

Purchasing Privilege?
Driver Identity, Status Cues, and Police Suspicion

May 26, 2023

Appendix

The following tables provide robustness checks and additional data-related information for our article.

Table A1. Race and Gender of Drivers of Various Vehicle Types.

	Male			Female			Total
	Black	Latinx	White	Black	Latinx	White	
Passenger Car	362,950	667,341	1,116,795	251,632	399,253	942,204	3,740,175
Pickup Truck	105,054	677,541	1,531,877	12,486	99,388	249,516	2,675,862
SUV	108,611	351,391	679,346	81,198	246,820	708,165	2,175,531
Motorcycle	3,728	5,885	29,552	161	120	1,001	40,447
Utility Van	1,748	4,184	7,094	158	204	699	14,087
Bus	859	4,681	2,112	345	265	616	8,878
Tractor-Trailer	159,929	614,863	508,513	3,568	6,350	14,122	1,307,345
Total N	742,879	2,325,886	3,875,289	349,548	752,400	1,916,323	9,962,325

Note: These numbers correspond to the percentages in Table 3 in the main text.

Table A2. Replication of Table 4 with Original Vehicle Type Categories.

	Coef. (St. Error)	Odds-Ratio
Passenger Car (Passenger Car)	0.482*** (0.006)	1.619
Pickup Truck (Pickup Truck)	-0.087*** (0.007)	0.917
Passenger Van (SUV)	-0.122*** (0.027)	0.885
Van (SUV)	-0.092*** (0.020)	0.912
Jeep (SUV)	0.058* (0.033)	1.060
Motorcycle (Motorcycle)	0.284*** (0.030)	1.328
Utility Van (UPS, Bread Truck, etc) (Utility Van)	0.211*** (0.054)	1.235
Bus (Bus)	-1.395*** (0.150)	0.248
School Bus (Bus)	0.011 (0.306)	1.011
Full-Trailer, Refrigerator (Tractor-Trailers)	0.071 (0.263)	1.073
Pole-Trailer, Log (Tractor-Trailers)	-0.045 (0.068)	0.956
Semi-Trailer, Livestock (Tractor-Trailers)	-0.713*** (0.072)	0.490
Straight Truck, Dump Truck, Flatbed, Cement Mixer (Tractor-Trailers)	-2.126*** (0.043)	0.119
Tank (Tractor-Trailers)	-1.739*** (0.289)	0.176
Truck Tractor (Tractor-Trailers)	-2.437*** (0.025)	0.087
Truck Tractor / Semi-Trailer (Tractor-Trailers)	-0.819*** (0.029)	0.441
Intermodal No Owner (Other)	-0.263 (0.715)	0.768
Crib Log Trailer (Other)	-1.409 (1.004)	0.244
Dolly Converter (Other)	-0.428 (0.584)	0.652
Emergency Vehicle (Police, Fire, EMS) (Other)	-0.208 (0.585)	0.812
Intermodal Owner (Other)	0.794 (1.031)	2.212
Limousine (Other)	0.149 (0.324)	1.160
Motor Coach (Other)	0.097 (0.307)	1.102
Motor Scooter / Moped (Other)	0.478** (0.190)	1.613
None (Other)	-1.428*** (0.197)	0.240
NULL (Other)	-0.558*** (0.060)	0.572
Other (Other)	-0.682*** (0.092)	0.505
Recreational Vehicle (Other)	0.611*** (0.081)	1.842
Road Tractor (Other)	-2.125** (1.002)	0.119
Train (Other)	0.551 (0.595)	1.735
Unknown (Other)	-1.427*** (0.355)	0.240
Constant	-5.244*** (0.015)	0.005
Day Fixed Effects?	Yes	
Time Fixed Effects?	Yes	
Observations	10,001,288	
Log Likelihood	-939,090.300	
Akaike Inf. Crit.	1,878,319.000	

Note: * p < 0.1, ** p < 0.05, *** p < 0.01. SUV is the omitted reference category for vehicle type. The same controls from Model 2 in Table 4 are used but not included due to space. The collapsed vehicle type categories are included in parentheses.

Table A3. Predicted Probabilities from Figure 1.

Vehicle Type	Predicted Probability
Motorcycle	0.021
Utility Van	0.023
Passenger Car	0.025
SUV	0.016
Pickup Truck	0.015
Occupational Vehicle	0.004

Note: Predicted probability for vehicle type category derived from Table 3 Model 3 logit results. Estimates are calculated holding all other control variables at their observed value. These results are depicted in Figure 1.

Table A4. Predicted Probabilities from Figure 2

Vehicle Type	Black	Latinx	White
Utility Van	0.029	0.026	0.022
Passenger Car	0.038	0.029	0.022
Motorcycle	0.011	0.021	0.022
SUV	0.024	0.020	0.013
Pickup Truck	0.018	0.017	0.013
Occupational Vehicle	0.006	0.004	0.004

Note: Predicted probability for vehicle type category derived from Table 5. Estimates are calculated holding all other control variables at their observed value. These results are depicted in Figure 2.

