Civitas: Traffic Stops and Racial Disparities in Urbana, IL

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Analysis

According to the Illinois Department of Transportation 2018 annual report, disparity ratios are useful metrics for calculating the number of traffic stops that exceed the number of expected stops predicted from the population distribution.[1] The disparity ratios below were calculated using the table of Urbana's driving population on page 9 of the Urbana Police Department's 2018 Annual Traffic Report.[2] This graph serves as a reference for the two following graphics and is a replication of the Urbana Police Department's Crime Analysis graphics. Please note that 2020 was excluded due to incomplete data collection.

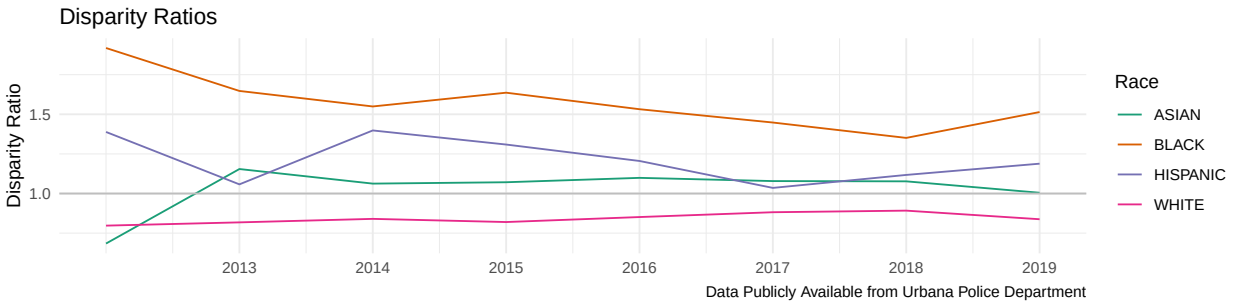


Figure 1: Disparity ratios by race by year

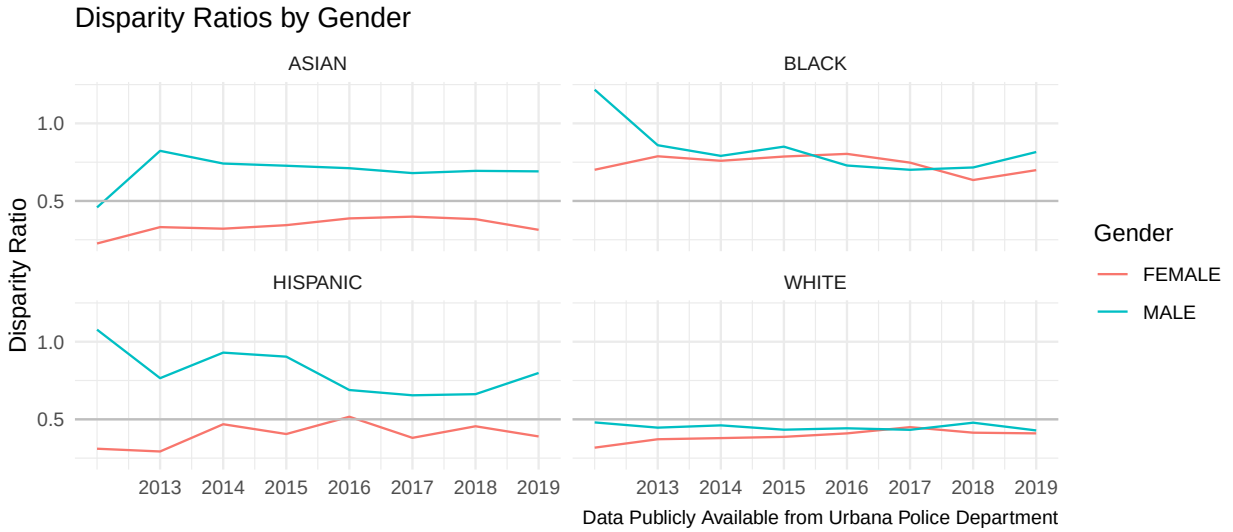


Figure 2: Disparity ratios by gender and race by year

[1] Report was provided by Melissa Hendrian.
[2] https://www.urbanaillinois.us/sites/default/files/attachments/2018_IDOT_Traffic_Presentation.pdf

Note that the baseline assumption is that one would not expect any differences in the rates of getting stopped for women and men. As such, any disparity ratio that strays away from the assumed baseline of 0.5 is potentially interesting to explore further. Most notably, the white disparity ratio is below 0.5 for Male and Female, whereas in the Asian and Hispanic groups, men are typically stopped at higher rates than their population proportion would predict than women. Recent trends indicate a gap between men and women for Asian, Hispanic, and Black stopped drivers. Asian and Hispanic women seem to be stopped less frequently than their population proportion would predict, whereas Black women are still stopped at higher rates than their population proportion would predict. This disaggregated difference btween racial groups indicates that patterns involving Black drivers may differ from those involving Hispanic or Asian drivers.

