2018 Annual Report
Missouri Vehicle Stops - Executive Summary

ERIC SCHMITT
MISSOURI ATTORNEY GENERAL

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Message from Attorney General Eric Schmitt

As the Attorney General for the state of Missouri, my job is to protect each and every one of our six million citizens from crime, abuse and fraud, no matter their race, creed, zip code or religion. I take this responsibility very seriously. Our government, the shared responsibility between the citizens of our state and the elected officials, must provide all citizens the opportunity to pursue happiness and success.

The office of the Missouri Attorney General is required, by law, to collect data on the demographics and dynamics of traffic stops made by law enforcement officers across the state, and report these findings to the Governor and the public. Importantly, this data can help law enforcement identify disparities in stops, searches, and arrests and take appropriate action to improve both public safety and community relations.

This year's report features analysis of a new question on whether the driver of a vehicle resides in the jurisdiction of the law enforcement agency conducting the traffic stop. This question provides readers a better picture of traffic stop disparities by improving the population that traffic stops are compared against and is a step forward for the report. In addition, as our office worked on this year's report and consulted stakeholders across the state, we identified further improvements that will make the report even more insightful. This will include, but not be limited to, modernizing the data collection infrastructure to allow deeper analysis of the data and adjusting the questions on the form to gather additional context surrounding traffic enforcement.

As we seek to balance the rights of all citizens of our state with the enforcement of the rule of law, and the brave men and women of law enforcement who put their lives on the line every day to protect us, we will continue to improve this report so it can better inform future public policy debates.

Eric Schmitt
Attorney General

Background

Concerns by the citizens of Missouri and the Missouri legislature regarding allegations of bias in traffic enforcement prompted the passage of SB 1053 (2000). SB 1053 created Section 590.650, RSMo. which became effective August 28, 2000. This statute created the Vehicle Stops Report and required that the Attorney General's Office collect and report on traffic stops conducted by law enforcement officers across the state of Missouri.

Under § 590.650, RSMo. all peace officers in the state must report specific information, including a driver's race, for each vehicle stop made in the state. Law enforcement agencies must provide their vehicle stops data to the Attorney General by March 1, and the Attorney General must compile the data and report to the Governor, General Assembly, and each law enforcement agency no later than June 1 of each year. The law allows the Governor to withhold state funds for any agency that does not submit its vehicle stops data to the Attorney General by the statutory deadline.

The summary of statewide vehicle stops data has been provided by Dr. Scott H. Decker, professor in the School of Criminology and Criminal Justice at Arizona State University; Dr. Richard Rosenfeld, Professor Emeritus in the Department of Criminology and Criminal Justice at the University of Missouri-St. Louis; and Dr. Jeff Rojek, associate professor in the School of Criminal Justice and Director of the Center for Anti-Counterfeiting and Product Protection at Michigan State University.

Statewide Metrics

This report summarizes the data from 596 law enforcement agencies in Missouri for calendar year 2018. An additional 66 agencies indicated they made no traffic stops during the year. These agencies often contract out traffic enforcement to another agency covering their jurisdiction and focus on other enforcement activities. In total, this report represents 97.6% of the 678 law enforcement agencies in the state.

The agencies filing reports recorded a total of 1,539,477 vehicle stops, resulting in 101,671 searches and 72,017 arrests. Table 1 breaks out the stops, searches and arrests by race and ethnic group. Four summary metrics are included in Table 1 that may be useful in assessing bias in traffic enforcement.

When assessing these four metrics and the auxiliary statistics alongside them, the concept of discretion is an important consideration. For bias to influence the decisions of law enforcement officers, they must have some discretion in the action they take. If officers have many possible actions to take in a given situation, then it is possible for bias to affect their decision-making process. However, if officers only have one course of action in a given situation, there is little room for bias to influence their decisions without breaking from procedure or statute, so caution should be used in attributing bias.

An example of this is when a driver that has been stopped has an outstanding warrant for his or her arrest. In this situation, an officer must arrest and then search that driver. If outstanding warrants become concentrated in a racial/ethnic group in an agency's jurisdiction, this may result in the appearance of a disparity in arrest rates when officers had no discretion in their actions and therefore could not have been influenced by bias. Analysis of the degree of discretion that officers have in various situations is vital for a complete understanding of this report.

2018 Statewide Summary of Results

Key indicators	Total	White	Black	Hispanic	Asian	Am. Indian	Other
Population	4,730,501	3,914,998	515,828	139,109	80,677	19,168	60,721
Statewide Population %	100.00%	82.76	10.90	2.94	1.71	0.41	1.28
Stops	1,539,477	1,177,844	296,065	34,769	14,849	2,016	13,934
Disparity Index	---	.92	1.76	.77	.56	.32	.71
Searches	101,671	71,168	26,448	2,933	431	120	571
Search Rate	6.60	6.04	8.93	8.44	2.90	5.95	4.10
Contraband Hit Rate	34.96	35.68	33.82	29.15	29.00	35.00	31.70
Arrests	72,017	50,101	18,853	2,175	343	84	461
Arrest Rate	4.68	4.25	6.37	6.26	2.31	4.17	3.31

Notes: Population figures are 2010 Census data based on persons 16 and older who designated a single race. Hispanics may be of any race. "Other" includes persons of mixed race or unknown race.

