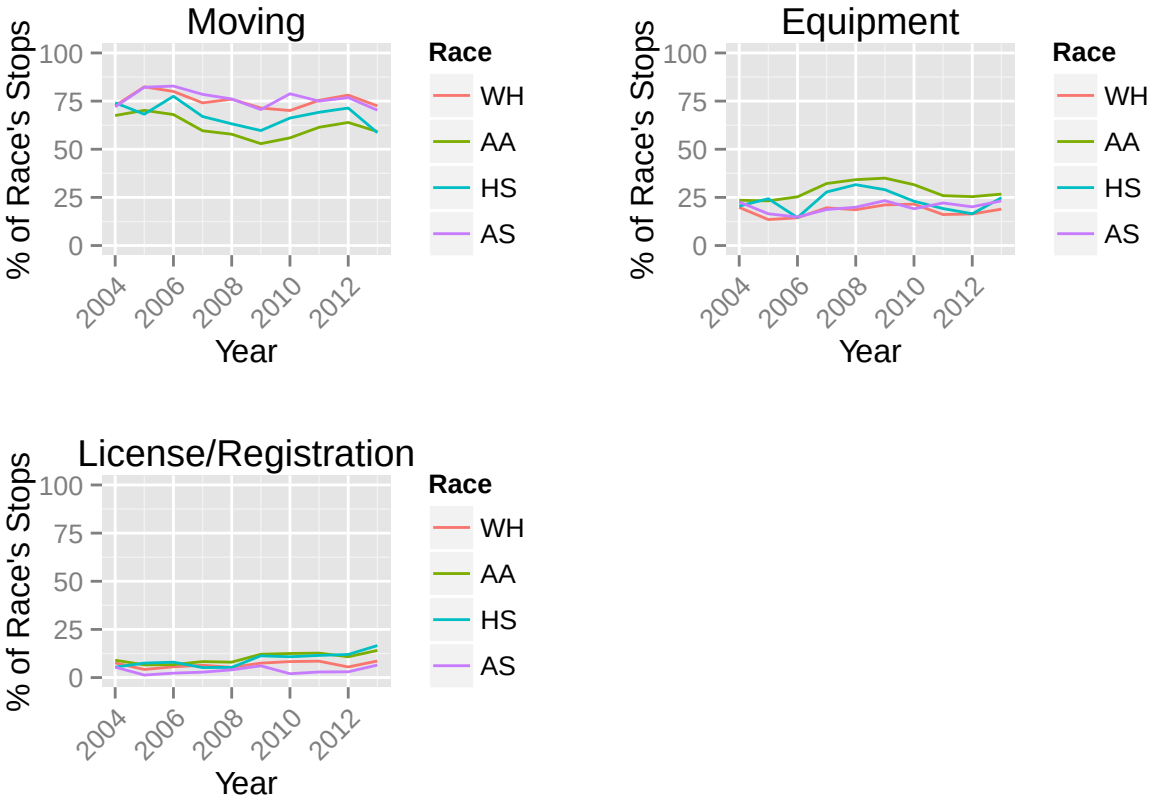


Figure 24: Type of Stop by Race and Year

Table 20: Traffic Stops by Race

		WH		**AA**		**HS**		**AS**	
	Total	#	%	#	%	#	%	#	%
2004	3548	1948	**54.9**	1227	**34.6**	112	**3.2**	261	**7.4**
2005	3049	1707	**56**	1005	**33**	107	**3.5**	230	**7.5**
2006	4014	2131	**53.1**	1401	**34.9**	138	**3.4**	344	**8.6**
2007	3380	1854	**54.9**	1160	**34.3**	115	**3.4**	251	**7.4**
2008	4024	2194	**54.5**	1332	**33.1**	171	**4.2**	327	**8.1**
2009	4275	2240	**52.4**	1458	**34.1**	186	**4.4**	391	**9.1**
2010	3077	1476	**48**	1169	**38**	139	**4.5**	293	**9.5**
2011	2829	1463	**51.7**	992	**35.1**	130	**4.6**	244	**8.6**
2012	3746	2169	**57.9**	1116	**29.8**	133	**3.6**	328	**8.8**
2013	4287	2365	**55.2**	1273	**29.7**	157	**3.7**	492	**11.5**

Table 21: Moving Violations by Race

		WH		AA		HS		AS	
	Total	#	%	#	%	#	%	#	%
2004	2514	1415	**56.3**	828	**32.9**	83	**3.3**	188	**7.5**
2005	2374	1406	**59.2**	706	**29.7**	73	**3.1**	189	**8**
2006	3049	1704	**55.9**	953	**31.3**	107	**3.5**	285	**9.3**
2007	2338	1373	**58.7**	691	**29.6**	77	**3.3**	197	**8.4**
2008	2795	1668	**59.7**	770	**27.5**	108	**3.9**	249	**8.9**
2009	2758	1600	**58**	771	**28**	111	**4**	276	**10**
2010	2012	1035	**51.4**	654	**32.5**	92	**4.6**	231	**11.5**
2011	1985	1103	**55.6**	609	**30.7**	90	**4.5**	183	**9.2**
2012	2754	1694	**61.5**	713	**25.9**	95	**3.4**	252	**9.2**
2013	2906	1715	**59**	753	**25.9**	92	**3.2**	346	**11.9**

Table 22: License and Registration Violations By Race

		WH		AA		HS		AS	
	Total	#	%	#	%	#	%	#	%
2004	279	148	**53**	111	**39.8**	6	**2.2**	14	**5**
2005	148	71	**48**	66	**44.6**	8	**5.4**	3	**2**
2006	233	120	**51.5**	94	**40.3**	11	**4.7**	8	**3.4**
2007	227	118	**52**	96	**42.3**	6	**2.6**	7	**3.1**
2008	245	117	**47.8**	106	**43.3**	9	**3.7**	13	**5.3**
2009	389	167	**42.9**	177	**45.5**	21	**5.4**	24	**6.2**
2010	290	123	**42.4**	146	**50.3**	15	**5.2**	6	**2.1**
2011	273	125	**45.8**	126	**46.2**	15	**5.5**	7	**2.6**
2012	265	119	**44.9**	120	**45.3**	16	**6**	10	**3.8**
2013	442	204	**46.2**	180	**40.7**	26	**5.9**	32	**7.2**

Table 23: Equipment Violations by Race

		WH		AA		HS		AS	
	Total	#	%	#	%	#	%	#	%
2004	755	385	**51**	288	**38.1**	23	**3**	59	**7.8**
2005	527	230	**43.6**	233	**44.2**	26	**4.9**	38	**7.2**
2006	732	307	**41.9**	354	**48.4**	20	**2.7**	51	**7**
2007	815	363	**44.5**	373	**45.8**	32	**3.9**	47	**5.8**
2008	984	409	**41.6**	456	**46.3**	54	**5.5**	65	**6.6**
2009	1128	473	**41.9**	510	**45.2**	54	**4.8**	91	**8.1**
2010	775	318	**41**	369	**47.6**	32	**4.1**	56	**7.2**
2011	571	235	**41.2**	257	**45**	25	**4.4**	54	**9.5**
2012	727	356	**49**	283	**38.9**	22	**3**	66	**9.1**
2013	939	446	**47.5**	340	**36.2**	39	**4.2**	114	**12.1**

Citations

Total Number of Citations

Figure 25: Total Number of Citations by Year, Race, and Type of Stop

The figure shows total number of citations issued in a given year to drivers of a certain race.

Percent of Total Citaitons

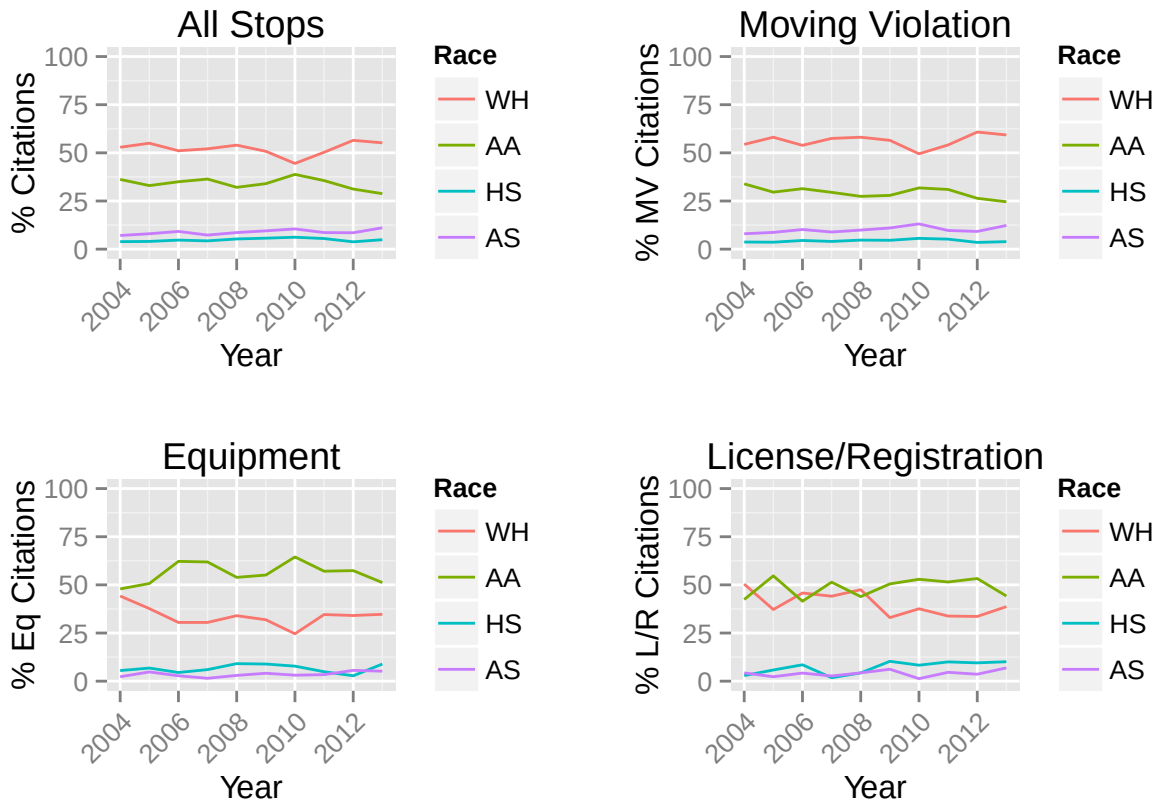


Figure 26: Proportion of Total Citations by Year, Race, and Type of Stop

The figure shows the proportion of total citations in a year issued to each racial group for all stops, and then separately for moving, equipment and L/R violations.

