Racial Disparities in Texas Department of Public Safety Traffic Stops, 2002-2014

Frank R. Baumgartner, University of North Carolina at Chapel Hill[1]
Bryan D. Jones, University of Texas at Austin
Julio Zaconet, University of North Carolina at Chapel Hill
Colin Wilson, University of North Carolina at Chapel Hill
Arvind Krishnamurthy, University of North Carolina at Chapel Hill

Texas House of Representatives
Committee on County Affairs
Rep. Garnet F. Coleman, Chair

Prepared for November 18, 2015 committee hearing on the Texas DPS Traffic Statistics.

Thank you for the opportunity to present on this important matter. Prof. Baumgartner is the lead author of this research. He has been engaged in research on traffic stops and racial profiling in North Carolina since 2011, based on over 18 million traffic stops made available through the State of North Carolina Department of Justice pursuant to legislation passed in 1999. With UNC-Chapel Hill students Zaconet, Wilson, and Krishnamurthy, and at the request of a journalist in Texas, he has organized a review of annual reports issued by the Texas DPS from 2003 through 2014. Bryan D. Jones is the Jake Pickle Chair in Congressional Studies at the University of Texas at Austin and has also been involved in this research.

Summary and Recommendations

We have examined the State of Texas Department of Public Safety Annual Reports on traffic stops issued between 2003 and 2014, along with the statements of DPS personnel regarding potential differential treatment across racial groups. We report the following:

Findings:

 Finding #1: We find that the DPS has consistently misinterpreted statistics showing the racial and ethnic breakdowns of the number of Texas drivers who have been subject to traffic stops in a manner that is highly misleading.

DPS compares the proportion of Whites, Blacks and Hispanics subject to traffic stops to the proportion of these groups in the statewide population. Yet it is highly unlikely that the proportion of Blacks or Hispanics driving through the more rural regions that DPS patrols matches their proportions of the statewide population.

Finding #2: Reporting data on what happens AFTER a traffic stop is a better way to assess racial and ethnic disparities in traffic stop enforcement.

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[1] Corresponding Author: Frankb@unc.edu. For Traffic Stops research, see http://www.unc.edu/~fbaum/traffic.htm.

Finding #3: White search rates after stops are always lower than Blacks. Black search rates are always higher. Hispanic search rates may not be meaningful given issues in data collection.

Finding #4: Generally Blacks experience a worse outcome after a search has been conducted than Whites.

Recommendations:

Recommendation #1: DPS should cease reporting traffic stop statistics in which comparisons are made to population groups in the State.

Recommendation #2: DPS should cease making misleading statements based on flawed comparisons. Specifically, the Texas DPS should not use comparisons of traffic stops data to population shares in order to reach conclusions regarding racial profiling.

Recommendation #3: DPS should initiate a systematic investigation of the reasons for the clear and persistent racial disparities in search and in outcomes after search.

Introduction

Baumgartner has been involved in extensive studies of North Carolina traffic stops since 2011. In doing this research, he also compiled state and local traffic stop reports where available in other states, including Texas reports available on the DPS web site. These were collected to put North Carolina racial disparity statistics in the context of what occurs in other states or jurisdictions. To do this, he has systematically been calculating the same statistic across different racial or ethnic groups: the conditional probability of search, given a stop. Typically, this is the same statistic as reported by most agencies, and if not it can be calculated if the stop and search numbers are provided. With the students also listed as authors of this report, he compiled the annual DPS reports from 2003 to present and re-calculated the numbers according to a standard comparison as laid out below. In this report, we review recent statements by the DPS, review their methods, present a rival method, and offer conclusions and recommendations.

Currently, the Texas DPS uses comparisons of traffic stops data to population shares in order to reach conclusions regarding racial profiling. If we were to take the statistics at face value, it would seem that the DPS Troopers are particularly harsh on White drivers, as these constitute just 45 percent of the state population but account for 59 percent of the traffic stops, 57 percent of the citations, and 58 percent of criminal interdictions. Unfortunately, these statistics mean next to nothing. The DPS patrols rural parts of the state. Population statistics do not reflect the driving population. And the fact of driving does not mean that one should be stopped by the police. To compare traffic stops rates by race to some broader statistic, that would have to be the population of drivers speeding, driving recklessly, or otherwise violating the traffic laws. The Department should cease any reporting of comparisons to population statistics. Rather, a better practice would be to show the rates at which various outcomes occur following a traffic stop.

