

Vehicle Stops Report

University of Missouri

June 1, 2022

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1 State Results

Table 1: Rates by Race for Missouri

	Total	White	Black	Hispanic	Native American	Asian	Other
Population							
2020 population	4903578	3954573	539111	176807	19999	101746	186829
2020 population %	100	80.65	10.99	3.61	.41	2.07	3.81
Totals							
All stops	1226812	940543	226062	31701	2095	10903	15508
Resident stops	268433	216061	42340	5195	363	1716	2758
Searches	83765	60998	19366	2504	127	330	440
Contraband	33529	24355	7967	857	59	118	173
Arrests	49314	36677	10589	1525	73	213	237
Citations	564552	403147	132439	17446	940	5291	5289
Rates							
Stop rate	25.02	23.78	41.93	17.93	10.48	10.72	8.3
Stop rate, residents	5.47	5.46	7.85	2.94	1.82	1.69	1.48
Search rate	6.83	6.49	8.57	7.9	6.06	3.03	2.84
Contraband hit rate	40.03	39.93	41.14	34.23	46.46	35.76	39.32
Arrest rate	4.02	3.9	4.68	4.81	3.48	1.95	1.53
Citation rate	46.02	42.86	58.59	55.03	44.87	48.53	34.1

Notes: The American Community Survey five-year population estimates for ages 16+ as of 2020 are used for Missouri.

The ACS only provides race-specific Hispanic estimates for White, meaning non-White Hispanic residents are double-counted in the 2020 race percentages above.

Stop rate = (stops / 2020 population) X 100.

Stop rate, residents only = (stops by residents / 2020 population) X 100.

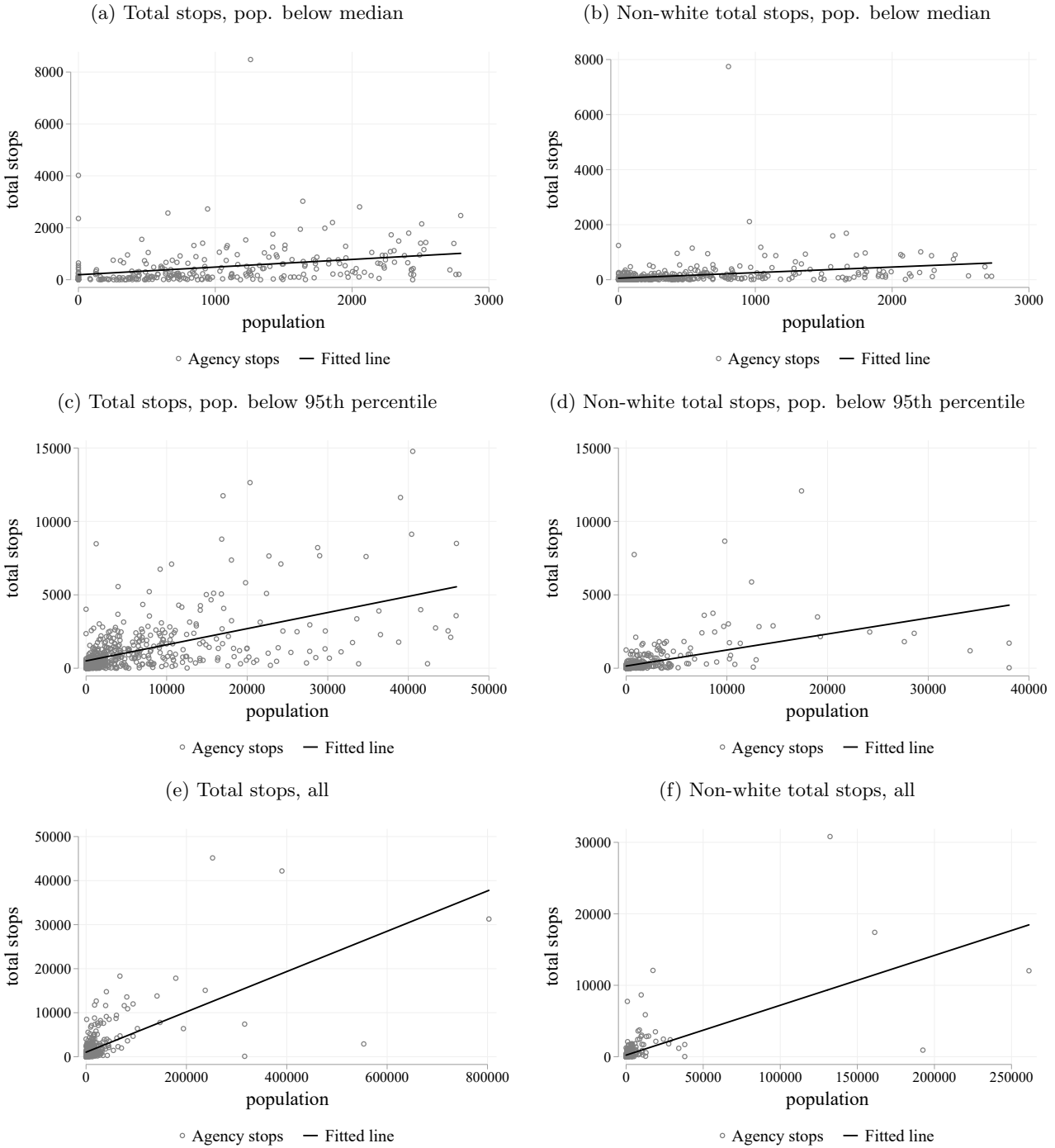
Search rate = (searches / stops) X 100.

