HEALTH & ENVIRONMENT COMMITTEE

COMMITTEE MEETING

~ MINUTES ~

Tuesday, April 25, 2023 | **3:00 PM** | **Sullivan Chamber**
795 Massachusetts Avenue
Cambridge, MA 02139

The Health and Environment Committee will hold a public meeting to review and discuss the update on Urban Forest Master Plan and to discuss how to improve tree health and tree canopy across the City

Attendee Name	Present	Absent	Late	Arrived
Patricia Nolan	☑	☐	☐	
Burhan Azeem	☐ Remote	☐	☐	
Dennis J. Carlone	☑	☐	☐	
Marc C. McGovern	☐	☑	☐	
Quinton Zondervan	☑	☐	☐	

A public meeting of the Cambridge City Council's Health and Environment Committee was held on Tuesday, April 25, 2023. The meeting was Called to Order at 3:00 p.m. by the Chair, Councillor Nolan. Pursuant to Chapter 2 of the Acts of 2023 adopted by Massachusetts General Court and approved by the Governor, the City is authorized to use remote participation. This public meeting was hybrid, allowing participation in person, in the Sullivan Chamber, 2nd Floor, City Hall, 795 Massachusetts Avenue, Cambridge, MA and by remote participation via zoom.

At the request of the Chair, Clerk of Committees Erwin called the roll.
Councillor Nolan – Present/In Sullivan Chamber
Councillor Azeem – Present/Remote
Councillor Carlone – Present/In Sullivan Chamber
Councillor McGovern – Absent
Councillor Zondervan – Present/In Sullivan Chamber
Present – 4, Absent – 1. Quorum established.

The Chair, Councillor Nolan offered opening remarks (Attachment A) and noted that the call of the meeting was to review and discuss the update on the Urban Forest Master Plan and to discuss how to improve tree health and tree canopy across the City. Councillor Nolan introduced Kathy Watkins, Commissioner for the Department of Public Works (DPW). Joining Kathy Watkins was John Nardone, Deputy Commissioner, and Andrew Putnam, Superintendent of Urban Forestry and Landscape.
Councillor Nolan recognized Andrew Putnam who gave a presentation titled "Health and Environment Committee, Update on the State of the Urban Forest" (Attachment B). The presentation reviewed the background of the Urban Forest Master Plan (UFMP), the status of the UFMP action steps, a tree canopy report and assessment, and reviewed the response to the 2022 drought and Danehy Park. After their presentation, the team from DPW was available to respond to questions and concerns.

Councillor Nolan introduced Heather Hoffman, Marty Bakal, and Charles Teague from Cambridge4Trees who gave a presentation titled "Cambridge4Trees" (Attachment C). They reviewed a suggested action plan which included plant more and bigger trees now, new department and focused mission, and reprioritizing existing spending.
Councillor Nolan introduced Amy Meltzer who gave a presentation titled "Supporting Biodiversity and Addressing Climate Change with Native Plants and Trees" (Attachment D). The presentation highlighted how native trees must be planted to address both climate change and biodiversity loss, and noted biodiversity, which supports all systems of life on earth, is declining faster than at any time in human history. Amy Meltzer shared that native trees and plants are crucial for the healthy functioning of all ecosystems and offered suggestions on how Cambridge can mitigate climate change and support biodiversity.
Councillor Nolan introduced Eleana Saporta, who was joined via Zoom, and gave a presentation titled "Street Tree Planting Strategies" (Attachment E) which reviewed a positive solution to planting trees to promote good tree root growth. Eleana Saporta noted that most roots are in the top of 18" of soil and will extend two to three times beyond the drop line.
Councillor Nolan introduced Cindy Carpenter from the Committee of Public Planting who gave a presentation titled "Increasing Urban Forest Community Outreach and Engagement" (Attachment F). The presentation offered suggestions and recommendations for increasing outreach to the Cambridge community, which included the development of a monthly Urban Forest email newsletter, enhancing digital communications to Forest Friends, and improve navigating to the Urban Forest content on the City of Cambridge website.
Councillor Nolan opened public comment. Each speaker was allowed two minutes.
Catherine LeBlanc, 14 Tufts Street, Cambridge, MA, shared they would like to see more coordination within departments and a quick response to improve tree canopy.
Eric Grunebaum, 98 Montgomery Street, Cambridge, MA, noted that Jerry's Pond would be a good opportunity to plant more trees in the Earth and not on the sidewalks.
Melissa Ludtke, 30 Buena Vista Park, Cambridge, MA, thanked everyone for their presentations and for people paying attention to the needs of tree health and tree canopy.
Gwen Speeth, 16 Churchill Avenue, Cambridge, MA, shared concerns about the feasibility study funding for the area of Jerry's Pond.
Gretchen Friesinger, 18 Orchard Street, Cambridge, MA, spoke on coordinating actions across different agencies concerning tree health.
Lee Farris shared that there is a lot of land that could have more trees in it.
Councillor Nolan recognized Maggie Booz who participated in the UFMP Task Force and stressed the importance that in order for the implementation of the UFMP to work there needs to be a coordinated effort across all departments of the City. Maggie Booz shared that there should be urgency to address the problem of trees, and that it should be consistently addressed by efforts made throughout the City.
Councillor Nolan recognized Councillor Carlone who shared that parks, open spaces, and public spaces deserve to be a focus as a department. Councillor Carlone had a question for the team from DPW regarding shared streets and speed limits. Kathy Watkins responded by noting that currently shared streets continue to do the regulatory speed limit, but the City does post a yellow sign with a suggested speed limit of ten miles per hour. Councillor Carlone asked what the successful tree rate of the City currently is after a tree is planted and if the City will go back where a tree fails and plant a new sapling. Andrew Putnam shared that the tree success rate is

roughly around 75% and noted that in the summer people are tasked with going around different areas of the City to get a baseline of what trees need to be replaced.
Councillor Nolan recognized Councillor Zondervan who shared their excitement from a recent visit to their home country in South America which prides themselves on their commitment towards trees and noted that 93% of the country is covered by forest. Councillor Zondervan stressed that it is important for the City to be aggressive towards achieving tree canopy goals and hopes that more of the future budget will go towards achieving green goals. Councillor Zondervan suggested that the City have a Chief Sustainability Officer, someone who will focus on bigger sustainability issues and help the City focus and implement all the ideas and goals. Councillor Zondervan had a question on how the UFMP interacts with storm water and green insfrastructure goals. Kathy Watkins shared that there are many overlapping priorities in terms of space and co-benefits and noted that the five year street and sidewalk plan will be incorporating more green infrastructure projects.
Councillor Nolan shared that it is healthy to have critique and honest assessments when having important discussions. Councillor Nolan had a question about the Forest Friends program and the number of trees that been adopted, and asked what else the City could help do to make the program more effective. Kathy Watkins shared that DPW is in the process of revitalizing the Forest Friends program by adding new material and creating a better solution with outreach efforts. Andrew Putnam shared that 543 residents have signed up with 954 trees that have been claimed. Councillor Nolan had a question on the Tree Protection Ordinance and if it has a reporting mechanism like the UFP and the Committee on Public Planting. Kathy Watkins noted that an annual report is done with the Committee on Public Planting about the UFMP. Cindy Carpenter shared that it would be beneficial to receive a quarterly report regarding the status of trees in Cambridge. Councillor Nolan shared that they were interested in seeing DPW and the Committee on Public Planting working together to improve tree canopy efforts in the City and would entertain a Policy Order in the future to something of that effect. Councillor Azeem, Councillor Zondervan, and Councillor Carlone expressed that that would be something they would be interested in as well.
Councillor Nolan recognized Councillor Carlone who made a motion to adjourn the meeting.
Clerk of Committees Erwin called the roll.
Councillor Nolan – Yes
Councillor Azeem – Absent
Councillor Carlone – Yes
Councillor McGovern – Absent
Councillor Zondervan – Yes
Yes – 3, No – 0, Absent – 2. Motion passed.

Attachment A – Opening remarks from Councillor Nolan
Attachment B – Presentation titled “Health and Environment Committee, Update on the State of the Urban Forest”
Attachment C – Presentation titled “Cambridge4Trees”
Attachment D – Presentation titled “Supporting Biodiversity and Addressing Climate Change with Native Plants and Trees”
Attachment E – Presentation titled “Street Tree Planting Strategies”
Attachment F – Presentation “Increasing Urban Forest Community Outreach and Engagement”

Clerk's Note: The City of Cambridge/22 City View records every City Council meeting and every City Council Committee meeting. This is a permanent record.

The video for this meeting can be viewed at:
https://cambridgema.granicus.com/player/clip/487?view_id=1&redirect=true&h=99649d0be5d1f4d51d0f41b6a7cc8a46

A communication was received from Andrew Putnam, Superintendent of Urban Forestry and Landscape transmitting a presentation on the Update on the State of the Urban Forest.

A communication was received from Councillor Nolan, transmitting a presentation titled Cambridge4Trees.

A communication was received from Councillor Nolan, transmitting a presentation titled Supporting Biodiversity and Addressing Climate Change with Native Plants and Trees.

A communication was received from Councillor Nolan, transmitting a presentation titled Street Tree Planting Strategies.

A communication was received from Councillor Nolan, transmitting a presentation titled Increasing Urban Forest Community Outreach and Engagement.

Attachment A

Councillor Nolan Opening Remarks.

As mentioned in the call of the meeting, we are here to meet and receive a report from DPW on the status and strategies of the Urban Forest Master Plan, with a look into the most recent tree canopy report and touching on last summer's drought and the response to the failures in Danehy Park.

The goal of the meeting is to understand how we can make changes to reprioritize trees and our urban forest, broadly, across the city. I want to do that by bringing different voices to the table. Very often in meetings, we are fond of saying that Cambridge has unique challenges and has many advantages. One advantage is that we have a city filled - within the administration and the community - with people dedicated to providing and protecting open space, enhancing our urban forest, and creating a resilient city. The City has a difficult time acknowledging lapses - and advocates have a difficult time acknowledging the city's progress and leadership. I hope that we can change that culture. There is a role for praise, and critique. And tussling with what approach is best. Above all, we should not be afraid to say when we have failed or when we are floundering. My goal for the meeting is to think specifically about ways to improve what we are doing - to build on progress and see if there are specific recommendations to make on this topic.

The city does a lot of great work on trees - and we still fail in some ways - understandable, given the uphill battle we face against climate change, but not acceptable. We can improve. For example, we are seeing unprecedented droughts more often that risk our tree canopy across the city. We made missteps in the 2016 drought - and didn't really acknowledge that. In the last couple of years, our preparations for droughts have been better, and yet could still be improved. That is also true overall for tree canopy preservation which requires not only a proactive drought management plan but a number of other steps.

Now is the time to redouble our efforts - and to improve upon our practices so that we meet our goals. And the city needs to take advantage of the countless community members who have expertise and time - and have dedicated so much of their lives to protecting our urban forest. If we are going to fight this battle, the best way to do it is by including this broad coalition of dedicated people to come up with best practices. Including critics - not so much that they derail us, but so they spur us to do better. And that starts with the city's dedicated Commission on Public Planting. We should be using the experts in the committee as a means of also activating the broader community - because we do have a community that is ready to be activated!

Health and Environment Committee

Update on the State of the Urban Forest

March 1st, 2023

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Health and Environment Committee

Agenda:

- Urban Forest Master Plan (UFMP) Background
- Status of UFMP Action Steps
- Tree Canopy Report & Assessment
- 2022 Drought & Danehy Park Response

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Urban Forest Master Plan

Background & Process Overview

- Builds on the findings of the Cambridge Climate Change Vulnerability Assessment (CCVA) and helps support the goals of the Climate Change Preparedness and Resilience (CCPR) study

- Recognizes the capacity of the urban forest to realize the Core Values from Envision Cambridge

  - Livability & Diversity
  - Equity
  - Economic Opportunity
  - Sustainability & Resilience
  - Community Health and Wellbeing
  - Learning

Urban Forest Master Plan

Background & Process Overview

- Task Force of 18 private citizens representing residents of Cambridge, subject experts, local institutions, and business groups met 11 times during 2018 and 2019.

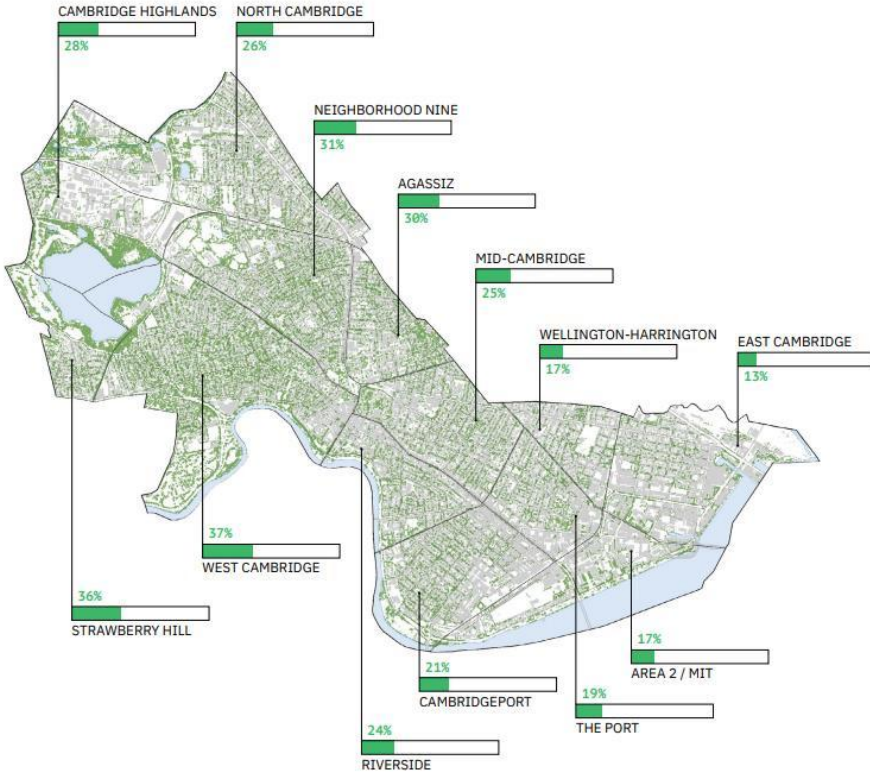
- Documented the State of the Urban Forest
- Evaluated Risks to the Urban Forest
- Set Targets, Prioritization, and Action Steps

- Developed Technical Report to advise stakeholders on data-driven solutions for preserving and expanding the urban forest and achieving goals.

Urban Forest Master Plan

Key Findings

- Inaction would result in only 10-15% canopy cover by 2050
- Canopy cover was not equitable
- Majority of canopy loss had been occurring on smaller residential lots



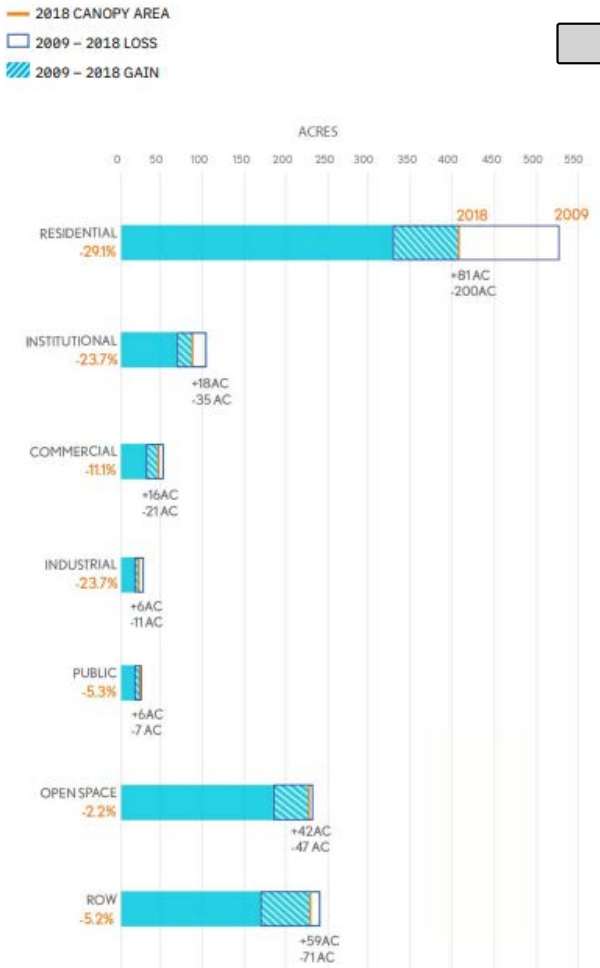


FIGURE 1.2 – CITYWIDE CANOPY LOSS (164 ACRES OF CANOPY LOST BETWEEN 2009-2018). Largest loss, both acres and percentage wise, occured on residential land use.

