



2012 Traffic Stop Study Annual Report

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INTRODUCTION

The 2012 Annual report on Rockford Police Department Traffic Stops summarizes data from 8,825 traffic stops. Data collection dates were from January 1, 2012, to December 31, 2012. In 2004, Illinois began collecting and assessing traffic stop data. This year is the ninth year data has been collected and analyzed.

In accordance to Illinois State Law, since January 1, 2004 (originally scheduled to end in 2007 but has been extended), whenever a State or Local law enforcement officer stops a vehicle for an alleged violation of the Illinois Vehicle Code, he or she shall record at least the following:

1. The name, address, gender, and the officer's subjective determination of the race of the person stopped; the person's race shall be selected from the following list: Caucasian, African-American, Hispanic, Native American/Alaskan native, or Asian/Pacific Islander.
2. The alleged traffic violation that led to the stop of the motorist.
3. The make and year of the vehicle stopped.
4. The date and time of stop.
5. The location of the traffic stop.
6. Whether or not a search contemporaneous to the stop was conducted of the vehicle, driver, passenger, or passengers; and if so, whether it was with consent or by other means.
7. The name and badge number of the issuing officer.

DEPARTMENT POLICY

The policy of the Rockford Police Department is to respect the civil rights of all persons and to prohibit and prevent any form of discrimination by members of the Department when any action taken on behalf of or by any member of this Department is motivated by race, color, ethnicity, age, gender, national origin, religion, economic status, cultural group, sexual orientation, or any other identifiable group. Specifically, members of the Rockford Police Department will not engage in any activities that are discriminatory or indicative of a practice of biased-based/racial profiling.

BENCHMARK

The Illinois Department of Transportation is responsible for collecting the data from police agencies. Alexander Weiss Consulting LLC is assisting in the analysis of the data. The Rockford Police Department examines the data for the department by analyzing the stops, outcome of stop, and searches of Caucasian and Minority drivers. Alexander Weiss Consulting LLC has developed a benchmark for police agencies statewide based on the 2010 census. An "adjusted benchmark" was established for each city and county police agency. The benchmark population demographic is an estimated driving population which consists of individuals 15 years or older for each agency. The adjusted benchmark for Rockford driving population is **65.07% Caucasian drivers and 34.93% Minority drivers**. This means that 65.07% of the Rockford eligible driving population is Caucasian and 34.93% of the eligible driving population are Minorities.



Rockford Police Department Traffic Stop Data

Total Rockford Stops	2011	2012	% Change
	10,925	8,825	-19.22%

Table 1 - Rockford Police Traffic Stops

Stops	Caucasian Drivers			Minority Drivers		
	2011	2012	% Change	2011	2012	% Change
Total Stops	6,582	5,094	-22.61%	4,343	3,731	-14.09%
Percentage of Stops	60.25%	57.72%	-4.19%	39.75%	42.28%	6.35%
Estimated Driving Population	72.90%	65.07%	-10.74%	25.91%	34.93%	34.81%
Ratio	0.83	0.89	7.34%	1.53	1.21	-21.11%
Adjusted Driving Population (2012)	65.07%	65.07%	0.00%	34.93%	34.93%	0.00%
Adjusted Ratio	0.93	0.89	-4.19%	1.14	1.21	6.35%

**Population provided for 2012 analysis. For comparison purposes, the adjusted population numbers were applied to the 2011 analysis.

**note that due to rounding, some totals may not represent 100%

Table 2 - Reason for Traffic Stop

Reason for Stop	Caucasian Drivers			Minority Drivers		
	2011	2012	% Change	2011	2012	% Change
Total Stops	6,582	5,094	-22.61%	4,343	3,731	-14.09%
Moving Violations	4,467	3,311	-25.88%	2,592	2,185	-15.70%
<i>percent of total</i>	67.87%	65.00%	-4.23%	59.68%	58.56%	-1.87%
Equipment Violations	893	814	-8.85%	812	766	-5.67%
<i>percent of total</i>	13.57%	15.98%	17.78%	18.70%	20.53%	9.81%
Licensing / Registration Violations	1,222	957	-21.69%	939	775	-17.47%
<i>percent of total</i>	18.57%	18.79%	1.19%	21.62%	20.77%	-3.93%
Commercial Vehicle Violations	0	12	NC	0	5	NC
<i>percent of total</i>	0.00%	0.24%	NC	0.00%	0.13%	NC

Table 3 - Outcome of Traffic Stop

Outcome of Stop	Caucasian Drivers			Minority Drivers		
	2011	2012	% Change	2011	2012	% Change
Total Stops	6,582	5,094	-22.61%	4,343	3,731	-14.09%
Citation	4,378	3,110	-28.96%	2,777	2,131	-23.26%
<i>percent of total</i>	66.51%	61.05%	-8.21%	63.94%	57.12%	-10.68%
Verbal Warning	2,204	1,984	-9.98%	1,566	1,599	2.11%
<i>percent of total</i>	33.49%	38.95%	16.31%	36.06%	42.86%	18.86%