Contraband hit rate = (searches with contraband found / total searches) X 100.

Arrest rate = (arrests / stops) X 100.

Citation rate = (citations / stops) X 100.

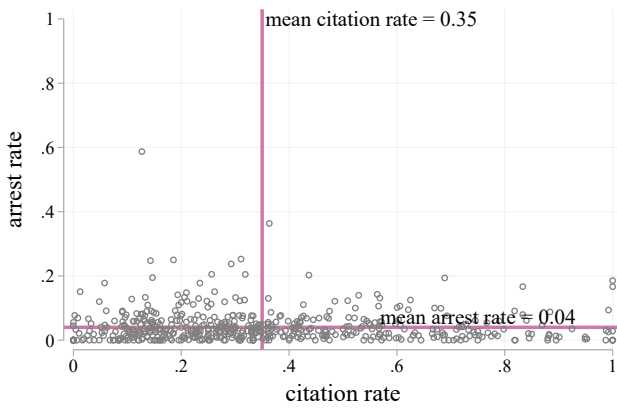
Figure 1: Total stops across agencies for Missouri



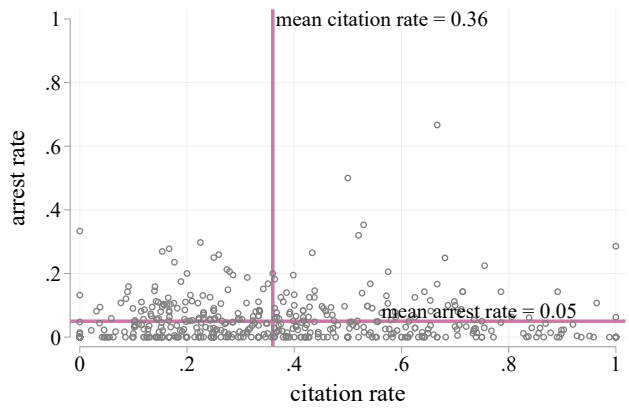
Notes: Figure (a) depicts the total number of stops for all agencies with a total population less than the median population size (2,805 persons) in Missouri plotted against population size. Similarly, Figure (b) shows the total number of non-white stops by the non-white population size for each agency for those same agencies. Figures (c) and (d) follow the same format but for agencies with a total population less than the 95th-percentile (54,461 persons). Finally, graphs (e) and (f) graph all agencies, except the Missouri State Highway Patrol which covers the entire state. Population is measured using the 2020 American Community Survey 5-year estimates for Missouri. The ACS only provides race-specific Hispanic estimates for White, to avoid double counting we calculate the total non-White population as the total population minus the White population for each agency. Agencies without population (e.g., university police) are considered to have a population of zero.

