

URBAN FORESTRY TREE COMMISSION MEETING

Wednesday December 6, 2023 – 6:00 P.M.

Parks, Recreation & Cemetery Administrative Office

Meeting Room A

50 Officer Manny Familia Way Worcester, MA 01605

Or

If you choose to use the Microsoft Teams platform:

- 1) Go to www.teams.com
- 2) Enter Meeting ID# 267 223 012 672
- 3) Enter password: sD4D2Z

If you choose to attend via phone:

- 1) Call 1-469-998-7682
- 2) Enter Meeting ID#: 309 866 428#

AGENDA

1. Call to Order
2. Attendance (Roll Call)
3. Acceptance of Minutes for the (Roll Call) – November 1, 2023
4. To request a reasonable accommodation or interpretation or submit written comments or questions in advance of the meeting, please contact the Parks, Recreation & Cemetery Division by email at Worcestertrees@worcesterma.gov. Please note that interpretation requests must be received no later than 48 hours in advance of the meeting. Para solicitar una interpretacion razonable, o enviar comentarios o preguntas por escrito por favor comuniquese con la oficina de la Division de Parques, Recreo & Cementerio por correo electronico a Worcestertrees@worcesterma.gov. Por favor note que las solicitudes de interpretacion deberan ser enviadas 48 horas antes de la reunion.
5. Public Participation – Pursuant to Chapter 20 of the Acts of 2021 and in order to ensure active, public engagement, the City of Worcester currently allows for both in person and remote participation at the Urban Forestry Tree Commission meetings. To partake in the “Public Participation” section of this meeting, you may join us directly within the 50 Officer Manny Familia Way Meeting Room A, follow the information above to join via the Teams application or dial the direct line as indicated. If you would like to raise your hand when in the meeting as a call-in user, you may dial *5.

6. Assistant Commissioners Report (See Report Topics Below)

7. Old Business

- Request of Commissioner Winbourne for the Commission to set goals for the Commission

8. New Business

- The second draft of the Urban Forestry Master Plan which can be found here:
[Trees in the City - Right Tree, Right Place | City of Worcester, MA \(worcesterma.gov\)](https://www.worcesterma.gov/urban-forestry-master-plan)
- Request to discuss lessons learned
<https://www.boston.gov/departments/parks-and-recreation/urban-forest-plan>
- Request of Commissioner Winbourne to discuss Green School Yard Program
- Request of Commissioner Winbourne to discuss Audubon Report on Solar
- Request of Commissioner Karoway-Waterhouse for Forestry to report monthly data on removals & plantings including district, genus/species, reason for removal, or (if planting) was it by resident request.
- Request of Commissioner Karoway-Waterhouse on the reason why Worcester does not have a fall planting and what would it take to start.
- Request of Commissioner Wobble to advise if there is an effort to maintain our current canopy by removing invasives like oriental bittersweet

9. Date of Next Meeting:

- January 17, 2024
- February 28, 2024
- March 20, 2024
- April 3, 2024
- May 1, 2024
- June 5, 2024

8. Meeting Adjourned (Roll Call)



URBAN FORESTRY TREE COMMISSION MEETING MINUTES

Wednesday November 1, 2023 – 5:15 P.M.

Parks, Recreation & Cemetery Administrative Office

Meeting Room A

50 Officer Manny Familia Way Worcester, MA 01605

Or

If you choose to use the Microsoft Teams platform:

- 1) Go to www.teams.com
- 2) Enter Meeting ID# 214 315 946 310
- 3) Enter password: p7GtXB

If you choose to attend via phone:

- 1) Call 1-469-998-7682
- 2) Enter Meeting ID#: 485 742 788#

AGENDA

1. Call to Order – Meeting was called to order at 6:03 PM
2. Attendance (Roll Call) –
 - **Commissioners Present:**
 - Alexander Elton
 - Robin Karoway-Waterhouse
 - Joseph Mogel - Virtual
 - Joy Winbourne
 - Kristin Wobbe - Virtual
 - **Administration Present:**
 - Robert C. Antonelli, Jr. Assistant Commissioner
 - Brian Breveleri, Urban Forester and Supervisor of Forestry
 - Milagros Pacheco, Staff Assistant III
 - Denis Tucker – Working Foreman - Virtual
3. Acceptance of Minutes for September 27, 2023. Commissioner Elton made a motion to approve the minutes. Second by Commissioner Wobbe. All were in favor, Minutes were approved. 3 – 0.

4. To request a reasonable accommodation or interpretation or submit written comments or questions in advance of the meeting, please contact the Parks, Recreation & Cemetery Division by email at Worcestertrees@worcesterma.gov. Please note that interpretation requests must be received no later than 48 hours in advance of the meeting. Para solicitar una interpretacion razonable, o enviar comentarios o preguntas por escrito por favor comuniquese con la oficina de la Division de Parques, Recreo & Cementerio por correo electronico a Worcestertrees@worcesterma.gov. Por favor note que las solicitudes de interpretacion deberan ser enviadas 48 horas antes de la reunion.
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6. Assistant Commissioners Report (See Report Topics Below)
7. Old Business
 - Solar Access (Ted Conna) - File
 - Planning and Regulatory Services
 - Question regarding Tree Canopy Cover in New Construction
 - Question regarding tree planting in Parking Lots
 - Request of Commissioner Elton to review all existing tree zoning ordinances for the city
 - Request of Commissioner Karoway-Waterhouse on where the final version of the Urban Forestry Master Plan can be found.
 - Request of Commissioner Elton regarding Ash Trees treatment options:
 - Commissioner Elton spoke on being optimistic on finding funds to treat Ash Trees.
8. New Business
 - Submission of Commissioner Winbourne on Ash Trees
 - Commissioner Winbourne discussed tree information she received on 395 Street Ash Trees in Worcester.
 - Request of Commissioner Elton for an update on existing zoning and planning regulations for trees in the City?
 - Request of Commissioner Elton for an update on tree planting or canopy requirements for development in the city?
 - Request of Commissioner Elton are development plans brought before Planning & Regulatory Services reviewed by anyone from City Forestry?
 - Request of Commissioner Winbourne for an update on the partnership with New England Botanic Garden