Table 4 - Consent Search Data

Consent Searches	Caucasian Drivers			Minority Drivers		
	2011	2012	% Change	2011	2012	% Change
Total Stops	6,582	5,094	-22.61%	4,343	3,731	-14.09%
Search Requested	93	267	187.10%	133	396	197.74%
<i>percent of total</i>	1.41%	5.24%	270.96%	3.06%	10.61%	246.58%
Search Granted	91	224	146.15%	127	349	174.80%
<i>percent granted from request</i>	97.85%	83.90%	-14.26%	95.49%	88.13%	-7.71%
Search Performed	90	213	136.67%	122	343	181.15%
<i>percent searched by consent</i>	98.90%	95.09%	-3.85%	96.06%	98.28%	2.31%
Contraband Found	13	29	123.08%	14	45	221.43%
<i>percent searched with contraband found</i>	14.44%	13.62%	-5.74%	11.48%	13.12%	14.33%
Ratio of Vehicle Consent Searches Requested of Minority Drivers				2.17	2.02	-6.57%
Ratio of Vehicle Consent Searches Granted by Minority Drivers				0.98	1.05	7.65%

Table 5 - Dog Sniff Search Data

Dog Sniff Searches	Caucasian Drivers			Minority Drivers		
	2011	2012	% Change	2011	2012	% Change
Total Dog Sniffs Performed		182			88	
<i>percent of total stops</i>		3.57%			2.36%	
Dog Alerts		72			46	
<i>percent dog alert from sniff</i>		39.56%			52.27%	
Search Performed		69			45	
<i>percent searched from alert</i>		95.83%			97.83%	
Contraband Found		64			37	
<i>percent searched with contraband found</i>		92.75%			82.22%	

**Dog Sniff data not captured prior to 2012. Comparison analysis is not yet available.

TRAFFIC STOP DATA

Table 1 (above) represents the City of Rockford's Traffic Stop Data. This table is a compilation of all traffic stops recorded in the city to show the proportion of the driving population in relation to the drivers stopped. A ratio of 1.00 would be equal representation. A score lower than 1.00 would be under representation and a score greater than 1.00 would indicate overrepresentation of the specified population.

Analysis in 2011 was based on the Census 2000 adjusted benchmark. For comparison purposes, the new Census 2010 was applied to the 2011 data converting the old ratio from 1.53 to 1.14. Because the 2011 traffic stop data was collected after Census 2010, the new benchmark more accurately depicts the population within the City of Rockford. Using the new benchmark, there is little difference in the ratio from 2011 to 2012 showing a slight increase in the disparity of Minority stops in Rockford by .07. (Table 1)

In 2012, we recorded 2,100 less drivers than 2011; a 19.22% decrease. There were 3,731 traffic stops of Minority drivers, which is 42.28% of all recorded traffic stops. Minorities account for an estimated 34.93% of the City of Rockford's driving population. The ratio for Rockford Minority drivers is 1.21. (Table 1)

"Reason for Stop" in Table 2 shows some numeric difference between Caucasians and Minorities. Moving Violations were the primary reason for stop across both population groups. "Outcome of Stop" in Table 3 shows little numeric difference between Caucasian and Minority drivers. The Rockford Police Department gave more written citations than verbal warnings across both groups. The percent of written citations given to both Caucasians and Minorities were very similar. There is no evidence in the numbers that would indicate disparity in the reason for the traffic stop, or the rate Caucasians are given citations compared to Minorities. (Table 2 & 3)