The DPS Perspective

Consistently in each report on racial profiling issued by the Texas DPS since 2003, the report begins with the statement that the Department is "committed to the prevention of racial profiling. Racial profiling is illegal, inconsistent with the principles of American policing, and an indefensible public protection strategy." In his 25 September 2015 letter to Senator Rodriguez responding to questions about a 4 September 2015 article on racial profiling in the *Texas Tribune*, Director McCraw writes: "The 14 years of racial profiling data that DPS has collected and reported publicly for over a decade demonstrates with compelling evidence that the Department of Public Safety does not engage in racial profiling."

He continues by noting that the "intimation" that troopers may be racial profiling "is easily discounted by far more relevant and statistically significant data that was not included in the article. For example, from 2009 to 2014, Texas State Troopers stopped more White drivers than Hispanic drivers as a percentage of the population. (Measuring traffic stops by race as a percentage of the population would be the most valid indicator of possible racial profiling.)"

He uses these statistics: 58.82% of all DPS stops involved White drivers (45.33% of the Texas population, with Hispanics being 24.38% of stops but 37.62% of the population). Further, citation percentages are similarly lower for Hispanics than their population percentage.

Director McCraw writes: "I encourage anyone who may have concerns about racial profiling to review the DPS traffic stop data from 2001 to 2014, which is available to the public." He continually points to the comparison of traffic stops to population statistics. There are several problems with this approach.

First, we do not know from population statistics who is driving. Further, simply driving is not reason to be stopped; we need to know who is driving poorly or breaking the law by speeding. These are general rules for traffic stops overall; they should be compared to the "driving population" or – better yet – the driving violator population" (those who are speeding, for example). Different ethnic groups may not drive at the same rates. In any case, comparison to population statistics can be highly misleading, particularly for Texas. The Texas DPS website indicates: "The Texas Highway Patrol Division is responsible for general police traffic supervision, traffic, and criminal law enforcement on the rural highways of Texas." Since the division focuses on the rural highways of the state, comparison to the overall state population numbers would generally be misleading to the extent that the racial breakdown of drivers differs in the urban and rural areas. Most likely, this is quite substantial. The DPS should cease making any comparison to general population numbers.

We have reviewed the annual DPS reports from 2003 through 2014 and can make these comparisons. First, we review how the DPS generally reports its data. Then, we show an alternative and more revealing method: analyzing conditional probabilities of different outcomes after a stop occurs.

Comparison to Population Share

For example, in the 2014 report, (p. 2), the DPS reports that Whites were 58.82% of all traffic stops, 56.63% of citations, 59.95% of warnings, 49.25% of consent searches, 53.27% of probable cause searches, 62.36% of other searches, and 57.75% of criminal interdictions. Compared with 45.33% of the population, white drivers are systematically over-represented in every category, and that is the tone of the reports, consistently. Figure 1 shows the data as presented by the DPS in its annual reports:

Figure 1. White, Black, and Hispanic Population and Traffic Stops Data over Time.

