



Indianapolis

QUICK FACTS

WHO

City of Indianapolis Department of Public Works Urban Forestry Section

STAFF

Seven full-time staff members, including certified arborists in management, a forestry supervisor and forestry crew members, including two certified arborists; plus, an additional certified arborist in the Department of Code Enforcement and contractors for additional maintenance work

CANOPY

Unknown, most likely in excess of 300,000 park and street trees

KEY FORESTRY TASKS

Emergency response, maintenance of all trees in parks and rights of way, project review, writing policy and procedures

PARTNERS

Keep Indianapolis Beautiful, Indianapolis Downtown Incorporated, Indianapolis Power and Light, Purdue University



KEY TOPICS

- Citywide Greening Initiative
- Invasive Pest Management
- Neighborhood Improvement Projects
- Public-Private Partnership
- Public-Public Partnership
- Stormwater and Watershed Management

INDIANA is not necessarily known for its forests and trees, but a 2008 assessment of the state's street trees revealed that they provide approximately \$79 million annually in environmental and economic benefits.¹ It's not too surprising that the biggest city in the state and 13th biggest city in the country accounts for almost 10 percent of these benefits at \$6.6 million. Like many cities, Indianapolis has had to work hard over the years to achieve this level of benefit, and more work — and funding — is needed in the years to come to keep the city's urban forest working for the Hoosiers who live in the capital.



KEY POINT

Embedding the Urban Forestry team with engineering helps to improve how trees are managed during construction projects.

Irvington tree planting



KEEP INDIANAPOLIS BEAUTIFUL

INCREASING SUSTAINABILITY

Indianapolis Mayor Gregory A. Ballard took office in January 2008 and by October had created the new Office of Sustainability in the Department of Public Works as part of his goal “to make Indianapolis the most sustainable city in the Midwest.”² One of the office’s main functions is to ensure the success of the mayor’s SustainIndy initiative.

SustainIndy focuses on ways the city can improve its water and land; find ways to reduce, reuse and recycle; reduce energy consumption and emissions; and enhance the city’s quality of life. In order to accomplish these goals, the city is looking at how to change its policies and ordinances, incorporate green infrastructure into its development, expand recycling programs and incentivize green building practices.³ Many of its programs are focused on incorporating greening opportunities into new development projects, which led to the creation of the Green Checklist in 2011, now a required document for all developers to include in their submissions to the city.⁴

This emphasis on green elements in building projects has led to a close relationship between various departments in the city and the Urban Forestry Section of the Department of Public Works. “We have construction and project managers in our offices every day,” says Andrew Mertz, the former urban forestry manager. “We try to make sure that the urban canopy, landscaping and green infrastructure issues are taken care of up front for every project,” which wasn’t always the case just a few years ago.

In 2009, Urban Forestry moved from its long-time home in Indy Parks and Recreation to the Department of Public Works, embedding the urban forestry management team within the engineering section of the department, which has meant that urban forestry has had greater access to recommend and implement changes to how trees are managed during construction projects.

“Trees have not always been a priority when designing and constructing capital improvement projects in rights of way in Indianapolis,” says Mertz. “Neither has the long-term maintenance of newly installed trees or landscaping. Our new proposed standard operating procedure (SOP) gives designers and construction managers a set of steps to follow for every project so trees and landscaping are accounted for before, during and after construction.”

As part of the proposed SOP, before any capital improvement project can proceed, the Urban Forestry Section makes sure the trees within the footprint of the project are inventoried, a workplan is generated, all tree maintenance is done and all necessary tree protection is put in place. Then, the project moves forward as planned. Finally, when the project is completed, tree replacement is completed as needed, and a maintenance component phase begins. “This model allows us to address tree inventory, routine tree maintenance and tree planting needs in neighborhoods project by project,” relates Mertz.

While this procedure is not a requirement for all projects yet, it is something that the Urban Forestry Section strives to incorporate in every capital improvement project that comes out of city engineering. “What we’ve been able to show is that we’re adding a very small percentage to the cost of each one of these infrastructure projects and getting a much better product in the end,” says Mertz. “But we’re still having to sell it, and we sell it every day.”



KEEP INDIANAPOLIS BEAUTIFUL

Volunteers painting a mural during a Great Indy Cleanup event

PARTNERS, PARTNERS, PARTNERS

Beyond working daily with the planners and developers on the SustainIndy and RebuildIndy teams, Urban Forestry interacts daily with the Department of Code Enforcement (DCE) and Indy Parks and Recreation. DCE is responsible for enforcing the tree and flora ordinance.⁵ DCE also issues all permits relating to tree and flora work, meaning all landscape work has to be approved through that office, and any violations of the ordinance can be taken to court by DCE’s lawyers. Indy Parks and Recreation is responsible for 207 park properties and 59 miles of greenway trails, which amount to more than 11,000 acres.⁶ Urban Forestry works with Indy Parks and Recreation’s Land Stewardship group, which is responsible for natural land area restoration work.

