

EXECUTIVE SUMMARY

This report presents the results from a racial/ethnic disparity analysis of Michigan State Police (MSP) traffic stops conducted in 2021. The goal of the analysis is to identify the extent of racial/ethnic disparities in MSP traffic stop behavior across MSP worksites (i.e., posts). The analyses are based on a leading empirical approach to assessing racial/ethnic disparities in traffic stop behavior—the veil-of-darkness (VOD). The analyses account for important structural differences across posts and their jurisdictions, such as the rate of violent crime and troopers per capita, as well as temporal factors that may shape traffic patterns and stop behavior (e.g., time of day, day of week) to help ensure the results are as informative as possible. Below, we briefly outline the methodology employed and summarize the main findings.

When discussing the results from this report, it is important to recognize the difference between “disparity” and “discrimination.” Disparity in these traffic stop analyses refers to differences in racial/ethnic group representation based on presumed visibility of the driver. Disparity cannot identify intent, whereas discrimination inherently involves intent. Therefore, discrimination in traffic stop behavior refers to police officers intentionally stopping individuals based on their status in a racial/ethnic minority group. Discrimination can generate disparities by way of differential treatment of racial/ethnic groups, but disparities may also be the result of non-discriminatory (e.g., environmental, situational, etc.) factors such as crime prevalence and driving pattern differences. This report and its findings can speak only to the extent of racial/ethnic disparity in MSP traffic stops. The data cannot ascertain whether racially discriminatory practices are occurring within MSP. Although disentangling disparity from bias is critical towards improving police practices, accurately identifying the existence of such disparity and its magnitude is an important precursor to this process. More information on the data collection process is provided in the body of the report. Next, we highlight the main takeaways from the analyses.

Veil of Darkness Results:

We used an analytical approach to estimate potential racial/ethnic disparities in MSP traffic stops that is referred to as the “veil-of-darkness” (VOD). The VOD is recognized as a leading approach to estimating racial/ethnic disparities in traffic stops because of its quasi-experimental design and ability to account for external factors that shape patrol and traffic patterns. The VOD works by assuming that police officers have more difficulty discerning the race/ethnicity of a driver based on visual appearance prior to a traffic stop when it is dark outside than when it is light outside. If a larger proportion of traffic stops involving drivers of a racial/ethnic minority group exists in daylight compared to in darkness, this would indicate a disparity in traffic stop behavior due to drivers’ racial/ethnic appearance. The VOD restricts its attention to only those traffic stops that occurred during the intertilight period (i.e., the earliest dusk to the latest sunset). Doing so creates an experimental setting that leverages the seasonal variation in daylight to account for differences in travel patterns across groups of people. In other words, holding all else equal, stops during daylight are compared to similar stops that occurred at the same time of day but during darkness (during a different time of year) for each racial/ethnic group. Holding other factors

constant, any observed differences in the proportion of stops based on drivers' racial/ethnic group makeup may be due to differences in their perceived race/ethnicity. The main VOD results were as follows:

- Traffic stops conducted in daylight were 11% more likely to involve an African-American driver. Daylight stops were also 18% more likely to involve a Hispanic driver than those conducted in periods of darkness. These findings exist even after accounting for other factors that also may predict driver race/ethnicity.

One limitation of these findings is that there could be seasonal variation in traffic flow over the course of the year, which in turn may impact the underlying population at risk of being involved in a traffic stop. Given that VOD analyses assume no seasonal differences in traffic patterns, it could reap inaccurate findings if this assumption is incorrect. One popular solution is to analyze traffic stops conducted 30 days before and after the switch to and from daylight savings time (DST). Accordingly, we re-estimated the VOD analyses while restricting the data to around the switch to and from DST, which led to the following findings:

- After accounting for potential seasonal variation in traffic flow and traffic stop behavior, African-American and Hispanic drivers were *no more likely* to be involved in traffic stops in daylight compared to darkness. Accordingly, when analyzing traffic stops conducted within the ITP and 30 days before and after the switch to and from DST, the results revealed no racial/ethnic disparities. However, the results from this DST-centered re-analysis should be interpreted cautiously given that it is based on a third of the full traffic stop data within the original analysis.

