RACIALLY DISPROPORTIONATE SITING OF US INTERSTATE HIGHWAYS

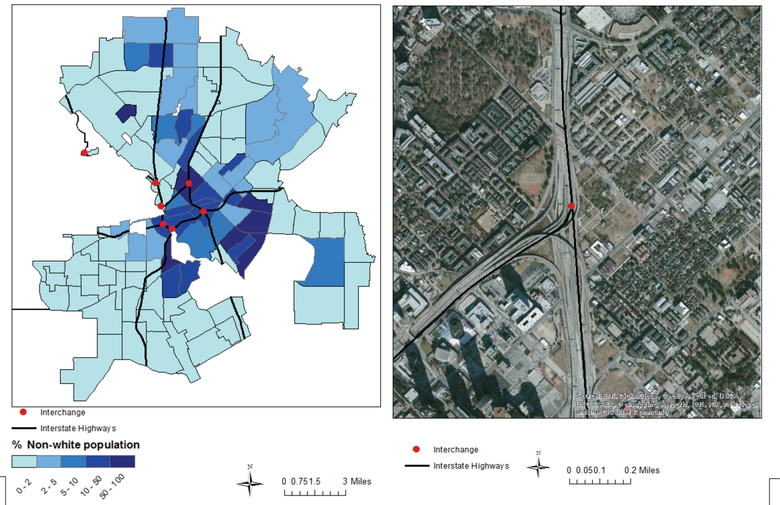
Overview

In the 1950s decision-makers in the United States started building a massive network of highways throughout the country courtesy of the Federal-Aid Highway Act of 1956. This period was also the peak of segregation of the black community in major metropolitan cities, and for the first time, a majority of African-Americans were living in urban areas. The use of racial zoning for housing accentuated the isolation of this population and increased the emergence of black ghettos.

The construction of highways in metropolitan cities often encountered resistance from local populations but interstates and interstate junctions were often constructed in the middle of black or other minority communities. Moreover, it has been demonstrated that decision makers in some metropolitan areas used highway construction as a tool to separate black or non-white communities from white communities. The consequences for the populations affected by the siting of highways were important: thousands of housing units were destroyed and thousands of people were displaced to outer parts of the cities.

In this project I am comparing with GIS the overall proportion of white and non-white populations in the 1950s affected by the construction of interstate highways.