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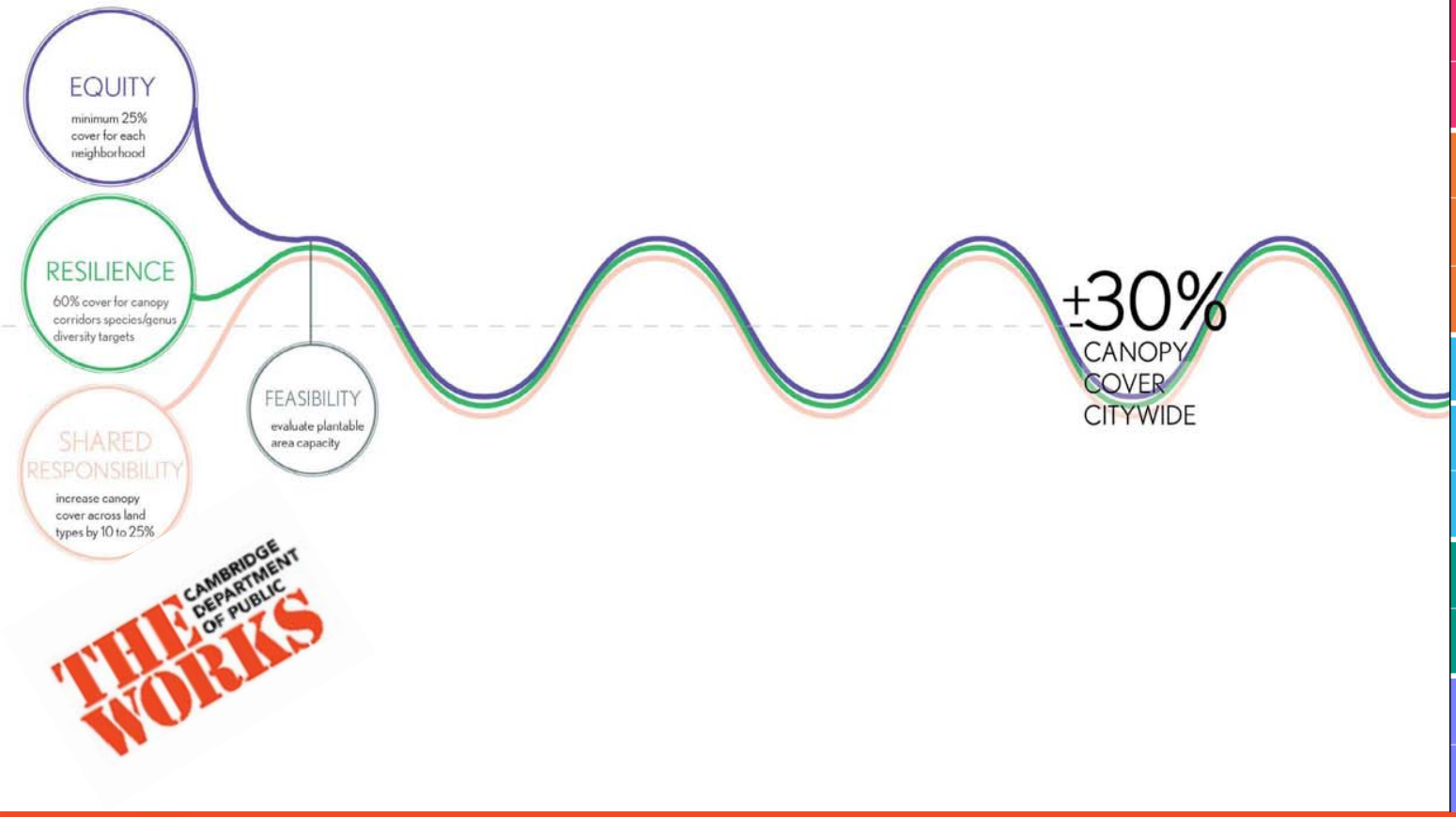
Urban Forest Master Plan

Goals & Strategy Matrix



1	Enhance and Expand the Tree Protection Ordinance	Policy
2	Formalize Practices for Planting and Inspection	Policy
3	Leverage Land Use Requirements	Policy
4	Leverage Public-Private Partnerships	Policy
5	Institutionalize Tree Priorities	Policy
6	Plant Resilient Species	Design
7	Street Tree Planting Strategies	Design
8	Site New Parks and Open Space Strategically	Design
9	Improve Monitoring	Practices
10	Expand Maintenance	Practices
11	Expand Planting Practices	Practices
12	Invest in Educational Programs	Outreach
13	Build Community Partnerships	Outreach
14	Seek Alternative Green Strategies	Other
15	Integrate UFMP into Complementary Planning Studies	Other

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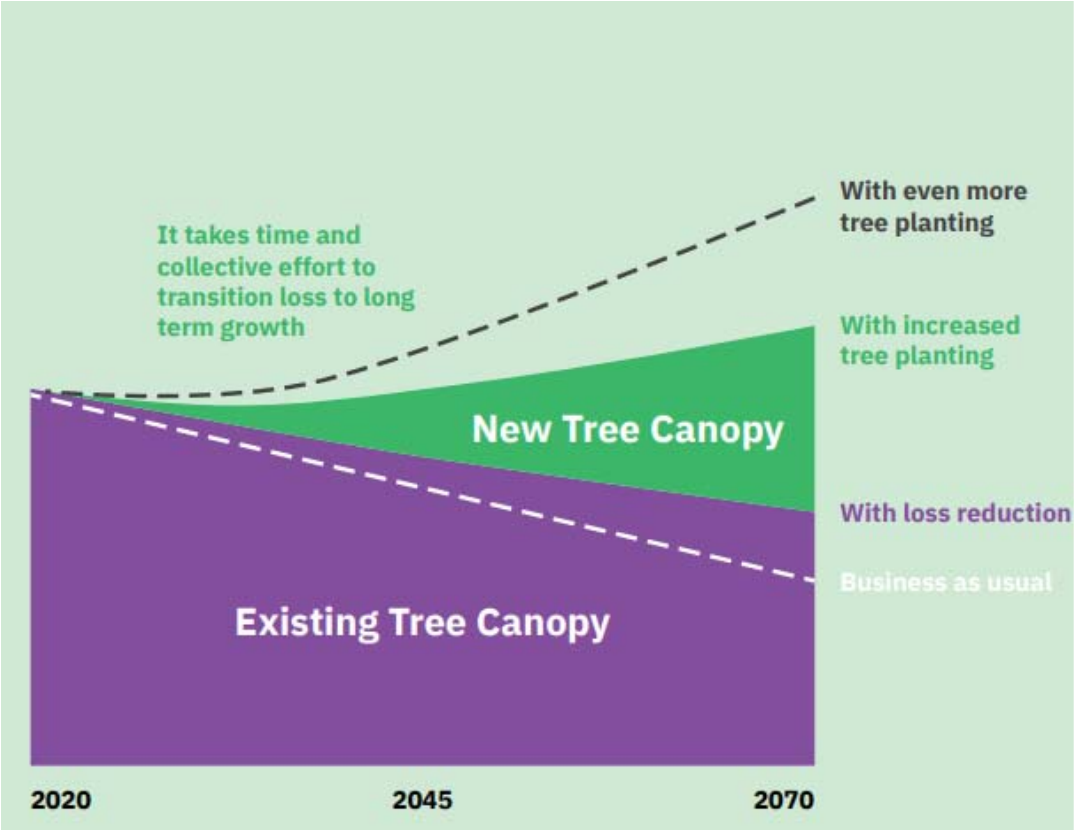
Attachment: HealthandEnvironmentCommittee4.25.23DPW (COF 2023 #73 : A

Urban Forest Master Plan

Action Steps

Building canopy is a slow and steady race, but we are seeing substantive progress. The investments in tree plantings and maintenance combined with tree preservation initiatives are reversing the loss of tree canopy. The city is committed to building on this work and continuing to implement the recommendations of the UFMP.



Urban Forest Master Plan

Action Steps

ALL CITY DEPARTMENTS

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Coordinate action among City agencies.

Educate all City agencies and departments about the findings and recommendations of the UFMP. Ask each department how they can contribute to advancing the goals of the UFMP, and develop or task an existing cross-departmental group to carry on regular discussions about how the City is making progress toward these goals and targets. Find opportunities to integrate with efforts stemming from Envision Cambridge and the Climate Change Preparedness and Resiliency Plan.

Galvanize the community to take action.

Develop and implement an outreach and engagement plan that articulates broad community-wide themes and develops specific tactics to activate the many diverse populations of Cambridge. Assess all modes for engagement, including events, popups, publications, and partnerships.

Integrate urban forest principles into street and sidewalk reconstruction projects.

In order to more quickly reach the goal of providing a minimum 25% canopy cover in each neighborhood, identify city-wide construction efforts including utility projects and street and sidewalk rebuilding efforts particularly in priority areas identified within the UFMP. Incorporating the conditions to strenghten and grow the urban forest should be integral to these infrastructure projects.

Urban Forest Master Plan

Action Steps

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Develop and implement an outreach and engagement plan that articulates broad community-wide themes and develops specific tactics to activate the many diverse populations of Cambridge. Assess all modes for engagement, including events, popups, publications, and partnerships.

Miyawaki Forest planting at Danhey Park

Urban Forest Master Plan

Action Steps

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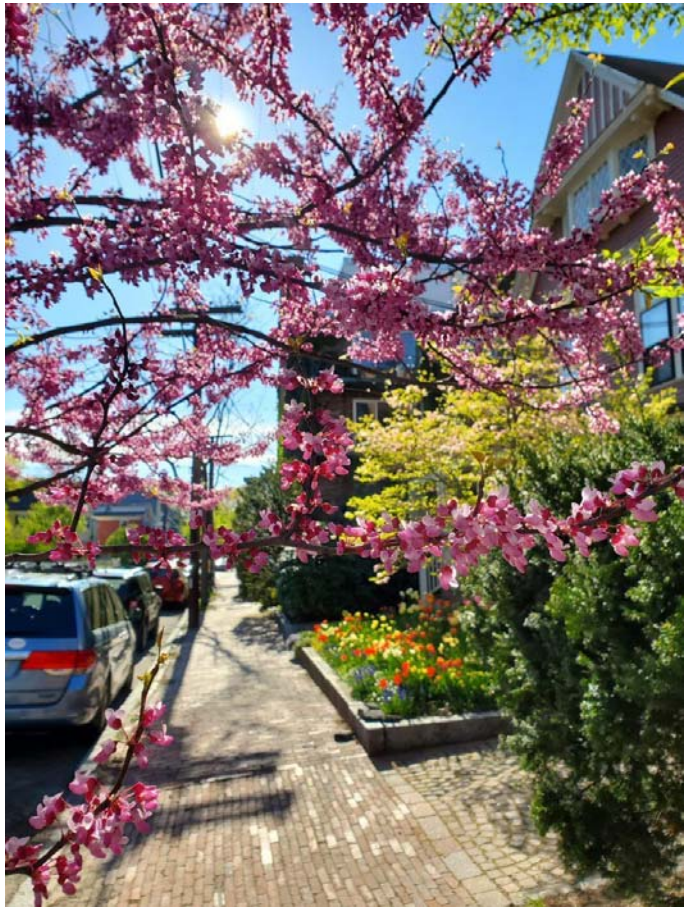
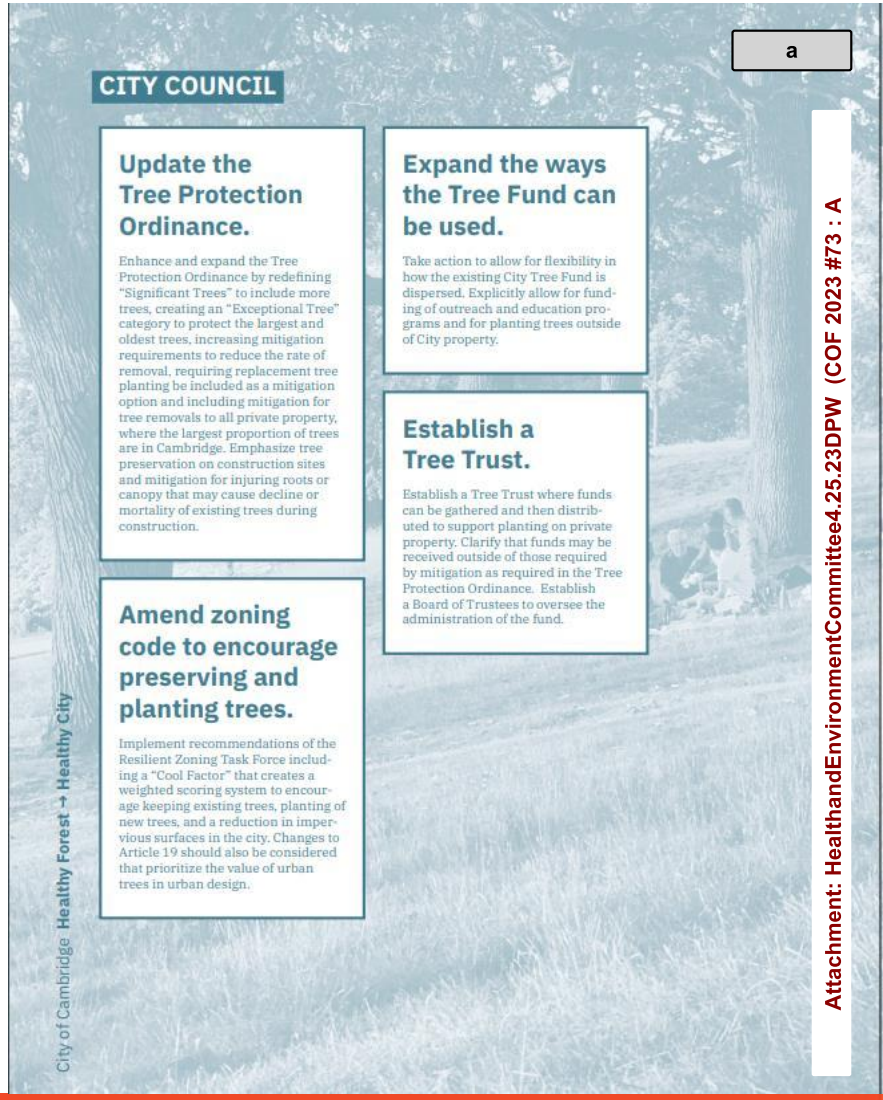
- **Triangle Park** in Kendall Square is a new park that is currently under construction and will be open to the public in 2023.

- Denser tree plantings and a focus on replicating forest conditions enabled the planting of 392 trees in the park. This **design approach was a direct result of the Urban Forestry Master Plan.**

Urban Forest Master Plan

Action Steps





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CITY COUNCIL

Update the Tree Protection Ordinance.

Enhance and expand the Tree Protection Ordinance by redefining "Significant Trees" to include more trees, creating an "Exceptional Tree" category to protect the largest and oldest trees, increasing mitigation requirements to reduce the rate of removal, requiring replacement tree planting be included as a mitigation option and including mitigation for tree removals to all private property, where the largest proportion of trees are in Cambridge. Emphasize tree preservation on construction sites and mitigation for injuring roots or canopy that may cause decline or mortality of existing trees during construction.

Expand the ways the Tree Fund can be used.

