

CASE STUDY

CITY OF LEXINGTON, KY



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EXECUTIVE SUMMARY

PlanIT Geo completed an urban tree canopy assessment for Lexington, Kentucky in August of 2022. The city had 23% canopy coverage in 2020, up from 20% in 2012. The completion of this assessment coincided with support from within city government and a large network of stakeholders to measure and expand Lexington's urban forest. Lexington City Council approved a \$1.5 million dollar investment in 2022 to promote further canopy expansion and a semi-formal target of 30% canopy cover has been adopted.

We spoke with Heather Wilson, Program Manager Sr. – Urban Forestry at the City of Lexington, to learn how their urban tree canopy assessment and [TreePlotter™ CANOPY](#) software is being leveraged to support department objectives and guide efforts towards 30% canopy cover.



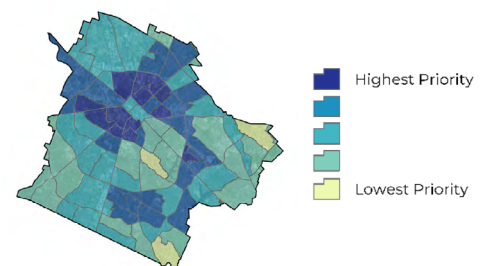
WHAT IS THE HISTORICAL CONTEXT OF LEXINGTON'S URBAN FOREST?

The city of Lexington covers an area of 286 square miles and is located in the central bluegrass region of Kentucky, known for rolling hills, karst topography, bourbon, and a thriving horse industry. Lexington, with its long history of agriculture and horse farms, is characterized by large open green fields dotted with stately savannah trees species such as bur oak, chinquapin oak and blue ash and fence rows of native hackberry, black cherry, Kentucky coffeetree and elm.

Due to so much of the land surrounding Lexington being devoted to horses and agriculture, large swaths of Lexington's urban core had low tree canopy. As farmland has been developed, tree canopy has increased as new trees are planted alongside new housing.

WHAT ARE SOME OF THE KEY CHALLENGES FOR URBAN FOREST MANAGEMENT IN LEXINGTON?

There is clearly a need for urban tree canopy in the northern area of Lexington, and this has long been a priority for the city. The area is faced with industrialization and neighborhoods were designed with small houses, small lawns, and large amounts of impervious surfaces. Many residents in the area have lower incomes and cannot take on the added expense of purchasing or maintaining new trees. We have focused on finding public land planting opportunities to increase canopy and the associated benefits without creating a financial burden for residents.



Average income by census tracts, one of 17 criteria used to develop a planting prioritization map.

Stormwater is another challenge. Lexington's watersheds all flow to the center of the city, so there is a major opportunity for the urban forest to support stormwater management. Inspired by this challenge, a bioengineer in the Division of Engineering launched [Reforest the Bluegrass](#) in 1999, an annual volunteer tree planting event focused on protecting local waterways. The event has run every year since.

We still have to ask for money to plant trees and fight for budget increases and donations. Having tree canopy data, which offers true, researchable numbers has helped move those conversations forward in all the right ways.

WHAT ARE SOME OF THE OUTCOMES OF HAVING URBAN TREE CANOPY DATA TO BACK UP DEPARTMENT INITIATIVES?

Lexington has a [Stormwater Quality Projects Incentive Grant](#), which has traditionally been awarded towards projects that add permeable pavers or reduce impervious areas. The inclusion of tree planting for these grants was historically used to gain points for community engagement or as volunteer efforts as the match to awarded funds. This matters because the true amount of water trees pull out of the system was not being considered in the project benefits. Now, we are using TreePlotter CANOPY in conjunction with iTree to have tree projects considered for their stormwater reduction potential. The urban tree canopy assessment has been a really great backbone for a lot of these conversations.

Additionally, we were given \$1.5 million USD last year to expand urban tree canopy, and the canopy assessment is helping us figure out the best ways to use that money.

HOW HAS CANOPY DATA SUPPORTED INTERNAL COMMUNICATION WITH CITY COUNCIL AND OTHER CITY DEPARTMENTS?

Internal conversations are happening all across the board, with the canopy assessment making up a big piece of the foundation. We created a committee to reach out to different divisions, council members, and members of the public to determine how to share canopy expansion money in ways that are meaningful and equitable.

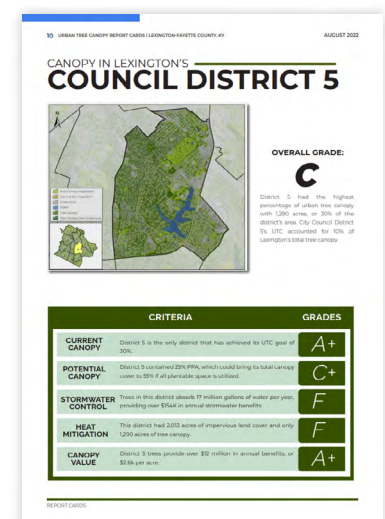
These conversations are ongoing with council members, and the report cards have been really helpful. [PlanIT Geo created [report cards for each of Lexington's city council districts](#), with an A to F scoring system for five canopy criteria]. Having the graphics and maps showing where the need is the greatest is powerful, because we all felt like we theoretically knew where the need was, but to SEE it, to have numbers associated with it, that is huge.

It helps us talk to council members. They can have friendly competitions and it makes it easy for them to talk to constituents. It's been great to have these numbers and graphics, to show them, LOOK, your district really needs tree canopy, and here is where and why.