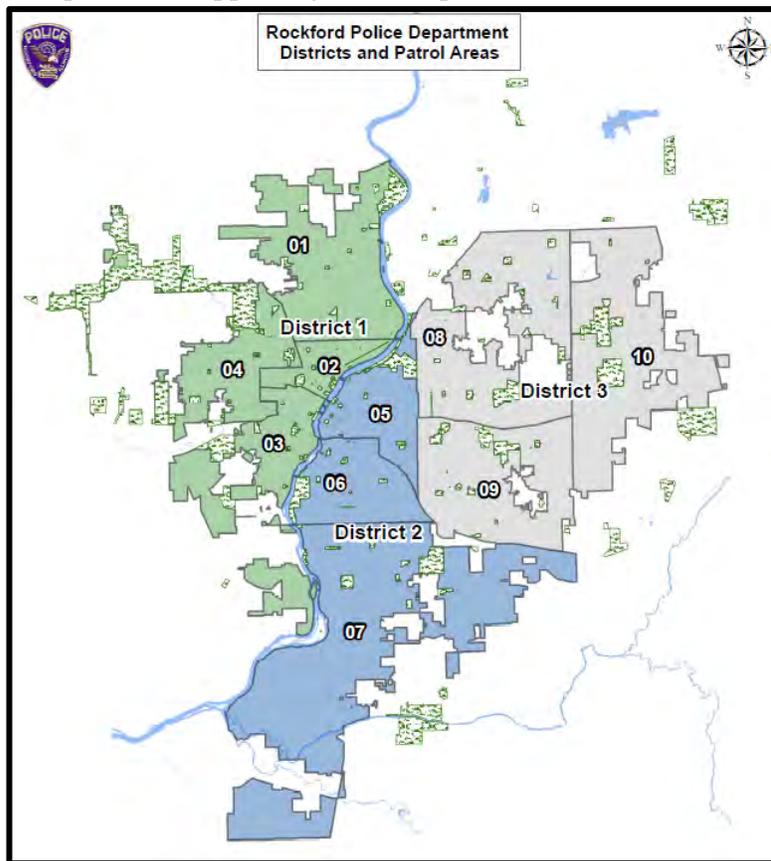
Another concern in the State's analysis of traffic stops is the rate that Minority drivers may consent to a search of their vehicle. In 2012, Rockford Police performed 556 consent searches. Out of all traffic stops per racial group, a consent search was requested from 5.24% of Caucasians and 10.61% of Minorities. While consent searches were requested at a higher rate from Minority drivers, consent was granted at near the same rate. Nearly 84% of Caucasian drivers granted the search and 88% of Minorities did as well. Contraband was found at about the same rate for both population groups. (Table 4)

Illinois Department of Transportation also now tracks "Dog Sniff Search" data. A police dog is at times called to 'sniff' to help alert police to the possible presence of contraband in the vehicle in question. Dog sniffs were performed at nearly the same rate for both population groups. Police dogs alerted to vehicles of Caucasian drivers 39.56% of the time while dogs alerted to vehicles of Minority drivers 52.27% of the time. Of the vehicles searched based on a police dog alert, contraband was found in vehicles of Caucasian drivers 92.75% of the time and vehicles of minority drivers 82.22% of the time. Without comparison data, there are no known reasons for the discrepancy in the rate of police dog alert and contraband found. (Table 5)



ANALYSIS

To understand the relationship between the percent population of drivers in Rockford and the percent stopped by the Department, we must examine different variables that

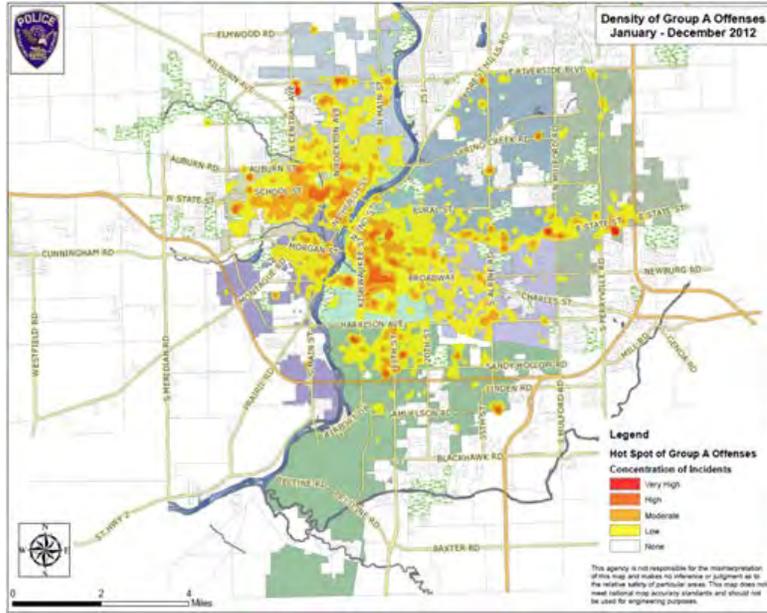


contribute to the disparity index. Each of our Patrol “Beats” has unique characteristics. There is a noted difference in Beat demographics, police allocation of resources, and geographic operators such as main road thoroughfares and population concentration.

It appears that there is a slight disparity in the amount of traffic stops involving Minority drivers versus Caucasian drivers. A disparity score of “1” would indicate a perfect ratio of number of traffic stops, to the percent of Minority drivers in the population. The disparity index for Minority drivers

in Rockford for 2012 is 1.21. This would indicate that a Minority driver has a .21 greater likelihood of being stopped by the Rockford Police Department for a regular traffic stop.