Take action to allow for flexibility in how the existing City Tree Fund is dispersed. Explicitly allow for funding of outreach and education programs and for planting trees outside of City property.

Establish a Tree Trust.

Establish a Tree Trust where funds can be gathered and then distributed to support planting on private property. Clarify that funds may be received outside of those required by mitigation as required in the Tree Protection Ordinance. Establish a Board of Trustees to oversee the administration of the fund.

Amend zoning code to encourage preserving and planting trees.

Implement recommendations of the Resilient Zoning Task Force including a "Cool Factor" that creates a weighted scoring system to encourage keeping existing trees, planting of new trees, and a reduction in impervious surfaces in the city. Changes to Article 19 should also be considered that prioritize the value of urban trees in urban design.

City of Cambridge Healthy Forest → Healthy City

Urban Forest Master Plan

Action Steps

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- In 2019 and 2021, the **City Council updated the Tree Protection Ordinance** to cover the removal of Significant Trees, defined as 6 inches in diameter, and Exceptional Trees, defined as 30" in diameter, on private property.
- Permits are required to remove a Significant Tree on private property and mitigation is required to help offset canopy loss.
- Mitigation can be replanting, payment into the Tree Fund or a combination of both.

THE CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Urban Forest Master Plan

Action Steps

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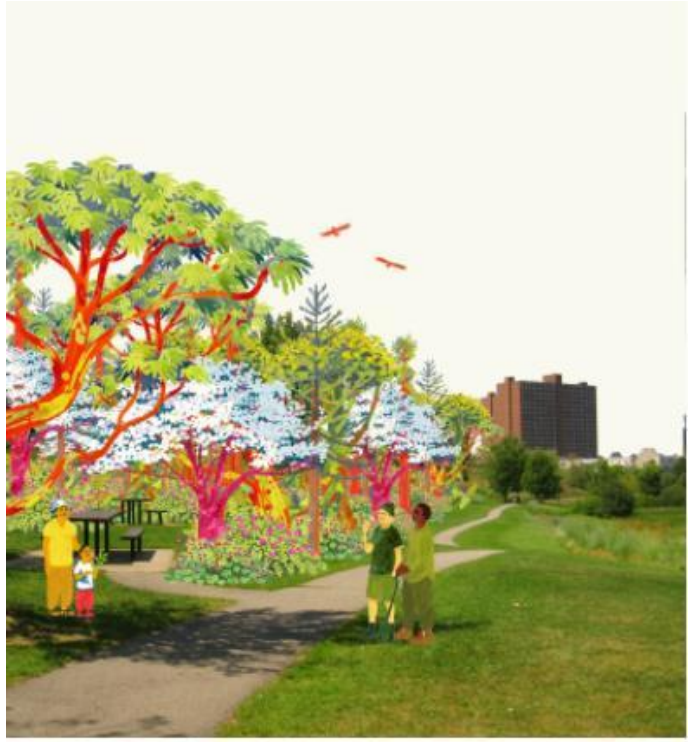
- Green Cambridge's Canopy Crew of Public Works will continue planting trees on private property.
- Goal to plant 300 trees annually

Urban Forest Master Plan

Action Steps



DEPARTMENT OF PUBLIC WORKS

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Plant in parks.

Maximize canopy by planting all available areas within parks in neighborhoods that have below average canopy cover. For parks with active recreational programs, plant a thick buffer. (Potential Sites: Cambridge Common, Dana Park, Danehy Park, Flagstaff Park, Fort Washington Park, Front Park, Greene Rose Heritage Park, Joan Lorentz Park, Longfellow Park, Mary Conlan Park, New Riverside Neighborhood Park, Riverside Press Park, Sennott Park.)

Plant 1,000 street trees each year.

Focus planting in priority areas and along priority streets (Massachusetts Avenue, Cambridge Street, River Street, Beacon Street, Main Street, etc). Follow best practices for soils and planting details. Water and provide appropriate establishment support.

Plant diverse and resilient species.

Plant well-adapted species with a high climate resiliency score (Refer to Appendix N). Track species planted city-wide to meet the overall diversity targets (no more than 10% of any one species, 20% per genus, 30% per family).

Redesign streets and sidewalks to make room for more trees.

When rebuilding streets and sidewalks, implement innovative design alternatives that accommodate space for trees with adequate soil volume. Include the priorities of UFMP when revising the City's 5 Year Sidewalk and Street Reconstruction Plan and 10 year Sewer and Drain Infrastructure Plan. UFMP priority neighborhoods include: East Cambridge, The Port, Wellington-Harrington.

Update recommended species list.

Update the recommended street tree species list on the City's website to include more diverse species and reduce dependence on overplanted species. Add a searchable database of recommendations for private property trees based on size, location, type, and habit. (Refer to page 154 in the UFMP Technical Report)

Urban Forest Master Plan

Action Steps

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Maximize canopy by planting all available areas within parks in neighborhoods that have below average canopy cover. For parks with active recreational programs, plant a thick buffer. (Potential Sites: Cambridge Common, Dana Park, Danehy Park, Flagstaff Park, Fort Washington Park, Front Park, Greene Rose Heritage Park, Joan Lorentz Park, Longfellow Park, Mary Conlan Park, New Riverside Neighborhood Park, Riverside Press Park, Sennott Park.)

A Miyawaki Forest is a dense, multilayered forest comprised of native flora. The planting replicates the forests native to the Northeast.

Prep work for Miyawaki Forest

Planting day

Urban Forest Master Plan

Action Steps

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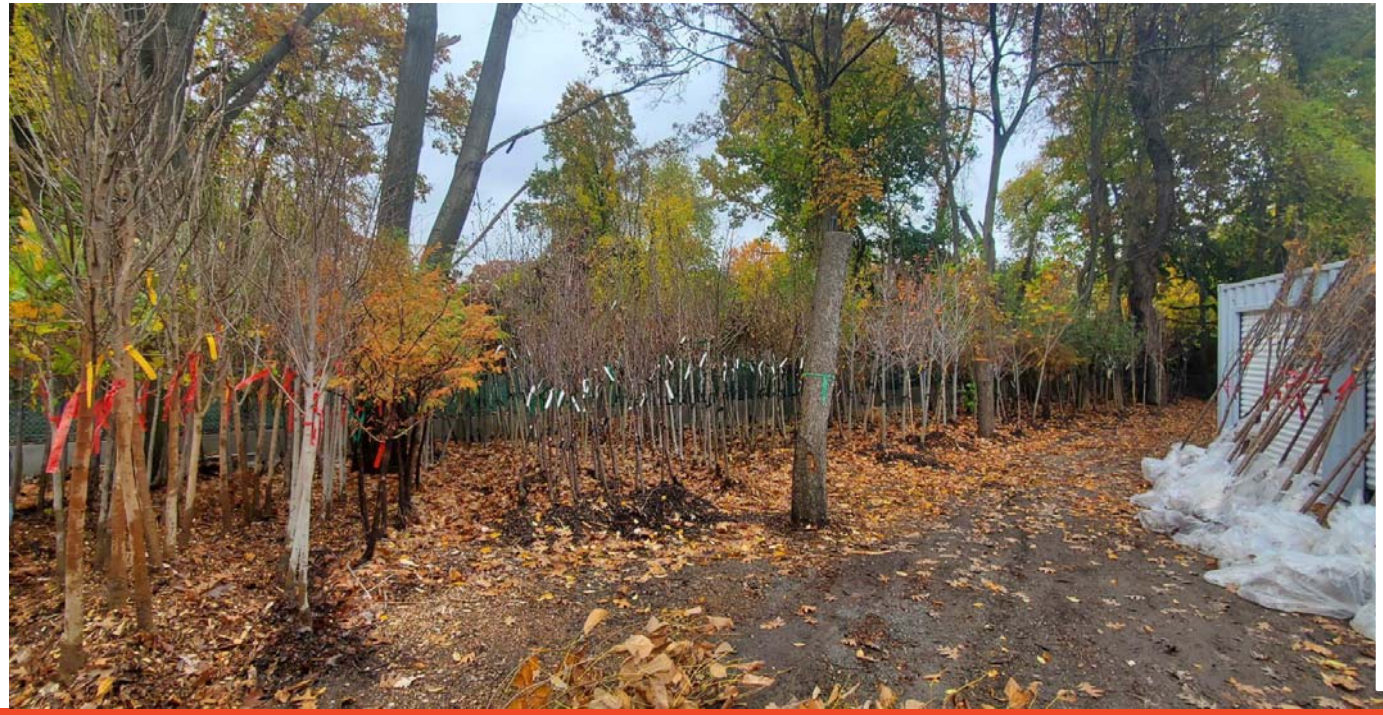
Update recommended species list.

Update the recommended street tree species list on the City's website to include more diverse species and reduce dependence on overplanted species. Add a searchable database of recommendations for private property trees based on size, location, type, and habit. (Refer to page 154 in the UFMP Technical Report)

- Bare root nursery at Fresh Pond
- Holds 700 trees
- Built in partnership with Human Services & DPW



Urban Forest Master Plan

Action Steps

Plant 1,000 street trees each year.

Focus planting in priority areas and along priority streets (Massachusetts Avenue, Cambridge Street, River Street, Beacon Street, Main Street, etc). Follow best practices for soils and planting details. Water and provide appropriate establishment support.

- Created three new positions to plant trees in-house
- Continue to expand capacity

Fiscal Year	ROW Goal	Open Space Goal	Total Goal	Planting Season	Actual Number of Planted	Total By FY
FY22	725	275	1000	F21	804	1156
				S22	352	
FY23	725	275	1000	F22	823	
				S23	TBD	
FY24	775	325	1100	F23	TBD	
				S24		
FY25	925	325	1250	F25	TBD	
				S26		
FY26	1000	250	1250	F26	TBD	
				S27		
FY27	1000	250	1250	F27	TBD	
				S28		

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Urban Forest Master Plan

Action Plan

Redesign streets and sidewalks to make room for more trees.

When rebuilding streets and sidewalks, implement innovative design alternatives that accommodate space for trees with adequate soil volume. Include the priorities of UFMP when revising the City's 5 Year Sidewalk and Street Reconstruction Plan and 10 year Sewer and Drain Infrastructure Plan. UFMP priority neighborhoods include: East Cambridge, The Port, Wellington-Harrington.

Integrate urban forest principles into street and sidewalk reconstruction projects.

In order to more quickly reach the goal of providing a minimum 25% canopy cover in each neighborhood, identify city-wide construction efforts including utility projects and street and sidewalk rebuilding efforts particularly in priority areas identified within the UFMP. Incorporating the conditions to strenghten and grow the urban forest should be integral to these infrastructure projects.

There are many competing interests / uses for our public right-of-way and creating spaces for more trees can be challenging. But space for trees is a key consideration in all capital projects. Some great recent examples include:

Large capital project in **the Port** that will include reconstructing many streets and sidewalks. Many of which are very narrow and make it challenging to plant trees and provide accessible sidewalks. Through the community design process, **shared streets** are being considered. Shared streets create a slow speed environment where people walking, biking and driving can share the road. This can provide more space for people walking, trees and other plantings.

THE CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Urban Forest Master Plan

Action Plan

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DEPARTMENT OF PUBLIC WORKS

Track progress annually and conduct a tree census every five years.

Publish annual reports to document initiatives, garner support, and track progress toward goals (Precedent: Annual Net Zero Action Plan progress report). Every five years, undertake a detailed city-wide tree census and evaluate progress and adjust strategies.

Specifically: Survey neighborhood associations, business associations, and other groups that may be able to estimate the tree numbers planted each year on private property. Review tree removal permit applications yearly to evaluate the potential effectiveness and impact of the Ordinance. Conduct LIDAR studies every 5 years to evaluate overall canopy cover change. Engage an expert advisory committee to advise the City on current science on climate and horticultural practices, as well as, reviews annual progress on efforts to reduce rate of canopy loss.

Increase tree assessments to improve resiliency.

Conduct a windshield assessment for all City trees once a year and after large storms. Increase pruning frequency so every City tree in the City is assessed and cared for on a more frequent basis. As part of the pruning work, or as a separate assessment, monitor trees for potential pests and diseases.

Manage urban soils to grow healthier trees.

Implement recommendations from a Soils Management Plan, which the City is currently undertaking. The plan will provide targeted recommendations to enhance the health and performance of urban soils based on specific planting conditions and situations within the city.

Expand data collection to enhance tree health.

Expand the use of Cartegraph to include additional data on each tree, including soil design, soils management practices, paving condition, pruning schedule, etc., to allow the City to target maintenance efforts most efficiently and to assess the effectiveness of pilot projects and experimental treatments.

Prune proactively.

Undertake structural pruning for young shade and ornamental trees. Identify trees planted within the last 4 to 8 years. Contract to prune for form and structure to reduce potential future damage during ice and wind storms. Pruning now can reduce risks and costs later in a tree's life.

City of Cambridge Healthy Forest → Healthy City

Urban Forest Master Plan

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Young Tree Training Program

- Structural Pruning of 1400 newly planted trees annually

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Urban Forest Master Plan

Action Plan

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- Compost tea
- Biochar
- Enlarged tree pits

THE CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Urban Forest Master Plan

Action Plan

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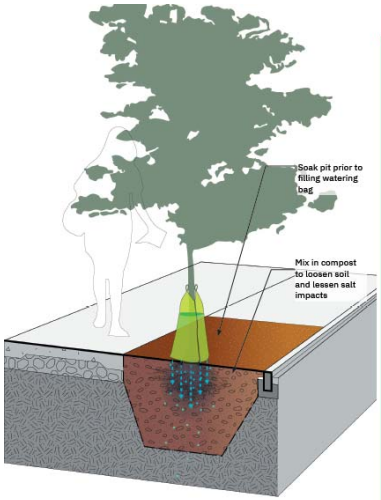
Implement recommendations from a Soils Management Plan, which the City is currently undertaking. The plan will provide targeted recommendations to enhance the health and performance of urban soils based on specific planting conditions and situations within the city.

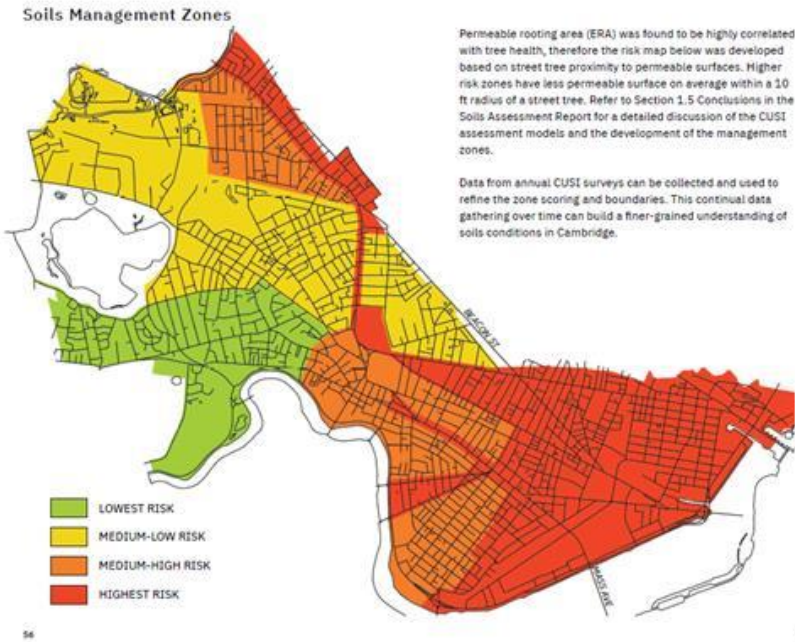
- Soil management – Using CUSI-2 analysis each planting location is remediated at the time of planting to improve available water, microorganisms, and nutrients in the soil.



High salt content (low EC) can hinder tree growth. Irrigating the soil flushes out salts.

