

Racial and
Ethnic
Disparities
in Traffic
Stops and
Stop
Outcomes:
Springfield,
Missouri

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By:
Michael Stout, Ph.D.
Dept. of Sociology and Anthropology
Missouri State University

Executive Summary

This report summarizes the results of an analysis of racial disparities in stops, searches, arrests, and contraband hits for the city of Springfield, Missouri in 2010.

Disparities in Stops, Searches, Arrests, and Contraband Hits

The results suggest that there are substantial race disparities in traffic stops in Springfield. African Americans were disproportionately stopped according to all three of the indicators that were examined (percent of stops, stop rate, and stop disparity).

There also appears to be substantial race disparities in search rates in Springfield. All three indicators suggest that there are substantial disparities in search rates for African Americans, and two out of three indicators suggest there are disparities in search rates for Hispanics.

The data also revealed substantial race disparities in traffic stops that resulted in arrests in the city. All three indicators suggest that traffic stops were more likely to result in arrests for African Americans. Two of the indicators suggest that traffic stops were more likely to result in arrests for Hispanics.

There did not appear to be substantial race/ethnic disparities in contraband hit rates. African Americans had a contraband hit rate that was equal to the city average, and the contraband hit rate for Hispanics was about 13% *lower* than the city average.

Disparities in Reasons for Stop and Stop Outcomes

The data suggest that there are substantial race/ethnic disparities in the reasons given for traffic stops. Specifically, African Americans were substantially overrepresented (and whites were substantially underrepresented) in the percentage of traffic stops that were for investigative reasons. There was not much evidence of substantial race disparities in stop outcomes, in terms of whether there was a citation or a warning issued, or whether there was no action taken.

Disparities in Probable Cause/Authority to Search

There were substantial race/ethnic disparities in the reasons given for searches during traffic stops. The data show that the greatest disparities in probable cause/authority to search rates are in the Hispanic population. However, there is also evidence of substantial disparities for whites and blacks as well.

Disparities in Traffic Stop Arrest Charges

African Americans were substantially overrepresented in terms of being charged with offense against person, resisting arrest, and traffic violations. Hispanics were overrepresented in terms of their charges for resisting arrest, traffic violations, DWI, and property offense.

The Socioeconomic and Racial Characteristics of Tracts

The results suggest that the socioeconomic and racial characteristics of census tracts are related to differences in African American stop rates, search rates, arrest rates and, to a lesser extent, contraband hit rates. However, they do not fully account for the substantial racial disparities in stops, searches, and arrests in the city.

Introduction

This report summarizes the results of an analysis of racial disparities in stops, searches, arrests, and contraband hits for the city of Springfield, Missouri in 2010. The results suggest that there are substantial racial disparities in traffic stops in the city, even after controlling for the racial characteristics and socioeconomic status of the census tracts where the stops took place. While some argue that racial disparities in traffic stops are symptoms of systematic bias, or racial profiling, on the part of the police, it is important to remember that the motivations of individual police officers is incredibly difficult to prove using the type of data examined in this report.

According to Abramovsky and Edelstein (p. 730)¹, “a racial profile is an explicit policy, either written or unwritten, of targeting suspects for search and arrest on the basis of race.” Racial profiling is a violation of federal law under the 14th Amendment’s Equal Protection Clause².

Prior research has shown that there are many factors that can account for racial disparities in traffic stops that are not related to racial profiling. Unfortunately, with the limitations of the available data I was only able to account for a small number of these other possible factors and was therefore unable to reach a definitive conclusion as to whether or not the Springfield Police Department (SPD) engages in the practice of racial profiling.

However, as more and better data become available in the future, proving or disproving the existence of racial profiling on the part of SPD will become easier. In the meantime, it is recommended that the results summarized in this report be used to start a deliberate discussion between the SPD and representatives of Springfield’s minority community in order to try to arrive at an understanding as to why substantial racial disparities in traffic stops and stop outcomes exist in the city and to come to a common understanding of what strategies should be pursued in order to address them.

A Note on the Data

This report will summarize all of the traffic stop data in the city of Springfield as it pertains to racial disparities for the year 2010.

According to the Missouri Attorney General’s website³:

“[Section 590.650](#) of Missouri Revised Statutes specifies that every time a peace officer stops a driver for violating a motor vehicle statute or ordinance, that officer must report certain driver information, including the driver's race, to his or her department. The agency then must compile the information from every traffic stop into an annual report to the Attorney General.”

This report examines and summarizes the traffic stop data collected by the SPD for its 2010 annual report.

¹ Abraham Abramovsky and Jonathan I. Edelstein. 2000. “Pretext Stops and Racial Profiling After *Whren v. United States*: The New York and New Jersey Response Compared.” *Albany Law Review* Vol. 63(3): 725-742.

² For details of the Equal Protection Clause see http://www.law.cornell.edu/wex/Equal_protection

³ <http://ago.mo.gov/racialprofiling/racialprofiling.htm>

How is race measured?

In the state of Missouri the race of the driver must be determined and recorded by the police officer making the stop, not by the operator of the vehicle. According to the Missouri Attorney General's website⁴, there are two reasons for this:

1. If an officer is profiling based on race, that officer is deciding to pull the driver over based on the officer's perception of that driver's race.
2. If the officer questions the driver about his race, the driver may become confrontational or think his rights are being violated.

Using Census Data as a Benchmark

In order to try to explain the racial disparities in traffic stops in the city of Springfield this analysis takes into account some of the contextual characteristics of the census tracts that the stops occur in. Specifically, the analysis examines whether the socioeconomic and racial characteristics of the tracts where the stops occurs is related to racial disparities. This information will be used as a benchmark for future reports in order to determine whether racial disparities in stops and stop outcomes are increasing or declining over time.

Weakness of Using Census Data as Benchmark:

Census data measures the residential population of a given area. Whether the driving population of the same area shares the demographic profile of the residential population is an important concern. Surveys of transportation and vehicle-ownership rates have suggested that the minority driving population may be significantly different from the minority residential population in a state or locality⁵.

In an effort to account for some of the weaknesses in using census data, this report looks only at the segment of the city's population that is 16 years of age and older. However, while this may provide a somewhat more reliable estimate of the driving population for a given area of the city, there are still important weaknesses that must be mentioned:

First, just because someone is over the age of 16 does not necessarily mean that they have a driver's license or a car. Ideally, benchmark data for racial profiling as it relates to traffic stops would take into account the driving population. However, the Missouri Department of Motor Vehicles does not include race when administering driver's licenses, so that information was unavailable for this study.

Second, comparing data on traffic stops to the population of potential licensed drivers in the city does not take into account the differential rates at which minorities and whites travel through different areas of a city⁶. So, the characteristics of drivers in a given area do not necessarily reflect the characteristics of the residential population in that area. With these limitations in

⁴ <http://ago.mo.gov/racialprofiling/vehiclestopfaqs.htm>

⁵ Michael R. Smith and Geoffrey P. Alpert. 2002. "Searching for Direction: Courts, Social Science, and the Adjudication of Racial Profiling Claims." *Justice Quarterly* Vol. 19(4): 673-303.

⁶ Michael R. Smith and Geoffrey P. Alpert. 2002. "Searching for Direction: Courts, Social Science, and the Adjudication of Racial Profiling Claims." *Justice Quarterly* Vol. 19(4): 673-303.

mind, the results of an analysis of racial disparities in traffic stops in Springfield is examined in detail.

Part I: Disparities in Stops, Searches, Arrests, and Contraband Hits

Table 1. City of Springfield 2010 Stop, Search, Arrest, and Contraband Statistics by Race/Ethnicity (Updated using 2010 Decennial Census Data)

Key Indicators	Total	White	Black	Hispanic	Asian	Am. Indian	Other
<u>Population 16+</u>	133,431	120,374	5,082	4,079	2,588	1,018	1,338
Percent of population 16+	100	90.21	3.81	3.06	1.94	0.76	1.00
<u>Stops</u>	29,978	26,323	2,608	524	311	54	158
Stop percent	100	87.81	8.70	1.75	1.04	0.18	0.53
Stop rate	23.56	23.17	56.14	13.74	17.48	6.34	13.75
Stops disparity index	N/A	0.97	2.28	0.57	0.53	0.24	0.53
<u>Searches</u>	4,051	3,224	711	86	15	4	11
Search percent	100	79.59	17.55	2.12	0.37	0.10	0.27
Search rate	11.78	10.97	20.73	17.66	3.75	4.55	0.97
Search disparity index	N/A	0.91	2.02	1.22	0.36	0.55	0.52
<u>Arrests</u>	1,979	1,618	295	48	12	2	4
Arrest percent	100	81.76	14.91	2.43	0.61	0.10	0.20
Arrest rate	6.05	5.74	10.33	11.38	2.38	5.68	3.23
Arrest rate disparity index	N/A	0.93	1.71	1.39	0.59	0.56	0.38
<u>Contraband</u>	945	757	163	20	3	1	1
Contraband percent	100	80.11	17.25	2.12	0.32	0.11	0.11
Contraband hit rate	23.06	23.05	22.65	19.53	18.18	25	10
Contraband disparity index	N/A	0.91	1.98	1.21	0.31	0.59	0.20

Table 1 reports statistics on race/ethnic disparities in stops, searches, arrests, and contraband hits for the City of Springfield in 2010. The table provides the demographic breakdown of the population of the city that is 16 years old and older by race/ethnicity. According to the 2010 Census there were 133,431 residents in the city who were older than 16. Whites make up about 90.21% of the population age 16 and older, African-Americans make up just under 4%, Hispanics make up just over 3%, Asians make up just under 3%, American Indians make up just under 1%, and exactly 1% of the population is classified as some other race.

Table 1 also reports percentages, rates, and disparity indices for stops, searches, arrests and contraband hits. The statistics presented in the table were calculated using the following formulas:

Percentages

Stop percent = $(N_k_stops/N_Stops)*100$

Search percent = $(N_k_searches/N_searches)*100$

Arrest percent = $(N_k_arrests/N_arrests)*100$

Contraband percent = $(N_k_contraband\ hits/N_contraband\ hits)*100$

Where N_k = number of stops, searches, arrests, or contraband hits per race/ethnic group.

Rates

Stop rate = (stops/population 16+) X 100.

Search rate = (searches / stops) X 100.

Arrest rate = (arrests / stops) X 100.

Contraband hit rate = (searches with contraband found / total searches) X 100.

Disparity Indices

Stops disparity index = (proportion of stops / proportion of population).

Search disparity index = (proportion of searches/ proportion of stops).

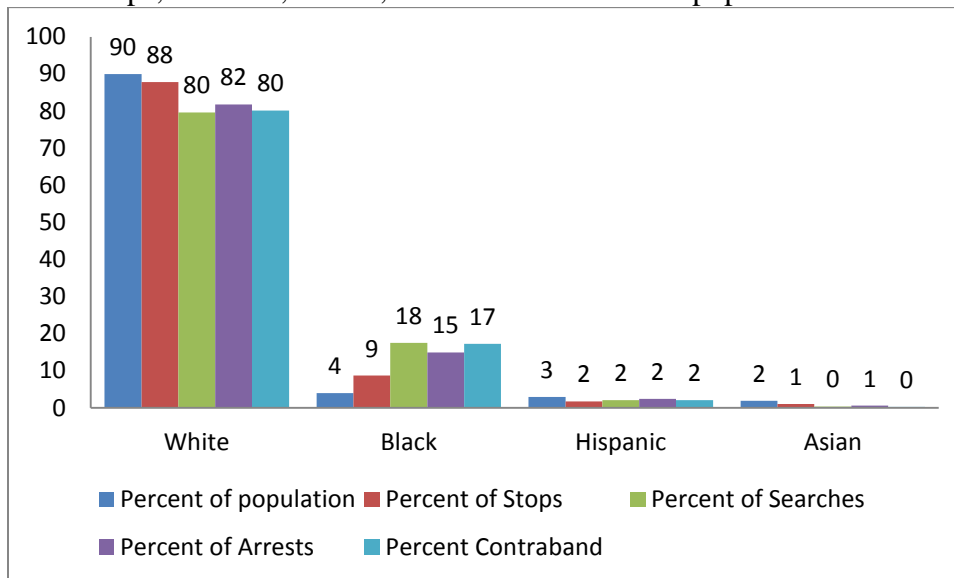
Arrest rate disparity index = (proportion of arrests / proportion of stops).