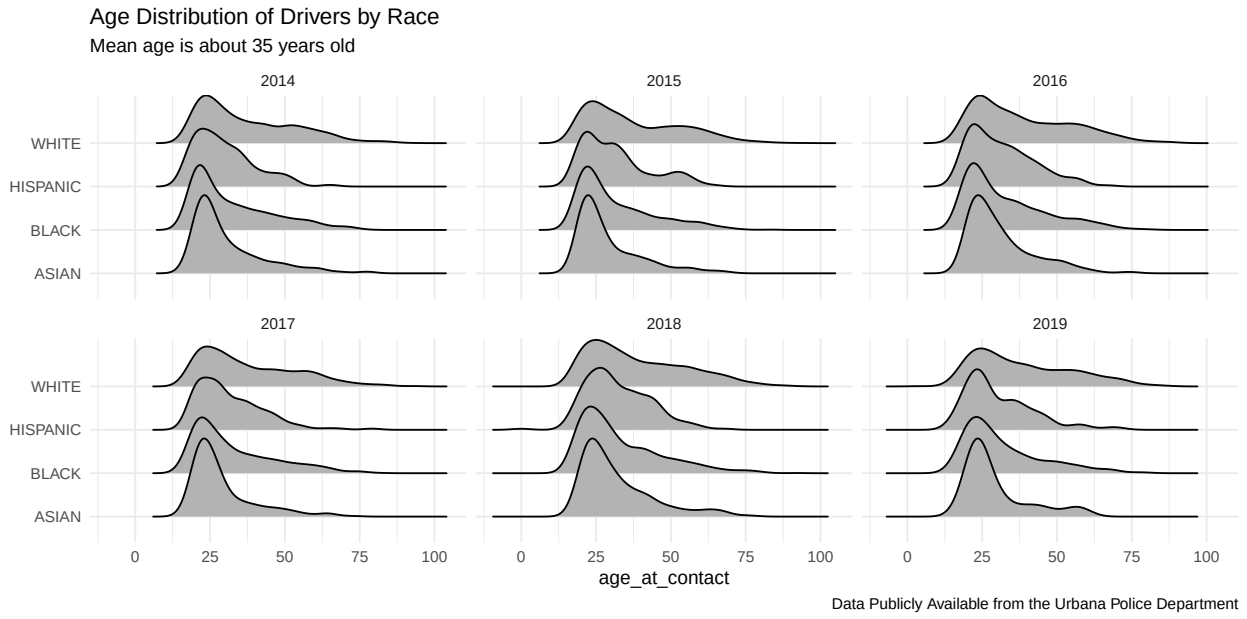


Figure 3: Age distributions of stopped drivers by race

In figure 4, it is interesting that the average age for all stopped drivers hovers around 35-36 years of age year to year. In contrast, the average age for drivers involved in accidents is around 38-39 years of age year to year. This is contrary to expectations, as one might think that younger drivers may be more reckless or less experienced.

For figures 5 and 6, It seems that traffic tickets are the most common outcome for all racial groups in most years. In 2019, less severe warnings were actually given more frequently to stopped drivers who were Black than traffic tickets. This empirical change can be traced back to policy changes made in 2018 that removed some officer subjectivity. For example, officers were assigned to areas in which there are a high concentration of accidents, rather than choosing their location of patrol themselves. Additionally, the city provided discount vouchers that allowed headlights/taillights to be fixed by an auto shop. In order to receive the voucher, folks were let off with a warning. Because African-Americans are more likely to be stopped for equipment violations, this is also a likely explanation of the data above.

More serious outcomes are virtually nonexistent for Asian and white drivers, but not insignificant for Hispanic and Black drivers.

What about the likelihood of receiving a warning vs. a traffic ticket based on race? Here we exclude more serious offenses, which are often taken out of the officer's hands. Instead, we include only cases in which officers make the sole judgement calls.