- Grace Elton from New England Botanic Garden spoke regarding the contract the Garden has with the City of Worcester to water trees, as well as other projects, and the change in future services due to monetary restrictions due to delayed payments.
- Assistant Commissioner Antonelli said there were challenges on both ends. He understood the NE Botanic Gardens position and that he would look to see what can work to continue the partnership on the areas that they are comfortable with as well as the city. There was further discussion on funding, City of Worcester contracts with outside contractors.
- Request of Commissioner Wobbe for an update on the Miyawaki Forest proposal
- Request of Commissioner Wobbe on how trees are requested & cared for
 - Assistant Commissioner Antonelli said that if an individual requests a tree to be planted through the 311 system, they give an address of the location, if it's in front of that property, either within the right of way, or they can request a setback planting within the 1st 20 feet from the back of sidewalk. Either one of those two requests are fine. The City will maintain the trees in the right of way, but within the setback area that 20 feet, the city will do some initial work, but after three years the tree becomes the responsibility of the of the property owner.
- Request of Commissioner Winbourne for an update on the US Forest Service IRA Grant
- Request of Commissioner Winbourne for access to the City's US Forest Service grant Proposal
- Request of Commissioner Winbourne for an update on Urban Forestry Master Plan
- Request of Commissioner Winbourne for comments submitted on the Urban Forest Master Plan
- Request of Commissioner Winbourne for the Commission to set goals for the Commission
- Michelle Smith from Economic Development Department addressed a few questions as one piece. She said that the zoning regulations are not great with regards to tree preservation, she explained that anyone can cut a tree and unless it's near wetlands, it's not a violation of any of the regulations unless it's a public shade tree, in which case the DPW & Parks – Forestry Division would be the specialist and would know what the regulations and Mass laws are. The terms of the zoning ordinance are in the new constructions, parking lots - Interior Landscaping Parking lots with more than sixteen (16) parking spaces shall have landscaping in the interior of the parking lot in addition to landscaping along the edges of the lot. No interior landscaping is required, however, for parking lots where all spaces abut a landscaped setback area as described in Note 5, above, and the parking lot follows Article V, Section-5(C) of this Ordinance. At least one (1) tree shall be planted within the parking lot (interior for every ten (10) proposed and existing spaces. Such interior trees shall be in addition to trees required along the edges

of the lot. Interior trees shall be planted in planting beds no smaller than five feet by five feet (5' x 5'). Parking spaces abutting a landscaped setback area (as described in Note 5, above) and in compliance with Article V, Section-5(C) of this Ordinance, however, shall not be counted in the calculation when determining the number of interior trees required. Trees shall be in such a manner as to provide shade over the greatest number of parking spaces practicable. Notwithstanding any of the foregoing to the contrary, the Planning Board may waive or modify these interior landscaping requirements upon a specific finding, in writing, that a substantial hardship would result or would otherwise cause the parking area to be in noncompliance with this Ordinance.

- There were additional questions from the commission regarding the position responsible with compliance, conformance, permits, ordinance regulations, tree planting suggestions, the DCR Grant, collection of data, bidding out future research work, baseline data collection and what is involved, timeline. Ms. Smith gave detailed information in answer to all the questions. She also spoke about the DCR Challenge Grant through Conservation and Planning. Ms. Smith said they have a low budget for 850 Acres of Land, they do snow clearing, vegetation on sidewalk or hazard trees. Last year they applied for the grant, and they were notified they awarded the grant.
- Mr. John O'Dell from Sustainability and Resilience Division spoke about the US Forestry Grant, he said: that the US forestry grant was not granted to the City of Worcester. He wondered if there might have been deficiencies in the grant or any other feedback that might have been helpful. He said they had reached out to a couple local communities about their own specific grants that were successful, and they only heard back from Boston. Boston for reference received a grant for \$11 million. He pointed out that the maximum grant amount allowed was \$50 million. The City of Worcester grant application was for less than half, it was for 23.5. No, grant he had seen online was higher than 17 million, and even for most of the larger communities like Boston or larger, we're in the low teens, at \$10 to \$14 million range. Communities the size of Worcester, for example Springfield, was successful they got a \$6 million. Boston's grant was a good grant, he said he had a chance to read it, and he said it was a thoughtful they focused most of their funds on hiring staff to do work. They had very much smaller allotment toward tree planting, but a lot more to tree management and the staff needed to do that. They asked for \$11 million. They got \$11 million. He said that based on his other observations of some of the other grants received, that our grant may have been robust and holistic more than others, but that may have been a further reach from where they wanted to go. They wanted to spread the money out to as many communities as possible and therefore kept the overall price allotment down for grants they approved. That was his supposition on that. He added that the feedback received from others as well as our own review,

subsequently the report and application were put together very quickly, but that he was still pleased. He didn't think there were any major misses and that it was a very good and strong effort and it touched on a lot of different things that work well together, and he believed it will serve them well for future grant opportunities. If as expected it opens again next year, the City of Worcester will probably lower the number of interconnected pieces they put together and apply.