Contraband disparity index = (proportion of contraband hits / proportion of stops).

Note: A disparity index value of 1 represents no disparity; values greater than 1 indicate over-representation, values less than 1 indicate under-representation.

The information in Table 1 is summarized and presented graphically below.

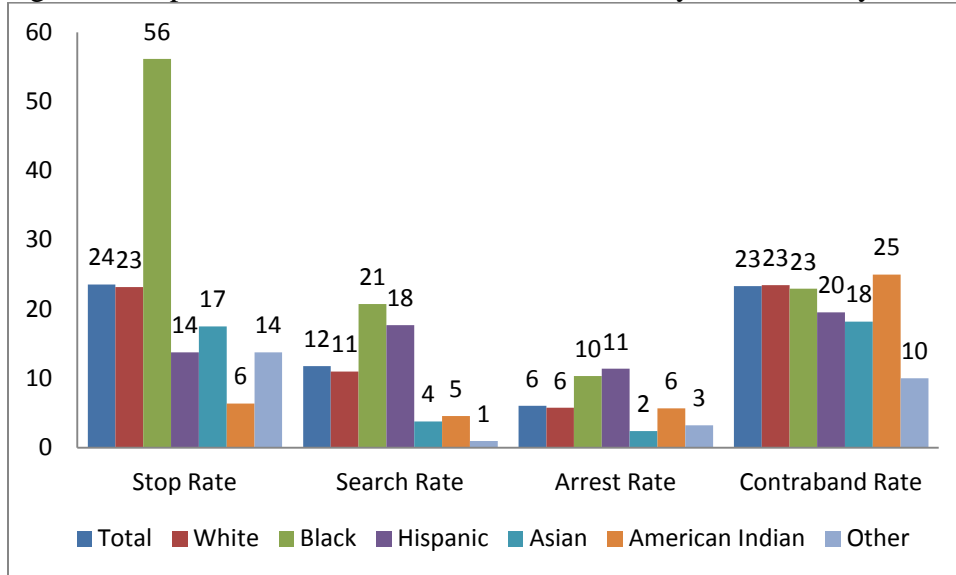
Figure 1. Race/ethnicity as a percentage of the overall population and as a percentage of all traffic stops, searches, arrests, and contraband for the population 16+⁷



- Whites comprise approximately 90% of the population over the age of 16. Figure 1 clearly shows that, as a group, they are underrepresented in terms of their percentage of all stops (88%), searches (80%), arrests (82%), and contraband hits (80%).
- African Americans comprise about 4% of the population over the age of 16. As a group, they are overrepresented in terms of their percentage of all stops (9%), searches (18%), arrests (15%), and contraband hits (17%).
- Hispanics comprise about 3% of the population over the age of 16, and about 2% of all stops, searches, arrests, and contraband hits.

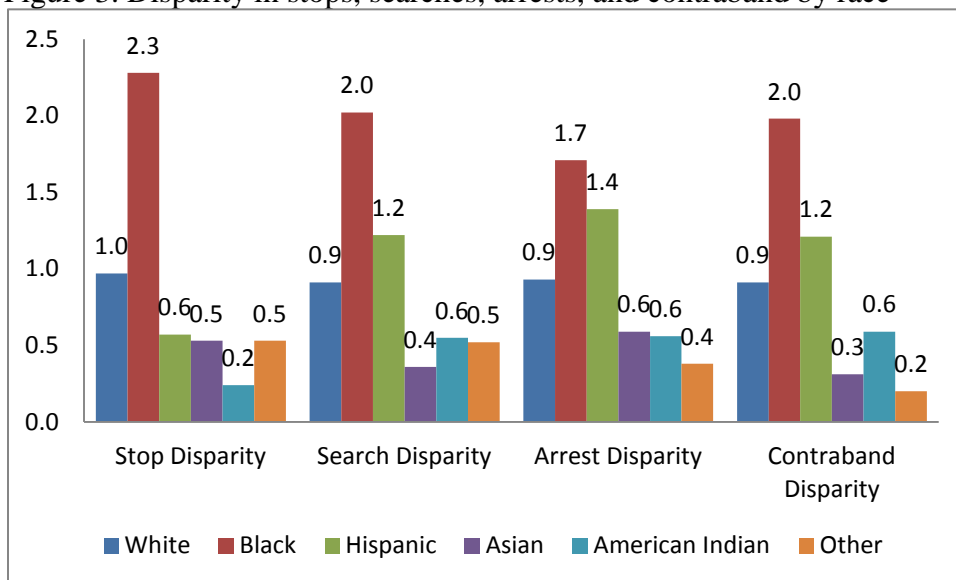
⁷ American Indians and other race/ethnicities are excluded because they make up less than 1% of stops, searches, arrests, and contraband hits. Refer to Table 1 for their statistics.

Figure 2. Stop, search, arrest, and contraband rates by race/ethnicity



- African-Americans were the only group that was stopped at a rate that was higher than the city average. They were stopped at a rate that was 133.33% greater than the average stop rate for the city.
- The search rate for Hispanics was 50% higher than the city average. African-Americans who were stopped were searched at a rate that was 75% higher than the city average.
- African-Americans and Hispanics also had arrest rates that were higher than the city average. The arrest rate for African-Americans was 66.67% higher than the city average, and the rate for Hispanics was 83.33% higher than the city average.
- There do not appear to be substantial race/ethnic disparities in contraband hit rates.

Figure 3. Disparity in stops, searches, arrests, and contraband by race



- Whites were stopped at a rate that is equal to their proportion of the population 16 and older. African-Americans were stopped at a rate that was about 130% greater than would be expected based solely on their proportion of the population 16 and older. Hispanics were stopped at a rate that was about 40% lower than would be expected based solely on their proportion of the population 16 and older. All other racial/ethnic groups were stopped at rates lower than would be expected based on their proportion of the population 16 and older.
- Whites who were stopped were searched at a rate that is about 10% lower than would be expected based on their proportion of traffic stops. African-Americans who were stopped were searched at a rate that was about 100% higher than would be expected based solely on their proportion of traffic stops. Hispanics were searched at a rate that was about 20% greater than would be expected based on their proportion traffic stops. All other racial/ethnic groups were searched at rates lower than would be expected based on their proportion of the population that was stopped.
- Whites who were stopped had arrest rates that were about 10% lower than would be expected based solely on their proportion of traffic stops. African-Americans who were stopped were arrested at a rate that was 70% greater than would be expected based solely on their proportion of traffic stops. Hispanics who were stopped were arrested at a rate that was 40% greater than would be expected based solely on their proportion traffic stops. All other racial/ethnic groups were arrested at rates lower than would be expected based on their proportion of traffic stops.
- Whites had a contraband hit rate that was about 10% lower than would be expected based solely on their proportion of traffic stops. African-Americans had a contraband hit rate that was about 100% greater than would be expected based solely on their proportion of traffic stops. Hispanics had a contraband hit rate that was about 20% greater than expected based solely on their proportion of traffic stops. All other racial/ethnic groups had hit rates lower than would be expected based on their proportion traffic stops.

Summary of Disparities in Stops, Searches, Arrests, and Contraband Hits

The data strongly suggest that there are substantial race disparities in traffic stops in Springfield. African Americans were disproportionately stopped according to all three of the indicators that were examined (percent of stops, stop rate, and stop disparity). While African Americans comprised a little less than 4% of the population 16 and older in 2010, they comprised nearly 9% of all traffic stops in the city. Furthermore, they were stopped at a rate that was more than 133% higher than the city average, and at a rate that was about 130% greater than would be expected based solely on their proportion of the population 16 and older.

There also appears to be substantial race disparities in search rates in Springfield. All three indicators suggest that there are substantial disparities in search rates for African Americans, and two out of three indicators suggest there are disparities in search rates for Hispanics. While African Americans comprised 9% of stops, they comprised 18% of searches. Their search rate, which provides an indicator of the number of searches for African Americans relative to their number of traffic stops, was 75% higher than the city average. African-Americans who were stopped were searched at a rate that was about 100% higher (double) than would be expected based solely on their proportion of traffic stops. Hispanics who were stopped were also searched

at rates that were substantially higher than the city average. The search rate for Hispanics was 50% higher than the city average, and they were searched at a rate that was about 20% greater than would be expected based on their proportion traffic stops.

The data also revealed substantial race disparities in traffic stops that resulted in arrests in the city. All three indicators suggest that traffic stops were more likely to result in arrests for African Americans. African Americans comprised 9% of all stops, but 15% of all arrests. The arrest rate for African-Americans was 66.67% higher than the city average. African Americans were arrested at a rate that was nearly 70% greater than would be expected based solely on their proportion of traffic stops. Two of the indicators suggest that traffic stops were more likely to result in arrests for Hispanics. Hispanics had an arrest rate that was 83.33% higher than the city average. Hispanics who were stopped were arrested at a rate that was 40% greater than would be expected based solely on their proportion traffic stops.

The results are mixed when it comes to race disparities in contraband hit rates. On the one hand, African Americans comprise 9% of all stops, but 17% of all contraband hits, and they had a contraband disparity index score that was about 100% greater than would be expected based solely on their proportion of traffic stops. Hispanics comprised 1.75% of all stops, but 2.43% of all contraband hits, and they had a contraband disparity index score that was about 20% greater than would be expected based solely on their proportion of traffic stops. On the other hand there did not appear to be substantial race/ethnic disparities in contraband hit rates. African Americans had a contraband hit rate that was equal to the city average, and the contraband hit rate for Hispanics was about 13% *lower* than the city average. This is true despite the fact that African-Americans and Hispanics were both searched at rates that were substantially higher than the city average.

