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CITYLAB

MAPS

Mapping the Urban Tree Canopy in Major Cities

MIT's Treepedia reveals where the streets are greenest, and which ones could use more work.

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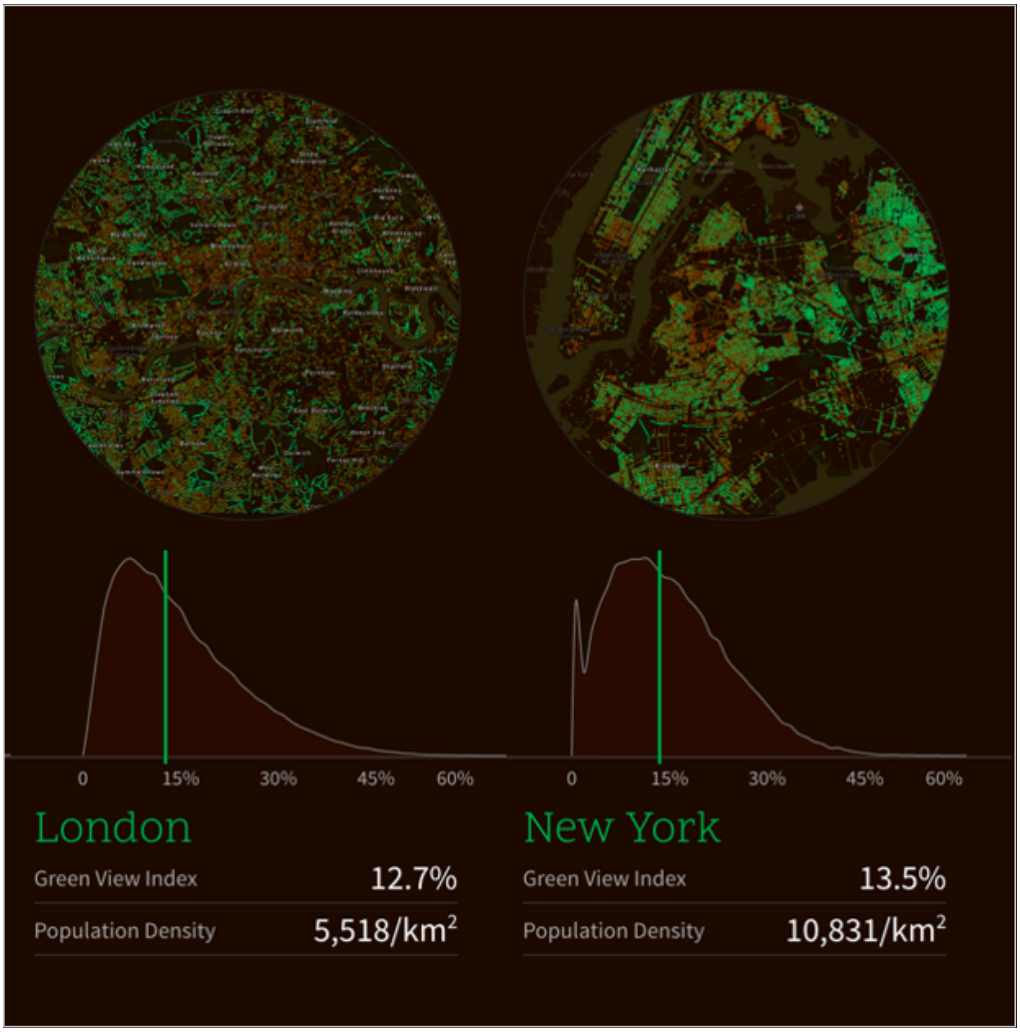

Sensible City Lab

Which cities have the greenest streets? MIT's Senseable City Lab is pushing toward an answer to this question with a new project called Treepedia. A map website that catalogues the density of the tree canopy in 10 global cities, Treepedia uses information from Google Street View to create what it calls the Green View Index—a rating that quantifies how green a street view looks according to the number of trees it contains.

Rating a huge number of street corners for the relative greenery of their appearance, Treepedia also allows browsers to click on a series of dots that reveal street view images of the location in question. The result is one of the most detailed catalogs of urban greenery available.

For anyone who loves to explore the texture of cities, the maps are certainly an engaging browse—and that engagement is the point. The project's overarching goal is to make issues of urban and environmental planning (and the data that underpins them) more accessible for non- or semi- professionals.

