

Asthma Prevalence – Black and Latino Communities in the Bronx, NY

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KEY TERMS

- **Environmental Racism.** Environmental racism is placement of low-income or minority communities in proximity of environmentally hazardous or degraded environments, such as toxic waste, pollution and urban decay.
- **Racial Geography.** The embodiment of the role that the host population/group has in using racial ideology to dictate space by restricting access to opportunities and resources.
- **Environmental Justice.** The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.
- **Environmental Injustice.** Occurs when local governments or companies build environmentally detrimental infrastructure in minority communities. Not only do the communities suffer from the health effects of these projects, but their access to health care is also limited by the often rural and low-income nature of their towns.
- **Race and Place, in respect to Opportunity.** Racialized landscapes are still a sense of place for those who inhabit them, but this has an affect on opportunities: education, employment, healthcare, etc...

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INTRODUCTION

- Child (0-17) asthma prevalence rates for black children are almost double that of white children in New York State. Asthma death rates for blacks are well over two times that of whites in New York. (CDC)
- Race and place are involved in asthma-triggers, because they significantly depend on where people live. (Forno, Erick; Celedon, Juan C.)
- The Bronx has an increased number of waste transfer facilities and blighted public and private housing.
- These human-environmental issues along with unjust non-enforcement of environmental policies correlate with increased asthma prevalence among children of color in the Bronx.
- Disparity in access to a quality environment has had an increasingly negative impact on the health of low-income blacks and Latinos.

LITERATURE REVIEW

- Historically, blacks and Latinos have endured urban settlement patterns that affect issues of poverty, race, and class... (Margai)
- Current communities of color in the Bronx are exposed to Asthma triggers inside and outside of their homes due to poor indoor and outdoor air quality... (Forno, Celedon)
- There is poor implementation of decent quality housing for New York City Housing Authority (NYCHA) tenants, who are, for the most part, low-income African-Americans and Latinos... (Klein, Torres)
- Proximity to highways with heavy truck traffic is correlated with worsened asthma symptoms... (Spira-Cohen; Chi Chen; Kendall; Lall; and Thurston)
- Black and Latino New Yorkers more likely to go to the emergency room for asthma care... (NYCDOH)
- Children in low-income neighborhoods are more likely to be hospitalized for asthma than children in high-income neighborhoods... (NYCDOH)

RESEARCH QUESTIONS

1. How does geography impact racial/income correlated health disparities, such as discrepancies in asthma prevalence?
2. Why are asthma rates in black and Latino communities in the Bronx significantly higher than asthma rates in the rest of the country?

HYPOTHESES

- There is disparity in asthma prevalence/exacerbation between low-income blacks/Latinos and wealthier whites in the Bronx.
- Asthma hospitalization is an issue for Bronx public housing residence with children.
- Environmental racism is existent with respect to the placement of toxic waste-transfer facilities in the Bronx.

STUDY AREA



- Population (2015): 1,455,444 (Census, Bronx)
- White Alone: 10.2% (2014), Blacks: 43.5%, Hispanic or Latino: 54.8% (Census, Bronx)
- Median household income (in 2014 dollars), 2010-2014: \$34,284 vs. NYC median household income: \$52,737 (Census, Bronx)
- Owner-occupied housing unit rate, 2010-2014: 19.1% (Census, Bronx)