- There was further discussion, comments, questions regarding the funds, where to allocate fund, and grant opportunities. The fact that some individuals don't want trees planted in front of their homes. Educating the public on the benefit of trees, different methods of education to include educating children, which can drive adult behavior. Ideas on how to address the issue of resources. Green School Yards of America Program. Collaboration with educational institutions. The awarded grant to fund 2 Miyawaki Forest and the process of finding the best locations to put them in, the first two will be on municipal land. The forests will need to be designed and installed by the end of Fiscal Year 24 (June 30, 2024). Community outreach and feedback in reference to placement/location of forests. Balancing of tree species. Solar Access. A new Audubon study on solar. Urban Heat Island Study based on current state and what the potential future could be. Tree canopy. Parking lot constructions related to solar panels. Ecosystem study that can quantify what is better, shade canopy or solar panel production.
- Mr. Conna was in attendance via phone, and he spoke about his proposal, he said he was happy that it generated some interest. He said it's common sense that everyone does their best proactively to minimize the conflict between trees and solar collectors. So, there isn't trees in front of solar collectors or solar collectors installed in front of trees. He said he wasn't sure there's a need for a new ordinance to figure out what to do if you have a conflict, he said the thing is to avoid the conflict. He added that Solar collectors benefit more than just the homeowner and the electric company because, mitigating the impacts of climate change is to everyone's benefit. He asked that this be written into the Urban Forest Master Plan. He also said he didn't see the need to keep carrying forward this item on the agenda.
- Commissioner Elton made a motion to file the Solar Access item. Second by Commissioner Karoway-Waterhouse. All were in favor. Motion was approved 5 – 0.
- Commissioner Elton made a motion to file all old business and new business except for the goals and objectives. Second by Commissioner Karoway-Waterhouse. All were in favor. Motion was approved 5 – 0.

9. Date of Next Meeting:

- December 6, 2023
- January 17, 2024

- February 28, 2024
- March 20, 2024
- April 3, 2024
- May 1, 2024
- June 5, 2024

10. Meeting Adjourned (Roll Call)

ASSISTANT COMMISSIONER'S REPORT:

1. General:

- Urban Forestry Master Plan Review
 - The second draft of the Urban Forestry Master Plan which can be found here: [Trees in the City - Right Tree, Right Place | City of Worcester, MA \(worcesterma.gov\)](https://www.worcesterma.gov/urban-forestry)
 - The Urban and Community Forestry (UCF) Inflation Reduction Act Notice of Funding Opportunity which can be found here: City of Worcester application attached [Urban Forests | US Forest Service \(usda.gov\)](https://www.usda.gov/urban-forests)
- DCR Informational Flyers – Update
- USDA Tree Owners’ Manual – Update
- DCR Urban & Community Forestry Grant Application - Update
- Door Hanger - NA
- Tree Commission attending neighborhood meetings – Update
 - [Neighborhood Response Team | City of Worcester, MA \(worcesterma.gov\)](https://www.worcesterma.gov/neighborhood-response-team)
- Tree replacement policy - NA
 - Request Only
 - Mandated replacement
- Neighborhood Based Urban Heat Risk Assessment - NA
- Worcester Now | Next online survey - NA
- Green Worcester Advisory Committee -NA
- Planting –
 - Spring 2024 Planting - NA
- Customer Service Update
 - Customer Service Contact Information 508-929-1300 &/or 311
- Street Resurfacing Opportunities & Challenges – NA
- Zoning Ordinance Discussion - NA
- Worcester Ordinance Relative to the Protection of Public Trees - NA
- Partnerships –
 - New England Botanical Garden @ Tower Hill - NA
- Grant Applications –
 - Commonwealth of Massachusetts Grant
- Economic Development Initiatives –
 - NA
- Forestry Vandalism & Graffiti –
 - NA

- Donations –
 - NA
- Pests –
 - ALB (Asian Longhorned Beetle) - NA
 - EAB (Emerald Ash Borer) - NA
 - Spotted Lanternfly - NA
 - Elm Zigzag Sawfly – NA
- Forestry Operations –
 - Tree City USA – NA
 - Arbor Day –
 - April 26, 2024
 - April 27, 2024 – Festival
- Budget – Operational & Capital – NA
 - Parks, Recreation & Cemetery Division – NA
 - Capital Improvement Program – NA
 - City Five Point Financial Plan – NA
- Misc. – N/A
- Commissioner Elton made a motion to adjourn. Second by Commissioner Karoway-Waterhouse. All were in favor. Motion was approved 5 – 0. Meeting was adjourned at 7:31 PM.

A copy of this full meeting will be available to view and listen to at:
www.worcesterma.gov/city-clerk/public-meetings/agendas-minutes



ASSISTANT COMMISSIONER'S REPORT:

1. General:

- Urban Forestry Master Plan Review
 - The second draft of the Urban Forestry Master Plan which can be found here:
[Trees in the City - Right Tree, Right Place | City of Worcester, MA \(worcesterma.gov\)](#)
 - Worcester Regional Research Bureau Brief 23-14 "Worcester's Urban Forest Master Plan"
- Door Hanger - NA
- Tree Commission attending neighborhood meetings – Update
 - [Neighborhood Response Team | City of Worcester, MA \(worcesterma.gov\)](#)
- Tree replacement policy - Update
 - Request Only
 - Mandated replacement
- Neighborhood Based Urban Heat Risk Assessment - NA
- Worcester Now | Next online survey - NA
- Green Worcester Advisory Committee -NA
- Planting –
 - Spring 2024 Planting - NA
- Customer Service Update
 - Customer Service Contact Information 508-929-1300 &/or 311
- Street Resurfacing Opportunities & Challenges – NA
- Zoning Ordinance Discussion - NA
- Worcester Ordinance Relative to the Protection of Public Trees - NA
- Partnerships –
 - New England Botanical Garden @ Tower Hill - NA
- Grant Applications –
 - DCR Grant Program - NA
- Economic Development Initiatives –
 - NA
- Forestry Vandalism & Graffiti –
 - NA
- Donations –
 - NA
- Pests –
 - ALB (Asian Longhorned Beetle) - NA
 - EAB (Emerald Ash Borer) - NA
 - Spotted Lanternfly - NA
 - Elm Zigzag Sawfly – NA
- Forestry Operations –
 - Tree City USA – NA
 - Arbor Day –
 - April 26, 2024
 - April 27, 2024 – Festival