The results are optimistic. Since 2017, the proportion of Black drivers who received a traffic ticket out of all less serious outcomes has decreased to a little over 0.4, compared to about 0.53 for white drivers. Additionally, the proportion of Hispanic drivers who received traffic tickets instead of warnings, which was

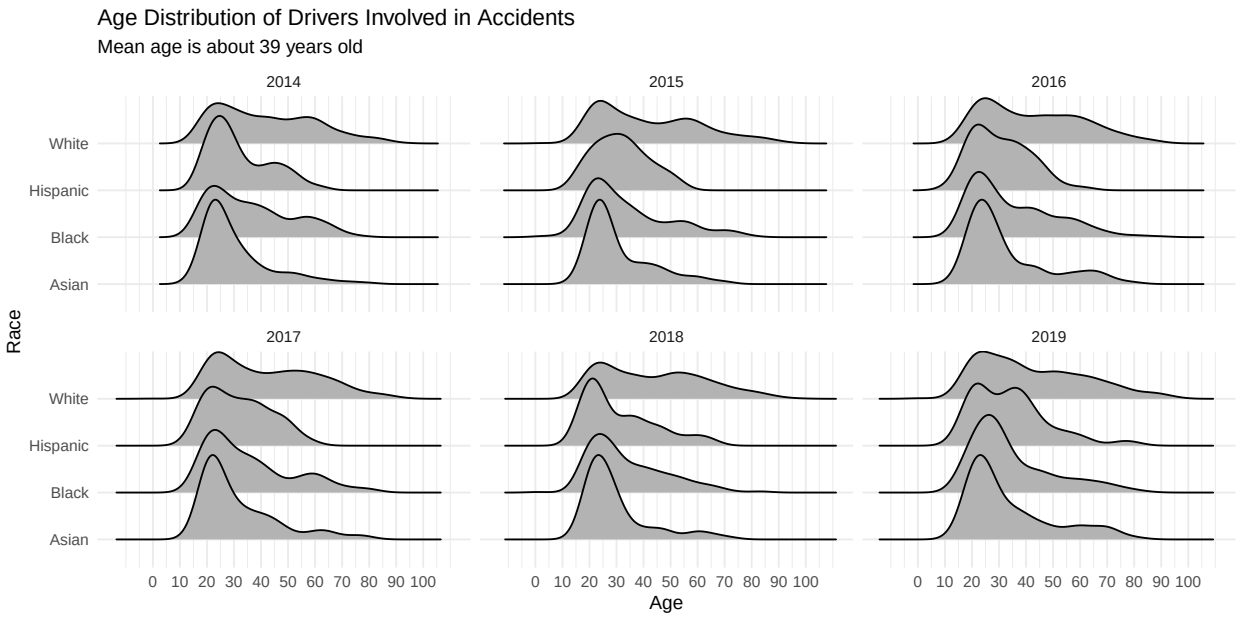


Figure 4: Age distribution of drivers in accidents

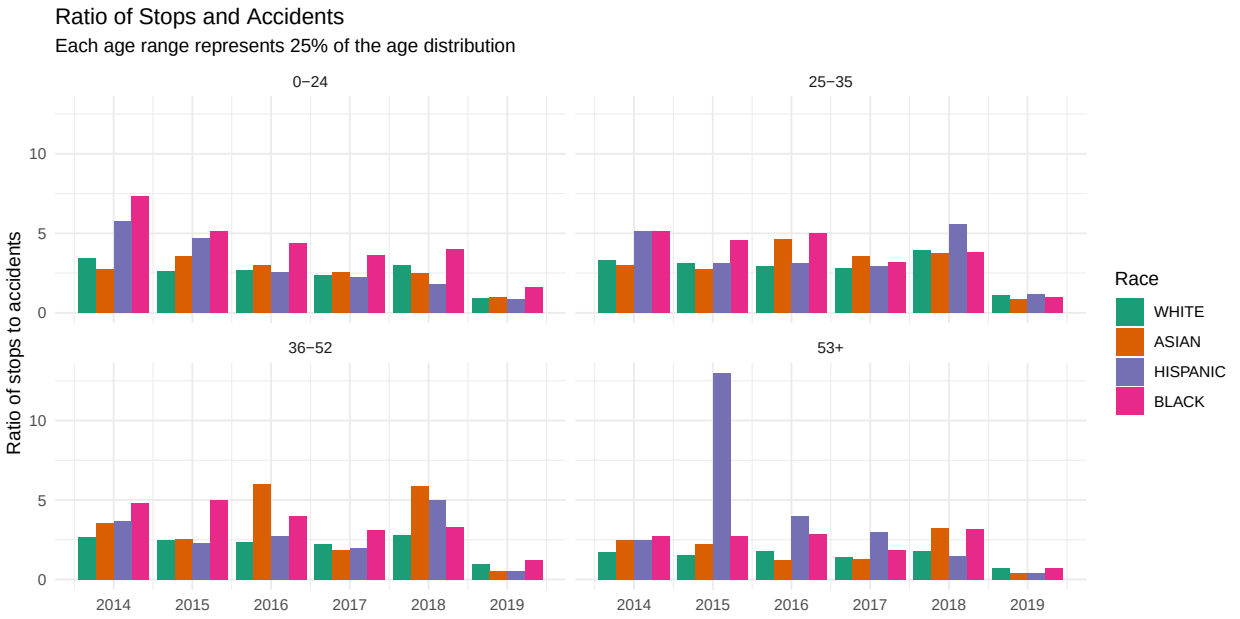


Figure 5: Stops-to-accidents ratio by year and race

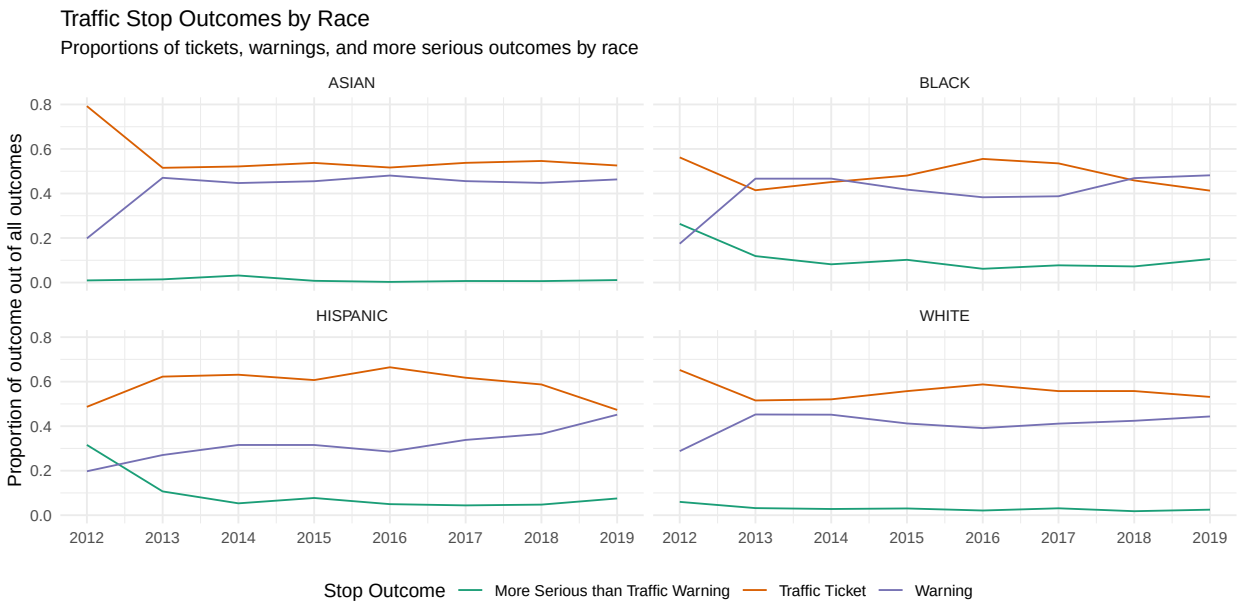


Figure 6: Stop outcomes by race

the group with the highest rates from 2013 to 2018, also saw a decrease from 0.62 to 0.47. Generally, all racial groups are receiving less traffic tickets proportional to the number of warnings. What about the proportion of traffic tickets by race?

While policies instituted in 2018 seem to have decreased the number of traffic tickets issued to African-Americans proportional to all less serious outcomes, as you can see from the graph above, there are still racial disparities in the number of tickets issued. White folks make up 62% of the 2019 driving population, but receive less than 60% of tickets. Meanwhile, Black folks make up 22% of the 2019 driving population, but receive 28% of traffic tickets. Recent policies have had positive effects on traffic outcomes for drivers of color, but there is still more to be done with removing unconscious biases to make racial disparities in traffic stops obsolete.