Figure 2: Citation, arrest, search, and hit rates across agencies for Missouri

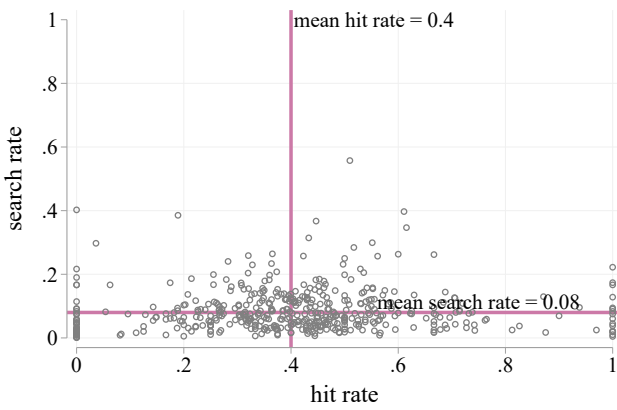
(a) Arrest and citation rate



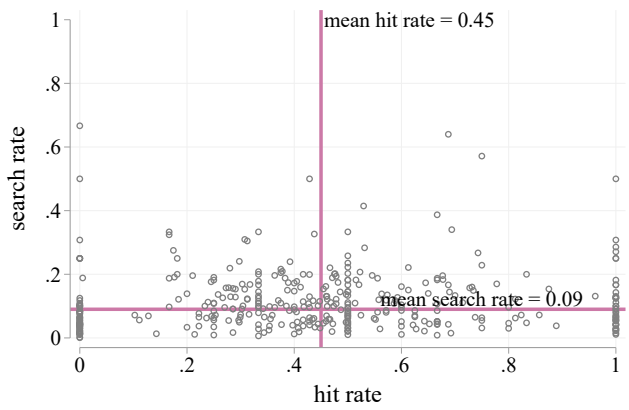
(b) Non-white arrest and citation rate



(c) Search and hit rate

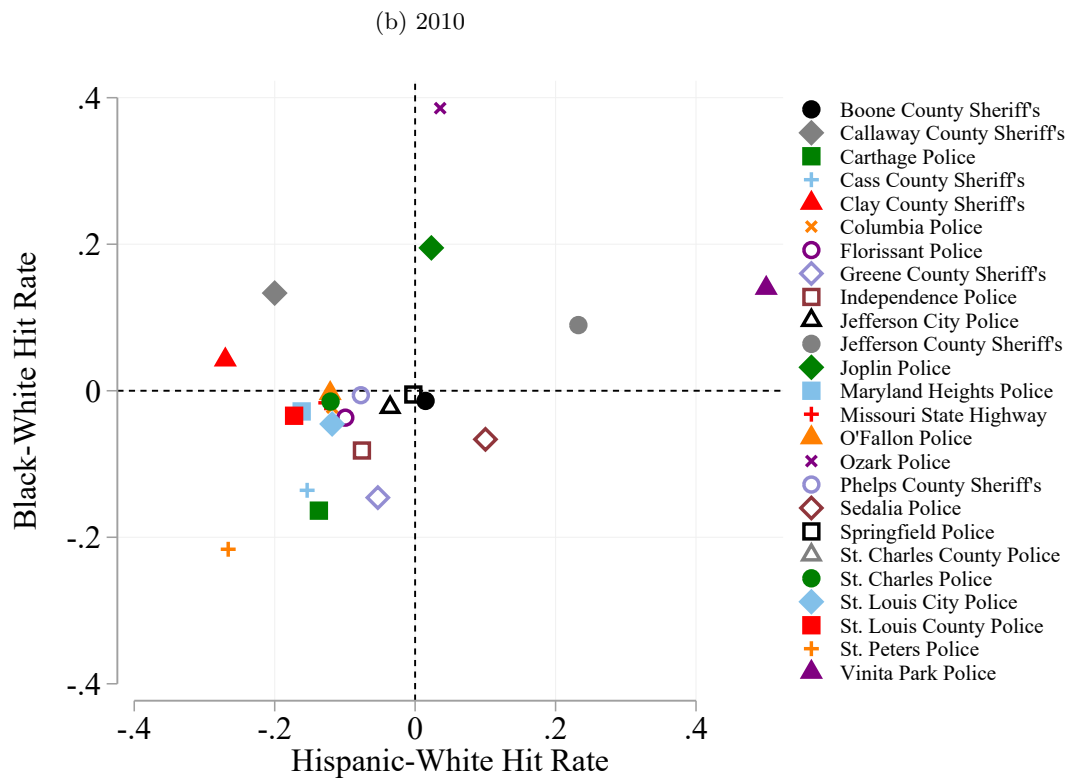
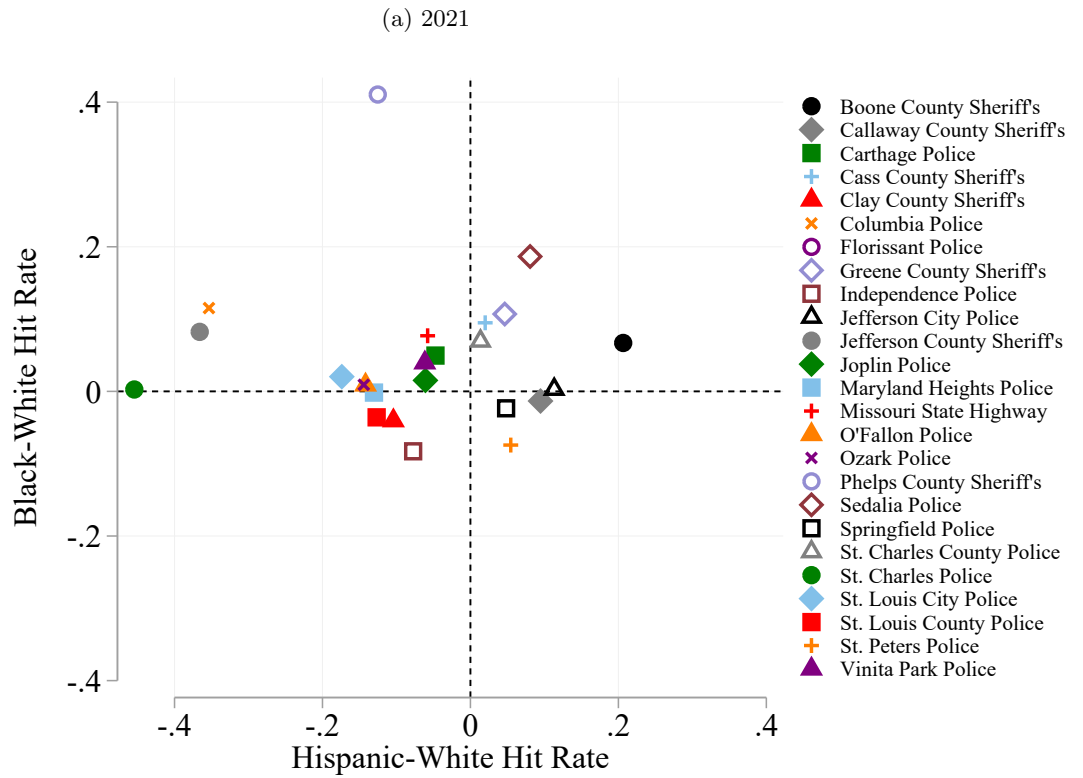


(d) Non-white search and hit rate



Notes: Figure (a) graphs the arrest rate and citation rate for all agencies in Missouri. Similarly, Figure (b) graphs the arrest rate and citation rate for all non-white stops. Figure (c) graphs the search rate and hit rate for all agencies in Missouri. Similarly, Figure (d) graphs the search rate for all non-white stops and hit rate for all non-white searches. The reported mean equally weights each agency and is not a population-weighted mean.

