

# CULTIVATING THE URBAN FOREST

## Planting trees key to rejuvenating the GTA's devastated tree canopy

It has been 18 months since southern and eastern Ontario was slammed by a catastrophic ice storm, which resulted in widespread power outages due to downed power lines from fallen trees, boughs and branches. The GTA was one of the worst-hit regions, and it is still reeling from the extreme winter weather. Toronto alone lost approximately 20 per cent of its tree canopy, though the full extent of the damage caused by the wicked storm

is still unknown. Given this, planting trees is especially important — it is the only way to rebuild the area's devastated tree canopy. Here, Melissa Williams of Local Enhancement and Appreciation of Forests (LEAF), an organization dedicated to the protection and improvement of the urban forest, discusses the benefits associated with trees, the non-profit's planting program, and how building owners/managers can ensure their newly planted saplings survive and thrive.

### WHAT ARE THE ECONOMIC BENEFITS OF PLANTING TREES?

It has been shown that planting trees around a residential (single-family) property can significantly reduce the need for heating and cooling, thereby saving homeowners electricity and money. In summer, shade trees planted on the west and south sides of a property can reduce cooling costs by 25 to 40 per cent, and reduce peak energy demand by up to 30 per cent, according to a study by the University of California, Berkeley. Evergreen trees planted for windbreak purposes on the north side of a property can save between six and 11 per cent on winter heating energy needs.

While similar data is not available for multi-unit residential (lowrise and highrise) buildings, there are other benefits of planting trees. For instance, trees can increase property value and support higher rents. These perks also apply to commercial buildings. A recent study on the value of Toronto's urban forest by TD Economics suggests that, in some locations, rental rates of commercial office properties are approximately seven per cent higher on sites that are well-landscaped and include trees.

### WHAT ARE THE ENVIRONMENTAL BENEFITS?

Trees planted in urban areas provide many environmental benefits. They improve air quality by trapping pollution particles that cause breathing problems; absorb carbon dioxide and other gases and, in return, produce oxygen; reduce local air temperature when water evaporates from their leaves; intercept rainfall, resulting in reduced stormwater run-off and improved water quality; and provide much-needed wildlife habitat.

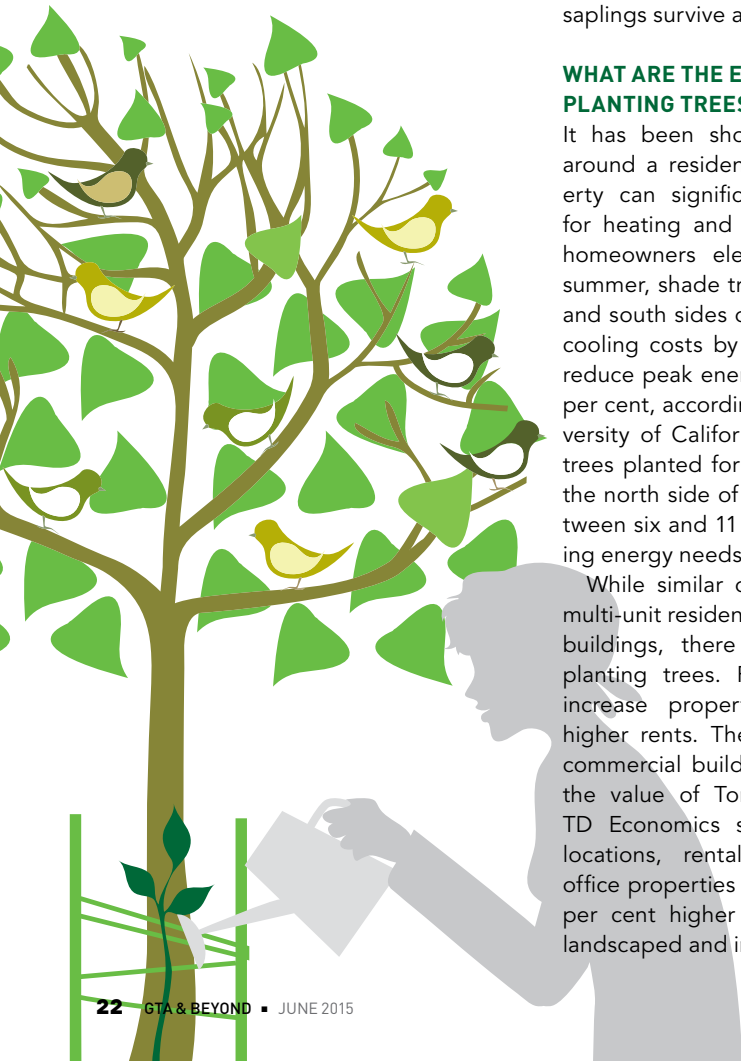
### WHAT ARE THE HEALTH BENEFITS?