Appendix

```
## # A tibble: 6 x 2
## # Groups:   year [6]
##   avg_age  year
##     <dbl> <dbl>
## 1    34.8  2014
## 2    34.5  2015
## 3    36.1  2018
## 4    35.8  2016
## 5    35.1  2017
## 6    35.3  2019
```

```
## # A tibble: 6 x 2
## # Groups:   year [6]
##   avg_age  year
##     <dbl> <dbl>
## 1    39.3  2014
```

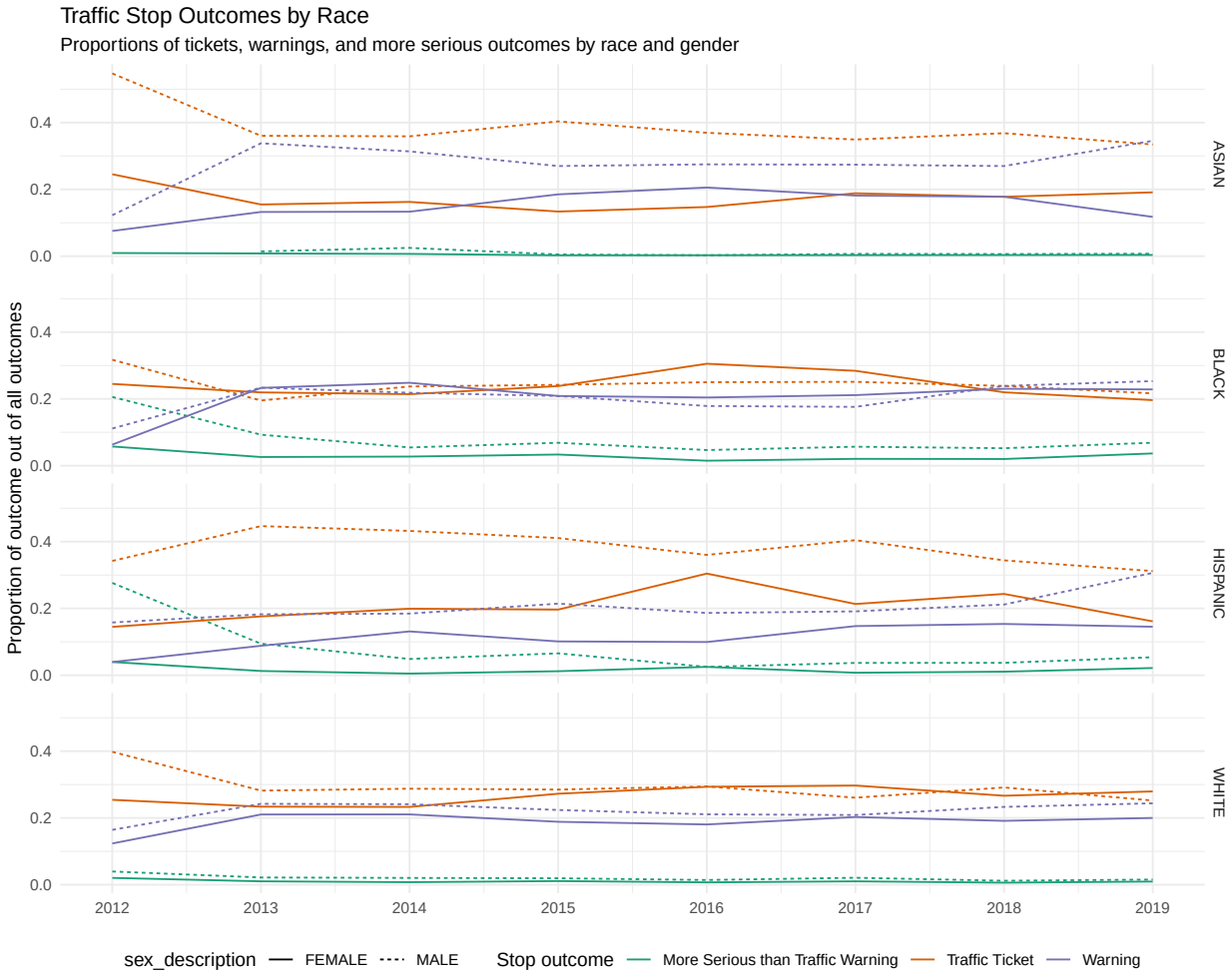


