

URI Tree Ambassadors: Tree Facts List

Welcome! We are excited that you are interested in volunteering with us at URI as a Tree Ambassador. In this document, you will find facts about the benefits of urban/street trees that can help you gain knowledge about the importance of trees in our New Haven community. They are facts worth sharing on social media along with the link to request a free URI tree (yalef.es/treerequest) to help encourage others to adopt a tree.

All photos used are from URI's GreenSkills Team!

THE HISTORY OF URBAN TREE PLANTING

Trees were not always seen as an important asset to the health of cities. Yet as cities grew, parks and trees became a clearer need for city dwellers working long hours. Most tenement dwellers had little time, money, or energy to travel to the ever-more-distant borders of the city. Additionally, the dirt, grit, and heat of an urban environment became increasingly evident.

By the 1800s, New York City was experiencing the disease and discomfort of hot, treeless streets. In the 1870s, Dr. Stephen Smith spearheaded research and advocacy for planting trees, suggesting that adding trees—the only air conditioners available at the time—could save between 3,000 and 5,000 lives per year.



Even now, our cities need trees. A few well-placed trees can provide erosion control, flood control, climate calming, air cleaning, mental and physical health support, and beauty. Very few built solutions achieve so much in so little space as trees can!

1. Did you know that trees can help with water management? Much of a city's built environment is impermeable to water. Hardscape—made of traditional concrete, glass, stone, steel, and

asphalt—prevents groundwater replenishment and produces run-off. Trees decrease the flooding these circumstances create. Trees also return moisture to the air in a process called transpiration. A mature oak tree can return 40,000 gallons of water to the atmosphere per year.

2. Did you know that trees along streets reduce urban traffic speeds and make driving more pleasurable? Trees help with safe road design and are proven to slow average driving speeds and reduce the chance of head-on crashes. A row of trees can also provide clear demarcation of pedestrian zones, creating a visual wall that helps keep drivers on the roadway. They can even help mitigate drivers' frustrations of commuting.

3. Did you know that trees encourage outdoor activity? Where space is beautiful and safe, people are more likely to be active, including walking or riding a bicycle. In this way, trees encourage healthy lifestyles, get people moving, and support their health outcomes. Increased activity can contribute to why better heart health and longevity are correlated with green-space rich neighborhoods.



4. Did you know that studies show tree canopy creates lower rates of psychological distress? People have lower stress levels and are less likely to suffer from depression when they have a connection to nature.

5. Did you know that trees can create a community identity and unity? Local trees create a sense of place and community pride. Trees as landmarks can give a neighborhood a new identity and encourage civic pride. Many neighborhoods, buildings, or developments are named for their trees. Here in New Haven, we are the Elm City!

6. Did you know that trees create variations in color, texture, and height in the visual landscape? Their beauty can be a tourist draw, from bright autumnal foliage to gorgeous spring cherry blossoms.

7. Did you know that trees help promote regional biodiversity? Birds, butterflies, squirrels, chipmunks, and other local fauna require the habitat and sanctuary provided by trees. A tree's ability to help prevent soil erosion can also help maintain vegetation on the ground level.

8. Did you know that trees can provide cooler air? Cities are up to 12°F hotter than surrounding countryside, but trees can lower the temperature in urban areas by 9–27°F. Hardscapes like concrete, brick, and asphalt absorb sunlight, creating what is known as an urban heat sink. Trees combat urban heat sinks



in part by capturing sunlight so it does not hit the pavement. They also offer shade and release water vapor into the air!

9. Did you know that trees help manage air quality by reducing pollutants? Trees absorb odors and pollutant gases (nitrogen oxides, ammonia, sulfur dioxide and ozone) and filter particulates out of the air by trapping them on their leaves and bark. When it rains, the particulate is sent to the ground, where it is filtered by soil and other plants. A large healthy tree can remove 3.5 lbs of pollutants in one year!

10. Did you know that trees remove carbon dioxide from the atmosphere and combat the greenhouse effect? Trees are an important tool in the race to lower atmospheric carbon dioxide (CO₂) and mitigate climate change. CO₂ is a major greenhouse gas. Trees absorb CO₂, removing and storing the carbon while releasing the oxygen back into the air. In one year, an acre of mature trees absorbs the amount of CO₂ produced when you drive your car 26,000 miles. Research has shown that



reforestation is a way to capture 200 billion pounds of carbon dioxide over the next 50–100 years.

