

Division of Governmental Studies and Services

Final Report

Montana Highway Patrol

**2018 MHP Traffic Stop Data--Decision to Stop
Analysis**

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Executive Summary

Washington State University's Division of Governmental Studies and Services (DGSS) provides this final report, the fifth in a series, which presents research assessing yearly traffic stop data for evidence of biased policing conducted on behalf of the Montana Highway Patrol. This report analyzes traffic stops that occurred from January 1, 2018 through December 31, 2018. As with previous years, the Montana Highway Patrol provided data to the DGSS which was converted for analysis to examine activities for the year 2018. To assess for potential disproportionality in the decision to stop, several "benchmark" comparisons were conducted. Data provided by the MHP include:

- 94,835 MHP traffic stops
- 20,638 drivers involved in crashes attended by MHP officers
- 7,800 service/self-initiated physical assists

Decision to Stop Findings

DGSS researchers did not find evidence of systemic racial bias in the decision to stop for 2018. Several benchmark comparisons were conducted at the state, district, county and city-levels. Similar to previous years, these comparisons did reveal potential disparity for some counties. As with the 2017 data report, disparity index analysis was conducted to examine whether any population groups are over-represented in stops by Montana Highway Patrol officers. This analysis compares stops of a population group to their proportion of the driving population to examine potential disproportionality. This analysis has several limitations, including a potential false finding of overrepresentation when the population of people of color is less than 15% of the total population, and the inability to determine the cause of potential disproportionality since there are several potential explanations for overrepresentation. Thus, these results should be interpreted with caution. Despite these limitations, disparity index analysis was conducted at the state-level to assist the MHP in examining this important issue. This analysis revealed potential overrepresentation in state-wide stops for Black drivers compared to their proportion of the population. Asian, Hispanic, and Native American drivers are under-represented in stops compared to their proportion of the population at the state-level. When combining stops from 2014 to 2018 data, Black drivers were potentially over-represented each year at the state-level, but this potential overrepresentation declined in 2018.

While the disparity index analysis has limitations, the results should be examined further to evaluate what may be contributing to these potential differences.

Key findings for the decision to stop include:

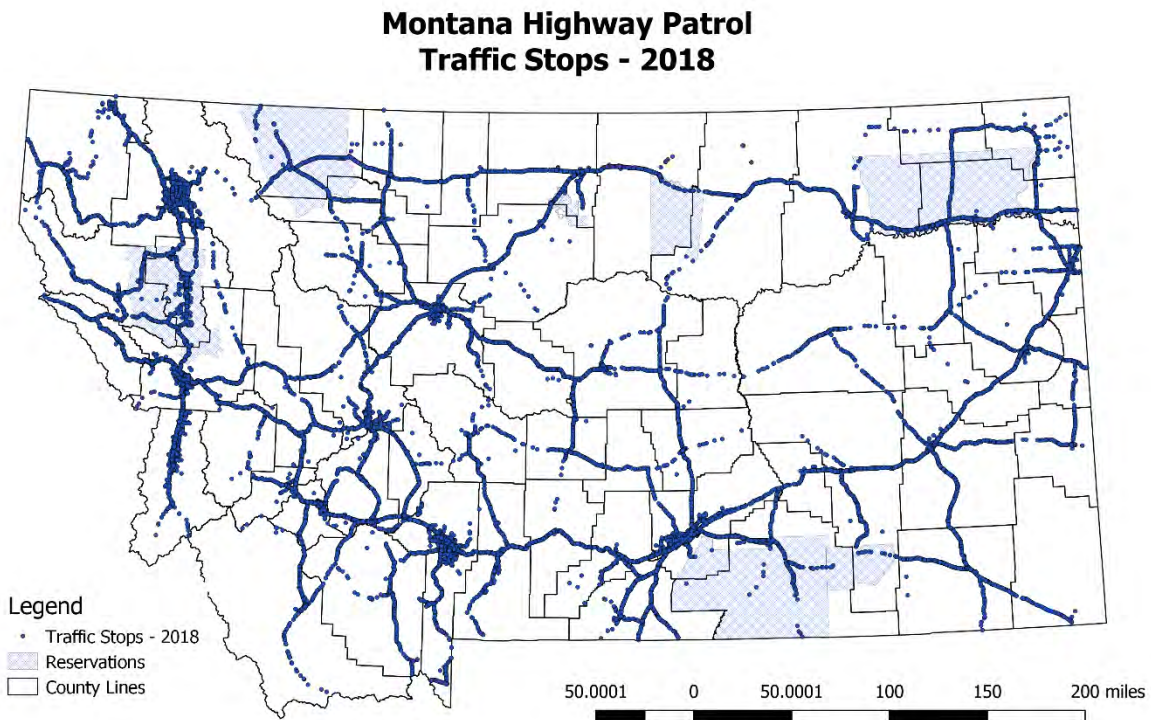
- No evidence of systemic bias in the decision to stop by Montana State Highway Patrol Officers in 2018.
- Potential over-representation in stops at the state-level for Black drivers in 2018. Analysis over time (2014-2018) suggests that potential over-representation for Black drivers decreased at the State-Level in 2018.
- No evidence of overrepresentation at the district-level or city-level.
- Some counties show disproportionality for people of color in stops when compared to Census data or other benchmarks; however, for most of these counties there are too few cases to detect variation to determine whether disproportionality is truly present.

Methods

Analysis of 2018 Data and the Decision to Stop

DGSS researchers conducted descriptive comparisons to assess whether there is evidence of racial bias in Montana Highway Patrol (MHP) officers' decisions to stop. These comparisons include, comparisons of Census data and MHP stop data, and comparison of 2018 stop data with internal MHP data, such as MHP 2018 crash data, 2018 MHP calls for service/assistance data, and day/night time stops. This includes conducting these analyses at multiple-levels, state, county, district and city, where there is enough data to conduct these initial comparisons. DGSS also conducted disparity index analysis (a comparison to the driving age population) at the state and district-level to examine for over-representation in stops compared to proportion of the population. As noted in previous reports, these analyses, especially at the county-level where there are few stops to examine, is limited and should be interpreted with caution.

State Level Analysis



The Montana Highway Patrol provided data on a total of 94,825 traffic stops that occurred in 2018, including 1,240 commercial vehicle stops and 23 non-motor vehicle stops. As with previous years, non-motor vehicle stops and commercial vehicle stops were removed from the analysis for a total of 93,562 traffic stops analyzed for 2018. Most drivers stopped were male (65.9%, 61,698) and White (90.4%, 84,266), and most stops occurred during the day (72.3%, 67,688). The city of Great Falls had more stops than other cities with 2,372 (2.5%), and Missoula County had more stops at the county-level (9.4%, 8,815). District 1 had more stops than other districts with 16,526 stops (17.7%). The District and county with the largest number of stops is the same as the previous year but differs from years prior to 2017. From 2014-2016, Flathead county and District 5 had more stops.

Table 1 contains Census demographic estimates for Montana and the percentage of drivers stopped in 2018 by race/ethnicity.

Table 1: Statewide Percentage of Stops by Race/Ethnicity and Population Estimates

	<i>White Drivers</i>	<i>Asian Drivers</i>	<i>Black Drivers</i>	<i>Native American Drivers</i>	<i>Hispanic Drivers</i>
Stops	84,266	938	1,486	4,535	1,983
	90.41%	1.01%	1.59%	4.87%	2.13%
2018 Population Estimates	906,575	7,353	4,202	61,979	38,868
	85.9%	0.9%	0.6%	6.6%	4.00%

DGSS researchers also conducted disparity index analysis to assess potential disproportionality in stops. In order to conduct disparity index analysis, the percentage of drivers stopped is divided by the percentage among the benchmark group (in this case their percentage of the population according to the US Census). To assess potential disproportionality, a value under 1 represents potential underrepresentation of a group while a value over 1 represents potential overrepresentation of the group. The closer a value is to 1, the closer that group’s proportion of traffic stops equals their proportion of the population.

To calculate the disparity index, the denominator data (i.e., census) and the numerator data (i.e., stops) must be matched as closely as possible. Since the U.S. census provides information on Montana residents, non-resident drivers should be excluded from the analysis. Additionally, Census data should be adjusted so that only the driving age population is examined. To adjust the data, we removed non-resident drivers from the analysis (determined by whether they had a Montana driver’s license) and used Census estimates of the driving age population (16 and over) for each group. After removing non-Montana drivers from the analysis, there were 68,912 stops remaining. To illustrate the data adjustment, in 2018 there were 4,535 Native American drivers stopped by MHP, but only 3,855 of those drivers stopped had Montana-issued driver’s licenses. The Census estimates 64,710 Native Americans residing in Montana the same year, but only 44,962 are of driving age. The following analyses uses adjusted data for the census and the stop data as shown in Table 2.

The disparity indices reveal that Asian and Hispanic drivers are potentially underrepresented in stops, Black drivers are potentially overrepresented in stops, and White and Native American drivers are stopped at a rate to be expected based on the Census. For example, 63,328 White drivers were stopped in 2018 accounting for 91.9% of all traffic stops, whereas

White drivers comprise 87.9% of the driving population in Montana. The disparity index for Whites is therefore 1.05 (.919/.879). A disparity index of 1.05 means that Whites were stopped at nearly the rate to be expected based on their proportion of the driving-age population from the 2010 Census. Native Americans drivers were also stopped at nearly a rate to be expected with a disparity index of 1.07. Conversely, Hispanic drivers account for 1.09% of all traffic stops, but 3.4% of the driving population. The disparity index for Hispanics is therefore .32 signifying that Hispanics were stopped at the rate less than expected based on their proportion of the driving-age population. Similarly, Asians with a disparity index of .43 were stopped at a rate less than expected. Black drivers, however, were stopped at a rate greater than expected with a disparity index of 1.56 which suggests potential overrepresentation in stops compared to their proportion of the population.

There are several limitations to disparity index analysis that need to be acknowledged. First, we use Census data of the driving age population to conduct the analysis, which may not reflect the true driving age population (Fridell, 2004). Second, when less than 15% of the population are people of color, disparity analysis may find potential overrepresentation when none in fact is present. Lastly, driving age population may not reflect actual driving demographics in particular regions due to events, activities, or institutions such as universities, that attract motorists from outside of a jurisdiction. Despite these limitations, researchers conducted disparity index analysis to examine for potential overrepresentation of people of color and suggest that any potential overrepresentation be examined further.