- **Budget – Operational & Capital – NA**
 - Parks, Recreation & Cemetery Division – NA
 - Capital Improvement Program – NA
 - City Five Point Financial Plan – NA
- **Misc.**



The City of
WORCESTER

Department of Public Works & Parks
Parks, Recreation & Cemetery Division
Forestry Operations

50 Officer Manny Familia Way, Worcester, MA 01605

P | 508-799-1190 F | 508-799-1293

Worcestertrees@worcesterma.gov

URBAN FORESTRY TREE COMMISSION MEETING

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Parks, Recreation & Cemetery Administrative Office

Meeting Room A

50 Officer Manny Familia Way Worcester, MA 01605

Or

Virtual with Teams

ASSISTANT COMMISSIONER'S REPORT

GENERAL



Eric D. Batista
City Manager

CITY OF WORCESTER

cm2023nov08104749

Attachment for Item # 8.9 A

November 14, 2023

TO THE WORCESTER CITY COUNCIL

COUNCILORS:

The attached communication relative to the Urban Forest Master Plan, received from Jay J. Fink, P.E. Commissioner of Public Works & Parks, is forwarded for the information of your Honorable Body.

The revised Urban Forest Master Plan has been posted on the city website for review. The Urban Forestry Tree Commission will discuss the latest draft at its next meeting currently scheduled for December 6, 2023 @ 6:00 PM. The draft plan can be found at the following address:

[worcester-urban-forest-master-plan-draft.pdf \(worcesterma.gov\)](#)

On behalf of the city, I wish to thank the Department of Public Works and Parks and the Urban Forestry Tree Commission for their efforts that ensured the Master Plan for our Urban Forest was given the utmost consideration. When completed, this plan will appropriately reflect the vision of neighbors and city residents for our Urban Forest.

Respectfully submitted,

Eric D. Batista
City Manager

OFFICE OF THE CITY MANAGER, CITY HALL, WORCESTER, MA 01808

TELEPHONE (508) 799-1175 | FAX (508) 799-1208

EMAIL: citymanager@worcesterma.gov



To: Eric D. Batista, City Manager
From: Jay J. Fink, P.E., Commissioner
Date: November 14, 2023
Re: Urban Forest Master Plan Update

DPW&P has completed the revised draft Urban Forest Master Plan and submits it for your review/consideration and to forward to the City Council for their review.

This Master Plan has been posted on the City Web site at the below address:
[worcester-urban-forest-master-plan-draft.pdf \(worcesterma.gov\)](https://www.worcesterma.gov/urban-forest-master-plan-draft.pdf)

The plan concludes with the following:

As detailed throughout the Urban Forest Master Plan, trees play an essential role in the quality of life, resilience, and sustainability of Worcester. To ensure that its benefits are maximized today and into the future – the Plan provides a path to proactively manage, grow, preserve, and care for Worcester’s trees. The Introduction (Section 1) highlighted the essential benefits trees provide to Worcester. Section 2 presented the current state of Worcester’s street trees by providing information based on the 2022 street tree inventory to establish a baseline of where the city is today. An assessment of the tools, resources, plans, and programs used to manage Worcester’s urban forest were presented in Section 3. Section 4 outlined the community and stakeholder priorities and themes which were used in establishing the Plan’s goals, recommendations, and actions. The Plan goals, recommendations, and actions were shared in Section 5. They focus on improving Worcester’s urban forest through proactive planning, management, and engagement. And this section, Section 6, outlined ways that Worcester can monitor and measure its progress in proactively managing its urban forest to create a sustainable and resilient resource.

Ultimately, the Urban Forest Master Plan serves as a roadmap to guide the development of an abundant, healthy, sustainable, and resilient urban forest in Worcester that we can all play a role in creating. There's work to do – let's get started!

The Urban Forestry Tree Commission will discuss the latest draft at its next meeting currently scheduled for December 6, 2023 @ 6:00 PM.

If you have any questions about these matters, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jay J. Fink', with a stylized, cursive script.

Jay J. Fink, P.E.
Commissioner, Department of Public Works & Parks



The City of
WORCESTER

To: Urban Forestry Tree Commission; Robert C. Antonelli Jr., Assistant Commissioner, DPW&P
CC: Eric Batista, Worcester City Manager; Kerry Gray, Davey Resource Group, Inc.; Department of Sustainability & Resilience
From: Mary Knittle, Chair of the Green Worcester Advisory Committee on behalf of the Committee
Date: November 28, 2023
Re: **Green Worcester Advisory Committee Statement on Urban Forest Master Plan Final Draft**

At its meeting on November 27, 2023, the Green Worcester Advisory Committee **voted unanimously to submit the following statement and recommendations** to the Urban Forestry Tree Commission, for its upcoming hearing on Wednesday, December 6, 2023, where the Urban Forest Master Plan (UFMP) final draft is expected to be heard and discussed:

The Green Worcester Advisory Committee (GWAC) commends DPW&P and Davey Resource Group on the thoughtful and detailed Urban Forest Master Plan (UFMP) final draft, an important action step toward realizing the Green Worcester Plan's goal of achieving climate resilience. Developing and implementing an UFMP is a key strategy (Action Step 6) in the GWP's Goal IV: *"Maintain, improve, connect, and expand quality natural systems in a linked network of parks, open spaces, and waterways, including street trees and public spaces."*

In keeping with the UFMP's stated intent of shifting to a proactive approach for growing and stewarding Worcester's urban forest, and recognizing the intensifying impact of the climate crisis on Worcester residents, the GWAC urges that the following two amendments be made to the UFMP final draft:

- 1) **Increase the tree replacement ratio to a *minimum* of 3:1 (three trees planted for each tree removed) using all available spaces, both public and private.** The draft 1:1 ratio just maintains the status quo for the tree canopy and potentially reduces it, given the decades it will take for a sapling to mature and replace benefits of older trees that have reached the end of their lifecycles and are the most likely trees to be removed.
- 2) **By January 2025, at the latest, define a tree canopy goal for the City, placing a priority on remediating heat islands, using readily available research.** This includes, but is not limited to, the 2022 Heat Island Study, the 2023 Tree Canopy Cover Assessment and Tree Benefits Report, research by Clark University and WPI, the Davey Resource Street Tree Inventory in the UFMP, and iTrec data. There is an abundance of data and expertise in the community to enable the City to define a goal that will guide planting priorities now, which can be refined as additional information becomes available. We cannot wait another two years, as recommended in the final draft UFMP, to complete yet another study, when the need to enhance our tree canopy is urgent. Since our present knowledge, existing studies, and the Green Worcester Plan all point toward the need to significantly increase Worcester's tree canopy, there should be no delay in getting started with more aggressive planting to achieve that goal, even before we know what the optimal canopy goal will be.

Thank you for your consideration.

Sincerely,

Mary Knittle, Chair of the Green Worcester Advisory Committee



INTRODUCTION

IN OCTOBER 2023, the City of Worcester released a draft Urban Forest Master Plan (UFMP), issuing ten recommendations meant to guide the further preservation, management, and expansion of Worcester's urban forest—and in particular, Worcester's public "street trees." The UFMP is a vision, a first-step, intended to guide long-term budgets and inform other management plans going forward by the City's Forestry Operations, a unit of the Department of Public Works and Parks. The plan emphasizes a transformation from *reactive* to *proactive* management; not only engaging with resident concerns, but anticipating them. This marks a turn towards equity and the importance of climate resilience, while it stresses continued focus on prevention and protection against all manner of threats to the urban forest, whether pests (like the Asian Longhorned Beetle or the Spotted Lanternfly), disease, or other natural phenomena.

The phrase "urban forest" might simply evoke images of the trees that cover Newton Hill or Green Hill Park, but in reality the "urban forest" refers to all the trees (and other greenery) within the city limits. It covers the trees in the parks, certainly, but also street trees and residential trees. However, the Urban Forest Master Plan draft, while urging for a comprehensive tree canopy assessment,

focuses especially on Worcester's 23,137 street trees, and indicates a desire on the part of the City of Worcester to more proactively manage those street trees as a key part of that urban forest.

The release of the Urban Forest Master Plan follows a long history of urban forest management in the City, including 37 consecutive years as a Tree City USA recipient and 24 consecutive years as a Tree City USA Growth Award Recipient. The UFMP concept was first identified as part of the 2013 Open Space and Recreation Plan, and its development was further refined in the Green Worcester Plan released in 2020. Developing an Urban Forestry Plan was an integral aspect of the Green Worcester Plan's theme of Connected Green and Blue Spaces. Its authors called for an updated tree and canopy inventory, guidelines for tree removal and replacement, and to prioritize the expansion of trees of all kinds in the urban core. The planning process itself began in late 2021, with the first public meeting held on November 17, 2021, and was written with Davey Resource Group. The Urban Forest Master Planning process began just before the official start of the Urban Forestry Tree Commission. That Commission was first proposed at an August 10, 2021 meeting of the City Council, and began accepting applications for members on January 17, 2022.

WORCESTER'S TREES

Trees within urban communities provide a number of environmental, economic, and health benefits to residents of those communities. For example, the 2020 Massachusetts Forest Action Plan estimates that "every 1% increase in tree canopy above a minimum 10% canopy cover brings a 1.9% reduction in energy needs for cooling and up to a 1.1% reduction in energy for heating" (Forest Action Plan, 2020, 142). According to Worcester's draft UFMP, trees filter particulate matter from the air and absorb other airborne pollutants; improve water quality through stormwater filtering and help to control and prevent flooding; can help to cool and shade areas that would otherwise absorb heat (such as roofing and asphalt); provide homes to local wildlife; lower utility bills "for the average household by \$100 to \$250 per year"; and can increase property values (UFMP, 2023, 23-26). The US Department of Agriculture Forest Service developed a tool, "i-Tree," that quantifies some of those benefits. In addition, trees have been shown through hundreds of studies to positively affect physical and mental health (see the literature review of Wolf, et. al, 2020, which separates the health benefits of trees into three categories of research - reducing harm, restoring capacity, and building capacity. Additionally, Table 2 at the end of this brief summarizes some of their findings).

CURRENT CONDITIONS

According to a 2022 heat risk assessment conducted in Worcester, 37% of the city is covered by tree canopy, 36% by impervious surfaces, 24% by grass and other vegetation, and 3% is water (UFMP 2023, 29). That 37% of tree canopy is made up of 23,137 street trees (which are those trees only on public right-of-ways), numerous residential trees, and trees on other public and private lands within the city (a comprehensive tree canopy assessment has not, so far, been done by the City). Most of the City's street trees are in City Council District 1 (36%) and District 5 (27%), with the fewest in District 4 (6%).