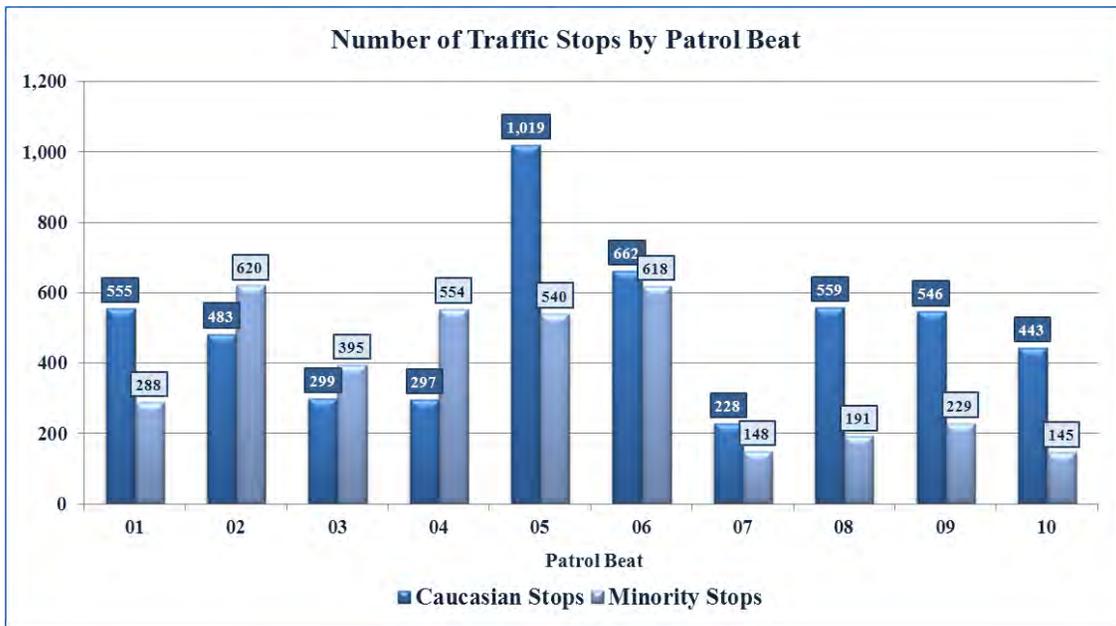
One variable that contributes to the number of traffic stops in an area is the allocation of police resources. Police distribution can be based on the crime rate. With higher crime rates in specific areas, there are more concentrated police efforts in those designated areas. In 2012 Patrol Beats 2 and 6 had the highest Group A, B, and Total Criminal Offense crime rate (Appendix 1). Total criminal offenses include the FBI’s National Incident-Based Reporting System (NIBRS) Group A and Group B Offenses. Group A offenses are the primary 46 offenses under 22 offense categories according to NIBRS. This includes offenses such as homicide, arson, assault, burglary, and drug/narcotic offenses. Group B offenses are the secondary 11 offense categories under NIBRS such as driving under the influence, disorderly conduct, and non-violent family offenses. There will be more police presence in these Beats, and subsequently a greater likelihood of being stopped.



Additionally, M3 Officers (officers who Map, Manage, & Measure High Crime Areas) concentrate efforts in these areas for crime reduction. There have been efforts in higher crime areas with special enforcement details and “Hot Spot Map” patrol where police presence is allocated based on weekly analysis of violent crime and property crime. A higher crime rate, geographic concentration of crime, population density, citizen

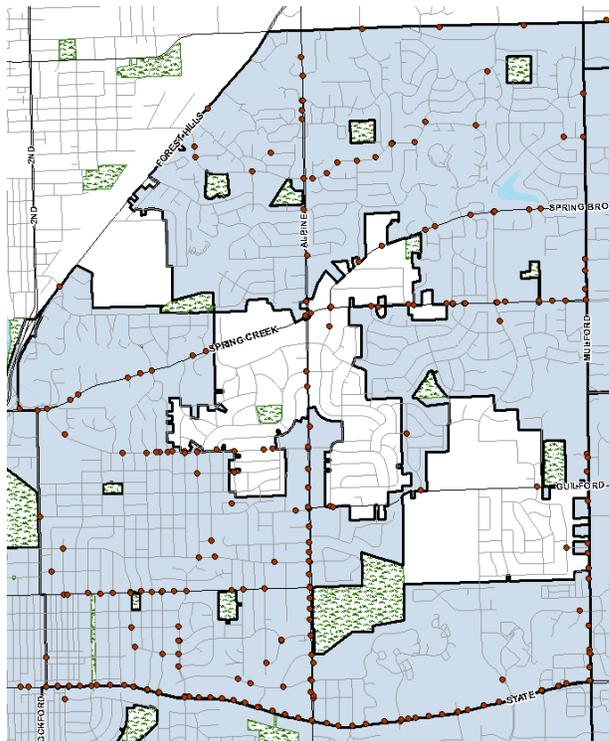
involvement, and police service can contribute to the likelihood of being stopped in a regular traffic stop in these areas

As stated above, Beats 2 & 6 are likely to have a greater police presence and a higher number of stops, but also had a more balanced ratio. The percent of Minorities stopped to the percent population becomes more stable in individual Beats which means that minority drivers are stopped more proportionally in Beats 2 & 6 where more police resources are located, than when looking at the city as a whole. The city’s overall demographics do not necessarily reflect demographics of many reporting Beats. (Appendix 2)