Figure 7: Stop outcomes by race and gender

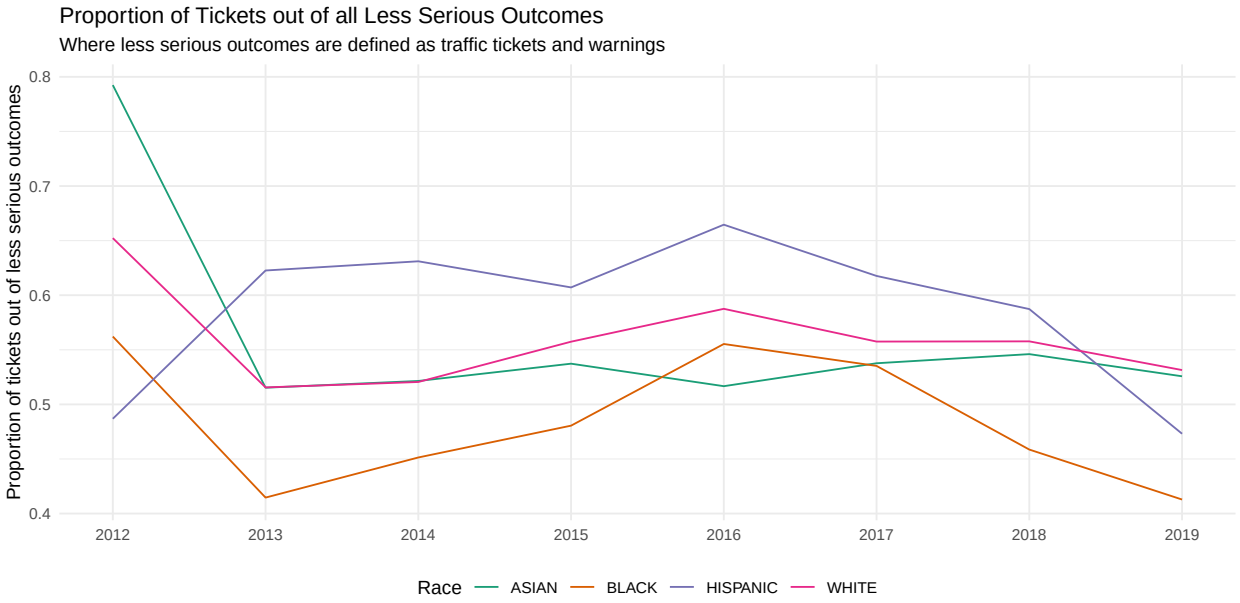


Figure 8: Proportion of warnings out of all less serious outcomes

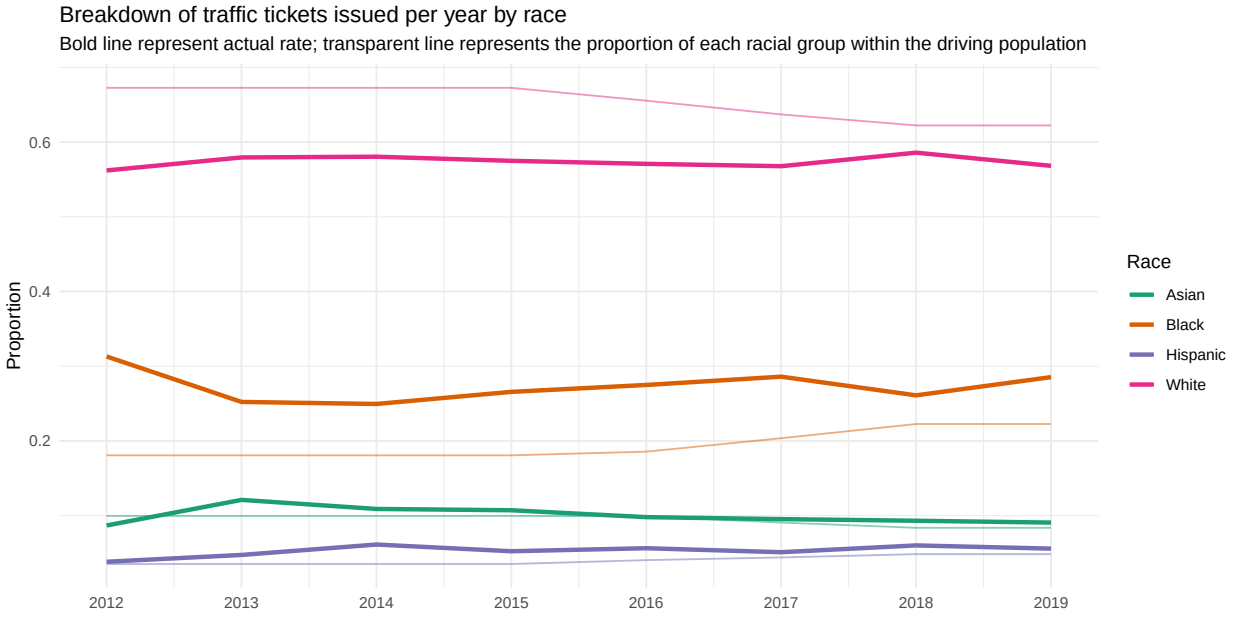


Figure 9: Proportion of warnings out of all less serious outcomes

```
## 2    38.9  2015
## 3    39.6  2016
## 4    39.2  2017
## 5    39.6  2018
## 6    39.0  2019
```