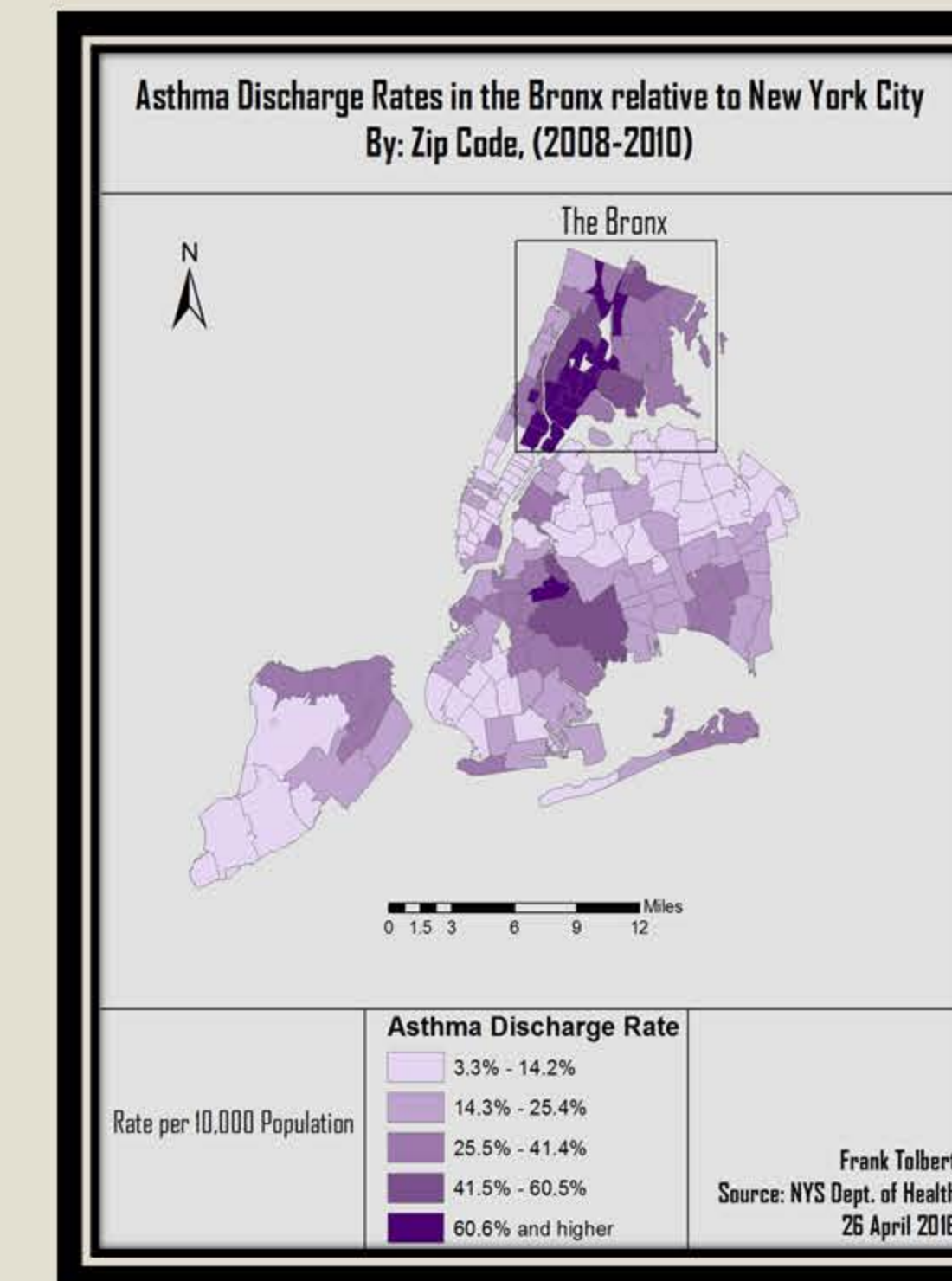
RACIAL DISPARITY AND GEOGRAPHY

- The black settlement pattern, evident in the Bronx, has remained hyper-segregated, environmentally stressed, and urban. Polluted landscapes are some of the contributing factors of health disparity in the black community. Due to similar socio-economic settlement patterns, Latinos face similar health disparities, with conditions like Asthma. These spatial patterns in settlement tell stories of long-held health, socioeconomic, and racial disparities... (Margai)