An analysis of traffic stops and population broken down by Beats indicates that the ratio of Minority drivers stopped, and the estimated Minority population in the Beat of the stop, is more proportional. In the Beats with more enforcement, the disparity index is more proportional to the population. Patrol Beat demographics provide insight into how each area contributes to the city ratio as a whole. (Appendix 2)

Another geographic variable, which may contribute to the disparity in numbers, would be the main roads that connect Rockford's west side of the river to the east side. Beat 8 had the greatest disparity ratio of 1.46 (Appendix 2) but also contains roads with high connectivity from the west to east side, including Riverside Blvd., Spring Creek Rd., and E. State St. Additional main thoroughfares run north-south from the City of Loves Park to county jurisdiction south of the City of Rockford, including N 2nd St, Alpine Rd, and Mulford Rd. Beat 8 contains a large number of destinations, such as shopping, restaurants, work, school, medical facilities, and access to I-90, which draw people from all areas of the city and from other jurisdictions. There is also a large area of County Jurisdiction within Beat 8. Only an estimated 14.53% of 2012 traffic stops conducted in Beat 8 were actually residents of this area.



Using the Environmental Systems Research Institute (ESRI) mapping software, it can be seen that most of the Beat 8 stops conducted were on one of the main thoroughfares of travel. The demographics for Beat 8 show a minority population of 17.4% (Appendix 2). It is clear that there may be other contributing factors to driving population. It is likely that outside residents take advantage of the easy travel within this Beat. In 2012, it can be seen that a majority of drivers stopped in Beat 8 were not residents of Beat 8. In fact, approximately 24.13% were not listed as City of Rockford residents. With the amount of travel, it is not currently possible to note the number of Caucasians or Minorities that drive in this area on any given day with the given parameters of the study.

Driving population is only an estimate based on 2010 Census count of residents and not an observed driving population. Population demographics can shift based on the time of day or the season as well. Christmas shopping and school seasons will change the amount of people on the road and in the shopping districts.

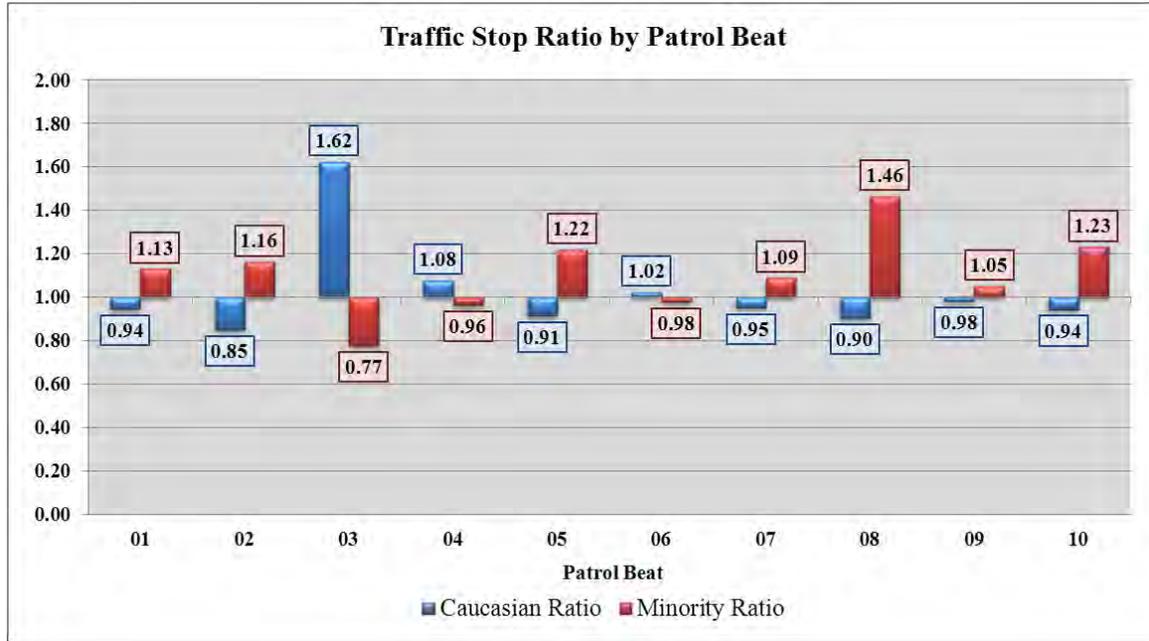
*Residency determined by driver's address based on addresses that mapped.

*Beat 8 determined by Beat Location of Stop listed in data.

