

City of Cambridge Committee on Public Planting

Meeting Minutes – March 11, 2026 - 5:30-7pm

Hybrid Meeting via Zoom & at DPW - 147 Hampshire Street

Attendance (* indicates virtual attendance)

CPP Members: Carrie Burke, Cindy Carpenter, Chantal Eide, Christina Mann, Cynthia Smith, Eva Tine*, Gretchen Friesinger, Maggie Booz*, Paola Massari, Rob Vandenabeele, Robb Johnson, Sara Cohen, Sophia Emperador, Tracey Orr*

DPW/City of Cambridge: Andrew Putnam, David Lefcourt, Courtney Kirk (CDD); *not in attendance*: Kristen Keller, Kevin Beuttell

Guests: Cathie Zusy, David Denison; from Reed Hilderbrand: Eric Kramer, Stephanie Hsia, Zeinab Meghdovi

Meeting notes submitted by: Sophia Emperador

Agenda Items

1. Review agenda (Cindy)
Added discussion of hearings on the 12th
2. Mtg minute review for the January & February meetings.
Chantal motioned to approved both notes without changes; Sophia second the Jan. notes, Paola seconded the approval for the February notes.
3. Updates from Urban Forest team (David)
 - Arbor Week (May 4-8)
 - May 4 - lawn signs (30-40) around the library
 - Tue - 10am -2pm @ City Hall Annex - handing out seedlings, stickers, coloring books
 - Wed - 10am tree planting at King Open school with students
5:30pm Tree walk - Tobin School - Concord Ave - Universal Playground - Glen/Danehy Park
 - Thu - 10am-5pm @ Main Library - bark tracing, elm cookie (ID rings), story time reading
 - Fri - 9am - Longfellow-Nursery school - tree planting
 - Intern interviews & support while Abby is out (water by bike applications should be out soon)
 - New tree pit #s should be ready for next meeting
4. Urban Forest Master Plan 5-year update by Reed Hilderbrand - Stephanie Hsia
Main takeaways
 - presentation - findings, report card - draft by late summer
 - 1st public release at the Health & Environment Committee
 - Canopy cover - areas that needed most canopy increased canopy growth; gains are seen across all land uses; canopy diversity - 109 unique species
 - Most loss across private residential, residential open space

- TPO - most tree replacement are subcanopy trees; more trees are removed than replaced (6 categories don't require mitigation)
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Evaluation of Targets

- Canopy % increase
- Projection, canopy cover projection (due to canopy maturity)
- Focus on the neighborhoods that will not meet the goals - such as East Cambridge - 20% parking lots, ROW, DCR land (maybe convert parking spaces)
- Resiliency - reduce heat island hotspots, sidewalks, primary & secondary corridors

Key Recommendations

- Quality over quantity
- Manage canopy more strategically
- Shared responsibility (& cost) - economic incentives (parking lot owners), strengthen policies, outreach, PPP (banking tree credits), increase genetic diversity
- Broaden what resiliency means - tree stock - consider more locally sourced options
- Reevaluate the green factor

5. Public comments - No comments

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Next meeting: Our next meeting will be held on April 8, 2026 at 5:30pm and will be advertised to the public in advance.

NOTE: The foregoing represents our understanding of the discussions and decisions made during this meeting. The CPP requests permission to quote or reference these notes.

Attachments:

- 1) draft strategies for the UFMP from Reed Hilderbrand
- 2) Presentation by Reed Hilderbrand: *Cambridge Urban Forest Master Plan 5 Year Update*

Focus on Quality over Quantity:

Apply enhanced planting details and care regimes, especially in the most challenging sites, to create the best possible conditions for long-term growth and well-being.