Part II: Reason for Stop and Stop Outcome

Table 2. City of Springfield 2010 Vehicle Stop Statistics (Updated Using 2010 U.S. Decennial Census Data)

Vehicle Stop Stats		Total	White	Black	Hispanic	Asian	Am. Indian	Other
Reason for stop	<u>Moving violation</u>	13,217	11,681	991	259	164	40	82
	Moving violation percent	100	88.38	7.50	1.96	1.24	0.30	0.62
	Moving violation rate	46.98	47.84	39.61	50.52	49.25	69.32	51.13
	Moving disparity index	N/A	1.01	0.86	1.12	1.20	1.68	1.18
	<u>Equipment violation</u>	5,901	5,145	558	93	73	7	25
	Equipment violation percent	100	87.19	9.46	1.58	1.24	0.12	0.42
	Equipment violation rate	17.69	17.53	20.41	17.97	26.44	16.48	12.85
	Disparity equipment	N/A	0.99	1.09	0.90	1.19	0.66	0.80
	<u>License violation</u>	11,256	9,885	1,049	173	85	10	54
	License violation percent	100	87.82	9.32	1.54	0.76	0.09	0.48
	License violation rate	36.50	35.80	40.49	30.12	27.22	23.30	35.72
	License disparity index	N/A	1.00	1.07	0.88	0.73	0.49	0.91
	<u>Investigative stops</u>	923	726	164	26	3	1	3
	Investigative stop percent	100	78.66	17.77	2.82	0.33	0.11	0.33
Investigative stop rate	2.95	2.69	4.52	6.82	0.45	2.27	3.50	
Investigative disparity index	N/A	0.90	2.04	1.61	0.31	0.60	0.62	
Stop outcome	<u>Citation</u>	13,117	11,647	1,030	244	111	26	59
	Citation percent	100	88.79	7.85	1.86	0.85	0.20	0.45
	Citation rate	45.51	44.65	46.10	50.77	39.59	45.64	34.44
	Citation disparity index	N/A	1.01	0.90	1.06	0.82	1.10	0.85
	<u>Warning</u>	14,025	12,230	1,278	230	171	27	89
	Warning percent	100	87.20	9.11	1.64	1.22	0.19	0.63
	Warning rate	45.06	45.07	45.17	38.18	45.50	52.08	61.58
	Warning disparity index	N/A	0.99	1.05	0.94	1.18	1.07	1.20
	<u>No action</u>	4,289	3,674	457	82	47	6	23
	No action percent	100	85.66	10.66	1.91	1.10	0.14	0.54
	No action rate	14.58	15.25	15.08	15.24	19.45	14.20	12.90
	No action disparity index	N/A	0.98	1.22	1.09	1.06	0.78	1.02

Table 2 summarizes statistics on reasons for stop and stop outcome for the overall population and broken down by race/ethnicity. The Springfield Police Dept. had data available for four types of stops: 1) moving violations⁸; 2) equipment violations⁹; 3) license violations¹⁰; and 4) investigative stops¹¹. Three statistics are presented for each type of stop and stop outcome broken

⁸ **Moving violations** -- driving the wrong way on a one way street, speeding, any type of stop sign or signal violation, failing to yield to emergency vehicle, failing to stop for a school bus, driving on the sidewalk, passing violation, careless and imprudent driving, etc.

⁹ **Equipment violations** – headlight violations, taillight violations, motorcycle driver with no helmet, obstructed view, etc.

¹⁰ **License violations** – a vehicle displaying no license plate, license plates that don't check to that vehicle, license plates that don't display a current annual registration tab, license plates displayed incorrectly, etc.

¹¹ **Investigative stops** – stops related to a crime where an officer has reason to believe the vehicle or driver was involved in a crime, stops where an officer has reason to believe the driver has no driver's license (personal knowledge or an MDT check while moving), stops where an officer has reason to believe the driver or occupants have a warrant (personal knowledge or an MDT check on the plate while moving), etc.

down by race. The first is the overall percentage of all stop types and stop outcomes. The second is the rate per 100 for each type of stop and stop outcome. The third is a disparity index for each type of stop and stop outcome. The formulas used for calculating the statistics presented in the table are presented below:

Percentages

Moving violation percent = $(N_{k_moving}/N_Stops)*100$

Equipment violation percent = $(N_{k_equipment}/N_stops)*100$

License violation percent = $(N_{k_license}/N_stops)*100$

Investigative stop percent = $(N_{k_investigative}/N_stops)*100$

Where N_k = number of stops for moving violations, equipment violations, license violations, or investigative reasons per race/ethnic group.

Rates

Moving violation rate = $(\text{moving violations}/\text{stops}) * 100$.

Equipment violation rate = $(\text{equipment violations} / \text{stops}) * 100$.

License violation rate = $(\text{license violations} / \text{stops}) * 100$.

Investigative stop rate = $(\text{investigative stops} / \text{stops}) * 100$.

Disparity Indices

Moving violation disparity index = $(\text{proportion of moving violations} / \text{proportion of population})$.

Equipment violation disparity index = $(\text{proportion of equipment violations} / \text{proportion of population})$.

License violation disparity index = $(\text{proportion of license violations} / \text{proportion of population})$.

Investigative stop disparity index = $(\text{proportion of investigative stops} / \text{proportion of population})$.

Note: A value of 1 represents no disparity; values greater than 1 indicate over-representation, values less than 1 indicate under-representation.

Stop Reasons

Figure 4. Percentage of stops by reason for race/ethnic groups¹²

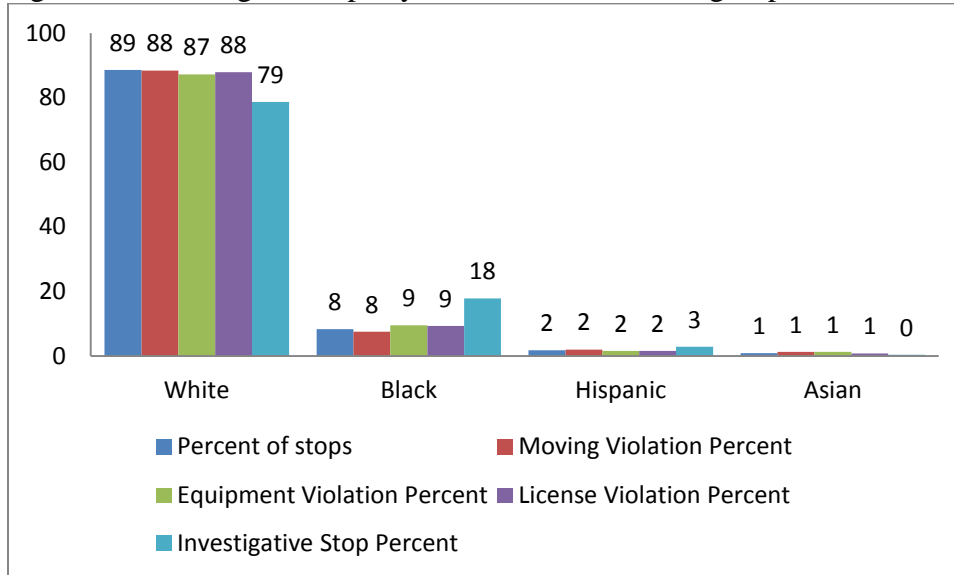


Figure 4 reports the percent of all stops and stop reasons by race.

- Whites were involved in 89% of all stops, 88% of moving violations, 87% of equipment violations, and 88% of license violations. They were substantially underrepresented in their percentage of stops that were for investigative reasons.
- African-Americans were involved in 8% of all stops, 8% of moving violations, 9% of equipment violations, and 9% of license violations. They were substantially overrepresented in their percentage of stops that were for investigative reasons. The percentage of African-Americans who were stopped for investigative purposes was more than double their representation of the overall percentage of stops.
- Hispanics were involved in 2% of all stops, 2% of moving violations, equipment violations, and license violations, and 3% of investigative stops.
- Asians were involved in 1% of all stops, 1% of moving violations, equipment violations, and license violations. They were involved in less than 1% of all investigative stops.

¹² Native Americans and other/race ethnicities are not included since they combined for less than 1% of all stops.

Figure 5. Stop rates by reason for race/ethnic groups

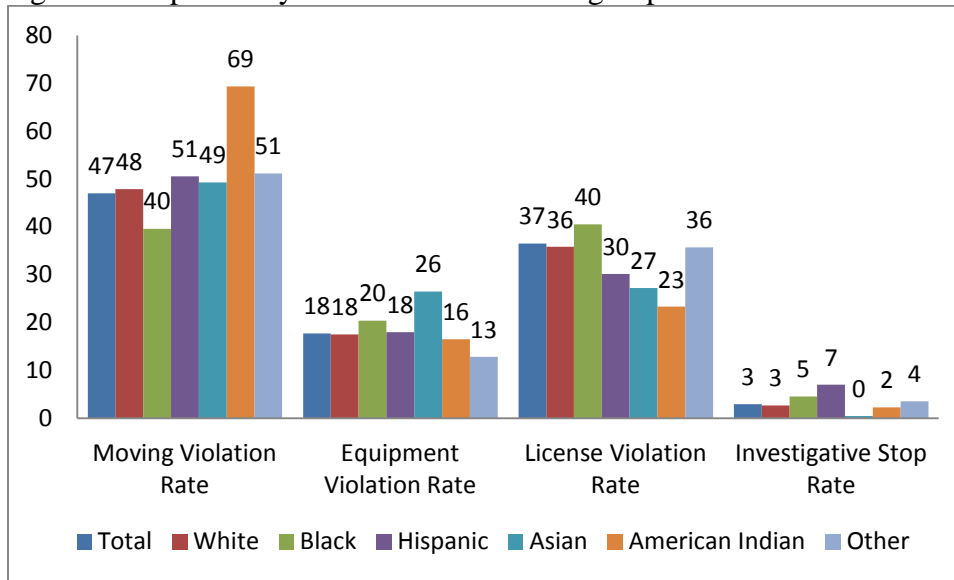


Figure 5 reports rates for all four types of stops for the overall population and by race/ethnicity.

- There was considerable variation in the moving violation rate by race. African Americans were the least likely to have been stopped for a moving violation. Their moving violation rate was 14.89% lower than the rate for the city. In contrast, the moving violation rate for Native Americans was 46.81% higher than the city average. Hispanics, whites, Asians, and people of other race/ethnic backgrounds also had moving violation rates that were higher than the city average, though not by much.
- There was less variation in equipment violation rates. African Americans and Asians had higher equipment violation rates that were higher than the city average. All other race/ethnic groups had equipment violation rates that were equal to or less than the city average.
- African-Americans had a license violation rate that was 8.11% higher than the city average.
- The investigative stop rate for African-Americans was 53.22% higher than the city average. The investigative stop rate for Hispanics was 131.19% higher than the city average. All other race/ethnic groups had investigative stop rates that were lower than the city average.

Figure 6. Disparities indices by reason for stop for race/ethnic groups

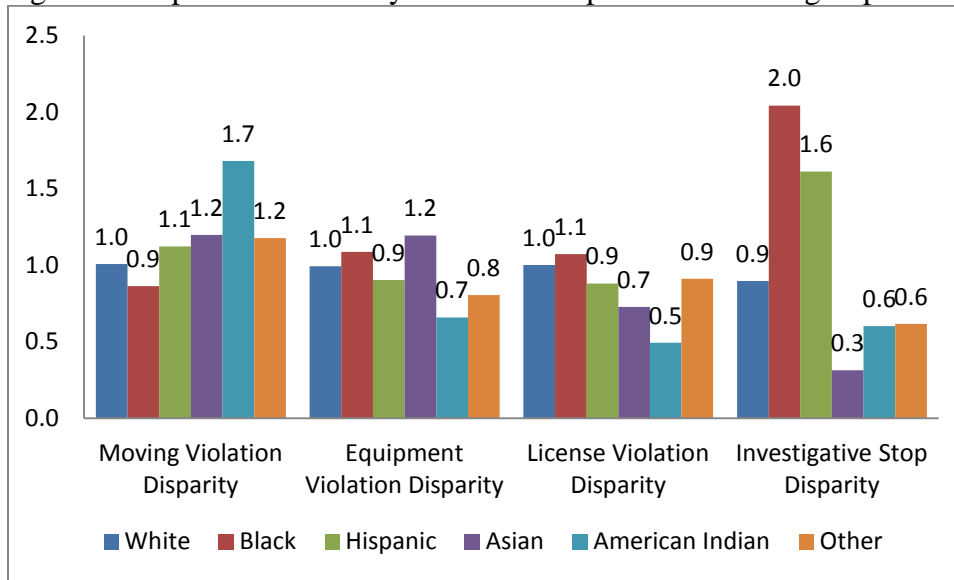


Figure 6 reports disparity indices for reasons for stop by race/ethnicity.