Disparity index = (proportion of stops / proportion of population). A value of 1 represents no disparity; values greater than 1 indicate over-representation; values less than 1 indicate under-representation.

Search rate = (searches / stops) x 100.
Contraband hit rate = (searches with contraband found / total searches) x 100.
Arrest rate = (arrest / stops) x 100.

Disparity Index

The first summary metric is the "disparity index" and it relates each racial/ethnic group's proportion of total traffic stops to its proportion of the driving-age (16+) population. A value of 1 indicates that a group's proportion of vehicle stops equals its population proportion: it is neither "under-represented" nor "over-represented." Values above 1 indicate over-representation, and those below 1 indicate under-representation in traffic stops.

For example, the 1,177,844 whites who were stopped accounted for 76.5% of all vehicle stops in 2018. Whites comprise an estimated 82.8% of Missouri's driving age population. Therefore, the value for whites on the disparity index is .92 (.765/.828). As this value is below 1, whites were stopped at slightly below the rate expected based on their portion of the population age 16 and older from the 2010 Census.

The same is not the case for several other groups. Blacks represent 10.9% of Missouri's driving-age population but 19.2% of all vehicle stops, for a disparity index of 1.76. This means that Blacks were stopped at a rate 76% greater than expected based upon their portion of the population sixteen and older.

Hispanics (0.77), Asians (0.56), American Indians (0.32), and persons of mixed or unknown race (0.71) were stopped at rates well below an expectation based upon their portion of the driving-age population.

The values on the disparity index for the different groups can be compared directly to one another by dividing their values. For example, the likelihood that a black motorist was stopped is 1.91 times that of a white motorist (1.76/.92). In other words, blacks were 91% more likely than whites

to be stopped based on their respective proportions of the Missouri driving-age population in the 2010 Census.

Limitations

The disparity index relies upon a benchmark to set the expected rate at which members of a racial/ethnic group should be stopped. The actual rate of stops is then compared against this benchmark to calculate the disparity index. The 2018 Vehicle Stops Report uses the racial/ethnic portions of the driving-age (16+) 2010 Census populations of each jurisdiction for its benchmarks. This is an imperfect benchmark as a person does not need to live in an area to drive through it and a person may not drive despite being old enough to legally do so. This dynamic can lead to the racial/ethnic makeup of drivers on a jurisdiction's roadways differing from that of its residential population. The extremely low disparity index value for American Indians, for example, could indicate that they are under-represented among the state's motorists. In addition, the benchmark population figures are eight years older than the vehicle stops data they are compared to. The age of these estimates may lead to some jurisdictions' population estimates differing significantly from their current values.

Appendices to this report can provide useful analysis to partially alleviate these issues. Appendix A uses statewide rather than local racial/ethnic population portions to generate disparity index calculations, reducing the impact of the residency issue. Appendix C makes use of the residency question added to the Vehicle Stops Report form for the 2018 reporting cycle to only use traffic stops of residents of an agency's jurisdiction when generating the disparity index. This allows an analyst to control for driver residency when examining an agency's report.

Search Rate

A second metric that can be used to assess bias in traffic enforcement is the "search rate," or the number of searches divided by the number of stops (x 100). Searches include both searches of drivers and searches of the vehicle and property within.

The search rate for all motorists who were stopped in 2018 was 6.60%. Asians were searched at a rate well below the statewide average (2.90%), while Blacks (8.93%) and Hispanics (8.44%) were searched at rates above the average for all motorists who were stopped. Whites were searched at a rate below the state average at 6.04%. The search rate for racial/ethnic groups can also be directly compared with one another. Blacks were 1.48 times more likely to be searched than whites (8.93/6.04). Hispanics were 1.40 times more likely than whites to be searched (8.44/6.04).

Limitations

The reasons for conducting a search and the outcome of the search (i.e. discovery of contraband) should be considered when making comparisons across groups. Some searches are conducted with the consent of the driver, or because the officer observed suspected contraband in plain view, had reasonable suspicion that an individual may possess a weapon (Terry search), or other reasons. These searches may or may not result in an arrest.

Other searches are conducted incident to arrest—this means that there is no other reason given for the search other than arrest. As mentioned above, searches are almost always performed when there is an outstanding arrest warrant, whether or not contraband may be present.

It is notable that the search rate, along with the other post-stop metrics, are not subject to the benchmarking issues that affect the stop disparity index. The benchmarks for the post-stop metrics are the number of stops reported, so no estimation is involved in their calculation, making them more reliable metrics for assessing possible bias.

Contraband Hit Rate

The third summary metric, the "contraband hit rate," reflects the percentage of searches in which contraband is found. Contraband was found in 35.0% of all searches conducted in 2018. There is some variation, however, in the contraband hit rate across racial/ethnic groups.

The contraband hit rate for whites was 35.7%, compared with 33.8% for Blacks and 29.2% for Hispanics. This means that, on average, searches of Blacks and Hispanics are less likely than searches of whites to result in the discovery of contraband.