Traffic Stops and Outcomes: Hispanics
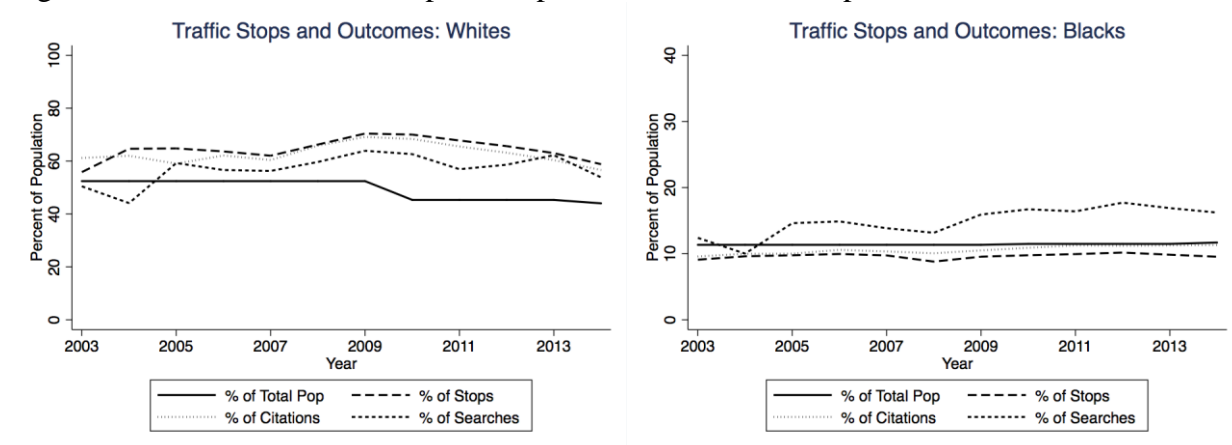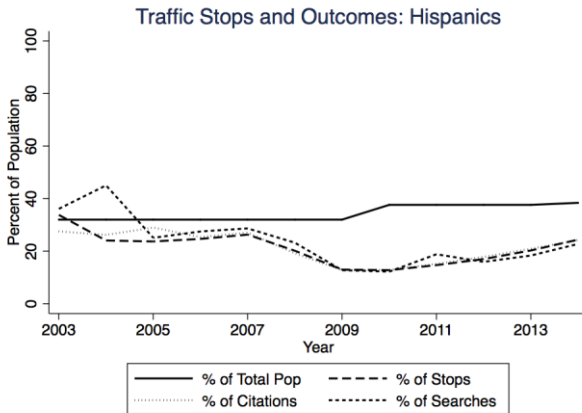
Source: Annual Reports, Texas DPS.

Figure 1 shows that Whites are consistently higher as a percentage of Stops, Citations, and Searches as compared to their population share. This is the general point that the DPS uses when defending itself from suggestions that racial profiling may be occurring. (True lack of any kind of racial profiling according to this method would mean that all races would have the same proportion of each outcome, but clearly they do not. It seems that since Whites have the higher percentage of various outcomes that the DPS is either suggesting that this is acceptable, or knows that it would be preposterous to suggest that the Department could have an anti-White bias.)

Conditional Probabilities are More Revealing

Since we do not generally know who is driving, much less who is violating the traffic laws, it can be extremely misleading to compare traffic stops data to general population numbers. However, if we look at what happens after a traffic stop, we know both the denominator and the numerator of the equation. That is, if 100 motorists of each race are stopped, what percentage of White, Black, and Hispanic drivers get a warning, a citation, or see their car searched? This is a simple comparison, and the DPS reports allow it to be calculated. However, it has never been reported. We report it here. It uses the identical data as in Figure 1 but simply calculates the rate at which a traffic stop leads to a search, a citation or a warning. Figures 2 and 3 show these data.