Comments

- Gaps between Whites and African American Drivers in terms of citations for Equipment and L/R stops

Rates of Citation

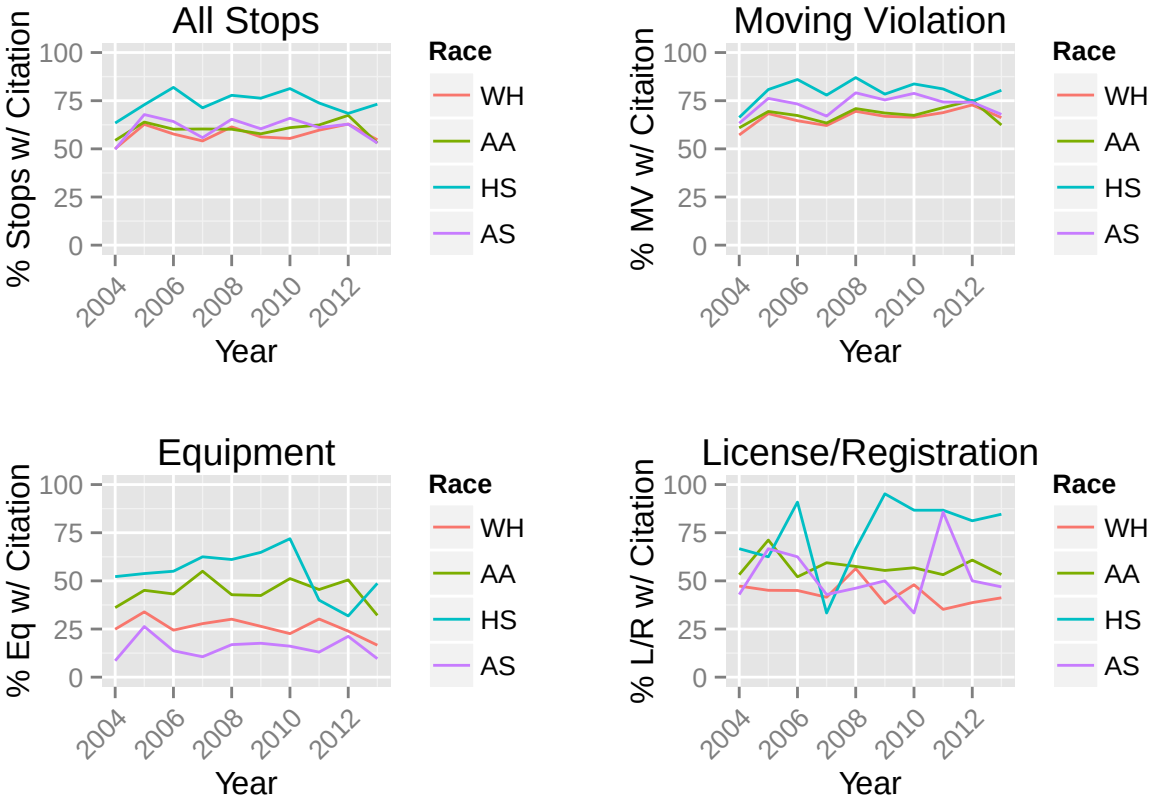


Figure 27: Rates of Citations by Year, Race, and Type of Stop

The figure shows the rates of stops which result in citations for each racial group.

Comments

- Hispanics are far more likely to get a citation, particularly for L/R stops.

Table 24: Citations by Race

		WH		AA		HS		AS	
	Total	#	%	#	%	#	%	#	%
2004	1948	975	**52.9**	667	**36.2**	71	**3.9**	130	**7.1**
2005	1707	1070	**55**	642	**33**	78	**4**	156	**8**
2006	2131	1229	**51.1**	843	**35**	113	**4.7**	221	**9.2**
2007	1854	1003	**52.1**	700	**36.4**	82	**4.3**	140	**7.3**
2008	2194	1348	**54**	802	**32.1**	133	**5.3**	214	**8.6**
2009	2240	1260	**50.8**	843	**34**	142	**5.7**	236	**9.5**
2010	1476	818	**44.5**	713	**38.8**	113	**6.2**	193	**10.5**
2011	1463	874	**50.3**	619	**35.6**	96	**5.5**	149	**8.6**
2012	2169	1365	**56.5**	752	**31.2**	91	**3.8**	206	**8.5**
2013	2365	1293	**55.2**	675	**28.8**	115	**4.9**	261	**11.1**

Table 25: Moving Violation Citations by Race

		WH		AA		HS		AS	
	Total	#	%	#	%	#	%	#	%
2004	1487	809	**54.4**	504	**33.9**	55	**3.7**	119	**8**
2005	1653	960	**58.1**	490	**29.6**	59	**3.6**	144	**8.7**
2006	2042	1100	**53.9**	641	**31.4**	92	**4.5**	209	**10.2**
2007	1483	853	**57.5**	438	**29.5**	60	**4**	132	**8.9**
2008	1996	1159	**58.1**	546	**27.4**	94	**4.7**	197	**9.9**
2009	1895	1071	**56.5**	529	**27.9**	87	**4.6**	208	**11**
2010	1387	687	**49.5**	441	**31.8**	77	**5.6**	182	**13.1**
2011	1403	759	**54.1**	435	**31**	73	**5.2**	136	**9.7**
2012	2028	1234	**60.8**	536	**26.4**	71	**3.5**	187	**9.2**
2013	1914	1135	**59.3**	470	**24.6**	74	**3.9**	235	**12.3**

Table 26: Lic/Reg Citations by Race

		WH		AA		HS		AS	
	Total	#	%	#	%	#	%	#	%
2004	139	70	**50.4**	59	**42.4**	4	**2.9**	6	**4.3**
2005	86	32	**37.2**	47	**54.7**	5	**5.8**	2	**2.3**
2006	118	54	**45.8**	49	**41.5**	10	**8.5**	5	**4.2**
2007	111	49	**44.1**	57	**51.4**	2	**1.8**	3	**2.7**
2008	139	66	**47.5**	61	**43.9**	6	**4.3**	6	**4.3**
2009	194	64	**33**	98	**50.5**	20	**10.3**	12	**6.2**
2010	157	59	**37.6**	83	**52.9**	13	**8.3**	2	**1.3**
2011	130	44	**33.8**	67	**51.5**	13	**10**	6	**4.6**
2012	137	46	**33.6**	73	**53.3**	13	**9.5**	5	**3.6**
2013	217	84	**38.7**	96	**44.2**	22	**10.1**	15	**6.9**

Table 27: Equipment Citations by Race

		WH		**AA**		**HS**		**AS**	
	Total	#	%	#	%	#	%	#	%
2004	217	96	**44.2**	104	**47.9**	12	**5.5**	5	**2.3**
2005	207	78	**37.7**	105	**50.7**	14	**6.8**	10	**4.8**
2006	246	75	**30.5**	153	**62.2**	11	**4.5**	7	**2.8**
2007	331	101	**30.5**	205	**61.9**	20	**6**	5	**1.5**
2008	362	123	**34**	195	**53.9**	33	**9.1**	11	**3**
2009	392	125	**31.9**	216	**55.1**	35	**8.9**	16	**4.1**
2010	293	72	**24.6**	189	**64.5**	23	**7.8**	9	**3.1**
2011	205	71	**34.6**	117	**57.1**	10	**4.9**	7	**3.4**
2012	249	85	**34.1**	143	**57.4**	7	**2.8**	14	**5.6**
2013	213	74	**34.7**	109	**51.2**	19	**8.9**	11	**5.2**

Table 28: Percent of Stops with Citations by Race

		WH			**AA**			**HS**			**AS**	
	Stops	#	%	Stops	#	%	Stops	#	%	Stops	#	%
2004	1948	975	**50.1**	1227	667	**54.4**	112	71	**63.4**	261	130	**49.8**
2005	1707	1070	**62.7**	1005	642	**63.9**	107	78	**72.9**	230	156	**67.8**
2006	2131	1229	**57.7**	1401	843	**60.2**	138	113	**81.9**	344	221	**64.2**
2007	1854	1003	**54.1**	1160	700	**60.3**	115	82	**71.3**	251	140	**55.8**
2008	2194	1348	**61.4**	1332	802	**60.2**	171	133	**77.8**	327	214	**65.4**
2009	2240	1260	**56.2**	1458	843	**57.8**	186	142	**76.3**	391	236	**60.4**
2010	1476	818	**55.4**	1169	713	**61**	139	113	**81.3**	293	193	**65.9**
2011	1463	874	**59.7**	992	619	**62.4**	130	96	**73.8**	244	149	**61.1**
2012	2169	1365	**62.9**	1116	752	**67.4**	133	91	**68.4**	328	206	**62.8**
2013	2365	1293	**54.7**	1273	675	**53**	157	115	**73.2**	492	261	**53**

Table 29: Percent of Stops with Citations for Moving Violations by Race

		WH			**AA**			**HS**			**AS**	
	Stops	#	%	Stops	#	%	Stops	#	%	Stops	#	%
2004	1415	809	**57.2**	828	504	**60.9**	83	55	**66.3**	188	119	**63.3**
2005	1406	960	**68.3**	706	490	**69.4**	73	59	**80.8**	189	144	**76.2**
2006	1704	1100	**64.6**	953	641	**67.3**	107	92	**86**	285	209	**73.3**
2007	1373	853	**62.1**	691	438	**63.4**	77	60	**77.9**	197	132	**67**
2008	1668	1159	**69.5**	770	546	**70.9**	108	94	**87**	249	197	**79.1**
2009	1600	1071	**66.9**	771	529	**68.6**	111	87	**78.4**	276	208	**75.4**
2010	1035	687	**66.4**	654	441	**67.4**	92	77	**83.7**	231	182	**78.8**
2011	1103	759	**68.8**	609	435	**71.4**	90	73	**81.1**	183	136	**74.3**
2012	1694	1234	**72.8**	713	536	**75.2**	95	71	**74.7**	252	187	**74.2**
2013	1715	1135	**66.2**	753	470	**62.4**	92	74	**80.4**	346	235	**67.9**

Table 30: Percent of Stops with Citations for Lic/Reg Violations by Race

	WH			**AA**			**HS**			**AS**		
	Stops	#	%	Stops	#	%	Stops	#	%	Stops	#	%
2004	148	70	**47.3**	111	59	**53.2**	6	4	**66.7**	14	6	**42.9**
2005	71	32	**45.1**	66	47	**71.2**	8	5	**62.5**	3	2	**66.7**
2006	120	54	**45**	94	49	**52.1**	11	10	**90.9**	8	5	**62.5**
2007	118	49	**41.5**	96	57	**59.4**	6	2	**33.3**	7	3	**42.9**
2008	117	66	**56.4**	106	61	**57.5**	9	6	**66.7**	13	6	**46.2**
2009	167	64	**38.3**	177	98	**55.4**	21	20	**95.2**	24	12	**50**
2010	123	59	**48**	146	83	**56.8**	15	13	**86.7**	6	2	**33.3**
2011	125	44	**35.2**	126	67	**53.2**	15	13	**86.7**	7	6	**85.7**
2012	119	46	**38.7**	120	73	**60.8**	16	13	**81.2**	10	5	**50**
2013	204	84	**41.2**	180	96	**53.3**	26	22	**84.6**	32	15	**46.9**

Table 31: Percent of Stops with Citations for Equipment Violations by Race

	WH			**AA**			**HS**			**AS**		
	Stops	#	%	Stops	#	%	Stops	#	%	Stops	#	%
2004	385	96	**24.9**	288	104	**36.1**	23	12	**52.2**	59	5	**8.5**
2005	230	78	**33.9**	233	105	**45.1**	26	14	**53.8**	38	10	**26.3**
2006	307	75	**24.4**	354	153	**43.2**	20	11	**55**	51	7	**13.7**
2007	363	101	**27.8**	373	205	**55**	32	20	**62.5**	47	5	**10.6**
2008	409	123	**30.1**	456	195	**42.8**	54	33	**61.1**	65	11	**16.9**
2009	473	125	**26.4**	510	216	**42.4**	54	35	**64.8**	91	16	**17.6**
2010	318	72	**22.6**	369	189	**51.2**	32	23	**71.9**	56	9	**16.1**
2011	235	71	**30.2**	257	117	**45.5**	25	10	**40**	54	7	**13**
2012	356	85	**23.9**	283	143	**50.5**	22	7	**31.8**	66	14	**21.2**
2013	446	74	**16.6**	340	109	**32.1**	39	19	**48.7**	114	11	**9.6**

Searches

Total Number of Searches

Figure 28: Total Number of Searches by Year, Race, and Type of Stop

The figure shows the overall number of stops in year by racial group.