Figure 3: Relative hit rates for the top 25 agencies with the most searches



Notes: The race specific hit rate is calculated as the number of searches that find contraband divided by the total number of searches for a specific race. The difference between the Black and White hit rates and the Hispanic and White hit rates are plotted on the y- and x-axis, respectively.

Table 2: Disparity Index for Missouri

	Total	White	Black	Hispanic	Native American	Asian	Other
Population							
2020 population	4903578	3954573	539111	176807	19999	101746	186829
2020 population %	100	80.65	10.99	3.61	.41	2.07	3.81
Stops							
All stops	1226812	940543	226062	31701	2095	10903	15508
Resident stops	268433	216061	42340	5195	363	1716	2758
Disparity index							
All stops	.	.951	1.676	.717	.419	.428	.332
Resident stops	.	.998	1.435	.537	.332	.308	.27

Notes: 2021 Disparity index is based on 2016-2020 average population estimates from the U.S. Census Bureau's American Community Survey (ACS) for ages 16+ for Missouri. The ACS only provides race-specific Hispanic estimates for White, meaning non-White Hispanic residents are double-counted in the 2020 race percentages above.

Disparity index = (proportion of stops / proportion of population). A value of 1 indicates no difference between the share of stops and share of local population for a given group. Values greater than one indicate over-representation in the share of stops relative to local population, while a value less than 1 indicates under-representation.

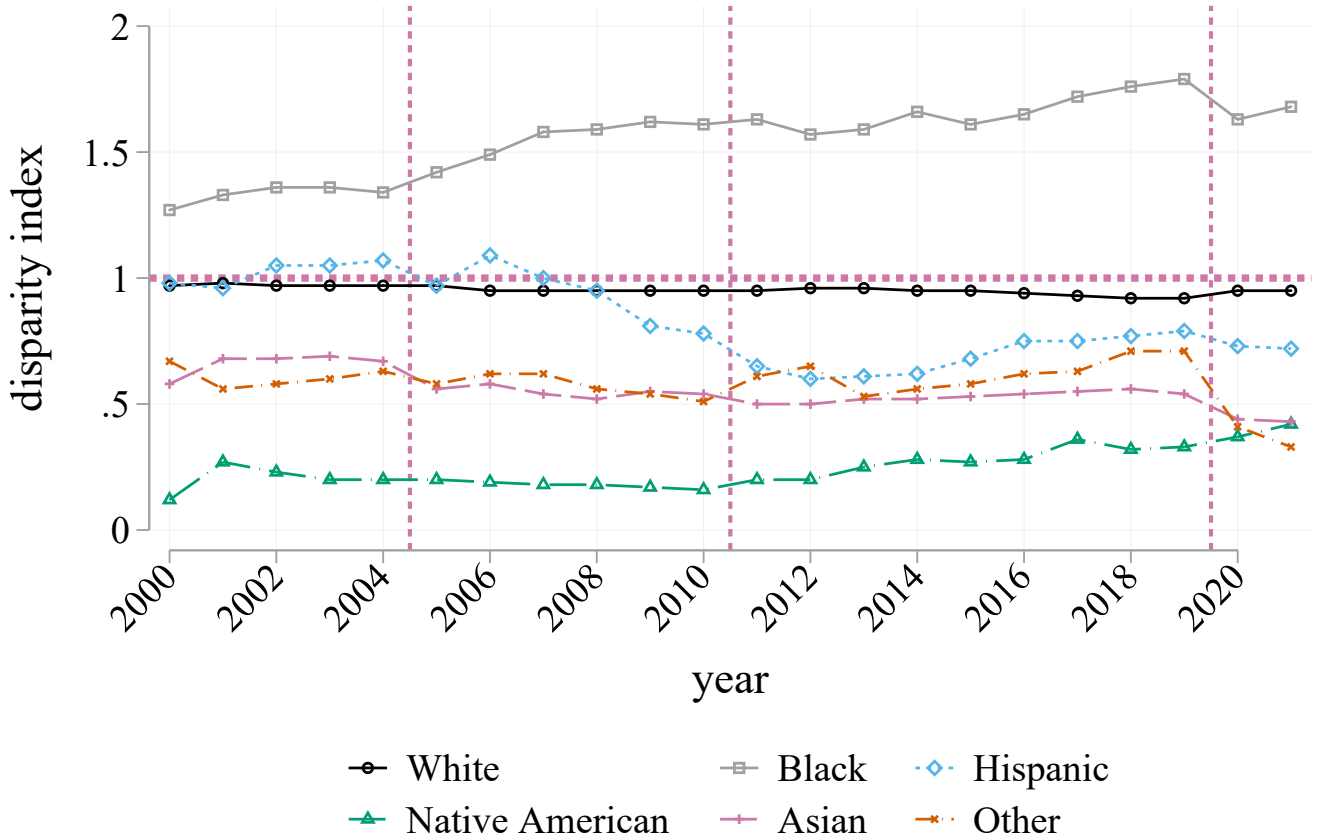
Table 3: Disparity Index from 2000 to 2021 for Missouri

