

**Effects on Climate:** Trees are important in reducing the damaging effects of increased temperatures locally. Increased parking lots, streets and buildings in Montvale have changed the climate by causing more locations of intensified heat. Water that previously percolated into soil now drains away directly into the sewers or dries on the hard surfaces, resulting in increased temperatures and possible lack of adequate water for vegetation.

Trees increase human comfort; indoors or outdoors. On hot days, trees pump hundreds of gallons of water through their foliage. This water evaporates, keeping the tree and its immediate surroundings cool. While groves of trees reduce local air temperatures, individual trees increase human comfort primarily by controlling solar radiation, not air temperature. Trees and other vegetation shield people from direct sunlight and provide shade to soil, pavement, buildings, and other

surfaces that would absorb solar energy and then radiate that heat locally. At night, radiation moves heat in opposite direction; from the relatively warm earth to the relatively cool sky. Tree canopies, block radiant heat loss from homes and people. Indoor air temperatures are also affected by trees growing around buildings. During hot weather, trees reduce cooling costs by buffering high air temperature and blocking unwanted solar energy. During winter months, solar gain is desirable, because it reduces heating costs. To get the best balance, on the south and west sides of buildings plant deciduous trees that have thin, open branches to allow winter sun to penetrate into the building. Trees properly placed around buildings can reduce air conditioning needs by 30 percent and can save 20–50 percent in energy used for heating. -USDA Forest Service.

**Noise Pollution:** Trees reduce noise from highways and other sources. Earth berms can decrease traffic noise by up to half, if they are tall enough to hide the source of noise and are planted with trees, shrubs, and grasses.

**Air Pollution:** Trees improve the urban and suburban environment. Trees are fairly effective at removing both solid and gaseous particulates from the air.

Studies indicate that trees reduce air borne particulates by 9% to 13% and that a stand of trees can reduce the amount of dust reaching the ground from 27% to 42% when compared to an open area. As a result, studies suggest, that trees planted in urban/suburban areas can be up to ten times more effective than trees in a forest in lowering carbon dioxide.

**Soil and Water Quality:** Trees help rainwater and snowmelt properly percolate into the solid. Without

trees, rainwater and snowmelt become concentrated and accelerated, increasing soil erosion and silt accumulation in streams. Trees and other vegetation protect soil from erosion which cause residential water problems. The vegetation absorbs some of the force of falling rain, so soil particles are not dislodged. Along waterways, roots and fallen leaves help hold the soil together which shields it against the cutting forces of surface water. Leaf litter creates an environment for earthworms and other organisms that help maintain soil quality.

**Aesthetic Values:** Trees are known to add character and spirit to a community. While it is difficult to measure these benefits, as they are subject in nature, studies have taken place showing a clear connection between vegetation and benefits to human health.

**Monetary Values:** There are numerous studies that have shown

that real estate agents and home buyers assign ranges from 10% to 23% of the value of a residence to the trees on the property. (The standard for estimating the monetary value of landscape vegetation, usually accepted by insurance companies, courts and public agencies is *Valuation of Landscape Trees, Shrubs, and Other Plants; A Guide to the Methods and Procedure for Appraising Amenity Plants*. This guide was prepared by the *Council of Tree and Landscape Appraisers* and published by the International Society of Arboriculture, seventh edition).

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#### Environmental Commission

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### Value of Trees in the Borough of Montvale

Trees modify local climates, reduce noise pollution, and air pollution. Trees protect our soil and water!

Additional environmental benefits are also aesthetic, and improve the physical quality of our environment and our health. Trees increase our homes' monetary values.

**Montvale has a Tree Ordinance!**

*Please check local code and laws*