Secure Cities Partnership Veil of Darkness Results:

There are 11 cities in Michigan that participate in the Secure Cities Partnership (SCP). This involves MSP providing patrol support in these cities to assist with crime reduction efforts. Importantly, the racial/ethnic composition of these 11 cities is much different than other areas of the state. It is possible that the inclusion of SCP locations could influence the overall findings from the VOD analyses. Accordingly, we re-estimated two separate VOD analyses after isolating attention to a) only stops that occurred in SCP locations and b) only stops not occurring in SCP locations, respectively. The results were as follows:

- Restricting the VOD analysis to only those stops that occurred in SCP locations while under grant/directed patrol revealed a greater disparity for African-American drivers and no disparity for Hispanic drivers. More specifically, stops during daylight were 60% more likely to involve an African-American driver than stops during periods of darkness within SCP locations. However, daylight stops were no more likely to involve Hispanic drivers than those conducted in darkness within the 11 SCP locations.
- Conducting the VOD analysis after *excluding* traffic stops that occurred in SCP locations as part of a grant/directed patrol initiative yielded similar findings to the main VOD results.

Stops conducted in daylight were 14% more likely to involve African-American drivers and 24% more likely to involve Hispanic drivers than those that occurred in darkness. Thus, removing SCP stops from the analysis does not appear to change the overall results observed at a state level.

Post-by-Post Veil of Darkness Results:

Another caveat to the main findings is that the analyses assumed the effect of daylight on drivers' race/ethnicity (i.e., the disparity) varies randomly across MSP posts. It may be that not all posts exhibit significant racial/ethnic disparity in their traffic stop behavior. Instead, the racial/ethnic disparity may differ both in magnitude and statistical significance across posts. Accordingly, we conducted a post-level analysis whereby each post was examined separately to shed light on the extent of racial/ethnic disparity in traffic stop behavior within posts.

- The results indicate that a small proportion of MSP posts accounted for the racial/ethnic disparities observed statewide. More specifically, daylight stops were more likely to involve African-American drivers compared to stops during darkness in 6 of MSP's posts (i.e., Lansing, Monroe, Tri-City, Flint, Lakeview, and Houghton Lake Post). Conversely, daylight stops were significantly *less likely* to involve African-American drivers compared to stops conducted in darkness in 1 post (i.e., Grand Rapids). Meanwhile, daylight stops were more likely to involve Hispanic drivers than stops during darkness at 4 of the 30 MSP posts (Monroe, Grand Rapids, Mt. Pleasant, and Cadillac).
- We also conducted post-by-post analyses after excluding SCP-related stops. Note that these results have no bearing on MSP posts that do not have SCP-related traffic stops, rather these analyses reveal what happens to the existing disparity for those posts with SCP traffic stops. Conducting these analyses showed that, again, a small proportion of posts make up the racial disparities observed statewide—even after excluding traffic stops that occurred in SCP locations and were part of a grant/directed patrol initiative. Daylight stops were significantly more likely to involve African-American drivers than traffic stops during periods of darkness in 4 of the 6 posts that were previously identified as having a significant disparity in daylight stops (Monroe, Flint, Lakeview, and Houghton Lake Post). Monroe, Lakeview, and Houghton Lake Post results did not change as there were no SCP-related stops conducted in these posts. However, the disparity remained in the Flint Post even after omitting SCP-related traffic stops. This suggests that in the Lansing and Tri-City Posts, the racial disparity observed in the original post-by-post analysis (see previous bullet point) was constrained entirely to SCP-related traffic stops—but this was not the case in the Flint Post. After omitting the SCP-related stops, Grand Rapids Post troopers were not more or less likely to pull over an African-American driver during the day compared to at night.