With all of this talk of ordinances, permits and green infrastructure, one may begin to wonder about tree plantings in Indianapolis. Those are happening, too, with the help of another partner, the nonprofit Keep Indianapolis Beautiful, Inc. (KIB), which manages all of Urban Forestry’s tree planting projects.

KIB, an affiliate of the national Keep America Beautiful, Inc. organization, first began its work in

Indianapolis in 1976 as Indianapolis Clean City, but changed its name in 1997 “to better reflect its efforts in the community.”⁷ KIB oversees a number of programs designed to enhance the livability of the capital city, including its anti-litter Great Indy Cleanup program and its Project GreenSpace program. About seven years ago, the organization beefed up its community tree program by giving birth to NeighborWoods, which helps plant trees on both private and public land. KIB is a

“What we’ve been able to show is that we’re adding a very small percentage to the cost of each one of these infrastructure projects [by adding trees] and getting a much better product in the end.”

ANDREW MERTZ
Former Urban Forestry Manager
City of Indianapolis



University Park
tree planting

“We’ll plant in your front yard, your backyard, anywhere there’s a plantable space, as long as we have someone to care for the trees.”

ANDREW HART
Program Director
NeighborWoods

member of the Alliance for Community Trees, which also has a NeighborWoods program and agreed to let KIB use the NeighborWoods name for its tree planting initiative.

“One of the goals of NeighborWoods is to create a more positive tree culture in the city,” says the program’s director, Andrew Hart, and it does this by focusing on areas of the city that need trees the most.

When KIB was developing its NeighborWoods program, it brought together a diverse group of advisors — from public health officials to experts from local universities and the state urban forester — to develop criteria to determine the

neighborhoods with the greatest need for an increased tree canopy. Ultimately, nine variables were examined across neighborhoods in the city, including tree canopy, impervious surface, proximity to industrial plant locations, traffic, rate of childhood asthma, crime rate and income. Using these criteria, KIB determined six “hotspot” neighborhoods that would be key locales for NeighborWoods activities.⁸ While anyone in the city can apply for a NeighborWoods planting, KIB’s efforts focus specifically on outreach to the hotspots — going to community meetings, street fairs and block parties to engage the residents in planting trees with KIB.

For NeighborWoods plantings, KIB brings the trees and the expertise, while residents are responsible for helping with the planting efforts and then the care and maintenance efforts afterwards. For non-hotspot plantings, Hart relates that they try to plant the new trees in the public right of way. In hotspots, though, the goal is to simply get trees in the ground. “We’ll plant in your front yard, your backyard, anywhere there’s a plantable space, as long as we have someone to care for the trees,” says Hart. Last year, 6,000 trees were planted through NeighborWoods — up from the 600 the program planted in its first year.

ENGAGING DIVERSE COMMUNITIES

Planting in hotspot neighborhoods, though, isn’t NeighborWoods’ only tree planting success story.

The organization’s Pocket Parks program has been operating since 1995 in partnership with Indianapolis Power & Light Company and the city to turn vacant lots, old parking lots, medians or little-used areas into beautiful oases. These are spaces of no more than a quarter of an acre that are usually surrounded by commercial buildings or houses on small lots. By engaging with neighborhoods, schools, churches and other

community-based organizations, KIB’s Pocket Parks are ways to bring greenspaces to areas that don’t have the luxury of multi-acre parks.⁹

Another major tree planting and restoration program that NeighborWoods administers is its Day of Service program, where local businesses and corporations volunteer to plant trees. These plantings focus on enhancing public spaces

throughout the city, from parkland and rights of way to planting along highway corridors. Some of these have seen great success. For example, major corporate partner Eli Lilly and Company (Lilly) conducted a service day two years ago that required the major highway I-70 to be shut down for a few miles in order to conduct planting efforts in interchanges. Lilly has been participating in a NeighborWoods Day of Service for a number of years — except instead of 150 individuals showing up to participate like some teams, their Day of Service involves around 8,000 volunteers. Hart relates that last year alone, approximately 3,000 trees were planted at 22 different locations on the Lilly Day of Service.

Unlike neighborhood plantings, which require a commitment by the residents to care for the trees after they're in the ground, these Day of Service trees don't necessarily have built-in caretakers, so KIB employs its Youth Team to fill the gap. The Youth Team program, which began five years ago, pays local high school students to water public trees for nine weeks each summer, and sometimes they mulch, prune, stake or plant trees, too. The Youth Team program is supported

through general corporate, foundation and other donations, but also through the corporations and businesses that participate in a NeighborWoods Day of Service.