Figure 2. White, Black, and Hispanic Search Rates over Time.
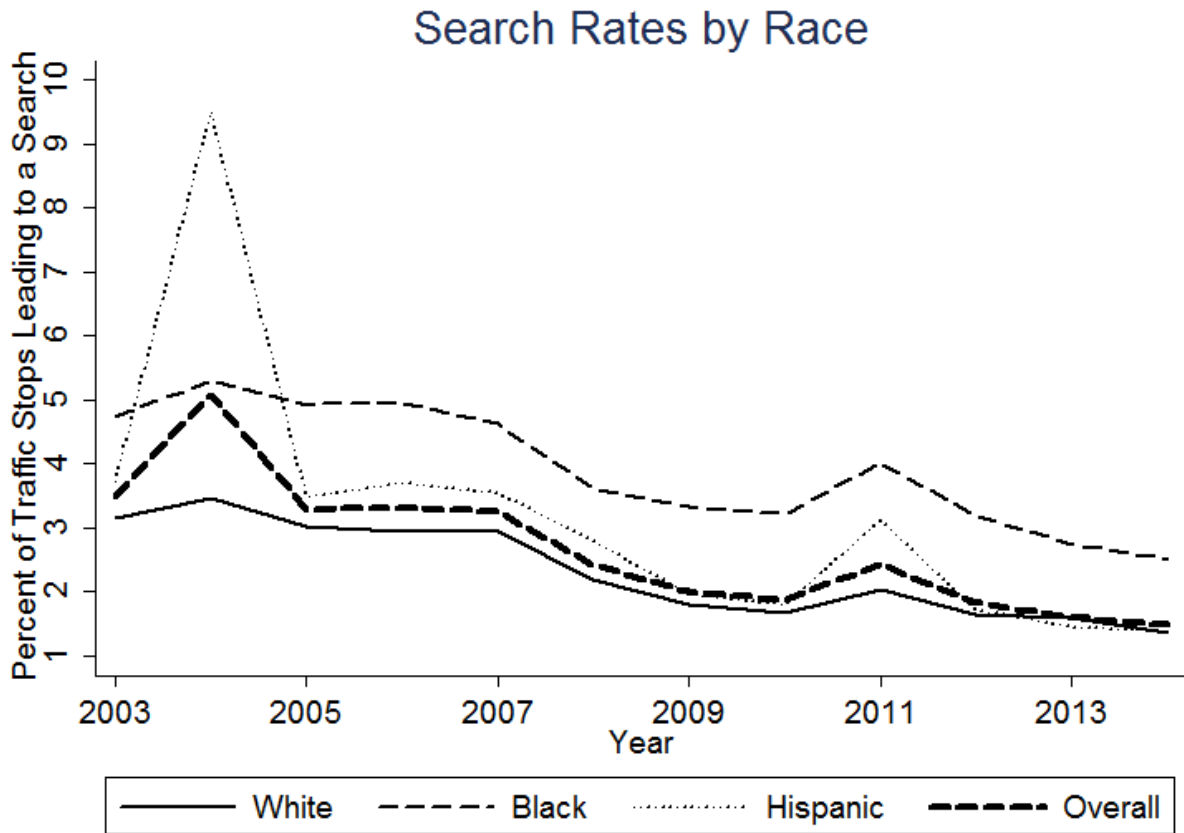
Source: Calculated from annual DPS reports.

The overall search rate declines generally from 4-5 percent in the early years to less than 2 percent in 2014. White search rates are always lower than the average. Black search rates are always higher. Hispanic search rates may not be meaningful given issues in data collection.[2]

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[2] A recent inquiry by KXAN investigative reporter Brian Collister suggests that millions of Hispanic drivers have consistently been coded by DPS troopers as White. In fact, 11 of the 18 most common surnames among those issued citations and listed as White from 2010 through 2014 were Hispanic. The top 18 surnames, in order: Smith, Garcia, Martinez, Rodriguez, Hernandez, Gonzalez, Johnson, Jones, Williams, Garza, Lopez, Brown, Davis, Perez, Ramirez, Miller, Sanchez, Flores. See http://kxan.com/investigative-story/texas-troopers-ticketing-hispanics-motorists-as-white/.

Figure 3. Citation and Warning Rates Compared.
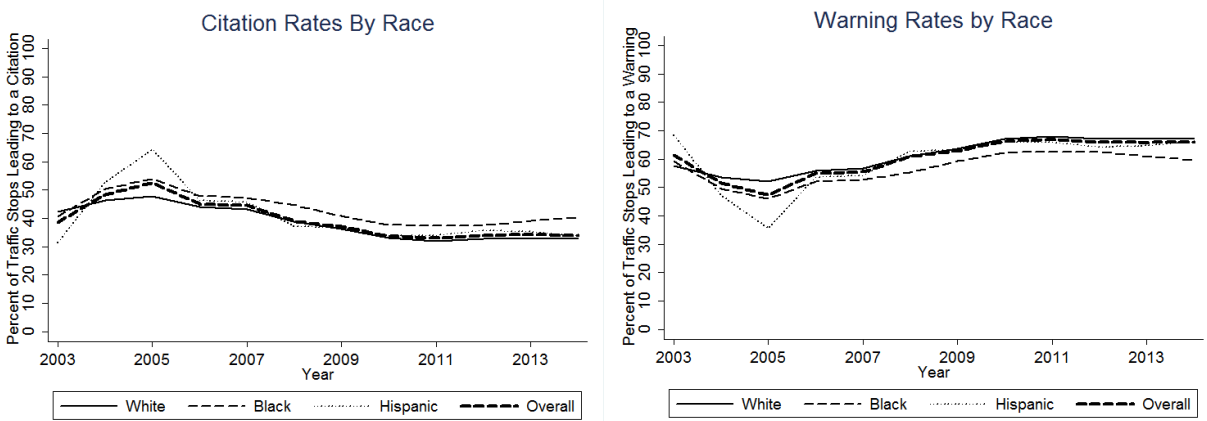
Source: Calculated from annual DPS reports.