Table 2 Statewide Summary of Results

<i>Key Indicators</i>	<i>Total</i>	<i>White</i>	<i>Asian</i>	<i>Black</i>	<i>Native American</i>	<i>Hispanic</i>
Population	858,445	754,810	7,909	4,260	44,962	29,188
Stops	68,912	63,328	272	532	3,855	755
State Population %	100.00%	87.93%	0.92%	0.50%	5.24%	3.40%
Stops %	100.00%	91.90%	0.39%	0.77%	5.59%	1.09%
Disparity Index	---	1.05	0.43	1.56	1.07	0.32

Notes: Population figures are 2010 Census data based on persons 16 and older who designated a single race. Hispanics may be of any race. Stop data only includes vehicles stopped with MT-issued driver's licenses. 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 underrepresentation.

Reason for Stop

DGSS researchers also examined the decision to stop by categorizing officer indicated “reason for stop” into 5 major categories: Moving Violation Hazardous, Moving Violations Serious, Equipment, License/Registration/Insurance, and Other.¹ The most frequent reasons for stop in 2018 were Moving Violations Hazardous (83.9%, 78,207), and License/Registration/Insurance (11.4%, 10,603). For each of the infraction categories, White drivers were the largest percentage of drivers stopped (See Table 3 below).

The majority of stops for every group are Moving Violations Hazardous. As with previous years, moving violations accounted for a higher percentage of stops of Asian drivers when compared with other groups. Over 91% of Asian drivers were stopped due to Moving Violations Hazardous infractions in 2018 as compared to 85.1% of Black drivers and 76.9% of Native American Drivers. The second most common reason for stops in every group was License/Registration/Insurance. Asian drivers were stopped at a lower rate for License/Registration/Insurance infractions (5.01%) in comparison to other groups.

Table 3 Reason for Stop by Race/Ethnicity--Statewide

<i>Specific Infractions</i>	<i>White Drivers</i>	<i>Asian Drivers</i>	<i>Black Drivers</i>	<i>Native American Drivers</i>	<i>Hispanic Drivers</i>
Moving Violations Hazardous	90.36% 70,936	1.10% 860	1.61% 1,264	4.44% 3,487	2.11% 1,660
Moving Violations Serious	87.76% 1,075	0.98% 12	2.20% 27	5.63% 69	3.10% 38
Equipment	90.01% 1,541	0.29% 5	0.82% 14	6.83% 117	1.52% 26
License/Registration/Insurance	88.71% 9,442	0.44% 47	1.34% 143	7.19% 765	1.94% 206
Other	85.95% 1,272	0.95% 14	2.57% 38	6.55% 97	3.58% 53

¹ Stop categories were created in cooperation with MHP personnel in 2014. Moving Violation Hazardous includes offenses such as speeding, violation of right away, and driving without headlights while motor vehicle serious includes offenses such as careless driving, driving under the influence, and reckless driving. Other offenses included open container, throwing debris, etc.

Table 4 Within-group comparison of reason for stop by race/ethnicity

Type of Infraction	White Drivers	Asian Drivers	Black Drivers	Native American Drivers	Hispanic Drivers
Moving Violations Hazardous	84.18% 70,936	91.68% 860	85.06% 1,264	76.89% 3,487	83.71% 1,660
Moving Violations Serious	1.28% 1,075	1.28% 12	1.82% 27	1.52% 69	1.92% 38
Equipment	1.83% 1,541	0.53% 5	0.94% 14	2.58% 117	1.31% 26
License/Registration/Insurance	11.20% 9,442	5.01% 47	9.62% 143	16.87% 765	10.39% 206
Other	1.51% 1,272	1.49% 14	2.56% 38	2.14% 97	2.67% 53

Day and Night Stops²

DGSS also conducted a comparison of daytime and nighttime stops to examine potential differences in drivers stopped. These comparisons are used to indicate potential bias in decision to stop when larger percentages of drivers from specific demographic groups are stopped more during the day compared to night (5% or more are stopped during the day versus the night

As mentioned, the majority of stops occurred during the day (762.3%, 67,688), while 27.7% (25,783) of the stops occurred at night. No group meets or exceed the 5% threshold, suggesting no evidence of systemic bias in the decision to stop by MHP officers with this benchmark comparison.

Table 5 Percentage of Day and Night Stops by Race/Ethnicity

Time of Day	White Drivers	Black Drivers	Asian Drivers	Native American Drivers	Hispanic Drivers
Day	90.18% 65,434	1.48% 1,003	1.06% 720	4.82% 3,263	2.06% 1,397
Night	89.76% 23,224	1.87% 483	0.84% 218	4.92% 1,272	2.26% 586

² The classification for daytime and nighttime that was used for this analysis was based on civil twilight times for Helena, Montana throughout the year. Information on civil twilight times for Helena, Montana were collected from TimeandDate.com at <https://www.timeanddate.com/sun/usa/helena>.

Involvement in Crashes

DGSS researchers conducted analysis of crashes to compare MHP contacts where officers have discretion in their interactions with drivers (discretion in decision to stop) and where they do not (as officers have no control over who is involved in a crash). While typically this data would use not-at-fault drivers only who are essentially *randomly selected* and therefore are a more representative sample of the driving population we have kept at fault drivers in the analysis to avoid reducing the number of drivers involved in crashes below levels needed for effective comparison.

Crash data for 30,064 individuals was provided by Montana Highway Patrol. As with previous years, DGSS followed the same procedures developed to examine crashes, using the driver as the level of analysis, rather than the crash incident. Using drivers as the level of analysis, there are 20,638 drivers involved in crashes to analyze. We examine the percentage of groups involved in crashes (as drivers) to the rate they are stopped for potential disproportionality in the decision to stop. Potential disproportionality is indicated by drivers stopped at higher rates than involvement in crashes, 5% or more. This comparison did not suggest any disparities when examined on the state level.

Table 6 Statewide Crashes by Race/Ethnicity

	<i>White Drivers</i>	<i>Asian Drivers</i>	<i>Black Drivers</i>	<i>Native American Drivers</i>	<i>Hispanic Drivers</i>
Crashes	90.87% 18,753	.84% 174	1.48% 305	4.58% 945	2.23% 461
Stops	91.90% 68,912	0.39% 272	.77% 532	5.59% 3,855	3.40% 752
Census	87.93% 754,810	0.92% 7,909	0.5% 4,260	5.24% 44,962	3.40% 29,188

Calls for Service

DGSS also examined calls for service and self-initiated physical assists. This comparison also compares situations where officers have no discretion in deciding who needs assistance. There were 7,800 calls for service or self-initiated physical assists recorded by MHP in 2018.

Two hundred and forty of those calls did not provide information indicating race/ethnicity because there were no individuals were present at the scene, which typically involved the removal of debris or abandoned vehicles.

Of the assists and calls for service where race/ethnicity/gender was provided, 89.42% (6,760) were White and most individuals were male (69.69%). This comparison reveals no large differences between the frequency of stops and calls for service and self-initiated physical assists.

Table 7 Statewide Assistance Contacts by Race/Ethnicity

	<i>White Drivers</i>	<i>Asian Drivers</i>	<i>Black Drivers</i>	<i>Native American Drivers</i>	<i>Hispanic Drivers</i>
Assistance	89.42%	.85%	1.76%	5.53%	2.45%
	6,760	64	133	418	185
Stops	91.90%	0.39%	.77%	5.59%	3.40%
	68,912	272	532	3,855	752
Census	87.93%	0.92%	0.5%	5.24%	3.40%
	754,810	7,909	4,260	44,962	29,188

County-Level Analysis

Researchers also conducted analysis of stops at the county level. Table 8 provides the percentage of stops by group, while Table 9 provides the proportion of the group's population in each county subtracted from their percentage stopped. Nineteen counties have a group that is stopped more than 5% of their proportion of the population: Big Horn, Blaine, Carter, Cascade, Chouteau, Glacier, Hill, Lake, Lewis and Clark, Lincoln, Madison, McCone, Musselshell, Petroleum, Phillips, Pondera, Prairie, Roosevelt, and Rosebud.

Native American drivers were stopped more than their proportion of the population in four counties (McCone, Musselshell, Petroleum, Pondera), while Asian and Black drivers are over-represented in one county each (Carter, and Prairie respectively). Hispanic drivers are over-represented in stops in two counties (Carter, and Prairie). For 12 of the 16 counties, White drivers are stopped in higher percentages (5%+) than their proportion of the population (Big Horn, Blaine, Cascade, Choteau, Glacier, Hill, Lake, Lewis and Clark, Lincoln, Madison, Phillips, Roosevelt, and Rosebud).

It is important to note that disproportionality is not evidence that systemic bias is occurring; alternative explanations of disproportionality must be examined prior to drawing any conclusions. As with previous years, many of the counties have too few stops for 2018 to adequately detect and assess variation. More stops are needed to assess whether disproportionality is present. These findings suggest further analysis is needed once more stops are available.