How does the Youth Team know which trees to water? Technology is to thank for that.

Several years ago, KIB implemented a new GPS tracking system for the tree planting team. Before every NeighborWoods tree leaves its nursery, KIB catalogues it by species, nursery and type of container. Then, when planted, each tree is assigned a GPS way point — a datapoint that measures the precise location of the tree — so that a detailed map of tree locations can be generated and used for more effective and efficient maintenance needs. KIB can also use this information with software like the U.S. Forest Service's i-Tree to calculate the environmental benefits of all NeighborWoods trees. This GPS tracking system is an important tool for the organization, says Hart. "It lends credibility and accountability to our program."



KEY POINT

A GPS tracking system helps keep track of tree locations, types and maintenance needs.

Keep Indianapolis Beautiful volunteers



Lilly Global Day of Service



THREATS TO THE FOREST

While KIB focuses on protecting its young trees from threats like this year's drought, another threat is stalking Indianapolis' urban forest: emerald ash borer (EAB). This tiny, invasive insect has killed tens of millions of ash trees across the Midwest, Northeast and southeast Canada since it was first identified 10 years ago in Detroit¹⁰ — and it has already been spotted in Indianapolis.

As a result, many communities are organizing to protect their neighborhoods and homes from the threat through proactive efforts with the help of Neighbors Against Bad Bugs (NABB).

"The Neighbors Against Bad Bugs program grew out of the need to get communities moving and thinking about emerald ash borer before it actually arrives and starts causing damage to trees," says Annemarie Nagle, forest pest outreach coordinator at Purdue University.

NABB is a turn-key extension program born out of Purdue University that offers guidance to community leaders on how to take proactive steps in protecting their neighborhoods. By pairing Purdue Master Gardeners, neighborhood associations, county extension educators and concerned citizens, the program aims to save as many ash trees as possible, while also keeping neighborhoods safe and beautiful for residents.¹¹

A neighborhood known as King Park implemented the NABB plan through the formation of its Ash Borer Action Team (ABATe) in fall 2011.

"I think the work that the ABATe group has done is a really good success story," says Nagle. ABATe gathered a dozen volunteers to survey all of the neighborhood's ash trees in the rights of way. Beyond taking note of the ash trees, they also noted available planting space in case some of the ashes needed to be removed. Once this inventory was completed, ABATe used a combination of treatment, removal and new plantings to help preserve the character of its cherished King Park neighborhood. ABATe engaged both the city's Urban Forestry team and KIB to help with the removals and new plantings.¹² "For every dollar that we've put into that neighborhood, we're getting \$1.25 back," says Mertz. "We're removing the trees, and they're removing the stumps and funding any treatments or replacement trees needed."

EAB, though, isn't the only issue that could use citizen involvement.

→ KEY POINT

Community neighborhoods are taking action to save as many ash trees as they can from EAB.

"The Neighbors Against Bad Bugs program grew out of the need to get communities moving and thinking about emerald ash borer before it actually arrives and starts causing damage to trees."

ANNEMARIE NAGLE

Forest Pest Outreach Coordinator
Purdue University

Emerald ash borer



LOOKING TO THE FUTURE

In 2010, an idea emerged in Indianapolis to enhance the livability of the city by focusing on the city's waterways — educating the community about their importance and conducting work to improve their function and aesthetic qualities. This idea — born during the 2010 Livability Challenge — resulted in the formation of Reconnecting to Our Waterways, a coalition of private and public organizations, civic leaders and residents. The idea behind Reconnecting to Our Waterways is to create a collective impact model of engaged citizens and partners to work together to enhance waterways throughout the city. KIB and Lilly are both members, while a member of the Office of Sustainability serves as a liaison.¹³

“We've identified riparian corridors as essential for environmental health and for interception of stormwater,” says KIB's Hart. “These have become a high priority for us. We'll take large groups of volunteers along our riparian corridors to do invasive removal and plant hundreds of trees.”

This focus on water issues — and stormwater in particular — is also of high concern for Urban Forestry. It's estimated that Indianapolis' street trees alone offer \$2 million in stormwater benefits for the city.¹⁴ With a public trust having recently bought Indianapolis' water operations from the

city, Mertz mentions that “it's in the public trust's interest to make sure we have adequate tree canopy.”

Turning a focus to stormwater makes sense for an urban forestry program that is finding itself more and more in sync with the green infrastructure plans in the city. As the integration between Urban Forestry, SustainIndy, RebuildIndy, KIB, corporate partners, neighborhoods and residents continues, Indianapolis' urban forest will grow stronger. It needs just needs continual help from the city and its residents to reach its potential.

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Annemarie Nagle,
forest pest outreach
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University Department
of Entomology

Dr. Cliff Sadof,
professor, Purdue
University Department
of Entomology

Eagle Creek Park



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