Strategy	Action	Priority
1. Invest in more challenging opportunities to increase shade in the public realm	1A. Depave impervious surfaces from City owned lots to create more and better space for trees	Mid
	<i>Since 2020, 13770 SF or 0.32 acres paving have been removed for planting on City properties.</i>	
	Continue to find opportunities to remove hardscape to create additional permeable area and to plant additional trees.	
	1B. Set aside funds in street and sidewalk redesign projects specifically for trees, to create optimal growing conditions including expanded tree ways and enhanced planting and soils details.	High
2. Optimize planting techniques for long-term success.	<i>The City is undertaking a series of significant street reconstruction projects in the near future.</i>	
	When budgeting for Street Reconstruction projects, set a standard percentage of the budget for tree planting, including soils and drainage provisions.	
	When implementing quick-build projects, set aside a portion of the project budget for temporary / quick-growing plantings with limited soil volumes.	
	In full-rebuild projects, develop strategies to integrate the interests of bike advocates and tree advocates.	
	2A. Prioritize enhanced soils and planting details in priority areas	High
	Focus on provided enhanced planting practices such as structural soil, suspended pavement systems, and adequate soil volume to provide the best chance for success in harder to plant places by using the 2026 Planting and management flowchart.	
	2B: Use tree guards to reduce compaction and increase stormwater absorption in high traffic areas	Mid
	<i>A Columbia University study showed pits with tree guards absorb six times more stormwater and NYC Parks found that street trees have 16% greater survival with tree guards. Some tree guards exist on Mass Avenue. A big challenge is navigating snow removal with tree guards.</i>	
	Rec 1: On primary streets with a lot of foot traffic, use Cambridge distinct tree guards to prevent compaction of soil, improve stormwater runoff absorption.	

	Rec 2: Create a Cartegraph column to monitor installed tree guards and track impacts and risks in a controlled field study.	
	2C: Add Minimum Soil Volume Requirements to Tree Planting Specifications	Mid
	Rec 1: Provide more specificity in the existing City tree specifications, including minimum required soil volumes for subcanopy and canopy trees	
	2D: Expand watering program	High
	<i>The Water by Bike program has stayed consistent. For trees planted by contractors, contractors water the trees for the first two years, and then the Water by Bike program will continue watering those trees for year 3 to 5. Bareroot trees planted by the City are watered in house. Data shows that watering rates are not consistent, and trees with fewer waterings (less than 20 waterings in a season) are associated with higher mortality rates.</i> <i>Rec 1: Increase participants in the Water by Bike program to fill in the gaps in watering.</i> <i>Rec 2: Add a "Trees in distress" category in Click Fix so residents can report trees that are in dire need of water</i> <i>Rec 3: Build up ability of Forest Friends to assist with watering by sending out notices to volunteers during times of drought, and/or interns or arborist noticing a tree is in need.</i> <i>Rec 4: Encourage business to water the trees in front of their storefront or office.</i> <i>Rec 5: Increase public messaging about watering trees during droughts (City newsletters, etc)</i>	
	2E. Implement a soils management program, prioritizing trees in high risk/high priority areas	Mid
	<i>The City has a soils management plan, but this has not yet been implemented due to capacity challenges. Tree pits are also typically prepared in the winter and because of the winter season, soil amendments are not implemented during this time. The City uses deicer to clear sidewalks and roadways. North Cambridge has a long standing brine program.</i> <i>Rec 1: Implement soils management practices for highest risk and highest priority areas, evaluate impact, and expand if appropriate and capacity is available.</i> <i>Rec 2: Reduce winter salt application whenever possible, and substituting brine and/or beet juice for salt in the winter.</i>	