Table 8: Percentage of County Stops by Race/Ethnicity

<i>County</i>	<i>White Drivers</i>	<i>Asian Drivers</i>	<i>Black Drivers</i>	<i>Native American Drivers</i>	<i>Hispanic Drivers</i>	<i>Number of Stops</i>
BEAVERHEAD	92.72% (1,032)	1.44% (16)	1.26% (14)	1.35% (15)	3.23% (36)	1113
BIG HORN	58.05% (476)	0.73% (6)	2.68% (22)	36.83% (302)	1.71% (14)	820
BLAINE	71.00% (470)	0.30% (2)	1.06% (7)	26.74% (177)	0.30% (2)	662
BROADWATER	96.88% (1,460)	0.73% (11)	0.93% (14)	0.27% (4)	0.86% (13)	1507
CARBON	94.93% (524)	0.36% (2)	1.09% (6)	0.72% (4)	2.90% (16)	552
CARTER	83.05% (49)	8.47% (5)	1.69% (1)	0.00% (0)	6.78% (4)	59
CASCADE	91.52% (5,427)	0.93% (55)	2.56% (152)	2.60% (154)	2.38% (141)	5930
CHOUTEAU	83.44% (1,315)	0.44% (7)	1.65% (26)	11.99% (189)	1.71% (27)	1576
CUSTER	90.23% (3,397)	1.73% (65)	2.18% (82)	2.05% (77)	2.84% (107)	3765
DANIELS	93.99% (219)	0.00% (0)	1.72% (4)	3.43% (8)	0.43% (1)	233
DAWSON	85.28% (1,634)	1.83% (35)	4.28% (82)	2.40% (46)	5.79% (111)	1916
DEER LODGE	92.04% (1,537)	1.86% (31)	2.81% (47)	1.14% (19)	1.92% (32)	1670
FALLON	96.53% (278)	1.04% (3)	0.00% (0)	0.35% (1)	1.74% (5)	288
FERGUS	92.95% (975)	0.76% (8)	1.53% (16)	3.43% (36)	1.24% (13)	1049
FLATHEAD	97.38% (8,176)	0.40% (34)	0.48% (40)	0.73% (61)	0.99% (83)	8396
GALLATIN	94.41% (5,916)	0.99% (62)	1.18% (74)	0.62% (39)	2.54% (159)	6266
GARFIELD	97.42% (151)	1.29% (2)	0.65% (1)	0.65% (1)	0.00% (0)	155
GLACIER	57.85% (582)	0.70% (7)	1.29% (13)	38.77% (390)	1.19% (12)	1006
GOLDEN VALLEY	90.91% (140)	2.60% (4)	2.60% (4)	0.65% (1)	3.25% (5)	154
GRANITE	91.04% (610)	1.94% (13)	1.94% (13)	2.39% (16)	2.69% (18)	670
HILL	76.26% (1,503)	0.71% (14)	1.12% (22)	20.29% (400)	0.61% (12)	1971
JEFFERSON	92.41% (1,096)	1.52% (18)	1.52% (18)	1.18% (14)	2.95% (35)	1186
JUDITH BASIN	93.53% (390)	2.64% (11)	1.44% (6)	0.72% (3)	1.20% (5)	417
LAKE	79.64% (2,042)	0.51% (13)	0.59% (15)	17.20% (441)	1.13% (29)	2564
LEWIS AND CLARK	96.28% (4,142)	0.51% (22)	0.95% (41)	0.74% (32)	1.28% (55)	4302
LIBERTY	94.50% (103)	0.00% (0)	0.00% (0)	5.50% (6)	0.00% (0)	109
LINCOLN	97.45% (2,252)	0.43% (10)	0.26% (6)	0.22% (5)	0.87% (20)	2311
MADISON	95.57% (691)	0.83% (6)	1.11% (8)	0.69% (5)	1.66% (12)	723
MCCONE	81.94% (118)	1.39% (2)	2.08% (3)	13.19% (19)	1.39% (2)	144
MEAGHER	98.21% (330)	0.30% (1)	0.60% (2)	0.00% (0)	0.00% (0)	336
MINERAL	91.15% (2,359)	1.97% (51)	2.36% (61)	1.28% (33)	2.43% (63)	2588
MISSOULA	93.35% (8,229)	0.84% (74)	1.58% (139)	2.10% (185)	1.49% (131)	8815
MUSSELSHELL	89.64% (545)	0.16% (1)	0.66% (4)	7.40% (45)	1.97% (12)	608
PARK	94.81% (1,462)	1.49% (23)	1.36% (21)	0.32% (5)	1.36% (21)	1542
PETROLEUM	86.49% (64)	1.35% (1)	0.00% (0)	10.81% (8)	0.00% (0)	74
PHILLIPS	89.60% (310)	0.00% (0)	0.87% (3)	8.09% (28)	1.45% (5)	346
PONDERA	75.28% (877)	1.63% (19)	1.46% (17)	19.74% (230)	1.63% (19)	1165
POWDER RIVER	84.12% (890)	3.78% (40)	4.16% (44)	2.55% (27)	5.10% (54)	1058
POWELL	90.87% (1,701)	2.30% (43)	2.78% (52)	1.50% (28)	2.51% (47)	1872
PRAIRIE	74.66% (277)	2.70% (10)	8.36% (31)	4.04% (15)	9.16% (34)	371
RAVALLI	95.73% (3,762)	0.46% (18)	0.71% (28)	0.25% (10)	2.04% (80)	3930
RICHLAND	91.15% (824)	0.44% (4)	1.55% (14)	2.21% (20)	4.42% (40)	904
ROOSEVELT	52.44% (807)	0.13% (2)	1.23% (19)	44.70% (688)	1.30% (20)	1539
ROSEBUD	85.33% (1,018)	1.09% (13)	1.84% (22)	7.63% (91)	3.60% (43)	1193
SANDERS	94.72% (1,130)	0.50% (6)	0.25% (3)	3.44% (41)	1.01% (12)	1193
SHERIDAN	92.77% (154)	1.20% (2)	1.20% (2)	1.81% (3)	1.81% (3)	166
SILVER BOW	92.66% (2,613)	1.84% (52)	1.63% (46)	1.31% (37)	2.23% (63)	2820
STILLWATER	92.21% (1,184)	1.09% (14)	1.87% (24)	1.64% (21)	2.88% (37)	1284
SWEET GRASS	92.12% (725)	1.27% (10)	1.78% (14)	1.27% (10)	2.92% (23)	787
TETON	95.56% (237)	0.00% (0)	0.81% (2)	1.21% (3)	2.42% (6)	248
TOOLE	84.52% (748)	1.13% (10)	1.36% (12)	9.83% (87)	2.94% (26)	885
TREASURE	91.38% (159)	1.15% (2)	0.57% (1)	1.15% (2)	4.60% (8)	174
VALLEY	81.11% (773)	1.36% (13)	1.26% (12)	13.75% (131)	2.52% (24)	953
WHEATLAND	92.25% (524)	1.58% (9)	1.94% (11)	2.64% (15)	1.58% (9)	568
WIBAUX	93.60% (161)	2.33% (4)	1.16% (2)	0.58% (1)	0.58% (1)	172
YELLOWSTONE	88.27% (5,698)	0.81% (52)	2.53% (163)	4.74% (306)	3.61% (233)	6455

Table 9: County-Level Percent Contacted Minus Census Population

<i>County</i>	<i>White Drivers</i>	<i>Black Drivers</i>	<i>Native American Drivers</i>	<i>Asian Drivers</i>	<i>Hispanic Drivers</i>
Beaverhead	2.36%	0.85%	-0.56%	0.93%	-1.69%
Big Horn*	33.53%	3.95%	-33.76%	0.14%	-4.35%
Blaine*	27.36%	0.80%	-23.56%	0.00%	-3.50%
Broadwater	4.04%	0.43%	-1.37%	0.43%	-2.14%
Carbon	0.84%	0.48%	-0.58%	0.06%	0.39%
Carter*	-18.22%	2.48%	-0.90%	9.62%	8.32%
Cascade*	6.52%	0.97%	-2.31%	-0.08%	-2.20%
Chouteau*	7.27%	1.43%	-7.26%	-0.06%	-0.78%
Custer	-0.25%	1.81%	-0.42%	0.97%	-0.71%
Daniels	3.54%	1.02%	0.34%	-0.30%	-3.20%
Dawson	-6.45%	3.76%	0.04%	1.12%	2.72%
Deer Lodge	2.21%	2.58%	-2.71%	1.35%	-1.73%
Fallon	1.59%	-0.30%	-0.22%	0.32%	0.01%
Fergus	-1.16%	1.28%	1.65%	0.63%	-1.10%
Flathead	4.71%	0.18%	-0.67%	-0.40%	-1.81%
Gallatin	3.47%	0.68%	-0.38%	-0.61%	-1.46%
Garfield	-1.22%	1.51%	0.04%	1.17%	-0.90%
Glacier*	27.68%	0.99%	-25.95%	0.29%	-1.91%
Golden Valley	1.54%	1.73%	-1.07%	1.93%	-0.84%
Granite	-3.24%	1.58%	1.67%	1.49%	0.31%
Hill*	7.89%	0.67%	-3.87%	0.21%	-2.99%
Jefferson	-0.13%	1.11%	-0.54%	1.01%	0.34%
Judith Basin	-3.38%	1.76%	-0.30%	2.59%	0.03%
Lake*	15.31%	-0.01%	-7.19%	0.01%	-3.42%
Lewis and Clark*	5.25%	0.50%	-1.56%	-0.29%	-2.10%
Liberty	-1.31%	-0.50%	4.51%	-0.20%	-0.90%
Lincoln*	5.61%	-0.06%	-1.09%	0.07%	-2.44%
Madison*	5.55%	0.69%	-0.12%	0.12%	-4.83%
McCone*	-11.67%	1.33%	11.54%	0.95%	-0.35%
Meagher	4.30%	0.10%	-0.80%	-0.10%	-2.40%
Mineral	0.31%	1.89%	-0.69%	1.27%	-0.47%
Missoula	4.71%	1.09%	-0.57%	-1.05%	-1.79%
Musselshell*	-1.18%	0.30%	5.06%	-1.59%	-1.10%
Park	2.12%	0.97%	-0.77%	1.00%	-1.70%
Petroleum*	-5.29%	0.00%	9.39%	1.30%	-2.10%
Phillips*	6.43%	0.66%	-1.33%	-0.30%	-1.76%
Pondera*	-5.64%	1.24%	5.37%	1.31%	-0.29%
Powder River	-11.23%	4.93%	0.24%	4.80%	3.86%
Powell	1.77%	1.98%	-3.94%	1.84%	-0.25%
Prairie*	-15.06%	8.20%	2.97%	2.01%	5.49%
Ravalli	3.82%	0.32%	-0.94%	-0.14%	-1.55%
Richland	1.99%	0.95%	-0.19%	-0.06%	-0.88%
Roosevelt*	19.56%	0.82%	-16.26%	-0.47%	-2.85%
Rosebud*	31.05%	1.62%	-31.55%	-0.05%	-1.27%
Sanders	4.82%	-0.05%	-0.77%	0.00%	-2.20%
Sheridan	3.59%	0.63%	-0.51%	1.19%	-3.11%
Silver Bow	3.23%	0.87%	-0.99%	1.05%	-2.86%
Stillwater	0.41%	1.57%	0.44%	0.19%	-1.51%
Sweet Grass	-0.78%	1.39%	0.18%	0.68%	0.44%
Teton	2.38%	0.60%	-0.50%	-1.10%	0.81%
Toole	-1.67%	0.25%	4.45%	0.76%	-1.39%
Treasure	1.70%	1.14%	-2.26%	0.24%	0.77%
Valley	-3.21%	0.74%	4.25%	0.34%	-0.22%
Wheatland	3.38%	1.84%	-2.52%	1.05%	-5.35%
Wibaux	1.32%	1.73%	-0.62%	1.71%	-2.94%
Yellowstone	2.20%	1.72%	-0.06%	0.00%	-2.16%

Day and Night Stops

There are 14 counties that indicate that some individuals were stopped in higher proportions during the day compared to night stops. For 9 of the 14 counties, Carbon, Choteau, Daniels, Glacier, Golden Valley, Lake, Powell, Richland, and Sweet Grass it appears that White drivers were pulled over in higher percentages during the day. In the remaining five counties, Liberty, McCone, Prairie, Treasure and Valley, people of color were stopped in higher percentages during the day than the night. However, Liberty, McCone, Prairie and Treasure have a limited number of stops, especially at night. In fact, several counties have too few stops, especially at night, to examine disproportionality. For these counties, the number of stops is too few to ascertain whether there is disproportionality, and it is likely the differences are due to the small number of stops being assessed.