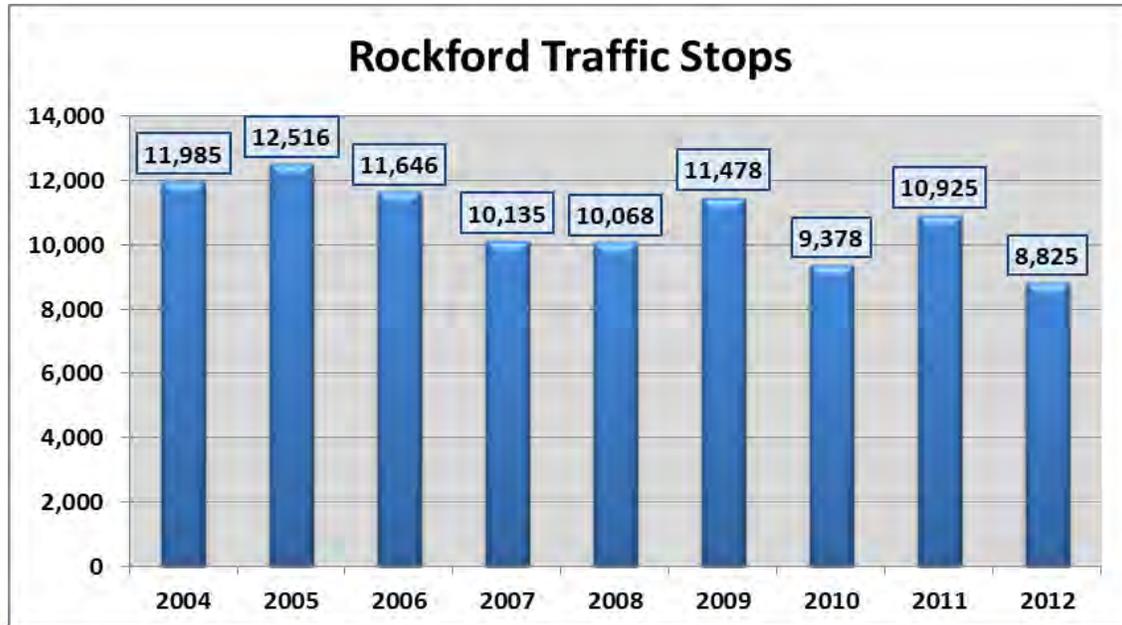


CONCLUSION

There are many variables that contribute to the ratio of minority traffic stops and the analysis is complex. Although some disparity in numbers is present, the proportion per Patrol Beat is more stable. Factors contributing to the disparity may include the racial make-up of individual patrol Beats compared with that of the city, the existing network of major thoroughfares, shopping districts, and medical facilities that draw people at a higher rate to certain areas of the city, and greater police presence in specific areas as dictated by higher crime rates and enforcement efforts.

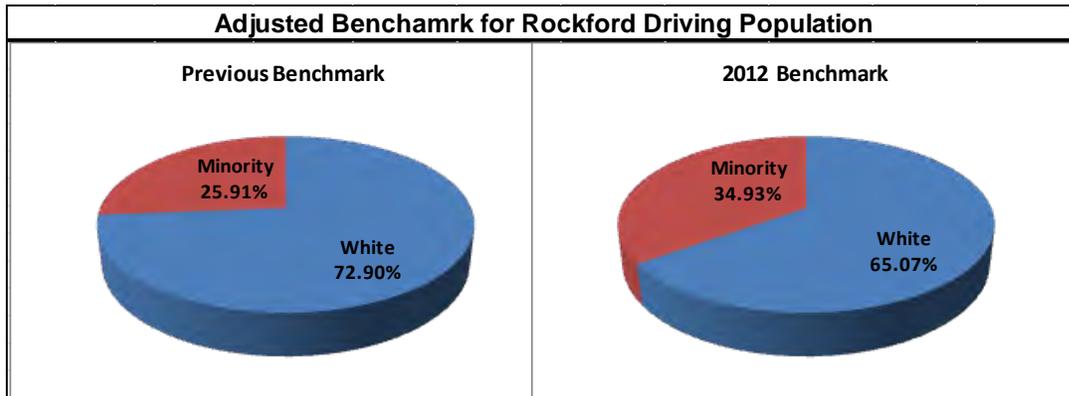


In 2004, the Rockford Police Department began collecting and analyzing Traffic Stop Data. Since that time there has been a slow decline of the total number of traffic stops.