	Rec 3: Apply pelletized gypsum (calcium sulfate dihydrate) in the fall as a soil conditioner. Gypsum is also used as a preventative buffer to decrease the effects of acidity and de-icing agents in the soil. This substance can separate soil particles, which can reduce the effects of compaction, improve drainage, and increase soil aeration. Apply rate at X Rec 4: Hire and train a soils intern to conduct assessments as part of the DPW summer intern program.	
	2F. Increase frequency of structural pruning for young trees	Low
	<i>Structural pruning of young trees was implemented three years ago and young trees are pruned two years after planting. Current contract covers street tree pruning on a 6 year cycle, and parks/cemetery every 10 years. DPW supplements with an in house crew of 9 to 10 people who do service requests (reactive pruning) to storm damage. Given the large number of trees planted in the last few years, there are many more trees that will have to be structurally pruned.</i> Some species require more developmental pruning than others. Pruning specifications should be species specific. Developmental pruning may require annual pruning for a number of years as the tree grows and develops. Rec 1: For young trees, add an additional pruning cycle as many species such as Elms (Ulmus sp.), Maples (Acer sp.), Lindens (Tilia sp.), Zelkova (Zelkova serrata), Crabapple/apple (Malus sp.) and Pin oak (Quercus palustris) benefit from more regular developmental pruning. Prune young trees two years after planting, another two years after that, and then they can enter the regular pruning cycle. Rec 2: Review whether existing pruning cycle (6 years for street trees and 8 to 10 years for park trees) works given the increase in quantity of street trees.	
	2G. Become an accredited municipal forestry program through the Urban and Community Forestry Society	Mid
	<i>The City tracks City trees through a Cartegraph system. Forest Friends volunteers currently do not have a way to record their stewardship activity. Integrate the two programs so maintenance and monitoring is seamless and stewardship works together. The idea is that both City and volunteers can communicate to each other when they notice issues or want to ask for tree care help.</i> Specific improvement recommendations include: • Create or modify the digital interface for Forest Friends to allow for volunteers to record tasks (watering), upload photos, and flag issues. This should work within the City's existing Cartegraph. • Create an ability for the City to send out targeted messages to volunteers who are caring for certain trees with messages about	

	tree care. For example, if a City intern surveying trees notices an issue or that a tree needs watering, the City can send out a reminder to the volunteer to water the tree more frequently.	
3. Formalize Regulatory Review Practices to ensure Planting and Establishment	3A: Require City Arborist Inspection Prior to issuing Certificate of Occupancy for Green Factor-approved projects	Mid
	<i>Per the review of Green Factor applications, in 1 out of 2 sites, fewer trees were planted than as indicated in the approved plan. In Somerville, planting is tied to the CoC for privately developed public spaces</i> Rec 1: Require photo verification (similar to TPO). After one year grace period, fine is instituted. Rec 2: Add language that states trees planted to be verified to comply with City specs.	
	3B: Develop and implement a formal agreement with utilities to control pruning practices	Mid
	<i>Currently the City meets with utility reps on-site, review pruning practices, City will recheck. Currently a transparent process but one that relies on existing good relationships and connections between Eversource and the City Arborist.</i> Codify pruning standards and processes of working with the City for utilities so this collaboration continues.	
	3C. Transition to remove "opt-out" option when siting new street trees (NEED DPW FEEDBACK ON WHETHER TO KEEP)	Low
	<i>Between 2019 and 2025 there were 210 occurrences of "refused, not planted" in the City database for street trees. Some portion of these were due to infrastructure conflicts. This does not impact a large % of tree planting opportunities.</i> NEXT STEPS: ANDREW TO REACH OUT TO KATHY ABOUT WHETHER ITS WORTH PUSHING	
4. Institutionalize The City's Tree Priorities beyond the Urban Forestry Department	4A. Incorporate Designing for Trees into Other City Department Processes and Standards	High
	<i>The CoC 2020 Bicycle Facilities Plan does not consider trees as part of design. In areas of the City where there is limited sidewalk space for trees, increasing the setback to make permeable space and space for trees is highly desired.</i> <i>The Office of Sustainability was created with the goal of being an interdepartmental group that coordinates resiliency and sustainability efforts across different departments. Currently there is not enough coordination with DPW and the Urban Forestry Division.</i> <i>There is a public perception that DOT street projects do not prioritize tree planting.</i>	

	Rec 1: Increase coordination between CDD/DOT during street reconstruction design and implementation to ensure trees are fully integrated into the design. Increase understanding that trees are infrastructure, just like bike lanes are. Rec 2: Collaborate with DoT to incorporate design for trees in typical standards for City bike lanes and bus shelters. Rec 3: Provide City Forester a seat at the table during all public-realm design efforts. Encourage frontage setbacks in new construction design especially where sidewalk space is limited to provide space for trees. Rec 4: Formalize a working relationship between the Office of Sustainability and the Urban Forestry Division. Align goals and the role of the urban forest in sustainability.	
	4B. Dedicate Funds for Trees during Street reconstruction projects	High
	<i>The City is undertaking a series of significant street reconstruction projects in the near future.</i> When budgeting for Street Reconstruction projects, set a standard percentage of the budget for tree planting, including soils and drainage provisions. When implementing quick-build projects, set aside a portion of the project budget for temporary / quick-growing plantings with limited soil volumes. In full-rebuild projects, develop strategies to integrate the interests of bike advocates and tree advocates.	
	4C. Continue to have a Landscape Architect on Planning Board	Mid
	<i>The Planning Board seeks to have broadly represented diverse backgrounds. Currently there is a landscape architect on the board. Planning board does not have the ability to require a landscape architect.</i> Endeavor to have a landscape architect on the Planning Board through public awareness efforts and recruiting if needed.	
	4D. Create outreach and messaging resources about the value of trees for different City departments	Mid