Table 10: County-Level Percentage of Day and Night stops by Race/Ethnicity (2018)

County	White Drivers		Asian Drivers		Black Drivers		Native American Drivers		Hispanic Drivers		Number of Stops	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Beaverhead	92.51%	93.33%	1.60%	1.00%	1.35%	1.00%	1.23%	1.67%	3.32%	3.00%	815	300
Big Horn	59.95%	60.33%	0.81%	0.00%	4.44%	3.80%	32.26%	34.24%	2.55%	1.63%	636	184
Blaine	70.97%	72.77%	0.42%	0.00%	1.69%	0.00%	26.48%	27.23%	0.42%	0.00%	470	192
Broadwater	96.89%	97.82%	1.01%	0.00%	0.92%	0.97%	0.37%	0.24%	0.82%	0.97%	1093	414
Carbon	97.00%	90.81%	0.54%	0.00%	0.82%	1.62%	0.54%	1.08%	1.09%	6.49%	366	185
Carter	77.14%	100.00%	10.00%	0.00%	2.86%	0.00%	0.00%	0.00%	10.00%	0.00%	57	2
Cascade	92.93%	89.94%	1.10%	0.72%	1.86%	3.35%	2.24%	2.99%	1.86%	2.99%	3156	2774
Chouteau	85.45%	79.41%	0.39%	0.65%	1.49%	2.29%	11.19%	15.03%	1.49%	2.61%	1269	307
Custer	91.12%	91.10%	1.86%	0.71%	2.34%	1.96%	2.10%	1.25%	2.58%	4.98%	3199	566
Daniels	95.96%	89.58%	0.00%	0.00%	1.52%	2.08%	2.02%	8.33%	0.51%	0.00%	185	48
Dawson	84.66%	89.84%	2.18%	0.27%	4.36%	3.85%	2.63%	1.65%	6.16%	4.40%	1551	365
Deer Lodge	91.96%	92.57%	1.75%	2.16%	2.87%	3.12%	1.11%	1.20%	2.31%	0.96%	1251	419
Fallon	95.74%	100.00%	1.28%	0.00%	0.00%	0.00%	0.85%	0.00%	2.13%	0.00%	232	56
Fergus	92.19%	95.34%	0.72%	1.27%	1.80%	0.85%	3.97%	1.27%	1.32%	1.27%	813	236
Flathead	97.39%	97.44%	0.39%	0.44%	0.44%	0.56%	0.75%	0.68%	1.03%	0.88%	5896	2500
Gallatin	95.31%	93.49%	0.99%	0.99%	1.02%	1.48%	0.52%	0.81%	2.16%	3.23%	4030	2236
Garfield	95.86%	100.00%	1.38%	0.00%	2.07%	0.00%	0.69%	0.00%	0.00%	0.00%	143	12
Glacier	63.02%	44.57%	0.67%	0.75%	1.21%	1.50%	33.87%	52.06%	1.21%	1.12%	739	267
Golden Valley	91.97%	85.71%	2.19%	4.76%	1.46%	9.52%	0.73%	0.00%	3.65%	0.00%	133	21
Granite	90.42%	93.55%	2.18%	0.00%	2.52%	0.00%	2.52%	2.15%	2.35%	4.30%	577	93
Hill	76.58%	78.40%	0.73%	0.68%	1.02%	1.53%	21.10%	18.71%	0.58%	0.68%	1376	595
Jefferson	92.57%	94.08%	1.54%	1.32%	1.64%	0.66%	1.16%	1.97%	3.09%	1.97%	1032	154
Judith Basin	92.49%	94.85%	3.60%	0.00%	2.10%	1.03%	0.30%	2.06%	1.50%	2.06%	319	98
Lake	82.02%	76.39%	0.44%	0.68%	0.44%	0.95%	16.10%	20.35%	1.00%	1.63%	1820	744
Lewis and Clark	96.40%	96.55%	0.43%	0.69%	1.10%	0.77%	0.80%	0.61%	1.27%	1.38%	2995	1307
Liberty	94.34%	100.00%	0.00%	0.00%	0.00%	0.00%	5.66%	0.00%	0.00%	0.00%	103	6
Lincoln	98.10%	98.27%	0.46%	0.35%	0.29%	0.52%	0.23%	0.17%	0.92%	0.69%	1728	583
Madison	94.85%	97.61%	1.15%	0.00%	1.15%	0.96%	0.76%	0.48%	2.10%	0.96%	514	209
McCone	80.60%	100.00%	1.49%	0.00%	2.24%	0.00%	14.18%	0.00%	1.49%	0.00%	131	13
Meagher	99.34%	96.88%	0.33%	0.00%	0.33%	3.13%	0.00%	0.00%	0.00%	0.00%	304	32
Mineral	92.68%	89.16%	1.83%	2.45%	2.08%	3.50%	1.09%	2.10%	2.32%	2.80%	2011	577
Missoula	94.45%	92.74%	0.85%	0.82%	1.36%	2.09%	1.82%	2.83%	1.51%	1.53%	6103	2712
Musselshell	89.59%	87.23%	0.19%	1.06%	1.12%	1.06%	6.51%	10.64%	2.60%	0.00%	513	95
Park	95.13%	95.98%	1.40%	1.86%	1.49%	0.93%	0.41%	0.00%	1.57%	1.24%	1219	323
Petroleum	88.57%	85.71%	1.43%	0.00%	0.00%	0.00%	10.00%	14.29%	0.00%	0.00%	67	7
Phillips	89.49%	90.38%	0.00%	0.00%	0.68%	1.92%	8.81%	3.85%	1.02%	3.85%	294	52
Pondera	75.16%	76.53%	1.78%	1.41%	1.36%	1.88%	19.81%	19.25%	1.89%	0.94%	952	213
Powder River	82.80%	82.23%	4.90%	3.55%	4.90%	4.57%	2.31%	2.03%	5.09%	7.61%	861	197
Powell	91.93%	85.71%	2.18%	2.51%	2.91%	3.76%	1.06%	3.01%	1.92%	5.01%	1473	399
Prairie	74.86%	90.91%	2.79%	0.00%	8.38%	9.09%	4.19%	0.00%	9.78%	0.00%	360	11
Ravalli	96.58%	96.36%	0.40%	0.59%	0.59%	1.02%	0.15%	0.51%	2.28%	1.52%	2740	1190
Richland	93.15%	87.36%	0.48%	0.36%	0.96%	2.89%	2.23%	2.17%	3.18%	7.22%	626	278
Roosevelt	53.61%	50.00%	0.08%	0.31%	1.14%	1.56%	43.79%	46.88%	1.38%	1.25%	1217	322
Rosebud	86.09%	85.00%	1.17%	0.00%	1.90%	1.67%	7.32%	8.33%	3.52%	5.00%	1073	120
Sanders	95.06%	93.75%	0.51%	0.45%	0.21%	0.45%	3.19%	4.46%	1.03%	0.89%	969	224
Sheridan	93.89%	95.00%	0.76%	2.50%	0.76%	2.50%	2.29%	0.00%	2.29%	0.00%	126	40
Silver Bow	92.15%	94.14%	2.10%	1.49%	1.86%	1.31%	1.20%	1.49%	2.70%	1.57%	1675	1145
Stillwater	91.30%	96.59%	1.21%	0.68%	2.23%	0.68%	1.82%	1.02%	3.44%	1.02%	991	293
Sweet Grass	93.93%	87.23%	1.25%	1.42%	1.25%	4.26%	0.93%	2.84%	2.65%	4.26%	645	142
Teton	95.33%	97.14%	0.00%	0.00%	0.47%	2.86%	1.40%	0.00%	2.80%	0.00%	213	35
Toole	84.66%	84.49%	1.56%	0.53%	1.42%	1.07%	9.09%	12.30%	3.27%	1.60%	698	187
Treasure	91.77%	94.12%	1.27%	0.00%	1.27%	0.00%	0.63%	5.88%	5.06%	0.00%	157	17
Valley	79.77%	87.37%	1.57%	0.51%	1.17%	1.52%	14.62%	9.60%	2.87%	1.01%	755	198
Wheatland	93.22%	87.62%	0.64%	5.71%	2.33%	0.95%	2.12%	4.76%	1.69%	0.95%	463	105
Wibaux	93.92%	100.00%	2.70%	0.00%	2.03%	0.00%	0.68%	0.00%	0.68%	0.00%	149	23
Yellowstone	89.73%	85.21%	0.84%	0.73%	2.13%	3.37%	3.95%	6.44%	3.36%	4.25%	4405	2050

Involvement in Crashes

Eleven counties show differences in the proportion of groups involved in crashes compared to their proportion of drivers stopped, but only eight counties have more than 100 crashes to examine. We recommend caution when interpreting potential disproportionality in the analysis below, especially when a county has less than 100 crashes for comparison.

In three counties, White drivers were stopped more than their involvement in crashes (Carter, Sheridan, Wibaux). However, none of these counties have more than 100 crashes for comparison. In 8 counties, Native Americans were stopped more than their involvement in crashes attended by MHP officers (Big Horn, Glacier, Lake, Musselshell, Petroleum, Pondera, Toole and Valley). Of these, 4 have more than 100 crashes for 2018 (Big Horn, Glacier, Lake, and Valley). Big Horn, Lake, and Petroleum also revealed differences in percentage stopped and involvement in crashes attended by the MHP in for the previous three years (2014-2016).

