Newton Needs a Revision to its Tree Ordinance: Here's Why

Over last 50 years, Newton has lost 50% of its street tree canopy (Open Space and Recreation Plan, 2020-2027, Ch 4., p. 60).[1] This loss is attributed to disease, gas leaks, storm damage, and removal for development. The loss of trees on private lots is at least as great, but the city does not keep data on private-land tree loss. However, we know developers often clear cut lots, even residential lots on residential streets, to expedite movement of equipment. The short window of construction should be measured against the thirty years it takes for a tree to reach maturity.

Even with Urban Forestry's current tree planting, Newton continues to lose approximately 1,000 street trees per year.

- In 2014, the Newton City Council enacted a Tree Preservation Ordinance (A–38) to protect mature trees and replace removal of healthy trees, but it has proven insufficient.
- Right now, there are no protections on trees smaller than 8" in diameter (DBH), and on the many exempt lots in the city, there are no protections for any trees. There are also no protections for any trees due to damage caused by activities on abutting lots. For larger trees on non-exempt lots, a fee can be paid into Newton's tree fund or trees with an equivalent number of caliper inches may be planted. But a young tree and mature tree do not provide equal ecosystem benefits (Marc Welch, public presentation, April 21, 2022).[2]
    - A mature tree sequesters 2600 lbs of carbon vs. a young tree's 60 lbs.
    - A mature tree conserves 1300 kWh per year, a young tree, 150 kWh per year
    - A young tree uses more water for early growth than it saves in stormwater drainage for the first 3 years after planting

Loss of mature trees has critical effects on the climate and public health.

- Mature trees provide significant carbon capture and energy savings[3]
- Provide stormwater mitigation and prevent flooding[4]
- Save money on asphalt resurfacing, street with 20% shade saves the city 60% on resurfacing costs over 30 years (Center for Urban Forest Research, p. 3)[5]
- Clean the air of pollutants
- Prevent heat islands
- Slow vehicular traffic and act as a sound barrier
- Protect against topsoil erosion
- Beautify neighborhoods and increase property values

Newton needs to take action.

Such drastic reductions in Newton's tree canopy mean even more stringent rollbacks in greenhouse gas emissions will be necessary to achieve the carbon neutrality agreed on in the

[1] https://www.newtonma.gov/home/showpublisheddocument/72128/637616961801770000
[2] https://youtu.be/MWUNFXxSK_w; see especially 31:15 – 33:40.
[3] https://www.fs.usda.gov/ccrc/topics/urban-forests
[4] https://www.cdc.gov/climateandhealth/effects/default.htm
[5] https://www.fs.fed.us/psw/topics/urban_forestry/products/cufr_673_WhyShadeStreets_10-06.pdf

City's Climate Action Plan, despite ongoing tree planting (pp. 40, 47, 64, 67, 68).[6]

- Climate change constitutes a public-health emergency, according to the American Medical Association, the American Public Health Association, and over 70 major medical organizations.[7]
- Climate impacts public health via air pollution; allergens; diseases carried by mosquitos, ticks, and rodents; temperature; flooding; and more (according to the CDC).[8]
- The window to prevent global warming from exceeding 1.5 degrees Celsius closes in 2030 (IPCC report).[9]
- We need to *save* mature trees in our urban canopy because they provide significant carbon capture and energy savings[10]
    - Planting new trees is inadequate because it takes decades for new trees to provide the same ecosystem services.
    - See the 10-minute presentation (starting at 24:02) by Newton City Forester Marc Welch in this 2022 webinar on Trees as a Public Good.[11]

These public-health and climate effects are environmental justice issues, even in Newton.

Compare Tree Equity Scores[12] for different parts of Newton:

- Nonantum: 53/100
- Newtonville: 59/100
- Auburndale, Newton Upper Falls & Newton Corner: 76/100
- Waban & Chestnut Hill: 100/100

How does the ordinance need to change?

- A protected tree's width at breast height (DBH) must be 6" instead of 8".
- There need to be no lots exempted from tree protection.
- There need to be protections for trees abutting lots with damaging activities (such as demolition or construction).
- Protections must be enacted for appropriate species of replacement trees to be planted with oversight of first three years' growth.
- Appeals for removal of healthy mature trees must be restricted to reasonable safety and wellbeing provisions.
- There must be better guidelines to retain perimeter trees during construction.
- Replacement, whether planting new trees or paying a compensation fee, should reflect the current science showing the need for a higher ratio of replacement inches and showing the expensive energy, infrastructure, public health and other costs to the City.

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[6] https://www.newtonma.gov/home/showpublisheddocument/39649/637335412898900000
[7] https://climatehealthaction.org/cta/climate-health-equity-policy/
[8] https://www.cdc.gov/climateandhealth/effects/default.htm
[9] https://www.climaterealityproject.org/blog/2030-or-bust-5-key-takeaways-ipcc-report
[10] https://www.fs.usda.gov/ccrc/topics/urban-forests
[11] https://youtu.be/MWUNFXxSK_w
[12] https://treeequityscore.org/