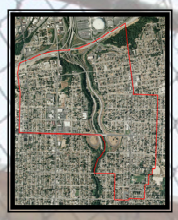
McKinley Elementary: Environmental Justice

UNIVERSITY OF WASHINGTON TACOMA

Statistical Data

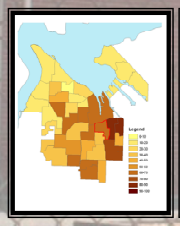
(Obtained from GIS maps & supplemental research)

McKinley Elementary School District

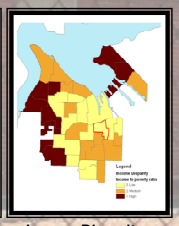


We investigated the McKinley Elementary area. While driving around the area, we noticed a number of environmental injustices from waste hazard sites, to high traffic areas next to residential neighborhoods and school zones. Census data reveals direct correlations between ethnicity, income level, and education level to environmental injustices associated with the area. We will show these environmental injustices, as well as potential for differential exposure to the McKinley neighborhood residents.

Demographics: McKinley Elementary District



Percent Minority



Income Disparity

•The percent minority in the McKinley, Tacoma site is 60-70 %. This is relatively high for Tacoma.

•Areas with a higher percent minority population often contain more immigrants, lower incomes, and an array of social and economic conditions making them more susceptible to environmental injustices.

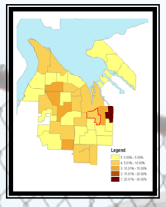
•Income level for residents in the McKinley Elementary School area is low compared to Tacoma as a whole.

•According to *Poverty and Schooling in the U.S.* by Sue Brooks, "poor children do not just happen to get sick more than other children and suffer more health problems; they are made sick by the places they are forced to live."

•In low-income neighborhoods more inhabitants live in older houses that are not safe. As a result children are exposed to lead and asbestos.

•There is a high correlation between boys who have high lead levels in their blood and aggression, depression and anxiety; much more so than their peers- contributing to the cycle of poverty (Brooks, pg. 38-39).

Children in Poverty



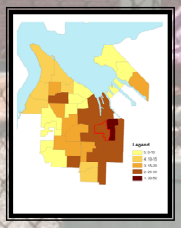
•The State of Washington's Children 2008-2009 Poverty and the Future of Children and Families in Washington State" report refers to children as "poor" if they live in families below 100 percent of the federal poverty line ($21,200 for a family of four in 2008) and "near-poor" or "low-income" if they live in families below 200 percent of the poverty line ($42,400 for a family of four in 2008).

•5% -10% of children in the McKinley Elementary School area live below poverty level.

•In contrast, statistics from the Office of Superintendent of Public Instruction for the State of Washington show that 70% of students attending McKinley Elementary in 2008 qualified to receive free lunch (OSPI).

•To be eligible for free school meals family income must fall within 130% of income/poverty guidelines (OSPI).

Percent of Residents with Less than a High School Education



•The level of education for 20-30% of the residents in the McKinley Elementary School area is less than high school.

•This is high, and an indicator of poorer economic conditions

•According to "The State of Washington's Children 2008-2009 Poverty and the Future of Children and Families in Washington State" report, students from low-income families are less likely to graduate from high school on-time.

•For the 2005-2006 academic year, just over half (58 percent) of low-income students graduated from high school on-time compared to over two-thirds (70 percent) of all students. (Pfingst et al., pg. 9)

Observational Data

(Obtained from multiple site visits & supplemental research)

Transportation

I5 & McKinley

I5 Entrance proximity to Elementary fence

•The bold red line on the map depicts I-5 which straddles the northern parameter of the McKinley School District.

•Every day 186,000 vehicles travel the I-5 corridor both north and southbound, spewing about 50 pounds of exhaust pollutants every 100,000 miles .

•With this amount of traffic directly below McKinley Hill, and a wind that appears to be prominent from the northeast, vehicle emissions, amongst other particles and air pollutants, are carried into the McKinley Elementary School District.

•For residents: 186,000 cars x 2 miles = 372,000 miles. 372,000/100,000 = 3.72 lbs. 3.72 pounds x 50 lbs. = **186 pounds** of exhaust pollutants **per day** or **67,890 pounds per year**.

Zoning & Use

•McKinley District is primarily zoned single family dwelling (R2), as indicated by the shades of yellow.

•Although, there are three main arterials; 38th Street, McKinley Avenue, and Pacific Avenue, they are zoned both commercial (C) and hospital/medical (HM).

•Thus, a mix of residential and commercial in close proximity (Govme, 2009).

•The area which abuts the freeway, located on the north parameter of McKinley School District, is zoned multi-family (R4), and serves as a buffer between single family dwellings and, in the this case, the I-5 freeway, downtown and industrial (Port of Tacoma).

Other Urban Pollution Sources

Two of the Many Auto Repair Shops in the Area

•Many of the homes in the area are visibly older and low income, making them more likely to use wood burning stoves as their heating source.

•Wood burning stoves are a major contributing factor to polycyclic aromatic hydrocarbons (PAHs), which account for 78% of air pollution in the district (USA Today, 2008).

•An inordinately high number of auto repair shops release pollutants such as used motor oil and other auto fluids that can contaminate soil, and water supplies if allowed to run off to streets and down storm drains.

•Low flying cargo planes frequently follow a flight path directly over McKinley elementary. These planes emit nitrogen oxides, which, when reacting with moisture and other compounds, can leave particles in the air, and cause damage to lung tissue and other serious health effects.

Environmental Equity

Poor Nutritional Options

The Environmental Feel of The Area…

•The air quality around McKinley Elementary School is terrible. Out of 127,809 schools in the nation, only 1335 have worse air quality than McKinley Elementry (USA TODAY, 2008).

•Contaiminants in the air included incredibly high levels of PAH's, Diisocyantes, Chromium, and Sulfuric Acid: all likely carcinogens in humans (USA TODAY, 2008).

•The lower income minority population is situated closer to the Elementary School, Auto Shops, and constantly busy roads. This constantly exposes them to a host of related pollution issues and terrible air quality. Higher income areas were surrounded by a buffer of low income areas and tree lines.

•Minority groups tend to have more children and less income, accounting for the number free school lunches (Zakaria, 2008).

•Grocers within walking distance of the low income area contained only very poor sources of nutrition. Healthy food and groceries were available at local stores, but specialization along ethnic lines leads to them not being universally utilized.

•Low income populations not only have fewer nutritional options available, and thus are less healthy, but are also less likely to have access to health care. This creates a persistent and tragic cycle of inequality (Brown, 2009).

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