Urban forest health and human health are closely interconnected. Trees improve air quality by trapping pollution particles that have been linked to heart disease, respiratory illnesses, diabetes and cancer. In addition, studies show that trees and green spaces can lead to lower stress levels, faster hospital recovery rates and improved rehabilitation, and a reduction in the severity of symptoms of attention deficit disorder.

### HOW DOES LEAF'S PLANTING PROGRAM WORK?

LEAF offers a subsidized program to help multi-residential property owners/managers in Ajax, Toronto and York Region plant trees around their buildings at affordable rates. This includes a consultation and site assessment with an expert arborist and full planting service. Businesses in Toronto can also access this program.

The cost for the program ranges between \$150 and \$220 per tree, depending on the species selected. This price includes a site consultation with an arborist, a five to eight-foot tree, delivery and planting. The



full value of the service is approximately \$300 to \$400; the difference is paid by LEAF's funding partners.

#### WHAT TYPES OF TREES SHOULD BUILDING OWNERS/MANAGERS PLANT?

Native species such as American elm, red oak, sugar maple and sycamore (to name a few) are well-suited to planting in the GTA as they have evolved in the local area, adapted to the region's climatic conditions and provide essential habitat for wildlife. Once established, they also require less maintenance than exotic species.

#### HOW DOES LEAF ENSURE BUILDING OWNERS/MANAGERS GET THE RIGHT TREE IN THE RIGHT PLACE?

During the consultation, a LEAF arborist will assess the property's site conditions, such as soil type, sun exposure and space restrictions, and discuss tree preferences for the property. The arborist will then recommend native species that will do well on the property and determine suitable planting locations. Selected trees are then planted in either spring (April-June) or fall (September-November).

#### HOW CAN BUILDING OWNERS/MANAGERS ENSURE THEIR NEWLY PLANTED TREES SURVIVE AND THRIVE?

Before embarking on a planting project, building owners/managers should determine who will be responsible for looking after the trees. They should then create a maintenance plan to ensure the newly planted trees are properly cared for.

Follow-up care, including regular watering and replacement of mulch as it decomposes, is essential for tree survival. Trees should be watered with a hose on a very slow trickle for 15 minutes twice a week. Woodchip mulch should be spread around trees in a doughnut shape, ensuring it does not touch the trunk. This will protect the tree's roots, conserve water, prevent weed growth and provide essential nutrients.

It's important to avoid digging, tilling or excavating near trees to protect their roots. Ninety per cent of a tree's roots are in the top 50 centimetres of soil and can extend three times the width of the canopy.

As well, never tie or nail anything to a tree and avoid damaging the base when mowing the lawn. Tree bark is like a protective skin. If damaged, it affects the food and water conducting "tissues" of the tree. ■

## TREE KILLERS

A handful of invasive insects are severely threatening Canada's trees.

Leaving a path of destruction across the country, three of the six tree pests are wreaking havoc in Ontario: the Asian long-horned beetle; emerald ash borer; European gypsy moth; and Sirex wasp.

The Asian long-horned beetle prefers maple, poplar, elm, willow, horse chestnut, mountain ash, sycamore, hackberry and birch trees. Larvae feed on living tissue by tunneling below the bark of limbs and the trunk. The adults generally emerge in the summer and feed on twigs and leaves. Damage to trunk tissue can kill a tree within one or two years.

The emerald ash borer attacks and kills both native and introduced ash trees. The larvae consume the inner bark, which strangles the tree. Infected trees show yellowing and loss of leaves in the canopy, and suckers growing from the base of the trunk. They will die within one or two years.

The larvae of the European gypsy moth can eat more than 500 species of trees and shrubs; however, they prefer oak and poplar. Trees can be completely defoliated when larvae populations are high. Several years of defoliation can kill a tree.

The Sirex wasp prefers living pine trees but it will also attack spruce, fir and Douglas fir. The females lay eggs in stems along with toxins and a wood-decaying fungus, which spreads through the tree and causes the foliage to wilt and turn yellow.

—Tree Canada



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