Citations and Warnings are mathematically equivalent, since traffic stops are only recorded if one or the other occurs. (That is, if 60 percent of stops lead to a warning, then by definition 40 percent lead to a citation, as these are the only two possible outcomes, given how the data are collected.) Whites are always more likely than average to get a warning rather than a citation.

There has been considerable controversy relating to recording of apparently Hispanic drivers as White in the DPS reports. To the extent that the distinction between White and Hispanic is not meaningful, then this would obscure any differences in outcomes between the two groups. Black-White comparisons may be more revealing. Figure 4 therefore shows Search and Warning rates for Blacks and Whites.

Figure 4. Black-White Comparisons in Search and Warning Rates.
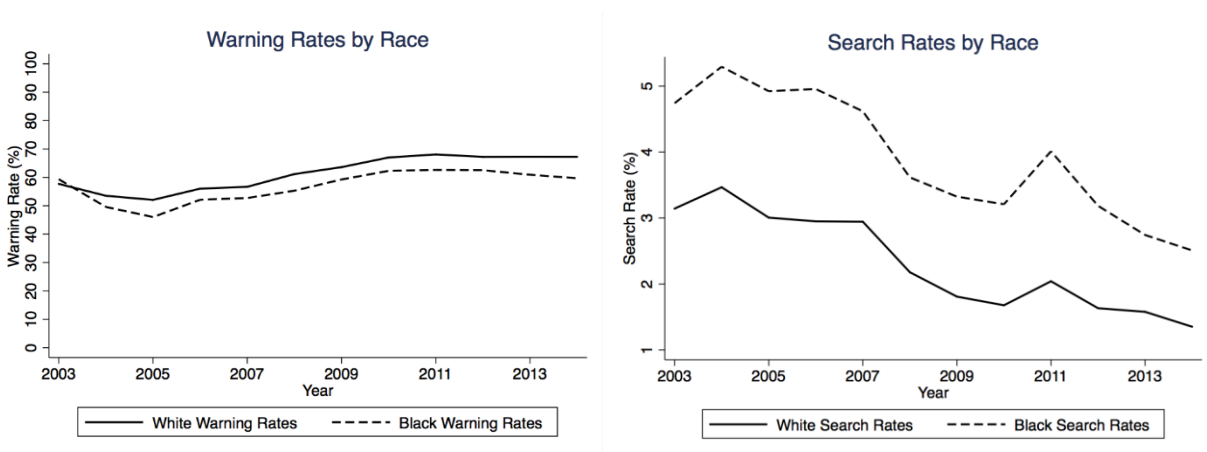
Source: Calculated from annual DPS reports.

With the exception of 2013 when Whites and Blacks both received Warnings after 57 and 58 percent of traffic stops, respectively, Whites generally enjoy a 4 to 8 percent increased likelihood compared to Blacks of the relatively "good news" of a warning after a traffic stop, rather than a citation. With regards to search rates (all types of searches combined), it is clear that Blacks

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have much higher likelihoods throughout the period and that reduced rates of search overall have not eliminated the racial difference in these rates.

Black-White ratios

If Blacks were searched 5 percent of the time and Whites 3 percent of the time, then we could say that Blacks are 67 percent more likely than Whites to be searched (5/3 = 1.67). If the two groups had equal rates, say 3 and 3 percent, then the Black-White Ratio would be 3/3 = 1.0. If the odds were 2 percent for Blacks and 3 for Whites, then 2/3 = 0.67. Thus, we can use the simple ratio of percentage of each race getting a given outcome to evaluate how racially disparate those outcomes are. In Figure 4 above, it is clear that on average Warnings are slightly more likely to go to Whites compared to Blacks, and that Searches are more likely when the driver is Black as compared to White. So the ratios would be on the order of 0.9 for Warnings, and 1.8 or so for Searches. The Black-White Ratio is a simple and informative indicator.

Figure 5 shows the Black-White Ratio for various adverse outcomes following a traffic stop. It is simply the percentage of Black drivers experiencing that outcome divided by the percentage of White drivers getting the same outcome.