EC Electrical Conductivity or Soluble Salts

CUSI SCORE	0	1	2	3	4	5
	>1000 µS cm-1	501-1000 µS cm-1	251-500 µS cm-1	101-250 µS cm-1	50-100 µS cm-1	<50 µS cm-1
			◁ WORSE	BETTER ▷		
TIME OF PLANTING	Excavate tree pit. Irrigate open pit with 2.5 gallons of water per sq. ft. of area and let drain prior to tree planting If EC >3,000 µS cm-1, blend compost into excavated soil (1 cf compost per 4 cf of soil) before replacing Advise nearby residents and businesses to reduce de-icer applications in winter See EC Soil Management Actions pg 45				Protect healthy soils, especially during construction Apply nutrients appropriately (type, timing, etc.) and only when identified to be deficient and necessary for tree health objectives	
TREE UNDER STRESS / AT RISK	If EC >1,000 µS cm-1, immediately irrigate soil with 2.5 gal of water per sq ft of area daily until EC <1 µS cm-1 For EC >1,000 µS cm-1, that won't drain, loosen soil (refer to PEN actions) and irrigate as above Blend 1" of compost into the top inch of soil. Place 2" of compost as mulch Advise nearby residents and businesses to reduce de-icer applications in winter See EC Soil Management Actions pg 54		Irrigate soil with 2.5 gal of water per sq ft of area weekly Place 2" of compost as mulch	Irrigate weekly with 1.5 gal water per sq ft of area Place 2" of compost as mulch Measure EC 2 times per year	Protect healthy soils, especially during construction Apply nutrients appropriately (type, timing, etc.) and only when identified to be deficient and necessary for tree health objectives	



Urban Forest Master Plan

Action Plan

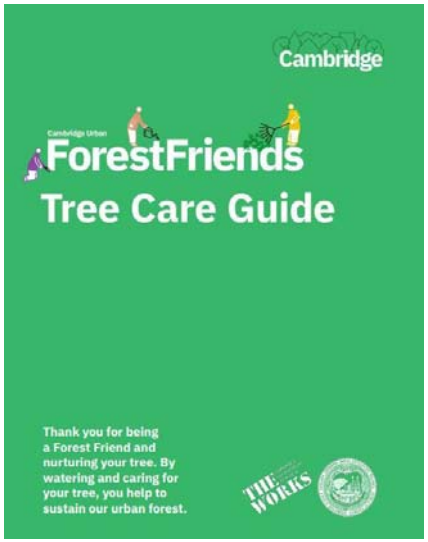
Spotted Lanternfly at Glacken Field

Urban Forest Master Plan

Action Plan

Promote existing City programs.

Promote existing programs that encourage tree planting and stewardship such as the Back of Sidewalk program, Adopt a Tree, and Junior Forester. Communicate opportunities directly to stakeholders and through community organizations, neighborhood associations, events, and cultural events.



THE WORKS CAMBRIDGE DEPARTMENT OF PUBLIC

Urban Forest Master Plan

Action Plan

THE CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Add landscape architects to City staff to advocate for trees.

Add more landscape architects to City staff and encourage representation of holistic landscape and urban forestry issues on official boards like Planning and Zoning.

Develop a public realm design manual.

Develop a public realm design manual that supports tree plantings while balancing the need to provide amenities, connections, and green infrastructure necessary to maintain and enhance the city's livability. The manual will document goals for the beauty, functionality, safety, and environmental performance of the City's public realm.

Amend zoning code to encourage preserving and planting trees.

Implement recommendations of the Resilient Zoning Task Force including a "Cool Factor" that creates a weighted scoring system to encourage keeping existing trees, planting of new trees, and a reduction in impervious surfaces in the city. Changes to Article 19 should also be considered that prioritize the value of urban trees in urban design.

Ensure new trees are cared for after construction projects.

Identify and implement a regulatory mechanism to ensure owners care for and establish new trees that are planted as part of a project review and approval process.

Encourage new public parks and open space.

Encourage the development of new parks and publicly accessible open spaces that provide canopy cover as part of large redevelopment projects, especially in underserved neighborhoods including East Cambridge, The Port, Wellington-Harrington, Area2/MIT, and Cambridgeport.

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Urban Forest Master Plan

Action Plan

Encourage new public parks and open space.

Encourage the development of new parks and publicly accessible open spaces that provide canopy cover as part of large redevelopment projects, especially in underserved neighborhoods including East Cambridge, The Port, Wellington-Harrington, Area2/MIT, and Cambridgeport.

- **Toomey Park** in East Cambridge is new 2.2-acre park that includes 162 new park trees and 19 street trees

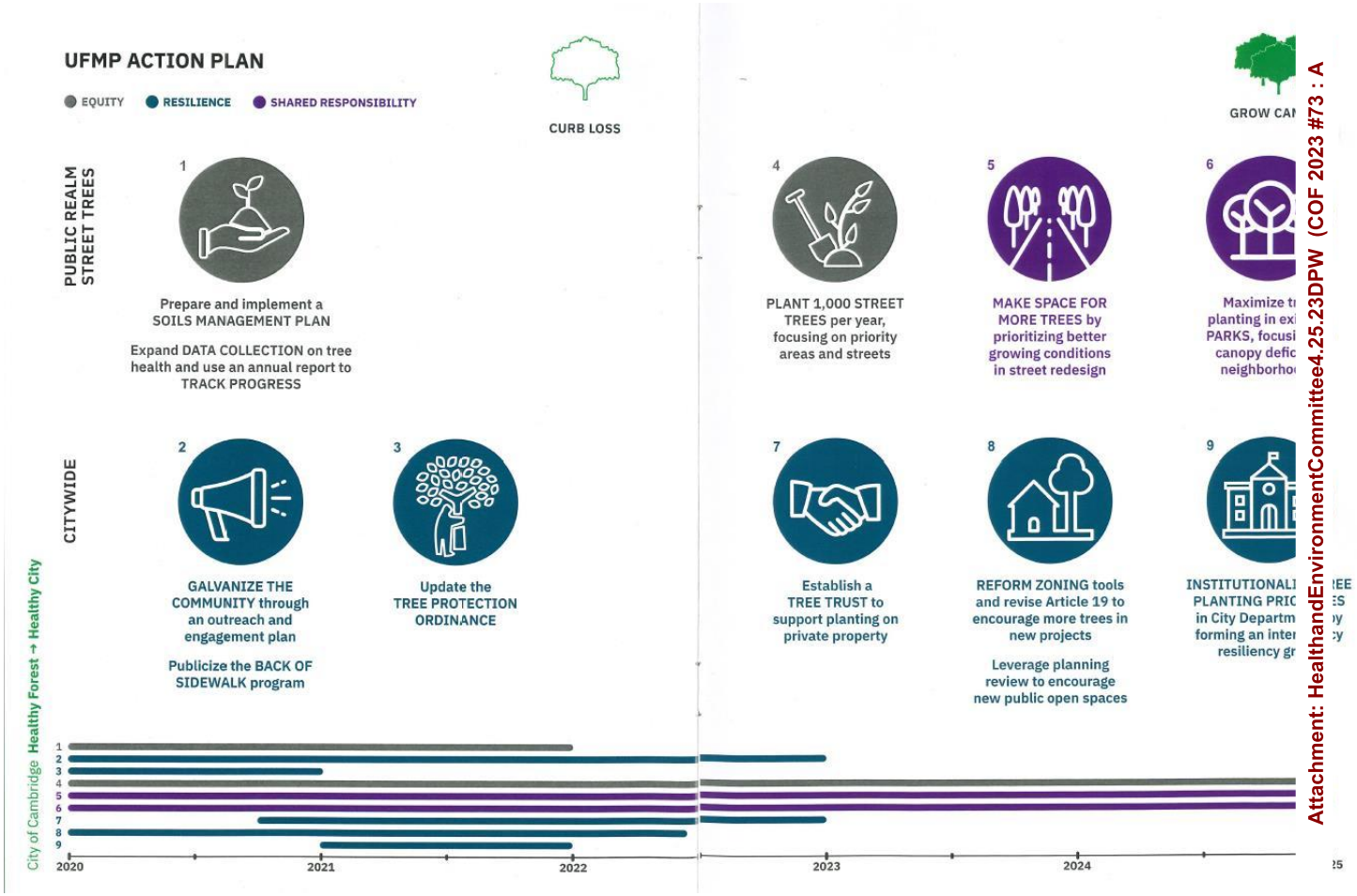
- **Binney Street Park** new 1.3-acre park, currently in construction (late fall 2023 opening), that includes 35 new park trees

- **Triangle Park** in East Cambridge is a new 0.7-acre park, currently in construction (summer 2023 opening), that includes 392 new street and park trees

Urban Forest Master Plan

Conclusion

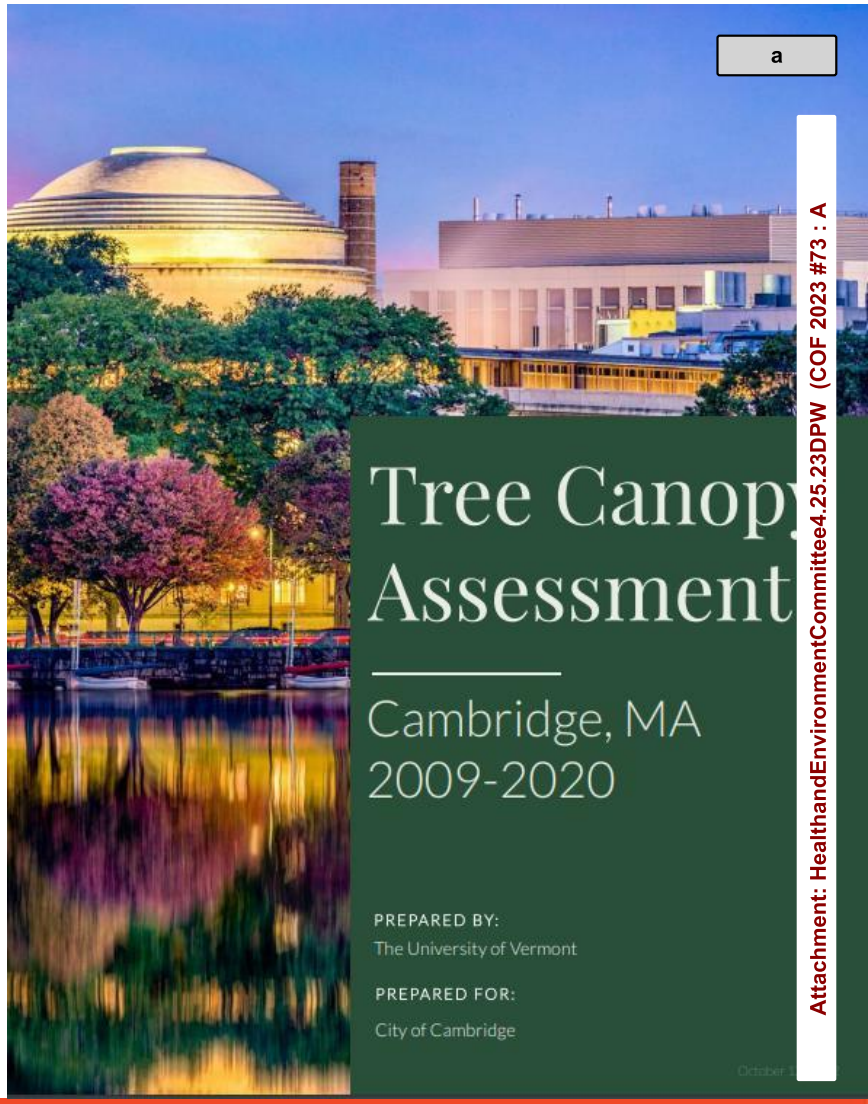
- Implementing the UFMP Action Plan requires multi-department coordination
- Ongoing process
- Improving the Urban Forest is a long endeavor



Tree Canopy Report

Background

- 4th Canopy Assessment from UVM
- LiDAR data from 2009, 2014, 2018 and 2020
- Independent analysis of current canopy coverage, trends and projections
- UVM has completed Canopy Assessments for over 90 communities in North America



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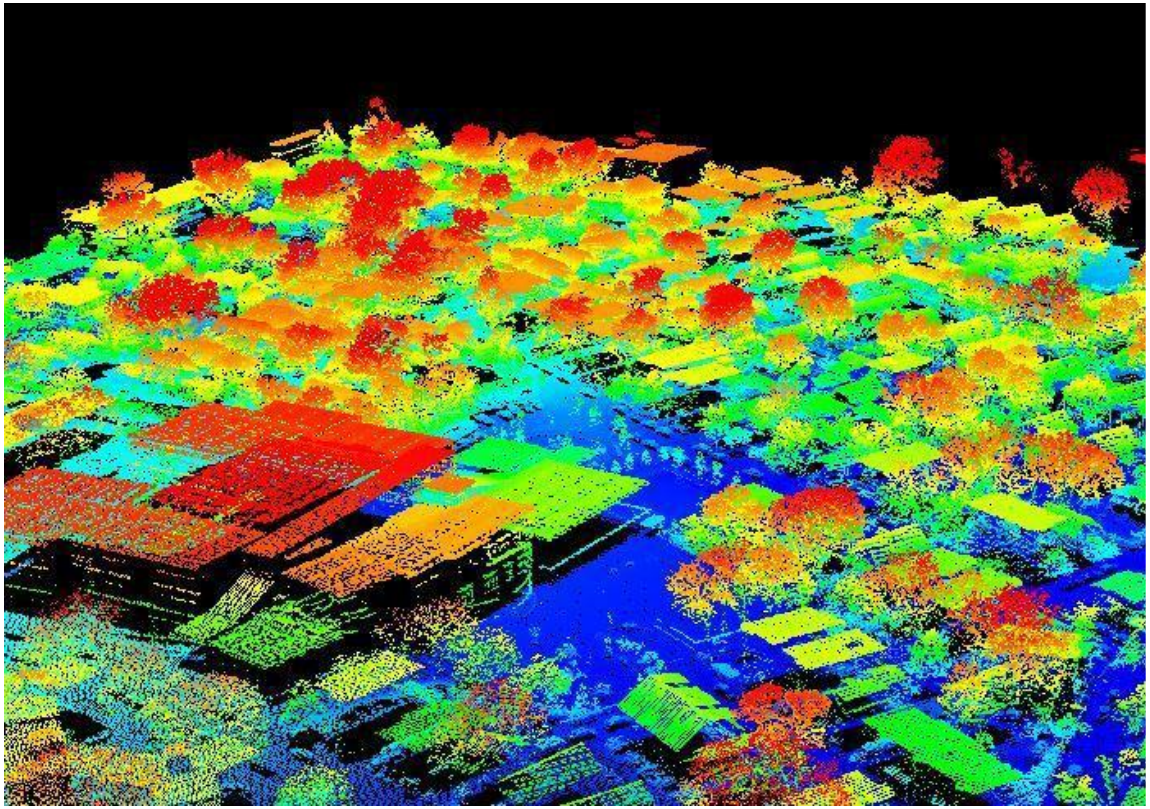
Tree Canopy Report

Background

- LiDAR is one tool for representing tree canopy
- Our data continues to get more refined.
- Improved technology, resolution and techniques help paint a more accurate picture of the urban forest



Tree Canopy Report

Improved Techniques

- LiDAR imaging, processing techniques and resolution continue to improve
- Harmonized flyover data provides accurate results for tracking change in canopy coverage

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Accuracy Improvements

Due to improved accuracy achieved through the harmonization process, tree canopy numbers in s assessment may differ from previous analyses. Original tree canopy outputs for 2009 and 2014 w e much coarser in resolution and required smoothing prior to harmonization.

