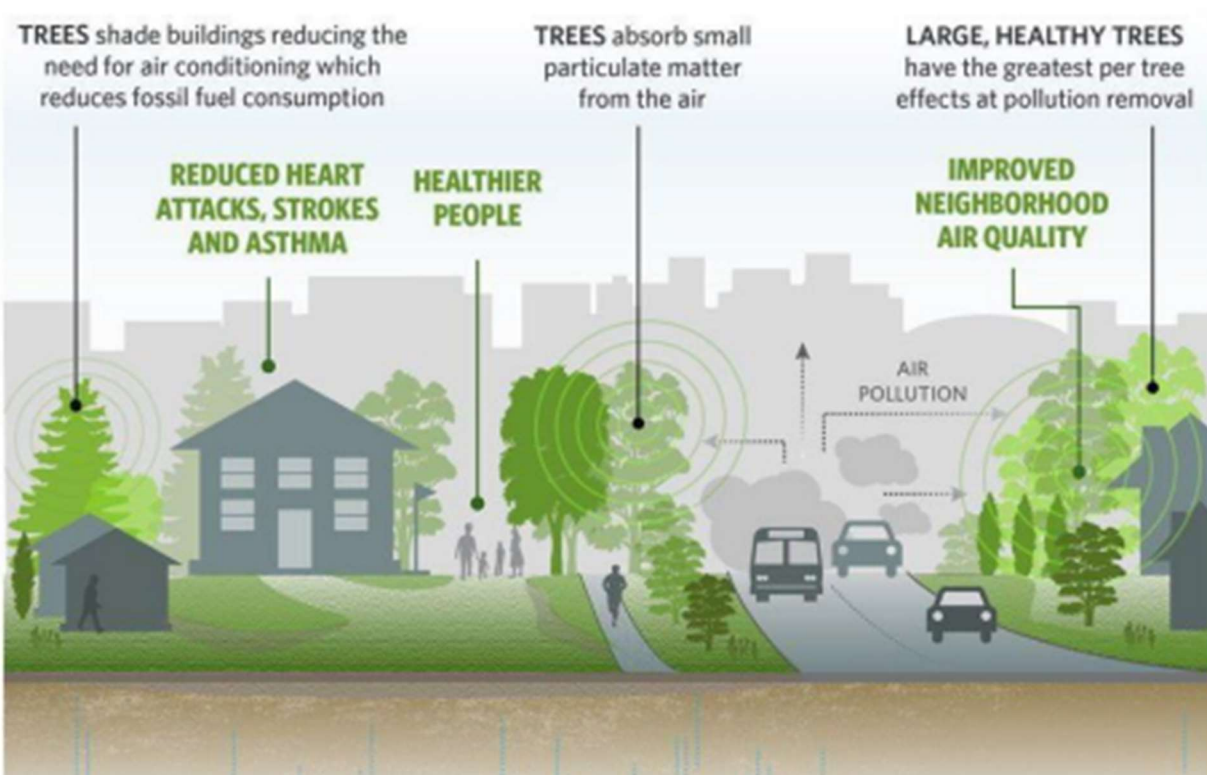


Roadside Trees:

Ecological Value and Impact on Atmospheric Carbon



- Roadside trees are typically the fastest growing and largest trees in the landscape because of increased light and reduced competition along the forest edge. Thus, a tree 36 inches in diameter is not unusual along a roadside, but a tree this size represents a tiny 0.03% of trees growing in Connecticut's forest.
- Roadside trees also provide critical human health benefits by filtering pollutants from roadways. Large trees filter far more pollutants than small trees. For instance, a 30-inch diameter tree filters 60-70 times the pollutants as a small tree 3 inches in diameter in the same place.
- Large trees reduce home energy use and carbon emissions by cooling a house in summer and insulating it from cold winds in winter. Large trees (30 inches diameter) provide up to 6-7 times more avoided CO² emissions than small trees (3 inches diam.) of the same species.



Source: BBC

Roadside Trees:

Ecological Value and Impact on Atmospheric Carbon



- More generally, tree cover in developed settings provides critical cooling services for people, a service that will only become more important with warming temperatures. For instance, within a single urban landscape of the Northeast, areas with 30% less tree cover can be 7 degrees F hotter!
- Large trees are considered ‘keystone structures’ because of their significant contribution to a broad array of ecological processes and their critical value for biodiversity. They also have large impacts on local microclimate, soil moisture, and soil nutrient levels.
- Regarding biodiversity more specifically, large trees in more developed settings function as biodiversity “hotspots.” For instance, a handful of large trees in a developed setting can have up to 2.5 times the diversity of bird species as an equivalent number of smaller trees.
- Large roadside trees are not only rare natural features on the landscape, they absorb carbon much faster and store more carbon than the average tree in the forest. A red oak tree 36 inches in diameter stores about 4.5 metric tons of carbon in its wood, which is equivalent to the annual CO₂ emissions of 3.5 passenger cars. That tree stores over 6000 times more carbon than a replacement tree 1 inch in diameter. A 1-inch diameter tree also absorbs 135 times less carbon dioxide each year than a 36-inch tree of the same species.
- When roadside trees are cut and turned into wood chips, most of the stored carbon in the wood is rapidly converted to CO₂ and released into the atmosphere, exacerbating the climate problem.
- Large street trees provide unparalleled scenic beauty and natural character in a town. They are town-wide treasures that cannot be replaced for at least a century.

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