## Mapping Environmental Justice



**Blog for Air Justice** 



When Air Justice asked UofL's <u>Center for GIS</u> to map the inequities of air pollution exposure in and around Louisville, their team turned to the Environmental Protection Agency (EPA)'s Environmental Justice (EJ) Screen. The EJ Screen determines areas in America that are most at risk for environmental injustice by examining geographic relationships between environmental factors with social and economic factors.



This map featured on the Air Justice website shows where people living in Louisville are most likely to experience poor air, water, and soil quality, and adverse health outcomes. To understand who in our city bears the most environmental injustices, the EJ Screen also accounts for where people have less access to city, state, and federal resources to relieve those burdens.

The map is divided into Louisville Metro Council Districts and shows that the districts most affected by environmental injustice are Districts 1-6, or those areas that border Rubbertown and the airport.

The EPA defines **environmental justice** as "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." "Fair treatment" is the difference between environmental justice and injustice in that **"no group of people should bear a disproportionate share of the negative environmental consequences** resulting from industrial, governmental, or commercial operations or policies."

The fight for environmental justice is important because, currently, certain groups of people do bear a disproportionate share of the negative environmental and health outcomes that come from industry and policy. Around Rubbertown, for example, is populated primarily by communities of color as well as by households that identify as low-income.



To visualize these environmental injustices, the EPA adds together multiple environmental factors, such as how near people are to:

- $\cdot$  Air pollution
- Hazardous waste facilities
- $\cdot$  Heavy traffic areas
- Wastewater discharge
- Lead paint
- Underground storage tanks
- Superfund sites, or areas the US government has determined as majorly polluted and requiring a long-term clean-up response

Added to those environmental concerns are multiple socioeconomic factors in an area, such as the presence of:



Lyndon

- Diversity, or % of people of color
- Low-income households
- Unemployment rate
- Limited English-speaking communities
- Less than high school education rate
- Number of people under age 5
- Number of people over age 65

When you place environmental factors and socioeconomic factors together, a trend emerges across the nation: areas of high pollution, like Rubbertown, are in areas populated primarily with people of color and with people who live in low-income households. So, the "injustice" component of "environmental injustice" expands on centuries of systemic racism and classism in our country.



Photo by Markus Spiske on Unsplash.

As mentioned, Louisville has areas within the city that follow a greater trend of environmental injustices. Air Justice's main map summarizes EJ Screen information to the districts where environmental injustice is present in the city of Louisville. If you divide those districts into census tracts, or smaller subdivisions of an area used to calculate the number of people living there, then the inequity of environmental concerns becomes even more clear.

You can **visualize that trend in the map below that shows the EPA's EJ Screen data by census tract** in Louisville. For instance, District 3, or the Shively and Taylor Berry areas, is an important example. The entire district is marked as one of the greatest environmental justice concerns. If you look closer at the area divided into tracts, you see that some areas within the district experience more environmental injustice (shown in dark blue) than others (shown in light blue). So, streets that surround bourbon distilleries like Brown-Forman and Stitzel-Weller experience more environmental injustice than those farther away.

Louisville

Shawneeland



If we consider **different types of air pollution, like air toxics, the map reveals even larger disparities** between South-West Louisville and East Louisville. The map below charts an individual's level of exposure to air toxins in the city, with dark red indicating the highest level of exposure to air pollution, pink and brown indicating moderate exposure, and white indicating the least exposure.



Map showing risk of exposure to particulate matter and air toxics in Louisville.

These are some examples of why **maps are an important tool for seeing how environmental exposure and risk are not equal.** Even as we discuss data and maps, it is important to remember the families and individuals behind data points and maps who live with environmental hazards.

Air Justice combines stories and science when we talk about air pollution, working to center real, lived experiences, not just numerical data.

## For More Information:

About the **EJ Screen,** visit <u>the EPA's website</u>.

About the creation of **Air Justice maps,** visit <u>UofL's Center for GIS</u>.