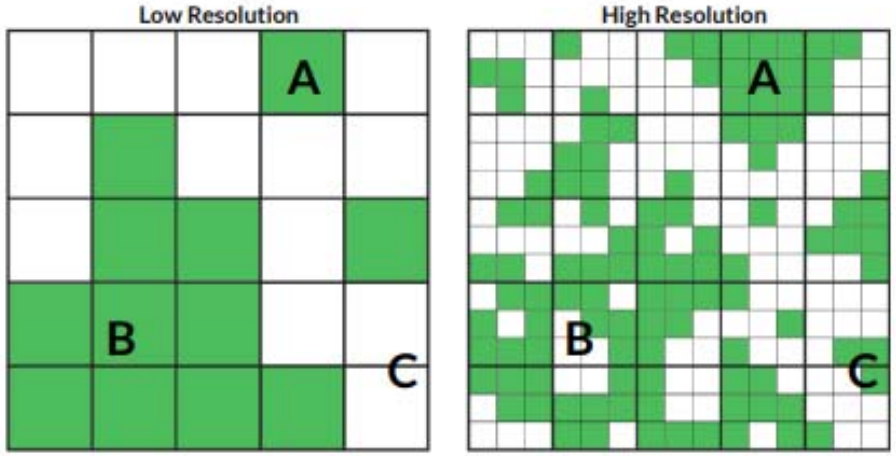


Figure 4. Illustration of ho accuracy improvements ca result in updates to tree canopy estimates. Both example maps represent th same 15m by 15m area, th left one has a resolution o by 3m while the right has resolution of 1m by 1m. Th map on the right more accurately captures actua canopy area.

New techniques better capture:

A Edge Growth. Better detection of edge growth may add tree cover that was not previously mappec

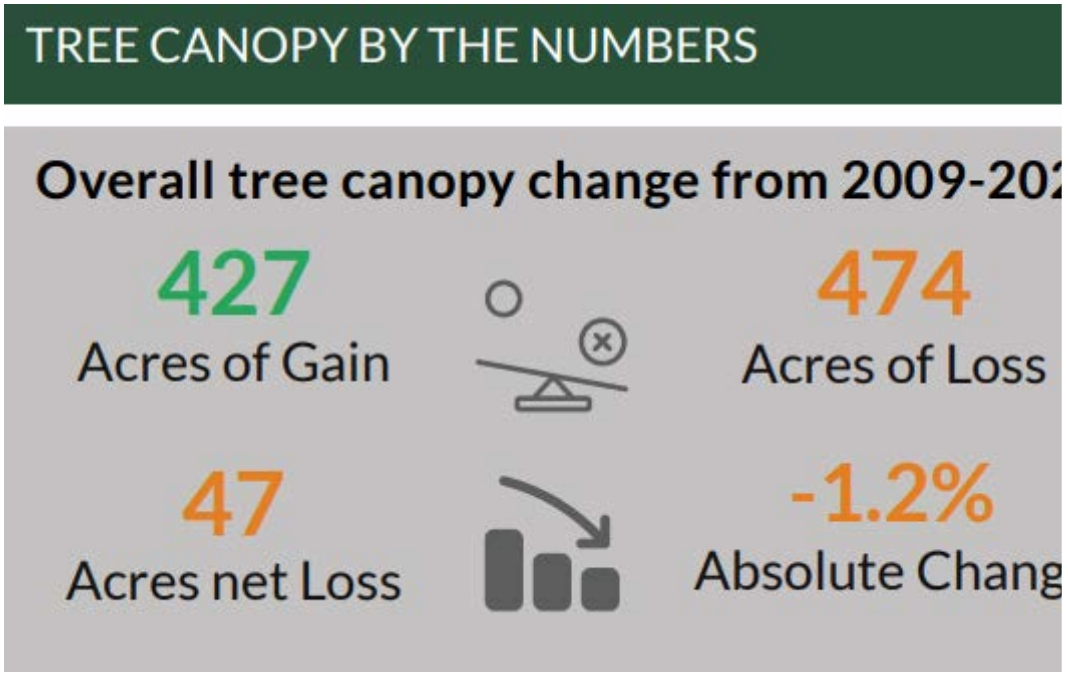
B Forest Gaps. Previous assessments may include overestimates of tree cover where tree canopy ga were not detected.

C Small Patches. Tree patches that were previously too small for detection can now be mapped.

Tree Canopy Report

Findings

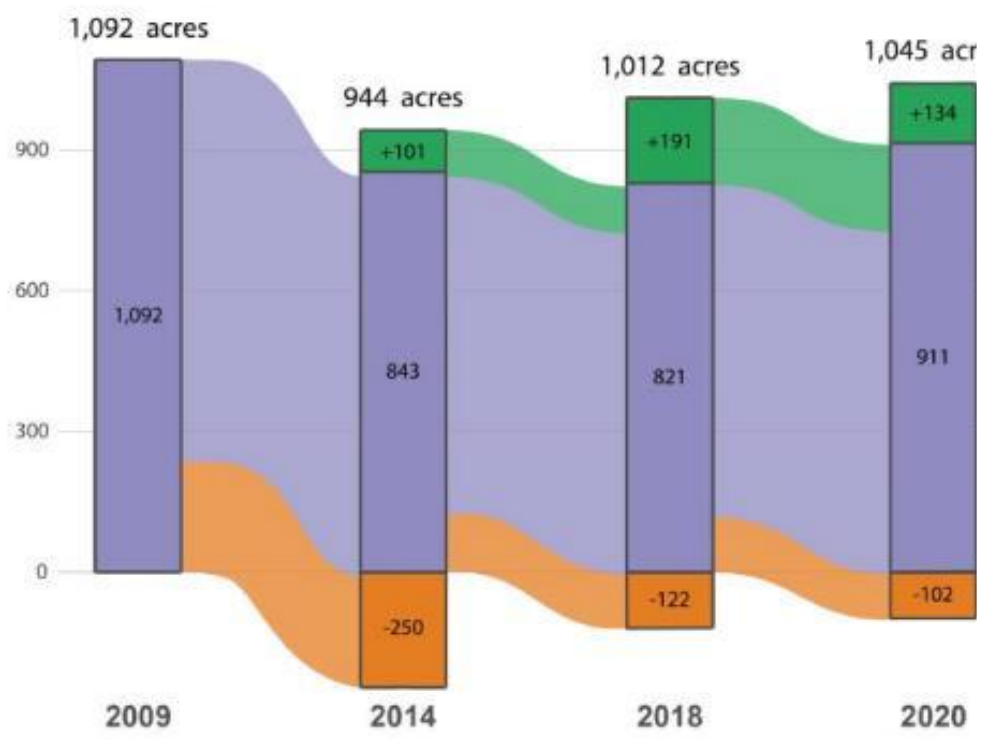
- Loss has still outpaced gain since 2009 but the rate of loss has declined while gains have increased
- Overall, trending in the right direction



Tree Canopy Report

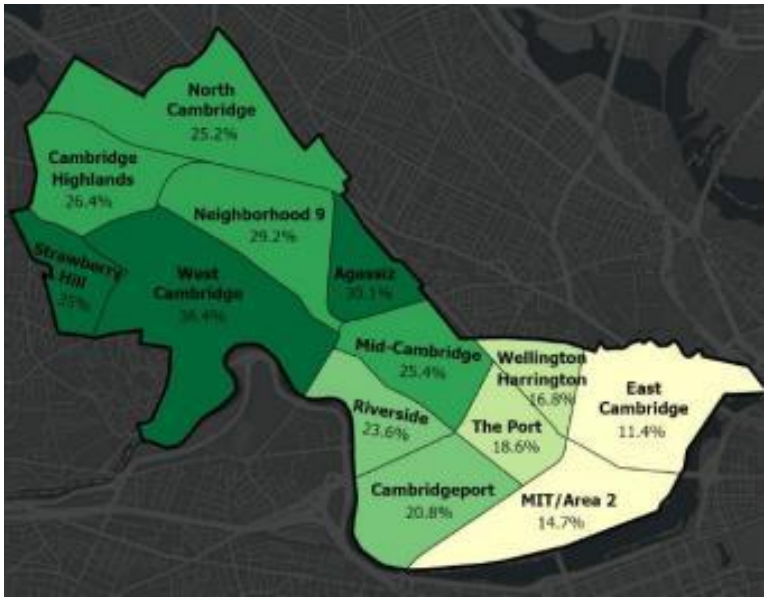
Findings

- Change in canopy highlights the importance of curbing loss while continuing to grow canopy



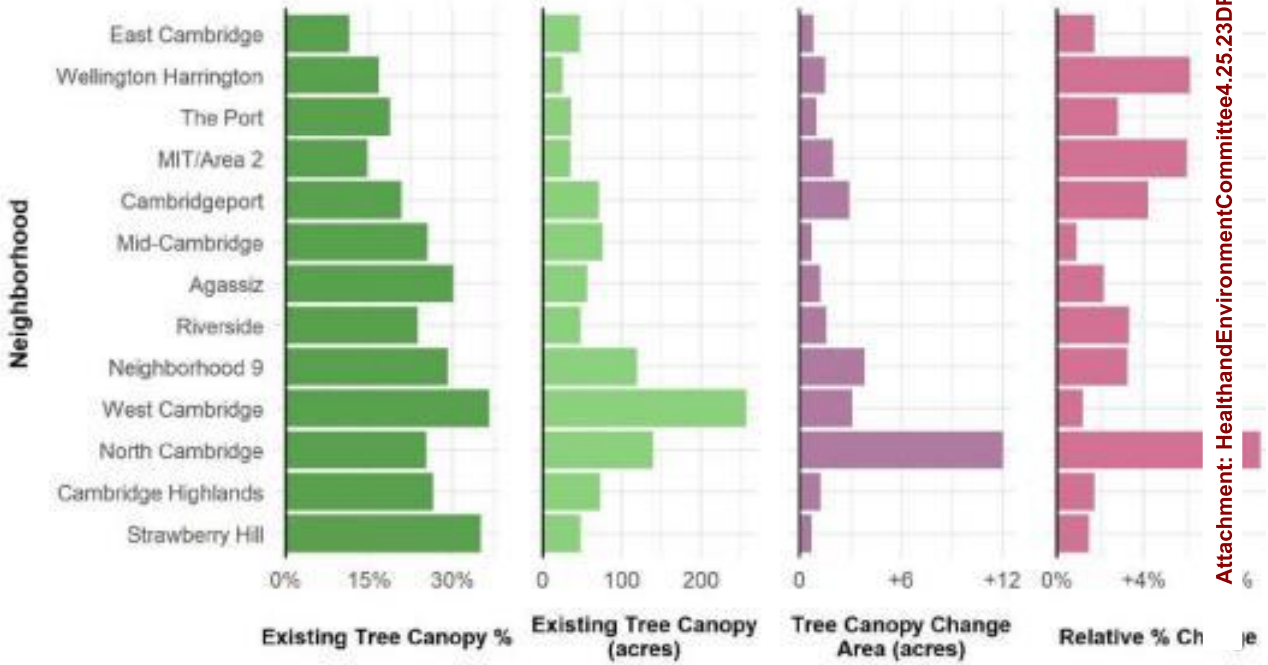
Tree Canopy Report

Findings



Tree Canopy and 2018-2020 change metrics by neighborhood

- Informs our decisions as we attempt to reach an equitable canopy cover of 30% for each Cambridge neighborhood



2022 Drought & Danehy Park Response

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Public Works Watering Under Normal Conditions

- Three DPW trucks water from 3 am to 7 am Mon-Friday.
- Our tree planting contractor (currently Leahy Landscaping) has three trucks watering from 7 am to 3 pm Monday-Friday.
- In a typical summer, the Water by Bike program employs 6-10 interns for June, July, and August to water trees from 7 am to 3 pm. (this summer there was only two interns). Using bicycles, the interns access fire hydrants to water trees throughout the city.
- We continue to promote and encourage residents to join our Forest Friends Program and water trees adjacent to their residences, which remains the most effective and efficient watering program we have.

2022 Drought & Danehy Park Response

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Public Works Watering During the Drought:

- In mid-July, on Tuesdays and Thursdays, DPW added two more watering trucks to the 3 am to 7 am watering shift, bringing the total to five.
- In mid-July, Forestry paused all pruning and removals and had three trucks watering from 7 am to 3 pm. These three trucks were watering from 3 am to 3 pm five days a week.
- In late July, Forestry and the Streets division held overnight tree watering. Crews came in from 9 pm to 7 am to water trees in our harshest growing locations (MIT/ Area 5, Porter Square, Central Square, and all the Main Roads).
- Our planting contractor added a watering truck to their operation, bringing the total to four.

2022 Drought & Danehy Park Response

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Danehy Park Summary:

Height of Drought from Cambridge Day Article. Photo taken Aug 8th, 2022

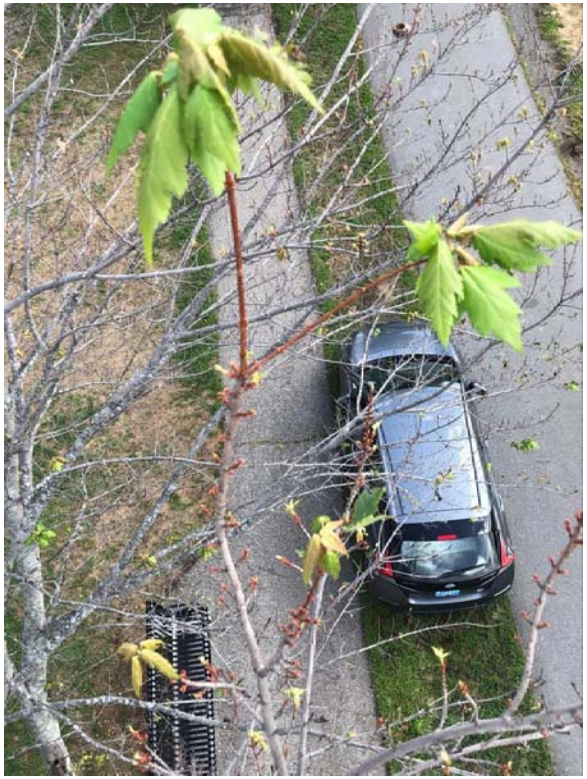
Conditions on September 26th, 2022

- Danehy irrigation is controlled by 4 zones, each with their own pump.
- One zone was newly added with the UD playground. The replacement of the pumps has been a priority in the other 3 zones. 2 pumps in those 3 zones had been replaced
- Danehy park had 3 of 4 zones running this summer.
- The final pump, scheduled for replacement, failed this year.
- By early August, 3rd pump has been repaired and system is fully functional.

2022 Drought & Danehy Park Response

Danehy Park Summary:

- Assessment of all impacted trees at Danehy Park
- 11 Trees will be removed and the remaining impacted trees will be assessed after leaf out this spring.
- Soil remediation with compost tea on the impacted trees was completed this fall.
- Plans to plant 100 additional trees in Danehy in the spring.