	White	Black	Hispanic	Native American	Asian	Other
2000	.97	1.27	.98	.12	.58	.67
2001	.98	1.33	.96	.27	.68	.56
2002	.97	1.36	1.05	.23	.68	.58
2003	.97	1.36	1.05	.2	.69	.6
2004	.97	1.34	1.07	.2	.67	.63
2005	.97	1.42	.97	.2	.56	.58
2006	.95	1.49	1.09	.19	.58	.62
2007	.95	1.58	1	.18	.54	.62
2008	.95	1.59	.95	.18	.52	.56
2009	.95	1.62	.81	.17	.55	.54
2010	.95	1.61	.78	.16	.54	.51
2011	.95	1.63	.65	.2	.5	.61
2012	.96	1.57	.6	.2	.5	.65
2013	.96	1.59	.61	.25	.52	.53
2014	.95	1.66	.62	.28	.52	.56
2015	.95	1.61	.68	.27	.53	.58
2016	.94	1.65	.75	.28	.54	.62
2017	.93	1.72	.75	.36	.55	.63
2018	.92	1.76	.77	.32	.56	.71
2019	.92	1.79	.79	.33	.54	.71
2020	.95	1.63	.73	.37	.44	.41
2021	.95	1.68	.72	.42	.43	.33

Notes: In the years 2000 - 2004 the disparity index was calculated using the 2000 Decennial Census (ages 16+), 2005 - 2010 uses the annual updates from Geolytics Inc, and 2011 - 2019 use the 2010 Decennial Census for persons (ages 16+). Hispanics may be of any race. Other includes persons of two or more races or unknown race. The 2020 and 2021 disparity indices are based on the most recent 5-year population estimates from the American Community Survey (ages 16+) for Missouri (2015-2019 and 2016-2020, respectively).

Disparity index = (proportion of stops / proportion of population). A value of 1 indicates no difference between the share of stops and share of local population for a given group. Values greater than one indicate over-representation in the share of stops relative to local population, while a value less than 1 indicates under-representation.

Figure 4: Disparity Index from 2000 to 2021 for Missouri



Notes: In the years 2000 - 2004 the disparity index was calculated using the 2000 Decennial Census (ages 16+), 2005 - 2010 uses the annual updates from Geolytics Inc, and 2011 - 2019 use the 2010 Decennial Census(ages 16+). Hispanics may be of any race. Other includes persons of two or more races or unknown race. The 2020 disparity index is based on the most recent 5-year population estimates (ages 16+) from the American Community Survey for Missouri (2015-2019 and 2016-2020, respectively). Changes in the population are noted by the vertical dashed lines before 2005, 2011, and 2020. Disparity index = (proportion of stops / proportion of population). A value of 1 indicates no difference between the share of stops and share of local population for a given group. Values greater than one indicate over-representation in the share of stops relative to local population, while a value less than 1 indicates under-representation.