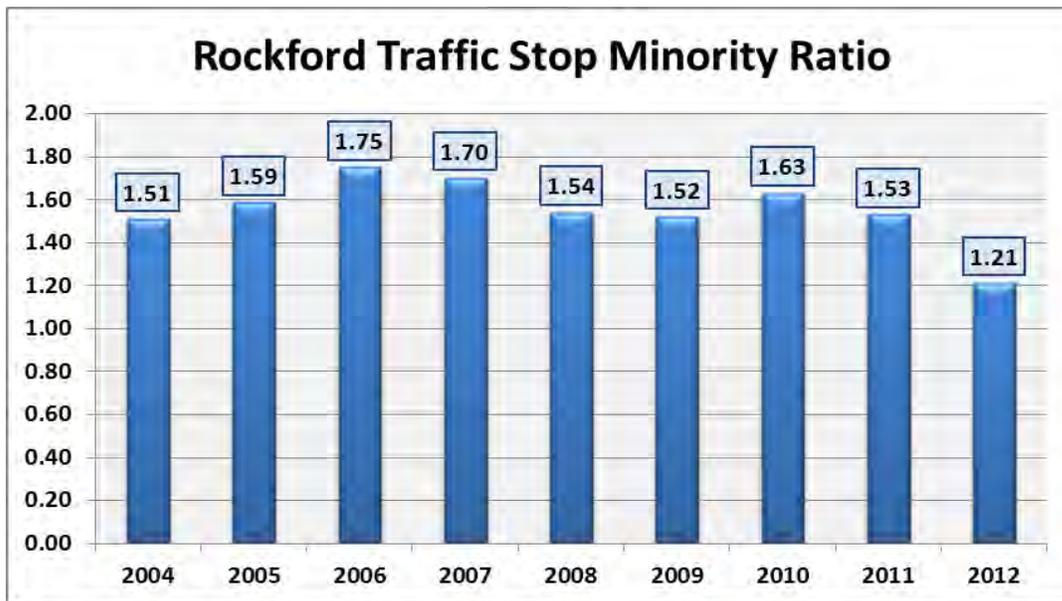
While there were a few years that fluctuated, on average the traffic stops declined every year. In 2006 after three years of data, the average number of traffic stops was 12,049. In 2009, the three year average was 10,560 traffic stops and in 2012 the three year average was 9,709 traffic stops. There are many reasons as to why the total number of traffic stops declined. With lower staffing, hot spot policing for criminal activity may be used alongside of traffic enforcement. A focused approach to efficiently allocate resources may cause a reduction in traffic stops. Meaning, a traffic encounter may in fact be a criminal stop as opposed to a ‘traffic only’ stop required for this study.

The Rockford police department started analysis in the year 2004 which was four years after the 2000 U.S. Census. The estimated driving population is based on residents over the age of fifteen. As displayed in the table below, the new benchmark is quite different



using the updated 2010 Census data. The minority driving population percentage increased by 9.02 points.

The minority ratio remains relatively stable over the last nine years with an average ratio of 1.55. This year is the first year the new benchmark was applied. The traffic stop ratio for minority drivers declined drastically in 2012, largely due to new population data. The new benchmark more accurately depicts the demographics in the City of Rockford.



We will continue to monitor and assess the driver stops based on the benchmark issued from Alexander Weiss Consulting LLC. With access to continuous data analysis in 2013, the Rockford Police Department will further track the data as it comes in. Additional analysis is completed yearly to review individual officer traffic stops.

The Department will continue its annual cultural diversity training and periodic review of the department's policy of bias-free policing. Awareness of culture, difference, and personal accountability will be key factors in having a Department dedicated to the community it serves, and enhancing community relationships.

The long-term goals of this study are to fully understand and investigate how the Traffic Stop Data relates to the operational mission of the Department. The Rockford Police Department currently uses NetRMS computer-based Records Management system to gather the most recent and accurate data for the department. We are also recognized as an official National Incident-Based Reporting System (NIBRS) agency reporting statistics to aid in more qualitatively functional data for crime analysis. Capturing better data with improved methods of analysis will help in the future with Traffic Stop Reporting. Moving forward, the Department expects to learn much from the data, interdepartmental discussion and its relationship with the community. Racial profiling is a very complex issue from a community and Departmental standpoint. In the years to come, the Rockford Police Department will continue to be diligent about research, analysis, and accountability of the Department.



Appendix 1

2012 Offenses by Beat						
Beat	Group A Offenses		Group B Offenses		Total Criminal Offenses	
	Number	Rate	Number	Rate	Number	Rate
1	2,440	128.8	1,069	56.4	3,509	185.2
2	1,729	218.0	1,309	165.0	3,038	383.1
3	1,425	151.3	1,108	117.6	2,533	268.9
4	2,422	139.0	1,747	100.3	4,169	239.3
5	1,904	123.7	1,365	88.6	3,269	212.3
6	2,360	200.5	1,806	153.4	4,166	354.0
7	2,010	146.9	1,005	73.5	3,015	220.4
8	1,351	60.8	786	35.4	2,137	96.1
9	1,866	79.5	1,051	44.8	2,917	124.3
10	1,221	92.7	570	43.3	1,791	136.0