Health and Environment Committee

Conclusion:

- Implementation of the UFMP is the primary focus of the Forestry Department in cooperation with several City Departments
- The 2020 Canopy Report shows encouraging trends, but more work is required to achieve 30% canopy coverage citywide
- 2022 drought presented challenges but also an opportunity to ensure preparedness for future extreme weather events

Health and Environment Committee

Next Steps:

- A comprehensive five-year report on the progress of the UFMP goals
- A LiDAR Canopy Report to gauge the impacts of the 2022 drought
- Expand outreach through the Forest Friends program, including email updates and social media posts
- Enhance our working relationships with the Committee on Public Planting, Green Cambridge and Biodiversity for a Livable Climate

Cambridge4Trees

- Non-profit began end of summer
- Almost 300 on list from Fall
- Drought watering + outreach
  - "On the street" recruiting
  - Flyers + revised DPW postcards
  - Distributed hoses from C4T + DPW
  - Community group lists
  - Cambridge Day posts
- CT for 2016 drought
  - Green Cambridge letter for UFMP
  - DPW pilot brine in Linear Park
- Events
  - Care of private trees (last week)
  - Danehy Park (last fall)
    - With PSNA, FPRA, CResA, ASG, ECPT, Alewife Neighbors, Inc
  - Linear Park watering + outreach
    - DPW hoses + operated hydrants
  - Linear Park re-configuration update at Co-housing
  - "Weed the Wells" with PSNA
- Testimony for hearings
- Meetings with Mayor, Manager, Councillors

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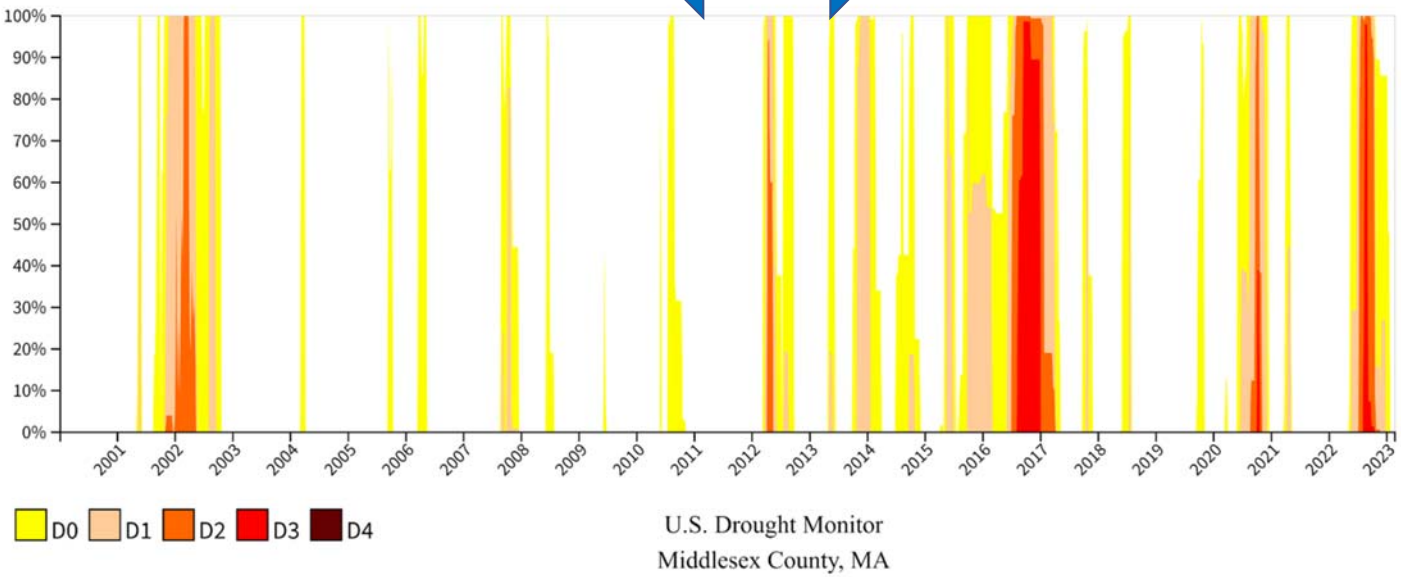
#1 Plant more, bigger saplings NOW

#2 Re-org, hire professional management

#3 Re-prioritize existing spending

But won't be in Monday's Budget

8 of last 10 years some drought



CAMBRIDGE DAY

City lost 18 percent of tree canopy since 2009, according to report to urban forest task force

By Marc Levy
Saturday, September 29, 2018

Cambridge foliage is captured on a presentation for the city's Urban Forest Master Plan Task Force.

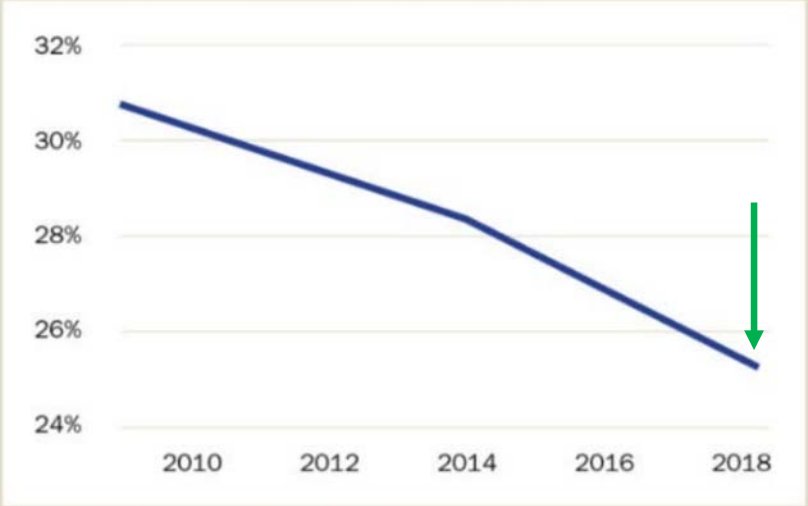
Dramatic tree loss has continued since an assessment four years ago, according to city consultants, with 11 percent of Cambridge's tree canopy lost in that time. That comes on top of a study that found that between 2009 and 2014, the city had lost 8 percent of its tree canopy (previously widely described as a 7 percent loss).

In all, the city appears to have lost 18 percent of its tree canopy in less than a decade.

"Today, Cambridge has 25.3 percent of its land area covered by canopy. Cambridge has had an average net loss of 31 acres of canopy cover every year," the study sums up. "At this rate, canopy cover will be 16.2 percent in 2030."

Tree canopy loss since 2009

An urban forest master plan presentation dated Thursday, prepared by Cambridge landscape architecture firm Reed Hilderbrand for the city's Urban Forest Master Plan Task Force and based on lidar scans, shows a big decline in tree canopy within the past decade.



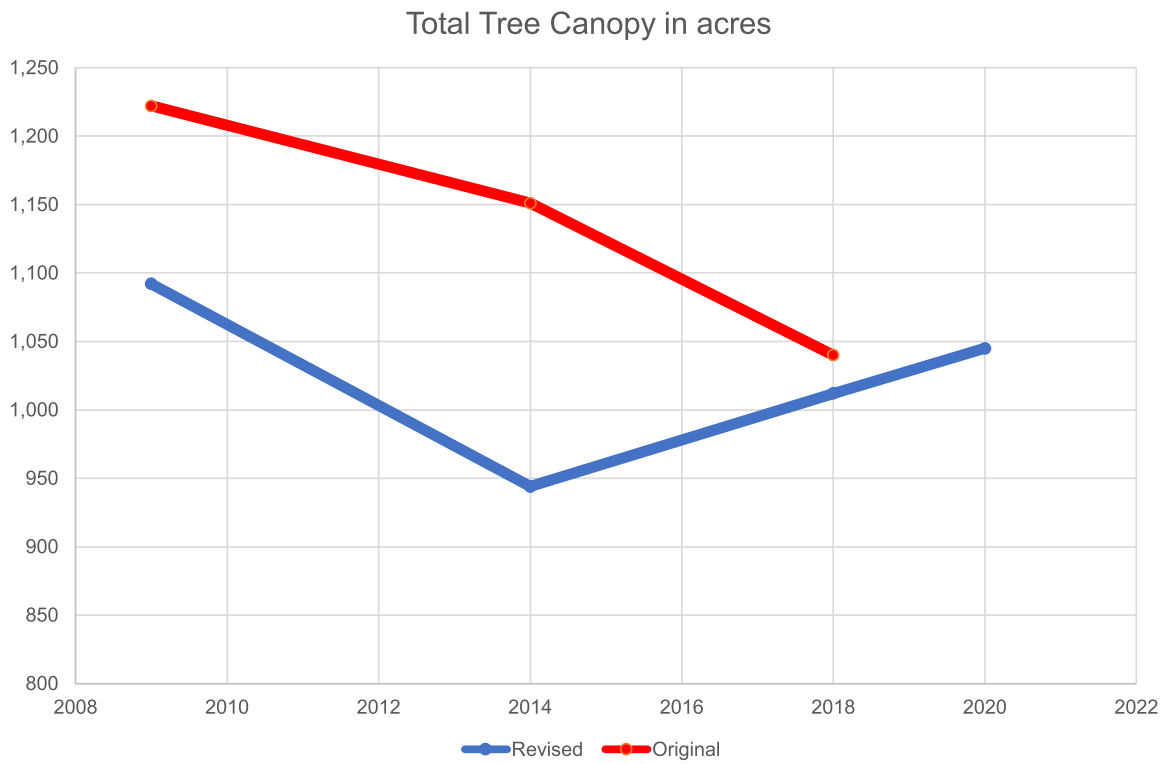
Source: Urban Forest Master Plan Task Force

Graphic: Quinton Zondervan and Marc Levy

Making up for the loss – replacing 31 acres per year – would require planting 4,300 trees each year, assuming a 3-inch trunk, and making sure they grow for two decades, the report says as a "thought experiment."

Applied Ecological Services (**AES**) hired by UFMP expert consultants in 2018 calculated 1,056 acre canopy value from **LiDAR**, then validate using both **aerial photography** and **"o the ground" inspections.**

DPW hired SAL-UVM to re-do canopy calculations just after Cambridge Day articl published. After 18 months, SAL-UVM value differed by only 16 acres.



		Canopy ac.	Change ac.	% Canopy	Annual	% City
2020	SAL-UVM	1,045				
2009-20	REVISED	1,012	47	4%		1.20%
	ORIGINAL	1,040	177	17%		4.90%
2018-20	**REVISED**	**1,012**	**33**	**3.2%**	**1.6%**	
	ORIGINAL	1,040	5	0.5%	0.2%	
2018	**AES for UFMP**	**1,056**	**-11**	**-1.1%**	**-0.5%**	
2014-18	from UFMP				-2.7%	
2009-14	from UFMP				-1.0%	

If Blue Line true then:

- **No need extra money to plant trees**
- **No more money for UFMP**

The Blue Line cannot be true:

- **Trees grow slowly, over decades**
- **Historic 2016 drought killed trees**

The Blue Line cannot be true

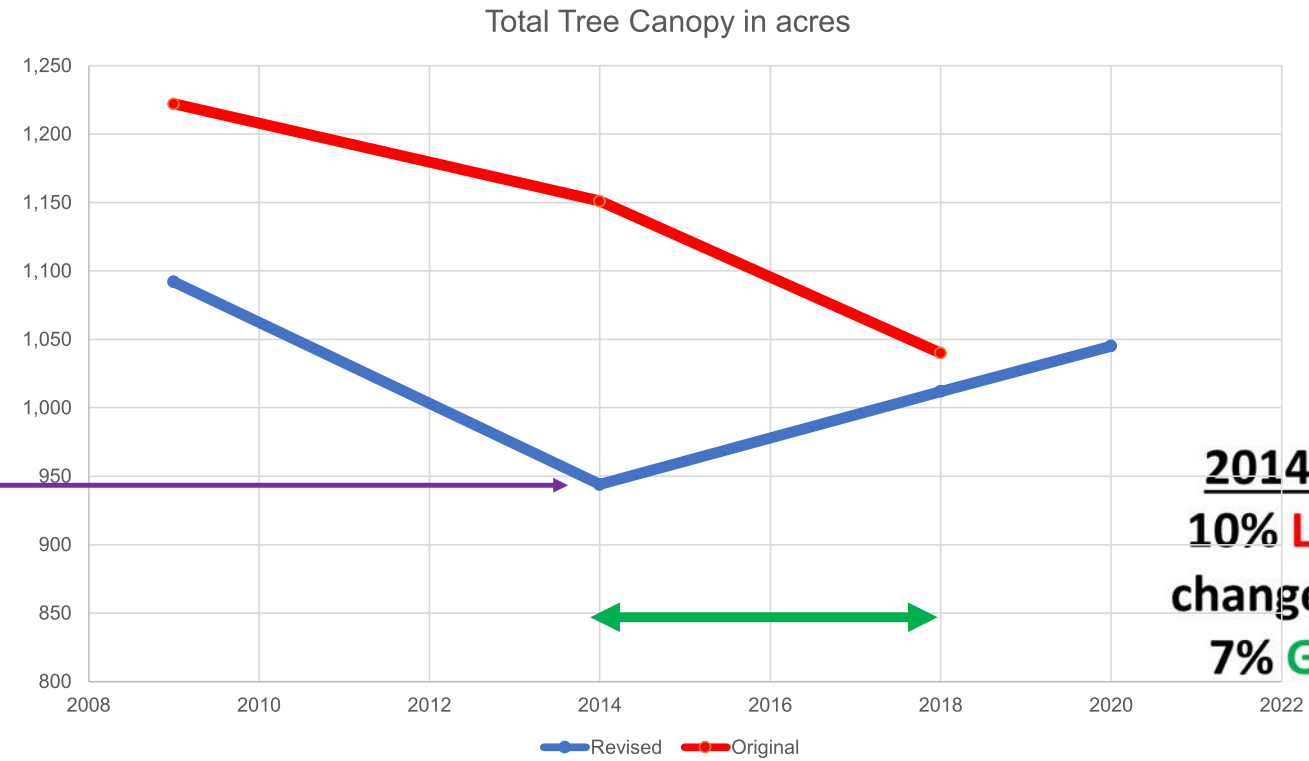
2014 acres

1,151 original

944 revised

22% change

Only 2009, 2014 "smoothed"



2014-18

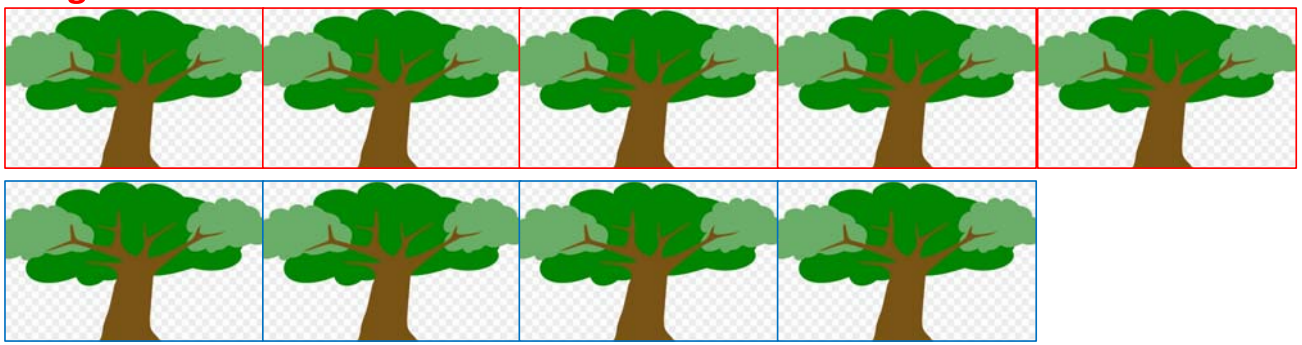
10% LOSS

changed to

7% GAIN

3.6 Danehy Parks

original



revised

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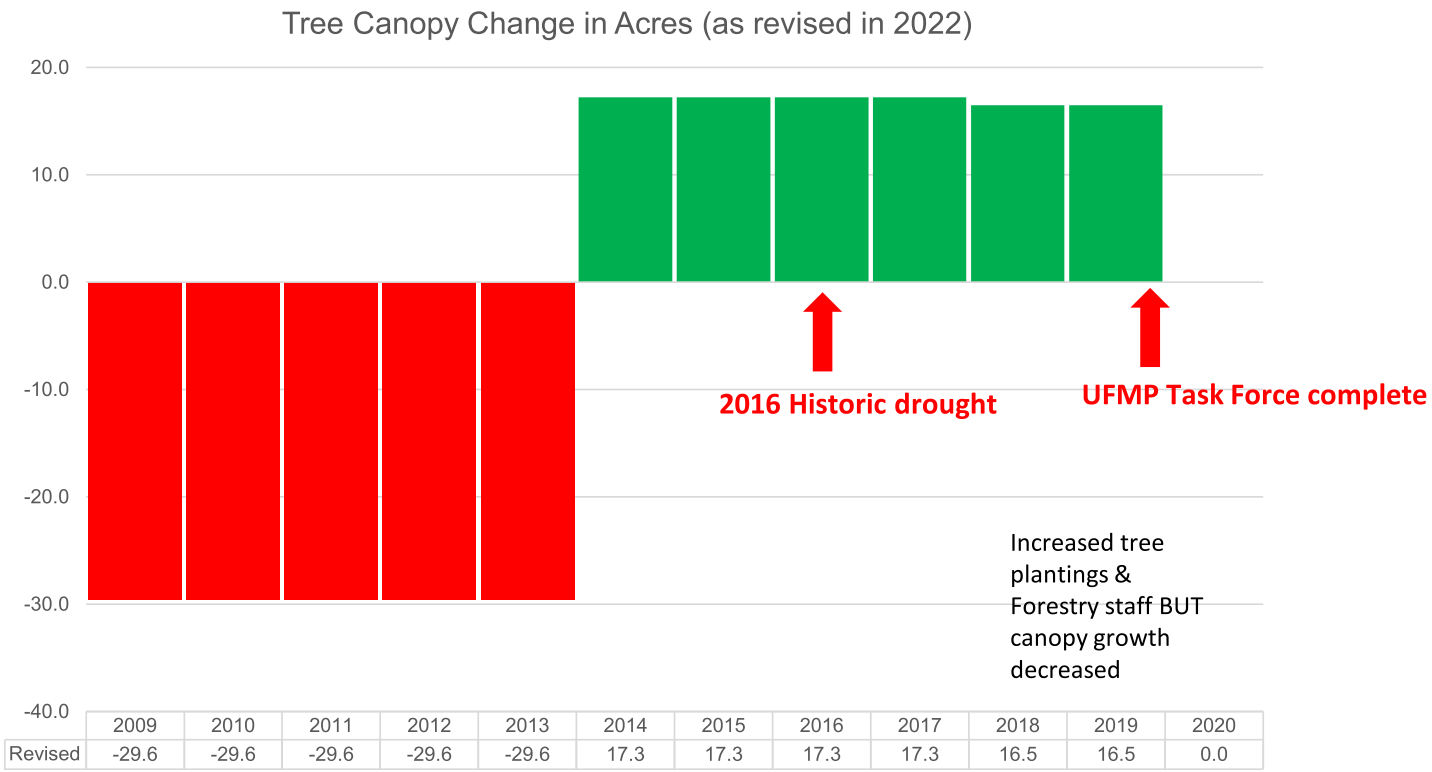
The Blue Line cannot be true



