



# i-Tree Design

—A National Tree Benefits Calculator—

[www.itreetools.org](http://www.itreetools.org)



# i-Tree: Demonstrating That Trees Pay Us Back!



## Tree Facts

Serving Size: 45 in DBH (114.3 cm)  
Species: Sugar maple, *Acer saccharum*

Amount Per Serving	
<b>Carbon</b> sequestered 810 lbs	avoided 630 lbs
<small>% Annual Value*</small>	

**Total Carbon** 1,461 lbs

**O3** \$6.25

**VOC**(Volatile Organic Compounds) \$2.10

**NO2**(Deposited) \$2.75

**NO2**(Avoided) \$8.00

**SO2**(Deposited) \$0.60

**SO2**(Avoided) \$3.10

**PM10**(Deposited) \$5.70

**PM10**(Avoided) \$0.90

Conserved Kilowatt/hours 213 KwH

Reduced oil/natural gas consumption 72 therm(s)

**Stormwater intercepted** 7,694 gallons

Property value increase \$55.20	Natural Gas \$100.75
Stormwater \$61.55	Electricity \$29.79

\*It should be noted that trees themselves emit biogenic volatile organic compounds (BVOCs) which can contribute to ground-level ozone production. This may negate the positive impact the tree has on ozone mitigation for some high emitting species (e.g. Willow Oak or Sweetgum). However, the sum total of the tree's environmental benefits always trumps this negative.

Source:  
www.i-treetool.com/about/Default.aspx?ID=13&tree=acer\_saccharum  
USDA Forest Service's Center for Urban Forest Research  
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# i-Tree...

*“Putting USFS Urban Forest science into the hands of users”*



 Credible, USDA  
FS peer-reviewed  
tools

 Public Domain  
Software

 Accessible

 Continuously  
improved

[www.itreetools.org](http://www.itreetools.org)



The screenshot shows the i-Tree website homepage. At the top, there is a navigation bar with the i-Tree logo, the tagline "Tools for Assessing and Managing Community Forests", a "Get the Tools" button with a CD icon, a "Google Custom Search" box with "Search i-Tree" text, and a "US" logo. Below the navigation bar is a large banner image of a tree-lined street. Underneath the banner is a horizontal menu with buttons for "Home", "About", "Applications", "Utilities", "Resources", "Support", and "i-Tree News". The main content area is divided into three columns. The left column has a "Listen & Learn: i-Tree Overview" section with a small i-Tree logo and text, a "Featured i-Tree Project" section for "City of Milwaukee, WI" with an "i-Tree Ecosystem Analysis Milwaukee" image, and a "Who's Using i-Tree?" section with a world map. The middle column features a "What is i-Tree?" section with a heading and two paragraphs of text. The right column has a "What's New?" section with three news items: "i-Tree: Measuring the Urban Forest in FLC NewsLink FLC article March 2009 >>", "i-PED - Pest Evaluation and Detection Protocol Learn more about i-PED>>", and "i-Tree April 2009 Newsletter now available April 2009 i-Tree Newsletter>>". At the bottom of the right column are navigation arrows.

# i-Tree Design

- 🌳 Parcel level analysis of individual trees
- 🌳 General public use
- 🌳 Web accessible by all





## i-Tree Design *Beta*

—A National Tree Benefits Calculator—

### Understanding This Tool:

i-Tree Design (beta) allows anyone to make a simple estimation of the benefits individual trees provide. With inputs of location, species, tree size and condition, users will get an understanding of the benefits that trees provide related to greenhouse gas mitigation, air quality improvements and storm water interception. With the added step of drawing a house or building footprint—and virtually "planting" a tree—trees' effects on building energy use can be evaluated.

This tool is intended to be a simple and accessible starting point for understanding individual trees' value to the homeowner and their community. For more detailed information on urban and community forest assessments, please explore the rest of the [i-Tree](#) website.

**Thank you for choosing i-Tree Design to calculate the economic and ecological benefits of your tree.**

To get started enter your address below:

1614 N Newcastle Ave, Chicago, IL 60707, USA

Submit



■ Stormwater ■ Air Quality ■ CO2  
■ Cooling ■ Heating



**Breakdown of your tree's benefits**

Overall Benefit

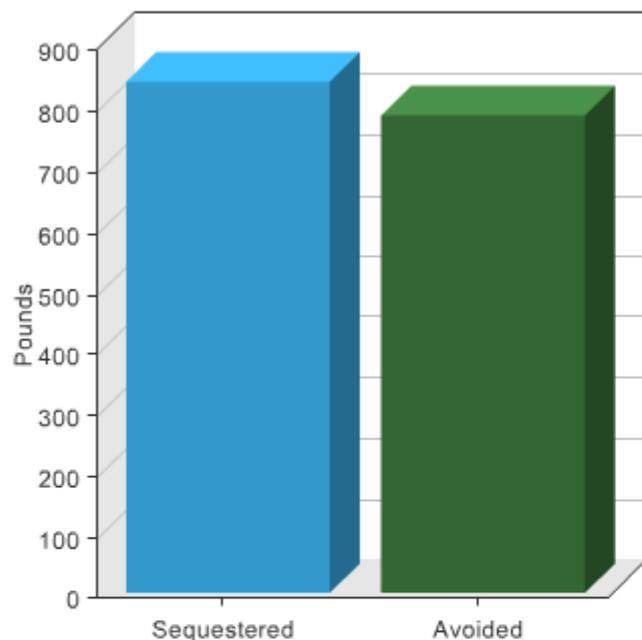
Storm Water

Energy

Air Quality

CO<sub>2</sub>

About Model



**This year your 36 inch American elm tree will reduce atmospheric carbon dioxide by 1,631 pounds.**

How significant is this number? Most car owners of an "average" car (mid-sized sedan) drive 12,000 miles generating about 11,000 pounds of CO<sub>2</sub> every year. A flight from New York to Los Angeles adds 1,400 pounds of CO<sub>2</sub> per passenger.

Trees can have an impact by reducing atmospheric carbon in two primary ways (see figure at left):

- They sequester ("lock up") CO<sub>2</sub> in their roots, trunks, stems and leaves while they grow, and in wood products after they are harvested.
- Trees near buildings can reduce heating and air conditioning demands, thereby reducing emissions associated with power production.

Combating climate change will take a worldwide, multifaceted approach, but by planting a tree in a strategic location, driving fewer miles, or replacing business trips with conference calls, it's easy to see how we can each reduce our individual carbon "footprints."

For more information see the USDA Forest Service's [Community Tree Guide](#) series.

# Questions?



🌳 Visit: [www.itreetools.org](http://www.itreetools.org)

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