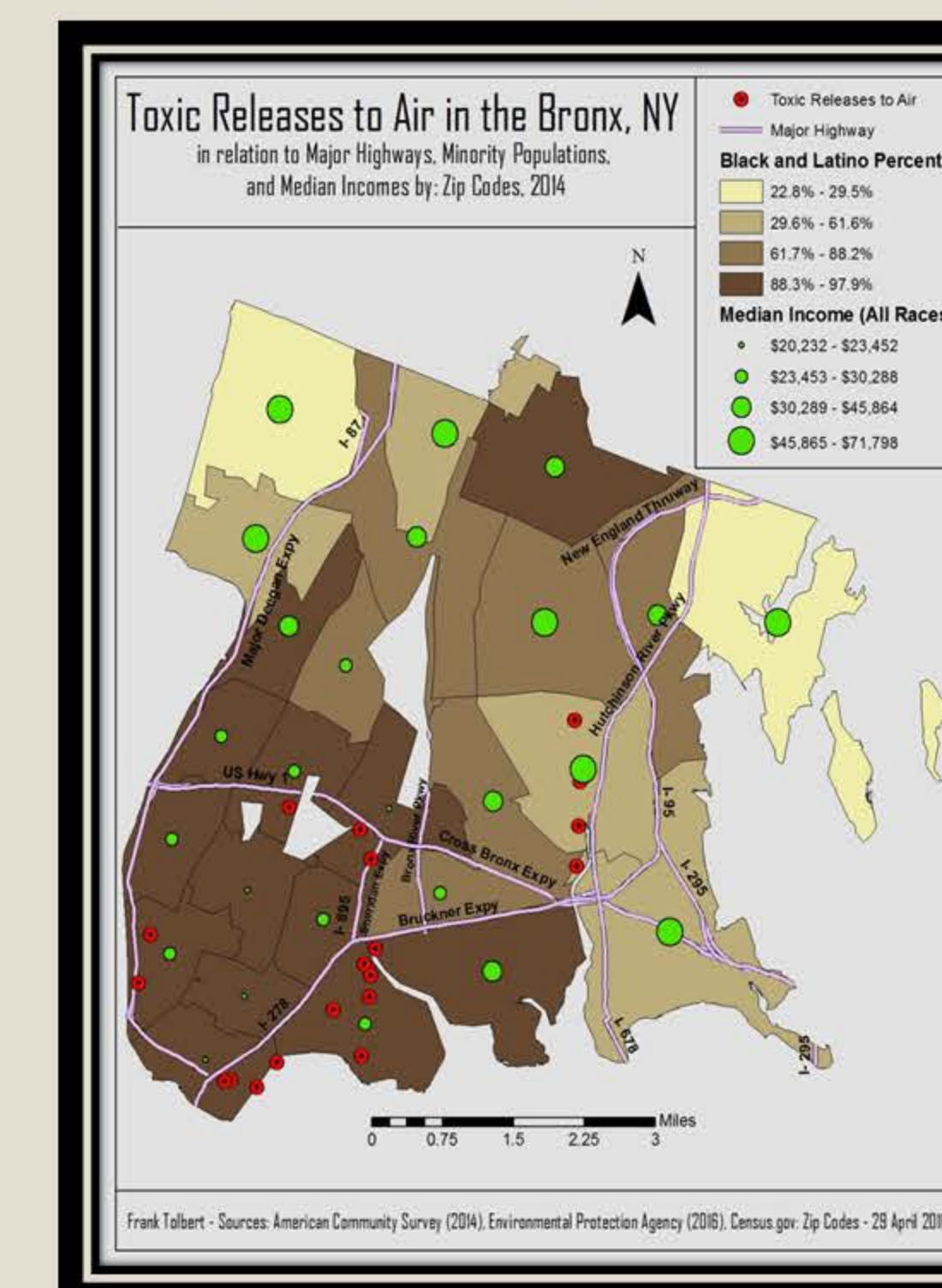
METHODOLOGY

- **Data Acquisition Sources:** New York State Department of Health, Environmental Protection Agency, American Community Survey, Census.gov: NYC Zip Code Tiger File
- **Variables of Study**
 - Asthma discharge rates in The Bronx in relation to the whole of New York City.
 - Asthma discharge rates in relation to NYCHA public housing developments, major highways, and toxic releases to air in the Bronx.
 - Toxic releases to air in relation to major highways, median income, and minority population in the Bronx.
 - Waste Transfer Facilities in relation to median income and minority population in the Bronx.
- **Method and Data Analysis:** Quantitative data showing asthma discharge rates, median incomes, and black and Latino percentages.