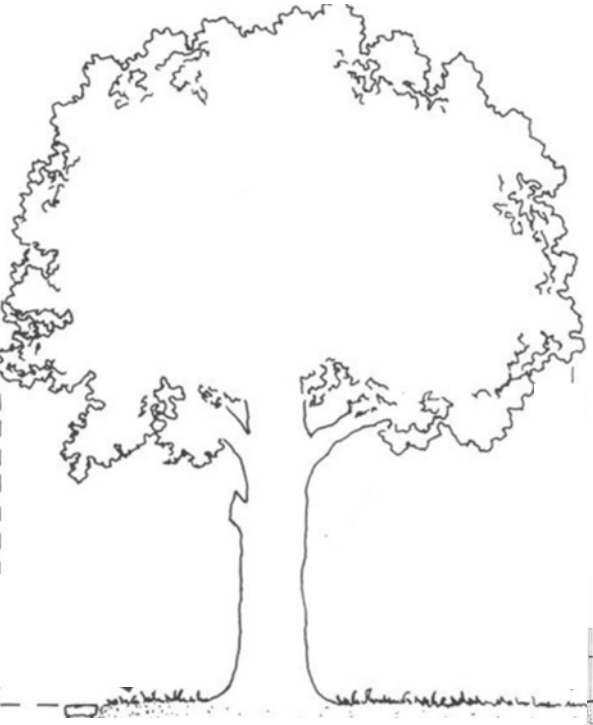
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Revised	-29.6	-29.6	-29.6	-29.6	-29.6	17.3	17.3	17.3	17.3	16.5	16.5	0.0

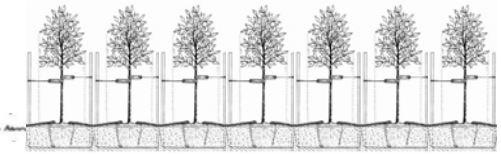
2016 Historic drought
2016 Green Cambridge letter
2016-18 Linear Park 101 trees die
2015 Jefferson Park tree clearance
2017 Railroad tree clearance
Jerry's Pit tree clearance
Other WR Grace tree clearance

June 2018 UFMP first meeting
Nov 2019 UFMP release
Mar 2020 LiDAR flyover
Sept 2020 select 26 commitmen

The Blue Line cannot be true

Reports by Spatial Analysis Lab	CAMBRIDGE	BOSTON	BROOKLINE
Report date	Oct 2022	Sept 2020	Nov 2021
Years to create report	2	1	1
Year end	2018 hi-res	2019 hi-res	2020 hi-res
Year start	2014 lo-res	2014 lo-res	2014 lo-res
2014 data change, acres	207 of 944	113 of 8,210	none
2014 data change	22%	1.4%	none
“Harmonization”	Yes	Yes	Yes
“Smoothing”	Yes	No	No
validate by known event	No	Yes	Yes
Tree Height analysis	No	Yes	Yes





SAL-UVM unreliable

- Reports take years, not months
- Included canopy from other towns
- Never used same area for Cambridge twice
- Needed 6 version for 2018 report
- Then changed again for 2020 report
- Massive changes in 2009, 2014 values

PROJECT GOALS

Canopy cover goals for northeastern cities

TASK FORCE MEETING 3
JULY 26, 2018
modifications in red

CITY	% COVER FOR THE YEAR CITY'S CANOPY GOAL SET	RECENT CANOPY COVER MEASUREMENT	TARGET
CAMBRIDGE	**26%**	**26%**	**30% by 2070**
BOSTON	29% (2006)	27% (2017)	49% (2016)
BALTIMORE	20% (2007)	28.5% (2013)	40% (2036)
HARTFORD	25% (2013)	-	35% (ONGOING)
NEW YORK CITY	24% (2006)	20.9% (2013)	36% (2036)
PHILADELPHIA	20% (2011)	20.8% (2013)	30% (2025)

Source: D.J. Nowak et al., Environmental Pollution 178 (2013), 229-236

Leff, Michael, The Sustainable Urban Forest Guide (2016). Davey Institute.

Cambridge goal is "modest"

Annual Report Card
(specified in Urban Forest Master Plan)

Nov 2019 – Jan 2023 **DRAFT** **Urban Forestry Master Plan Report Card** **DRAFT** **by Cambridge4Trees**

	All City departments	**GRADE**	**Comments**
1	Coordinate action among City agencies		Trees not priority: Human Services, CDD, ISD, etc. Need Tree Czar
2	Galvanize the community to take action		Limited outreach by DPW; documents NOT updated for droughts etc.
3	UFMP in street & sidewalk reconstruction		No documentation BUT significant tree root cutting for repairs observed
	City Council		
4	Tree Protection Ordinance updated: March 2021		Citizen report violations; no posted permits: no park tree hearings, etc.
5	Amend zoning: encourage preserving & planting		r started; Climate Resiliency zoning proposal has minor element
6	Expand the ways the Tree Fund can be used		No documentation of a tree fund or any proposed expansion
7	Establish a Tree Trust		Never started. City Manager to appoint Board of Trustees
	Department of Public Works		
8	**EZ:** Plant in parks		Some reported in GIS & press release but not aggressive; see #13a
9	Redesign streets to make more room for trees		Some observed but undocumented; structural soil not in all possible sites
10	**uf** Plant 1,000 street trees each year		2022 totals from GIS but 23% failure rate over 5 years
11	**uf EZ:** Plant diverse & resilient species		Species list constantly reviewed due to availability
12	**uf EZ:** Update recommended species list		Needs review for native & pollinators; public database not done
13a	Report includes public & private work		2020, 2021, 2022 Annual Reports & Report Cards never created
13b	**uf** 5 yrs: tree census & flyover Canopy Report		2020 withheld until 1-2023; data has credibility issues ("show your work")
13c	Engage experts to advise & annual review		Never started
14	**uf EZ:** Expand data collection for tree health		2022 started by summer intern & half done
15	**uf** Increase assessments to improve resiliency		2022 started by summer intern & half done but required annually
16	**uf** Manage urban soils to grow healthier trees		for recent plantings, for existing trees
16*	**uf** Water new & existing trees		Protocol NOT ok for all sites. Does not scale for drought/heat waves
17	**uf** Prune proactively		Sapling pruning started in 2023; Mature trees need more skilled pruning
18	**EZ:** Require City Arborist occupancy inspection		Never started
19	**EZ:** Promote existing city programs		See #2, #13a. #13b
20	Educate local businesses about pest outbreaks		Never started
21	Engage all stakeholders		See #2
	Community Development Department		
22	**EZ:** Add landscape architects as tree advocates		City Manager to appoint to Planning Board; DPW +1; CDD one retiring
23	Amend zoning: encourage preserving & planting		See #5
24	Encourage new parks & open space		Buildings always first priority
25	Develop public realm design manual		First meeting Jan 2023?
26	Ensure new trees maintained post development		Never started
	Human Services Department		
27*	Water trees in Danehy Park		108 mature trees dead or damaged in 2022, * = not in UFMP

UFMP ACTION PLAN

EQUITY · RESILIENCE · SHARED RESPONSIBILITY

CURB LOSS

GROW CANOPY

PUBLIC REALM STREET TREES

1 Report

Prepare and implement a SOILS MANAGEMENT PLAN

Expand DATA COLLECTION on tree health and use an annual report to TRACK PROGRESS

4

PLANT 1,000 STREET TREES per year, focusing on priority areas and streets

5 Linear

MAKE SPACE FOR MORE TREES by prioritizing better growing conditions in street redesign

6 Danehy

Maximize tree planting in existing PARKS, focusing on canopy deficient neighborhoods

CITYWIDE

2

GALVANIZE THE COMMUNITY through an outreach and engagement plan

Publicize the BACK OF SIDEWALK program

3

Update the TREE PROTECTION ORDINANCE

7

Establish a TREE TRUST to support planting on private property

8

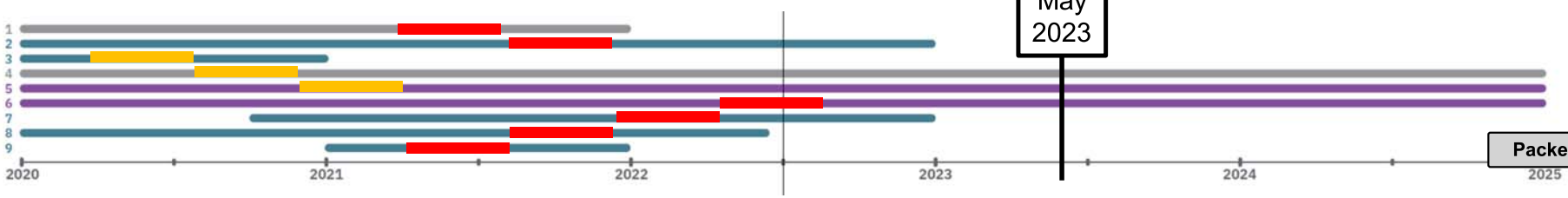
REFORM ZONING tools and revise Article 19 to encourage more trees in new projects

Leverage planning review to encourage new public open spaces

9

INSTITUTIONALIZE TREE PLANTING PRIORITIES in City Departments by forming an interagency resiliency group

The Schedule



City of Cambridge Healthy Forest → Healthy City

“The best time to plant a tree was 20 years ago. The second best time is now.”

Ancient proverb used as Councillor Zondervan’s email signature line for years

GROW CANOPY

Planting trees is like retirement investment; starting early counts

TASK FORCE MEETING 11/29/2018

Linea Park restoratior with CRLS students

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Engage all stakeholders.

Implement recommendations fror the Outreach and Engagement Pla which the City is currently under-taking. Broaden the community o people interested in improving the urban forest. And undertake ef-forts to engage people in concerte action, including preserving and planting trees.

Plant in parks.

Maximize canopy by planting all available areas within parks in neighborhoods that have below average canopy cover. For parks w active recreational programs, plan thick buffer. (Potential Sites: Cam-bridge Common, Dana Park, Danel Park, Flagstaff Park, Fort Washing-ton Park, Front Park, Greene Rose Heritage Park, Joan Lorentz Park, Longfellow Park, Mary Conlan Park, New Riverside Neighborhood Park, Riverside Pres

Action #1: Plant more, bigger trees, now

1-in-4 Saplings die in 5 years

2" Saplings survive better

Plant 1,000 street trees each year.

Focus planting in priority areas and along priority streets (Massachusetts Avenue, Cambridge Street, River Street, Beacon Street, Main Street, etc). Follow best practices for soils and planting details. Water and provide appropriate establishment support.

Track progress annually and conduct a tree census every five years.

Publish annual reports to document initiatives, garner support, and track progress toward goals (Precedent: Annual Net Zero Action Plan progress report). Every five years, undertake a detailed city-wide tree census and evaluate progress and

Plant in parks.

Maximize canopy by planting all available areas within parks in neighborhoods that have below average canopy cover. For parks with active recreational programs, plant a thick buffer. (Potential Sites: Cambridge Common, Dana Park, Danehy Park, Flagstaff Park, Fort Washington Park, Front Park, Greene Rose Heritage Park, Joan Lorentz Park, Longfellow Park, Mary Conlan Park, New Riverside Neighborhood Park, Riverside Press Park, Sennott Park.)

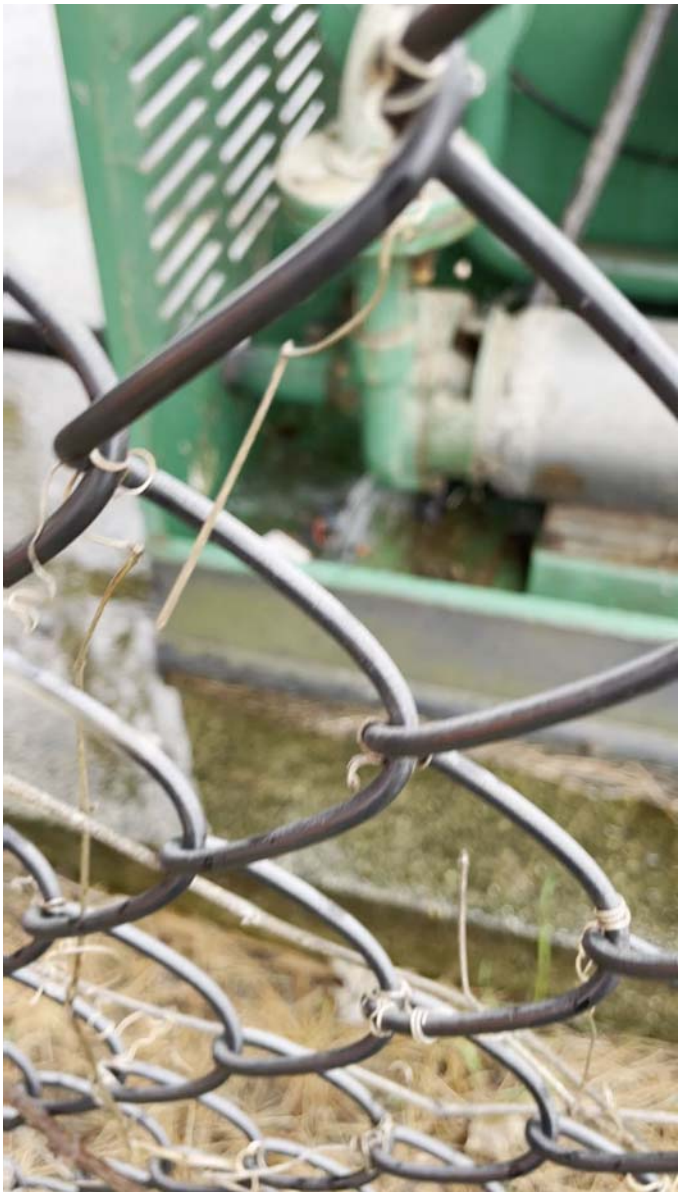
Green EZ

Redesign streets and sidewalks to make room for more trees.

When rebuilding streets and sidewalks, implement innovative design alternatives that accommodate space for trees with adequate soil volume. Include the priorities of UFMP when revising the City's 5 Year Sidewalk and Street Reconstruction Plan and 10 year Sewer and Drain Infrastructure

Encourage new public parks and open space.

Encourage the development of new parks and publicly accessible open spaces that provide canopy cover as part of large redevelopment project especially in underserved neighborhoods including East Cambridge, Port, Wellington-Harrington, Area2 MIT, and Cambridgeport.