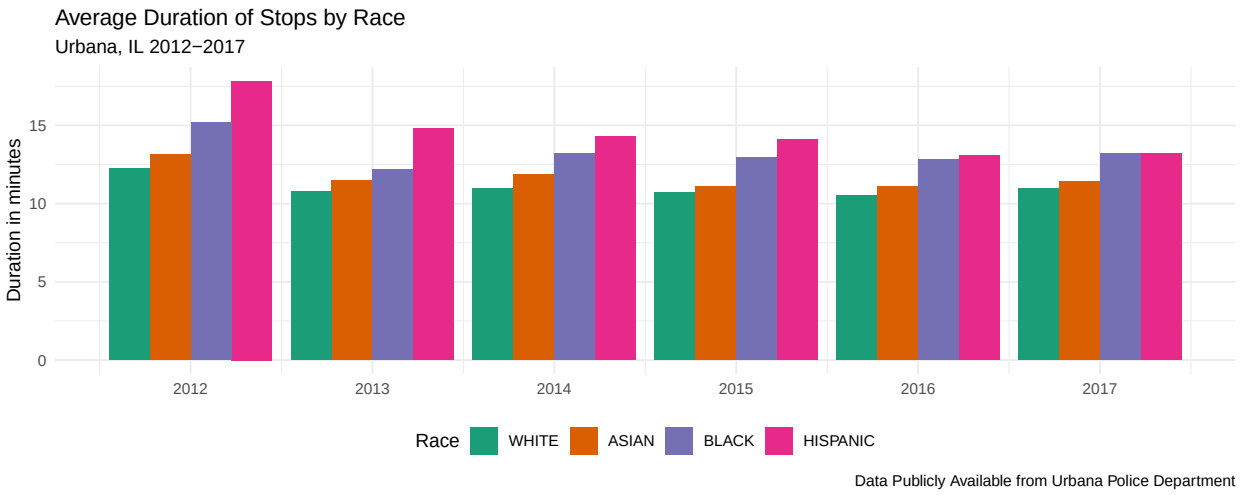
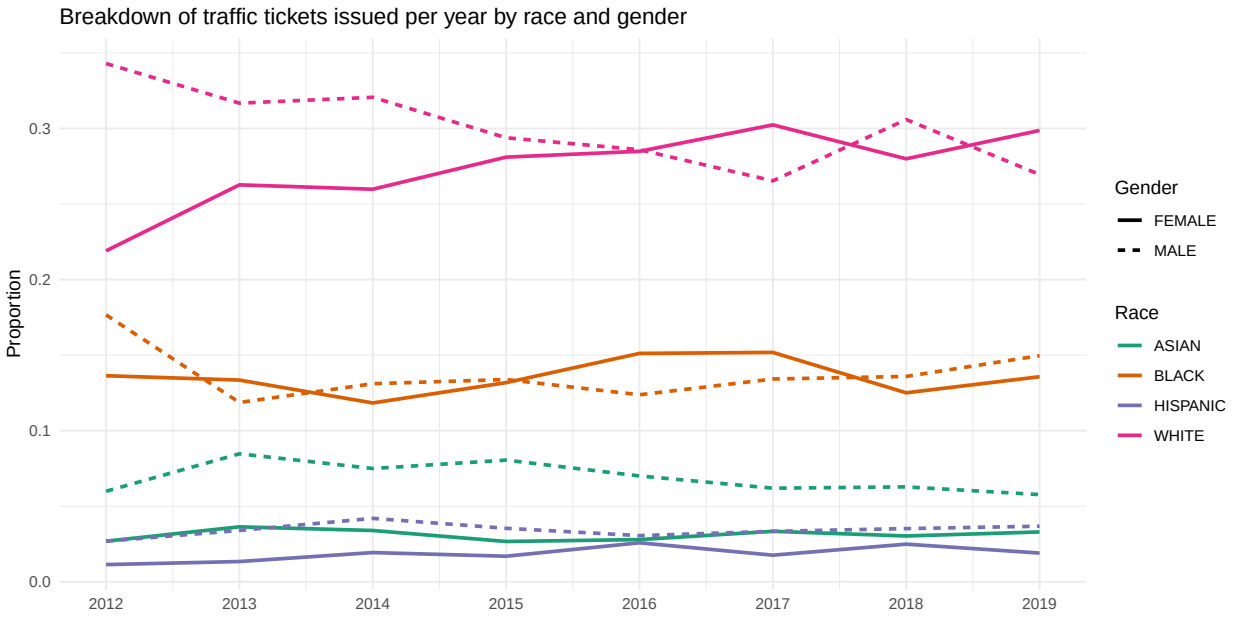
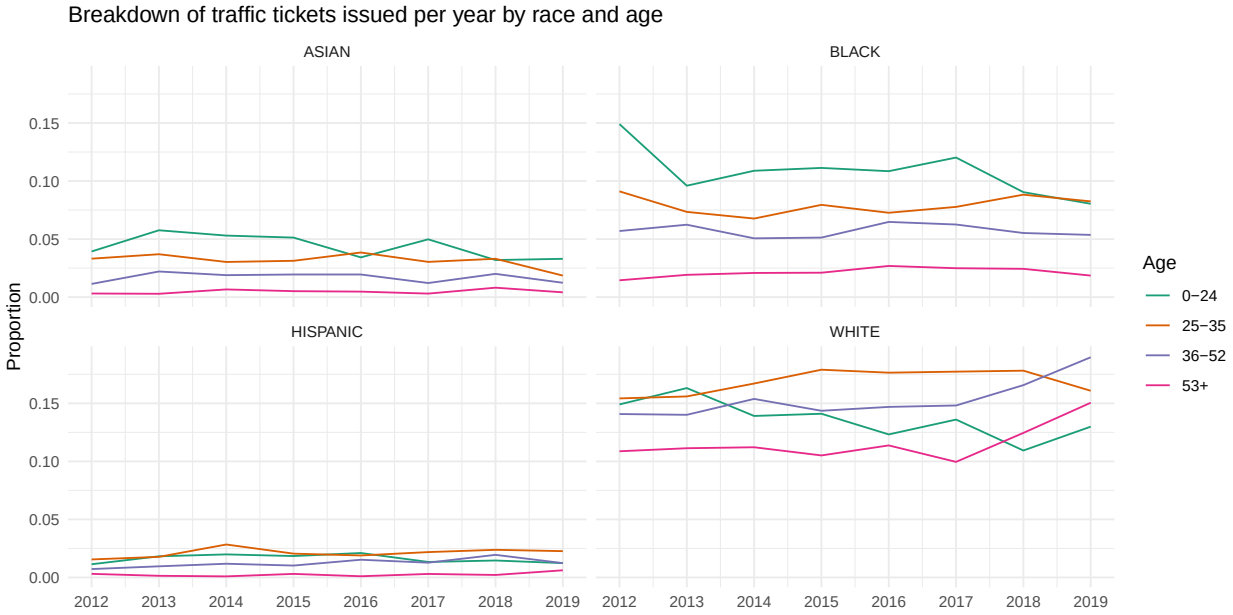


Figure 10: Average duration of traffic stop by race




Breakdown of traffic tickets issued per year by race and age
ASIAN
BLACK
HISPANIC
WHITE
Proportion
0.15
0.10
0.05
0.00
2012
2013
2014
2015
2016
2017
2018
2019
Age
0−24
25−35
36−52
53+