

Benefits of Trees and Tree Canopy



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- Trees have many valuable, measurable, and irreplaceable benefits:
 - Environmental Benefits
 - Economic Benefits
 - Health Benefits
 - Social Benefits

Environmental Benefits

- Cleaner air
 - Trees absorb carbon dioxide and produce oxygen
 - Trees remove or trap lung-damaging dust, ash, pollen and smoke
 - Trees mitigate air pollution and improve human health
- Shading and cooling by trees...
 - Conserves energy
 - Reduces volatility of pollutants
 - Reduce urban heat island effect

FACT

**1 acre of trees
produces enough
oxygen for 18 people
every day.**

Environmental Benefits

- Cleaner water
 - Trees act as natural filters
 - Trees slow the movement of stormwater
 - Trees reduce total runoff volume, soil erosion, and flooding
 - Reduce need and cost for stormwater control infrastructure
- Noise reduction
 - Absorb sound waves

FACT

During a heavy rain, a healthy forest can absorb as much as 20,000 gallons of water in an hour.

Economic Benefits

- Increased business value
 - Business owners realize a better image and ultimately more income when trees are present at or in front of their business
 - Trees improve a community's economic stability by attracting businesses and tourists
- Increased home value
 - Healthy trees add up to 15% to residential property value
 - Wooded apartment complexes are preferred and can result in increased occupancy rates

FACT

Customers are willing to pay as much as 10% more for certain goods and services if businesses are located on tree-lined streets.

Economic Benefits

- Lower infrastructure and utility costs
 - Trees strategically placed around a home can reduce summer cooling costs by as much as 30%
 - Winter heating costs can be reduced by the use of trees as windbreaks
 - Streets with little or no shade need to be repaved twice as often as those with shade
 - Trees decrease the costs of stormwater control, transportation, and air pollution control

FACT

A tree absorbs and stores an annual average of 13 pounds of carbon each year.

Health Benefits

- Physical Activity
 - Greenspace and shaded sidewalks encourage outdoor activity
 - Trees contribute to reductions in obesity
 - Trees reduce lung-damaging air pollution
- Attention and Focus
 - Children who spend more time outside pay better attention inside
 - Children with attention-deficit/hyperactivity disorder are better able to concentrate, complete tasks, and follow directions after playing in natural settings

FACT

Health care costs associated with obesity top \$100 billion a year.