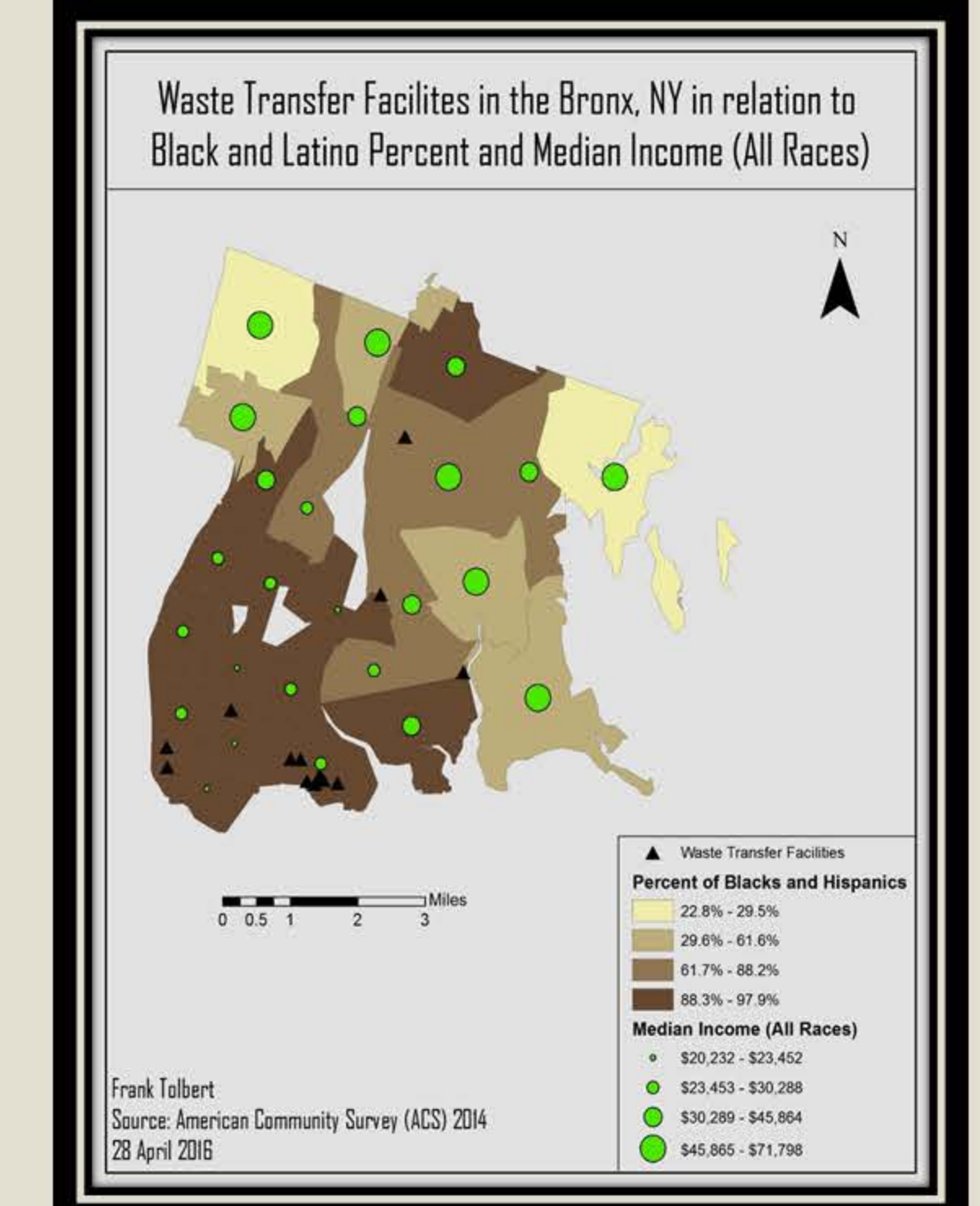
DATA RESULTS



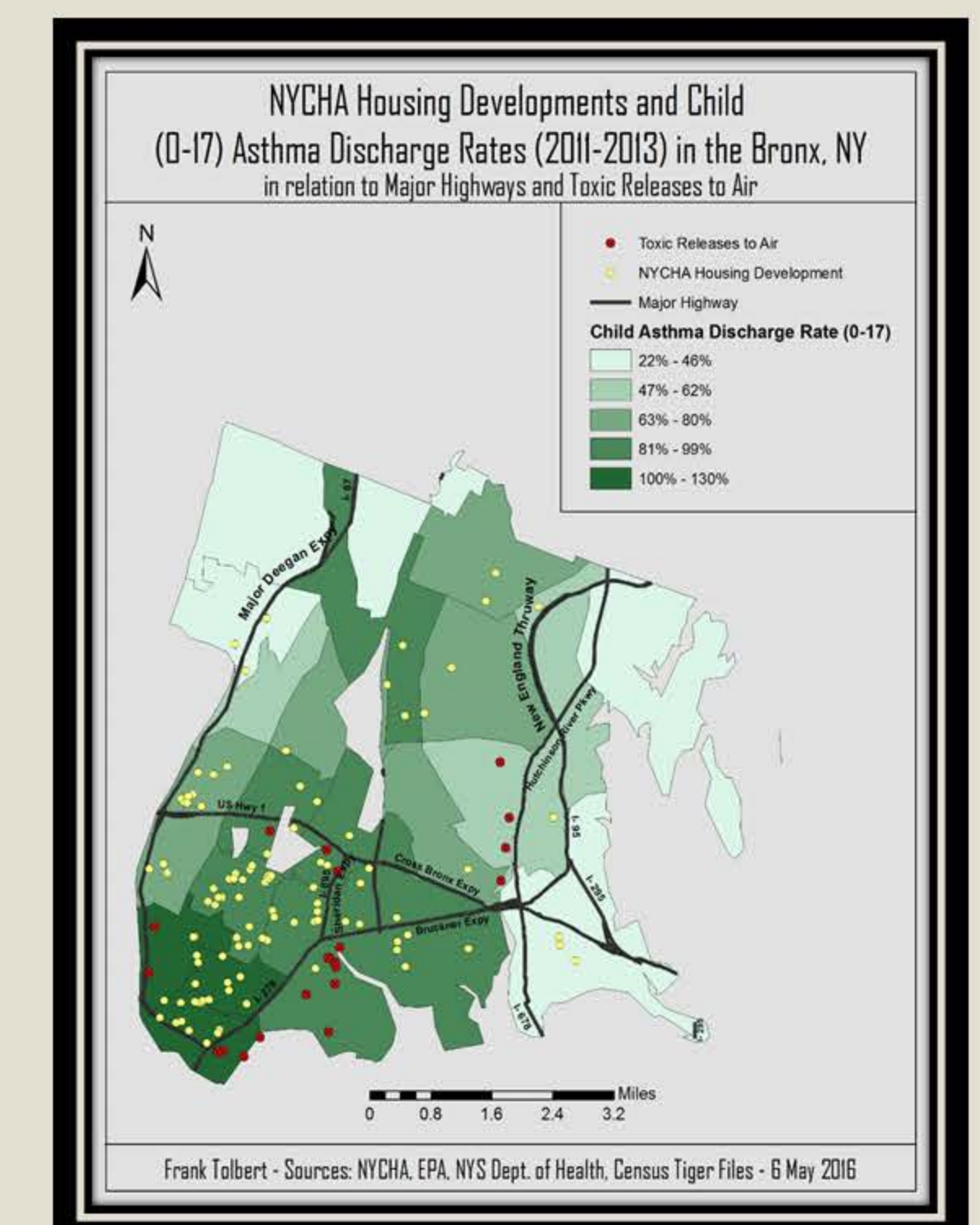
- Asthma discharge rates are disproportionately increased in the Bronx in comparison to all of New York City.
- Asthma discharge rates are notably higher in the southern Bronx.



- The most toxic chemicals released into the air are around major roadways like I-278, I-895, the Sheridan and Bruckner Expressways, and the Hutchinson River Parkway.



- Waste Transfer Facilities (WTFs) are primarily located in areas of the Bronx where there are high populations of blacks and Latinos. WTFs are also located in areas with the lowest median incomes.



- NYCHA public housing residents are concentrated in the southern Bronx within a boundary of major highways and areas with higher child (0-17) asthma discharge rates.

DATA ANALYSIS

All hypotheses supported:

- Residents of the Bronx face higher rates of discharge from the emergency room in the Bronx in comparison to any other NYC borough. Discharge rates do not exactly mean there is a higher prevalence of asthma, but it does mean that the residents with asthma in that area are facing exacerbated asthma symptoms.
- The placement of waste transfer facilities in the Bronx is primarily in low-income areas with very high black and Latino populations (Hunts Point, NY). This is environmental racism, by definition.
 - Waste transfer stations require truck traffic to actually transfer the waste along major roadways like the Hutchinson River PKWY and Bruckner EXPY. Children, who commute and live near these major roadways, have higher risks of exacerbated asthma, which could correlate with the Bronx as the borough with the highest asthma discharge rates.
 - Almost 1/3 of NYC's trash is handled at waste transfer facilities in the South Bronx... (Crean, New York Environment Report)
- NYCHA houses almost 600,000 residents through public assistance and section 8 programs (NYCHA). The majority of these residents' apartments are within the boundaries of major highways in the vicinity of the most toxic releases to air in the Bronx.
 - Most of these apartments are also located in areas with the highest child asthma discharge rates in the Bronx, showing how children (0-17) from underserved communities are suffering from asthma exacerbation.

CONCLUSIONS

- Air pollution threatens public health and safety, specifically in low-income neighborhoods of color.
- The way New York City has dealt with the transfer of waste has been environmentally unjust by the location of waste transfer facilities in minority populated areas.
- There must be investment in cleaner power generation.
- Remedies?
 - Clean energy challenge grants – Incentive to fight air pollution by the government, would be very beneficial to combatting asthma exacerbation for black and Latino communities in the Bronx, and all of New York City.
- The results of this study all indicate that geography impacts health disparities between low-income black and Latino populations in comparison to wealthier white populations through correlations between environment and human settlement patterns.

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