Table 11: Percentage of County Crashes by Race/Ethnicity

<i>County</i>	<i>White Drivers</i>	<i>Asian Drivers</i>	<i>Black Drivers</i>	<i>Native American Drivers</i>	<i>Hispanic Drivers</i>	<i>Number of Stops</i>
Beaverhead	91.1% (133)	0.68% (1)	1.37% (2)	3.42% (5)	3.42% (5)	146
Big Horn	63.86% (106)	0.6% (1)	5.42% (9)	25.9% (43)	4.22% (7)	166
Blaine	73.44% (47)	0% (0)	1.56% (1)	25% (16)	0% (0)	64
Broadwater	93.3% (167)	0.56% (1)	1.68% (3)	1.12% (2)	3.35% (6)	179
Carbon	94.61% (228)	0.83% (2)	1.24% (3)	0.41% (1)	2.9% (7)	241
Carter	68.18% (15)	4.55% (1)	18.18% (4)	4.55% (1)	4.55% (1)	22
Cascade	94.68% (658)	0.86% (6)	0.86% (6)	1.87% (13)	1.73% (12)	695
Chouteau	87.83% (101)	0% (0)	0.87% (1)	8.7% (10)	2.61% (3)	115
Custer	92.17% (153)	1.81% (3)	2.41% (4)	1.81% (3)	1.81% (3)	166
Daniels	100% (9)	0% (0)	0% (0)	0% (0)	0% (0)	9
Dawson	90.96% (171)	1.6% (3)	2.66% (5)	2.13% (4)	2.66% (5)	188
Deer Lodge	97.32% (109)	0.89% (1)	0% (0)	0.89% (1)	0.89% (1)	112
Fallon	100% (10)	0% (0)	0% (0)	0% (0)	0% (0)	10
Fergus	93.43% (185)	1.01% (2)	2.02% (4)	2.02% (4)	1.52% (3)	198
Flathead	97.03% (2092)	0.56% (12)	0.6% (13)	1.21% (26)	0.6% (13)	2156
Gallatin	94.4% (1838)	1.08% (21)	1.08% (21)	0.41% (8)	3.03% (59)	1947
Garfield	94.12% (16)	0% (0)	5.88% (1)	0% (0)	0% (0)	17
Glacier	75.86% (132)	2.87% (5)	0% (0)	20.69% (36)	0.57% (1)	174
Golden Valley	87.5% (14)	0% (0)	6.25% (1)	6.25% (1)	0% (0)	16
Granite	89.34% (176)	1.52% (3)	3.55% (7)	2.03% (4)	3.55% (7)	197
Hill	75.48% (117)	0.65% (1)	0% (0)	23.87% (37)	0% (0)	155
Jefferson	94.06% (459)	1.43% (7)	1.43% (7)	1.23% (6)	1.84% (9)	488
Judith Basin	92.05% (81)	1.14% (1)	0% (0)	4.55% (4)	2.27% (2)	88
Lake	84.91% (540)	1.1% (7)	0.79% (5)	12.11% (77)	1.1% (7)	636
Lewis and Clark	94.77% (798)	0.48% (4)	1.19% (10)	1.43% (12)	2.14% (18)	842
Liberty	100% (3)	0% (0)	0% (0)	0% (0)	0% (0)	3
Lincoln	95.9% (304)	0.95% (3)	0.95% (3)	0.63% (2)	1.58% (5)	317
Madison	92.82% (168)	1.66% (3)	0.55% (1)	2.21% (4)	2.76% (5)	181
McCone	82.76% (24)	0% (0)	0% (0)	17.24% (5)	0% (0)	29
Meagher	100% (23)	0% (0)	0% (0)	0% (0)	0% (0)	23
Mineral	92.03% (358)	1.8% (7)	3.08% (12)	0.51% (2)	2.57% (10)	389
Missoula	92.87% (1302)	1.43% (20)	0.78% (11)	2.78% (39)	2.14% (30)	1402
Musselshell	92.75% (64)	0% (0)	4.35% (3)	1.45% (1)	1.45% (1)	69
Park	93.15% (381)	0.73% (3)	2.44% (10)	0.49% (2)	3.18% (13)	409
Petroleum	88% (22)	8% (2)	0% (0)	0% (0)	4% (1)	25
Phillips	95.65% (44)	0% (0)	0% (0)	4.35% (2)	0% (0)	46
Pondera	84.44% (76)	3.33% (3)	1.11% (1)	11.11% (10)	0% (0)	90
Powder River	81.82% (45)	1.82% (1)	10.91% (6)	1.82% (1)	3.64% (2)	55
Powell	92.64% (277)	2.01% (6)	1% (3)	1.67% (5)	2.68% (8)	299
Prairie	82.22% (37)	0% (0)	8.89% (4)	6.67% (3)	2.22% (1)	45
Ravalli	98.15% (691)	0.14% (1)	0.71% (5)	0% (0)	0.99% (7)	704
Richland	86.61% (97)	0.89% (1)	4.46% (5)	3.57% (4)	4.46% (5)	112
Roosevelt	51.24% (62)	0.83% (1)	1.65% (2)	45.45% (55)	0.83% (1)	121
Rosebud	89.86% (133)	1.35% (2)	2.7% (4)	4.05% (6)	2.03% (3)	148
Sanders	94.96% (245)	1.55% (4)	0.39% (1)	0.78% (2)	2.33% (6)	258
Sheridan	88.89% (16)	0% (0)	5.56% (1)	0% (0)	5.56% (1)	18
Silver Bow	91.16% (268)	0.34% (1)	4.76% (14)	1.36% (4)	2.38% (7)	294
Stillwater	91.19% (238)	0.77% (2)	4.21% (11)	0.77% (2)	3.07% (8)	261
Sweet Grass	89.5% (162)	1.1% (2)	4.42% (8)	1.1% (2)	3.87% (7)	181
Teton	95.74% (90)	1.06% (1)	0% (0)	1.06% (1)	2.13% (2)	94
Toole	90.48% (57)	3.17% (2)	1.59% (1)	0% (0)	4.76% (3)	63
Treasure	93.62% (44)	2.13% (1)	0% (0)	2.13% (1)	2.13% (1)	47
Valley	89.22% (91)	0% (0)	0.98% (1)	6.86% (7)	2.94% (3)	102
Wheatland	91.3% (42)	0% (0)	2.17% (1)	2.17% (1)	4.35% (2)	46
Wibaux	78.26% (18)	0% (0)	17.39% (4)	4.35% (1)	0% (0)	23
Yellowstone	90.91% (1230)	0.3% (4)	1.77% (24)	4.14% (56)	2.88% (39)	1353

Table 12: County Level Percent Contacted Minus Involvement in Collisions by Race

County	White Drivers	Asian Drivers	Black Drivers	Native American Drivers	Hispanic Drivers
Beaverhead	1.62%	0.76%	-0.11%	-2.07%	-0.19%
Big Horn	-5.81%	0.13%	-2.74%	10.93%	-2.51%
Blaine	-2.01%	0.30%	-0.50%	1.90%	0.30%
Broadwater	3.90%	0.17%	-0.75%	-0.85%	-2.48%
Carbon	0.32%	-0.47%	-0.15%	0.31%	0.00%
Carter	14.87%	3.92%	-16.49%	-4.55%	2.23%
Cascade	-3.15%	0.07%	1.70%	0.73%	0.65%
Chouteau	-3.75%	0.45%	0.79%	3.38%	-0.88%
Custer	-1.05%	-0.07%	-0.21%	0.26%	1.06%
Daniels	-5.60%	0.00%	1.72%	3.45%	0.43%
Dawson	-5.32%	0.23%	1.64%	0.28%	3.16%
Deer Lodge	-5.06%	0.97%	2.82%	0.25%	1.03%
Fallon	-3.14%	1.05%	0.00%	0.35%	1.74%
Fergus	-0.40%	-0.25%	-0.49%	1.42%	-0.28%
Flathead	0.37%	-0.15%	-0.12%	-0.48%	0.39%
Gallatin	0.26%	-0.09%	0.10%	0.21%	-0.49%
Garfield	3.30%	1.29%	-5.23%	0.65%	0.00%
Glacier	-17.89%	-2.17%	1.29%	18.15%	0.63%
Golden Valley	3.41%	2.60%	-3.65%	-5.60%	3.25%
Granite	1.70%	0.42%	-1.61%	0.36%	-0.86%
Hill	1.56%	0.07%	1.13%	-3.37%	0.62%
Jefferson	-1.26%	0.09%	0.09%	-0.04%	1.12%
Judith Basin	1.93%	1.51%	1.45%	-3.83%	-1.07%
Lake	-4.52%	-0.59%	-0.20%	5.25%	0.04%
Lewis and Clark	1.74%	0.03%	-0.23%	-0.68%	-0.86%
Liberty	-5.50%	0.00%	0.00%	5.50%	0.00%
Lincoln	2.31%	-0.51%	-0.69%	-0.41%	-0.71%
Madison	2.89%	-0.83%	0.56%	-1.52%	-1.10%
McCone	-0.82%	1.39%	2.08%	-4.05%	1.39%
Meagher	-0.90%	0.30%	0.60%	0.00%	0.00%
Mineral	-0.13%	0.19%	-0.70%	0.78%	-0.12%
Missoula	1.09%	-0.59%	0.81%	-0.67%	-0.64%
Musselshell	-2.96%	0.16%	-3.69%	5.96%	0.53%
Park	2.28%	0.77%	-1.07%	-0.16%	-1.81%
Petroleum	-0.33%	-6.63%	0.00%	10.96%	-4.00%
Phillips	-6.05%	0.00%	0.87%	3.74%	1.45%
Pondera	-8.97%	-1.69%	0.35%	8.68%	1.64%
Powder River	2.54%	1.97%	-6.74%	0.74%	1.48%
Powell	-1.73%	0.29%	1.78%	-0.17%	-0.17%
Prairie	-6.74%	2.72%	-0.44%	-2.58%	7.04%
Ravalli	-1.64%	0.32%	0.01%	0.26%	1.06%
Richland	4.74%	-0.45%	-2.91%	-1.35%	-0.03%
Roosevelt	1.30%	-0.70%	-0.41%	-0.66%	0.47%
Rosebud	-4.10%	-0.25%	-0.85%	3.62%	1.59%
Sanders	-0.16%	-1.05%	-0.14%	2.66%	-1.32%
Sheridan	5.01%	1.22%	-4.34%	1.83%	-3.73%
Silver Bow	1.80%	1.51%	-3.12%	-0.04%	-0.14%
Stillwater	1.31%	0.32%	-2.33%	0.87%	-0.18%
Sweet Grass	3.21%	0.18%	-2.63%	0.18%	-0.93%
Teton	-0.18%	-1.06%	0.81%	0.15%	0.29%
Toole	-5.77%	-2.04%	-0.23%	9.85%	-1.82%
Treasure	-1.18%	-0.97%	0.58%	-0.97%	2.52%
Valley	-8.11%	1.36%	0.28%	6.89%	-0.42%
Wheatland	0.95%	1.58%	-0.23%	0.47%	-2.77%
Wibaux	17.01%	2.37%	-16.21%	-3.76%	0.59%
Yellowstone	-2.60%	0.51%	0.76%	0.60%	0.73%

Calls for Service and Self-Initiated Physical Assists

Due to the low number of calls for service and self-initiated physical assists at the county-level it is difficult to draw conclusions. Comparing the percentage of contacts by group to the proportion involved in calls for service and self-initiated physical assists reveals 16 counties where groups are stopped more than their involvement in calls for service and self-initiated physical assists at the 5% threshold (Big Horn, Blaine, Carter, Chouteau, Garfield, Glacier, Golden Valley, Hill, Liberty, Madison, McCone, Musselshell, Petroleum, Phillips, Sheridan, Treasure). However, only 2 counties have more than 100 calls for assistance or self-initiated physical assists, while 12 have less than 50. Only Big Horn, and Madison have more than 100 assists by MHP officers. For twelve counties showing differences in stops versus assistance, White drivers are stopped more than their rate of assistance. In three counties, Big Horn, Liberty, and Musselshell, Native American drivers are stopped more than their involvement in assists, but only one has more than 100 assists to compare (Big Horn). While Big Horn has enough assists for comparison, they do not consistently show differences in this benchmark comparison in previous years.

