

By Corinne Kisner

Case Study: Combining Urban Forestry with Youth Employment Opportunities

Greenskills and TreeHaven 10K

New Haven, Connecticut

Population: 129,779

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The city of New Haven has an historic dedication to trees. Not long after the city was settled in 1638, a farmer planted New Haven's first recorded elms: two American elm saplings on the town green. New Haven later hosted the first public tree planting program in America, eventually nurturing a thick canopy of mature trees that by the 1840s gave New Haven the nickname "The Elm City." Historians and poets considered the tree-lined streets to be the American equivalent of the European cathedral, and beautification reigned as the predominant motive for cultivating a town sheltered by an urban forest.

Unfortunately, New Haven's elms have battled infestations of cankerworm caterpillars, elm bark beetles and Dutch elm disease, an invasive fungal infection that has ravaged as much as 90 percent of the city's elms in recent decades. Today, New Haven's trees require devoted care and a concerted public effort to restore the canopy of centuries past. In 2009, recognizing the importance of an urban forest and the desire to preserve the city's namesake, Mayor John DeStafano, Jr. launched the [TreeHaven 10K](#) campaign, an effort to plant 10,000 trees in New Haven over five years.



Youth and volunteers plant trees in New Haven, Connecticut.

A product of the National League of Cities, in conjunction with its Sustainability Partner, The Home Depot Foundation



Building on a strong, existing forest stewardship network, TreeHaven 10K consists of a partnership with local nonprofit group [Urban Resources Initiative](#) (URI) complemented by substantial public participation. The campaign calls for 5,000 trees planted on private land by homeowners and institutions, matched by an additional 5,000 trees planted on public lands. Most public trees are planted by volunteers through URI's highly successful [Community Greenspace](#) program, now in its 17th year, which provides opportunities to people of all races and incomes to gain experience in managing public land. Each year, about 1,000 individuals volunteer with Community Greenspace, which receives support from the city of New Haven and from Yale University graduate students, who provide technical skills such as species selection, planting techniques and soil remediation. Through Community Greenspace, volunteers monitor long-term progress by collecting data on the urban forest's status including tree size, condition and species composition. This data is used to create publicly available [maps](#) documenting not only the urban forest's overall health but each tree site's history, including a detailed profile of the volunteer group that planted trees and shrubs there along with photographs of the planting events.

GreenSkills emerged as a strategy to solve two urgent concerns in New Haven: a rapidly deteriorating tree canopy, and the chronic underemployment of teenage youth.

In order to increase youth involvement in tree care, URI created [GreenSkills](#) in 2007, prior to TreeHaven 10K, to build capacity and job skills in a traditionally underrepresented age group. GreenSkills is a city-wide local jobs initiative that employs high-school students from low-income families as well as ex-offenders and men in substance abuse recovery programs to plant trees on public

property. Crews of six GreenSkills interns partner with two Yale graduate student mentors and respond to citizens' requests for new trees. Since the program's inception in 2007, 103 teens and 31 adults have planted 1,491 trees. Through this initiative, the city of New Haven benefits from an increase in human capacity, economic opportunities for its residents, a growing tree canopy that provides numerous environmental benefits and an engaged community that participates in neighborhood beautification efforts and takes pride in the results.

Workforce Development

Through the 10-week GreenSkills internship, students learn technical skills related to tree planting, stewardship and monitoring using GPS technology, while gaining an understanding of ecosystem services. In addition, the tangible work experience not only provides a paycheck, but for many high-school students also serves as a crucial first job where they learn widely-applicable professional skills. Students, ex-offenders and men in substance abuse recovery programs learn punctuality, teamwork and communication skills while building self-esteem and a work ethic that the city believes will lead to a path of lifelong employment, potentially in New Haven's emerging green economy.

"The trees of course provide important environmental services. The opportunity to plant the trees brings an even greater value, as it creates a means for the people to earn money, gain job skills, build confidence and contribute a positive improvement to their community."

