



# Benefits and Health of Trees

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# Tree Benefits

- Improve Air Quality
- Manage stormwater
- Store Carbon
- Provide habitat for animals
- Provide habitat for people
  - Stress reduction, better health, reduced HDAD, improved immune system functioning
  - Higher property values, lower vacancy rates, better employee retention, lower crime rates



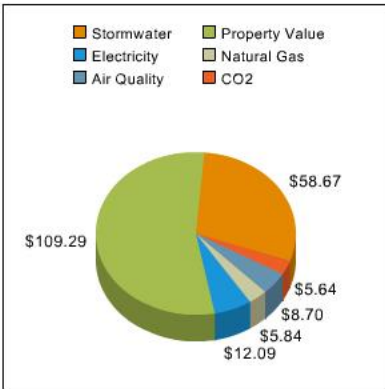
# Trees Save Energy

- Directly by shading buildings
  - Deciduous trees on south and west side can reduce cooling by 10 to 30%
  - Evergreens on north side can reduce heating costs by 10%
- Indirectly by reducing heat island effect

(Saving energy also reduces air pollution and carbon emissions.)



Overall Benefits Stormwater Property Value Energy Air Quality CO2 About the model



**Breakdown of your tree's benefits**  
Click on one of the tabs above for more detail

**This 20 inch Red maple provides overall benefits of: \$200 every year.**

While some functional benefits of trees are well documented, others are difficult to quantify (e.g., human social and communal health). Trees' specific geography, climate, and interactions with humans and infrastructure is highly variable and makes precise calculations that much more difficult. Given these complexities, the results presented here should be considered initial approximations—a general accounting of the benefits produced by urban street-side plantings.

Benefits of trees do not account for the costs associated with trees' long-term care and maintenance.

**If this tree is cared for and grows to 25 inches, it will provide \$254 in annual benefits.**



Red maple  
Acer rubrum

Overall Benefits **Stormwater** Property Value Energy Air Quality CO2 About the model

**Your 20 inch Red maple will intercept 5,926 gallons of stormwater runoff this year.**

Urban stormwater runoff (or "non-point source pollution") washes chemicals (oil, gasoline, salts, etc.) and litter from surfaces such as roadways and parking lots into streams, wetlands, rivers and oceans. The more impervious the surface (e.g., concrete, asphalt, rooftops), the more quickly pollutants are washed into our community waterways. Drinking water, aquatic life and the health of our entire ecosystem can be adversely effected by this process.

Trees act as mini-reservoirs, controlling runoff at the source. Trees reduce runoff by:

- Intercepting and holding rain on leaves, branches and bark
- Increasing infiltration and storage of rainwater through the tree's root system
- Reducing soil erosion by slowing rainfall before it strikes the soil

For more information visit: [The Center for Urban Forest Research](#)



# TREE HEALTH

# Rot







# Rot 2



# Included bark



# Insect damage



# Sprouting



# Frost Crack





# Reaction wood

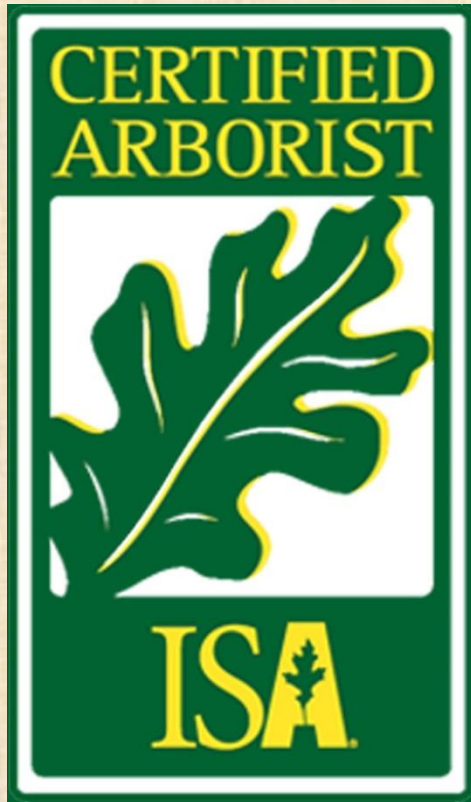


# Reaction Branching





[www.goodtreecare.com](http://www.goodtreecare.com)



# Some Good Urban Trees



Bald Cypress



American Hornbeam

# Some Good Urban Trees



Black Gum



Loblolly Pine

# Do Not Plant

- Trees with health problems:
  - Ash (*Fraxinus* spp.)
  - Black Walnut
  - Unimproved American Elm
  - Unimproved Flowering Dogwood
- Invasive trees
  - *Ailanthus altissima* (Tree of Heaven)
  - Bradford or other Ornamental Pear
  - Norway Maple
  - Mimosa
  - Linden or Double File Viburnum
  - Siberian Elm
  - Pawlonia (Native 3.5 million years ago)
- Invasive vines
  - Oriental bittersweet
  - English Ivy
  - Asian Wisteria
  - Porcelain Berry
  - Japanese Honey Suckle