Comments

- Overall, it seems the number of searches has been declining.
- The format for reporting searches are reported in the data frequently changed over 2004-2012.

Propotion of Total Searches

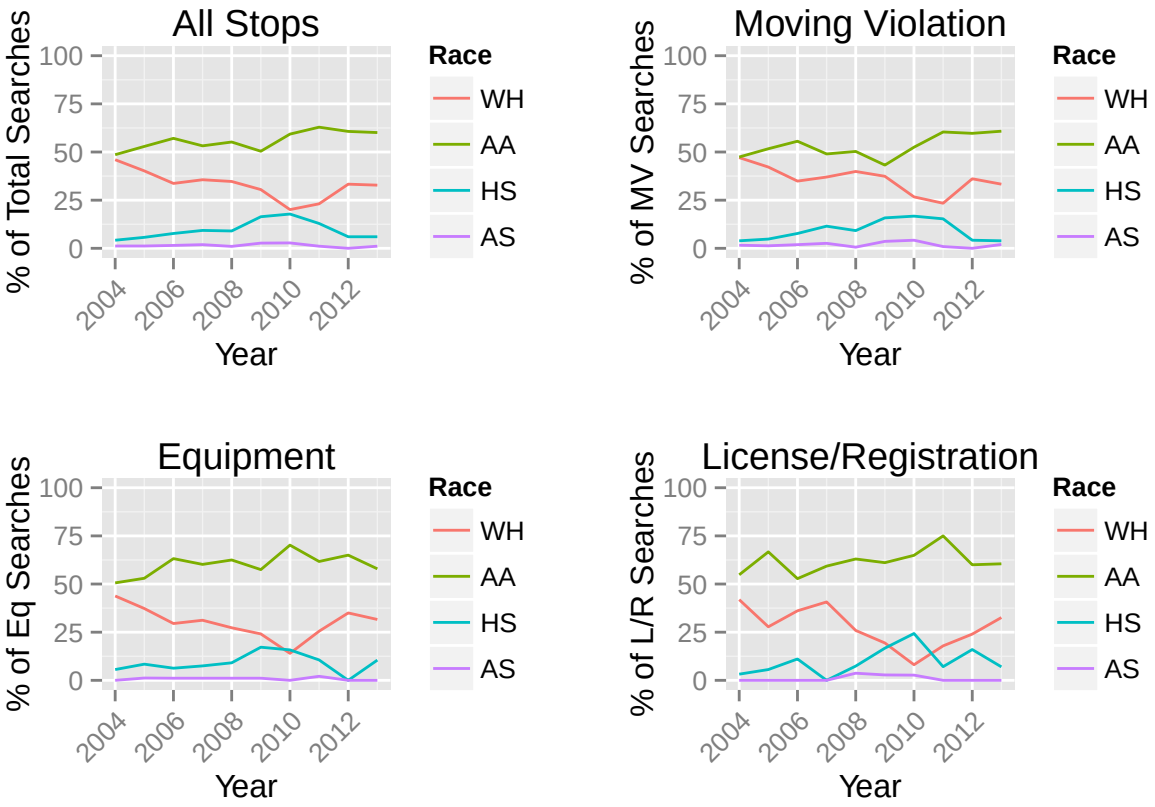


Figure 29: Proportion of Total Searches by Year, Race, and Type of Stop

The figure shows for each year what proportion of the years searches were conducted on drivers from each racial group

Comments

- African Americans consistently make up the majority of drivers searched.

Rates of Searches

Figure 30: Rates of Searches by Year, Race, and Type of Stop

The figure shows a given racial group, what proportion of their stops result in a search

Comments

- Hispanic and African American drivers are consistently more likely to be searched during a stop

Table 32: Total Searches by Race

		WH		**AA**		**HS**		**AS**	
	Total	#	%	#	%	#	%	#	%
2004	426	196	**46**	207	**48.6**	18	**4.2**	5	**1.2**
2005	331	133	**40.2**	175	**52.9**	19	**5.7**	4	**1.2**
2006	392	132	**33.7**	224	**57.1**	30	**7.7**	6	**1.5**
2007	312	111	**35.6**	166	**53.2**	29	**9.3**	6	**1.9**
2008	288	100	**34.7**	159	**55.2**	26	**9**	3	**1**
2009	262	80	**30.5**	132	**50.4**	43	**16.4**	7	**2.7**
2010	214	43	**20.1**	127	**59.3**	38	**17.8**	6	**2.8**
2011	186	43	**23.1**	117	**62.9**	24	**12.9**	2	**1.1**
2012	117	39	**33.3**	71	**60.7**	7	**6**	0	**0**
2013	183	60	**32.8**	110	**60.1**	11	**6**	2	**1.1**

Table 33: Searches for Moving Violations by Race

		WH		**AA**		**HS**		**AS**	
	Total	#	%	#	%	#	%	#	%
2004	306	144	**47.1**	145	**47.4**	12	**3.9**	5	**1.6**
2005	230	97	**42.2**	119	**51.7**	11	**4.8**	3	**1.3**
2006	261	91	**34.9**	145	**55.6**	20	**7.7**	5	**1.9**
2007	192	71	**37**	94	**49**	22	**11.5**	5	**2.6**
2008	173	69	**39.9**	87	**50.3**	16	**9.2**	1	**0.6**
2009	139	52	**37.4**	60	**43.2**	22	**15.8**	5	**3.6**
2010	120	32	**26.7**	63	**52.5**	20	**16.7**	5	**4.2**
2011	111	26	**23.4**	67	**60.4**	17	**15.3**	1	**0.9**
2012	72	26	**36.1**	43	**59.7**	3	**4.2**	0	**0**
2013	102	34	**33.3**	62	**60.8**	4	**3.9**	2	**2**

Table 34: Searches for Lic/Reg by Race

		WH		**AA**		**HS**		**AS**	
	Total	#	%	#	%	#	%	#	%
2004	31	13	**41.9**	17	**54.8**	1	**3.2**	0	**0**
2005	18	5	**27.8**	12	**66.7**	1	**5.6**	0	**0**
2006	36	13	**36.1**	19	**52.8**	4	**11.1**	0	**0**
2007	27	11	**40.7**	16	**59.3**	0	**0**	0	**0**
2008	27	7	**25.9**	17	**63**	2	**7.4**	1	**3.7**
2009	36	7	**19.4**	22	**61.1**	6	**16.7**	1	**2.8**
2010	37	3	**8.1**	24	**64.9**	9	**24.3**	1	**2.7**
2011	28	5	**17.9**	21	**75**	2	**7.1**	0	**0**
2012	25	6	**24**	15	**60**	4	**16**	0	**0**
2013	43	14	**32.6**	26	**60.5**	3	**7**	0	**0**

Table 35: Searches for Equipment Violations by Race

		WH		**AA**		**HS**		**AS**	
	Total	#	%	#	%	#	%	#	%
2004	89	39	**43.8**	45	**50.6**	5	**5.6**	0	**0**
2005	83	31	**37.3**	44	**53**	7	**8.4**	1	**1.2**
2006	95	28	**29.5**	60	**63.2**	6	**6.3**	1	**1.1**
2007	93	29	**31.2**	56	**60.2**	7	**7.5**	1	**1.1**
2008	88	24	**27.3**	55	**62.5**	8	**9.1**	1	**1.1**
2009	87	21	**24.1**	50	**57.5**	15	**17.2**	1	**1.1**
2010	57	8	**14**	40	**70.2**	9	**15.8**	0	**0**
2011	47	12	**25.5**	29	**61.7**	5	**10.6**	1	**2.1**
2012	20	7	**35**	13	**65**	0	**0**	0	**0**
2013	38	12	**31.6**	22	**57.9**	4	**10.5**	0	**0**

Table 36: Percent of Stops with Searches by Race

	WH			**AA**			**HS**			**AS**		
	Stops	#	%	Stops	#	%	Stops	#	%	Stops	#	%
2004	1948	196	**10.1**	1227	207	**16.9**	112	18	**16.1**	261	5	**1.9**
2005	1707	133	**7.8**	1005	175	**17.4**	107	19	**17.8**	230	4	**1.7**
2006	2131	132	**6.2**	1401	224	**16**	138	30	**21.7**	344	6	**1.7**
2007	1854	111	**6**	1160	166	**14.3**	115	29	**25.2**	251	6	**2.4**
2008	2194	100	**4.6**	1332	159	**11.9**	171	26	**15.2**	327	3	**0.9**
2009	2240	80	**3.6**	1458	132	**9.1**	186	43	**23.1**	391	7	**1.8**
2010	1476	43	**2.9**	1169	127	**10.9**	139	38	**27.3**	293	6	**2**
2011	1463	43	**2.9**	992	117	**11.8**	130	24	**18.5**	244	2	**0.8**
2012	2169	39	**1.8**	1116	71	**6.4**	133	7	**5.3**	328	0	**0**
2013	2365	60	**2.5**	1273	110	**8.6**	157	11	**7**	492	2	**0.4**

Table 37: Percent of Stops with Searches for Moving Violations by Race

	WH			**AA**			**HS**			**AS**		
	Stops	#	%	Stops	#	%	Stops	#	%	Stops	#	%
2004	1415	144	**10.2**	828	145	**17.5**	83	12	**14.5**	188	5	**2.7**
2005	1406	97	**6.9**	706	119	**16.9**	73	11	**15.1**	189	3	**1.6**
2006	1704	91	**5.3**	953	145	**15.2**	107	20	**18.7**	285	5	**1.8**
2007	1373	71	**5.2**	691	94	**13.6**	77	22	**28.6**	197	5	**2.5**
2008	1668	69	**4.1**	770	87	**11.3**	108	16	**14.8**	249	1	**0.4**
2009	1600	52	**3.2**	771	60	**7.8**	111	22	**19.8**	276	5	**1.8**
2010	1035	32	**3.1**	654	63	**9.6**	92	20	**21.7**	231	5	**2.2**
2011	1103	26	**2.4**	609	67	**11**	90	17	**18.9**	183	1	**0.5**
2012	1694	26	**1.5**	713	43	**6**	95	3	**3.2**	252	0	**0**
2013	1715	34	**2**	753	62	**8.2**	92	4	**4.3**	346	2	**0.6**

