

Time of Day and Vehicle Stops

Executive Summary

Missouri law (RSMo [590.650](#)) requires the collection of 10 data points during all vehicle stops by law enforcement agencies, including: demographics such as age, gender and race; location of the stop; reasons for the stop; whether a search was conducted and resulted in contraband discovery; if the stop resulted in a warning, citation, or criminal arrest; and the location of the stop. One variable not required within Missouri statute is the “time of day” the vehicle stop occurred. Research suggests time of day data can be an important variable to both understand crime patterns and detect traffic stops that may occur due to racial profiling.

Highlights

- In 2019, Missouri law enforcement agencies reported 1,524,640 vehicle stops, resulting in 102,755 searches and 74,553 arrests.
 - Black Missourians are 2.1 times more likely to be pulled over than White Missourians and 2.8 times more likely to be arrested from a vehicle stop.
- In an analysis of 113,000 traffic stops in Texas, Black drivers were less likely to be stopped after dark; the reverse was true during the day. This effect is termed the “veil-of-darkness.”
- Twenty-three states and Washington D.C. have varying laws related to or requiring data collection when a driver is stopped by law enforcement.
 - Currently, 9 states require law enforcement agencies to report the time of day the vehicle stop occurred.

Limitations

- It is unknown to what extent the traffic stops reported are considered pretextual in nature.
- Law enforcement agencies in Missouri are not required to report “time of day” data. Therefore, it is unknown how time of day impacted the 1.5 million traffic stops in 2019.

Research Background

Missouri Vehicle Stop Report

The Missouri 2019 Vehicle Stops Report, which accounted for 96.3% of law enforcement agencies, recorded a total of 1,524,640 vehicle stops, resulting in 102,755 searches and 74,553 arrests. Approximately 76% of all vehicle stops involved White individuals and 19.5% involved Black individuals. Seventy percent of vehicle searches involved White motorists and 25.6% involved Black motorists; of the 74,553 arrestees, 70.9% were White and 24.7% were Black. Given that Black Missourians represent approximately 11% of Missouri’s population, Black Missourians are 2.1 times more likely to be pulled over than White Missourians and 2.8 times more likely to be arrested from a vehicle stop. For more information about vehicle stop demographics, such as age and gender, please see the [2019 Agency Reports](#).

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Based on the 2019 Vehicle Stops Report, it is unknown to what extent the traffic stops that are reported are considered pretextual (i.e., when a law enforcement officer pulls over a motorist for a minor traffic violation to investigate the possibility of more serious crime when no probable cause exists).¹ Additionally, information about the time of day when the vehicle stop occurred is not included in the report.

Time of Day and Vehicle Stop Demographics

Recently, a statistical approach incorporating the time of day of vehicle stops has been used to investigate the relationship between race and policing. Specifically, this approach addresses the idea that officers who engage in racial profiling are less able to identify a driver's race after dark than during the day.^{2,3} This hypothesis, referred to as the "veil of darkness", predicts that, if officers are racially profiling Black drivers, then it would be expected that Black drivers comprise a smaller proportion of stopped drivers at night.³ In a study assessing the "veil of darkness" in Texas, which involved approximately 113,000 traffic stops occurring before and after dusk (roughly 7-7:30pm), Black drivers were stopped 25-50% less after dark.³

This work and other research indicates that there are racial disparities in traffic stops, both in the rate at which drivers are stopped and in the probability of a vehicular search.^{3,4} In a nationwide analysis of nearly 100 million traffic stops, Black drivers were about 20% more likely to be stopped than White drivers.³ In an attempt to understand racial profiling in traffic stops, research has historically made evaluations based on residential populations or driver's license records; self-report traffic surveys; or looking at racial disparities in other measures of police behavior.²

Legislation for Vehicle Stop Reporting

Missouri, along with 22 other states and Washington, D.C., have laws related to or requiring collection of specific data when a driver is stopped by law enforcement.⁵ These data are to be publicly available; [California](#) and [Maryland](#) have online displays that can be filtered by jurisdiction and by each data point collected by officers. These laws vary among each state including how the law applies to certain vehicle stops and which data points are required to be reported.

Missouri law (RSMo [590.650](#)) applies to all traffic stops except sobriety checkpoints or roadblocks (Maryland's laws are similar). However, Florida law only applies to stops where citations are issued for violations against the state's seat belt law.

Missouri law requires the collection of 10 data points pertaining to vehicle stops by law enforcement agencies including: demographics such as age, gender and race; location of the stop; reasons for the stop; whether a search was conducted and resulted in contraband discovery; if the stop resulted in a warning, citation, or criminal arrest; and the location of the stop. Of the 23 states with state-mandated reporting, California, Colorado, Connecticut, Kansas, Illinois, Maryland, Massachusetts, Oregon, and Rhode Island explicitly state in statute that the time of the vehicle stop is to be documented within their state reports of traffic stops.⁵

The collection of time data can be used to help inform and predict policing strategies, which may allow limited resources to be better targeted and utilized.⁶ However, using data for predictive policing may lead to unfairly patrolling certain areas with heightened enforcement (even if the crime rates are not necessarily higher than other places) or relying on patterns of policing that are already biased towards minorities and low-income areas.⁶

In addition to data reporting requirements, some states including Missouri, have laws that specifically require law enforcement agencies to adopt a policy to conduct periodic assessments to determine if any police officers have a pattern of stopping members of minority populations.

References

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