- African-Americans were stopped for moving violations at a rate that is about 10% lower than would be expected based solely on their proportion of all traffic stops. All other racial/ethnic groups were stopped for moving violations at rates that were higher than would be expected based solely on the proportion of traffic stops they represent.
- African-Americans were stopped for equipment violations at a rate 10% greater than would be expected based solely on their proportion of traffic stops. Hispanics were stopped for equipment violations at a rate 10% lower than would be expected based solely on their proportion of traffic stops. Asians were stopped for equipment violations at a rate that is 20% higher than would be expected based solely on their proportion of traffic stops. Native Americans and other race/ethnic groups were stopped for equipment violations at a rate that was lower than would be expected given the proportion of traffic stops they account for.
- African-Americans were stopped for license violations at a rate 10% greater than would be expected based solely on their proportion of traffic stops. All other racial/ethnic groups were stopped for license violations at rates equal to or lower than would be expected based on their proportion of traffic stops.
- African-Americans were stopped for investigative reasons at a rate that was double what would be expected based solely on their proportion of traffic stops. Hispanics were stopped for investigative reasons at a rate that was 60% greater than would be expected based solely on their proportion of traffic stops. All other racial/ethnic groups were stopped for investigative purposes at rates equal to or lower than would be expected based on their proportion of traffic stops.

Summary of Reasons for Stop

The data suggest that there are substantial race/ethnic disparities in the reasons given for traffic stops. African Americans were substantially overrepresented (and whites were substantially underrepresented) in the percentage of traffic stops that were for investigative reasons. Their percentage of stops for investigative reasons was more than double their representation of the

overall percentage of stops. The investigative stop rate for African-Americans was 53.22% higher than the city average, and the investigative stop rate for Hispanics was 131.19% higher than the city average. Finally, African Americans had a score on the investigative disparity index that was double what would be expected based solely on their proportion of traffic stops, and Hispanics had a disparity score that was 60% greater than would be expected based solely on their proportion of traffic stops.

Stop Outcomes

Figure 7. Stop outcome percentages by race/ethnicity

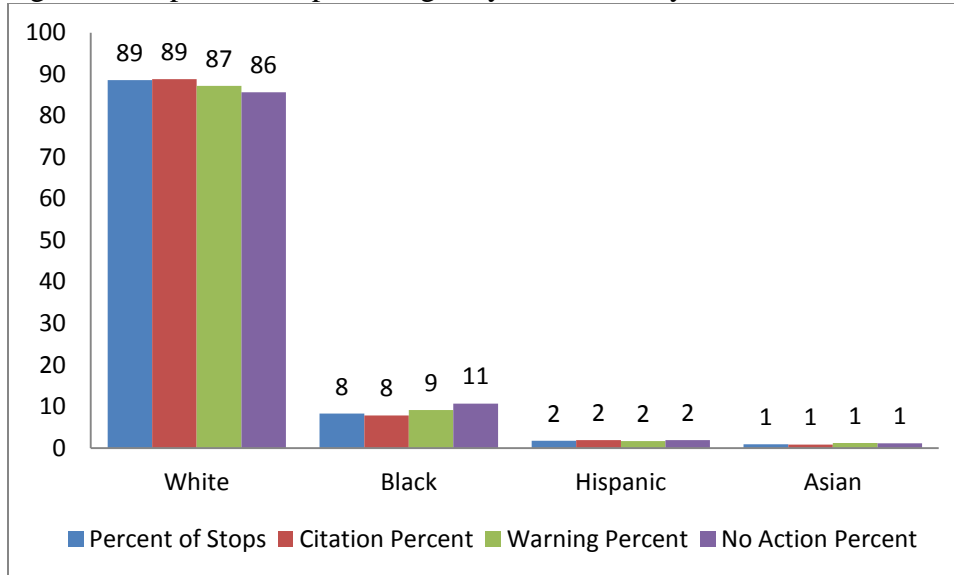


Figure 7 reports stop outcome percentages for race/ethnic groups¹³ compared to their overall percentage of stops.

- Whites comprised 89% of all stops, 89% of all citations, 87% of all warnings, and 86% of all times that no action was taken.
- African-Americans comprised 8% of all stops, 8% of all citations, 9% of all warnings, and 11% of all times that no action was taken.
- Hispanics comprised 2% of all stops, and 2% of all citations, warnings, and times that no action was taken.
- Asians comprised 1% of all stops, citations, warnings, and times that no action was taken.

¹³ Native Americans and Other race/ethnic groups are excluded since they comprise less than 1% of all stops.

Figure 8. Stop outcome rates by race/ethnicity

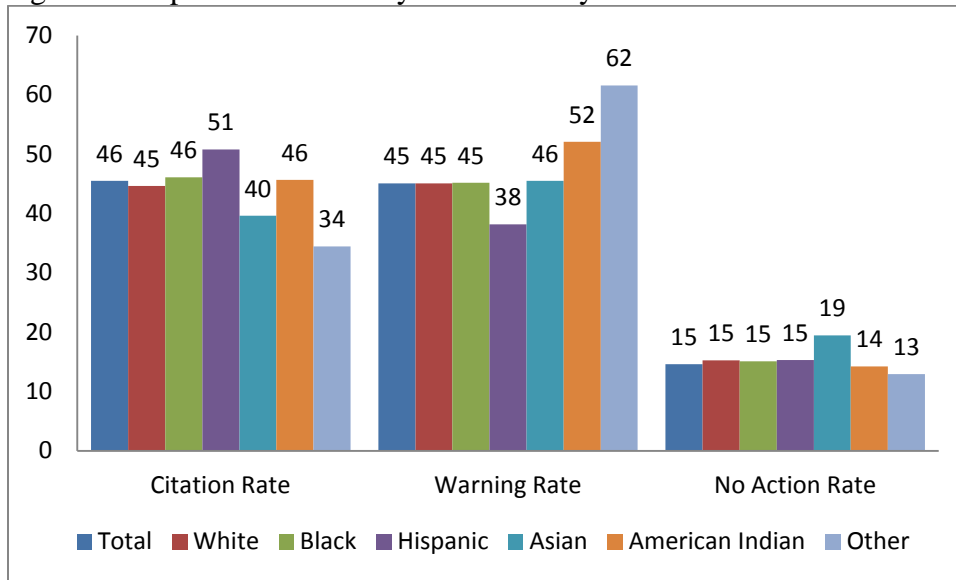


Figure 8 shows stop outcome rates per 100 stops by race/ethnicity.

- Hispanics were issued citations at a rate that was 11.56% higher than the city average. All other race/ethnic groups were near or below the city average.
- Asians, Native Americans, and Other race/ethnic groups were given warnings at rates that were higher than the city average.
- No action was taken at a higher rate for Asians than for other race/ethnic groups. No action was taken for all other groups at rates that were near or below the city average.

Figure 9. Stop outcome disparities by race/ethnicity

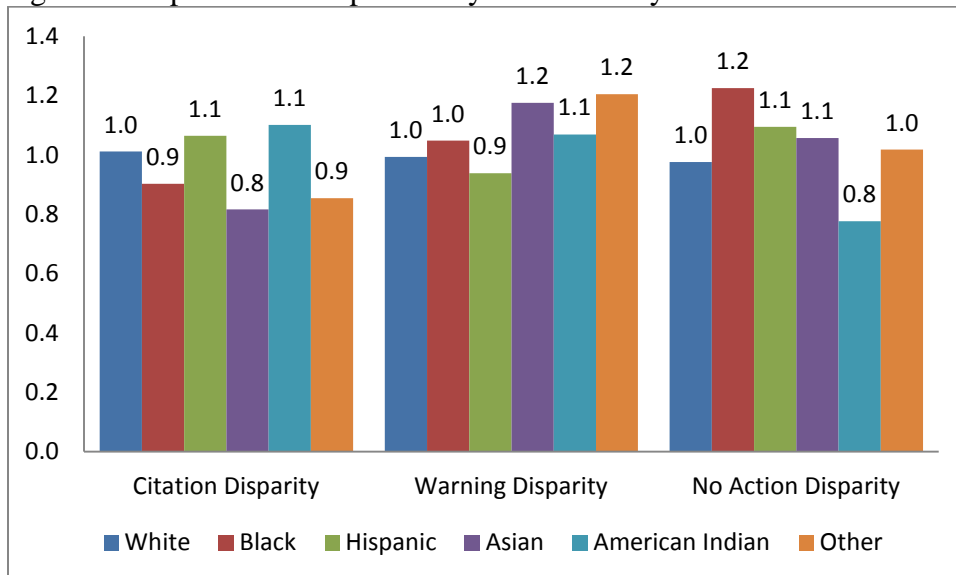


Figure 9 reports disparities in stop outcomes by race/ethnicity.

- African-Americans who were stopped were given citations at a rate that was about 10% lower than would be expected given their proportion of stops. Hispanics and Native

Americans were given citations at a rate that was about 10% higher than would be expected given their proportions of traffic stops.

- Asians, Native Americans, and other race/ethnicities were given warnings at rates that were slightly higher than would be expected based on their proportion of traffic stops.
- Stops resulted in no action at rates that were higher than would be expected for African-Americans, Hispanics, and Asians based on their proportion of traffic stops.

Summary of Stop Outcomes

There was not much evidence of any substantial race disparities in stop outcomes, in terms of whether there was a citation or a warning issued, or whether there was no action taken. There is some mixed evidence suggesting that Hispanics were issued citations at rates that were somewhat higher than the city average.

Part III: Probable Cause/Authority to Search

Table 3. City of Springfield 2010 Search Statistics (Updated Using 2010 Decennial Census Data)

	Search Stats	Total	White	Black	Hispanic	Asian	Am. Indian	Other
Probable cause/authority to search	<u>Consent</u>	2,923	2,321	531	51	8	3	9
	Consent percent	100	79.40	18.17	1.74	0.27	0.10	0.31
	Consent rate	67.74	68.04	72.16	57.97	59.09	75.00	85.00
	Consent disparity index	N/A	1.00	1.04	0.82	0.74	1.04	1.13
	<u>Inventory</u>	131	111	15	5	0	0	0
	Inventory percent	100	84.73	11.45	3.82	0	0	0
	Inventory rate	4.48	4.18	2.12	10.95	0	0	0
	Inventory disparity index	N/A	1.07	0.65	1.80	0	0	0
	<u>Drug/alcohol odor</u>	302	216	76	5	3	1	1
	Drug/alcohol odor percent	100	71.52	25.17	1.66	0.99	0.33	0.33
	Drug/alcohol odor rate	7.26	6.87	8.63	5.95	18.18	25.0	10.00
	Drug/alcohol disparity index	N/A	0.90	1.43	0.78	2.68	3.35	1.22
	<u>Incident to arrest</u>	1,184	988	154	31	8	0	3
	Incident to arrest percent	100	83.45	13.01	2.62	0.68	0	0.25
	Incident to arrest rate	34.44	35.50	30.51	36.41	50.00	0	20.00
	Incident to arrest disparity index	N/A	1.05	0.74	1.23	1.83	0	0.93
	<u>Plain view contraband</u>	193	146	41	5	1	0	0
	Plain view contraband percent	100	76.65	21.24	2.59	0.52	0	0
	Plain view contraband rate	5.33	4.95	5.76	2.73	9.09	0	0
	Contraband disparity index	N/A	0.95	1.21	1.22	1.40	0	0
	<u>Reasonable suspicion— weapon</u>	85	55	26	4	0	0	0
	Reasonable suspicion— weapon percent	100	64.71	30.59	4.71	0	0	0
	Reasonable suspicion— weapon rate	2.49	2.31	2.24	4.41	0	0	0
	Reasonable suspicion disparity index	N/A	0.81	1.74	2.22	0	0	0
	<u>Drug-dog alert</u>	25	19	6	0	0	0	0
	Drug-dog alert percent	100	76.0	24.0	0	0	0	0
	Drug-dog alert rate	0.74	0.81	0.53	0	0	0	0
	Drug-dog disparity index	N/A	0.96	1.37	0	0	0	0
	<u>Other</u>	89	73	11	5	0	0	0
	Other reason percent	100	82.02	12.36	5.62	0	0	0
	Other reason rate	1.59	1.69	0.84	4.52	0	0	0
	Other disparity index	N/A	1.03	0.70	2.65	0	0	0

