

Tree Planter Bias

Essay 2

Cities often experience a "heat island" effect, which means that they are about 10C hotter than the areas around them because of the pavement and asphalt that soak up and radiate heat. One of the best ways to counteract the "heat island" effect is to plant trees¹ Therefore many cities across the United States have goals of increasing their percentage of canopy cover in the coming decades.

Your home town is proposing a bill to help shade the downtown area. Trees and landscaping projects are expensive so they don't want to plant trees in areas where they will die or be cut down to make room for new development projects. The legislature is also aware of studies that show that in many cities wealthier neighborhoods get more tree cover than the poorer neighborhoods² and is proposing an algorithm to ensure that the trees are planted in a way that both maximizes the tree's chance of survival and controls for wealth disparities.

The algorithm they propose would take the following factors into consideration when proposing places to plant.

- List of all potential locations in the municipality
- Neighborhood boundaries
- Average life span of trees in each neighborhood
- Probability of development based on neighborhood real estate values
- Pollution levels (pollution kills trees)
- Condition of roads and sidewalk
- Number of parks per neighborhood
- Homeless population
- Percentage of electric wires above ground in each neighborhood
- Average space between sidewalk and street in each neighborhood

Based on the list of inputs to the algorithm above what potential biases may be present in the system? Consider at least three of the factors listed above.

Remember to put your name on your work!

¹<https://www.theguardian.com/environment/2020/aug/26/us-cities-trees-heat-equitable>

²<https://tinyurl.com/y777h3f5>