

# Oklahoma City MSA — Travel Demand Model

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## Data Overview

The following data was aggregated and computed from the 2021 ACS 5-year estimate, Longitudinal Employer-Household Dynamica dataset. An overview of the resulting dataset is provided below:

**Data Structure:** The sample table below shows the first 5 rows of our compiled dataset. Each row represents a census tract in the study area along with its corresponding variables and geometry. When necessary, this dataset can easily be grouped by county, pivoted by category, or mapped geographically.

```
## # A tibble: 5 x 40
##   GEOID   NAME tot_p~1 no_vehE total~2 hh_1p~3 hh_2p~4 hh_3p~5 hh_4p~6 hh_u1~7
##   <chr>   <chr>   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>
## 1 4002720~ Cens~    4371     6    1540    334    509    167    530    1028
## 2 4010910~ Cens~    2043    22     702    199    131    157    215    302
## 3 4010910~ Cens~     581     0      8      0      8      0      0      0
## 4 4002720~ Cens~    4021     0    2019    795    794    255    175    320
## 5 4002720~ Cens~    3238     9    1370    534    436    164    236    505
## # ... with 30 more variables: hh_u18_singleparent_maleE <dbl>,
## #   hh_u18_singleparent_femaleE <dbl>, hh_65plusE <dbl>, tot_disabledE <dbl>,
## #   inc_lt_10kE <dbl>, inc_btw_10k_15kE <dbl>, inc_btw_15k_20kE <dbl>,
## #   inc_btw_20k_25kE <dbl>, inc_btw_25k_30kE <dbl>, inc_btw_30k_35kE <dbl>,
## #   inc_btw_35k_40kE <dbl>, inc_btw_40k_45kE <dbl>, inc_btw_45k_50kE <dbl>,
## #   inc_btw_50k_60kE <dbl>, inc_btw_60k_75kE <dbl>, inc_btw_75k_100kE <dbl>,
## #   inc_btw_100k_125kE <dbl>, inc_btw_125k_150kE <dbl>, ...
```

## Data Definitions:

**GEOID** - Numerical ID for census tract  
**NAME** - Census tract, county, and state  
**tot\_popE** - Total number of people  
**no\_vehE** - Households with no vehicle present  
**total\_hhsE** - Total number of households  
**hh\_1personE** - Number of households with 1 person  
**hh\_2personE** - Number of households with 2 persons  
**hh\_3personE** - Number of households with 3 persons  
**hh\_4person\_plusE** - Number of households with 4 or more persons  
**hh\_u18\_married\_coupleE** - Number of households with a person under 18 and a married couple head-of-household  
**hh\_u18\_singleparent\_maleE** - Number of households with a person under 18 and a single male head-of-household  
**hh\_u18\_singleparent\_femaleE** - Number of households with a person under 18 and a single female

head-of-household

**hh\_65plusE** - Number of households with a person age 65 or older

**tot\_disabledE** - Number of people with a disability

**inc\_lt\_10kE** - Number of households with income less than \$10,000

**inc\_btw\_10k\_15kE** - Households with income between \$10,000 and \$15,000

**inc\_btw\_15k\_20kE** - Households with income between \$15,000 and \$20,000

**inc\_btw\_20k\_25kE** - Households with income between \$20,000 and \$25,000

**inc\_btw\_25k\_30kE** - Households with income between \$25,000 and \$30,000

**inc\_btw\_30k\_35kE** - Households with income between \$30,000 and \$35,000

**inc\_btw\_35k\_40kE** - Households with income between \$35,000 and \$40,000

**inc\_btw\_40k\_45kE** - Households with income between \$40,000 and \$45,000

**inc\_btw\_45k\_50kE** - Households with income between \$45,000 and \$50,000

**inc\_btw\_50k\_60kE** - Households with income between \$50,000 and \$60,000

**inc\_btw\_60k\_75kE** - Households with income between \$60,000 and \$75,000

**inc\_btw\_75k\_100kE** - Households with income between \$75,000 and \$100,000

**inc\_btw\_100k\_125kE** - Households with income between \$100,000 and \$125,000

**inc\_btw\_125k\_150kE** - Households with income between \$125,000 and \$150,000

**inc\_btw\_150k\_200kE** - Households with income between \$150,000 and 200,000

**inc\_gt\_200kE** - Households with income greater than \$200,000

**hh\_povlevelE** - Number of households below the poverty level

**total\_emp** - Total number of people employed

**basic\_emp** - Total number of people employed in the following sectors: Agriculture, Forestry, Fishing, and Hunting (CNS01) Mining and extraction (CNS02) Utilities (CNS03) Construction (CNS04) Manufacturing (CNS05) Wholesale trade (CNS06) Transportation and warehousing (CNS06)