Table 13: County-Level Calls for Service and Self-Initiated Physical Assists by Race/Ethnicity

County	White Drivers		Asian Drivers		Black Drivers		Native American Drivers		Hispanic Drivers		Number of Calls
Beaverhead	89.06%	(14)	0.00%	(0)	0.00%	(0)	6.67%	(1)	0.00%	(0)	(15)
Big Horn	73.88%	(156)	0.00%	(0)	8.09%	(19)	19.57%	(46)	4.26%	(10)	(235)
Blaine	58.06%	(12)	0.00%	(0)	9.52%	(2)	33.33%	(7)	0.00%	(0)	(21)
Broadwater	95.96%	(77)	0.00%	(0)	1.23%	(1)	1.23%	(1)	2.47%	(2)	(81)
Carbon	95.74%	(60)	1.61%	(1)	0.00%	(0)	1.61%	(1)	0.00%	(0)	(62)
Carter	40%	(3)	16.67%	(1)	16.67%	(1)	0.00%	(0)	16.67%	(1)	(6)
Cascade	93.7%	(562)	1.24%	(8)	2.17%	(14)	3.73%	(24)	2.48%	(16)	(644)
Chouteau	78.43%	(44)	0.00%	(0)	0.00%	(0)	16.98%	(9)	0.00%	(0)	(53)
Custer	90.66%	(182)	0.00%	(0)	3.55%	(7)	1.02%	(2)	1.52%	(3)	(197)
Daniels	96%	(28)	0.00%	(0)	0.00%	(0)	0.00%	(0)	0.00%	(0)	(28)
Dawson	91.95%	(165)	1.04%	(2)	2.59%	(5)	4.66%	(9)	3.11%	(6)	(193)
Deer Lodge	94.52%	(88)	0.94%	(1)	2.83%	(3)	1.89%	(2)	2.83%	(3)	(106)
Fallon	100%	(21)	0.00%	(0)	0.00%	(0)	0.00%	(0)	0.00%	(0)	(22)
Fergus	89.66%	(52)	0.00%	(0)	0.00%	(0)	1.11%	(1)	0.00%	(0)	(90)
Flathead	97.06%	(740)	0.36%	(3)	0.24%	(2)	0.83%	(7)	1.07%	(9)	(839)
Gallatin	92.02%	(537)	0.68%	(4)	1.70%	(10)	0.85%	(5)	3.23%	(19)	(589)
Garfield	80%	(7)	0.00%	(0)	0.00%	(0)	0.00%	(0)	0.00%	(0)	(7)
Glacier	46.88%	(20)	1.45%	(1)	1.45%	(1)	40.58%	(28)	0.00%	(0)	(69)
Golden Valley	71.43%	(6)	0.00%	(0)	0.00%	(0)	0.00%	(0)	0.00%	(0)	(6)
Granite	95.18%	(54)	0.00%	(0)	7.69%	(5)	0.00%	(0)	6.15%	(4)	(65)
Hill	66.67%	(25)	0.00%	(0)	2.08%	(1)	45.83%	(22)	0.00%	(0)	(48)
Jefferson	92.68%	(240)	0.38%	(1)	1.15%	(3)	1.15%	(3)	2.68%	(7)	(261)
Judith Basin	100%	(34)	2.17%	(1)	0.00%	(0)	4.35%	(2)	0.00%	(0)	(46)
Lake	82.35%	(175)	0.00%	(0)	0.89%	(2)	16.89%	(38)	0.00%	(0)	(225)
Lewis and Clark	94.13%	(407)	0.45%	(2)	1.80%	(8)	2.70%	(12)	2.03%	(9)	(444)
Liberty	100%	(17)	0.00%	(0)	0.00%	(0)	0.00%	(0)	0.00%	(0)	(17)
Lincoln	98.56%	(191)	0.00%	(0)	0.51%	(1)	1.02%	(2)	0.00%	(0)	(197)
Madison	86.21%	(105)	2.63%	(3)	1.75%	(2)	0.00%	(0)	1.75%	(2)	(114)
McCone	73.33%	(20)	0.00%	(0)	0.00%	(0)	4.55%	(1)	4.55%	(1)	(22)
Meagher	100%	(8)	0.00%	(0)	0.00%	(0)	0.00%	(0)	0.00%	(0)	(8)
Mineral	87.57%	(287)	0.62%	(2)	7.08%	(23)	1.23%	(4)	2.15%	(7)	(325)
Missoula	92.66%	(656)	1.91%	(14)	0.96%	(7)	3.01%	(22)	2.87%	(21)	(732)
Musselshell	96%	(17)	0.00%	(0)	5.00%	(1)	0.00%	(0)	10.00%	(2)	(20)
Park	93.85%	(115)	0.83%	(1)	0.83%	(1)	0.00%	(0)	1.67%	(2)	(120)
Petroleum	50%	(1)	0.00%	(0)	0.00%	(0)	0.00%	(0)	0.00%	(0)	(1)
Phillips	82.81%	(33)	0.00%	(0)	0.00%	(0)	2.86%	(1)	0.00%	(0)	(35)
Pondera	81.4%	(39)	2.04%	(1)	4.08%	(2)	12.24%	(6)	0.00%	(0)	(49)
Powder River	85.11%	(39)	10.71%	(6)	12.50%	(7)	5.36%	(3)	1.79%	(1)	(56)
Powell	94.74%	(110)	2.46%	(3)	2.46%	(3)	0.00%	(0)	3.28%	(4)	(122)
Prairie	92.59%	(29)	0.00%	(0)	0.00%	(0)	3.03%	(1)	3.03%	(1)	(33)
Ravalli	94.12%	(214)	0.00%	(0)	1.31%	(3)	0.44%	(1)	1.75%	(4)	(229)
Richland	100%	(64)	1.35%	(1)	1.35%	(1)	5.41%	(4)	2.70%	(2)	(74)
Roosevelt	52.29%	(97)	0.52%	(1)	0.00%	(0)	47.94%	(93)	0.00%	(0)	(194)
Rosebud	85.9%	(49)	0.00%	(0)	3.33%	(2)	10.00%	(6)	3.33%	(2)	(60)
Sanders	93.51%	(146)	0.65%	(1)	0.65%	(1)	1.31%	(2)	1.96%	(3)	(153)
Sheridan	87.5%	(10)	0.00%	(0)	0.00%	(0)	0.00%	(0)	0.00%	(0)	(11)
Silver Bow	96.39%	(237)	1.12%	(3)	2.62%	(7)	0.75%	(2)	1.87%	(5)	(267)
Stillwater	88.14%	(115)	0.78%	(1)	3.10%	(4)	3.10%	(4)	3.88%	(5)	(129)
Sweet Grass	92.47%	(75)	2.35%	(2)	3.53%	(3)	1.18%	(1)	3.53%	(3)	(85)
Teton	100%	(37)	2.33%	(1)	2.33%	(1)	9.30%	(4)	0.00%	(0)	(43)
Toole	80%	(69)	1.18%	(1)	2.35%	(2)	10.59%	(9)	1.18%	(1)	(85)
Treasure	83.33%	(9)	0.00%	(0)	10.00%	(1)	0.00%	(0)	0.00%	(0)	(10)
Valley	78.26%	(113)	0.00%	(0)	1.50%	(2)	10.53%	(14)	0.75%	(1)	(133)
Wheatland	88.89%	(13)	0.00%	(0)	0.00%	(0)	4.55%	(1)	4.55%	(1)	(22)
Wibaux	92.86%	(31)	0.00%	(0)	3.03%	(1)	0.00%	(0)	0.00%	(0)	(33)
Yellowstone	83.66%	(704)	0.58%	(5)	3.47%	(30)	7.06%	(61)	4.98%	(43)	(864)

Table 14: County-Level Percent Contacted Minus Calls for Service and Assists by Race/Ethnicity