Table 38: Percent of Stops with Searches for Lic/Reg Violations by Race

	WH			**AA**			**HS**			**AS**		
	Stops	#	%	Stops	#	%	Stops	#	%	Stops	#	%
2004	148	13	**8.8**	111	17	**15.3**	6	1	**16.7**	14	0	**0**
2005	71	5	**7**	66	12	**18.2**	8	1	**12.5**	3	0	**0**
2006	120	13	**10.8**	94	19	**20.2**	11	4	**36.4**	8	0	**0**
2007	118	11	**9.3**	96	16	**16.7**	6	0	**0**	7	0	**0**
2008	117	7	**6**	106	17	**16**	9	2	**22.2**	13	1	**7.7**
2009	167	7	**4.2**	177	22	**12.4**	21	6	**28.6**	24	1	**4.2**
2010	123	3	**2.4**	146	24	**16.4**	15	9	**60**	6	1	**16.7**
2011	125	5	**4**	126	21	**16.7**	15	2	**13.3**	7	0	**0**
2012	119	6	**5**	120	15	**12.5**	16	4	**25**	10	0	**0**
2013	204	14	**6.9**	180	26	**14.4**	26	3	**11.5**	32	0	**0**

Table 39: Percent of Stops with Searches for Equipment Violations by Race

	WH			**AA**			**HS**			**AS**		
	Stops	#	%	Stops	#	%	Stops	#	%	Stops	#	%
2004	385	39	**10.1**	288	45	**15.6**	23	5	**21.7**	59	0	**0**
2005	230	31	**13.5**	233	44	**18.9**	26	7	**26.9**	38	1	**2.6**
2006	307	28	**9.1**	354	60	**16.9**	20	6	**30**	51	1	**2**
2007	363	29	**8**	373	56	**15**	32	7	**21.9**	47	1	**2.1**
2008	409	24	**5.9**	456	55	**12.1**	54	8	**14.8**	65	1	**1.5**
2009	473	21	**4.4**	510	50	**9.8**	54	15	**27.8**	91	1	**1.1**
2010	318	8	**2.5**	369	40	**10.8**	32	9	**28.1**	56	0	**0**
2011	235	12	**5.1**	257	29	**11.3**	25	5	**20**	54	1	**1.9**
2012	356	7	**2**	283	13	**4.6**	22	0	**0**	66	0	**0**
2013	446	12	**2.7**	340	22	**6.5**	39	4	**10.3**	114	0	**0**

Contraband

Number of Stops with Contraband Found

Figure 31: Amount of Contraband by Year, Race, and Type of Stop

The figure shows the total number of stops that resulted in contraband (drugs, paraphernalia,alcohol,weapons) being found.

** Comments**

- The data start in 2006.
- Finding contraband is a relatively rare experience
- Decline mirrors decline in total number of searches
- A back of the envelop calculation suggests a third of searches produce contraband (will follow up,more formally)

Percent of Total Contraband Found

Figure 32: Porportion of Contraband by Year, Race, and Type of Stop

The figure shows the porportion of contraband found by driver's race.

** Comments**

- Majority of contraband found from stops involving African Americans and Whites

Percent of Stops with Contraband Found

Figure 33: Porportion of Stops with Contraband by Year, Race, and Type of Stop

The figure shows the proportion of the stops which result in contraband being found for each racial group.

Comments

- A relatively small proportion of stops result in contraband being found.

Table 40: Total Contraband Found by Race

		WH		AA		HS		AS	
	Total	#	%	#	%	#	%	#	%
2004									
2005									
2006	92	37	**40.2**	49	**53.3**	5	**5.4**	1	**1.1**
2007	88	35	**39.8**	49	**55.7**	3	**3.4**	1	**1.1**
2008	101	42	**41.6**	50	**49.5**	8	**7.9**	1	**1**
2009	65	30	**46.2**	28	**43.1**	6	**9.2**	1	**1.5**
2010	48	16	**33.3**	25	**52.1**	6	**12.5**	1	**2.1**
2011	45	18	**40**	26	**57.8**	0	**0**	1	**2.2**
2012	40	17	**42.5**	20	**50**	3	**7.5**	0	**0**
2013	86	32	**37.2**	48	**55.8**	6	**7**	0	**0**

Table 41: Contraband Found During Moving Violations

		WH		AA		HS		AS	
	Total	#	%	#	%	#	%	#	%
2004									
2005									
2006	58	22	**37.9**	30	**51.7**	5	**8.6**	1	**1.7**
2007	54	23	**42.6**	28	**51.9**	2	**3.7**	1	**1.9**
2008	62	28	**45.2**	28	**45.2**	6	**9.7**	0	**0**
2009	39	17	**43.6**	15	**38.5**	6	**15.4**	1	**2.6**
2010	36	10	**27.8**	19	**52.8**	6	**16.7**	1	**2.8**
2011	29	12	**41.4**	17	**58.6**	0	**0**	0	**0**
2012	29	12	**41.4**	15	**51.7**	2	**6.9**	0	**0**
2013	48	19	**39.6**	28	**58.3**	1	**2.1**	0	**0**

Table 42: Contraband Found During Lic/Reg Violations

		WH		AA		HS		AS	
	Total	#	%	#	%	#	%	#	%
2004									
2005									
2006	8	5	**62.5**	3	**37.5**	0	**0**	0	**0**
2007	3	0	**0**	3	**100**	0	**0**	0	**0**
2008	9	2	**22.2**	5	**55.6**	1	**11.1**	1	**11.1**
2009	9	4	**44.4**	5	**55.6**	0	**0**	0	**0**
2010	6	2	**33.3**	4	**66.7**	0	**0**	0	**0**
2011	1	0	**0**	1	**100**	0	**0**	0	**0**
2012	4	3	**75**	0	**0**	1	**25**	0	**0**
2013	23	8	**34.8**	13	**56.5**	2	**8.7**	0	**0**

Table 43: Summary of Contraband Found During Equipment Violations

		WH		**AA**		**HS**		**AS**	
	Total	#	%	#	%	#	%	#	%
2004									
2005									
2006	26	10	**38.5**	16	**61.5**	0	**0**	0	**0**
2007	31	12	**38.7**	18	**58.1**	1	**3.2**	0	**0**
2008	30	12	**40**	17	**56.7**	1	**3.3**	0	**0**
2009	17	9	**52.9**	8	**47.1**	0	**0**	0	**0**
2010	6	4	**66.7**	2	**33.3**	0	**0**	0	**0**
2011	15	6	**40**	8	**53.3**	0	**0**	1	**6.7**
2012	7	2	**28.6**	5	**71.4**	0	**0**	0	**0**
2013	15	5	**33.3**	7	**46.7**	3	**20**	0	**0**

Table 44: Percent of Stops with Contraband Found by Race

	WH			**AA**			**HS**			**AS**		
	Stops	#	%	Stops	#	%	Stops	#	%	Stops	#	%
2004												
2005												
2006	2131	37	**1.7**	1401	49	**3.5**	138	5	**3.6**	344	1	**0.3**
2007	1854	35	**1.9**	1160	49	**4.2**	115	3	**2.6**	251	1	**0.4**
2008	2194	42	**1.9**	1332	50	**3.8**	171	8	**4.7**	327	1	**0.3**
2009	2240	30	**1.3**	1458	28	**1.9**	186	6	**3.2**	391	1	**0.3**
2010	1476	16	**1.1**	1169	25	**2.1**	139	6	**4.3**	293	1	**0.3**
2011	1463	18	**1.2**	992	26	**2.6**	130	0	**0**	244	1	**0.4**
2012	2169	17	**0.8**	1116	20	**1.8**	133	3	**2.3**	328	0	**0**
2013	2365	32	**1.4**	1273	48	**3.8**	157	6	**3.8**	492	0	**0**

Table 45: Percent of Stops with Contraband Found During Moving Violations by Race

	WH			**AA**			**HS**			**AS**		
	Stops	#	%	Stops	#	%	Stops	#	%	Stops	#	%
2004												
2005												
2006	1704	22	**1.3**	953	30	**3.1**	107	5	**4.7**	285	1	**0.4**
2007	1373	23	**1.7**	691	28	**4.1**	77	2	**2.6**	197	1	**0.5**
2008	1668	28	**1.7**	770	28	**3.6**	108	6	**5.6**	249	0	**0**
2009	1600	17	**1.1**	771	15	**1.9**	111	6	**5.4**	276	1	**0.4**
2010	1035	10	**1**	654	19	**2.9**	92	6	**6.5**	231	1	**0.4**
2011	1103	12	**1.1**	609	17	**2.8**	90	0	**0**	183	0	**0**
2012	1694	12	**0.7**	713	15	**2.1**	95	2	**2.1**	252	0	**0**
2013	1715	19	**1.1**	753	28	**3.7**	92	1	**1.1**	346	0	**0**

Table 46: Percent of Stops with Rates of Contraband Found During Lic/Reg Violations by Race

	WH			**AA**			**HS**			**AS**		
	Stops	#	%	Stops	#	%	Stops	#	%	Stops	#	%
2004												
2005												
2006	120	5	**4.2**	94	3	**3.2**	11	0	**0**	8	0	**0**
2007	118	0	**0**	96	3	**3.1**	6	0	**0**	7	0	**0**
2008	117	2	**1.7**	106	5	**4.7**	9	1	**11.1**	13	1	**7.7**
2009	167	4	**2.4**	177	5	**2.8**	21	0	**0**	24	0	**0**
2010	123	2	**1.6**	146	4	**2.7**	15	0	**0**	6	0	**0**
2011	125	0	**0**	126	1	**0.8**	15	0	**0**	7	0	**0**
2012	119	3	**2.5**	120	0	**0**	16	1	**6.2**	10	0	**0**
2013	204	8	**3.9**	180	13	**7.2**	26	2	**7.7**	32	0	**0**

Table 47: Percent of Stops with Contraband Found During Equipment Violations by Race

	WH			**AA**			**HS**			**AS**		
	Stops	#	%	Stops	#	%	Stops	#	%	Stops	#	%
2004												
2005												
2006	307	10	**3.3**	354	16	**4.5**	20	0	**0**	51	0	**0**
2007	363	12	**3.3**	373	18	**4.8**	32	1	**3.1**	47	0	**0**
2008	409	12	**2.9**	456	17	**3.7**	54	1	**1.9**	65	0	**0**
2009	473	9	**1.9**	510	8	**1.6**	54	0	**0**	91	0	**0**
2010	318	4	**1.3**	369	2	**0.5**	32	0	**0**	56	0	**0**
2011	235	6	**2.6**	257	8	**3.1**	25	0	**0**	54	1	**1.9**
2012	356	2	**0.6**	283	5	**1.8**	22	0	**0**	66	0	**0**
2013	446	5	**1.1**	340	7	**2.1**	39	3	**7.7**	114	0	**0**

Duration of Stops

The figures below show the average duration of stops and different quantiles (e.g. at the 50th percentile, 50 percent of the drivers have a duration time lower and 50 percent have duration time higher than this value) stop duration for each racial group. The duration of stops tends to be signficantly higher for African Americans and Hispanics.