Limitations

While the contraband hit rate is not subject to benchmark issues, the degree of discretion officers have in their searches should still be considered when examining contraband hit rates. The difference in contraband hit rates among racial/ethnic groups may result in part from the higher arrest rates for Blacks and Hispanics—if there is an arrest, there will be a search whether or not the arresting officer suspects the subject has contraband. This may deflate the contraband hit rate since searches are being completed based on procedure rather than suspicion of contraband.

Arrest Rate

The "arrest rate" is the fourth summary metric included in Table 1 that may be useful for assessing bias in traffic enforcement. Statewide, 4.68% of all traffic stops resulted in an arrest (72,017/1,539,477). The probability of arrest varies across racial and ethnic groups.

Approximately 6.37% of the stops of Blacks and 6.26% of the stops of Hispanics resulted in arrest, compared with about 4.25% of the stops of whites. Asians (2.31%), American Indians (4.17%), and people of mixed or unknown race (3.31%) had lower arrest rates than whites. The dynamic of Blacks and Hispanics being arrested at a higher rate than whites likely affects the discrepancies in search and contraband hit rates as described above

Limitations

Like the other post-stop metrics, the arrest rate does not suffer from benchmark issues, however, officer discretion should still be considered as described above.

Conclusion

Missouri is a vast and complex state at the crossroads of the country. Each of its communities is unique and presents many dynamics that must be comprehensively evaluated when assessing the possibility of bias in traffic enforcement. Each agency's report should be read in conjunction with its entries in each of the appendices and in the context of the dynamics of the community it serves. This report is subject to limitations as described above and simply aims to provide a starting point for local dialogue.

Appendices

Section 590.650, Revised Statutes of Missouri, State Law on Vehicle Stops

Appendix A: Local Vehicle Stops in Proportion to State Racial Composition

Appendix A presents the traffic stop analysis using the statewide proportions of race and ethnicity, rather than the local proportions of each jurisdiction. This is valuable as it reduces the impact of the residency benchmark issue on the disparity index of each agency.

Appendix B: Disparity Indexes for 2000-2018 Compared

Appendix B compares the 2018 disparity index to the disparity indexes for 2000 through 2017. For each agency, the disparity index for each race-ethnic group is presented for 2000-2018. For the state as a whole, the key metrics generally show small changes between 2016 and 2018.

Appendix C: Resident and Non-Resident Stops

In 2018, for the first time, Appendix C displays the number and percentage of traffic stops of residents of the jurisdiction where the stop occurred separately from the total number of stops (i.e., stops of residents + stops of nonresidents). Disparity Indexes for the different population groups are also shown.

Appendix C uses the addition of the driver residency question for the 2018 reporting cycle to provide a disparity index calculated using only traffic stops of drivers who reside in the agency's jurisdiction. This is the first time this analysis has been possible since the Vehicle Stops Report was created in 2000.

Table 2. Agencies that did not submit reports by March 1, 2019 as required by state law			
Bland Police Department	Breckenridge Police Department	Camden Point Police Department	Cardwell Police Department
Cooter Police Department	Deepwater Police Department	Garden City Police Department	Greenville Police Department
King City Police Department	Leadington Police Department	Merriam Woods Police Department	New Bloomfield Police Department
Northwoods Police Department	Parma Police Department	Polo Police Department	Vanduser Police Department
Wood Heights Police Department			

Table 3. Agencies that reported no stops (many contract out vehicle stops to other agencies)

Altenburg Police Department	Armstrong Police Department	Bell City Police Department	Berger Police Department
Beverly Hills Police Department	Bevier Police Department	Bunceton Police Department	Callao Police Department
Canalou Police Department	Catron Police Department	Centerview Police Department	Charlack Police Department
Clarksburg Police Department	Clarkson Valley Police Department	Cool Valley Police Department	Creighton Police Department
Dellwood Police Department	Dudley Police Department	Easton Police Department	Emma Police Department
Essex Police Department	Fairfax Police Department	Fisk Police Department	Foley Police Department
Forest City Police Department	Freeman Police Department	Golden City Police Department	Gordonville Police Department
Grandin Police Department	Hale Police Department	Hayti Heights Police Department	Holt Police Department
Jackson County Drug Task Force	Jennings Police Department	Jonesburg Police Department	Kinloch Police Department
La Monte Police Department	Leasburg Police Department	Lockwood Police Department	Marquand Police Department
Marthasville Police Department	Mineral College DPS	Miramiguoa Police Department	Missouri Department of Revenue
Morley Police Department	Napoleon Police Department	Naylor Police Department	Norborne Police Department
Norwood Police Department	Pasadena Park Police Department	Pine Lawn Police Department	Randolph Police Department
Rutledge Police Department	Sheldon Police Department	St. Louis County Park Rangers	St. Louis Park Rangers
St. Peters Ranger Enforcement Division	Stewartsville Police Department	Tallapoosa Police Department	Taos Police Department
Walker Police Department	Wellston Police Department	Westwood Police Department	Wildwood Police Department
Windsor Police Department	Wyatt Police Department		

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