

Benefits of Urban Forests

Large urban trees are excellent filters for urban pollutants and fine particulates. Trees can provide food, such as fruits, nuts and leaves. Spending time near trees improves physical and mental health by increasing energy level and speed of recovery, while decreasing blood pressure and stress. Trees properly placed around buildings can reduce air conditioning needs by 30% and save energy used for heating by 20–50%. Trees provide habitat, food and protection to plants and animals, increasing urban biodiversity...planting trees today is essential for future generations!

Urban forests benefit us socially, environmentally, and economically. These benefits inspire Canadians to protect and improve their urban forests.

Social benefits

The social benefits of urban forests include:

- Urban forests promote physical activity by providing space for recreation and creating an appealing outdoor environment.
- Urban forests promote mental well-being and reduce stress, heart rate, blood pressure and incidence of obesity, asthma, and diabetes .
- Urban forests can reduce crime rates and violence.
- Urban forests can promote healing – people in hospital rooms with views of trees heal faster .
- Urban forests make cities more beautiful and can hide unattractive features like walls, freeways, and parking lots.
- Urban forests increase road safety by slowing traffic, reducing stress, or improving driver attention .
- Urban forests provide food for people .
- Urban forests promote social interaction and a sense of community, including stronger ties to neighbours, a greater sense of safety, and more use of outdoor public spaces .

Environmental benefits

The environmental benefits of urban forests include:

- Urban forests reduce air pollution and provide oxygen.
- Urban forests reduce the urban heat island effect and reduce the temperature of cities, helping cities adapt to climate change.
- Urban forests reduce buildings' energy use, including heating costs.
- Urban forests improve water filtration, store water, and reduce stormwater runoff.
- Urban forests help provide habitat for wildlife and help preserve biodiversity .
- Urban forests provide habitat for wildlife and promote biodiversity

Economic benefits

The economic benefits of urban forests include:

- Urban forests provide ecosystem services evaluated at \$330 million per year for Halifax, Montreal, Vancouver, and Toronto
- Urban forests add value of between \$1.88 and \$12.70 for every dollar spent on maintaining them, depending on the city.
- Urban forests increase property values .
- Urban forests help create attractive business districts and improve visitors' perceptions of them .
- Urban forests have a positive influence on visitors' perceptions of a city.
- Urban forests provide space for recreation

Benefits of Urban Trees

Environmental Benefits of Urban Trees

Cleaner, Cooler Air: In exchange for giving oxygen, trees absorb carbon dioxide produced from the combustion of various fuels. Trees remove or trap lung-damaging dust, ash, pollen and smoke from the air, in addition to providing shade for people and conserving energy.

- Air quality is improved by trees. Trees provide numerous benefits to the urban forest, especially with mitigating air pollution in urban areas and providing a positive impact on human health.
- In respect to air pollution reduction, trees provide shade which reduces temperatures and helps keep pollutants already in the air from becoming even more volatile, while also intercepting many of the solid particulates that are airborne.
- Recent research has demonstrated that urban heat islands change weather patterns, altering the amount and duration of local and downwind rainfall patterns. Urban trees lessen the impact of the urban heat island effect and reduce changes in weather patterns.
- One acre of trees produces enough oxygen for 18 people every day. **Cleaner Water:** Trees also act as natural water filters and help significantly slow the movement of storm water, which lowers total runoff volume, soil erosion and flooding. From an economic viewpoint, communities that utilize this important function of trees and canopy cover may spend less money developing additional stormwater management infrastructure.
- Each year about 50 acres of forest canopy is lost each day in the greater Atlanta area. For every acre of tree canopy lost, one acre of impervious surface is gained each day.
- Infiltration rates for forested areas are 10-15 times greater than for equivalent areas of turf and grass.
- During a heavy rain, a healthy forest can absorb as much as 20,000 gallons of water in an hour.
- Many municipalities are now charging businesses and homeowners a “stormwater utility” fee based on the amount of impervious surface at their location.

Urban noise is reduced by trees absorbing sound waves. Trees also provide wildlife habitats for many species.

Economic Benefits of Trees



Recent research reveals that many business owners regard the urban forest as an “outdoor extension of a business’ customer service commitment” and sends a “message of care,” improving the retailer’s or company’s overall image.

Increased business value: Trees enhance community economic stability by attracting businesses and tourists

- Customers are willing to pay as much as 10 percent more for certain goods and services if businesses are located on tree-lined streets.
- Consumer product testing in shopping areas with large numbers of shade trees were rated 30 percent higher than identical products rated in shopping areas that were barren of trees.
- Tree-lined business and retail districts encourage patrons to linger and shop longer.
- Increased retail business districts attract new businesses to these districts, which helps to attract more convention business to a region.
- Office and industrial areas within green, wooded settings are in high demand by employers because employee life enhancement studies show that shady areas to eat and walk during lunch and breaks translates into more stress-free, productive employees. Workers without a view of nature from their desks reported 23% more instances of illnesses than those with a view of greenery.