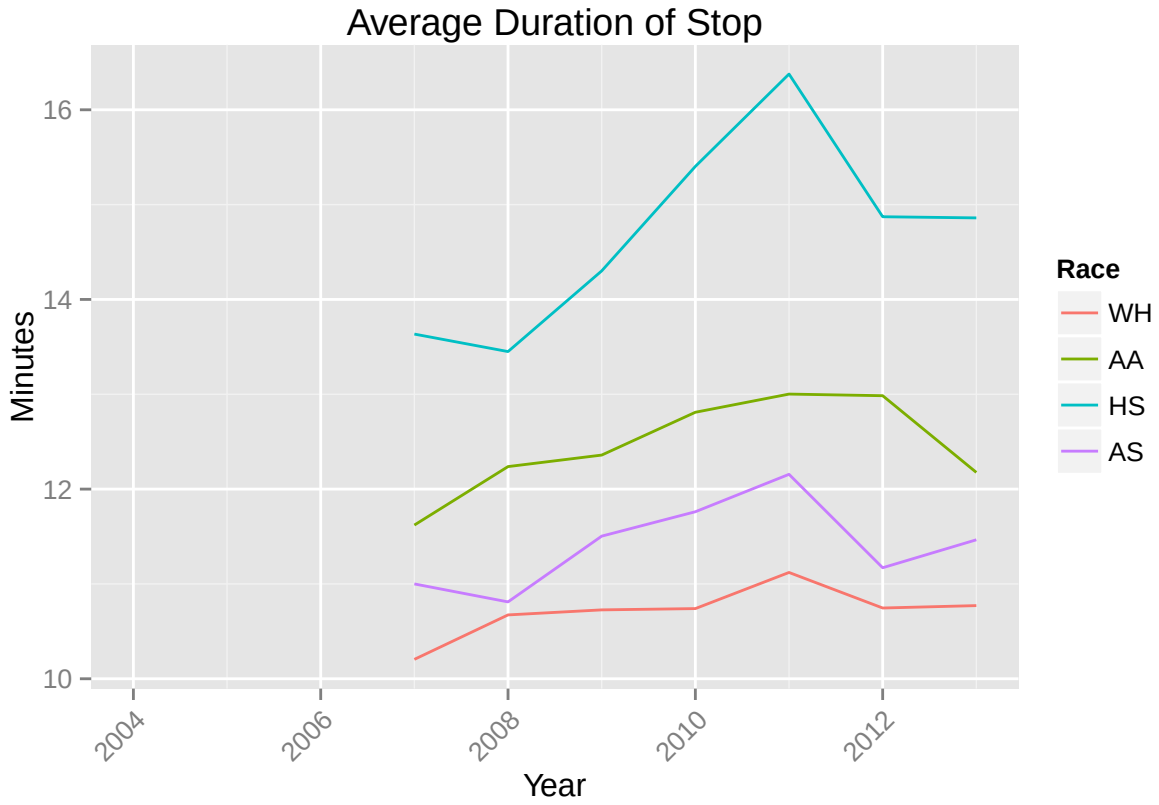


Figure 34: Average Duration of Stops

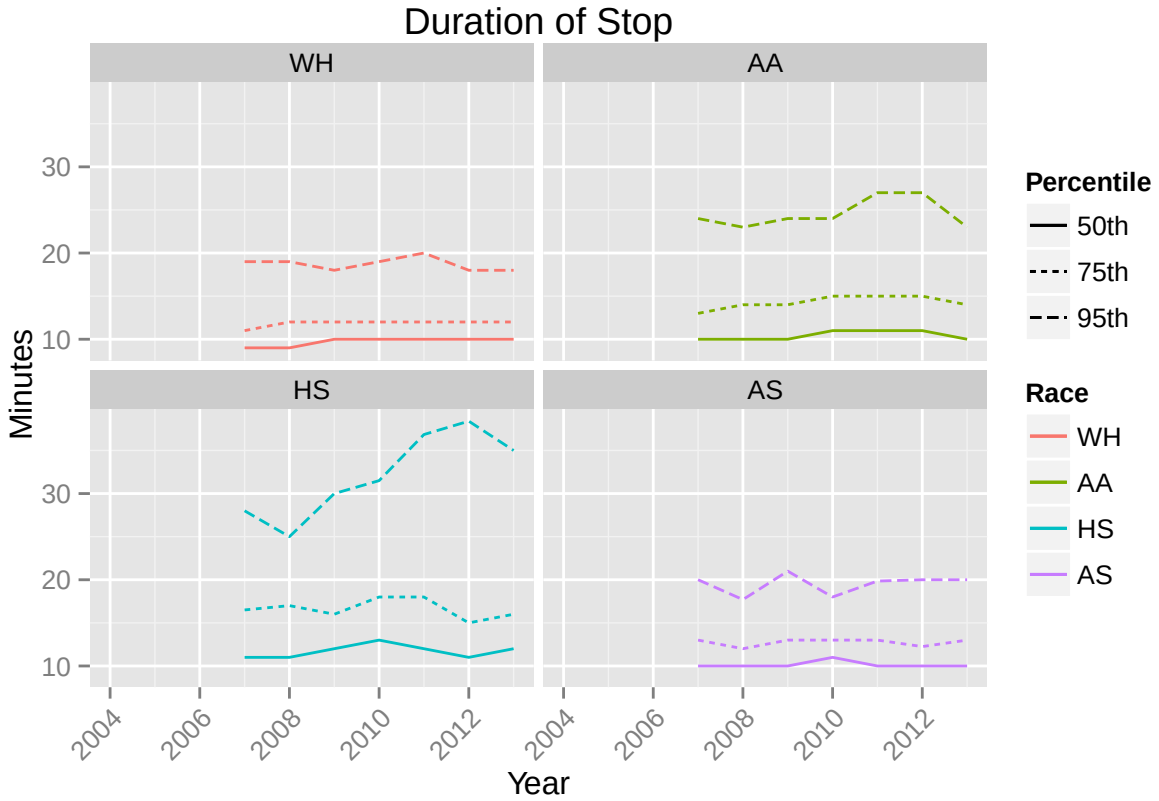


Figure 35: Percentiles of Duration of Stops

7 Hitrates of Searches for Contraband

In this section, we explore the percent of searches that produce contraband, first for all searches (both probable cause and consent searches), and then for consent searches only.[4]. We examine the period from 2007 to 2013, years in which IDOT began requiring data on consent searches be reported. Around 80 percent or more of the searches during this time period involve White or African American drivers, and so we focus our analysis to these the two groups.

The figure below shows the yearly the "hit rate", or percent of searches which resulted in any contraband (drugs, drug paraphernalia,alcohol, weapons or stolen property) being found on either the driver or passenger. The lefthand panel shows the contraband hitrate for all searches from 2007 to 2013. The right hand panel shows the contraband hitrate for only probable cause searches. In both cases, hit rates are presistently higher for White drivers, which may suggest that officers are using different thresholds or criteria in determining whether to search a vehicle.

The total number of searches has declined over time. In 2007 9 percent of stops involved a search. In 2013 4 percent did. When comparing differences in hitrates, we then would also like to account for the relative frequency of searches, since hitrates become more volatile as the total number of searches decreases. Tables~48and ~49, provide the raw counts of searches and contraband found during searches.[5]. Using these counts we then test the stasitical signifcance of the difference in hitrates between White and African American drivers using a simple difference of proportions test. Differences marked with an asterix (*) statistically significant, that is, unlikely to have arisen by chance. We see that in the aggregate, both differences are statistically different from zero, as are the differences from 2009 to 2011 for all searches. Consent searches are relatively rare, and for a given year statsitical tests cannot reject the null hypothesis of no difference in hitrates between between the two groups.

Like other tests reported in this analysis, comparison of hitrates do not by themselves provide definitive evidence of racial profiling. However, we believe this type of analysis can be another useful metric for evaluating police performance going forward.

Table 48: Difference in Contraband Hitrates for All Searches of Whites and African American Drivers

	WH			**AA**			
Year	Searches	Contraband	Hitrate	Searches	Contraband	Hitrate	Difference
2007	111	35	31.5	166	46	27.7	3.8
2008	100	39	39	159	49	30.8	8.2
2009	80	29	36.2	132	27	20.5	15.8*
2010	43	16	37.2	127	25	19.7	17.5*
2011	43	18	41.9	117	26	22.2	19.6*
2012	39	17	43.6	71	20	28.2	15.4
2013	60	32	53.3	110	43	39.1	14.2
(2007-13)	476	186	39.08	882	236	26.76	12.3*

Note: $*p<0.05$;

[4]In 16 cases, contraband was found, but no search was reported. Four of these cases, involved white drivers, nine involved black drivers, and three involved hispanic drivers

[5]Note the figures are slightly different from the figures examining only contraband. This is because in 16 cases, contraband was found, but no search was reported. Four of these cases, involved white drivers, nine involved black drivers, and three involved hispanic drivers

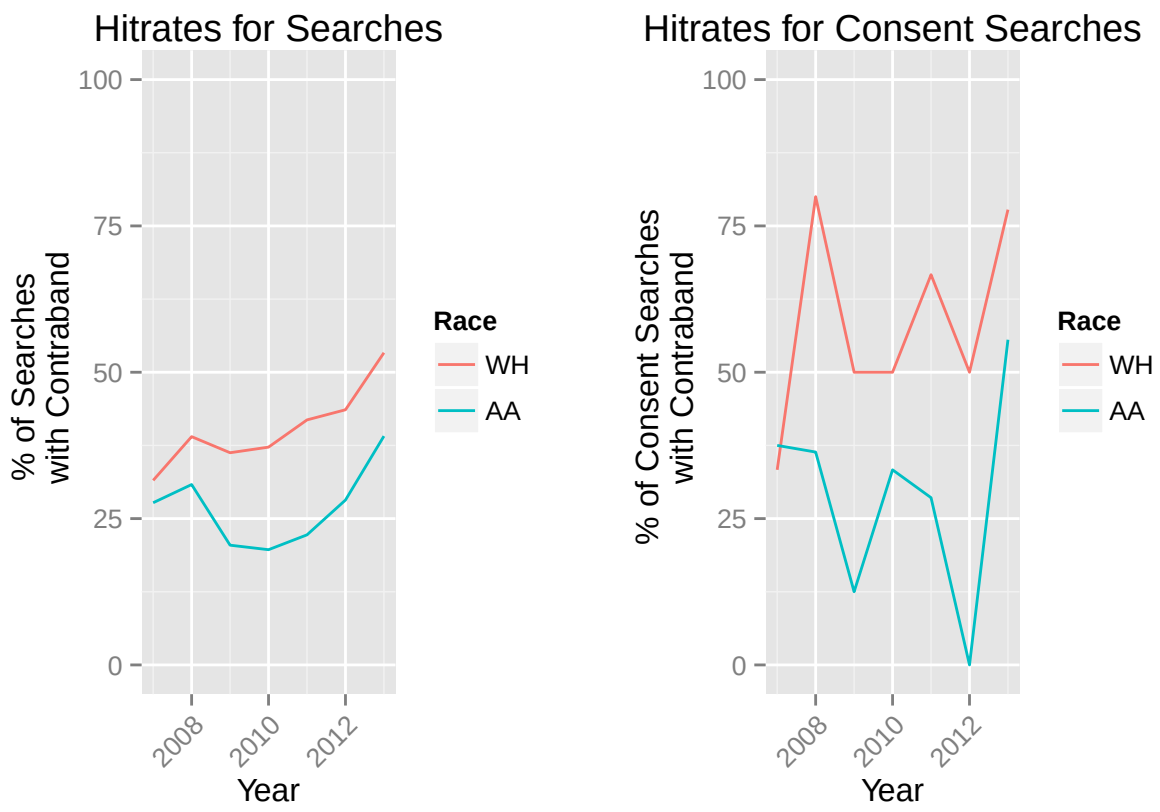


Figure 36: Contraband Hitrates for Searches

Table 49: Difference in Contraband Hitrates for Consent Searches of Whites and African American Drivers