Manage more Strategically

Organize and optimize management strategies based on site type, planting condition, and risk level as opposed to neighborhood.

Strategy	Action	Priority
1. Expand Urban Forestry's capacity to monitor and respond to health of the forest	1A. Update city-wide tree condition assessment	Mid
	<i>For the last 10 years, DPW has run a summer internship program to collect tree condition data and to mark any trees that need arborist attention. All street trees are surveyed every 3 years, and trees recently planted are prioritized. The City uses a Cartegraph system to organize the data.</i> Healthy Trees, Healthy Cities" (HT-HC) is a US Forest Service-led initiative that provides tools and a platform for communities to monitor urban tree health, encouraging a culture of long-term tree stewardship and scientific data collection. The program offers a mobile app and web-based tools for tree inventory, health assessment, and tracking care activities, with the goal of informing local management and contributing to national research on urban forest benefits like air purification and temperature reduction. Rec 1: Use standardized health metrics (from the HT-HC) so data may be compared with regional tree monitoring efforts Rec 2: Align inventory schedule with management units (TBD with management flowchart and priority areas)	
	1B: Integrate City programs to better monitor and manage trees	High
	<i>The City tracks City trees through a Cartegraph system. Forest Friends volunteers currently do not have a way to record their stewardship activity. Integrate the two programs so maintenance and monitoring is seamless and stewardship works together. The idea is that both City and volunteers can communicate to each other when they notice issues or want to ask for tree care help.</i> Specific improvement recommendations include: Create or modify the digital interface for Forest Friends to allow for volunteers to record tasks (watering), upload photos, and flag issues. This should work within the City's existing Cartegraph. Create an ability for the City to send out targeted messages to volunteers who are caring for certain trees with messages about tree care. For example, if a City intern surveying trees notices an issue or that a tree needs watering, the City can send out a reminder to the volunteer to water the tree more frequently.	
	1C: Evaluate Gas Leaks and Impacts	Low
	<i>A 2019 study in Chelsea, MA collected "soil methane concentrations in sidewalk tree pits of healthy and dying or dead trees throughout the city to determine the odds of soil gas exposure among dead or dying trees." The study found that the dead or dying trees were 30 times more likely to</i>	

	<i>have elevated methane levels in the soil. In addition, the methane was concentrated on the side of the tree pit closest to the street where the gas lines were located (Schollaert 2020).</i>	
	Rec 1: Coordinate with Mother's Out Front to learn more about their efforts and how extensive gas leaks may be an issue.	
	Rec 2: Test for gas leaks prior to planting a new street tree and/or when there is significant tree decline or death that does not appear to be from natural or mechanical causes.	
	Rec 3: Integrate gas leaks evaluation with the summer intern program using handheld devices.	
	1D: Develop a Proactive work plan for trees on public land	Mid
	Rec 1: Create written approach to tree risk management/emergency response and recovery work	
2. Define management zones that guide resources based on the level of risk instead of other geographic definitions	2A. Enhance monitoring of tree condition within high risk areas	Mid
	Focus enhanced street tree maintenance and practices within the 2026 priority area map. This includes active soils management, expanded watering practices, and targeted education of businesses.	
	2B: Implement soils testing within high risk zones	Mid
	Focus enhanced street tree maintenance and practices within the 2026 priority area map. This includes active soils management, expanded watering practices, and targeted education of businesses.	
3. Adjust planting techniques and details based on ongoing assessment of success rates	3A. Align planting practices (ie., bare root or ball and burlap) with evidence of success on a genus, species, size, and planting condition basis.	Mid
	<i>The last 5 years of City inventory data shows that bareroot trees are generally underperforming in comparison to ball and burlapped trees (B&B). However, the bareroot practice enables the City to plant more trees. Additionally, a few species perform better as bareroot over B&B. City sources grow-bag materials from Schichtel's nursery. Material is some times not great (e.g. black gum came in very compacted clay soils)</i> Rec 1: Evaluate Cartegraph data on B&B, bareroot and container by species to understand survivability and adjust planting strategy appropriately to maximize success. If bareroot trees are found to continue to have lower survival rates than B&B, add additional protections for bareroot trees including protection from soil compaction. Rec 2: Expand nursery practices to using containerized plants. Certain species like Hickory and tupelo do better as containerized plants.	