Table 3 summarizes statistics for race/ethnic disparities in the cause that was cited as a reason for search. Three statistics are presented for each reason. The statistics are summarized for the city

and for each race/ethnic group. The first statistic is the overall percentage of reasons. The second is the rate per 100 searches for each reason. The third is a disparity index for each reason. The formulas used for calculating the statistics presented in the table are presented below:

Percentages

- Consent percent** = $(N_k_consent/N_Searches)*100$
- Inventory percent** = $(N_k_inventory/N_searches)*100$
- Drug/alcohol percent** = $(N_k_drug\ or\ alcohol\ odor/N_searches)*100$
- Incident to arrest percent** = $(N_k_incident\ to\ arrest/N_searches)*100$
- Plain view contraband percent** = $(N_k_plain\ view\ contraband/N_searches) * 100$
- Reasonable suspicion percent** = $(N_k_reasonable\ suspicion/N_searches) * 100$
- Drug-dog percent** = $(N_k_drug-dog/N_searches) * 100$
- Other percent** = $(N_k_other\ reason\ for\ search/N_searches) * 100$

Where N_k = number of stops for moving violations, equipment violations, license violations, or investigative reasons per race/ethnic group.

Rates

- Consent rate** = $(consent/searches) * 100$
- Inventory rate** = $(inventory / searches) X 100$
- Drug/alcohol rate** = $(drug\ or\ alcohol\ odor / searches) * 100$
- Incident to arrest rate** = $(incident\ to\ arrest / searches) * 100$
- Plain view contraband rate** = $(plain\ view\ contraband/ searches) * 100$
- Reasonable suspicion rate** = $(reasonable\ suspicion/ searches) * 100$
- Drug-dog rate** = $(drug-dog/ searches) * 100$
- Other rate** = $(other\ cause/ searches) * 100$

Disparity Indices

- Consent disparity index** = $(proportion\ giving\ consent\ to\ be\ searched / proportion\ of\ stops).$
- Inventory disparity index** = $(proportion\ inventory/ proportion\ of\ stops).$
- Drug/alcohol disparity index** = $(proportion\ drug\ or\ alcohol\ odor / proportion\ of\ stops).$
- Incident to arrest disparity index** = $(proportion\ incident\ to\ arrest / proportion\ of\ stops).$
- Contraband disparity index** = $(proportion\ of\ plain\ view\ contraband / proportion\ of\ stops).$
- Reasonable suspicion disparity index** = $(proportion\ reasonable\ suspicion\ of\ weapon / proportion\ of\ stops).$
- Drug-dog disparity index** = $(proportion\ drug-dog\ alert / proportion\ of\ stops).$
- Other disparity index** = $(proportion\ other\ reason\ for\ search / proportion\ of\ stops).$

A value of 1 represents no disparity; values greater than 1 indicate over-representation, values less than 1 indicate under-representation.

Figure 10. Percentage of searches by reason for race/ethnic groups¹⁴

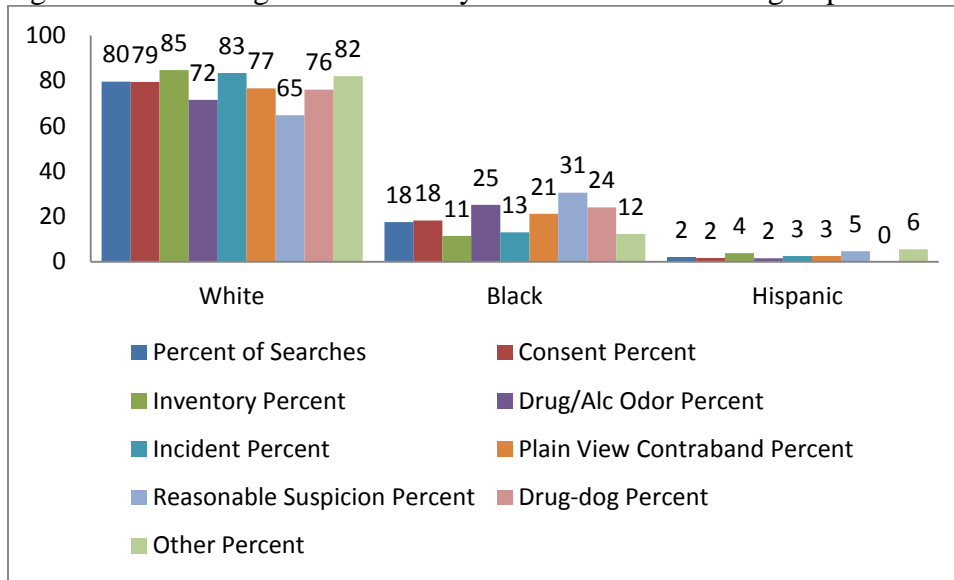


Figure 10 compares the overall percentage of searches to the percentage of search reasons for whites, blacks, and Hispanics.

- White drivers were involved in about 80% of all traffic the stops that resulted in searches in 2010. Whites were overrepresented due to inventory (85%), incident to arrest (83%), and other causes (82%) They were underrepresented for searches based on reasonable suspicion (65%).
- African American drivers were involved in about 18% of all traffic stops that resulted in searches. They were overrepresented in searches conducted based on reasonable suspicion (31%), and in searches due to the presence of drug or alcohol odor (25%). They were underrepresented in searches that were due to inventory (11%), incident to arrest (13%), and other reasons (12%).
- Hispanic drivers were involved in about 2% of all traffic stops that resulted in searches. They were overrepresented in searches conducted based on reasonable suspicion (5%), searches due to inventory (4%), and searches conducted for other reasons (6%).

¹⁴ Asians, Native Americans, and other race/ethnic groups were excluded because combined they made up less than one percent of all searches.

Figure 11. Search rates by cause for race/ethnic groups

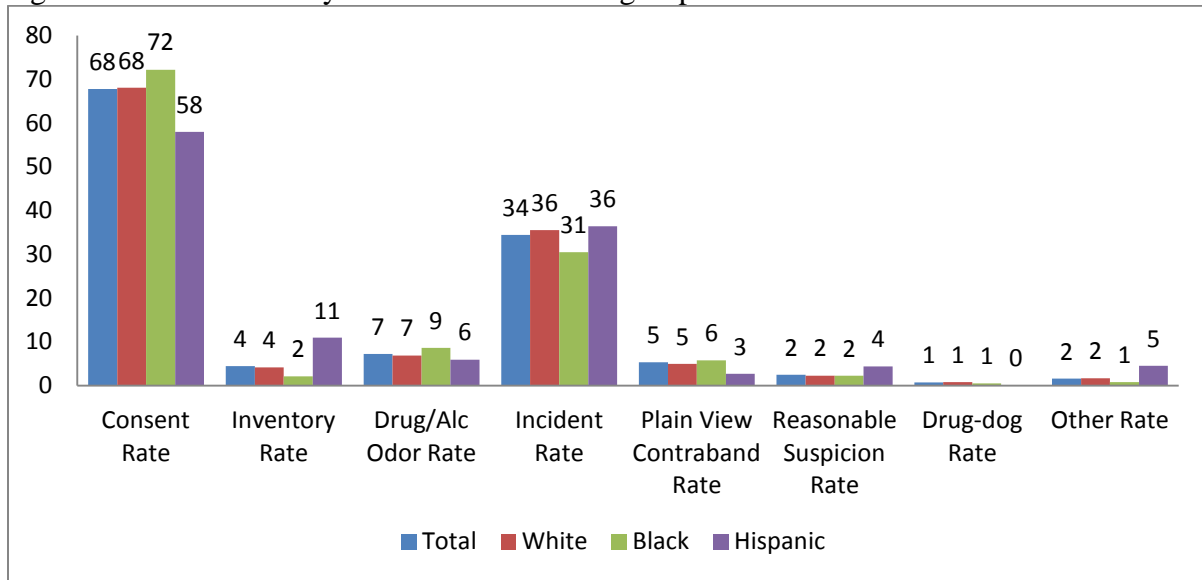


Figure 11 shows a comparison of cause rates per 100 searches by for the city, whites, blacks, and Hispanics.

- The consent rate for whites was about the same as the rate for the city. The consent rate for blacks was about 6.5% higher than the rate for the city. The consent rate for Hispanics was about 14.4 % lower than the rate for the city.
- The inventory rate for whites was about the same as the rate for the city. The inventory rate for blacks was about half the inventory rate for the city. The inventory rate for Hispanics was 144.4% higher than the rate for the city.
- The rate at which drug/alcohol odor was cited as a reason for search was somewhat higher for African Americans than for the city. However, there does not appear to be substantial race/ethnic disparity in drug/alcohol odor rates.
- African Americans were searched based on an incident to arrest at a rate that was lower than the rate for the city. Whites and Hispanics were slightly more likely to be searched due to an incident to arrest compared to the city average.
- There do not appear to be significant disparities in the rates that plain view contraband was given as reason for search.
- For Hispanics, reasonable suspicion was given as a cause for search at a rate that was about double the city average. Whites and blacks had reasonable suspicion rates that were about equal to the city average.
- There do not appear to be significant disparities in the rate at which drug-dogs were used to conduct searches.

Figure 12. Disparities in search reasons for race/ethnic groups

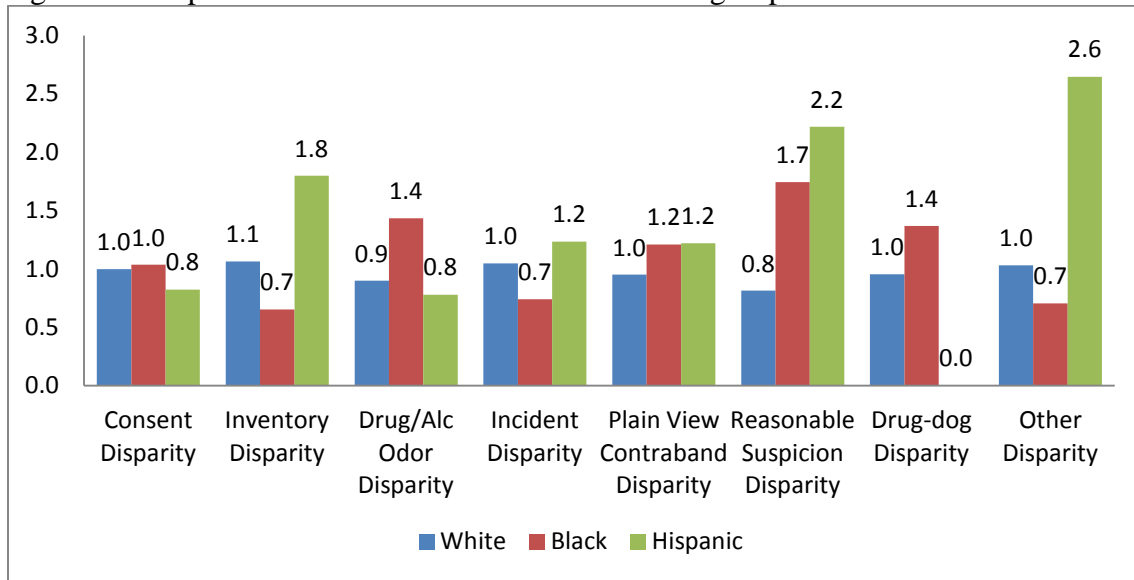


Figure 12 shows race/ethnic disparities in the cause given as a reason for search.

