

Over two million planting sites in cities around the world have been mapped using OpenTreeMap, a project originally funded by the USDA SBIR program.

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AZAVEA, INC.

According to the USDA Forest Service, nearly 80% of people in the U.S. live in urban areas and depend on the essential ecological, economic and social benefits provided by the urban forest. Philadelphia-based Azavea was interested in exploring how technology could support sustainability in the urban environment, and began its work in urban forestry as part of the Small Business Innovation Research Program with the U.S. USDA in 2010. OpenTreeMap was the eventual result - a collaborative platform for collecting tree inventory data, calculating ecosystem services, analyzing urban forestry data, and engaging the community.

PHASE III SUCCESS

OpenTreeMap has brought Azavea, Inc. nearly \$1M in product and services revenue stemming from the SBIR grant and the software has 45 governmental, private, and non-profit clients to date.

AGENCIES

USDA

SNAPSHOT

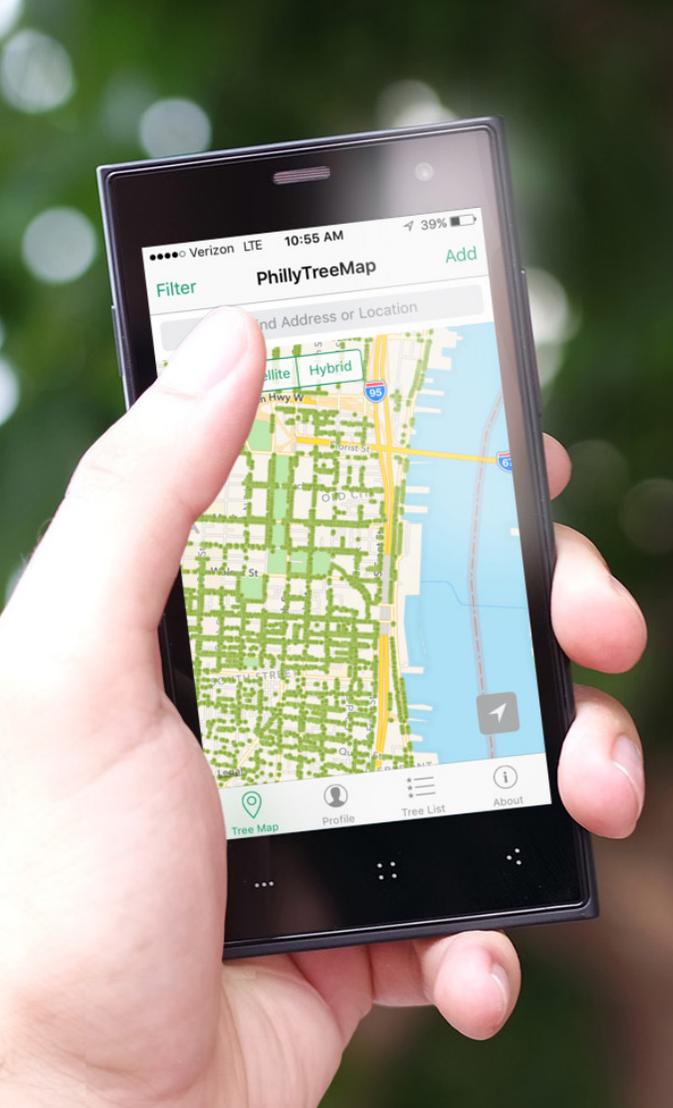
Using Azavea's OpenTreeMap platform, users have mapped over two million planting sites worldwide. OpenTreeMap allows users to manage, track, and share tree and green infrastructure data in an effort to preserve and grow the urban forest.