HOW HAS CANOPY DATA SUPPORTED PUBLIC COMMUNICATION EFFORTS?

One piece of data from the canopy assessment showed that our Fayette County Public School system has only 11% urban tree canopy across 986 acres and 70 schools. We have been using canopy data to work with the sustainability coordinators for Fayette County Public Schools to develop plans to help increase tree cover, such as working towards [Tree Campus K-12 recognition](#).

We also share the data with our [tree board](#), and those board members then share it with the community. We have a couple of nonprofits who use the canopy data in their work. I teach a class at the University of Kentucky, as well as guest present at several other classes, and frequently share the canopy assessment in lectures.

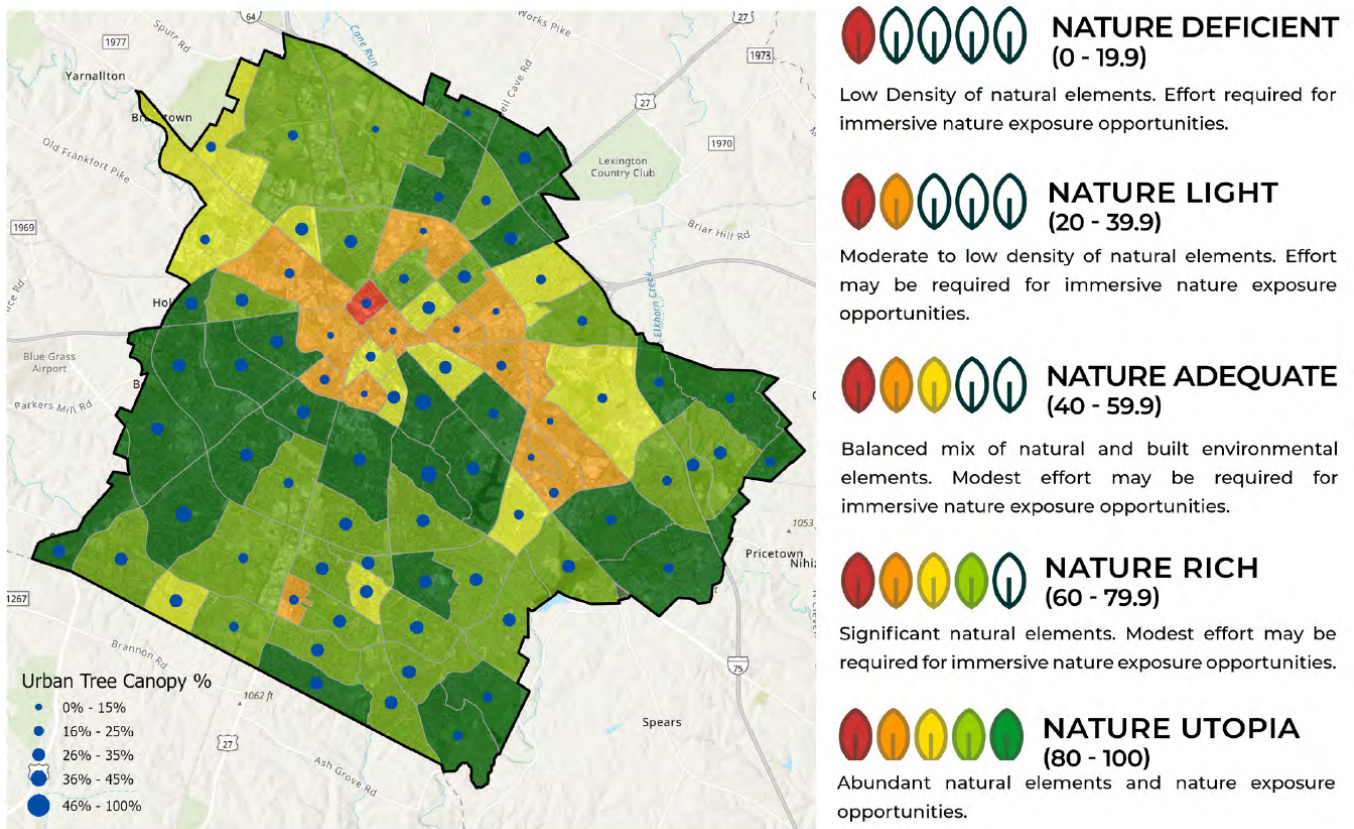


The canopy report card for Council District 5.

HOW IS LEXINGTON USING NATURESCORE™ DATA TO SUPPORT URBAN FOREST MANAGEMENT?

One of the ways we hope to use this assessment is to help us focus more on the health aspects of the urban forest. NatureScore supports that priority. We have a lot of stormwater basins and flood-prone areas purchased back from homeowners (which we refer to as water-quality lots) throughout Lexington. We are in the process of retrofitting many of these locations with tree canopy, wildflowers, and sometimes the removal of concrete altogether. NatureScore data is helping us prioritize which basins and water quality lots to target first.

We are creating a marketing and communications plan to best guide how we talk with the community about NatureScore data. We also intend to connect NatureScore with our grant program. We will ask applicants to show how their projects will affect health impacts in their grant proposals.



Tree canopy cover and NatureScore by census tracts

CONTRIBUTORS

Heather Wilson
Program Manager Sr. – Urban Forestry
City of Lexington, Kentucky



LEXINGTON
Urban Forestry

*Want to add an empirical backbone to your urban forestry conversations?
Learn more about urban tree canopy assessments here.*