

Urban Environment and Perceived Safety of Cities

Members - Shalmali Kulkarni/Patrick Mwangi/Akshay Penmatcha/Priyanshi Singh/Achilles Saxby

Relevance of the Study

Fact - Social science literature has shown a strong connection between the visual appearance of a city's streets and the behavior and health of its citizens.

Question - What makes people feel that a street is safe, and what do those perceptions tell us about different streets, neighborhoods or cities?

Why? - The quality of our surroundings – is it down to the architecture, the width of the street, the amount of greenery? Or are there other, subconscious factors at play on our perceptions?

Reason - The study explores the elements of physical environment contributes to the perceived safety of the streets, neighborhoods and cities.

Problem Statement

- How does 'Streetscore' - a measure of perceived safety relate with physical environment (building heights, street widths, lighting conditions and other factors), urban physical activities (biking & walking), demographics (population density, socio-economic factors, etc.) and more importantly with actual safety (crime & traffic incidents)?
- The study further compares the *streetscores* that differ variously in five important cities of the country (New York, Chicago, Boston, Philadelphia and Detroit) of the United States to understand the dynamics of city's safety.

Methodology

The basic dataset of streetscore - a measure based on an algorithm that predicts the perceived safety of streets which has been obtained from MIT Media Lab would be used in addition to US Census data, crime data and other open datasets. The streetscore dataset has limitations, but the study tries to work within the limitations and explore machine learning techniques to complete and use the analysis.

Way Forward

The analysis could be further used to direct the safety measures and physical interventions for different neighborhoods. A better-looking city could probably help reduce crime, increase physical activities thus creating a safer and healthier city.

Contribution

Each member would work on one city to understand the connection between various factors of urban environment and perceived safety. The analysis for one city would be done by each member and later would be compiled and compared.