

BENEFITS OF STREET TREES BESIDES THE OBVIOUS

There are numerous benefits to street tree besides the obvious benefit of making a street look more attractive. Street trees are proven to provide significant benefits to residents in terms of air quality, temperature moderation, traffic noise attenuation, property values, traffic calming, erosion control, and improved public safety through the reduction of solar glare. Street trees can even reduce taxes by extending the life expectancy of pavement.

Trees improve **air quality** through their leaves, which absorb pollutants (carbon dioxide, nitrogen dioxide, and sulfur dioxide), and capture air-borne particles, including dirt, dust and soot.

Trees help **reduce flooding** and **improve water quality**, as runoff flowing over impervious surfaces picks up contaminants, including oil and metals. Trees intercept rain on their leaf, branch and stem surfaces and by absorbing water through their roots. This can have the effect of preventing stormwater from overwhelming drainage systems. For example, a 2005 study of municipal trees in Boulder, Colo., found that the average tree intercepts 1,271 gallons of precipitation annually, saving the city \$523,311 in storm-water retention costs. For this reason alone, the value of tree maintenance can't be minimized, because a 30-inch-diameter tree removes 70 times more pollution per year than a 3-inch tree does.

Yes, humble street trees cool the air, reduce pollution, and absorb storm-water runoff, say forestry experts. But the **benefits aren't only ecological**, they say. Property values are 7 percent to 25 percent higher for houses surrounded by trees. And, consumers spend up to 13 percent more at shops near green landscapes. One study even suggests patients who can see trees out their windows are hospitalized, on average, 8 percent fewer days.

Plus, street trees **increase safety** and **cut traffic noise**. It has been proven that trees have a calming effect on traffic, which moves more slowly on streets lined with trees, thereby reducing engine and tire noise, simply because of the reduced speed. And secondly, a line of large leafy trees can absorb a great deal of noise; even a line of smaller trees can be enough of a buffer to block traffic noise from reaching private yards and homes.

And finally, studies have shown that by reducing the detrimental effects of temperature extremes on pavement - through the summer cooling effect of the shade provided, and the reduction of radiational cooling in the winter - **pavement life** can be noticeably extended by street trees.

Excerpted from various sources by Bruce E. Fletcher, Tree Warden, Stow, MA, 2010