Figure 5. Black-White Ratios in Various Adverse Traffic Stop Outcomes.
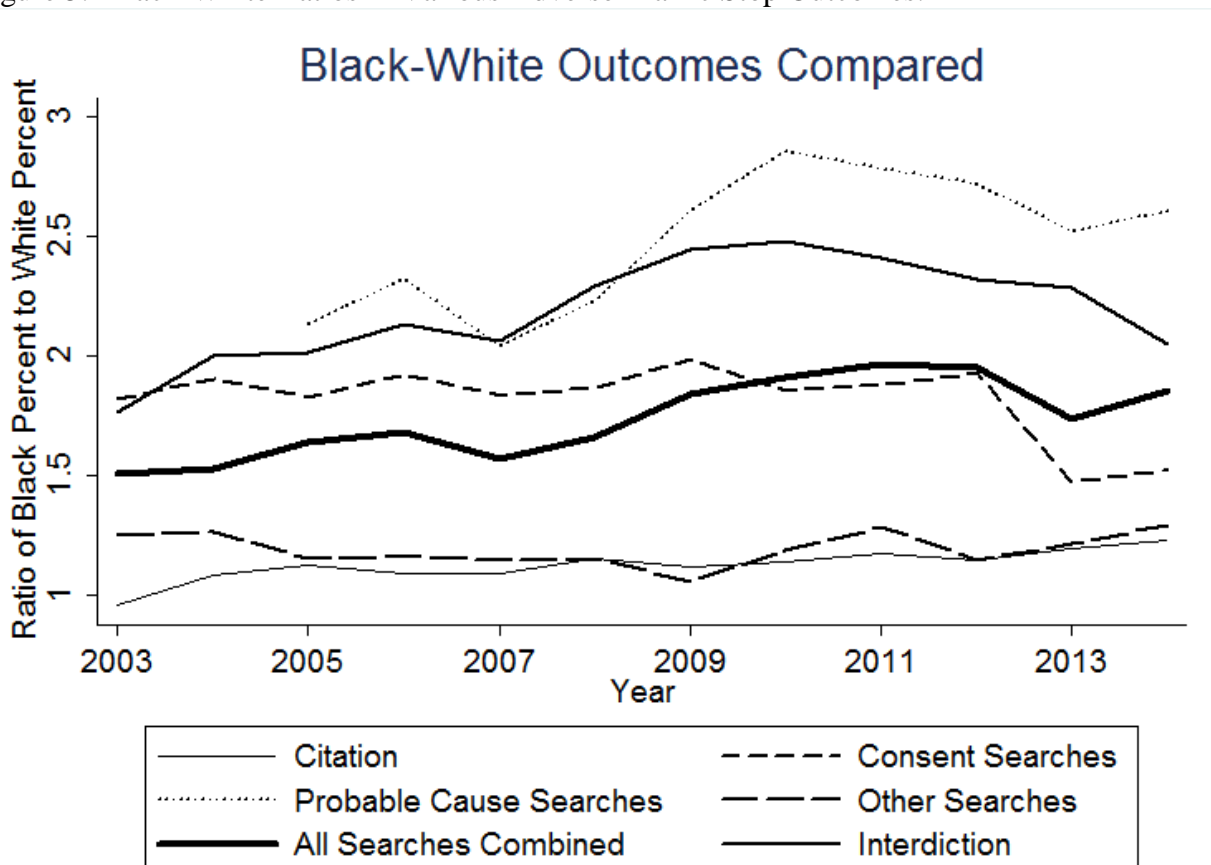
Source: Calculated from annual DPS reports.

One number falls below 1.0 in Figure 5. In 2003, 42 percent of Whites and 41 percent of Blacks got a citation rather than a warning following a stop. That ratio is therefore 0.96. All other adverse outcomes, including citations in later years, show higher rates of Blacks experiencing them compared to Whites. Citations range from 0.96 to 1.23 in 2014. Searches are listed in various types: Consent, Probable Cause, and Other. The combined rate of search is in the thick solid line, which ranges from a low of 1.51 in 2003 to a high of 1.96 in 2011. Interdictions reach a high point of 2.48 in 2010, and probable cause searches (not listed in the 2003 and 2004 reports) high a high value of 2.86 in 2010. (The full set of stop and search numbers are in the Appendix.)