--Colleen Murphy-Dunning, GreenSkills Manager

Public Participation and Community Partnerships

An inclusive approach has lent GreenSkills long-term viability by creating a broad base of support and a network of accountability. The public plays an essential role as individuals request trees and commit to post-planting maintenance. Following a tree request, URI conducts a site assessment, works with the property owner on species selection and organizes the GreenSkills interns to conduct the planting. Common Ground High School, The Sound School and Solar Youth (a New Haven-based non-profit environmental education organization) help to recruit youth to join a tree planting team, while staff and teachers from those schools advise URI about the students' needs, such as transportation options and scheduling. Yale graduate students in the School of Forestry & Environmental Studies (F&ES) serve as





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team supervisors and mentors while gaining leadership skills, field experience and an opportunity to engage in the community. The F&ES program also provides GPS units and office space to support the GreenSkills teams. Nonprofit groups such as the New Haven Garden Club financially support the program and contribute volunteer time. Finally, in addition to substantial financial backing from the City of New Haven, a number of city departments have been actively involved in the program's implementation. The New Haven Department of Parks, Recreation and Trees directs citizen tree requests to URI and identifies park properties where trees need to be planted, while the Traffic and Parking Department collaborates in instances of planting trees as a traffic calming measure. The Department of Engineering and the Department of Public Works set sidewalk specifications for wider tree pits and remove concrete to create tree pits with increased soil volume in which new trees can be planted. The mayor routinely attends tree plantings, and his office provides leadership and convenes multi-agency meetings to avoid built infrastructure conflicts with the growing tree canopy. This wide ranging collaboration ensures the program will remain sustainable, as each partner holds others accountable and contributes to the initiative's success.

Environmental Benefits

An intentional effort to maintain urban forests can significantly offset the negative impacts of the built environment. Trees in urban neighborhoods help absorb stormwater that would otherwise drain over concrete and carry pollutants like oil, trash and fertilizers into surrounding waterways. New Haven's trees capture about 53 million gallons of water a year, thus reducing stress on existing stormwater management infrastructure.¹ Trees help mitigate the urban heat island effect by intercepting solar energy and producing shade, thereby reducing electricity demands for air conditioning and preventing the associated greenhouse gas emissions. Trees also improve air quality by removing roughly 60,000 pounds of pollutants from the atmosphere each year in New Haven, thereby easing high asthma rates. Furthermore, New Haven's trees mitigate climate change by sequestering about 7.5 million pounds of carbon dioxide annually. Planting 10,000 additional trees in five years will greatly improve the urban forest's environmental benefits and contribute to New Haven's sustainability goals.

ECONOMIC IMPACT

A "STRATUM" analysis (Street Tree Resource Analysis Tool for Urban Forest Managers) conducted by URI in partnership with the City of New Haven calculated the concrete economic value yielded by the ecosystem services of the city's street trees. The total benefits are valued at more than \$4 million annually.

- stormwater runoff reduction: \$425,000
- energy conservation: \$1,700,000
- aesthetics and real estate values: \$1,550,000
- air quality: \$356,000

¹ For more information about the role of trees in sustainable stormwater management, please see NLC's publication "[Green Infrastructure: Using Nature to Solve Stormwater Challenges](#)."



GreenSkills, Community Greenspace and TreeHaven 10K demonstrate New Haven's dedication to restoring its urban forest. Trees in urban neighborhoods add visual beauty that increases property values and community pride. Moreover, the programs bring social, environmental and economic returns to the city beyond the value of the trees. Through this unique public-private partnership, GreenSkills and TreeHaven 10K engage populations that might not otherwise have participated in environmental programs, thus widening the range of individuals serving as stewards of shared natural resources. High school students learn to protect the natural environment while gaining professional skills; ex-offenders and men in substance abuse recovery programs are able to re-engage with nature and transition to future employment opportunities. Individual citizens can request trees, help select the species and take responsibility for the urban canopy's long-term health. By engaging the public, GreenSkills and TreeHaven 10K empower people to become stewards of nature, thereby bringing benefits that amplify the impact of individual trees. Perhaps most importantly, GreenSkills provides youth with an employment opportunity that can pave the way for lifelong self-sufficiency and add to New Haven's green workforce. Through GreenSkills, Community Greenspace and TreeHaven 10K, New Haven is acting strategically for the city's long-term sustainability.

About This Publication

Corinne Kisner is the sustainability associate in the Center for Research and Innovation at the National League of Cities. For additional information about cities and sustainability, visit the NLC webpage at www.nlc.org/sustainability, e-mail sustainability@nlc.org, and follow on Twitter [@NLCgreencities](https://twitter.com/NLCgreencities).

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