County	White Drivers	Asian Drivers	Black Drivers	Native American Drivers	Hispanic Drivers
Beaverhead	3.66%	-0.12%	-1.87%	-0.21%	-1.46%
Big Horn*	-15.83%	-0.49%	-0.99%	19.69%	-2.37%
Blaine*	13.37%	0.30%	1.06%	-15.04%	0.30%
Broadwater	1.24%	-0.28%	-1.09%	0.27%	-0.14%
Carbon	-0.81%	-1.77%	-1.04%	0.72%	2.90%
Carter*	43.05%	8.47%	-38.31%	-20.00%	6.78%
Cascade	-2.17%	0.38%	1.19%	-0.41%	1.01%
Chouteau*	5.65%	0.45%	-2.26%	-1.65%	-2.19%
Custer	0.46%	0.64%	-1.10%	-0.68%	0.67%
Daniels	-1.60%	0.00%	-2.28%	3.45%	0.43%
Dawson	-6.31%	1.16%	1.62%	1.07%	2.46%
Deer Lodge	-2.26%	1.86%	1.45%	1.14%	-2.19%
Fallon	-3.14%	1.05%	0.00%	0.35%	1.74%
Fergus	3.37%	0.76%	-0.77%	-2.31%	-1.06%
Flathead	0.34%	-0.01%	-0.36%	-0.39%	0.43%
Gallatin	2.64%	-0.25%	-0.59%	-0.27%	-1.54%
Garfield*	17.42%	1.29%	0.65%	-19.35%	0.00%
Glacier*	11.09%	0.70%	1.29%	-14.29%	1.20%
Golden Valley*	19.48%	2.60%	-11.69%	0.65%	-11.04%
Granite	-4.14%	-0.47%	0.74%	2.39%	1.49%
Hill*	10.37%	-0.87%	1.13%	-11.25%	0.62%
Jefferson	0.12%	-0.43%	0.06%	0.21%	0.03%
Judith Basin	-6.02%	2.65%	1.45%	0.72%	1.20%
Lake	-1.96%	0.02%	-0.39%	2.16%	0.16%
Lewis and Clark	2.38%	0.09%	-0.09%	-2.19%	-0.19%
Liberty*	-5.50%	0.00%	0.00%	5.50%	0.00%
Lincoln	-0.35%	0.44%	0.26%	0.22%	-0.57%
Madison*	9.50%	-2.62%	1.11%	0.69%	-8.68%
McCone*	8.61%	-5.28%	2.08%	-0.14%	-5.28%
Meagher	-0.90%	0.30%	0.60%	0.00%	0.00%
Mineral	4.33%	-0.38%	-3.54%	1.29%	-1.69%
Missoula	1.30%	0.01%	-0.07%	-0.52%	-0.72%
Musselshell*	-6.21%	0.16%	0.66%	7.41%	-2.02%
Park	1.58%	1.50%	-0.17%	-2.75%	-0.17%
Petroleum*	37.67%	1.37%	0.00%	-39.04%	0.00%
Phillips*	6.79%	-1.56%	0.87%	-7.54%	1.45%
Pondera	-5.93%	1.64%	1.46%	1.19%	1.64%
Powder River	-0.75%	-4.72%	2.04%	0.43%	2.99%
Powell	-3.83%	2.30%	1.90%	-0.25%	-0.12%
Prairie	-17.11%	2.72%	1.04%	4.09%	9.26%
Ravalli	2.39%	-1.01%	-0.26%	-0.23%	-0.89%
Richland	-8.65%	0.44%	1.55%	2.22%	4.43%
Roosevelt	0.25%	0.13%	1.24%	-1.08%	-0.53%
Rosebud	-0.14%	-0.18%	0.57%	-0.02%	-0.23%
Sanders	1.29%	0.50%	0.25%	-1.75%	-0.29%
Sheridan*	6.40%	-2.95%	1.22%	-2.34%	-2.34%
Silver Bow	-3.43%	0.30%	1.12%	0.29%	1.72%
Stillwater	4.36%	0.24%	-3.20%	-0.90%	-0.50%
Sweet Grass	0.24%	1.28%	-2.32%	0.60%	0.20%
Teton	-4.44%	0.00%	0.81%	1.21%	2.42%
Toole	4.71%	1.13%	1.36%	-5.71%	-1.50%
Treasure*	9.11%	1.16%	0.58%	-9.95%	-0.91%
Valley	2.85%	1.36%	1.26%	-5.09%	-0.38%
Wheatland	3.36%	1.58%	-3.62%	-2.92%	1.58%
Wibaux	2.41%	2.37%	1.18%	0.59%	-6.55%
Yellowstone	4.65%	0.07%	-0.17%	-3.37%	-1.18%

District-Level Analysis

As with previous reports, we conducted analysis at the MHP District level to further explore differences based on geographic location. The proportion of drivers stopped is very similar across Districts (See Table 15 below). For instance, for each District, White drivers constitute the majority of drivers stopped. In three Districts, Native American drivers are stopped in higher percentages compared to other Districts (District 4, 5, and 8). These differences are consistent with the data of the last 3 years, and most likely reflect the population of these Districts, which have higher percentages of Native American residents.

Table 15: Percentage of District Stops and Population by Race/Ethnicity 2018

<i>District</i>		<i>White Drivers</i>	<i>Asian Drivers</i>	<i>Black Drivers</i>	<i>Native American Drivers</i>	<i>Hispanic Drivers</i>	<i>Total</i>
1	Stops	94.30% (15,480)	0.91% (149)	1.41% (231)	1.64% (269)	1.74% (286)	(16,415)
	Population	90.15% 160,573	1.41% 2,514	0.40% 712	2.09% 3,725	3.38% 6,016	178,123
2	Stops	91.82% (8,302)	0.98% (89)	2.16% (195)	2.93% (265)	2.11% (191)	(9,042)
	Population	86.98% 94,890	0.86% 936	1.21% 1,321	3.65% 3,980	4.12% 4,493	109,096
3	Stops	93.58% (12,731)	1.43% (195)	1.70% (231)	1.18% (161)	2.10% (286)	(13,604)
	Population	90.77% 131,312	0.68% 981	0.52% 747	2.06% 2,986	3.81% 5,511	144,671
4	Stops	87.06% (8,607)	0.85% (84)	2.32% (229)	6.50% (643)	3.27% (323)	(9,886)
	Population	82.98% 163,830	0.65% 1,286	0.61% 1,196	7.66% 15,115	5.55% 10,961	197,433
5	Stops	83.80% (10,909)	1.55% (202)	2.46% (320)	8.68% (1,130)	3.51% (457)	(13,018)
	Population	78.02% 58,926	0.65% 489	0.40% 305	14.82% 11,194	3.76% 2,842	75,526
6	Stops	94.28% (12,470)	0.43% (57)	0.46% (61)	3.83% (507)	1.00% (132)	(13,227)
	Population	87.21% 132,690	0.69% 1,057	0.33% 508	5.40% 8,221	3.25% 4,940	152,150
7	Stops	95.36% (9,859)	1.00% (103)	1.15% (119)	0.51% (53)	1.98% (205)	(10,339)
	Population	91.52% 133,010	1.30% 1,896	0.40% 588	0.88% 1,273	4.01% 5,831	145,331
8	Stops	76.96% (5,908)	0.77% (59)	1.30% (100)	19.63% (1,507)	1.34% (103)	(7,677)
	Population	62.82% 37,674	0.42% 249	0.39% 235	30.37% 18,216	3.18% 1,909	59,975

Day and Night Stops

Table 18 indicates that there are no substantial differences in daytime and nighttime stops on the District level. This finding is consistent with prior analyses (2014, 2015, and 2016), which also show no significant disparities.

Table 18: District-Level Percentage of Day and Night Stops by Race/Ethnicity

District	White Drivers		Asian Drivers		Black Drivers		Native American Drivers		Hispanic Drivers		Number of Stops	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
District 1	94.72% (11132)	93.26% (4348)	0.89% (105)	0.94% (44)	1.21% (142)	1.91% (89)	1.40% (165)	2.23% (104)	1.78% (209)	1.65% (77)	(11753)	(4662)
District 2	92.68% (5258)	90.35% (3044)	1.02% (58)	0.92% (31)	1.66% (94)	3.00% (101)	2.84% (161)	3.09% (104)	1.80% (102)	2.64% (89)	(5673)	(3369)
District 3	93.49% (9156)	93.83% (3575)	1.48% (145)	1.31% (50)	1.78% (174)	1.50% (57)	1.11% (109)	1.36% (52)	2.14% (210)	1.99% (76)	(9794)	(3810)
District 4	87.80% (6175)	85.24% (2431)	0.92% (65)	0.67% (19)	2.02% (142)	3.05% (87)	6.24% (439)	7.15% (204)	3.01% (212)	3.89% (111)	(7033)	(2852)
District 5	83.83% (9018)	83.67% (1891)	1.73% (186)	0.71% (16)	2.46% (265)	2.43% (55)	8.58% (923)	9.16% (207)	3.40% (366)	4.03% (91)	(10758)	(2260)
District 6	94.59% (8902)	93.50% (3568)	0.41% (39)	0.47% (18)	0.39% (37)	0.63% (24)	3.60% (339)	4.40% (168)	1.00% (94)	1.00% (38)	(9411)	(3816)
District 7	95.70% (4572)	94.60% (3031)	1.05% (47)	0.87% (28)	1.07% (73)	1.34% (43)	0.46% (1094)	0.62% (20)	1.72% (81)	2.56% (82)	(5867)	(3204)
District 8	77.93% (61041)	73.81% (1336)	0.80% (720)	0.66% (12)	1.24% (1003)	1.49% (27)	18.65% (3263)	22.82% (413)	1.38% (1397)	1.22% (22)	(67424)	(1810)

Involvement in Crashes

Tables 19 and 20 display statistics for crashes in each District by race and ethnicity. When comparing the stop and crash data at the District level, no Districts or groups present any potential disparity.

Table 19: District Crashes by Race/Ethnicity

District	White Drivers	Asian Drivers	Black Drivers	Native American Drivers	Hispanic Drivers	Total Crashes
District 1	94.30% (2596)	1.16% (32)	1.05% (29)	1.56% (43)	1.93% (53)	2753
District 2	93.91% (1156)	0.97% (12)	1.22% (15)	2.03% (25)	1.87% (23)	1231
District 3	93.36% (2220)	0.97% (23)	1.81% (43)	1.56% (37)	2.31% (55)	2378
District 4	89.19% (1964)	0.50% (11)	2.50% (55)	4.72% (104)	3.09% (68)	2202
District 5	84.62% (941)	1.17% (13)	3.69% (41)	8.18% (91)	2.34% (26)	1112
District 6	94.44% (2936)	0.71% (22)	0.68% (21)	3.38% (105)	0.80% (25)	3109
District 7	94.09% (2577)	1.02% (28)	1.28% (35)	0.58% (16)	3.03% (83)	2739
District 8	81.27% (577)	1.55% (11)	0.56% (4)	15.63% (111)	0.99% (7)	710

Table 20: District-Level Percent Contacted Minus Involvement in Collisions by Race/Ethnicity

<i>District</i>	<i>White Drivers</i>	<i>Asian Drivers</i>	<i>Black Drivers</i>	<i>Native American Drivers</i>	<i>Hispanic Drivers</i>
District 1	0.00%	-0.25%	0.36%	0.08%	-0.19%
District 2	-2.09%	0.01%	0.94%	0.90%	0.24%
District 3	0.22%	0.46%	-0.11%	-0.38%	-0.21%
District 4	-2.13%	0.35%	-0.18%	1.78%	0.18%
District 5	-0.82%	0.38%	-1.23%	0.50%	1.17%
District 6	-0.16%	-0.28%	-0.22%	0.45%	0.20%
District 7	1.27%	-0.02%	-0.13%	-0.07%	-1.05%
District 8	-4.31%	-0.78%	0.74%	4.00%	0.35%

Calls for Service and Self-Initiated Physical Assists

Table 21 displays how many drivers called for service and/or assistance in 2018 by race/ethnicity at the District level. For example, in 2018, District 1 had 1,172 calls for service and self-initiated physical assists. Of those 1,172 calls, 13 of the calls were from Asian drivers (1.11%). Table 22 displays the percentage of how many drivers in each District were contacted by MHP minus the percentage of drivers calling for service and self-initiating assistance. There are no apparent disparities in any of the Districts.

