

Portsmouth's Tree Care Program



Trees are major capital assets in cities across the United States. Just as streets, sidewalks, public buildings and facilities are a part of a community's infrastructure, so are street trees.

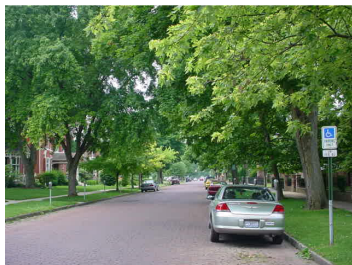
Trees - our community forests - are on the job 24 hours every day working to improve our environment and quality of life. Aside from the obvious aesthetic benefits, trees within these urban forests clean our air, protect our water, save energy, and create an inviting sense of place that can dramatically enhance economic development.

What do your trees do for you?

- ◆ Research by the USFS shows that during rainstorms, trees intercept precipitation significantly reducing stormwater by up to 17%. Reducing stormwater runoff is the most cost effective way to reduce flooding.
- ◆ One sugar maple (12" DBH) along a roadway removes heavy metal pollutants including cadmium, chromium, nickel, and lead every day.
- ◆ Homeowners that properly place trees in their landscape can realize savings up to 58% on daytime air conditioning and as high as 65% for mobile homes. If applied nationwide to buildings not now benefiting from trees, **the shade could reduce our nation's consumption of oil by 500,000 barrels of oil/day.**
- ◆ Street trees absorb up to 60% of particulate pollutants markedly improving air quality.
- ◆ Over a 50-year lifetime, a tree generates \$31,250 worth of oxygen, provides \$62,000 worth of air pollution control, recycles \$37,500 worth of water, and controls \$31,250 worth of soil erosion.
- ◆ A tree is 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.
- ◆ Studies show that trees enhance community economic stability by attracting businesses and tourists. People linger and shop longer along tree-lined streets. Apartments and offices in wooded areas rent more quickly and have higher occupancy rates. Businesses leasing office spaces in developments with trees find their workers are more productive and absenteeism is reduced.

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- ◆ The burning of fossil fuels like oil and gas are accumulating in our air causing the "greenhouse effect." Trees remove (sequester) CO_2 as well as other pollutants from the air. Trees therefore act as a carbon sink by removing the carbon and storing it as cellulose in their trunk, branches, leaves and roots while releasing oxygen for our benefit.
 - ◆ An acre of trees absorbs enough CO_2 over one year to equal the amount produced by driving a car 26,000 miles.
 - ◆ Trees also reduce the greenhouse effect by shading our homes and office buildings. This reduces air conditioning needs up to 30%, thereby reducing the amount of fossil fuels burned to produce electricity. This combination of CO_2 removal from the atmosphere, carbon storage in wood, and the cooling effect makes trees a very efficient tool in fighting the greenhouse effect and global climate change.
 - ◆ Trees benefit roads--The asphalt paving on streets contain stone aggregate in an oil binder. Without tree shade, the oil heats up and volatilizes, leaving the aggregate unprotected. Vehicles then loosen the aggregate, and much like sandpaper, the loose aggregate grinds down the pavement. Streets should be overlaid or slurry sealed every 7-10 years over a 30-40 year period, after which reconstruction is required. A slurry seal costs approximately \$0.27/sq.ft. or \$50,000/linear mile. Because the oil does not dry out as fast on a shaded street as it does on a street with no shade trees, this street maintenance can be deferred. The slurry seal can be deferred from every 10 years to every 20-25 years for older streets with extensive tree canopy cover.
 - ◆ Trees calm traffic. Tall trees give the perception of making a street feel narrower, slowing people down. Closely spaced trees give the perception of speed (they go by very quickly) slowing people down. A treeless street enhances the perception of a street being wide and free of hazard, thereby increasing speeds. Increased speed leads to more accidents.
 - ◆ Trees can serve as a buffer between moving vehicles and pedestrians.

Information obtained through the Universities of Georgia, California-Davis, the USDA Forest Service, American Forests, and the Colorado Tree Coalition.



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