Health Benefits

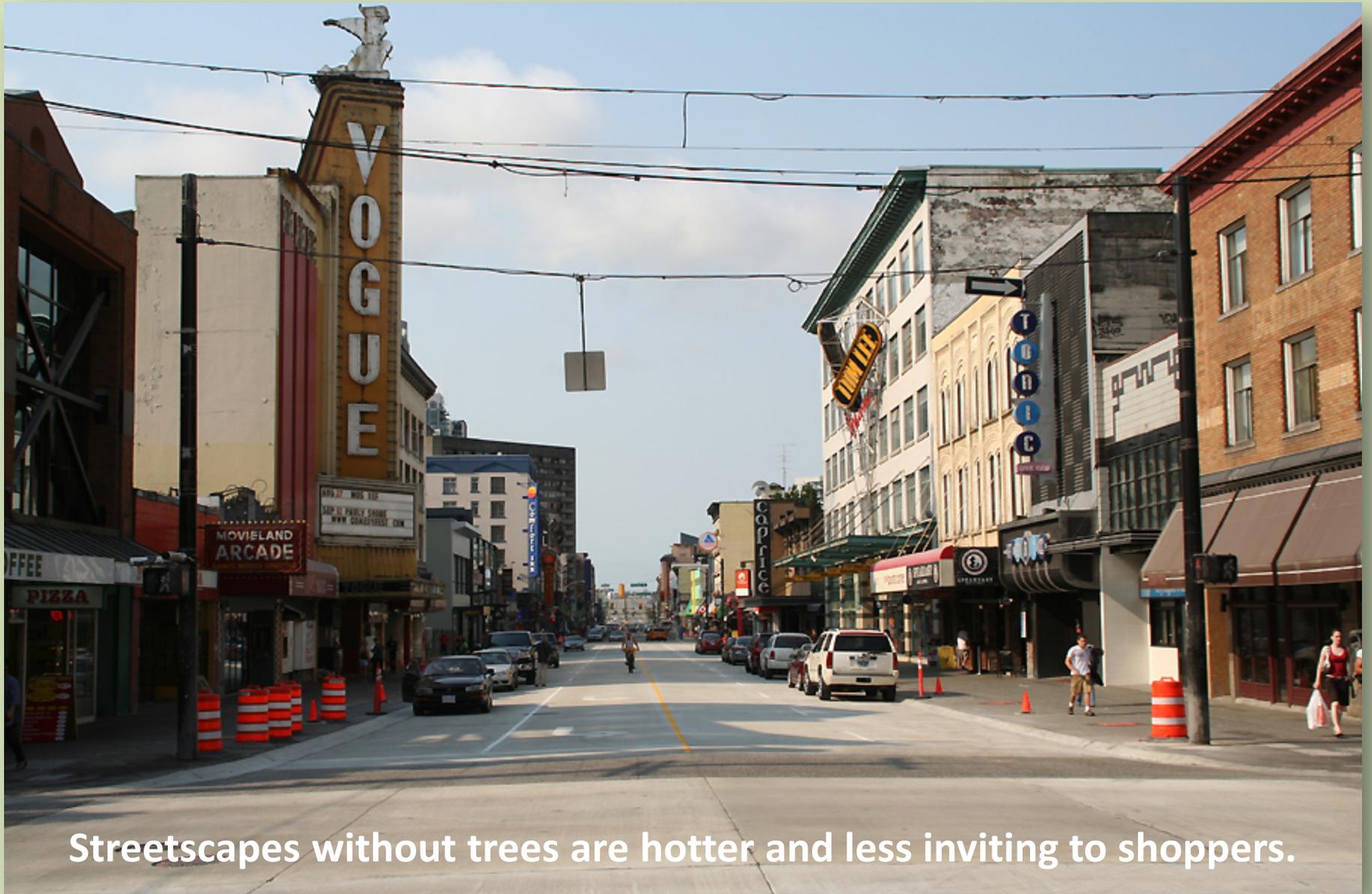
- Asthma
 - Trees reduce lung-damaging ozone
 - Trees filter pollutants
 - Asthma incidents are reduced in urban communities with greater numbers of trees
- Illnesses and recovery
 - Post-operative hospital stays are shortened when patients have a view of trees and open spaces
 - Workers without a view of nature from their desks reported 23% more instances of illnesses than those with a view of greenery

FACT

The American Lung Association estimates that ozone-associated health care costs Americans about \$50 billion annually.

Social Benefits

- Trees make communities more livable
- Trees soften the outlines of hardscape and infrastructure
- Trees are often associated with pleasant memories, certain places, historic events, or special people
- Trees and forests provide settings for gatherings of neighbors and citizens
- Trees reduce domestic violence by bringing residents outside where they form bonds



Streetscapes without trees are hotter and less inviting to shoppers.



Shady streetscapes with abundant trees are cooler and more inviting to shoppers.



For more information...

- North Carolina State University
 - <https://www.ncsu.edu/project/treesofstrength/benefits.htm>
- North Carolina Forest Service
 - http://www.ncforestsERVICE.gov/Urban/Urban_Forestry.htm#
- International Society of Arboriculture
 - <http://www.treesaregood.com/treeowner/benefitsoftrees.aspx>
- National Arbor Day Foundation
 - <https://www.arborday.org/trees/index-benefits.cfm>
- National Tree Benefit Calculator
 - <http://www.treebenefits.com/calculator/>