REMOTE SENSING EDUCATION, RESEARCH, AND APPLICATIONS

IndianaView PROJECT FACT SHEET

http://www.indianaview.org

Implementing the 3-30-300 Rule for Urban Greenspace in Indiana Communities

Dr. Adam Berland, Ball State University (amberland @bsu.edu), and Olamide Ayeni, Ball State University

Overview: The 3-30-300 rule is a guideline for urban greenspace provision that promotes human wellbeing. It states that each building should have a view of at least 3 trees, each neighborhood should have 30% tree canopy cover, and residents should live within 300 meters of a public greenspace. As this rule was established recently¹, there is little guidance about how each component should be measured for benchmarking purposes². We used publicly available geospatial data to pilot a 3-30-300 rule measurement protocol for Indiana communities, using Evansville as our study site.

3 trees visible from every building

- Lidar data capture detailed elevation data. We used lidar to map treetops and model the extent of land area visible from individual buildings. Then we overlaid those layers to count the number of trees visible from each building.
- 85.5% of buildings had a view of at least 3 trees.

30% tree canopy cover in each neighborhood

- We mapped tree cover by combining lidar data and colorinfrared air photos to determine features that are both tall and green, which distinguishes trees from other features.
- 16.5% of census block groups in Evansville had at least 30% tree canopy cover.

300 meters to the nearest public greenspace

- We used network analysis to map areas within 300 meters of a public park, cemetery, or school playground.
- 33.3% of Evansville buildings are within 300 meters of the nearest greenspace.

<u>Summary</u>: Our project is among the first to measure a community's progress toward meeting the guidelines of the 3-30-300 rule. This approach can be implemented in Indiana communities using publicly available geospatial data.

FOR FURTHER READING:

- ¹ Konijnendijk CC. 2022. Evidence-based guidelines for greener, healthier, more resilient neighbourhoods: Introducing the 3-30-300 rule. *Journal of Forestry Research* 34: 821-830. <u>https://doi.org/10.1007/s11676-022-01523-z</u>.
- ² Browning et al. 2023. Measuring the 3-30-300 Rule to Help Cities Meet Nature Access Thresholds. URL: <u>https://ecoevorxiv.org/repository/object/5594/download/11012/</u>.



Figure 1. An example from the high-resolution tree canopy cover classification (green), which contributes to the 30 component of the 3-30-300 rule.



Figure 2. An example of public greenspaces (green) and their 300-meter service areas (gray). About one-third of Evansville's buildings are within 300 meters of a public greenspace.