Increased home value: The presence of trees has a positive effect on occupancy rates and residential home sales. Neighborhood greenspaces or greenways typically increase the value of properties located nearby.

- Healthy trees can add up to 15 percent to residential property value.

- Strategically placed trees around a home can reduce summer cooling costs by as much as 30%, while winter heating costs can be reduced by a similar percentage by the use of trees as windbreaks.
- Wooded apartment complexes provide preferred aesthetics that can increase occupancy rates. Decreased health care costs: Trees remove or trap lung-damaging dust, ash, pollen and smoke from the air. Greenspace and shaded sidewalks encourage outdoor activity.
- Health care costs associated with obesity top \$100 billion a year.
- The American Lung Association estimates that ozone-associated health care costs Americans about \$50 billion annually.
- The forests in Atlanta remove about 19 million pounds of air pollutants each year, worth about \$47 million a year. Lower infrastructure costs: The presence of trees in a community affect the cost of municipal services such as stormwater control, transportation and air quality. For instance, trees act as natural water filters and help significantly slow the movement of stormwater, which lowers total runoff volume, soil erosion and flooding.
- To meet state sewer standards, the City of Atlanta is spending \$240 million to counter effects associated with the loss of tree canopy.
- In Atlanta, the storm water retention capacity of the urban forest is worth about \$2.36 billion, or about \$85.9 million a year.
- Trees absorb and store an annual average of 13 pounds of carbon each year. Community trees across the United States store 6.5 million tons of carbon per year, resulting in a savings of \$22 billion in control costs.
- Streets with little or no shade need to be repaved twice as often as those with tree cover.
- Both business/commercial land and farm/forest land pay more than \$1 in taxes for every \$1 they get back in services. However, residential land costs more in services than it pays in revenues. So when a county cuts down trees or converts farmland to build a subdivision, it is actually poorer.

Health Benefits of Urban Trees

Healthy Trees, Healthy Lives

Studies have found a correlation between community forests and the average amount of physical activity exerted by neighborhood residents. People are more inclined to get outdoors and exercise when their surroundings are greener. Logically, greater physical activity leads to fewer cases of obesity, which in turn may help reduce other health problems such as heart disease and diabetes.

- **Physical Activity/Obesity:** Studies have found a correlation between community forests and the average amount of physical activity exerted by neighborhood residents. People are more inclined to get outdoors and exercise when their surroundings are greener. Logically, greater physical activity leads to fewer cases of obesity, which in turn may help reduce other health problems such as heart disease and diabetes.
- **Attention/Focus:** Children who spend more time outside pay better attention inside. Attention-deficit/hyperactivity disorder (ADHD) children, in particular, are better able to concentrate, complete tasks, and follow directions after playing in natural settings.
- **Asthma:** Trees filter airborne pollutants and can reduce the conditions that cause asthma; asthma incidents increase in urban communities where trees are eliminated in favor of new roads, homes or commercial developments.

Social Benefits of Urban Trees

Studies have identified a direct correlation between the amount of trees and grass in community common spaces and the use of those common spaces by residents, which leads to more opportunities for informal social interaction and greater relationships between neighbors.

- Trees make communities livable for people and soften the outline of masonry, metal and glass.
- Trees can be associated with specific places, such as memories of past events or times, or a favorite tree climbed as a youth.
- Trees provide opportunity for physical fitness. Urban forests, parks, and open spaces have become increasingly popular as places to walk, run, bike, and hike.
- Less violence occurs in urban public housing where there are trees. Researchers, Sullivan and Kuo (1996), suggest that trees afford a place for neighbors to meet and get to know each other. Their research showed that friendships developed into a network of support.



BENEFITS OF URBAN TREES



Strategic placement of trees in urban areas can **cool the air** by between 2 °C and 8 °C.



Large urban trees are excellent **filters** for **urban pollutants** and fine particulates.



Mature trees **regulate water flow** and **improve water quality**.

A tree can absorb up to 150 kg of CO₂ per year, sequester carbon and consequently **mitigate climate change**.



Wood can be used for **cooking and heating**.



Trees can **provide food**, such as fruits, nuts and leaves.

Spending time near trees **improves physical and mental health** by increasing energy level and speed of recovery, while decreasing blood pressure and stress.



Trees properly placed around buildings can **reduce air conditioning needs** by 30% and **save energy used for heating** by 20–50%.



Trees provide habitat, food and protection to plants and animals, **increasing urban biodiversity**.



Landscaping, especially with trees, can **increase property values** by 20%.

World urban population is growing fast...



...planting trees today is **essential** for future generations!



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