	(All soilless medium from the container should be removed based on anecdotal observations of planting success following installation in a wide variety of environments)
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Share Responsibility and also Share Costs		
Deploy funding tools or cost sharing to incentivize new planting and retention of mature trees on private property, especially in under-canopied areas. Revise policies to optimize tree protection and in-kind replacement.		
Strategy	Action	Priority
1.Update the Tree Protection Ordinance	1A: Provide alternative mitigation measures for removing hazardous trees and trees in naturally regenerating areas	High
	<i>75% of privately owned trees that are permitted for removal are considered "hazardous" and therefore do not require mitigation under the current ordinance. Hiring an arborist is burdensome but there isn't a way to subsidize that cost. "Overall canopy" category of the current TPO allows the City Arborist to reduce mitigation requirements when there is lack of space or when the removal improves the health of other trees</i> For "hazardous" trees: a. Require 1:1 replacement so the forest continues to regenerate without being punitive by requiring caliper inch mitigation. b. Recommend that Green Cambridge plant replacement trees where cost is an issue for the owner. For naturally regenerating areas: (ie., Fresh Pond and Alewife), set a mitigation requirement of 1:1 replacement to facilitate restoration areas and removing of invasive species.	
	1B: Require replacement trees that provide similar benefits to trees removed (ie., canopy tree for canopy tree)	High
	<i>50% of canopy trees are being replaced with understory trees, which provide less cooling when mature.</i> Rec 1: Require at least one replacement tree for each removal be from the same size category (ie., canopy, sub-canopy, understory, ornamental) and from a city-approved list of species, unless there is a significant lack of space as determined by the City Arborist.	

	Define new categories and weighted values to encourage replacement with larger canopy trees and discourage replacement with smaller understory trees or hedges: 1. canopy 2. subcanopy 3. hedges Rec 2: Add language that tree species must be climate suitable Rec 3: Add language to include minimum spacing requirements and language that disallows tree topping. Seattle has minimum spacing requirements Tree spacing O.C.: Large scale - 35-40+' Medium/Large - 30-35' Small/Medium - 25-30' Small - 20-25'	
	1C: Allow banking of tree credits for institutional land owners	High
	<i>TPO requirements may disincentivize large scale planting efforts, including interim landscape improvements, especially on developable land.</i> Allow landowners to bank mitigation credits for future removals. (ie, plant 10 caliper inches in 2025, confirm establishment after 2 years, and reduce mitigation requirements by 10 caliper inches for a 5-year period beginning 2027.)	
	1D: Require protection of critical root zones (including for off-property trees)	High
	Rec 1: Define a tree-protection zone buffer around existing trees, including extending onto neighboring properties, to minimize damage to tree roots by construction. (ie., Do not allow new impervious surface or excavation within that buffer without mitigation.) Rec 2: If disturbance impacts more than 25% of the critical root zone, mitigation must be provided.	
	1E: Strengthen enforcement of violations	High
	<i>There is little infrastructure to confirm compliance with required mitigation.</i> Rec 1: Record violations with ISD. Applicants with open mitigation requirements can not pull another permit until compliance is proven to be complete. Rec 2: Institute automatic reminders to those who need to show proof that tree planting has occurred. After one year grace period, without	