Table 4: Number of Stops by Race for Missouri

	Total	White	Black	Hispanic	Native American	Asian	Other
All Stops	1226812	940543	226062	31701	2095	10903	15508
Resident Stops	268433	216061	42340	5195	363	1716	2758
Non-Resident Stops	480393	347474	109405	10111	1010	4059	8334
Reason for Stop	.	.	.	.	.	.	.
Moving	726355	560450	125442	21833	1353	8240	9037
Equipment	166763	130301	28878	3830	287	1100	2367
License	338277	250572	76111	5805	433	1542	3814
Investigative	45944	31714	11687	1197	88	294	964
Stop Outcome	.	.	.	.	.	.	.
Searches	83765	60998	19366	2504	127	330	440
Contraband	33529	24355	7967	857	59	118	173
Arrests	49314	36677	10589	1525	73	213	237
Citation	564552	403147	132439	17446	940	5291	5289
Warning	915333	737404	131697	24906	3870	7817	9639
No action	44726	30198	12148	1404	52	353	571
Location of Stop	.	.	.	.	.	.	.
Interstate hwy	164855	112611	39667	7797	301	2643	1836
US hwy	204036	170976	23996	5849	411	1546	1258
State hwy	258252	219342	27936	5979	449	2003	2543
County road	77268	54488	19822	958	92	632	1276
City street	438532	320583	97220	10213	722	3499	6295
Other	83004	61768	17381	902	86	571	2296
Driver Gender	.	.	.	.	.	.	.
Male	762656	581954	138543	23563	1371	7040	10185
Female	464670	358055	87458	8118	711	3843	6485
Driver Age	.	.	.	.	.	.	.
17 and under	49825	42673	4985	1164	64	286	653
18-29	459999	331698	103498	13874	812	4006	6111
30-39	291525	217102	58707	8575	525	2645	3971
40 and over	420893	344837	58763	7919	642	3883	4849

Notes: Data reported by the agency to the Attorney General's Office covering all traffic stops in 2021.