**retail\_emp** - Total number of people employed in retail

**service\_emp** - Total number of people employed in remaining sectors

**land\_area\_sqmeters** - Land area in square meters

**geometry** - Geographic coordinates of census tract outlines

**pop\_density** - People per square meter (calculated)

**emp\_density** - Employees per square meter (calculated)

**activity\_density** - People and employees per square meter (calculated)

## Geography Overview

The Oklahoma City metropolitan statistical area (MSA) is composed of seven counties centrally located in Oklahoma: Canadian County, Cleveland County, Grady County, Lincoln County, Logan County, McClain County, and Oklahoma County. Across these counties there are a total of **363 census tracts** (based on the 2020 redistricting). The MSA has a total land area of approximately **1,427,523 square kilometers**. Together, these counties are home to 1,412,900 people, according to the 2021 ACS 5-Year Estimates. The Oklahoma City MSA makes up nearly 36% of the state's total **population of 3,948,100**.

The Oklahoma City MSA is predominantly white, with 63% of residents identifying as white alone, followed by 13.9% Hispanic or Latino, 10% Black, 3.1% American Indian and Alaska Native, 3.1% Asian, 0.1% Native Hawaiian and Pacific Islander. 37% of residents in the study are ages 35-64, 24.6% are under the age of 18, 24.4% are ages 18-34, and 14% are ages 65 and older. The median household income in 2021 was \$63,351 – higher than the statewide average and lower than the national average. Just over 14% of residents live below the poverty line – lower than the statewide average and higher than the national average.

**Transit** EMBARK, the area's transit authority, operates all public transit in greater Oklahoma City, which includes fixed-route bus service, the OKC Streetcar, paratransit service, river ferry transit, and a bikeshare network. Beyond transit, car-ownership and use is prevalent in the Oklahoma City MSA with only 2.6% of households reporting that they do not have access to a vehicle, and a median number of vehicles per household of 2.3. According to the 2021 ACS 5-Year Estimates, cars, trucks, or vans are the most common

means of transportation to work for workers 16 and over (used by 89.7% of respondents), while commuting by public transportation is far less common (used by 0.5% of respondents). Based on the same ACS data, the average travel time to work is 23 minutes.

**Employment** Major employment sectors in the Oklahoma City metro area include government, higher education, aerospace, healthcare, and retail. According to the Greater Oklahoma City Chamber of Commerce, major employers include the State of Oklahoma, Tinker Air Force Base, the University of Oklahoma, Integris Health, and Amazon. In 2021, the metropolitan area added 10,825 jobs (1.7% increase), and further job growth was expected in 2022 as stated in the 2022 Greater Oklahoma City Economic Outlook.