	WH			AA			
Year	consent	Contraband	Hitrate	consent	Contraband	Hitrate	Difference
2007	6	2	33.3	8	3	37.5	-4.2
2008	5	4	80	11	4	36.4	43.6
2009	4	2	50	8	1	12.5	37.5
2010	2	1	50	12	4	33.3	16.7
2011	9	6	66.7	7	2	28.6	38.1
2012	6	3	50	5	0	0	50
2013	9	7	77.8	9	5	55.6	22.2
(2007-13)	41	25	60.98	60	19	31.67	29.3*

Note: $*p<0.05$;

8 Traffic Stops and Cannabis

In this section, we present a prelimary analysis exploring the extent to which traffic stops contribute to the racial disparity in canabis arrests, using data from Urbana's Open Data website[6] Specifically, we examine all arrests from January 1, 2010 to August 15, 2015. Arrests are grouped by incident. An incident may involve a single charge, such as speeding, or multiple charges (speeding, and possession of canabis). Incidents may also involve multiple people. For example, a driver may be charged with speeding, while the passenger is charged with possession. Are analysis groups arrests by incident, and examines to what extent, incidents involving a traffic citation result in a charge for cannabis possession.

We begin, by presenting the aggregate rates of incidents (total, traffic-related, and cannabis-related). Then, we examine the disparity in cannabis related arrests, and explore the extent to which traffic stops may contribute to this result. Raw counts and percentatges of yearly totals are provided in Table 50. Table 52 and Table 51 provide a list of crime codes and descriptions for traffic and cannabis violations, respectively, used in this analysis.

Aggregate Incidents

The first two figure shows yearly aggregate rates of arrests for 2010 to 2015.[7]. We see that incidents involving canabis account for about 3 percent of the total incidents each year, while more than half of all incididents involve a traffic incident. Cannabis violations make up a slightly higher proportion of incidents involving African Americans (between 4.6 and 6.6 percent), while traffic-violations make up a slightly smaller percent of total incidents involving African Americans (between 36 and 49 percent).

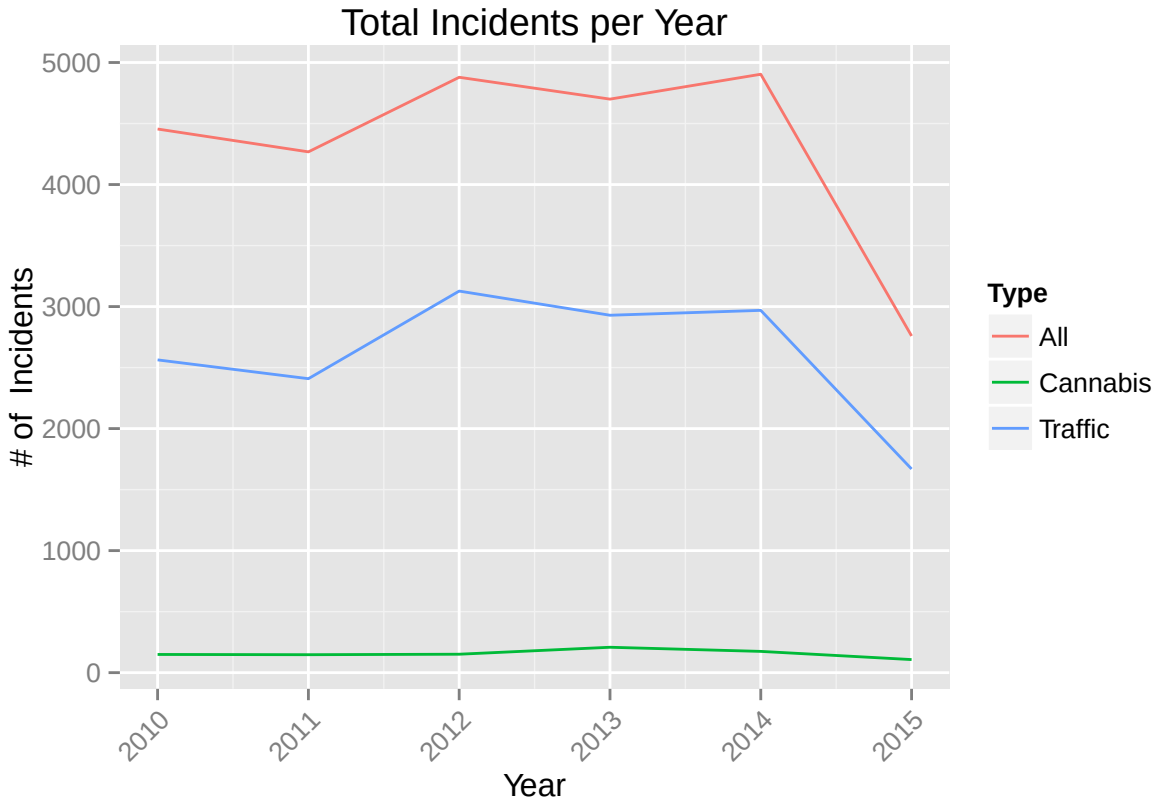


Figure 37: Yearly Incidents by Type

[6] https://data.urbanaillinois.us/

[7] Note the figures for 2015 only extend until August 15, 2015

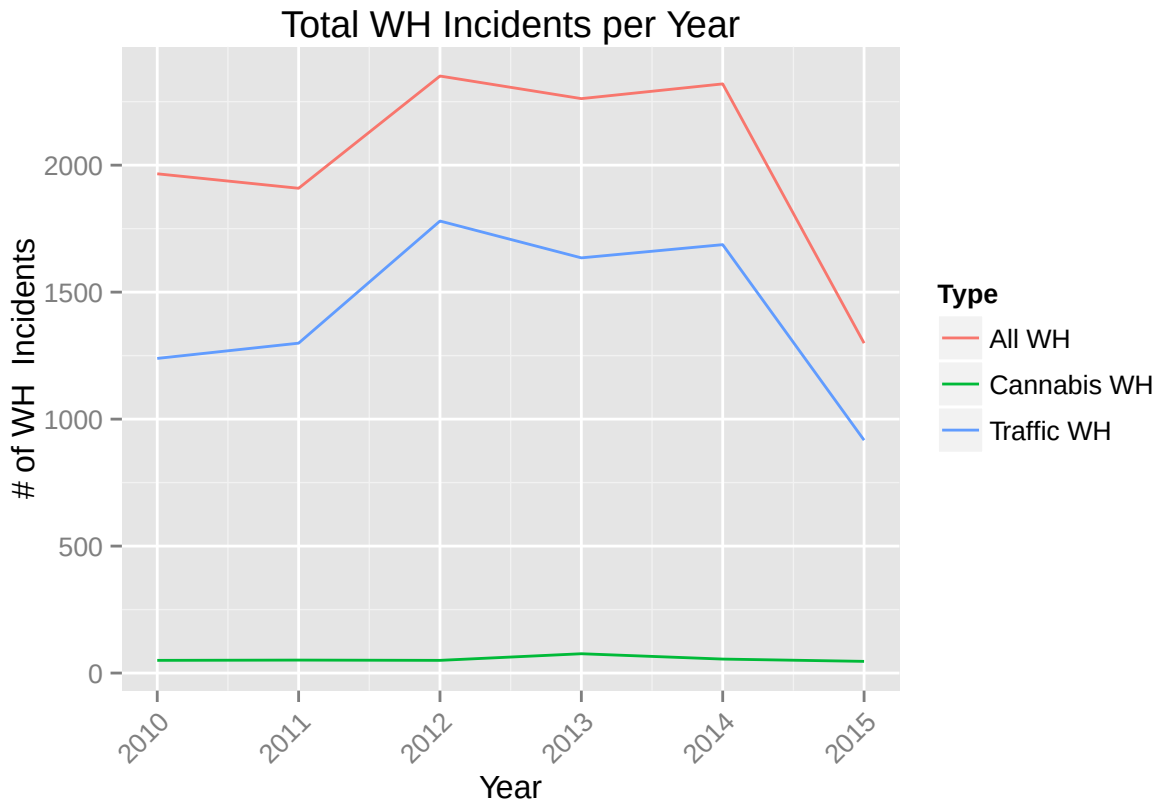


Figure 38: White Yearly Incidents by Type

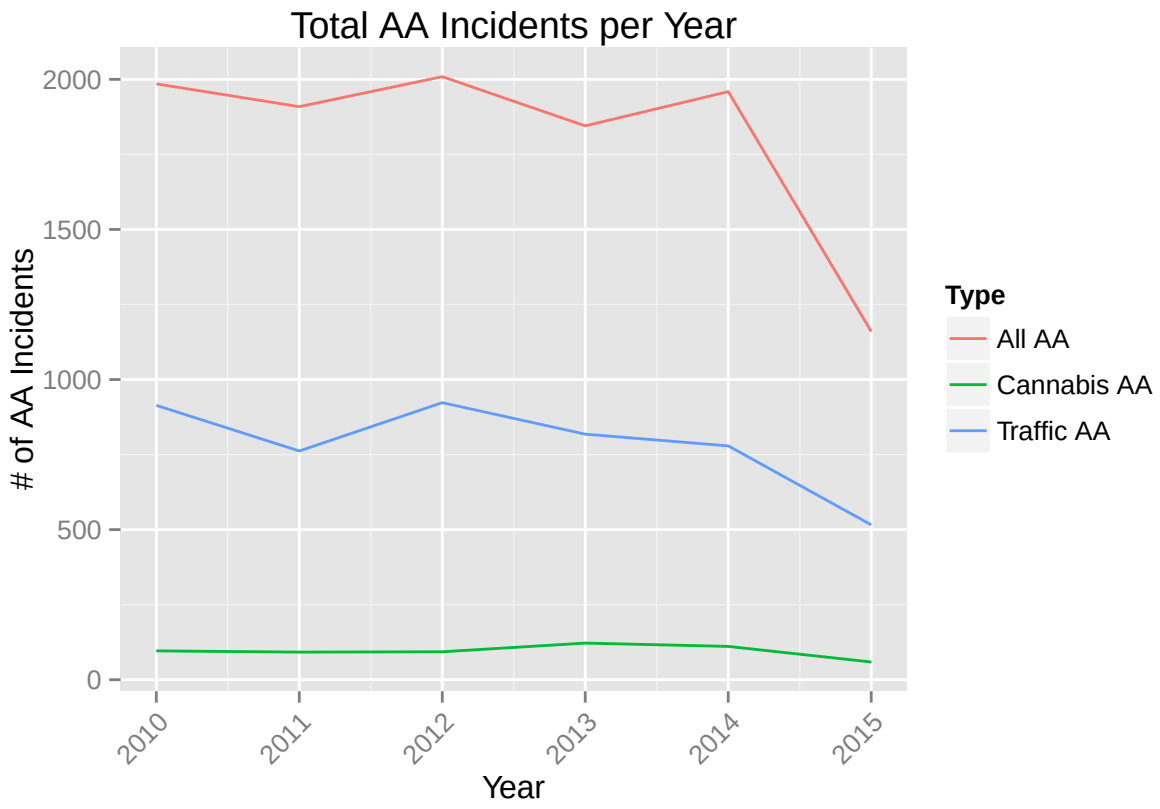


Figure 39: African American Yearly Incidents by Type and Race

Cannabis and Traffic Stops

Next four figures examine racial differences in rates of incidents involving cannabis and explore the possible role traffic citations play in this pattern.