11. Did you know that trees can help you save on heating and cooling? Urban air temperatures can significantly increase energy costs to homeowners, however, the local climate control by trees helps lower energy use. Properties with trees save on cooling costs due to shade and transpiration, plus heating costs through windbreak and climate moderation effects. A properly shaded neighborhood of urban street trees can reduce energy bills for a household from 15-35%. This helps lower the overall energy requirement of the city and lowers use of fossil fuels that contribute to climate change.

12. Did you know trees can increase your property value? As the trees on a street mature, property values tend to increase. Homes with trees sell for 5–10% more. Well-placed trees can add beauty to your landscaping. They can also help provide privacy to residents, depending on placement.

13. Did you know that trees create more pleasant walking environments? Trees help beautify the harsh aesthetics of concrete and asphalt and provide an often needed direct connection to nature. They also provide



protection from the elements – rain, sun and heat—making tree lined streets more desirable to be on. This all helps build pride and care for environments.

14. Did you know that street trees provide safer walking environments for pedestrians? They do this by forming visual walls, providing distinct edges to sidewalks, and reducing road rage.

Street trees sometimes call for planting strips and medians, which further define the boundaries between the road and pedestrian areas.

15. Did you know that trees can improve the success of your business? Businesses on tree-lined streets show 12% higher income streams. This is often the essential competitive edge needed for main street store success versus competition from plaza discount store prices.

16. Did you know that trees can create less of a need for drainage infrastructure? Trees absorb 30% of most precipitation through their leaf system, allowing for evaporation back into the atmosphere. Up to 30% of precipitation is absorbed back into the ground and held onto by the root structure, then transpired back to the air. Some water also naturally percolates into the groundwater and aquifer (the underground layer



of water-bearing permeable rock). Storm water runoff and flooding potential to urban properties is therefore reduced.

17. Did you know that trees can provide rain, sun, heat, and skin protection? During light or moderate rains, pedestrians find less of a need for protection when there is a street tree canopy. Additionally, temperature differentials of 5-15° are felt when walking under tree canopied streets.

18. Did you know that trees help clean the air on roadways and reduce harm from tailpipe emissions? Automobile and truck exhaust is a major public health concern and contains significant pollutants. Tailpipe emissions are adding to asthma, ozone and other health impacts. Impacts are reduced significantly by proximity to trees. Trees placed on roadways filter automobile exhaust and emissions.

19. Did you know that street trees allow for gas transformation efficiency? Trees in street proximity absorb 9 times more pollutants than more distant trees, converting harmful gasses back into oxygen and other useful and natural gasses.

20. Did you know that trees help prevent water pollution? Trees reduce runoff by breaking rainfall, thus allowing the water to flow down the trunk and into the ground below the tree. This prevents stormwater from



carrying pollutants to the ocean. When mulched, trees act like a sponge that filters this water naturally and uses it to recharge groundwater supplies.

21. Did you know that trees shield children from ultraviolet rays? Skin cancer is the most common form of cancer in the United States. Trees reduce UV-B exposure by about 50%, thus providing protection to children on school campuses and playgrounds where they may spend hours outdoors.

22. Did you know that trees provide a variety of foods? An apple tree can yield up to 15-20 bushels of fruit per year and can be planted on the tiniest urban lot. Aside from fruit for humans, trees also provide food for birds and wildlife.

23. Did you know that trees heal? Studies have shown that patients with views of trees out their windows heal faster and with fewer complications. Children with ADHD show fewer symptoms when they have access to nature. Exposure to trees and nature aids concentration by reducing mental fatigue.

24. Did you know that trees bring diverse groups of people together? Tree plantings provide an opportunity for community involvement and empowerment that improves the quality of life in our neighborhoods.

25. Did you know that trees provide a canopy and habitat for wildlife? Sycamore and oak are among the many urban



species that provide excellent urban homes for birds, bees, possums and squirrels.

Thank you for reading!

Sources:

- "11 Benefits of Street Trees in Urban Spaces: Reasons for cities to invest in green infrastructure"
<https://www.reliance-foundry.com/blog/11-benefits-street-trees>
- "20 Incredible Benefits of Urban Street Trees"
<https://arbor1.com/2015/02/16/20-Incredible-benefits-urban-street-trees/>
- "Urban Street Trees: 22 Benefits and Specific Applications"
https://www.michigan.gov/documents/dnr/22_benefits_208084_7.pdf
- "Top 22 Benefits of Trees"
<http://www.nitrofill.com/TreeBenefits.aspx>