	proof of mitigation and tree health, applicant is required to pay the mitigation fee.	
	Rec 3: Institute mitigation requirement if private development impacts public realm trees	
	1F: Improve data collection to better analyze the impacts of Tree Replacement Mitigation and Fines	High
	<i>Tracking for the TPO mitigation is occurring but there are data gaps that limit analysis of impact and compliance. More consistent recording and more data for each project will allow better evaluation of whether the TPO is meeting its stated goals.</i> For each project that requires planting of multiple new trees, record a separate line item for each tree so species and size can be tracked.	
3.Leverage Land Use Requirement	3A: Strengthen tree requirements in Green Factor	High
	<i>Flexible zoning requirements were implemented through the Green Factor in 2022. The process appears to be working relatively well though there are some administrative challenges. It has been more challenging for smaller projects (single-family scale) or for projects that typically don't impact the landscape.</i> Rec 1: Incorporate the same species requirements as recommended for the TPO. (add hedges as a tree type, climate adaptability, minimum spacing requirements, etc) Rec 2: Broaden the applicability of the Green Factor requirements by extending the definition of Green Building Project to include all projects requiring site plan review and additional types of projects such as 3 or more units of multifamily housing.	
	3B. Incentivize Planting within Parking Lots	High
	<i>Existing on-grade parking lots provide significant unrealized opportunity for new planting, especially in canopy-deficient neighborhoods. Without canopy cover they contribute to urban heat islands.</i> <i>While new lots have landscape requirements, unless existing lots are restriped, they are grandfathered. There is no incentive and no financial basis for lot owners to redesign and plant canopy trees in existing lots.</i> <i>For reference: Existing Zoning Ordinance on Tree planting within parking lots (selective text):</i> <i>6.47.1 Screening shall consist of one or a combination of the following: (a) A strip at least five (5) feet in width of densely planted shrubs or trees which are at least two (2) feet high at the time of planting and are of a type that may be expected to form, within three (3) years after time of planting, a continuous, unbroken, year round visual screen.</i>	

	<i>(b) A wall, barrier, or fence of uniform appearance...</i> <i>6.48.1 On grade, open parking facilities which contain five (5) or more parking spaces shall be landscaped in accordance with the following requirements:</i> <i>(a) At least five percent of the interior area of the parking facility shall be landscaped. This does not include the perimeter planting provided for beautification or to satisfy screening requirements.</i> <i>(b) Each planting area shall be at least twenty five (25) square feet in area and have no dimension less than five feet.</i> <i>(c) Each planting area shall contain at least one tree and the facility as a whole shall contain at least one tree for every ten parking spaces.</i> <i>(g) Extensive unbroken paved areas in large on grade open parking facilities shall not be permitted. In parking lots containing twenty five (25) or more spaces, a row shall contain no more than fifteen contiguous parking spaces without a densely planted landscaped buffer of at least the dimensions of one space.</i> <i>Green Factor only comes into play with new surface lots. Parking lot ordinance applies to newly striped parking lots and new parking lots.</i> Rec 1: Modify the parking lot ordinance to include more specific canopy tree planting requirements., ie., percentage of canopy cover at maturity and minimum soil requirements. For example, Atlanta has requirements: one tree for every 8 parking spaces with groundcover and minimum soil volume. At least 50% must be overstory trees. Albuquerque, NM has a street tree ordinance requires anyone who paves a parking lot to plant street trees. One (1) tree is required per 10 parking spaces. At least 75 percent of the required parking area trees shall be deciduous canopy-type shade trees, capable of achieving a mature canopy diameter of at least 25 feet. Rec 2: Provide funding (tax rebates, grants, proceeds from the Tree Fund) for planting in existing parking lots. Rec 3: Create a database of parking lot owners amenable to accepting more planting on their parking lots that can provide off-site in-kind mitigation for TPO removals instead of mitigation payments to the Tree Fund.	
3.Leverage Public-Private Partnerships to provide flexibility for planting trees on private property	4A: Earmark Tree Replacement Fund Dollars for Community grants that align with City's commitment to equity goals	High
	<i>Through the Tree Fund, DPW provides a grant to Green Cambridge to plant trees on private property. Green Cambridge has been able to plant more than 200 trees on private property over the last two years. Tree</i>	

