

<http://www.coloradotrees.org/benefits.htm> has a detailed compilation of the results of many studies researching the benefits of street trees. The following is a ten-item summary of that compilation.

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## **WHAT A LARGE STREET TREE CAN DO FOR YOU**

### **1. SAVE ENERGY**

A mature tree can save on the cost of summertime air conditioning by shading nearby buildings and cooling the air. Well-placed tree canopy can save a homeowner as much as 30% in air conditioning cost.

### **2. REDUCE SUMMER CITY TEMPERATURES**

- a. Urban hardscapes baking in the sun can raise the temperature of a city 6 to 19 degrees Fahrenheit higher than the surrounding countryside. (This is called the "heat-island effect".) Trees with big canopies help to cool cities by shading heat-absorbing hardscape.
- b. A tree can be a natural air conditioner. The evaporation from a single large tree can produce the cooling effect of 10 room size air conditioners operating 24 hours/day.

### **3. EXTEND THE LIFE OF PAVED SURFACES**

The asphalt paving on streets contain stone aggregate in an oil binder. Under the hot summer sun, the oil heats up and volatilizes, and the aggregate loosens and wears away. The street resealing that is required to slow this process down can be deferred from every 10 years to every 20-25 years for streets with extensive tree canopy cover.

### **4. INCREASE TRAFFIC SAFETY**

Trees enhance traffic calming measures. Tall trees make a street feel narrower, slowing people down. Closely spaced trees give the perception of speed (they go by very quickly) slowing people down. Trees also serve as a buffer between moving vehicles and pedestrians.

### **5. IMPROVE OUR AIR**

- a. A big tree can absorb 10 pounds of air pollutants per year, including 4 lbs of ozone and 3 lbs of particulates. There is up to a 60% reduction in street level particulates with trees.

- b. Uptake of nitrogen oxides by the tree is equivalent to the amount of nitrogen oxides emitted by a typical car driven 3,600 miles.
- c. A mature tree can absorb carbon dioxide at a rate of 48 lbs/year and release enough oxygen back into the atmosphere to support 2 human beings.

## **6. PROTECT OUR WATER**

- a. A big tree can intercept 760 gal of rainfall in its crown, thereby reducing soil erosion, runoff of stormwater and flooding.
- b. Trees act as natural pollution filters, removing nutrients harmful to water ecology and quality.

## **7. REDUCE CARBON DIOXIDE IN THE ATMOSPHERE, A CAUSE OF CLIMATE CHANGE**

In its lifetime a tree can remove 330 lbs of carbon dioxide from the atmosphere through direct carbon sequestration in the tree's wood and through reduced power plant emissions due to cooling energy savings. A large tree reduces the same amount of atmospheric carbon dioxide as is released by a typical car driven 500 miles.

## **8. IMPROVE ECONOMIC SUSTAINABILITY**

- a. The scope and condition of a community's trees and, collectively, its urban forest, is usually the first impression a community projects to its visitors. A community's urban forest is an extension of its pride and community spirit.
- b. Trees enhance community economic stability by attracting businesses and tourists. And people linger and shop longer along tree-lined streets.

## **9. INCREASE SOCIOLOGICAL BENEFITS**

Trees help create relaxation and well being. Hospital patients recover faster. Residents who live near trees have significantly better relations with and stronger ties to their neighbors.

**and last but not least,**

## **10. INCREASE REAL ESTATE VALUES**

The property values of homes and businesses with mature trees in front increase 5 to 15% when compared to properties without trees, depending on species, maturity, location, and quantity.