- There was no disparity in the consent rates for blacks or whites. Hispanics had consent rates that were about 20% lower than would be expected based solely on their proportion of searches.
- Whites had inventory rates that were about 10% higher than would be expected based solely on their proportion of searches. Hispanics had inventory rates that were about 80% higher than would be expected based solely on their proportion of searches. African Americans had inventory rates that were about 30% lower than would be expected given their proportion of searches.
- Whites had drug/alcohol odor rates that were about 10% lower than would be expected given their proportion of searches. Hispanics had drug/alcohol odor rates that were about 20% lower than would be expected based on their proportion of searches. African Americans had drug/alcohol odor rates that were about 40% higher than would be expected based on their proportion of searches.
- There was no disparity in search rates due to an incident to arrest for whites. African Americans had search rates due to incident to arrest that were about 30% lower than would be expected based solely on their proportion of searches. Hispanics had search rates due to an incident to arrest that were about 20% higher than would be expected based solely on their proportion of searches.
- There was no disparity in searches that were due to the presence of plain view contraband for whites. African Americans and Hispanics were both searched at rates that were about 20% higher than would be expected based solely on their proportion of searches.
- Whites were about 20% less likely to be searched based on reasonable suspicion than would be expected given their proportion of searches. African Americans were searched due to reasonable suspicion at rates that were 70% higher than would be expected based solely on their proportion of searches. Hispanics were searched due to reasonable suspicion at rates that were 120% higher than would be expected based solely on their proportion of searches.

Summary of Stops Resulting in Probable Cause/Authority to Search

There were substantial race/ethnic disparities in the reasons given for searches during traffic stops. The data show that the greatest disparities in probable cause/authority to search rates are in the Hispanic population. However, there is also evidence of substantial disparities for whites and blacks as well.

Whites were overrepresented in the overall percentage of searches due to inventory, incident to arrest, and searches that occurred for other reasons. They were underrepresented in the overall percentage of their searches that were conducted based on reasonable suspicion. Whites were about 20% less likely to be searched based on reasonable suspicion than would be expected given their proportion of searches.

African Americans were overrepresented in the overall percentage of searches conducted based on reasonable suspicion, and in searches due to the presence of drug or alcohol odor. They were underrepresented in the overall percentage of searches that were due to inventory, incident to arrest, and for other reasons. African Americans had drug/alcohol disparity scores that were about 40% higher, and reasonable suspicion disparity scores that were 70% higher, than would be expected based on their proportion of searches. They were underrepresented in the overall percentage of searches conducted for inventory reasons, and for incidents leading to arrest.

Hispanics were overrepresented in searches conducted based on reasonable suspicion, searches due to inventory, and searches conducted for other reasons. Their inventory rate was 144.4% higher than the rate for the city, and they had inventory disparity index scores that were about 80% higher than would be expected based solely on their proportion of searches. Hispanics had a reasonable suspicion rate that was almost double the city average, and they had reasonable suspicion disparity index scores that 120% higher than would be expected based solely on their proportion of searches.

Part IV: Disparities in Traffic Stop Arrest Charges

Table 4. City of Springfield 2010 Traffic Stop Arrest Statistics (Updated Using 2010 Decennial Census Data)

Arrest charge	Arrest Stats	Total	White	Black	Hispanic	Asian	Am. Indian	Other
Arrest charge	<u>Outstanding warrant</u>	1,230	1,039	168	16	5	1	1
	Outstanding warrant percent	100	84.47	13.66	1.30	0.41	0.08	0.08
	Outstanding warrant arrest rate	45.06	45.07	45.48	38.18	45.50	52.08	61.58
	Warrant disparity index	N/A	1.03	0.92	0.54	0.67	0.80	0.40
	<u>Drug violation</u>	322	261	54	7	0	0	0
	Drug violation percent	100	81.06	16.77	2.17	0	0	0
	Drug violation arrest rate	12.00	11.49	14.27	12.29	0	0	0
	Drug disparity index	N/A	0.99	1.13	0.90	0	0	0
	<u>Resist arrest</u>	24	15	7	1	1	0	0
	Resist arrest percent	100	62.5	29.17	4.17	4.17	0	0
	Resist arrest rate	0.73	0.59	1.14	0.83	2.78	0	0
	Resist arrest disparity index	N/A	0.76	1.96	1.72	6.87	0	0
	<u>Off. against person (OAP)</u>	19	13	6	0	0	0	0
	OAP percent	100	68.42	31.58	0	0	0	0
	OAP arrest rate	0.56	0.44	3.25	0	0	0	0
	OAP disparity index	N/A	0.84	2.12	0	0	0	0
	<u>Traffic violation</u>	299	225	57	11	5	0	1
	Traffic violation percent	100	75.25	19.06	3.68	1.67	0	0.33
	Traffic violation arrest rate	10.72	9.97	14.12	14.81	11.44	0	33.33
	Traffic disparity index	N/A	0.92	1.28	1.52	2.76	0	1.65
	<u>DWI/BAC</u>	636	534	67	26	6	1	2
	DWI/BAC percent	100	83.96	10.53	4.09	0.94	0.16	0.31
	DWI/BAC arrest rate	24.09	24.52	18.64	42.51	34.26	50.00	50.00
	DWI/BAC disparity index	N/A	1.03	0.71	1.69	1.56	1.56	1.56
	<u>Property offense</u>	57	44	10	2	1	0	0
	Property offense percent	100	77.19	17.54	3.51	1.75	0	0
	Property offense arrest rate	2.40	2.40	1.87	3.47	2.78	0	0
	Property disparity index	N/A	0.94	1.18	1.45	2.89	0	0
<u>Other</u>	57	45	7	3	2	0	0	
Other type of arrest percent	100	78.95	12.28	5.26	3.51	0	0	
Other type of arrest rate	1.66	1.59	1.18	2.33	6.48	0	0	
Other disparity index	N/A	0.97	0.82	2.17	5.79	0	0	

Table 4 summarizes statistics for race/ethnic disparities in traffic stop arrest charges. Three statistics are presented for each charge. The statistics are summarized for the city and for each race/ethnic group. The first statistic is the overall percentage of charges. The second is the rate per 100 arrests for each charge. The third is a disparity index for each charge. The formulas used for calculating the statistics presented in the table are presented below:

Percentages

Warrant percent = $(N_{k_other\ type\ of\ arrest} / N_{Arrests}) * 100$

Drug percent = $(N_{k_other\ type\ of\ arrest}/N_Arrests)*100$
Resist arrest percent = $(N_{k_other\ type\ of\ arrest}/N_Arrests)*100$
OAP percent = $(N_{k_other\ type\ of\ arrest}/N_Arrests)*100$
Traffic violation percent = $(N_{k_other\ type\ of\ arrest}/N_Arrests)*100$
DWI/BAC percent = $(N_{k_other\ type\ of\ arrest}/N_Arrests)*100$
Property offense percent = $(N_{k_other\ type\ of\ arrest}/N_Arrests)*100$
Other type of arrest = $(N_{k_other\ type\ of\ arrest}/N_Arrests)*100$

Arrest rates

Warrant arrest rate = $(outstanding\ warrant\ arrests/arrests) * 100$
Drug arrest rate = $(drug\ violation\ arrests/arrests) * 100$
Resist arrest rate = $(resisting\ arrests/arrests) * 100$
OAP arrest rate = $(OAP\ arrests/arrests) * 100.$
Traffic violation arrest rate = $(traffic\ violation\ arrests/ arrests) * 100$
DWI/BAC arrest rate = $(DWI/BAC\ arrests/ arrests) *100$
Property offense arrest rate = $(property\ offense\ arrests/arrests) * 100$
Other type of arrest rate = $(other\ type\ of\ arrests/arrests) * 100$

Disparity indices

Warrant disparity index = $(proportion\ outstanding\ warrant / proportion\ of\ population).$
Drug disparity index = $(proportion\ drug\ violation/ proportion\ of\ population).$
Resist arrest disparity index = $(proportion\ resist\ arrest / proportion\ of\ population).$
Off. disparity index = $(proportion\ offense\ against\ person / proportion\ of\ population).$
Traffic disparity index = $(proportion\ traffic\ violation / proportion\ of\ population).$
DWI/BAC disparity index = $(proportion\ DWI/BAC / proportion\ of\ population).$
Property disparity index = $(proportion\ property\ offense / proportion\ of\ population).$
Other disparity index = $(proportion\ other\ reason\ for\ arrest / proportion\ of\ population).$

A value of 1 represents no disparity; values greater than 1 indicate over-representation, values less than 1 indicate under-representation.

Figure 13. Percent of arrests by charge for race/ethnic groups

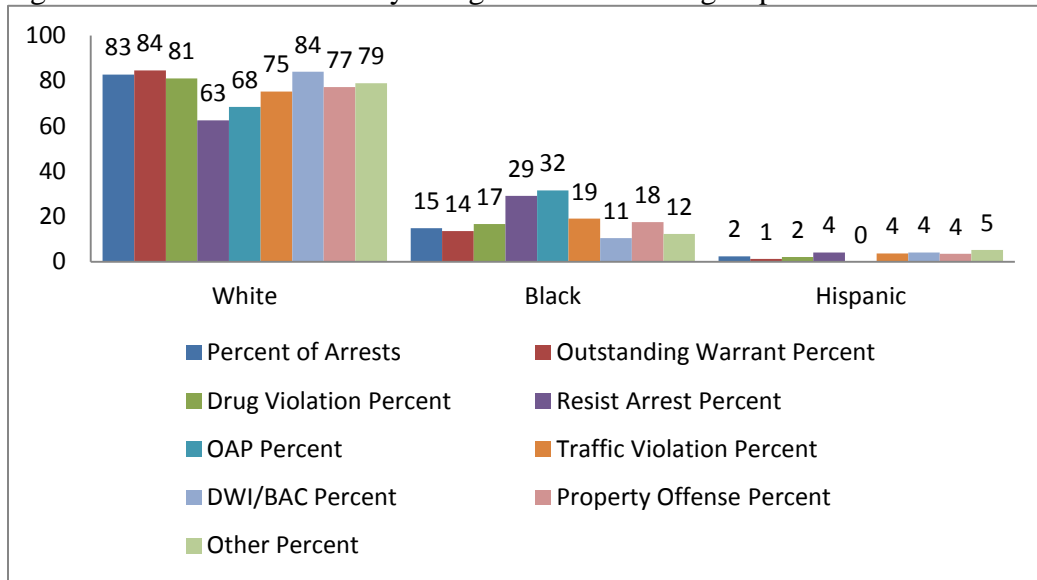


Figure 13 shows the percentage of arrests overall and the percentage of arrests by charge for arrest for whites, blacks and Hispanics.

- Whites make up approximately 83% of all traffic stops that result in arrest. They were not overrepresented in any category. However, they were underrepresented in traffic violation charges (75%), offense against a person charges (68%), and resisting arrest charges (63%).
- African Americans comprised approximately 15% of all traffic stops that resulted in an arrest charge. They were substantially overrepresented in terms of the percentage of charges for offense against person (32%), for resisting arrest (29%), and for traffic violation arrests (19%). They were underrepresented in terms of the percentage of charges for DWI (11%).
- Hispanics make up 2% of all traffic stops that result in arrest. They were overrepresented in terms of their percentage of charges for resisting arrest (4%), traffic violations (4%), DWI (4%), and property offense (4%).