	<i>maintenance can be a burden for low-income, underserved communities, and removing the barrier of maintenance can potentially increase equitable distribution of trees.</i> <i>(Andrew to check if Tree Fund can accept private donations)</i> Rec 1: Continue to use the Tree Fund to fund Green Cambridge planting efforts and increase funding as appropriate. <i>The Tree Ordinance does not apply to Affordable Housing Trust projects or other new low and moderate income housing but encourages planting through applications to funding from Tree Replacement Fund. This reduces the incentive to provide shading at these projects, potentially resulting in higher summer temperatures at housing that may be without air conditioning and driving up the cost of cooling the homes with air conditioning. Currently Tree Fund can be used to help protect existing trees (through application process). Andrew to check if the tree fund can be used for tree planting. If so, provide a way for affordable housing projects to apply through the Tree Fund for planting funds.</i> Rec 2: Use the Tree Fund to fund tree planting for affordable housing projects.		
	<table border="1"> <tr> <td data-bbox="521 1035 1300 1287">4B: Establish a Tree Trust</td><td data-bbox="1300 1035 1427 1287">High</td></tr> </table>	4B: Establish a Tree Trust	High
4B: Establish a Tree Trust	High		
4. Foster stewardship of newly planted and existing trees through programs and partnerships	<i>There are legal limitations in how the current Tree Fund can be used, especially with respect to planting, maintenance, and mitigation of cost on private property.</i> Develop a Tree Trust that can accept private donations, mitigation funds, and other income and that can deploy the funds to support planting, maintenance and risk mitigation on private property. <table border="1"> <tr> <td data-bbox="521 1287 1300 1806">4A. Build Community partnerships (multi-agency partnerships)</td><td data-bbox="1300 1287 1427 1806">High</td></tr> </table> <i>The Back of Sidewalk program provided free trees on private property within 20' of the public realm. The program proved onerous and is now implemented through a partnership with Green Cambridge.</i> <i>Urban Forestry has expanded existing partnerships and formed new collaborations in the last 5 years. Notable collaborations have been with Biodiversity for a Livable Climate on the City's microforest plantings, and a partnership with Central Square BID, which waters trees through their Flower Basket Program. Urban Forestry provided grant funding to Green Cambridge to support their tree planting (Canopy Crew) program. DPW also has an existing partnership with DCR which has allowed DPW to plant trees on DCR land.</i>	4A. Build Community partnerships (multi-agency partnerships)	High
4A. Build Community partnerships (multi-agency partnerships)	High		

	Rec 1: Continue and expand partnership with Green Cambridge to plant more trees on private property, especially focused on areas where there is limited space for public realm trees.	
	Rec 2: Continue existing partnerships and expand partnerships DCR, Central Square, BID and find new partnership opportunities.	
	4B. Build more capacity within the urban forestry department to lead community outreach and engagement	High
	<i>Creating an outreach and engagement program will require significant more effort.</i> Rec: Hire a new staff person and/or create an intern position dedicated specifically in urban forestry to formalize and implement an outreach and engagement program, with particular focus on operationalizing best practices for engaging underserved communities. This position would create outreach materials, create more resources for Forest Friends, better utilize Forest Friends volunteers for tree tracking, care and outreach, expand community and corporate partnerships and activities, etc. Specific topics that outreach materials could introduce include: the Green Factor Standard, Tree genetic diversity, biodiversity and public Heath benefits of trees	
	4C. Build visibility of existing programs	High
5. Increase Public Messaging about City's Urban Forestry Efforts	<i>Urban Forestry department currently runs several programs including the Forest Friends (private citizens care for City trees), Tree Inventory internship program, and a Water by Bike program. Forest Friends volunteer program has grown substantially in the last couple of years from 400 to 1200 subscribers (credited to free branded leaf bags for signing up and intern outreach). Existing improvements to the program include electronic newsletters. Building identity and increasing visibility is important to recruiting new volunteers and to incentivize the stewardship activities.</i> Forest Friends could use more community events (weeding days) and swag (t-shirts, gardening gloves, watering can). Water by Bike program could be advertised through truck wrapping, advertisements at Blue Bike stations, etc. Brand the partnership with Green Cambridge for free tree program on website (currently just a statement and link) Note: This action would be considered as part of an overall outreach and engagement program.	
	5A. Publish annual reports to document progress including publicizing the ecosystem benefits of trees	Mid
	<i>DPW provides a yearly update to the CPP on the progress on the UFMP and occasionally to the health and environment committee. These</i>	

