



Air Quality Re-leaf

By Steve Houser

Trees have a direct and profound effect on our air quality, as well as our quality of life, in many ways. They clean our air, water and soil; plus they improve our health, sense of well being and our economic future (among many others). The scientific community and regional decision makers are just beginning to understand that trees offer many solutions to environmental problems. Trees are powerful, full time, efficient air filters. Smart decision makers know that cleaner air and a greener city attract business and people, which encourages prosperity. They are also aware that large areas of brick, glass and concrete create a “heat island effect” causing a rise in temperatures of up to 12 degrees. Even a simple one degree rise in urban temperature will have a direct and negative effect on our air quality. Current research provides important data regarding the positive and negative effects of trees on our air quality. A brief list includes:

- Trees that shade buildings reduce energy use and power plant emissions.
- Trees that shade streets and hardscapes reduce ozone formation.
- Trees can reduce wind speeds, which can increase ozone concentrations. However, proper tree pruning and planting will help to increase air movement.
- Trees absorb carbon dioxide and other chemicals from our air (biogenic sequestration). The absorption of carbon is more of a global warming issue than an air quality issue.
- Trees remove ozone from the air through dry deposition but also add volatile organic chemicals or VOC's such as isoprene and benzene) which are precursors to ozone formation.

New research is being produced on a regular basis, but it is clear that the many benefits of trees far outweigh any negative effect on our air quality. However, in order to maximize these benefits, efforts must be established to strengthen regional and local forestry programs. These efforts should include a regional survey and analysis of our forest tree (or canopy) cover as well as establishing management guidelines that lead to sound urban forestry practices in the future. In order to effectively address air quality concerns using trees, the public must assume ownership of our urban forest and offer a commitment to the proper management of this vital asset. As the public and private sectors are stronger stewards of our green infrastructure. We all breathe the same air. By working together, we multiply our efforts and knowledge, as well as public support. The results have a positive impact on our environment in many ways.

According to National Forest Service research, larger trees are 60-70 times more beneficial than recently planted trees. As a result, conservation helps air quality today and tree planting will help in the future. These efforts will not resolve all of our air quality concerns but they are a critical part of the solution. We have an obligation to leave our ecosystems in better condition than we found them. A great economic future is of little value without clean air. You do not have to be an environmentalist to be an Airhugger. Assuming ownership of our urban forest will provide a precious gift for our children that cannot be measured in dollars and cents.

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