One way to visualize the distribution of trees is through the "tree equity score" published by the organization "American Forests." Overall, Worcester's tree equity score is 89/100, but in some areas scores as low as 45. American Forests determines the equity score for a neighborhood through a combination factor of existing canopy cover, target canopy cover for a neighborhood, and then Census demographic, social, and economic data. A lower score indicates a higher priority for increasing tree canopy in a neighborhood. That map can be found below, or at treeequityscore.org, which explains their methodology in greater detail.



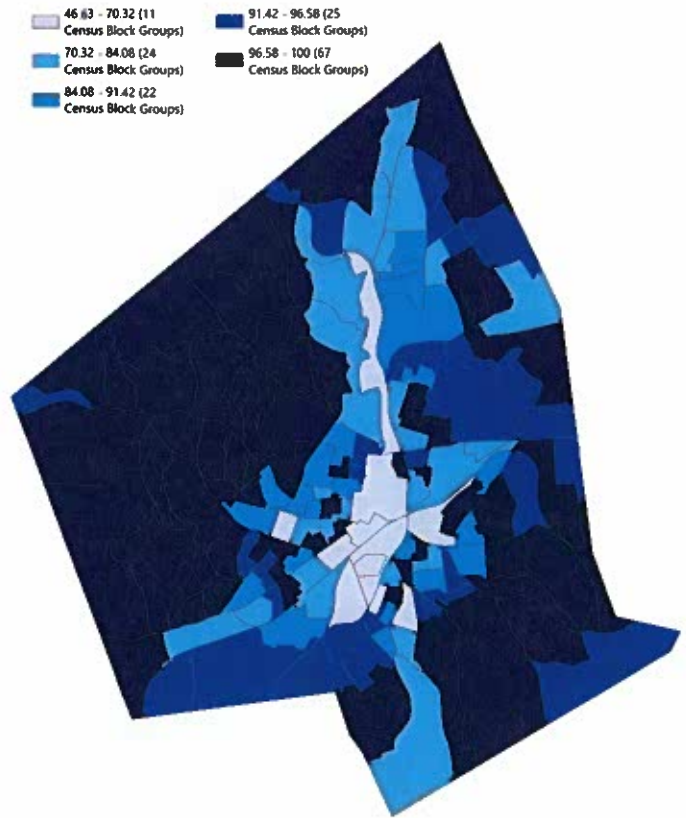
RECOMMENDATIONS AND COSTS

Ultimately, the draft UFMP makes ten recommendations to improve the City's urban forest and to improve operations within the City's Forestry Operations and the Department of Public Works and Parks:

1. Establish proactive public tree management.
2. Increase city resources in pursuit of the first goal, and to support urban forest planning, operations, and education.
3. Create and improve urban forestry processes to support advancements from customer service to information management.
4. Support urban forest growth and preservation through expanded regulations, best management practices, and other guidelines.
5. Ensure there is adequate space for trees to grow and thrive.
6. Conduct a comprehensive urban tree canopy assessment.
7. Plant and care for trees citywide but especially in areas that improve sustainability and further equity goals.
8. Work with community and regional partners.
9. Create an Urban Forestry Communication and Outreach Plan.
10. Proactively monitor and address environmental threats (including pests and disease).

Many, if not all, of these recommendations require some budget increases, especially if the City wishes to move towards proactive management of public trees, rather than reactive. For Fiscal Year 2024, the City has budgeted \$575,101 towards salaries for Forestry, and an additional \$135,000 for overtime. The number of salaried positions between FY23 and FY24 have remained the same. Other costs, including ordinary maintenance, are included within the overall budget for the Division of Parks, Recreation, and Hope Cemetery, and are not otherwise separated in the annual budget document. However, according to the UFMP, the total Forestry budget, including salaries and maintenance, for 2022 was

Tree Equity Score by Worcester Census Block Group



Source: American Forests' Tree Equity Score, treeequityscore.org

\$1,692,593, and it has largely remained unchanged over the previous four years.

Many of the steps involved in achieving the recommendations will require additional funding, including expansion of the department's staff (see UFMP 2023, 78-109 for more information about each of the waypoints to implementing the ten recommendations). Table 3 on the final page shows the action steps for which there is a known, estimated cost (other steps indicate costs but do not estimate what they will be). Significantly, the UFMP Draft visualizes spending at least \$80.77 per street tree, which would require at least an additional

Table 1: Budgeted Positions in Forestry, City of Worcester

Position (# of Positions in Category)	FY23 Approved	FY24 Approved
Supervisor of Forestry (1)	\$87,727	\$90,003
Forestry Foreman (1)	\$62,432	\$70,388
Working Foreman, Craftsman (2)	\$88,419	\$131,000
Arborist (6)	\$261,796	\$283,710
Total (10)	\$500,374	\$575,101

Source: City of Worcester, FY24 Budget



\$500,000. Many of these costs could potentially be defrayed by grant money; though, the City's recent application for \$23.5 million from the Inflation Reduction Act to plant up to 7,000 trees was not granted, with no public reason why (see Schwan, September 2023). Grants also exist from the Massachusetts Department of Conservation and Recreation, Urban and Community Forestry Program—the "Greening the Gateway Cities" initiative provides grants for municipalities planting trees in urban areas. The report also examines potential new sources of funding to support these programs (see UFMP 2023, 52).