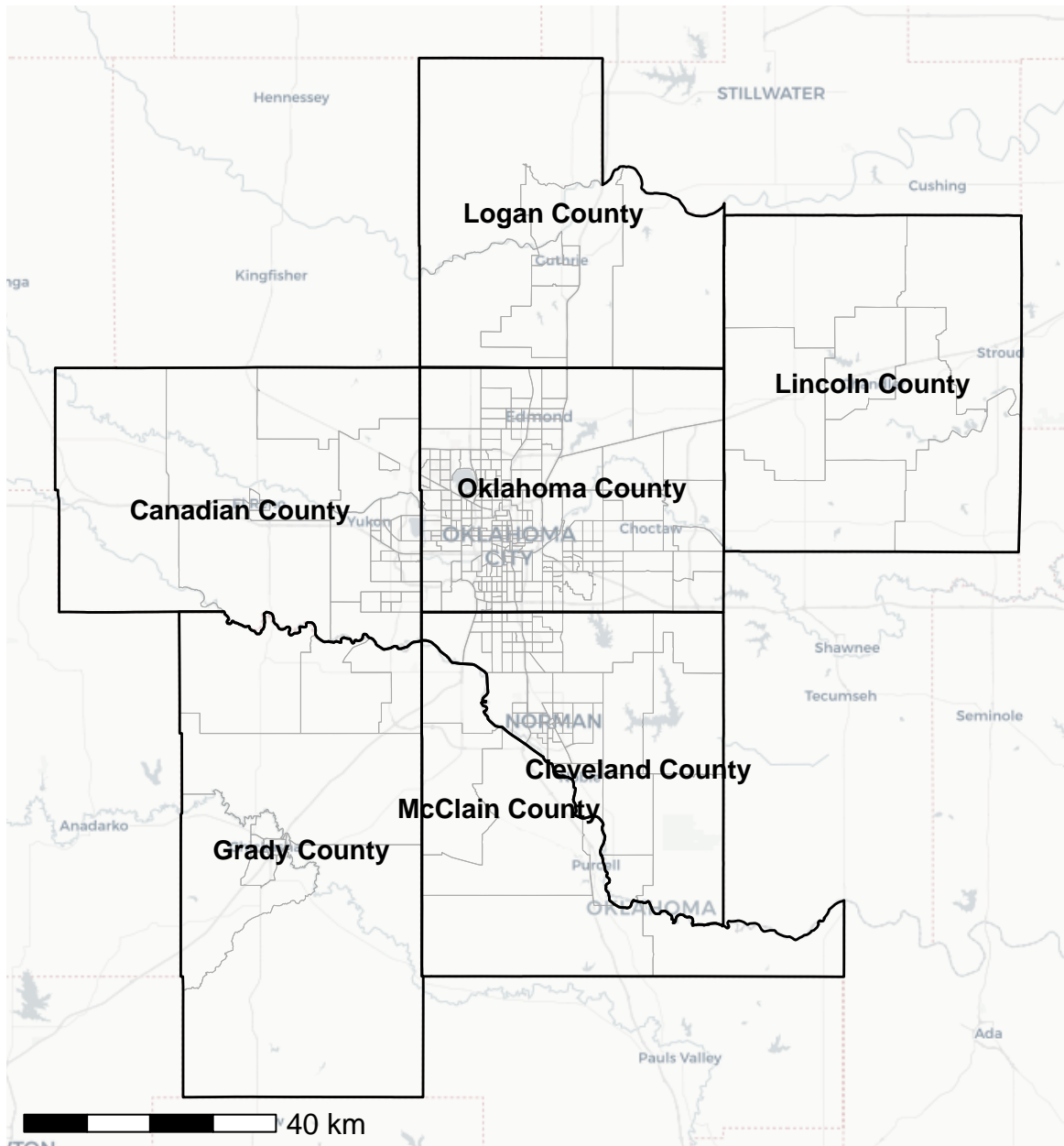


Figure 1: Map showing the counties and census tracts in the Oklahoma City MSA

## Densities

## Loading required namespace: raster