Conclusion

The Texas Department of Public Safety indicates in each of its annual reports that it is "committed to the prevention of racial profiling. Racial profiling is illegal, inconsistent with the principles of American policing, and an indefensible public protection strategy." In order to assess whether or not racial profiling may be occurring, we must agree on what numbers would indicate something amiss. In its annual reports and in its correspondence with legislators, the DPS strongly asserts that comparison of stops data with population data is the appropriate comparison. However, we do not know whether traffic stops are proportionate to the set of drivers who come into contact with DPS officers, or that set of drivers who may be speeding or otherwise merit a traffic stop. Especially considering the rural focus of the DPS, comparison to state-wide population figures is particularly misleading. When we look at the probabilities of various adverse outcomes following a traffic stop, Black drivers are consistently more likely to be subjected to higher probabilities of each. They are consistently more likely to get a citation rather than a warning (with just one exception, in the first year of data collection); they are more likely to be subject to any type of search or to a criminal interdiction. Racial profiling may well be responsible for these statistical disparities. Public statements by leaders of the DPS strongly suggest a different conclusion from those supported by the analysis presented here.

Appendix

Black and White Traffic Stops Compared
A. Raw numbers of Stops, Citations, and Searches from annual DPS reports

Year	Stops			Citations			Searches		
	Black	White	Total	Black	White	Total	Black	White	Total
2003	136,241	836,780	1,498,556	55,383	353,976	578,496	6,460	26,301	52,120
2004	273,819	1,843,370	2,850,869	138,048	856,760	1,381,459	14,497	63,907	144,845
2005	283,186	1,881,338	2,903,225	152,823	901,811	1,527,418	13,942	56,553	95,414
2006	309,325	1,978,008	3,107,113	148,135	869,852	1,400,396	15,331	58,347	103,030
2007	275,276	1,754,606	2,828,076	130,131	760,256	1,258,473	12,714	51,659	91,781
2008	254,512	1,915,500	2,891,441	113,739	743,972	1,130,179	9,204	41,725	69,923
2009	279,151	2,058,891	2,924,210	113,745	749,472	1,084,133	9,279	37,239	58,278
2010	285,761	2,049,750	2,927,647	107,731	676,268	989,023	9,171	34,378	54,882
2011	296,631	2,023,721	2,985,577	110,937	645,976	986,010	11,899	41,311	72,547
2012	289,703	1,870,835	2,849,360	108,573	613,136	970,561	9,228	30,542	52,092
2013	251,114	1,608,083	2,551,441	98,114	526,361	871,814	6,888	25,375	40,775
2014	214,255	1,320,575	2,245,107	86,368	432,509	763,739	5,375	17,849	33,142

Source: Compiled from annual DPS reports.

B. Citation rates, search rates, and Black-White Ratios

Year	Citation Rate			Search Rate			Citation Ratio	Search Ratio
	Black	White	Total	Black	White	Total		
2003	0.407	0.423	0.386	0.047	0.031	0.035	0.961	1.509
2004	0.504	0.465	0.485	0.053	0.035	0.051	1.085	1.527
2005	0.540	0.479	0.526	0.049	0.030	0.033	1.126	1.638
2006	0.479	0.440	0.451	0.050	0.029	0.033	1.089	1.680
2007	0.473	0.433	0.445	0.046	0.029	0.032	1.091	1.569
2008	0.447	0.388	0.391	0.036	0.022	0.024	1.151	1.660
2009	0.407	0.364	0.371	0.033	0.018	0.020	1.119	1.838
2010	0.377	0.330	0.338	0.032	0.017	0.019	1.143	1.914
2011	0.374	0.319	0.330	0.040	0.020	0.024	1.172	1.965
2012	0.375	0.328	0.341	0.032	0.016	0.018	1.144	1.951
2013	0.391	0.327	0.342	0.027	0.016	0.016	1.194	1.738
2014	0.403	0.328	0.340	0.025	0.014	0.015	1.231	1.856

Source: Calculated from Appendix Table A. Citation rates are the proportion of drivers stopped who got a citation. Search rates are the proportion of drivers stopped who were searched (all search types combined). Citation ratio is the Black citation rate divided by the White citation rate. Search ratio is the Black search rate divided by the White search rate.