These costs, and other recommendations, the UFMP argues, are necessary if the City wants to take care of its aging tree inventory, increase tree species diversity, plant more trees in areas that have very few, ensure common standards for trees in the way of utilities, and to head off pestilential or disease-based threats. For example, the Asian Longhorned Beetle (ALB), discovered in 2008 in Worcester but likely here several years earlier, led to the removal of more than 30,000 public and private trees across the city in just seven years. With a shift in focus to proactive management, the hope is that threats will be caught earlier before trees need to be removed and, replanted. Both young and aging tree stock across the city will require maintenance going forward as well. Regular maintenance across a tree's life-cycle increases its benefits, while likely lowering its overall costs (deferred maintenance may lead to unexpected costs later, which can be difficult to quantify). See especially the literature review by Vogt, et. al, 2015 about maintenance and Lovett, et. al, 2016 about pests and pathogens.

DOES THE PLAN DO WHAT IT PURPORTS TO DO?

Thanks to its nature as a long-term vision of Worcester's urban forest, while some of the UFMP's recommendations

could begin immediately with funding, others will take some time to complete. One, for example, is the comprehensive canopy assessment (to be done in regular intervals) that could then be used to prioritize tree planting areas across the city. Such an assessment is an integral part of the overall plan, and one that is necessary to get a true picture of Worcester's urban forest. However, the report points out that other studies have identified areas for planting that can begin while a full canopy assessment is underway. Some areas of the city, like Green Island, could use the trees today to mitigate heat and flood risks. Thanks to the 2022 street tree inventory conducted by Davey Tree Resources, the 2022 heat risk assessment conducted by Urban Climate Consulting LLC, and the Tree Equity Scores referenced earlier, many potential tree planting sites across the city are already known and the city could begin planting before the canopy assessment process is finished.

What the UFMP is *not* is a comprehensive plan and strategy for management of Worcester's urban forest. Rather, it is a set of recommendations to establish such plans and practices and to reorient city leaders and the community towards a more proactive view of tree care in the city.

CONCLUSION

The benefits of the urban forest are many, and the Urban Forest Master Plan draft released in October 2023 is the City's continued attempt to protect and manage it for years to come. The implementation of this plan will require that the City provide new and expanded resources to Forestry to ensure Worcester residents can continue to enjoy the benefits of its urban forest. Proactive, preventative, care of Worcester's urban forest, may require a number of upfront costs, but could be more cost-effective in the long run.

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Table 2: Researched Tree Benefits for Physical and Mental Health

Reducing Harm	Restoring Capacity	Building Capacity
Reduced Air Pollutants	Exposure to trees may promote cognitive and attention restoration	"Forest Walks" may promote immune system function
Reduce Air and Surface Temperatures	Exposure to trees, especially forested areas, reduces stress, depression, and anxiety	Street tree cover tends to correlate with higher levels of physical activity
Tree canopy is negatively correlated with heat-related ambulance calls	Exposure to trees, especially forested areas, may reduce cortisol levels	Street tree canopy associated with lower prevalence for overweight populations
There is some evidence that tree size, location, and health can reduce crime	Tree exposure may have positive effects on certain clinical populations	Street trees may promote social cohesion and trust in neighborhoods

Source: Wolf, et. al, 2020, *Urban Trees and Human Health: A Scoping Review*. These are just some of the studies reviewed in this sweeping literature review, and they note many of the potential effects of tree exposure on human health. As the authors note, more research needs to be done to better understand these correlations between trees and physical and mental health.

Table 3: Known Estimated Costs for Urban Forest Master Plan (Draft)

Action Step	Description	Estimated Cost-Range	Frequency	Notes
1.2	Use Street Tree Inventory to Develop Urban Forest Management Plan	\$25,000	One-Time	May be eligible for grant funding
1.2.1	Routine pruning schedule for established trees and the structural training of young trees	\$210,000-\$450,000	7 or 15 year Cycle	
1.4.1	Establish an Interim Funding Goal to exceed \$80.77 spent per street tree	\$500,000	Annual	
1.6 and 1.6.1	Assessments of Conservation Commission properties to identify species composition, threats, and opportunities	\$50,000	Annual	
2.1	Add and Hire New Arborist Position	\$150,000	Annual	
2.3	Contract with Partner Organizations	\$75,000	Annual	May be eligible for grant funding
2.5	Training Plans for Forestry Staff/ maintain certifications/ stay up to date on latest techniques	\$1,500	Annual	Estimated \$1,500 per employee; May be eligible for grant funding
2.6	Evaluate Establishment of an Urban Forestry Internship Program	\$30,000	Annual	May be eligible for grant funding
2.7	Implement goals of <i>Worcester Open Space and Recreation Plan Update 2021</i>	\$300,000	Annual	Includes new staff
3.5	Re-inventory and assess all trees and planting sites every 7-10 years	\$125,000-\$175,000	7 or 10 year Cycle	
4.7	Staff to enforce tree protection and preservation regulations on public property	\$150,000	Annual	Planning and Regulatory Services; Conservation Commission
6.1	Comprehensive UTC assessment without affecting operational resources	\$50,000-\$100,000	5 or 10 year Cycle	May be eligible for grant funding
7.3	Develop and Strengthen partnerships to support outreach efforts focused on increasing tree planting in low canopy areas	\$75,000	Annual	May be eligible for grant funding
9.2	Partner with New England Botanic Garden and Worcester Technical High School to create education and outreach materials	\$75,000	Annual	May be eligible for grant funding
10.4	Develop an Urban Tree Health Program to Scout and Monitor for Threats	\$75,000	Annual	May be eligible for grant funding

Source: City of Worcester, 2023 *Urban Forest Master Plan Draft*

Worcester City's New Urban Forest Master Plan: Aiming at Enhanced Preservation and Growth for Local Residents

4 days ago



In October 2023, Worcester City presented a draft Urban Forest Master Plan (UFMP). The plan includes ten recommendations for the city's urban forest preservation, management, and expansion. The UFMP, mainly focused on public 'street trees,' is intended to guide the city's Forestry Operations in long-term budgeting and future management plans.