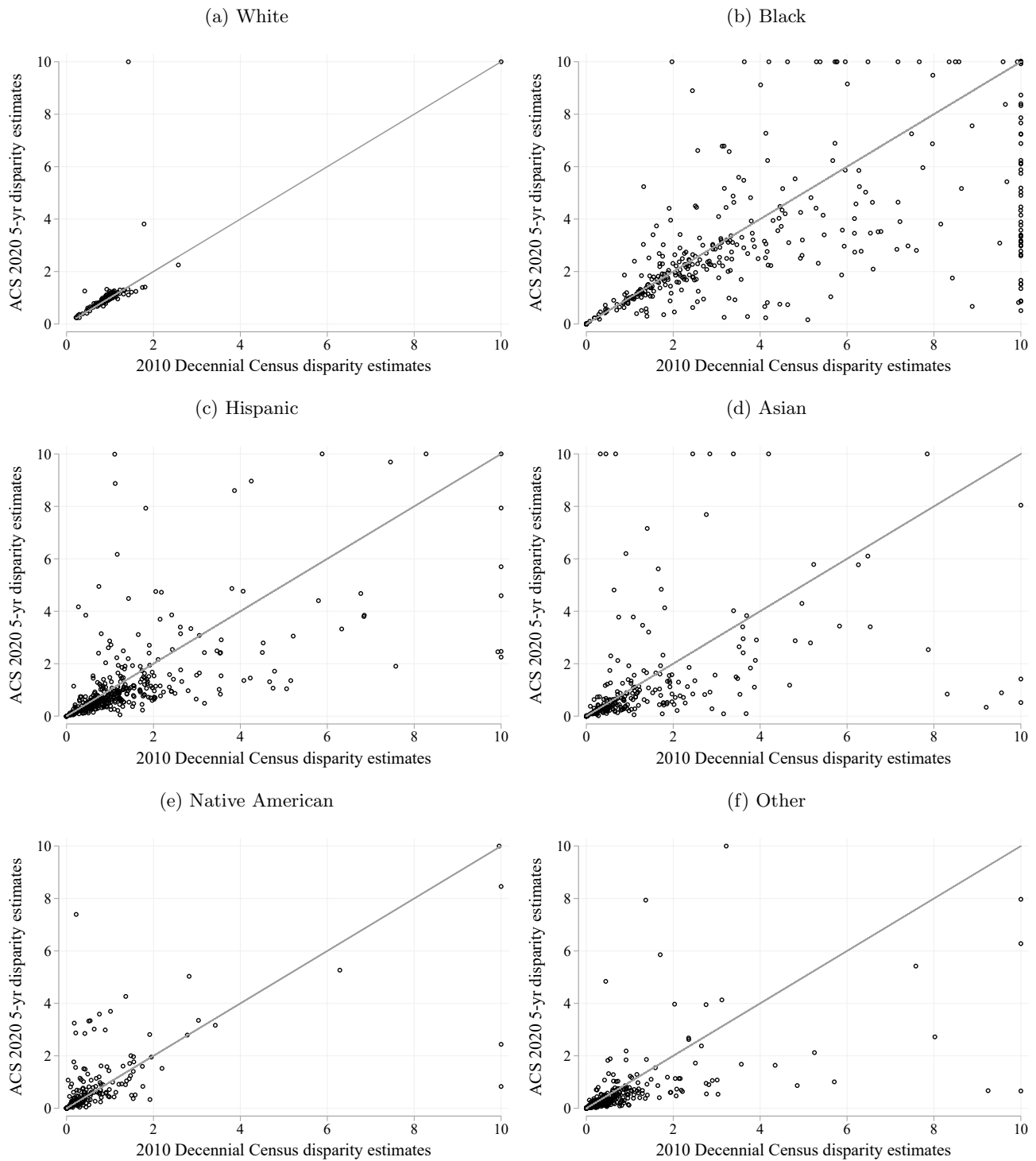
Table 5: Search statistics for Missouri

	Total	White	Black	Hispanic	Native American	Asian	Other
Probable cause	.	.	.	.	.	.	.
Consent	39609	30867	7265	1075	51	157	194
Inventory	6336	4788	1260	212	10	24	42
Drug/alcohol odor	18691	10622	7293	575	29	67	105
Incident to arrest	26648	19071	6294	986	47	114	136
Plain view contra.	6911	4717	1936	198	12	24	24
Reas. susp-weapon	2798	1558	1137	77	1	13	12
Drug-dog alert	2619	2160	355	74	4	7	19
Other	4322	3703	521	61	4	11	22
What searched	.	.	.	.	.	.	.
Driver	15496	11442	3196	678	24	81	75
Car/property	15432	11332	3300	593	23	101	83
Driver & Property	52509	37864	12874	1264	81	145	281
Search duration	.	.	.	.	.	.	.
0-15 minutes	74361	53615	17649	2259	109	337	392
16-30 minutes	8807	6939	1556	214	18	29	51
31+ minutes	1436	1174	191	55	4	5	7
Contraband found	.	.	.	.	.	.	.
Drugs/alcohol	34224	25003	7978	905	64	114	160
Currency	450	269	147	25	0	7	2
Weapon	3236	1526	1620	68	3	6	13
Stolen property	985	681	267	28	3	1	5
Other	754	599	119	28	1	5	2
Arrest charge	.	.	.	.	.	.	.
Outstanding warrant	19418	13325	5485	431	33	55	89
Drug violation	13492	10235	2853	291	27	36	50
Resist arrest	1742	1164	530	34	3	4	7
Off against person	1151	740	358	37	7	5	4
Traffic violation	28418	23033	4184	849	75	143	134
DWI/BAC	12789	10017	1898	652	25	94	103
Property offense	1716	1140	538	29	2	1	6
Other	8331	6548	1441	225	20	35	62

Notes: Data reported by the agency to the Attorney General's Office covering traffic stops in 2021.

2 Appendix

Figure 5: Differences between 2021 disparity indices using Decennial 2010 and American Community Survey 2020



Notes: The disparity indices based on the population estimates from the five-year 2020 American Community Survey for ages 16+, used in this report, and the 2010 Decennial Census for ages 15+ are plotted on the y- and x-axis, respectively. A 45-degree line is plotted in each graph depicting the line of equality between the two measures. Each dot represents an agency. The disparity indices are truncated at 10 for visualization purposes.