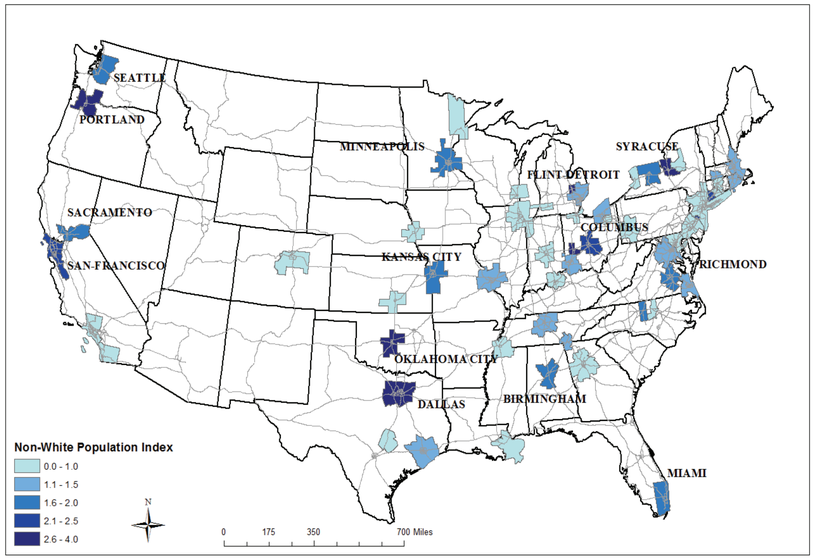
Interchanges in Dallas



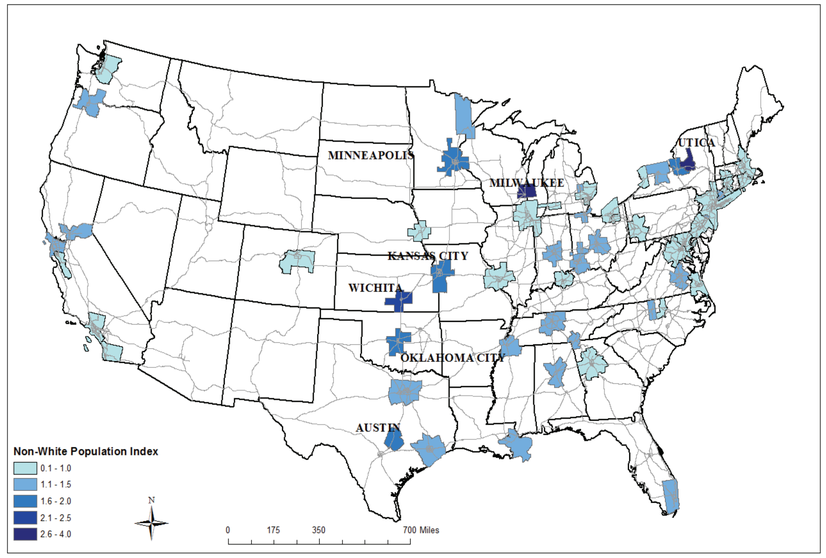
Results

The results show an interesting pattern. We can see that the areas where minorities (largely black communities) are the most affected are not necessarily situated in the South of the United States. However, qualitatively, we can see that the majority of metropolitan areas have an index superior to 1. Most of highways were therefore built in the middle of non-white communities. Cities such as Dallas, Portland or Oklahoma City have a high index of non-white population affected by the proximity of a highway junction. We can also notice that non-white communities are more affected by interchanges than by highways.

Population living near Highways Interchanges



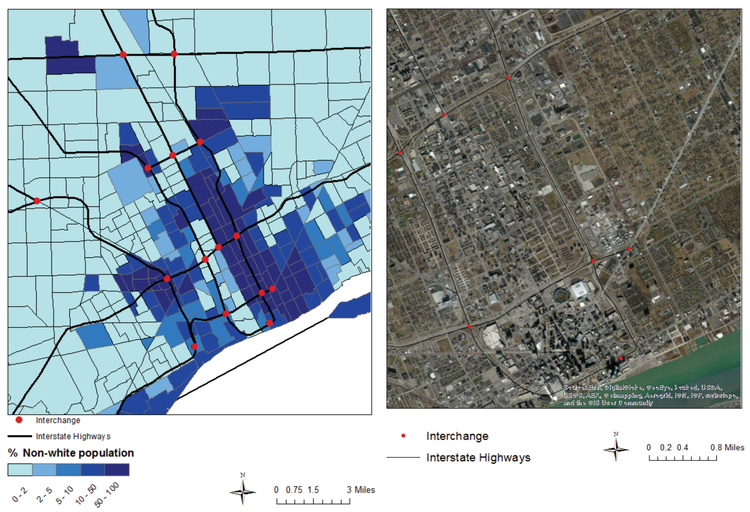
Population living near Highways



Methodology

For this project, I used the 1950 census data acquired from the National Historical Geographic Information System as well as the current U.S. National Transportation Atlas Interstate Highways data from the Bureau of Transportation Statistics of the U.S government. I decided to use the non-white census category instead of exclusively focusing on black populations because Chinese communities may also have been significantly affected by the construction of highways. First, using Network Analyst, I created a junction data layer locating the intersection of interstates and selected the tracts situated within 300 meters from those points in the entire dataset. Second, I selected the tracts that intersect interstate highways. The junction index and interstate index data created with the selected tracts were thereafter joined with current metropolitan area data in order to create the two large maps of the United States.

Downtown Detroit



Index of non-white population

The Indexes of non-white populations were calculated by the division of the fraction of non-whites in the selected tracts by the fraction of non-whites in the total metropolitan area: [(Non-White pop. selected tracts/Tot. Pop. selected tracts)/(Non-White pop. Metro/Tot. Pop. Metro).

Index number < or = 1 : the proportion of non-white population affected by the presence of highways/ Junction is equal or below the average.

Index number > 1 : the proportion of minority affected by the presence of highways/Junction is over the average. I have created two large maps of the United States: one showing the population affected by the construction of highways and another showing the population affected by the construction of a highway junction.

Projected Coordinate System: USA Contiguous Albers Equal Area Conic USGS version

Data sources:

- Highways: 2005, Bureau of Transportation Statistics of the U.S government, ESRI
- US 1950 Census: Minnesota Population Center. *National Historical Geographic Information System: Version 2.0.* Minneapolis, MN: University of Minnesota 2011, http://www.nhgis.org
- February 2013 Core Based Statistical Areas (CBSAs) for Metropolitan areas: United States Census Bureau

Poster bottom right: Washington, D.C., protest poster, drawn by Sammie Abbott, late 1960s D.C. Community Archives, ECTC Collection, Washingtoniana Division, D.C. Pub

Limits

One limit encountered in this project is that we do not have access yet to smaller census group. Indeed the 1950 census only provided us with tract-level data. Therefore, I was obliged to select entire tracts without the knowledge of the precise distribution of black communities within them. I used the current metropolitan area administrative data from February for the large maps because it provides us with a better visualization of those areas than if we were using metropolitan area data from the 1950s, which were considerably smaller in size.

Cartographer: Emilie Falguieres

May 6, 2013

THE FLETCHER SCHOOL
TUFTS UNIVERSITY