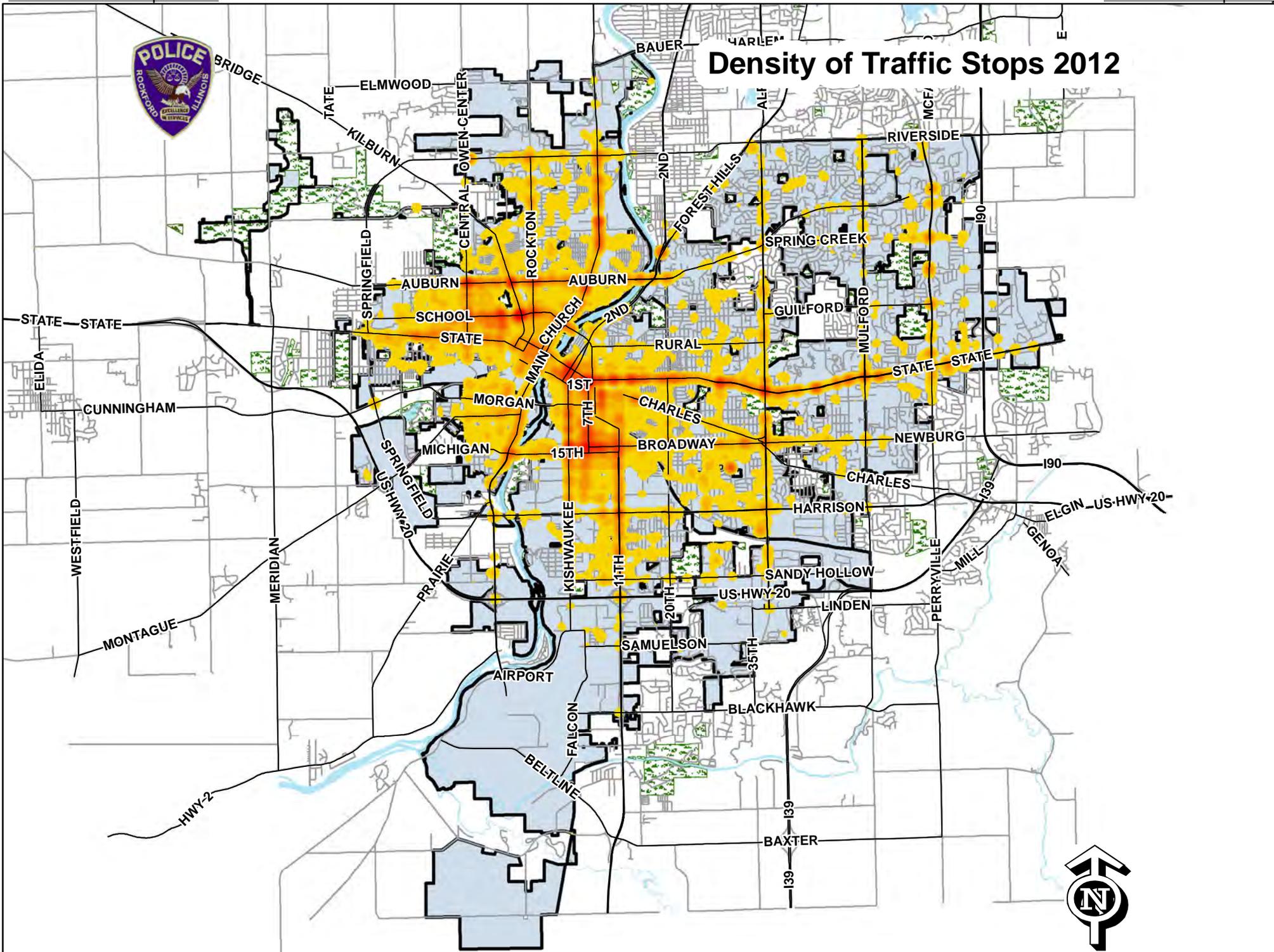
Appendix 2

Patrol Area	Caucasian				Minority				Total	
	#Stops	%Stops	%Pop	Ratio	#Stops	%Stops	%Pop	Ratio	#Stops	%Stops
01	555	65.84%	69.77%	0.94	288	34.16%	30.23%	1.13	843	9.55%
02	483	43.79%	51.63%	0.85	620	56.21%	48.37%	1.16	1,103	12.50%
03	299	43.08%	26.52%	1.62	395	56.92%	73.48%	0.77	694	7.86%
04	297	34.90%	32.36%	1.08	554	65.10%	67.64%	0.96	851	9.64%
05	1,019	65.36%	71.59%	0.91	540	34.64%	28.41%	1.22	1,559	17.67%
06	662	51.72%	50.49%	1.02	618	48.28%	49.51%	0.98	1,280	14.50%
07	228	60.64%	63.85%	0.95	148	39.36%	36.15%	1.09	376	4.26%
08	559	74.53%	82.60%	0.90	191	25.47%	17.40%	1.46	750	8.50%
09	546	70.45%	71.91%	0.98	229	29.55%	28.09%	1.05	775	8.78%
10	443	75.34%	79.96%	0.94	145	24.66%	20.04%	1.23	588	6.66%
NA	3	50.00%	NA	NA	3	50.00%	NA	NA	6	0.07%
City	5,094	57.72%	65.07%	0.89	3,731	42.28%	34.93%	1.21	8,825	100.00%





Density of Traffic Stops 2012





Density of K9 Traffic Stops 2012