The first figure, shows that while African Americans make up roughly 16 percent of the population in Urbana, they account for between 55 and 64 percent of the cannabis-related incidents in a given year, while whites are associated with between 33 and 43 percent of the violations.

The next figure presents that percent of cannabis incidents that also involved a traffic violation for Whites and African Americans. We see that for both groups, these rates are small, although higher for African Americans (0.5 and 1.2 percent of all) than Whites (0.3 to 0.5 percent).The third figure suggest that although relatively rare, traffic stops that also involve cannabis are for more likley for African Americans than Whites. Between 50 and 75 percent of the traffic incidents that also involved cannabis are associated with African Americans compared to the roughly 25 to 45 percent of incidents that associated with Whites . The final figure shows the contribution of traffic incididents involving cannabis to the total amount of cannabis related incidents for Whites and African Americans. Cannabis charges also associated with a traffic violation account for between 13 and 28 percent of the total cannabis charges associated with African Americans in a given year and between 14 and 24 percent of the cannabis charges associated with Whites.

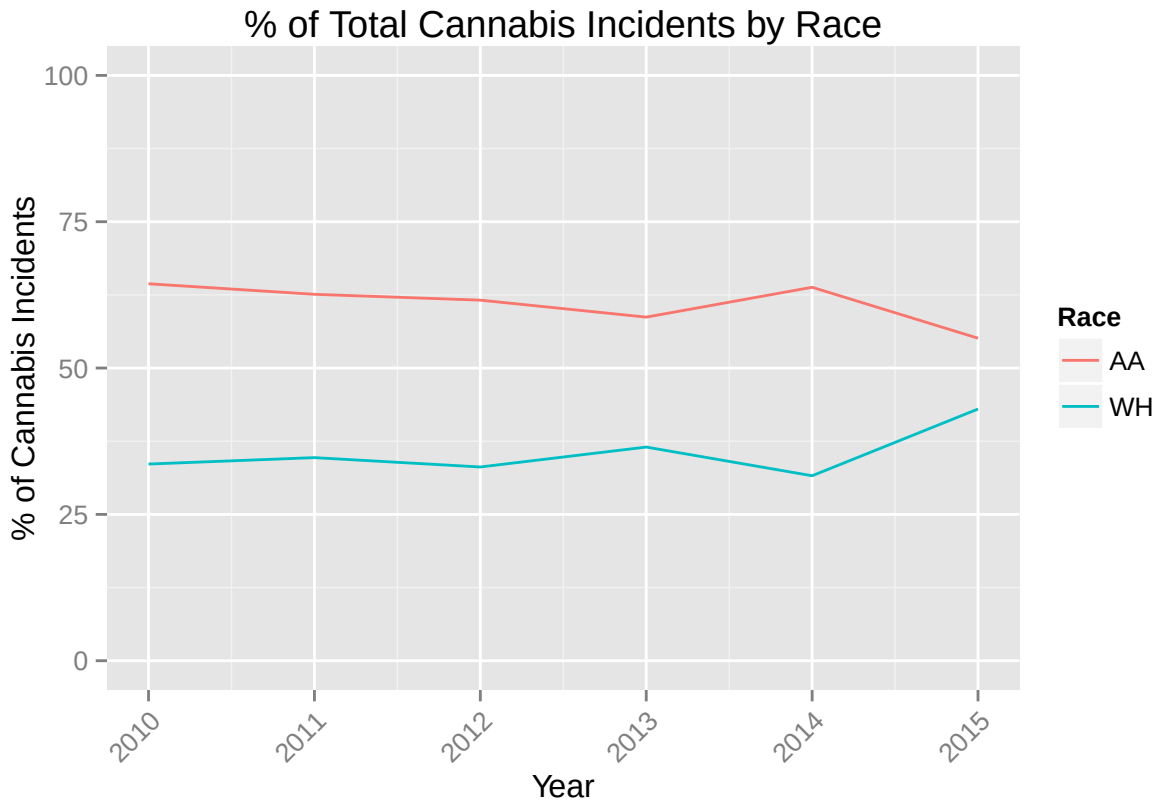


Figure 40: % of Total Cannabis Incidients by Race

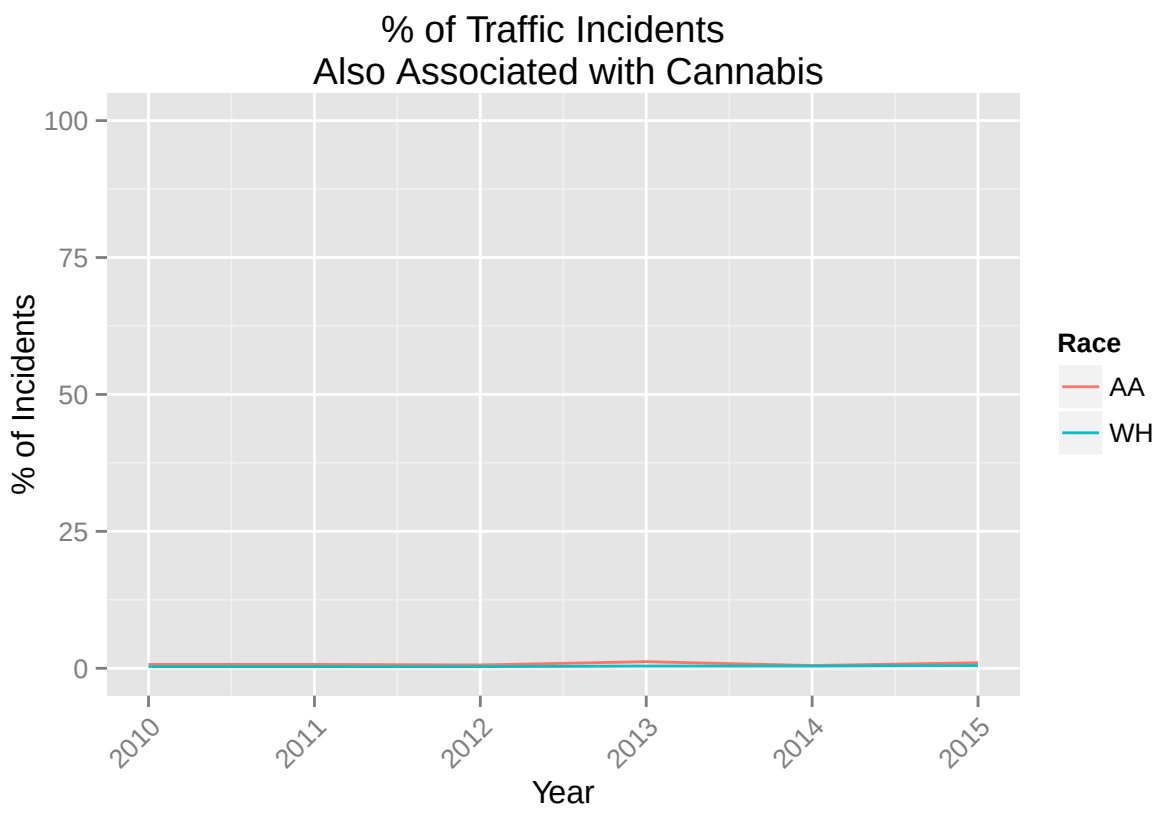


Figure 41: % of Traffic Incidents Involving Cannabis

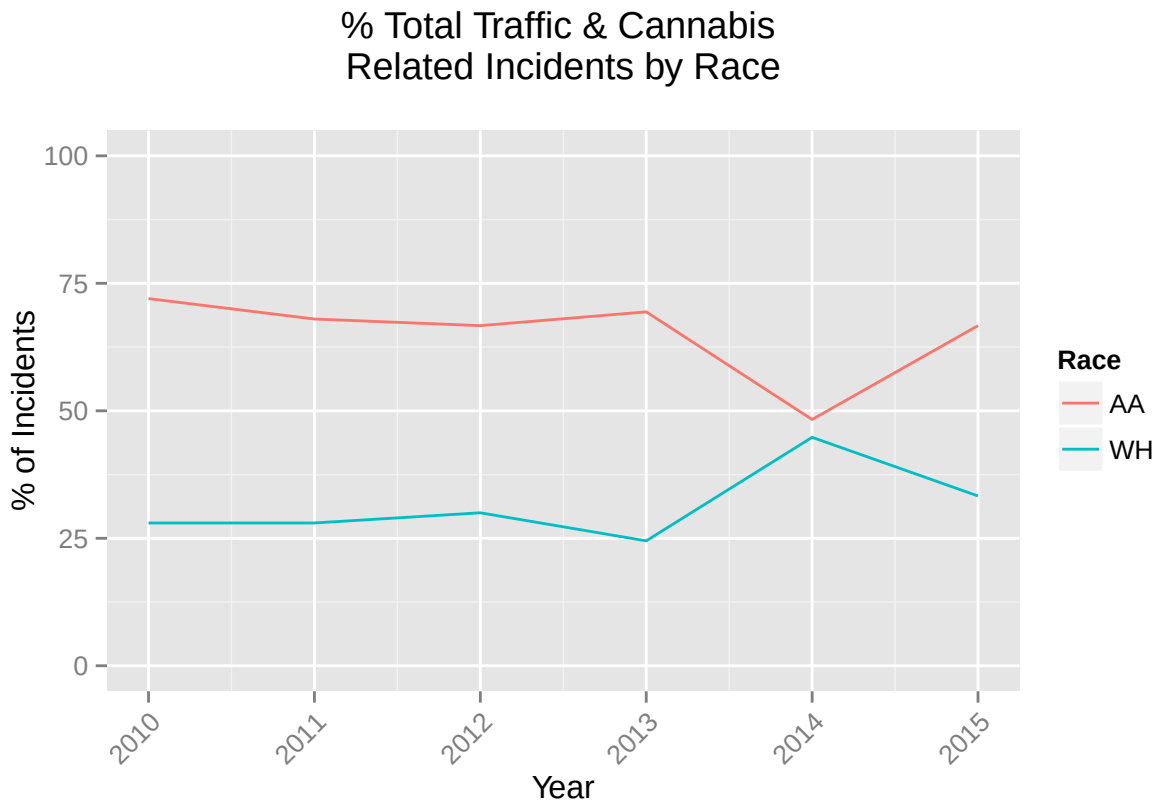


Figure 42: % of Incidents Related to Both Cannabis and Traffic Violations by Race