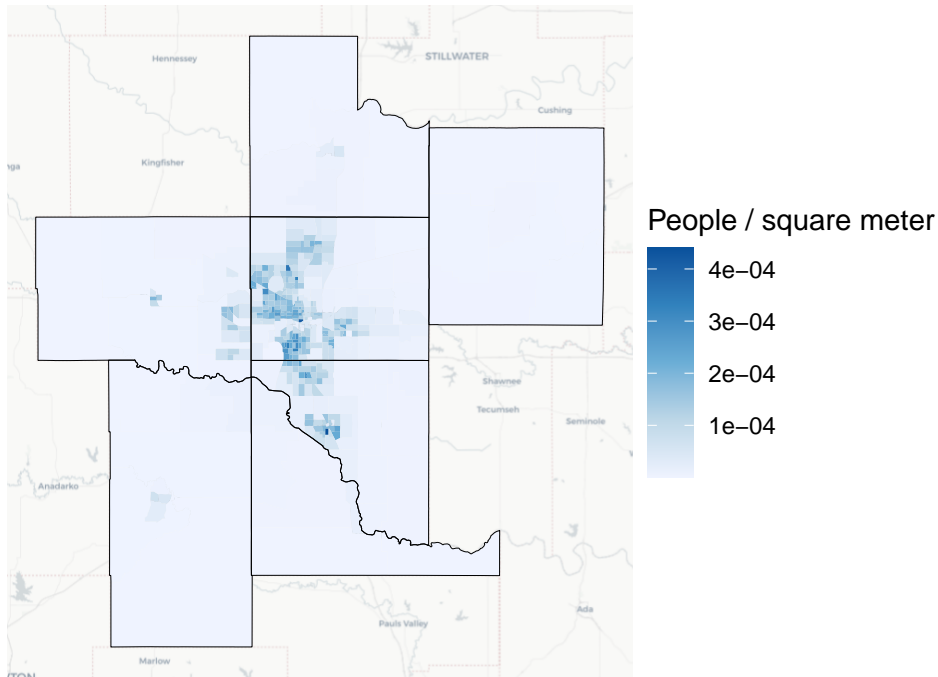


Figure 2: Map showing the population density in the Oklahoma City MSA

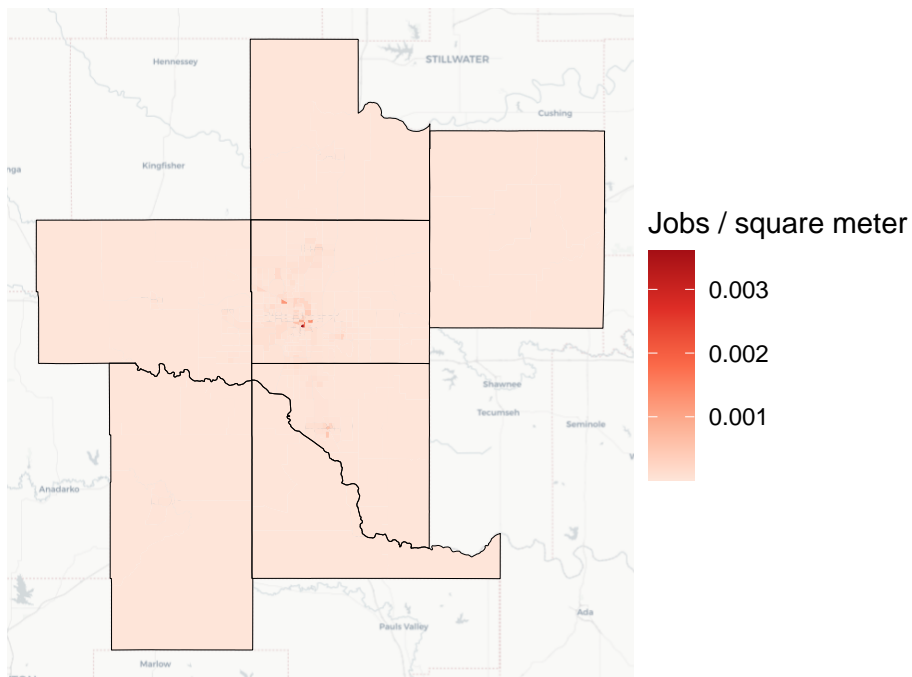


Figure 3: Map showing the employment