The UFMP suggests a shift from reactive to proactive management. The goal is to address and anticipate resident concerns, promote climate resilience, and protect the urban forest from threats.

These threats include pests like the Asian Longhorned Beetle and the Spotted Lanternfly, diseases, and other natural hazards. The UFMP is considered an initial step in a long-term vision for the city's urban forest, aiming to ensure its preservation and growth.

The plan is set to guide the city's Forestry Operations, a part of the Department of Public Works and Parks, in their future work. The UFMP represents a significant move towards a more sustainable and resilient urban forest in Worcester.

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NEWS

It will take significant cash to fight climate change. Has Worcester invested enough?

One member of a city advisory committee feels Worcester likely needs to invest more cash in the fight to stop global warming.



Henry Schwan

Worcester Telegram & Gazette

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WORCESTER - The city has a plan to fight climate change, but it needs enough staff and money to get the job done.

That message was delivered Monday night when the city presented the first progress report on the Green Worcester Plan. It's the city's blueprint for cutting greenhouse gas emissions and boosting electrification and energy efficiency.

The plan was unanimously adopted by the City Council in April 2021 and includes three primary goals:

- By 2030: 100% renewable energy for municipal facilities
- By 2035: 100% renewable electricity citywide
- By 2045: 100% renewable energy in all sectors including heating and transportation

Challenges ahead

The seven-member Green Worcester Advisory Committee appointed by the city manager received a second draft of the progress report covering July 2021 to December 2023. It included numerous accomplishments and work to be done.

Committee member Ted Conna made it clear at Monday's meeting that it will be a challenge to meet the three primary goals without the city providing necessary manpower and cash.

“We have to be realistic about where we are on the path and how to get there,” said Conna when he discussed the goal of all city-owned buildings running purely on renewable energy by 2030.

Conna noted the city's Greenhouse Gas Emissions Inventory that said emissions at city-owned buildings dropped 16% from 2009 to 2019. The inventory didn't include emissions reductions from the city's electricity aggregation program because it started after the inventory was done.

Conna noted it will be a challenge to cut the remaining 84% in just seven years.

“Maybe we need a bigger staff and double the budget,” said Conna, referring to bringing additional resources to the city's Department of Sustainability and Resilience that is largely in charge of carrying out the Green Worcester Plan. “I think there's an argument that maybe we need more resources to get this done.”

The department has a fiscal year budget that ends June 30 that is slightly more than \$527,000, including \$278,000 for salaries.

Immediately after Monday's meeting, John Odell, the city's chief sustainability officer who oversees the department, said “it would be great” if his department had more resources. However, he noted there's a finite amount of money in the city's budget that is divided up among all departments.

'Cautiously optimistic'

When asked if the Green Worcester Plan's three main goals can be achieved with his department's current level of resources, Odell's reply was “cautiously optimistic.”

“I'm optimistic that despite the incredible challenges still to come, I also think there are incredible opportunities that can come out of that,” said Odell. “I think we can actually help move the needle (in) Worcester. And I think our state and federal government, to date, at least over the last few years, have done a lot to help make that happen. And I'm hopeful that that will continue.”

As for the city's electricity aggregation program, Conna said it's important to get more residents signed up for the 100% renewable energy option.

Worcester has a contract with Houston-based Direct Energy to buy electricity in bulk, and cost savings are passed on to customers. All city residents are automatically enrolled in the plan, unless they choose to opt out. Roughly 8% to 12% opted out, according to Odell, leaving 88% to 92% in the aggregation program.

Customers have two choices in the aggregation program: Worcester Green Standard, which provides over 50% of electricity from renewable sources; and Worcester 100% Green, which supplies all electricity from renewable sources.

Roughly 64% of Worcester's aggregation customers chose Green Standard. Conna believes it's important to get more residents in the 100% Green program if the city is going to meet the Green Worcester Plan's goal of 100% renewable electricity citywide by 2035.

'Mother of all climate goals'

As for the plan's goal of 100% renewable energy in all sectors including heating and transportation by 2045, Conna called it the "mother of all climate goals."

He and other committee members noted a big challenge the city faces when it comes to converting existing residential and commercial buildings from fossil fuel heating and cooling systems to full electrification. Those buildings account for roughly 65% of the city's carbon emissions, according to city officials.

Noting that the city wants to be 30% free of fossil fuels by 2030 and the challenge of getting there given the city's large supply of old buildings that run on those fuels, Conna laid out his assessment: "It's going to take more resources than the city is currently giving to DSR (Department of Sustainability and Resilience) to pull off."

He continued: "I'm not suggesting the (progress) report to be a downer. I suggest we can't gloss over these things. There are benchmark goals for the plan, and we need to be realistic on what it will take to get there and spell it out. It's a balance of what is needed, and the progress being made."

Committee chairwoman Mary Knittle praised Odell's department for its work and progress on the Green Worcester Plan. Conna preferred Odell's department return with a final draft of the progress report that the committee would review during its January meeting.

"I was raised to not sign things that I have not read," Conna told the committee. "We've gone a couple rounds (of review of the draft). It's getting better, it's almost there, and I would like

to see a finished product before I vote in favor of it.”

Instead, the committee reached consensus that each member would submit comments to Odell’s team. The comments will be considered for inclusion in the final draft. Any objections to the final report can be raised at the January meeting.

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