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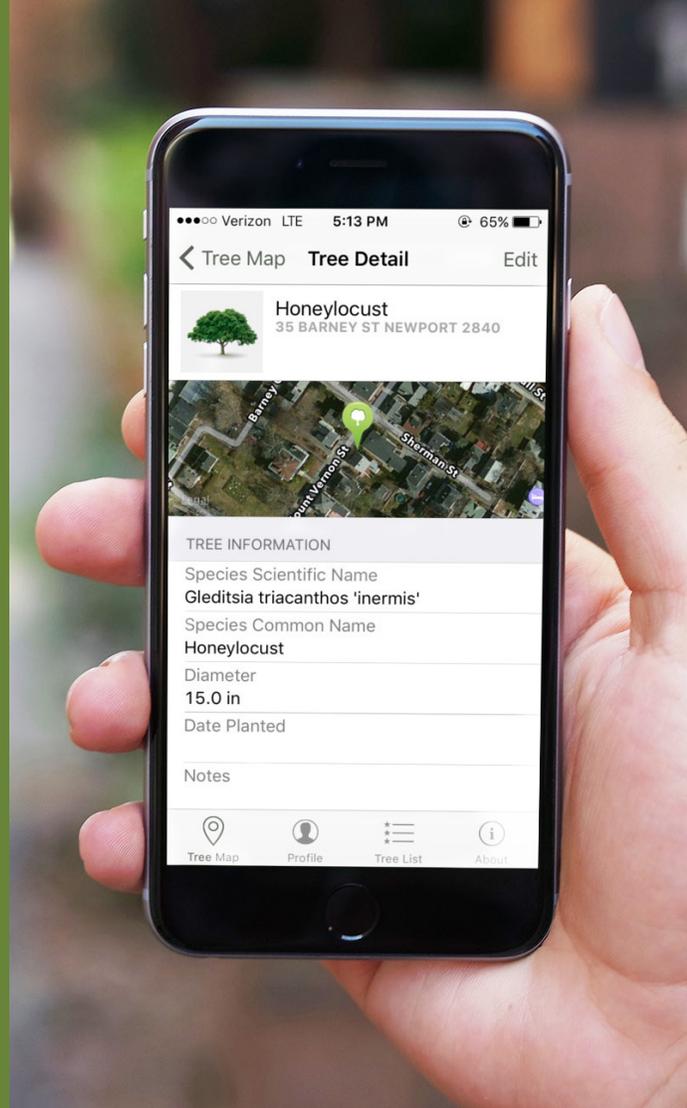
"An inventory of trees and planting sites provides key information to assist with the planning, planting and maintenance of city trees. One of the biggest factors in knowing which trees need pruning or replacement is knowing where the trees are to begin with," explains Deborah Boyer, Project Manager at Azavea. "Collecting inventory data can be costly and time intensive, but doing so allows you to more efficiently plan maintenance activities like pruning and watering. It's also beneficial for identifying where trees need to be planted in order to generate the many benefits they provide like cooling city streets, improving air quality, and reducing energy bills."

Azavea built its first prototype of OpenTreeMap for the City of Philadelphia, which can be found at PhillyTreeMap.org. The goal of PhillyTreeMap was to enable residents, local government and key stakeholders to work together to map trees and track stewardship activities. So far, the map contains over 185,000 trees and planting sites. Each planting site is represented by a dot on the map, and detail pages display additional data, photos and a history of stewardship activities completed for the tree. Users can search by one of many variables including tree species, diameter, date planted, and location to explore the city's trees. The platform uses equations developed by the USDA Forest Service to quantify the ecosystem benefits of trees in both physical and economic terms, including energy savings, sequestration of carbon dioxide, absorption of air pollutants, and reduction in stormwater run off.



Users can map trees and update information in the field using OpenTreeMap's free iOS and Android apps.

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DEBORAH BOYER
PROJECT MANAGER

Azavea received both Phase I and Phase II SBIR grants for OpenTreeMap, which helped support the product's development through August 2013. “The SBIR program provided the means to investigate ideas we felt had merit,” added Boyer. “The funding we received for OpenTreeMap allowed us to invest more efficiently in the development of the product and build something that meets the needs of many different clients.”

That investment helped Azavea win more subscription and professional services clients interested in the intersection of mapping and urban forestry. In Louisiana, nonprofit organization, Baton Rouge Green launched MyTreeBR.org, which uses the OpenTreeMap web and mobile applications to get citizens to interact with their trees. Across the U.S. in Los Angeles, TreePeople created TreeMapLA to map all the trees in Los Angeles County.

Azavea's experience with urban forestry software has also led to other business opportunities. When the NYC Department of Parks & Recreation embarked

on the decennial task of working with volunteers to survey every street tree across the five boroughs, they partnered with Azavea to create software that would enable them to easily organize mapping events and collect data. 543,515 trees and 8,372 users later, the project titled “TreesCount! 2015” has shown Azavea's ability to develop applications that encourage community participation, demonstrate the need for sustainable communities, and assist clients in achieving their goals.

Azavea continues to add new features to OpenTreeMap and pursue other urban forestry work. The company is currently completing the Phase II portion of a related SBIR project that incorporates planting modeling and prioritization into the existing OpenTreeMap platform. Azavea's Urban Forestry Modeling and Prioritization Tools help foresters strategically select planting locations in order to maximize impact on both the environment and local communities. Azavea is a certified B-Corporation, and maintains a strong commitment to working on projects that help create more sustainable and vibrant communities.