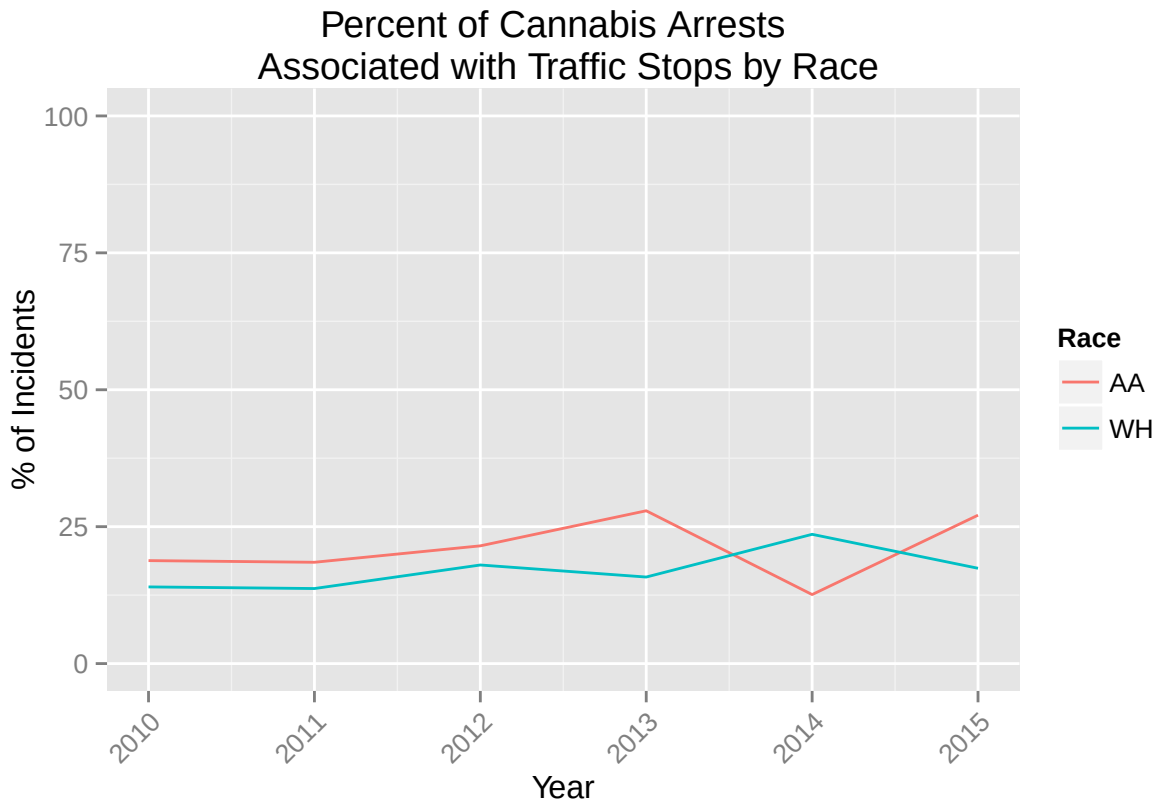


Figure 43: % of Total Cannabis Incidients Involving Traffic Violations

Incident Counts

Table 50: Incididents Involving Traffic Stops and Cannabis

		WH		AA	
2010	**Total**	**# WH**	**% Total**	**# AA**	**% Total**
Total Incidents	4455	1966	44.1	1985	44.6
Traffic	2563	1239	48.3	914	35.7
Cannabis	149	50	33.6	96	64.4
Traffic & Cannabis	25	7	28	18	72
2011	**Total**	**# WH**	**% Total**	**# AA**	**% Total**
Total Incidents	4268	1909	44.7	1909	44.7
Traffic	2409	1299	53.9	762	31.6
Cannabis	147	51	34.7	92	62.6
Traffic & Cannabis	25	7	28	17	68
2012	**Total**	**# WH**	**% Total**	**# AA**	**% Total**
Total Incidents	4879	2351	48.2	2009	41.2
Traffic	3127	1780	56.9	923	29.5
Cannabis	151	50	33.1	93	61.6
Traffic & Cannabis	30	9	30	20	66.7
2013	**Total**	**# WH**	**% Total**	**# AA**	**% Total**
Total Incidents	4700	2262	48.1	1845	39.3
Traffic	2929	1635	55.8	818	27.9
Cannabis	208	76	36.5	122	58.7
Traffic & Cannabis	49	12	24.5	34	69.4
2014	**Total**	**# WH**	**% Total**	**# AA**	**% Total**
Total Incidents	4904	2320	47.3	1959	39.9
Traffic	2969	1687	56.8	779	26.2
Cannabis	174	55	31.6	111	63.8
Traffic & Cannabis	29	13	44.8	14	48.3
2015	**Total**	**# WH**	**% Total**	**# AA**	**% Total**
Total Incidents	2759	1299	47.1	1160	42
Traffic	1669	917	54.9	516	30.9
Cannabis	107	46	43	59	55.1
Traffic & Cannabis	24	8	33.3	16	66.7

Incident Codes

Table~52 represents a list of all the charges associaged

Crime Code	Description
1255	UNIDENTIFIABLE SOUND/AUDIO VISUAL R
2430	ILLEGAL TRANSPORTATION OF LIQUOR
2455	NO REGISTRATION
2460	CANCEL/SUSPEND/REVOKED REGISTRATION
2461	OPERATE UNINSURED MOTOR VEHICLE
2462	OPERATE MV W/SUSPEND REGISTRATION
2465	IMPROPER USE OF REGISTRATION
2470	NO DRIVERS LICENSE
2475	MOTOR VEH ANTI-THEFT LAWS (MISDEMEA
2480	SUSPEND REVOKED DRIVERS LICENSE
2481	DRIVING UNDER SUSPENDED LICENSE

Continued on next page

Crime Code	Description
2482	DRIVING UNDER REVOKED LICENSE
2485	SEAT BELT-DRIVER & PASSENGER
6529	OTHER TRAFFIC RELATED SERVICES
6590	PARKING-HANDICAP
6601	SPEEDING (RADAR)
6602	SPEEDING (PACED)
6603	SPEEDING (SCHOOL ZONE)
6604	SPEEDING (TOO FAST FOR CONDITIONS)
6605	TRAFFIC SIGN VIOLATION
6606	TRAFFIC SIGNAL VIOLATION
6607	IMPROPER PASSING
6608	IMPROPER LANE USAGE
6609	FOLLOWING TOO CLOSELY
6610	IMPROPER TURN-NOT AT INTERSECTION
6611	IMPROPER TURN AT INTERSECTION
6612	IMPROPER RIGHT TURN ON RED
6613	IMPROPER U-TURN
6614	FAILURE TO SIGNAL
6615	UNSAFE MOVEMENT ON ROADWAY
6616	FAILURE TO YIELD AT INTERSECTION
6617	FAILURE TO YIELD TURNING LEFT
6618	FAILURE TO YIELD PRIVATE ROAD
6619	FAILURE TO YIELD PEDESTRIAN
6620	FAILURE TO YIELD FROM STOP SIGN
6621	FAILURE TO REDUCE SPEED
6622	LEAVING THE SCENE OF AN ACCIDENT
6623	CHILD RESTRAINT VIOLATIONS
6624	WEARING HEADSETS WHILE DRIVING
6625	LOUD STEREO IN VEHICLE
6627	NO VALID DL CLASSIFICATION
6628	IMPROPER BACKING
6629	PASSING STOPPED SCHOOL BUS
6630	DRIVING WITHOUT LIGHTS
6631	NO TAILLIGHTS
6632	FAILURE TO DIM HEADLIGHTS
6633	IMPROPER LIGHTING/ONE HEADLIGHT
6634	MUFFLER VIOLATION
6635	NO PHONE IN SCHOOL/WORK ZONES
6636	SIZE,WEIGHT,LOAD VIOLATIONS
6637	MOTORCYCLE VIOLATIONS
6638	ELECTRONIC COMMUNICATION-TEXTING
6639	GRADUATED DRIVER
6640	ELECTRONIC COMMUNICATION-VOICE
6648	OTHER EQUIPMENT VIOLATIONS
6649	OTHER MOVING VIOLATIONS
6670	OTHER TRAFFIC TICKETS
6671	IMPROPER LANE USAGE-ONE-WAY ST
6672	OBSTRUCTED REG/IMPROP DISPLAY
6673	EXPIRED REGISTRATION
6676	DISOBEY TRAFFIC SIGNAL/RR CROSSING
6677	IMPROPER PARKING ON ROADWAY
6678	NO PARKING/HANDICAP ZONE

Continued on next page

Crime Code	Description
6679	PARKING WHERE PROHIBITED
6680	NO LIGHT ON BICYCLE
6681	DISOBEY POLICE OFFICER
6682	AVOIDED TRAFFIC CONTROL
6683	ILLEGAL SQUEALING/SCREECHING TIRES
6684	SPEEDING-CONSTRUCTION ZONE
6685	IMPROPER STARTING OF PARKED VEHICLE
6686	IMPROPER USE OF SIGNAL
6687	FAILURE TO YIELD TO EMERGENCY VEH
6688	UNSAFE EQUIPMENT
6690	NO REAR REGISTRATION LIGHT
6691	NO BRAKE LIGHTS
6694	OBSTRUCTED/TINTED WINDSHIELD
6695	NO FRONT PLATE
6696	UNLAWFUL POSS OF REG(FORGED,ALTERED
6697	UNLAWFUL USE REG(WRONG VEH)
6698	D/L NOT ON PERSON
6699	FAIL TO NOTIFY SOS/CHANGE OF ADDRES
6701	OTHER TRAFFIC RELATED INCIDENTS
6703	PEDESTRIAN FAILED TO YIELD
6709	PEDESTRIAN SOLICITING ON ROADWAY
6710	PEDESTRIAN DISOBEYING SIGNAL
6711	PED CROSS AT OTHER THAN CROSSWALK
6712	OTHER PEDESTRIAN VIOLATIONS
8703	MOTOR VEH/NOISE OFFENSES

Table 52: Traffic Crime Codes

Crime Code	Description
1811	CANNABIS-POSS 30 GM & UNDER
1812	CANNABIS-POSSESSION OVER 30GM
1821	CANNABIS-DELIVERY 30GM & UNDER
1822	CANNABIS-DELIVERY OVER 30GM
1850	CANNABIS PLANT
1860	CANNABIS-CALCULATED CONSPIRACY
2160	DRUG PARAPHERNALIA-SALE/DELIVERY
8483	POSS OF DRUG PARAPHENALIA
8621	POSS OF CANNABIS
8622	POSS DRUG PARAPHERNALIA

Table 51: Cannabis Crime Codes