Table 21: District Calls for Service and Self-Initiated Physical Assists by Race/Ethnicity

<i>District</i>	<i>White Drivers</i>		<i>Asian Drivers</i>		<i>Black Drivers</i>		<i>Native American Drivers</i>		<i>Hispanic Drivers</i>		<i>Number of Stops</i>
District 1	92.24%	(1081)	1.11%	(13)	2.05%	(24)	2.05%	(24)	2.56%	(30)	(1172)
District 2	93.25%	(525)	0.36%	(2)	1.60%	(9)	3.20%	(18)	1.60%	(9)	(563)
District 3	94.13%	(1139)	0.99%	(12)	1.16%	(14)	1.74%	(21)	1.98%	(24)	(1210)
District 4	83.65%	(1146)	0.80%	(11)	3.21%	(44)	8.18%	(112)	4.16%	(57)	(1370)
District 5	83.84%	(690)	1.22%	(10)	2.07%	(17)	10.21%	(84)	2.67%	(22)	(823)
District 6	92.78%	(1234)	0.38%	(5)	0.75%	(10)	5.26%	(70)	0.83%	(11)	(1330)
District 7	92.51%	(704)	1.18%	(9)	1.71%	(13)	0.92%	(7)	3.68%	(28)	(761)
District 8	72.81%	(241)	0.60%	(2)	0.60%	(2)	24.77%	(82)	1.21%	(4)	(331)

Table 22: District Percent Contacted Minus Calls for Service and Assists by Race/Ethnicity

<i>District</i>	<i>White Drivers</i>	<i>Asian Drivers</i>	<i>Black Drivers</i>	<i>Native American Drivers</i>	<i>Hispanic Drivers</i>
District 1	2.06%	-0.20%	-0.64%	-0.41%	-0.82%
District 2	-1.43%	0.62%	0.56%	-0.27%	0.51%
District 3	-0.55%	0.44%	0.54%	-0.56%	0.12%
District 4	3.41%	0.05%	-0.89%	-1.68%	-0.89%
District 5	-0.04%	0.33%	0.39%	-1.53%	0.84%
District 6	1.50%	0.05%	-0.29%	-1.43%	0.17%
District 7	2.85%	-0.18%	-0.56%	-0.41%	-1.70%
District 8	4.15%	0.17%	0.70%	-5.14%	0.13%

City-Level Analysis

The last area of geographic examination is at the city level. City level analysis was limited to those cities with at least 400 stops, which helps ensure enough data to adequately detect variation in stops between groups to assess disproportionality. Comparisons with crashes and calls for service/self-initiated physical assists cannot be conducted at this level due to limited data for this level of analysis. The cities with enough stops to conduct this analysis are: Billings, Bozeman, Butte, Great Falls, Helena, Kalispell, and Missoula. As can be seen in Table 23, White drivers make up the majority of stops in each of these cities, comprising more than 86% of the stops in every city. The proportion of stops by race in each city reflects the population makeup of the city with none differing by more than 5% in all cities except Helena and Kalispell (See Table 24 below). In Helena, 97.63% of all drivers stopped were White whereas Whites makeup only 91.01% of the population.

Table 23: Percentage of City Stops by Race/Ethnicity

City	White Drivers		Asian Drivers		Black Drivers		Native American Drivers		Hispanic Drivers		Total
Billings	86.11%	(1407)	0.49%	(8)	2.94%	(48)	6.73%	(110)	3.73%	(61)	(1634)
Bozeman	94.55%	(1180)	0.32%	(4)	1.68%	(21)	0.72%	(9)	2.72%	(34)	(1248)
Butte	95.14%	(842)	0.90%	(8)	1.36%	(12)	1.02%	(9)	1.58%	(14)	(885)
Great Falls	88.79%	(2106)	1.01%	(24)	3.75%	(89)	3.16%	(75)	3.29%	(78)	(2372)
Helena	97.02%	(1139)	0.34%	(4)	1.02%	(12)	0.68%	(8)	0.94%	(11)	(1174)
Kalispell	97.63%	(741)	0.13%	(1)	0.53%	(4)	0.79%	(6)	0.92%	(7)	(759)
Missoula	92.92%	(932)	0.80%	(8)	2.09%	(21)	2.49%	(25)	1.69%	(17)	(1003)

Table 24: City Percentage of Stops minus Percentage of Population

City	White Drivers	Asian Drivers	Black Drivers	Native American Drivers	Hispanic Drivers
Billings	0.61%	-0.11%	2.04%	2.33%	-2.57%
Bozeman	3.55%	-1.98%	1.08%	-0.48%	-0.08%
Butte	4.04%	0.00%	0.86%	-1.28%	-2.62%
Great Falls	3.79%	-0.09%	2.85%	-2.34%	-0.91%
Helena	6.62%	-0.36%	0.42%	-1.42%	-2.86%
Kalispell	5.33%	-0.77%	-0.07%	-0.31%	-2.48%
Missoula	3.52%	-1.10%	1.59%	0.09%	-1.41%

Day and Night Stops

The city level analysis, like the District level analysis, shows no substantial differences between the percentages of groups stopped during the daytime and nighttime hours. This indicates that the rates at which drivers of different races are pulled over does not change when they are more easily visible to the officer.

Table 25: City Daytime and Nighttime Stops

City	White Drivers		Asian Drivers		Black Drivers		Native American Drivers		Hispanic Drivers		Number of Stops	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Billings	88.86% (814)	82.59% (593)	0.44% (4)	0.56% (4)	2.62% (24)	3.34% (24)	4.80% (44)	9.19% (66)	3.28% (30)	4.32% (31)	(916)	(718)
Bozeman	96.39% (667)	92.27% (513)	0.29% (2)	0.36% (2)	1.30% (9)	2.16% (12)	0.29% (2)	1.26% (7)	1.73% (12)	3.96% (22)	(692)	(556)
Butte	94.84% (404)	95.42% (438)	0.94% (4)	0.87% (4)	1.64% (7)	1.09% (5)	0.23% (1)	1.74% (8)	2.35% (10)	0.87% (4)	(426)	(459)
Great Falls	90.93% (822)	87.47% (1284)	1.55% (14)	0.68% (10)	2.43% (22)	4.56% (67)	2.65% (24)	3.47% (51)	2.43% (22)	3.81% (56)	(904)	(1468)
Helena	97.36% (810)	96.20% (329)	0.24% (2)	0.58% (2)	1.20% (10)	0.58% (2)	0.60% (5)	0.88% (3)	0.60% (5)	1.75% (6)	(832)	(342)
Missoula	97.76% (436)	97.44% (305)	0.00% (0)	0.32% (1)	0.67% (3)	0.32% (1)	0.90% (4)	0.64% (2)	0.67% (3)	1.28% (4)	(446)	(313)
Kalispell	92.49% (554)	93.56% (378)	0.83% (5)	0.74% (3)	1.50% (9)	2.97% (12)	3.01% (18)	1.73% (7)	2.17% (13)	0.99% (4)	(599)	(404)

Statewide Analysis 2014-2018

Similar to last year’s report, researchers combined the stop data provided by MHP from years 2014 to 2018 to examine for potential disproportionality using disparity index analyses. This analysis reveals that White drivers are stopped at a rate to be expected based on the Census as their disparity index is nearly 1 each year. With the exception of 2015, Native American drivers are stopped at a rate to be expected based on the Census, while Asian and Hispanic drivers are under-represented based on Census rates. As with last year’s report, Black drivers are potentially overrepresented each year. However, last year’s data revealed that this potential overrepresentation may be increasing from 2014 to 2017, but this potential overrepresentation declined in 2018.

Table 28: Disparity Index, Longitudinal, Statewide 2014-2018

	<i>White Drivers</i>	<i>Black Drivers</i>	<i>Native American Drivers</i>	<i>Asian Drivers</i>	<i>Hispanic Drivers</i>
2014	1.06	1.23	0.92	0.53	0.28
2015	1.05	1.30	1.10	0.52	0.32
2016	1.05	1.65	0.98	0.50	0.27
2017	1.05	2.06	1.03	0.55	0.32
2018	1.05	1.56	1.07	0.43	0.32

Notes: 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 underrepresentation.

Conclusions

This analysis does not reveal evidence of systemic bias in stops based on multiple benchmark comparisons. The disparity index analysis, which was an additional analysis we began conducting in 2018, did reveal potential over-representation of Black drivers in stops compared to their proportion of the population at the state-level. Disparity analysis is limited because it does not explain why over-representation may be present (may be due to causes other than bias), and results may be inaccurate when people of color are less than 15% of the total population; however, potential over-representation for these drivers may need to be examined further. Last year the disparity index at the state-level each year from 2014 to 2017 was examined and indicated that potential overrepresentation of Black drivers may be increasing. However, our updated analysis reveals that potential overrepresentation of these drivers declined in 2018 to lower levels than both 2017 and 2016. Despite the limitations of disparity index analysis, potential overrepresentation of these drivers may need to be examined further. As mentioned in the analysis, disparity index analysis cannot determine the reason for over-representation, and does not mean it is due to racial bias. We are also unable to explain the variation in potential overrepresentation of Black drivers over time, particularly the rapid decline in 2018 compared to the previous two years.

The city-wide analysis and the other benchmark comparisons at the District-level analysis did not reveal evidence of disproportionality in stops for people of color by the Montana Highway Patrol. However, as with previous years, the county-level analysis did reveal some counties where some surface disproportionality exists in stops conducted by the MHP. The county-level Census comparison revealed 19 counties where some groups are stopped in higher percentages than their proportion of the population. Native American drivers were potentially over-represented in stops compared to their proportion of the population in four counties, while Asian, Black, and Hispanic drivers were potentially overrepresented in Carter and Prairie counties. However, Carter and Prairie have too few stops to adequately detect variation, limiting any conclusions that can be drawn from this analysis. For twelve counties, White drivers are over-represented in stops. Similar to previous years, county-level analysis is ambiguous with some benchmark comparisons suggesting disproportionality, but not others. As mentioned, this is likely due to the number of cases examined which do not allow for enough analysis to detect disproportionality.

In conclusion, we do not find evidence of systemic bias in the decision to stop by the Montana Highway Patrol. Based on several benchmark comparisons at multiple levels, we do not find patterns of consistent disproportionality which would be indicative of systemic bias in the decision to stop. We do suggest that the MHP examine potential over-representation of Black drivers in stops compared to their proportion of the population at the state-level further to determine what could be contributing to potential differences for these drivers. However, as stated in the analysis, there are several limitations to stop-level analysis and potential disproportionality may not be due to bias.

The MHP may also consider conducting enforcement-level analysis in the future. To effectively conduct these analyses, it will require several years of MHP stop data as well as supplementary data and information from other sources. For instance, depending on the analysis being conducted, supplementary data on heightened enforcement periods and locations, as well as special events that may increase stops and enforcement in select locations, will be needed. If the MHP pursues enforcement-level analysis in the future, we recommend conducting several types of analyses, including ‘hit tests’ and ‘threshold tests’, as well as multivariate analysis of enforcement activities to adequately control for alternative explanations of disproportionality if other analyses suggest it exists.

Bibliography

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