

Utility Burdens in Knoxville Households

Forest Gregg

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Forty percent of Black households are utility burdened, and 50% of Black renters. Census tracts that have high proportions of Black households have much higher rates of utility disconnections.

Utility Burden

Here, we estimate the proportion of Knoxville households that are utility burdened, broken down by race and housing tenure. We use the 2019 1-year American Community Survey Public Use Microdata Sample. These are a [sample of the individual surveys conducted in 2019 for US Census's American Community Survey](#).

We limit our analysis to households that are located in the City of Knoxville and households where water, electric, or gas bills are not included in the rent or condo fees, but paid separately. Households that use wood, heating oil, or something else other than gas or electric for heating are excluded. To simplify the analysis we consider only households headed by a Non-Hispanic white person or Non-Hispanic Black person.

A household is utility burdened if the household's total water, gas, and electric bills is greater than 10% of the annual household income. The survey asks about last month's costs for electricity and gas, and for past 12 months' cost for water. Household income is reported annually. For this analysis, we annualize the monthly electric and gas bill costs. We only consider households where the utility burden is between 0% and 100% of their annual income. This excludes households with negative income and some households that do not report credible utility bills or annual income.

Table 1: Utility Burdened Households

Not utility burdened	Utility Burdened
0.77	0.23

Table 2: Utility Burdened Households by Race

	Not utility burdened	Utility Burdened
white	0.79	0.21
Black	0.60	0.40

Table 3: Utility Burdened Households by Tenure

	Not utility burdened	Utility Burdened
Owner Occupied	0.80	0.20
Renter Occupied	0.72	0.28

Table 4: Utility Burdened Households by Race, Owner Occupied

	Not utility burdened	Utility Burdened
white	0.81	0.19
Black	0.72	0.28

Table 5: Utility Burdened Households by Race, Renter Occupied

	Not utility burdened	Utility Burdened
white	0.77	0.23
Black	0.50	0.50

The differences in the proportion of households that are utility burdened between owner occupied households and renter occupied households and the differences between Black and white households are all statistically significant at the 95% confidence level.

Disconnections

Census tracts with higher proportions of Black householders have much higher rates of disconnections.

The Knoxville Utility Board provided counts of the number utility disconnections per census tract between October 1, 2020 and February 28, 2021. For ease of explanation, we annualize these counts, and limit tracts to ones that are more than 50% within the city limits of Knoxville.

Rates of disconnection are higher in the central city and historic Black neighborhoods (Figure 1).