density in the Oklahoma City MSA

# Employemnt & Income

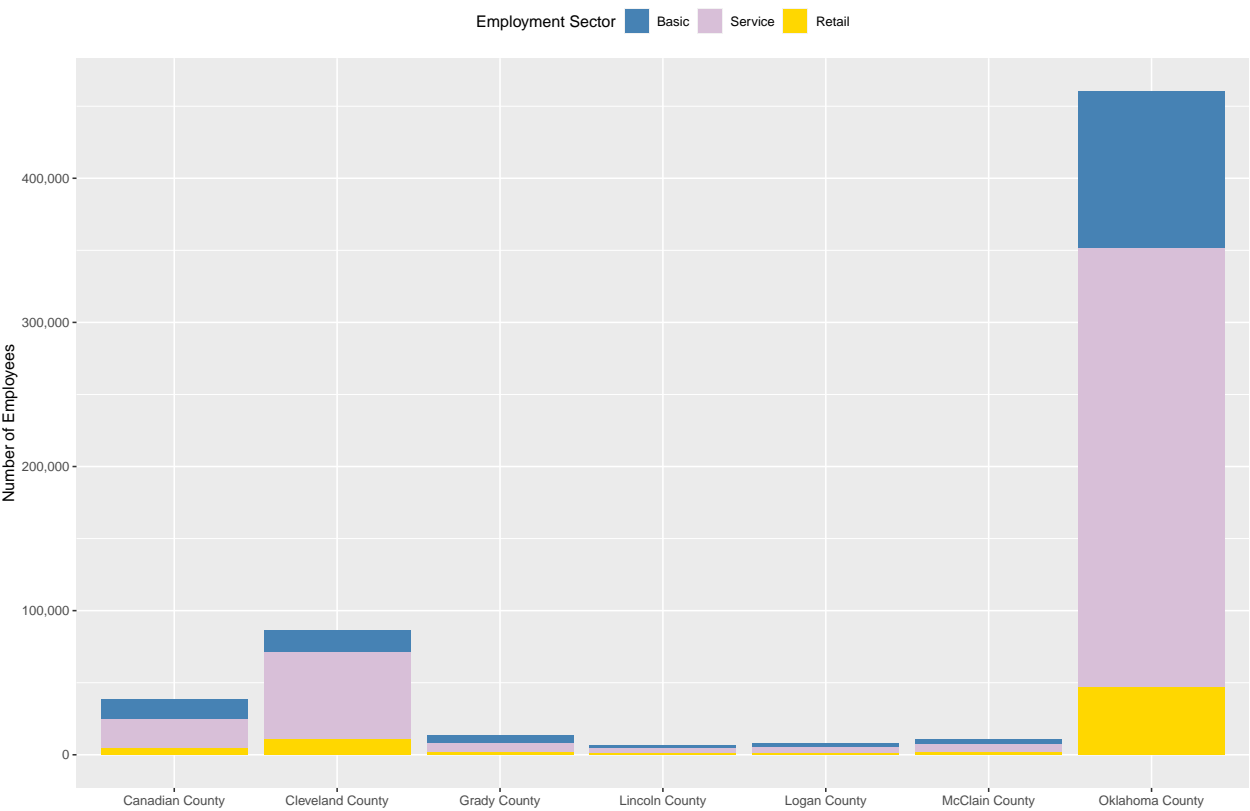


Figure 4: Employment by sector by county

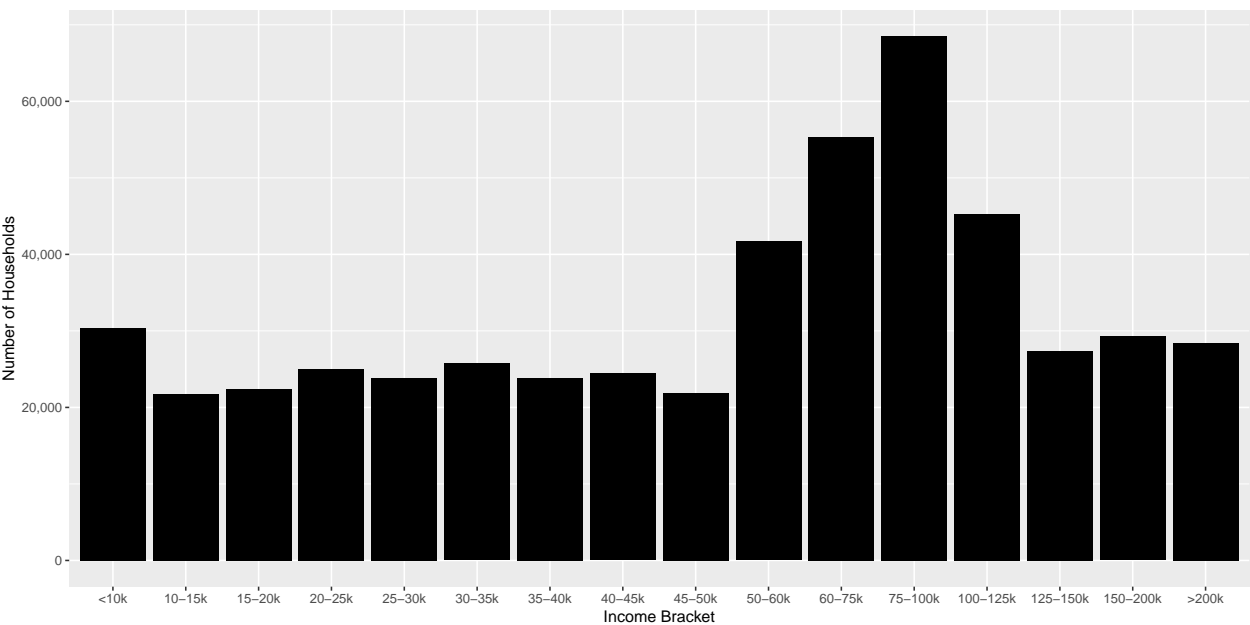