Table A5. Predicted Probabilities from Figure 3A

Vehicle Age	Luxury			Non-Luxury		
	Black	Latinx	White	Black	Latinx	White
0	0.006	0.006	0.001	0.019	0.011	0.004
1	0.009	0.010	0.003	0.022	0.015	0.007
2	0.012	0.013	0.004	0.023	0.017	0.008
3	0.014	0.015	0.005	0.024	0.019	0.010
4	0.016	0.018	0.006	0.025	0.021	0.011
5	0.018	0.020	0.007	0.026	0.023	0.012
6	0.020	0.022	0.009	0.026	0.024	0.013
7	0.022	0.024	0.010	0.027	0.025	0.014
8	0.023	0.026	0.011	0.027	0.027	0.015
9	0.025	0.028	0.012	0.027	0.028	0.016
10	0.027	0.030	0.013	0.028	0.029	0.017

Note: Predicted probability derived from Table 8 Model 2. Estimates are calculated holding all other control variables at their observed value. These values are depicted in Figure 3A.

Table A6. Predicted Probabilities from Figure 3B

Vehicle Age	Luxury			Non-Luxury		
	Black	Latinx	White	Black	Latinx	White
0	0.001	0.002	0.001	0.008	0.005	0.002
1	0.003	0.004	0.001	0.009	0.007	0.003
2	0.004	0.005	0.002	0.009	0.008	0.004
3	0.005	0.007	0.003	0.010	0.009	0.005
4	0.006	0.008	0.003	0.011	0.010	0.006
5	0.007	0.009	0.004	0.011	0.010	0.006
6	0.008	0.010	0.005	0.011	0.011	0.007
7	0.009	0.011	0.006	0.012	0.012	0.007
8	0.009	0.012	0.006	0.012	0.012	0.008
9	0.010	0.013	0.007	0.012	0.013	0.009
10	0.011	0.014	0.008	0.012	0.013	0.009

Note: Predicted probability derived from Table 8 Model 2. Estimates are calculated holding all other control variables at their observed value. These values are depicted in Figure 3B.

Table A7. Predicted Probabilities from Figure 4

Vehicle Age	Male			Female		
	Black	Latinx	White	Black	Latinx	White
0	0.013	0.005	0.003	0.006	0.003	0.002
1	0.012	0.005	0.004	0.006	0.003	0.002
2	0.011	0.005	0.004	0.006	0.002	0.002
3	0.010	0.004	0.005	0.005	0.002	0.002
4	0.008	0.003	0.005	0.005	0.002	0.002
5	0.007	0.003	0.005	0.004	0.002	0.002
6	0.006	0.002	0.004	0.004	0.001	0.002
7	0.005	0.001	0.004	0.003	0.001	0.002
8	0.004	0.000	0.004	0.002	0.000	0.002
9	0.002	-0.001	0.004	0.002	0.000	0.002
10	0.001	-0.001	0.003	0.001	0.000	0.001

Note: Luxury benefit derived from Table 8 Model 2. Estimates are calculated holding all other control variables at their observed value. These values are depicted in Figure 4.

Table A8. Replication of Table 4 without High Disparity Officer Controls.

	Model 1		Model 2		Model 3	
	Coef. (SE)	Odds Ratio	Coef. (SE)	Odds Ratio	Coef. (SE)	Odds Ratio
Black Female	0.533*** (0.013)	1.704	0.438*** (0.013)	1.550	0.445*** (0.013)	1.561
Black Male	1.144*** (0.009)	3.140	1.277*** (0.009)	3.587	1.317*** (0.009)	3.733
Latinx Female	0.253*** (0.011)	1.288	0.248*** (0.011)	1.282	0.247*** (0.011)	1.280
Latinx Male	0.690*** (0.008)	1.994	1.010*** (0.008)	2.746	1.031*** (0.008)	2.803
White Male	0.379*** (0.008)	1.461	0.587*** (0.008)	1.799	0.617*** (0.008)	1.853
Log Vehicle Age	0.390*** (0.003)	1.477	0.446*** (0.003)	1.563	0.435*** (0.003)	1.545
Bus			-1.349*** (0.134)	0.260		
Truck Tractor Occupational Vehicle			-2.074*** (0.017)	0.126	-1.534*** (0.012)	0.216
Motorcycle			0.304*** (0.030)	1.355	0.305*** (0.030)	1.357
Passenger Car			0.503*** (0.006)	1.653	0.495*** (0.006)	1.641
Pickup Truck			-0.087*** (0.007)	0.917	-0.061*** (0.007)	0.941
Utility Van			0.217*** (0.054)	1.243	0.382*** (0.059)	1.465
Constant	-4.662*** (0.014)	0.009	-5.152*** (0.015)	0.006	-5.117*** (0.015)	0.006
Day Fixed Effects?	Yes		Yes		Yes	
Time Fixed Effects?	Yes		Yes		Yes	
Observations	9,962,325		9,962,325		9,962,325	
Log Likelihood	-975,505		-947,272		-947,604	
Akaike Inf. Crit.	1,951,082		1,894,629		1,895,292	

Note: * p<.1, ** p<.05, *** p<0.01; Omitted categories are: Driver Race-Gender, “White Female”; Vehicle Type, “SUV”. Logit coefficients are shown in the first column for each model with standard errors in parentheses. Odds ratios are presented in the second column for each model.