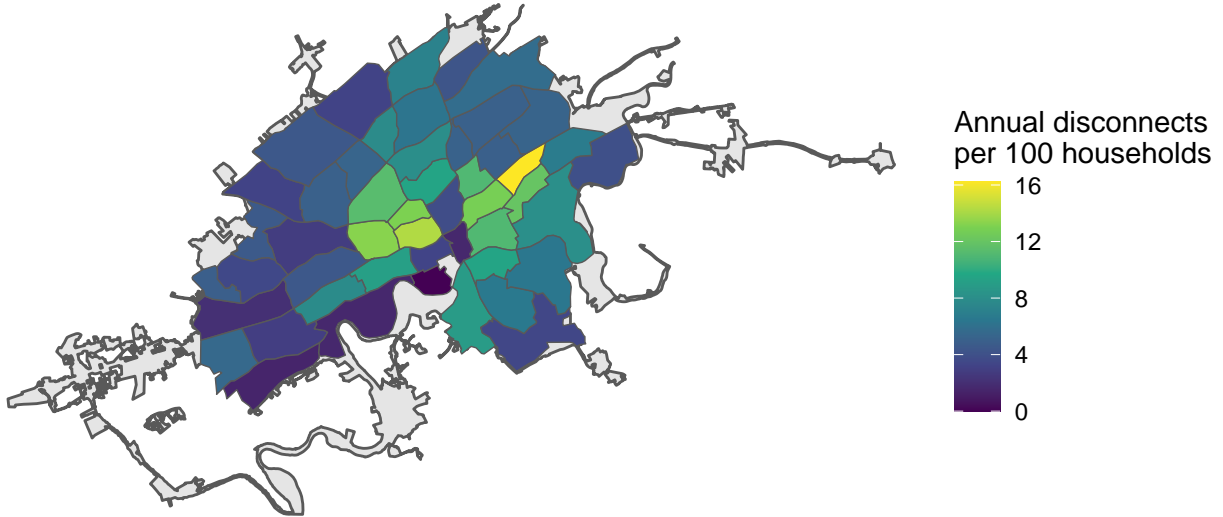


Figure 1: Knoxville Census Tracts

Census tracts with a higher proportion of Black householders have much higher rates of utility disconnection. On average, a census tract which is 20% Black householders will have about 7 disconnections per 100 households every year, while a census tract that is 80% Black householders will have about 14 (Figure 2).

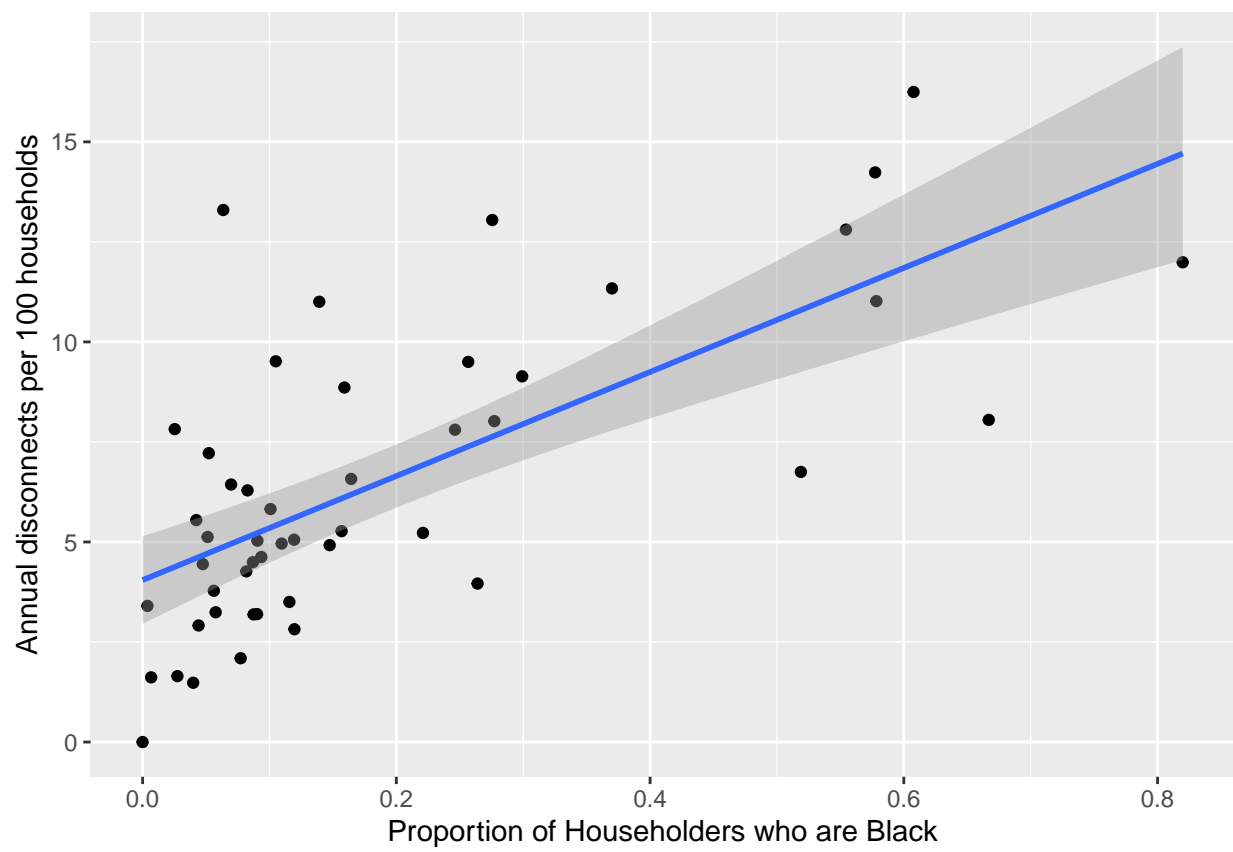


Figure 2: Rates of Disconnection and Proportion of Black householders