Street Trees Could Help Boston Adapt to Climate Change. If They Can Survive, That Is January 23, 2020 Miriam Wasser

Mike Nichols is covered in dirt. He's kneeling in the bed of a landscaping truck parked on a street in East Boston. Sitting next to him is a small, **leafless** maple tree. The **sapling** is about 6 feet tall and its skinny **trunk** is only 3 inches wide. But with all the wet **soil** packed around its **roots**, it weighs between 300-400 pounds.

"Let me get my guys to help me out and get the tree down," Nichols says, hopping down from the truck and waving over his two assistants. The three men work for the landscaping company Hartney Greymont, and today they've been hired by the city of Boston to remove two dead trees and plant new ones in their place.

While his assistants stand the tree upright, Nichols starts up a small forklift and gently scoops the tree from the truck. He drives the sapling to the hole his team dug nearby and, very gently, puts it down.

He says he's "trying to give it as much chance of survival" as possible.

Tree survival is especially important in a place like East Boston. The neighbourhood has the lowest **tree canopy coverage** in the city, which means that during the summer, it also has some of the worst hot spots.

Urban heat kills about 600 Americans every year, and sends another 65,000 to the emergency room, according to a recent report from the Urban Land Institute. Climate change is going to make these problems worse; the report's authors write.

"In the Northeast, we can expect approximately 650 deaths per year [from heat] by 2050," they wrote in the report.

Given that risk, Boston — like many cities around the country — has been re-examining its relationship with its trees, and thinking more strategically about planting and preserving them. In the past, despite spending about $900,000 annually on street trees, the **urban forest** has been a bit of an **afterthought**.

"Trees are often viewed as **window dressing**. But in reality, they're this really fundamental infrastructure that has life or death consequences, especially as our cities are heating up more and more," says Ian Leahy, vice president of **urban forestry** at American Forests, a national conservation organization.

Urban trees have benefits beyond **shading** and **cooling**. They clean the air, **sequester carbon**, reduce noise pollution and help prevent flooding by absorbing stormwater. Plus, studies show that places with a lot of trees have lower crime rates and fewer traffic accidents.

"All the research shows trees improve retail sales, improve property values, reduce attention deficit disorder symptoms, improve academic performance," Leahy says. "[Trees have] all kinds of psychological impacts."

'Great,' you might be thinking, 'let's plant a **bajillion** trees.' Unfortunately, the solution isn't that simple; a lot of street trees don't make it more than a few years in the big city.

“It's tough to be a baby street tree because your roots are really little. And the summers in Boston are quite hot, so **drought** alone can kill them,” says Andrew Trlica, who recently earned an urban biogeochemistry doctorate from Boston University. His dissertation focused on the life and death of street trees in Boston.

To be an urban tree, especially one **planted in a metal grate on a sidewalk bordering a busy street**, is to **have the odds stacked against you**.

“Cars run into them. Bikes getting locked to them is really surprisingly damaging when they're little like that because their **bark** is kind of **wimpy**," Trlica explains. "Road salts that can wash in there are hard on their roots. Dogs peeing on them can be too much nutrients. It's just a tough environment."

Hazards abound: gas leaks, utility work, foot traffic, car collisions, snowplows. On the bright side, Trlica finds that street trees grow a lot faster than their country cousins because they’re exposed to more light. As another recent study puts it, street trees “Live Fast, Die Young.”

Trlica says he began to wonder: If city officials want to increase **tree canopy cover** to deal with climate change, should they focus on planting new trees or helping older ones survive? To figure it out, he looked at two scenarios for Boston: spend the next two decades planting saplings in every available sidewalk location, or spend the time reducing the mortality rate of older trees by 50%.

For Trlica, the answer was clear. Yes, Boston should continue planting trees, but the real canopy **payoff** will come from preserving bigger, **leafier** ones.

Chris Cook, Boston’s chief of environment, energy and open space, says **tree preservation is top of mind** as the city begins designing a master plan for its urban forest.

“Planting in the public realm with street trees can be enormously complicated because there are a lot of conflicting interests — there’s utility infrastructure, there’s accessibility concerns — and then there's just the actual physical space [limitations],” he says. “So, the more we can care for the existing trees in our parks [and on our streets], the better off we are.”

The plan itself should be released sometime in 2021, he says, though the results of a recent canopy coverage study the city conducted last summer could come out sooner.

“**Tree equity**” is a term he and others in the urban planning world throw around a lot these days.

"The areas where urban canopy is the scarcest tend to coincide with **neighbourhoods** that are low-income, **minority neighbourhoods**, and historically **red-lined areas**,” says Deanna Moran of the Conservation Law Foundation. “And so, some of our most **at-risk populations** — populations that are going to be particularly **burdened by climate change** and other issues — are also the ones not benefiting as much from the canopy.”

The second choice, he says, will pay dividends "not only on a climate adaptation perspective, but also, from an equity perspective."

https://www.wbur.org/earthwhile/2020/01/23/boston-urban-forest-street-trees?utm_source=WBUR+Editorial+Newsletters&utm_campaign=8df630de71-WBURTODAY_2020_01_23_&utm_medium=email&utm_term=0_d0781a0a0c-8df630de71-135412285