Figure 14. Arrest rates by charge for race/ethnic groups

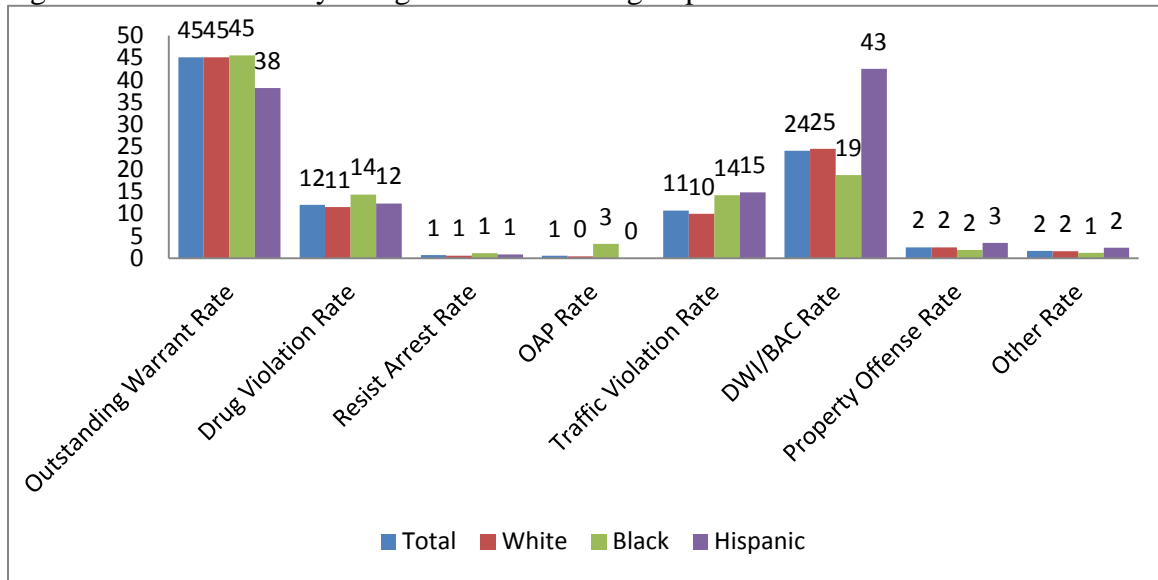


Figure 14 shows a comparison of arrest rates by charge for arrest for the city, whites, blacks, and Hispanics.

- Whites and African Americans had outstanding warrant arrest rates that were very close to the rate for the city. Hispanics had an outstanding warrant arrest rate that was about 15% lower than the rate for the city.
- African Americans had drug violation arrest rates that were nearly 19% higher than the rate for the city.
- There do not appear to be any substantial race/ethnic disparities in arrest rates for resisting arrest, as all three groups are close the city average.
- African Americans were charged with committing an offense against a person at a rate that was about 480% higher than the rate for the city. However, it should be noted that there are a very small number of cases where an arrest for OAP occurred. There were only 19 total OAP arrests in 2010, 13 of which occurred for whites, and 6 occurred for blacks.
- Whites were arrested on traffic violation charges at a slightly lower rate than the rate for the city. African-Americans were arrested on traffic violation charges at a rate that was about 32% higher than the city average. Hispanics were arrested on traffic violation charges at a rate that was about 39% higher than the city average.
- Whites were charged with DWIs at a slightly higher rate than the city average. African Americans had a DWI arrest rate that was about 23% lower than the city average. Hispanics had a DWI arrest rate that was about 77% higher than the rate for the city.
- There do not appear to be substantial race/ethnic disparities in arrest rates for property offense charges.

Figure 15. Arrest disparities by charge for race/ethnic groups

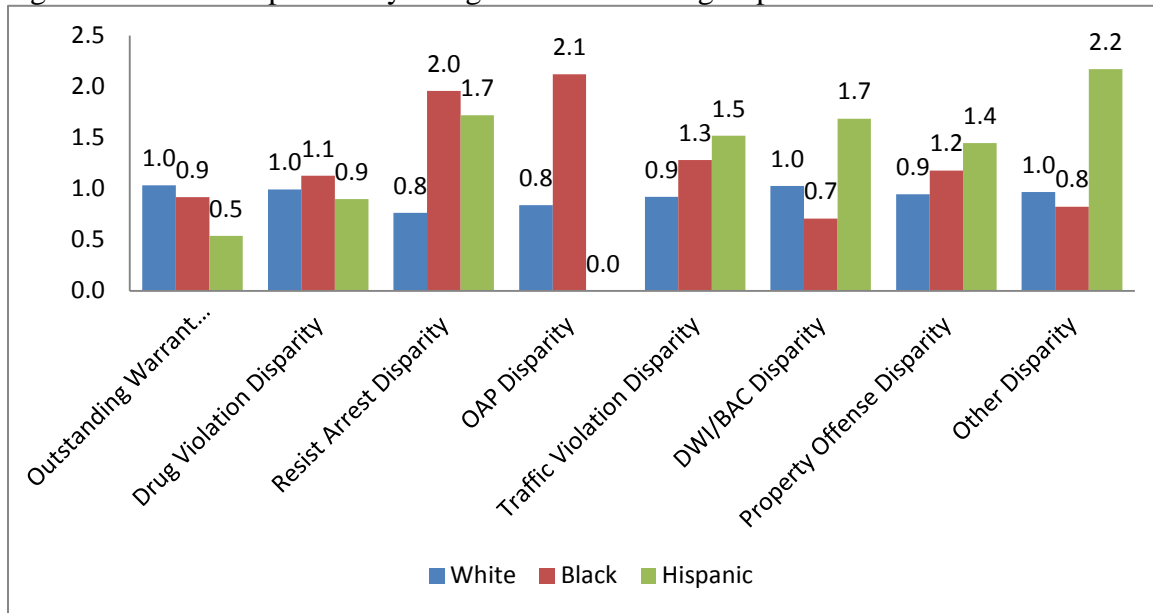


Figure 15 shows race/ethnic disparities in arrests.

- African Americans were about 10% less likely to have been arrested for an outstanding warrant charge than would be expected based solely on their proportion of arrests. Hispanics were about 50% less likely to have been arrested for an outstanding warrant charge than would be expected based solely on their proportion of arrests.
- African Americans were about 10% more likely to have been arrested for a drug violation charge than would be expected based solely on their proportion of arrests. Hispanics were about 10% less likely to have been arrested for a drug violation charge than would be expected based solely on their proportion of arrests.
- Whites were about 20% less likely to have been charged with resisting arrest than would be expected based solely on their proportion of arrests. African Americans were about 100% more likely to have been charged with resisting arrest than would be expected based solely on their proportion of arrests. Hispanics were about 70% more likely to have been charged with resisting arrest than would be expected based solely on their proportion of arrests.
- Whites were about 10% less likely to have been charged with committing an offense against a person than would be expected based solely on their proportion of arrests. African Americans were about 110% more likely to have been charged with committing an offense against a person than would be expected based solely on their proportion of arrests. However, it should be noted that while there does appear to be a racial disparity in OAP arrest charges, these cases are relatively rare. As was mentioned above, there were only 19 total OAP arrests in 2010, 13 of which occurred for whites, and 6 occurred for blacks.
- Whites were about 10% less likely to be charged with a traffic violation than would be expected based solely on their proportion of arrests. African Americans were about 30% more likely to be charged with a traffic violation than would be expected based on their proportion of arrests. Hispanics were about 50% more likely to be charged with a traffic violation than would be expected based on their proportion of arrests.

- African Americans were about 30% less likely to have been charged with a DWI than would be expected based solely on their proportion of arrests. Hispanics were about 70% more likely to have been charged with a DWI than would be expected based solely on their proportion of arrests.
- Whites were about 10% less likely to have been charged with a property offense than would be expected based solely on their proportion of arrests. African Americans were about 20% more likely to have been charged with a property offense than would be expected based solely on their proportion of arrests.

Summary of Traffic Stop Arrest Charges

Whites are not overrepresented in any arrest charge. However, they are underrepresented in charges leading to traffic violation arrests, offense against a person arrests, and resisting arrest. Their disparity index scores indicate that whites were about 20% less likely to have been arrested for resisting arrest, and 10% less likely to have been arrested for a traffic violation or for committing an offense against a person, than would be expected based solely on their proportion of arrests.

African Americans were substantially overrepresented in terms of being charged with offense against person, resisting arrest, and traffic violations. They were underrepresented in terms of being charged with a DWI. African-Americans were arrested for traffic violations at a rate that was about 32% higher than the city average, and their disparity index score shows they were about 30% more likely to be arrested for a traffic violation than would be expected based on their proportion of arrests. Their disparity index score indicates that African Americans were charged with resisting arrest at a rate that was double what would be expected based solely on their proportion of arrests. Their disparity index scores also indicate that they were charged with traffic violations at rates that were about 30% higher than expected based on their proportion of arrests.

Hispanics were overrepresented in terms of their charges for resisting arrest, traffic violations, DWI, and property offense. Their disparity scores indicated that Hispanics were about 70% more likely to have been charged with resisting arrest, about 50% more likely to be charged with a traffic violation, about 70% more likely to have been charged with a DWI, and about 20% more likely to have been charged with a property offense than would be expected based solely on their proportion of arrests.

Part V: The Socioeconomic and Racial Characteristics of Tracts

Up until this point, the report has provided a comprehensive summary of traffic stop data for race/ethnic groups in the city of Springfield. In this section of the report census data is utilized in order to examine whether the substantial racial disparities that were observed in traffic stop rates, search rates, arrest rates, and contraband hit rates are the result of the socioeconomic and racial characteristics of the areas where the stops took place¹⁵.

The median value of a single family residential housing unit was used as an indicator of the socioeconomic characteristics (SES) of census tracts, and the percentage of the population that is nonwhite in tracts was used as an indicator of tract racial diversity. The socioeconomic variable was coded into three categories: low SES; medium SES; and high SES. A tract was considered to be low SES if the median housing value was less than \$100,000 (N = 10), medium SES if the median housing value was between \$100,000 and \$250,000 (N = 23), and high SES if the median housing value was greater than \$250,000 (N = 18). The racial diversity variable was coded into two categories: low diversity and high diversity. Tracts where less than 10% of the population over the age of 16 was nonwhite were considered low diversity (N = 31), and tracts where greater than 10% of the population was nonwhite were considered high diversity (N = 20).

Table 5. Number of stops, searches, arrests, and contraband hits for African-Americans by tract characteristics

	Low SES	Medium SES	High SES	<10% Nonwhite	>10% Nonwhite
N Traffic Stops	591	1342	675	979	1629
N Searches	168	343	200	226	485
N Arrests	83	171	122	134	242
N Contraband hits	51	57	55	49	114

¹⁵ Some social science research suggests that the socioeconomic and racial demographics of neighborhoods are related to racial profiling. See, for example, Parker et al. 2004. "A Contextual Study of Racial Profiling: Assessing the Theoretical Rationale for the Study of Racial Profiling at the Local Level." *American Behavioral Scientist*. 47(7): 943-962.

