

Continuing Black oppression: Mapping Tulsa's drug arrests

Background

Currently, Oklahoma ranks second only to Louisiana in incarceration rate (Leins 2019). Despite an overwhelming white majority in the state, the prison population of Oklahoma is disproportionately represented by persons of color – and most disproportionately by Black people (Sakala 2014). Many of those incarcerated in Oklahoma, regardless of race were incarcerated on drug charges (Gentzler et al 2019). Given these data, indications point to a large number of persons of color incarcerated for drug crimes in Oklahoma.

The goal for this project, is to examine the drug arrests that occurred in Tulsa, Oklahoma in the year 2017, and compare the data with demographic data from the U.S. Census Bureau in order to determine if racial disparity exists across arrests within the city regarding drug charges.

Ethnicity/Race	Arrests Total	PctArrests by Race	Total Population	Total Ethnicity/Race	Percent of Total	
Hispanic	103	1344	7.66%	466001	59315	12.73%
White	761	1344	56.62%	466001	302687	64.95%
Black	472	1344	35.12%	466001	64865	13.92%
NativeAm	57	1344	4.24%	466001	26742	5.74%
Asian	14	1344	1.04%	466001	10951	2.35%
Unknown	40	1344	2.98% N/A	N/A	N/A	N/A

Table 1

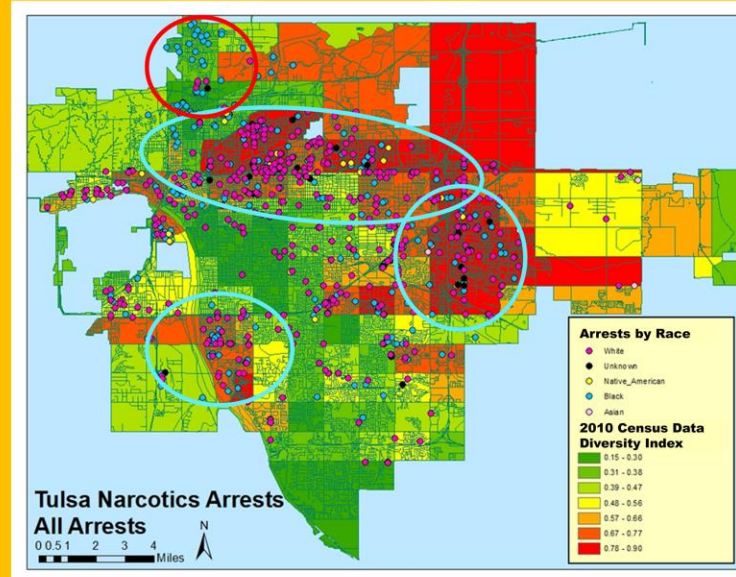


Figure 2

Research Questions

Thanks to the work of scholars like Alexander (2012), much light has been shed on the differential application of the law by police departments to people of color, especially Blacks, around the country. This study aims to refine the scale of such investigations to be applied at the city level. The Tulsa Police Department (TPD) provides the public a file of arrest records containing the necessary data for such an analysis. The questions that drive this poster relate both to the uneven application of the law, and to the methodology for creating the maps for analysis.

1. Given that Alexander (2012) establishes that all groups use drugs at the same rate; based on arrest demographics and U.S. Census block demographic data, are areas that are predominantly white, Black, Asian, or Hispanic more prone to seeing arrests for drug charges? And, how does this analysis compare to the raw statistics for the same parameters across Tulsa in 2017?

2. When the arrest data are plotted on a map with an underlying choropleth based on a racial diversity index calculated for Tulsa from the Census data, were the location of arrests more or less likely to occur in areas with greater racial diversity? In other words, did the racial diversity of the location increase the chances for drug arrests?

3. Can a generic Python script be generated to add the necessary fields, and calculate the diversity index so that with similar analyses of similar data sets available in other cities may be possible?

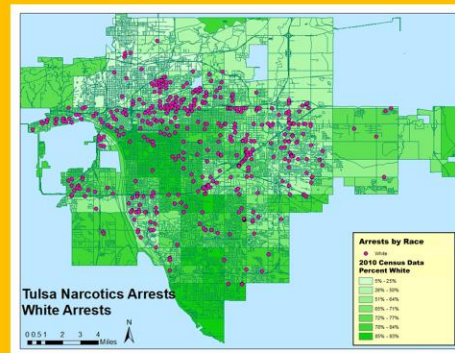


Figure 3

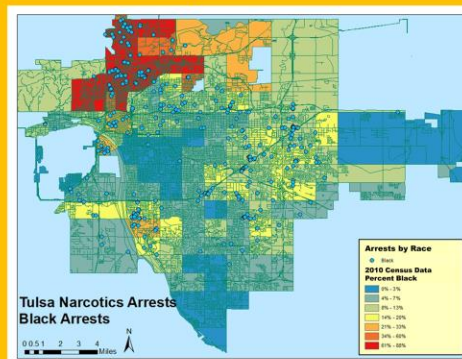


Figure 4

[illegible]

Figure 1

Methodology

The Tulsa Police Department (TPD) has arrest records available from 2012-2018 in an easy to organize .csv file; as a result, I opted to use Tulsa as the test case for a Python script applied to GIS that could be used to apply similar datasets to other cities. For this poster, the year 2017 was chosen from the set because it represented the median year of the TPD dataset in terms of number of drug arrests. However, the data from TPD was missing one key element to plotting the arrest data – zip codes. The first step then was to Google search each address and manually input the zip codes into the file. Then the table was added to Arc Pro.

Next, the Census block data from 2010 was added as a table to the base map of Tulsa created in Arc Pro. Then, through Python, I added fields to calculate percent population of Census blocks based on race according to the Census. Next, fields for DI were added and calculated based on the following formula:

Where Race= $\text{Pct_White}^2 + \text{Pct_Black}^2 + \text{Pct_AmInd}^2 + \text{Pct_Asian}^2 + \text{Pct_PI}^2$
Hispanic = $\text{Pct_Hisp}^2 + (1 - \text{Pct_Hisp})^2$

For the last piece of the Python code, an address locator was created, and the arrest plots were added to the base map. As an added piece of the analysis, I examined the TPD arrest data in Excel and created percentages of arrest for each race or ethnicity, and the percentage of the total population for each race or ethnicity.

Results

While more people identified by the TPD as “white” were arrested than any other group (761 or 56.62%), it bears noting that white people made up 64.95% of the total population of Tulsa in the 2010 Census (See Table 1). Furthermore, those identified as “black” by the TPD were arrested statistically more per capita than any other group (472 or 35.12%) while only representing 13.92% of the population. Additionally, as is apparent Figure 2, the vast majority of the arrests that occurred for any racial or ethnic category, occurred in areas with higher diversity index values – with one exception. North Tulsa, which is virtually homogenous on the diversity index, represented an anomalous number of arrests for Black people which can also be seen in the Figure 4. Furthermore, the homogeneously White zones of Tulsa represented the fewest number of arrests (Figure 3). Admittedly, there are absences in the data that could also be analyzed. For example, the median income for these areas should also be examined. Furthermore, the arrest data did not account for multiple count arrests, such as an arrest being made for a violent crime when the individual being arrested happened to have illegal drugs on their person. Also, the arrest records being analyzed were for 2017 while the Census data were from 2010. However, the Census data are the newest available with demographic data, and selection of 2017 was discussed in the methods section.