Table A9. Replication of Table 5 without High Disparity Officer Controls.

	Coef. (SE)	Odds Ratio
Black	0.731*** (0.016)	2.078
Latinx	0.502*** (0.012)	1.651
Male	0.716*** (0.006)	2.045
Log Vehicle Age	0.436*** (0.003)	1.547
Occupational Vehicle	-1.258*** (0.018)	0.284
Motorcycle	0.525*** (0.035)	1.690
Passenger Car	0.538*** (0.009)	1.713
Pickup Truck	0.022** (0.010)	1.022
Utility Van	0.522*** (0.083)	1.686
Black*Occupational Vehicle	-0.286*** (0.034)	0.751
Latinx*Occupational Vehicle	-0.510*** (0.025)	0.601
Black*Motorcycle	-1.304*** (0.129)	0.271
Latinx*Motorcycle	-0.402*** (0.082)	0.669
Black*Passenger Car	-0.053*** (0.018)	0.949
Latinx*Passenger Car	-0.107*** (0.014)	0.898
Black*Pickup Truck	-0.328*** (0.025)	0.720
Latinx*Pickup Truck	-0.160*** (0.015)	0.852
Black*Utility Van	-0.337* (0.176)	0.714
Latinx*Utility Van	-0.247* (0.128)	0.781
Constant	-5.255*** (0.016)	0.005
Day Fixed Effects?	Yes	
Time Fixed Effects?	Yes	
Observations	9,962,325	
Log Likelihood	947,428	
Akaike Inf. Crit.	1,894,955	

Note: * p<.1, ** p<.05, *** p<0.01; Omitted categories are: Driver Race, “White”; Vehicle Type, “SUV”. Logit coefficients are shown in the first column for each model with standard errors in parentheses. Odds ratios are presented in the second column for each model.

Table A10. Replication of Table 8 without High Disparity Officer Controls.

	Model 1		Model 2	
	Coef. (SE)	Odds Ratio	Coef. (SE)	Odds Ratio
Black Female	0.526*** (0.014)	1.693	1.392*** (0.039)	4.022
Black Male	1.426*** (0.010)	4.162	2.336*** (0.029)	10.337
Latinx Female	0.293*** (0.012)	1.341	0.599*** (0.038)	1.821
Latinx Male	1.127*** (0.009)	3.086	1.516*** (0.029)	4.554
White Male	0.666*** (0.009)	1.946	0.805*** (0.028)	2.237
Log Vehicle Age	0.420*** (0.004)	1.522	0.569*** (0.011)	1.766
Passenger Car	0.507*** (0.006)	1.660	0.485*** (0.006)	1.624
Luxury	-0.126*** (0.008)	0.881	-1.523*** (0.094)	0.218
Black Female*Luxury			-0.399** (0.180)	0.671
Black Male*Luxury			0.166 (0.117)	1.181
Latinx Female*Luxury			0.596*** (0.153)	1.815
Latinx Male*Luxury			0.779*** (0.113)	2.179
White Male*Luxury			0.092 (0.111)	1.096
Black Female*Vehicle Age			-0.439*** (0.019)	0.645
Black Male*Vehicle Age			-0.451*** (0.013)	0.637
Latinx Female*Vehicle Age			-0.165*** (0.018)	0.848
Latinx Male*Vehicle Age			-0.207*** (0.013)	0.813
White Male*Vehicle Age			-0.071*** (0.013)	0.932
Luxury*Vehicle Age			0.568*** (0.039)	1.764
Black Female*Luxury*Vehicle Age			0.201*** (0.074)	1.223
Black Male*Luxury*Vehicle Age			-0.034 (0.048)	0.966
Latinx Female*Luxury*Vehicle Age			-0.143** (0.064)	0.867
Latinx Male*Luxury*Vehicle Age			-0.214*** (0.046)	0.807
White Male*Luxury*Vehicle Age			-0.065 (0.046)	0.937
Constant	-5.267*** (0.017)	0.005	-5.541*** (0.027)	0.004
Day of Week FE?	Yes		Yes	
Hour of Day FE?	Yes		Yes	
Observations	5,878,474		5,878,474	
Log Likelihood	-666,995.100		-665,008.500	
Akaike Inf. Crit.	1,334,066.000		1,330,125.000	

Note: * p<.1, ** p<.05, *** p<0.01; Omitted categories are: Driver Race-Gender, “White Female”; Vehicle Type, “SUV”. Logit coefficients are shown in the first column for each model with standard errors in parentheses. Odds ratios are presented in the second column for each model.