Socioeconomic Characteristics

Figure 16. Stop rates, search rates, arrest rates, and contraband hit rates for African Americans by socioeconomic status of census tract

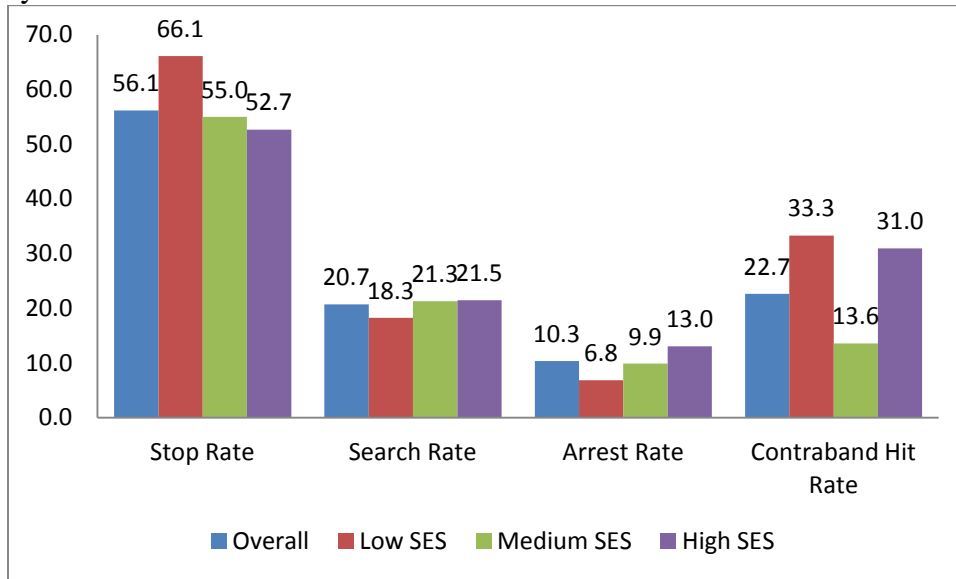


Figure 16 shows African American stop rates, search rates, arrest rates, and contraband hit rates by tract SES.

- African Americans were stopped at a higher rate in low SES tracts than they were in high SES tracts.
- African Americans were searched at a slightly higher rate when they were stopped in high SES neighborhoods than when they were stopped in low SES tracts.
- African American arrest rates were higher when they were stopped in high SES tracts than when they were stopped in low SES tracts.
- African American contraband hit rates were higher when they were stopped in low SES and high SES tracts than when they were stopped in medium SES tracts.

Figure 17. Disparity index scores for African American stops, searches, arrests, and contraband hits by socioeconomic status of tract

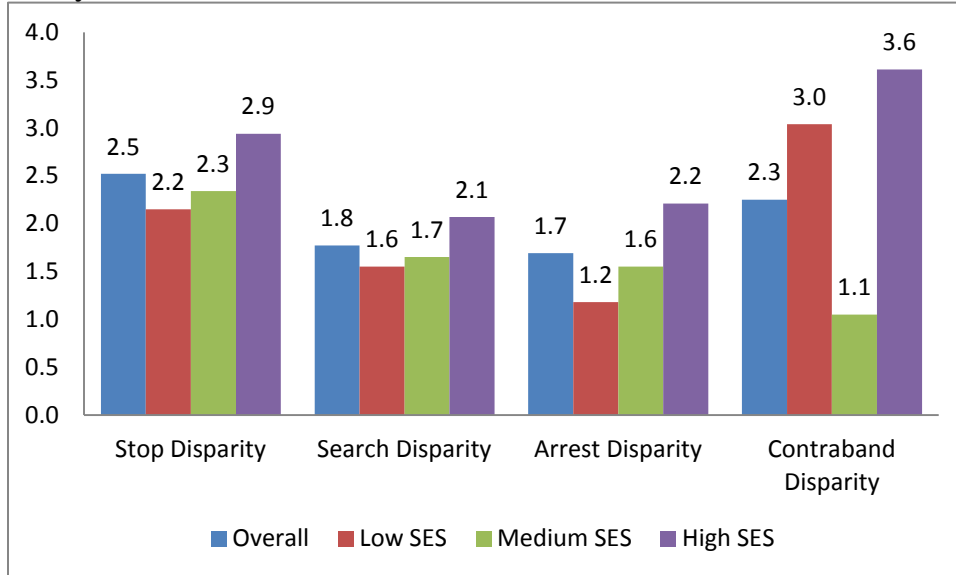


Figure 17 shows disparity index scores for African Americans by tract SES level for stops, searches, arrests, and contraband hits.

- There is greater disparity in African American stops in high SES census tracts than in low SES tracts. In low SES neighborhoods African Americans are stopped at rates that are nearly 120% higher than would be expected based on their proportion of the population that is over the age of 16. In high SES neighborhoods they are stopped at rates that are nearly 190% higher.
- There is greater disparity in searches for African Americans who are stopped in high SES tracts than for those who are stopped in low SES tracts. African American search rates are about 60% higher in low SES tracts, and 110% higher in high SES tracts than would be expected based on their proportion of stops.
- There is greater disparity in arrests for African Americans who are stopped in high SES tracts than for those who are stopped in high SES tracts. African Americans who are stopped in low SES tracts were arrested at rates that were 20% greater than would be expected based on their proportion of stops. They were arrested at rates that were 120% higher when stopped in high SES tracts.
- There does not appear to be a systematic relationship between tract SES and disparities in African American contraband hit rates.

Figure 18. African American stop rates, search rates, arrest rates, and contraband hit rates by racial diversity of census tract

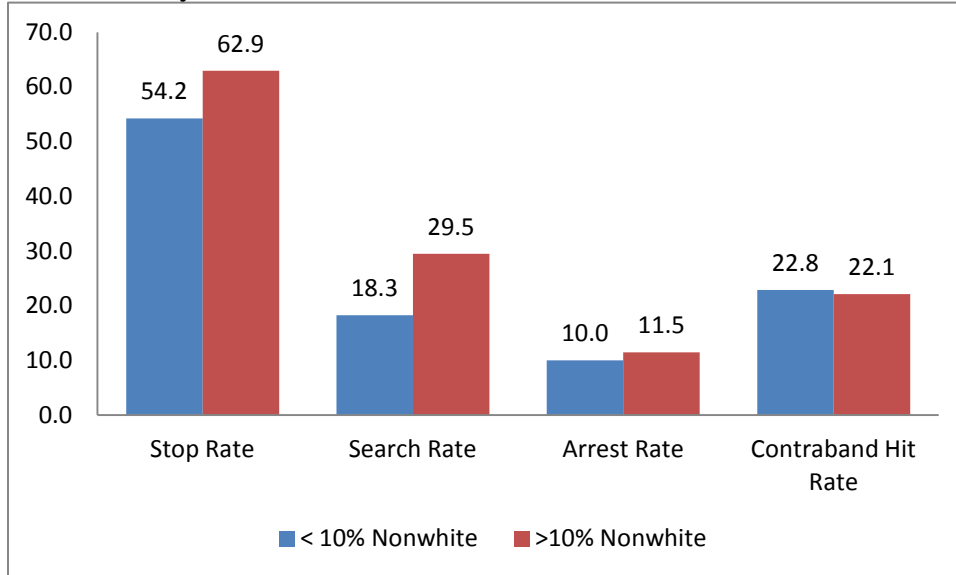


Figure 18 shows a comparison of African American stop rates, search rates, arrest rates, and contraband hit rates for stops that occurred in low diversity tracts and high diversity tracts.

- African Americans were stopped at a higher rate in tracts with greater racial diversity than in tracts with lower diversity.
- African Americans were searched at higher rates when they were stopped in high diversity tracts than they were in low diversity tracts.
- The racial diversity of the tracts where African Americans were stopped does not appear to be associated with African American arrest rates or contraband hit rates.

Figure 19. African American disparity index scores for stops, searches, arrests, and contraband hits by racial diversity of tract

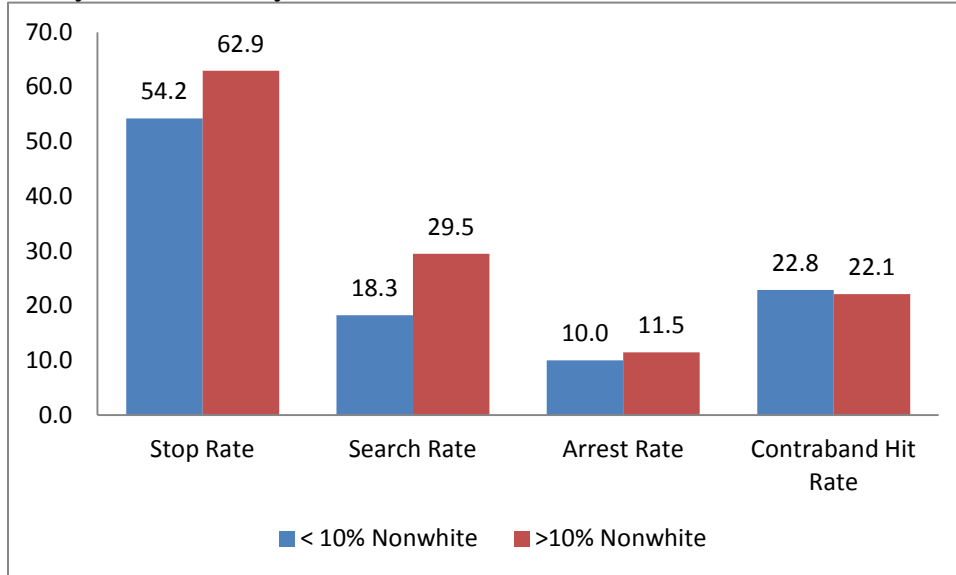


Figure 19 shows African American disparity index scores for stops, searches, arrests, and contraband hits in low diversity and high diversity tracts.

- African American stop disparities are substantially higher in low diversity tracts than they are in high diversity tracts.
- African Americans who are stopped in low diversity tracts have slightly lower search disparity index scores than African Americans who are stopped in high diversity tracts.
- Disparities in African American arrest rates are higher in low diversity tracts than in high diversity tracts.
- Disparities in contraband hit rates are lower in low diversity tracts than they are in high diversity tracts

Summary of the Impact of Socioeconomic and Racial Characteristics of Census Tracts

The results summarized above suggest that the socioeconomic and racial characteristics of census tracts are indeed related to differences in African American stop rates, search rates, arrest rates and, to a lesser extent, contraband hit rates. However, they do not fully account for the substantial racial disparities in stops, searches, and arrests in the city. For example, in the relationship between tract SES and African American disparities in stops there is greater disparity in high SES census tracts than in low SES tracts. However, even in low SES tracts, where the stop disparities are the lowest, African Americans are stopped at rates that are nearly 120% higher than would be expected based on their proportion of the population that is over the age of 16. Similarly, African American stop disparities are substantially higher in low diversity tracts than they are in high diversity tracts. However, even in tracts where there are high levels of racial diversity African Americans are stopped at rates that are nearly 90% greater than would be expected based on their proportion of the population that is over the age of 16.

Conclusion

The results summarized in this report reveal significant racial disparities in traffic stops, searches, arrests, and contraband hit rates in the city of Springfield. The results also show that while the socioeconomic and racial characteristics of census tracts account for some of the disparities, a significant proportion of the disparities remain unexplained. Future studies should attempt to account for other factors that may influence racial disparities in traffic stops.

For example, some possible factors that contribute to the race/ethnic disparities in stops might be the crime rates of the tracts where the stops occurred, poverty rates within the tract, number and frequency of patrols in the tracts, whether the stop occurred in an area with high levels of gang activity, and the racial characteristics of drivers.

It is strongly recommended that the results summarized in the report be used to begin a dialogue between the SPD and the city's minority community, in order to determine the causes of the racial disparities and to come up with a strategy to close the gap. While some people may be tempted to cite the results summarized in this report as evidence that Springfield has a problem with racial profiling, we must all keep in mind that there is currently not enough data available to be able to definitively determine the cause of the disparities. Racial profiling is notoriously difficult to prove in a court of law and better data is needed in order to rule out all competing explanations for the trends that were described in the report.