"The green canopy is an important and integral part of urban life," Senseable City Lab's Carlo Ratti says in a press release:

> **Trees help mitigate extreme temperatures, provide a natural respite from traffic, noise, and congestion, and improve the quality of life for those living in urban environments. However, the average citizen is often removed from understanding the individual features of their unique environmental habitats. How, then, can citizens be better engaged in this process so that they can play a more integral role in helping to shape the green canopies in their neighbourhoods?**

Arguably the chief beauty of the idea is just how citizens can put it to use. It's a uniquely direct way for city tree-lovers to view, explore, and assess the variety and density of tree cover in their hometowns, highlighting areas worth particular preservation as well as tracts with a special dearth of greenery. The project still has some obvious limits. It isn't an inventory of every urban tree. Relying on Street View for its information, it leaves out areas inaccessible to Google's visual register, most notably the parks and gardens where most urban trees are concentrated.

So Treepedia's Green View Index should not be taken as a reflection of the actual greenness of a city as a whole, but more a signal of how far a city has gone in greening its street spaces to their full capacity. Anyone campaigning to increase the tree canopy in New York, for example, can see instantly that, while

tree cover is generally decent across the city, the worst served districts are, Midtown Manhattan, Hunts Point in the Bronx, southwestern parts Brooklyn, and along the Newtown Creek between Brooklyn and Queens. (Green indicates tree coverage, brown indicates a lack of tree coverage in surveyed areas, and black indicates areas that have not been surveyed yet.)

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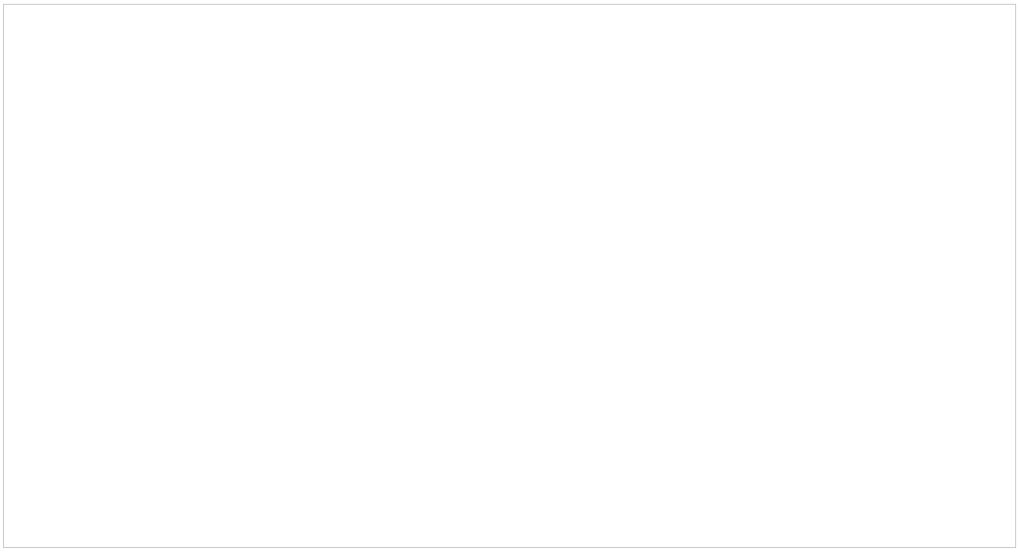
There are some surprises along the way. The maps reveal that the the lowest tree densities of any of the cities measured is actually Paris. That's not necessarily a sign of things gone too far awry, as Paris also has by far the highest population density among the 10 cities, inevitably leaving less free space for greenery. Indeed its residents are concentrated nearly twice as densely (at 21,000 residents per square kilometre) as in its nearest competitor on the list, New York (which has a little over 10,800 residents per square kilometer).

What should concern Paris more, the map reveals, is the poor distribution of tree cover across the city. Beyond a few northern boulevards, Paris's densest

tree cover is overwhelmingly concentrated in the city's southern sections and around the city border (note that the blank patches in the northeast reflect a lack of entries on the map, rather than a lack of trees per se). Given the often narrow streets on the Seine's Right Bank, that's perhaps to be expected, but it makes abundantly clear where new street tree plantings are most needed.



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London's map, by contrast, is far more evenly seamed with the green dots that signify a denser tree cover, though a closer look makes it clear that the east and northeast are relatively bare of trees—unacceptably so given that many of the streets there are quiet and residential, with potential space for sidewalk greenery. It's instructive to compare this picture with the city earning the highest Green View Index score: Vancouver, which scores an impressive 25.9 percent tree cover in surveyed locations.

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The city has worked so hard at sowing paths of green along its streets that only one small area comes across as underserved by its tree canopy: the warehouse-filled district at the northern end of the Mount Pleasant neighborhood. Even here, a closer look at Street View shows that the city is hitting this area with fresh plantings. If other cities could replicate this level of commitment to greening even unprepossessing areas, then many urbanites could find themselves living lives that were greener, cleaner and altogether more pleasant.

About the Author

Feargus O'Sullivan is a London-based contributing writer to CityLab, with a focus on Europe.

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