Figure 5: Distribution of households by income bracket

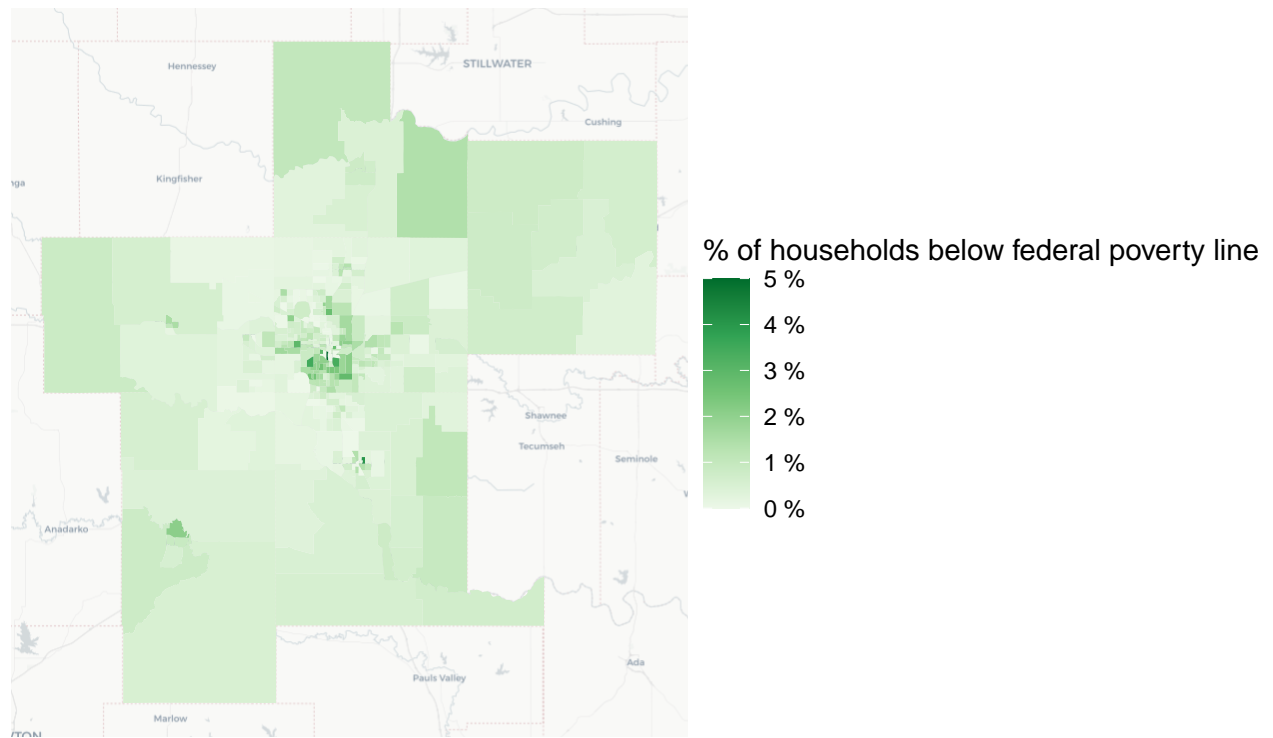


Figure 6: Map showing the spatial distribution of poverty in the Oklahoma City MSA