Danehy Disaster

- Irrigation failed April 12, 2022
- Repaired August 8, 2022
- 4 months delay killed/damaged trees

- $250,000 to plant 100 saplings BUT
- 25 years of growth LOST

April 15, 2023
No repair vend
Again!

"Charlie indicated something in the order [of 100-plus trees] that he saw as being impacted or stressed. And we wouldn't disagree with that figure, O'Riordan said in an interview Sept. 7. "We won't know until spring of next year as to whether or not they have been impacted to the point where they need to be removed." – Cambridge Day

Action #2: New department, focused mission

- Re-org into independent Parks & Forestry Dept.
- Hire professional management
  - **Create UFMP budget, schedule, and roadmap**
  - **Retain Expert Review Board**
- **Mission: "Protecting people using parks and trees"**
  - Deferred maintenance then major renovation costs money & trees
  - Eliminate conflicting priorities!

Park Management

DPW	CDD	Human Services	Water Department	Conservation Comm
Parks Division Forestry Division	park design by Transportation Division	Danehy Park Golf Course & Other	Fresh Pond Reservation	Community Gardens

Action #3: re-prioritize existing spending

- Estimated cost of Action Items: **$3 Million, year one**

- Scale back or defer $10 Million project: Danehy Connector & Linear Park
  - Spending taxpayer dollars to defy the UFMP

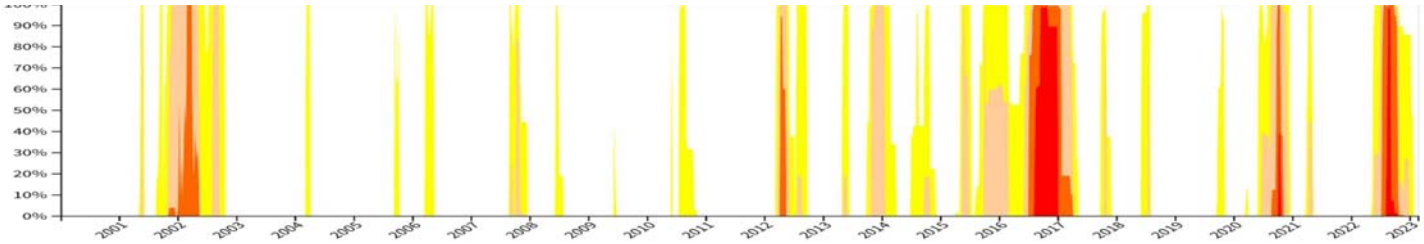
- Professional manager + assistant(s) $400,000
- Budget extra saplings: 275 + 325 [for deaths]
- Buy bigger saplings
  - Estimate $300 extra/sapling * 1,600 saplings = $480,000
- Plant extra saplings: $2,500 * 600 = $1,500,000
- Extra tree well prep estimate: $250,000
- Retain Expert Advisory Board estimate: $100,000
- Greatly expand outreach estimate: $250,000

#1 Plant more, bigger trees NOW

#2 Re-org, hire professional management

#3 Re-prioritize existing spending

because



SUPPORTING BIODIVERSITY AND ADDRESSING CLIMATE CHANGE WITH NATIVE PLANTS AND TREES

Biodiversity is the variety of species that evolved together in a region. Their interdependent relationships create a functioning, viable ecosystem.

Amy Meltzer
April 25, 2023

From the latest UN climate and biodiversity reports

- Climate change and biodiversity loss are equal threats to human existence
- One million animal and plant species now face extinction, many within decades
- In the US 34% of plant species, 40% of animal species, and 41% of ecosystems are at risk of extinction https://www.natureserve.org/bif
- **Biodiversity, which supports all systems of life on earth** is declining faster than at any time in human history.
- 2022 report: 400,000 human deaths occurring annually from a reduction in available fresh food because of the diminishing numbers of pollinators
- Without biodiversity, our food systems will collapse

Native trees and plants are crucial for the healthy functioning of all ecosystems

- Most of our food plants are pollinated by insects
- 90% of insects can feed only on limited species of native plants
- 95% of songbirds and many other species eat the insects that eat native plants
- Native plants and trees are essential to the life cycle of insects, birds and many other species. These species cannot survive without native plants and trees.

To address both climate change and biodiversity loss, native trees must be planted

Comparing the benefits of native and non native trees

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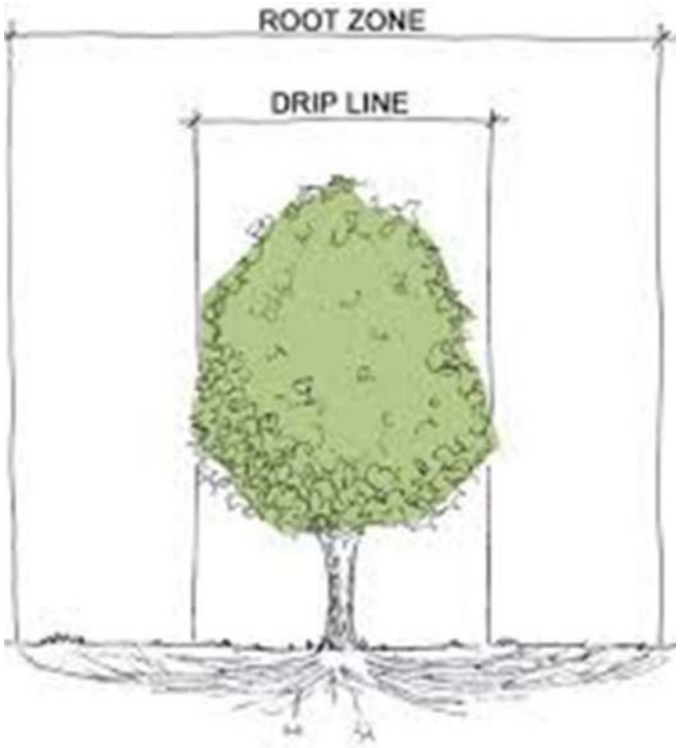
Native Trees	Imported, Non Native Trees
Native oak trees support over 500 species of insects, birds and mammals.	Ginkgo trees, native to China, support 1 species in the US. They have been here almost 240 years
Red maple, a hardy resilient street tree, supports 300 insect species which produce thousands of caterpillars: essential food for baby birds. (One nest of chickadees eats 6000-9000 caterpillars. The birds starve with less than 70% native trees in the area.)	Norway maple is native to Europe and Asia where it supports many species. In the US it supports very few, and is an invasive species crowding out native plants. Caterpillars, essential food for birds, avoid the waxy leaves
Native plants and trees on average support 13 x more insect species than non natives	Non native plants and trees on average support 0 - 5 insect species

Biodiversity and climate change - what we can do in Cambridge

- Amend the Urban Forest Master Plan so it:
  - Includes biodiversity support as a goal
  - Prioritizes the use of native trees, using cultivars only if the straight species are not available in nurseries.
  - Does not equate native trees with non natives of the same genus, when accounting for canopy diversity. Non natives do not contribute to the ecosystem and should not be counted.
- Act on our commitment to a healthy tree canopy by funding and staffing the planting program so that new plantings are reliably watered for the first three years, then during periods of drought.



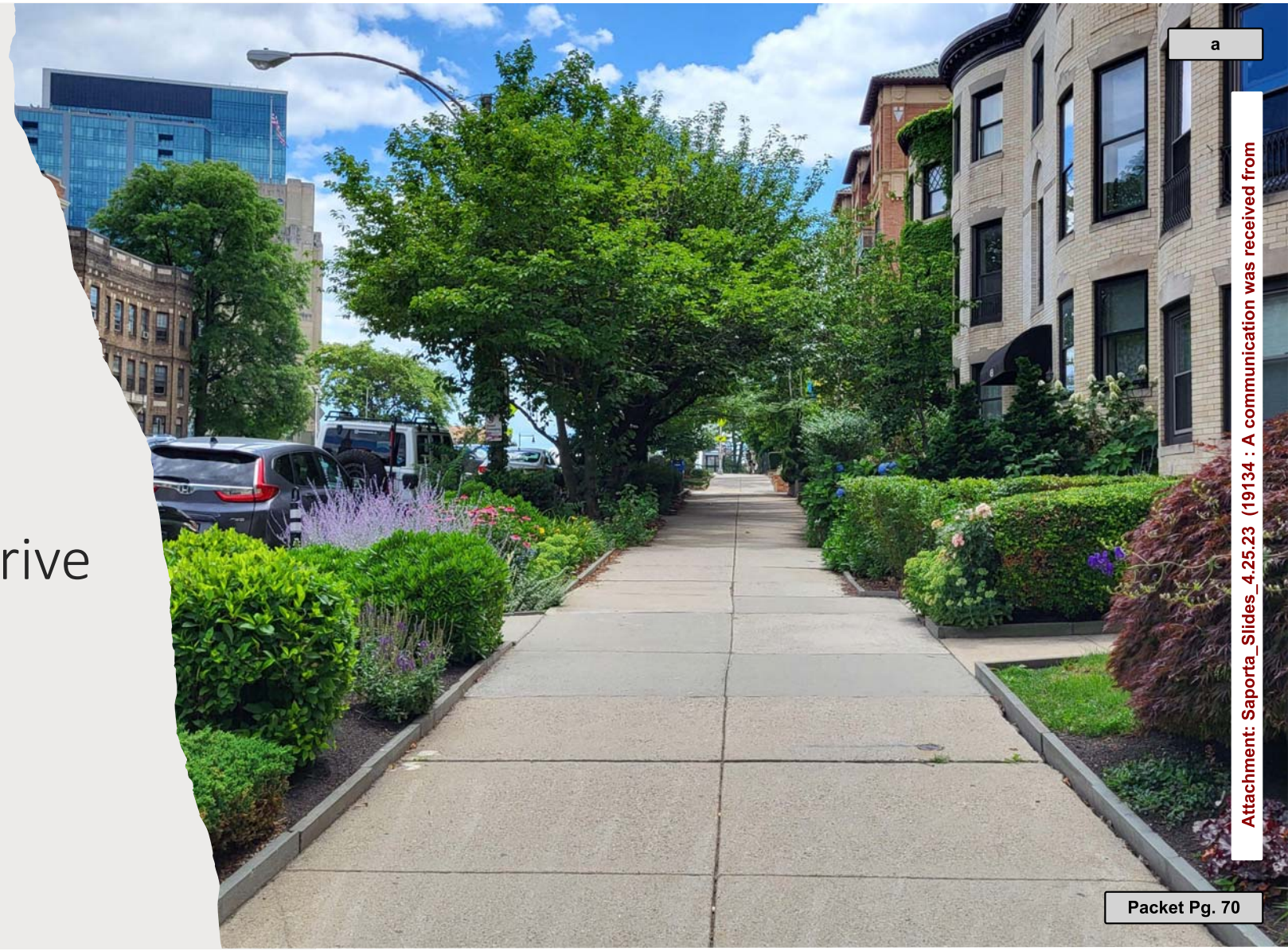
Street Tree Planting Strategies

- Typical root zones for trees are broad and shallow
- Majority of roots are in the top 18” of soil and will extend 2 to 3 times beyond the drip line
- Mulching around the critical root area (drip line) is important, but trees need water access across the entire root area

Permeable Pavers

- Beacon Street in Brookline
- Brookline Avenue in West Fenway, Boston

Rain Garden along Park Drive in Boston



Tree lawn on Divinity Avenue, Cambridge

Mulch cover in critical roo area as well as water access throughout extended root area

Increasing Urban Forest community outreach and engagement

Ideas from the Committee on Public Planting – outreach sub-committee

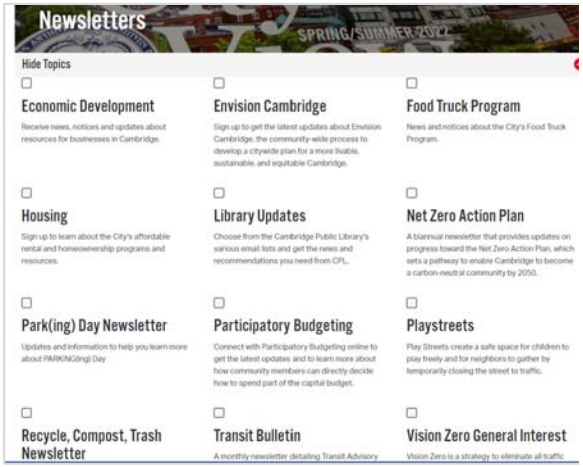
April 25, 2023

Recommendations for increasing outreach to Cambridge residents

- Create monthly **Urban Forest email newsletter**, modeled after Recycling newsletter
- Enhance **digital communications to Forest Friends**
- Improve CambridgeMA.gov **website navigation for Urban Forest content**
- Update Tree Protection Ordinance to **require posting paper permit on tree** before removal

Recommendations for increasing outreach to Cambridge residents

- Develop monthly **Urban Forest email newsletter**, modeled after Recycling newsletter (and other city newsletters), with:
  - Citizen care tips – for example:
    - it's April, trees and shrubs need regular watering starting now
    - How to adopt a tree, become a Forest Friend
  - Updates on Urban Forest – for example:
    - City is planting 500 trees on public land this spring
    - 4 new ebikes for the bike public watering crew
  - Links to Cambridge tree and plant programs
    - Discounted rain barrels, free compost
    - Report a city tree in trouble, request an arborist assessment
  - Want to learn more?
    - Upcoming talk at the Cambridge Public Library
    - Native plant seedling sale at CRLS



Recommendations for increasing outreach to Cambridge residents

- Develop monthly **Urban Forest email newsletter**, modeled after Recycling newsletter
- Enhance **digital communications to Forest Friends**
  - Create a series of monthly emails that go out to all Forest Friends with care tips for the season
  - Include a link to un-adopt a tree (because of move, no longer able to care for tree)

Action step: Galvanize the community to take action

Recommendations for increasing outreach to Cambridge residents

- Develop monthly **Urban Forest email newsletter**, modeled after Recycling newsletter
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trees Search

Displaying 1-10 of 644 results for trees

Tree Planting Brochure
Residential Street Tree Planting and Care Brochure
Last updated on 2/4/2020

Implementation of the City's Urban Forestry Master Plan is improving Cambridge's tree canopy
The City is pleased to release the 2020 Canopy Assessment completed by the University of Vermont, which shows that the ir
Forestry Master Plan is improving our tree canopy. Building canopy is a slow and steady race, but we are seeing substantive p
plantings and maintenance combined with tree preservation initiatives are reversing the loss of tree canopy.
Last updated on 1/4/2023

Christmas Tree Safety
Tips on how to prevent Christmas tree fires
Last updated on 2/4/2020

Help Cambridge Street Trees During Hotter Weather
During the hotter summer weather, Cambridge street trees need more water. Residents and businesses can help by watering the trees near their property. Smaller street trees need about 20 gallons of water per week with larger street trees needing even more. If you are able to help provide them with some of that, our urban forest would be grateful!
Last updated on 7/28/2022

Tree Canopy Open Data
Two new data layers for Tree Canopy have been added to open data.
Last updated on 4/14/2023

Apply for a Tree Removal Permit
Effective March 11th, 2019, an amended City Ordinance restricts removal of "significant trees" on private property.
Last updated on 4/22/2022

TREE PLANTING BROCHURE

September 29, 2010

Residential Street Tree Planting and Care Brochure. Learn about tree planting programs, tree pruning cycles and how to care for trees in general.

Download

This publication was co-sponsored by the Committee on Public Planting and the City of Cambridge (April 2011)

WE ARE UNABLE TO FIND THE PAGE YOU REQUESTED.

Recommendations for increasing outreach to Cambridge residents

- Develop monthly **Urban Forest email newsletter**, modeled after Recycling newsletter
- Enhance **digital communications to Forest Friends**
- Improve CambridgeMA.gov **website navigation for Urban Forest content**
- Update Tree Protection Ordinance to **require posting paper permit on tree** before removal:
  - Raise awareness of the ordinance
  - Give neighbors a chance to request change of plans
  - (Hopefully) increase compliance with the ordinance