## Vehicle Ownership

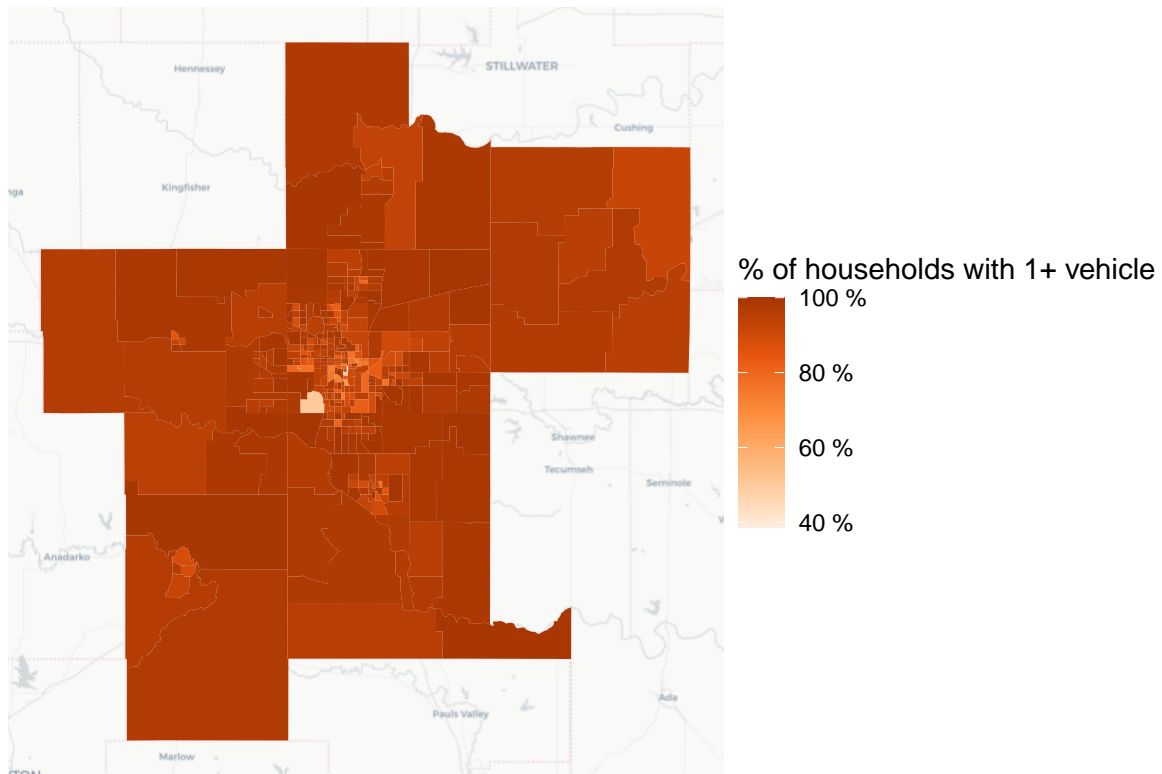


Figure 7: Map showing the spatial distribution of vehicle access in the Oklahoma City MSA

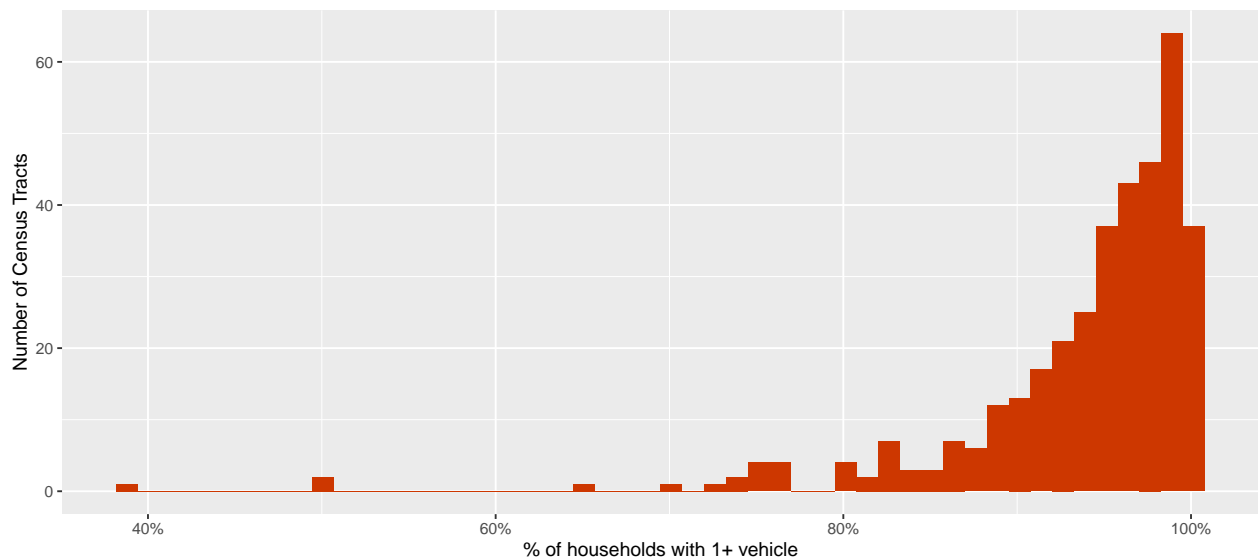


Figure 8: Distribution of census tracts by percent of households with access to a vehicle