	<i>meetings are not recorded for public availability. DPW shares statistics about trees and accomplishments through a yearly newsletter that the City sends out.</i>	
	Rec: Expand report out to include metrics based on the UFMP goals and to include quantitative benefits of trees)	
	5B. Support alternative education approaches, such as art installations, that make the work more visible	Mid
	<i>There have been opportunities to showcase urban forestry in alternative educational settings such as the Tobin School Grafting program and two forestry murals in the City are pending.</i>	
	Rec: Continue to support opportunities with aligned organizations such as the Arts Council. Opportunities include a gallery exhibit on urban forests and this 5 year update provides an opportunity to do so.	
	5C. Develop an updated Communications Toolkit for Urban Forestry	High
	Rec 1: Create an internal and external messaging toolkit for the City to use tailored to different audiences. (reference 2022 messaging toolkit)	
	Rec 2: Create an outreach toolkit Forest Friends, CoPP and other groups could use to talk about the urban forest and to encourage others to plant and care for trees and join stewardship programs.	
	5D. Provide multilingual outreach materials	Mid
	<i>Materials in multiple languages are inclusive and also send the message that the City wants to engage all citizens. The City website currently offers translation through a pull-down tab.</i>	
	Rec: Produce the Forest Friends tree tags (currently placed on newly planted trees) in multiple languages, targeting languages based on neighborhood demographics.	
	5F. Improve communications with residents in advance of neighborhood tree work	High
	<i>While there are some communication systems in place (tree stickers) to provide information about tree work to residents in advance, some community feedback indicates that existing practices are not sufficient to make residents feel informed</i>	
	Rec 1: Communicate about tree removals and associated tree replacement plan. For "tree work" signage, expand signage types to include the type of work and with proper messaging (a new tree is coming!)	
	Rec 2: Capital improvements projects that remove trees in public spaces can be distressing to residents. The City could place signage at the location where trees are to be removed that includes information about	

	the project and contact information of a customer service representative who can answer questions.	
6. Promote urban forestry education	6A. Promote arboriculture as a career and advocate for the value of trees at Cambridge's schools	Low
	<i>City arborist typically does school visits once a year.</i> Rec: Find new opportunities to promote careers in urban forestry and the value of trees at Cambridge's schools including at "Career Day" and through vocational school information, and at assembly day or special guest opportunities.	
	6B. Showcase Cambridge's unique and interesting trees through tree tours	Low
	<i>The City typically organizes tree tours during Arbor Day and for the July Committee on Public Planting meeting.</i> Rec: Make Arbor Adventure, a tour developed in 2021, available digitally and/or expand in-person tree tour opportunities.	

Broaden What Resiliency Means Go beyond species diversity by diversifying tree genetics. Distribute species strategically to minimize risk from climate pressures.		
Strategy	Action	Priority
1.Cultivate a more Resilient Forest	1a. Plant well-adapted, climate resilient species and diversify forest to the extent possible	Mid
	<i>The City plants a diverse array of species. In the last five years, the City has planted 110 unique species, many of which are underrepresented. The City does plant MidAtlantic species (red buds).</i> Rec 1: Update tree species list based on the latest climate science every 2 years and use this list to plant climate resilient species and to diversify the forest Rec 2: Expand planting palette by consider planting species at their northern range	
	1b. Select or recommend species based on site-specific factors and to maximize functional diversity of the forest	Mid
	Rec 1: Organize recommended species into "management zones" to guide selection, ie., Natural vs. managed (Habitat corridor/habitat patches)	

DRAFT

	Rec 2: Classify trees into functional types, identifying the ecosystem services or benefits of each species, and ensure good spread across the city. Rec 1: Organize recommended species into "resiliency groups" based on tolerance to climate risk factors, such as heat and flood. Develop risk scenarios for sites (drought, flood, heat) and select species accordingly. • Pollinator support (flowering period, nectar/pollen value) • Cooling / shade benefit (crown size, foliage density, transpiration) • Stormwater interception (canopy size and leaf surface area) Pollinator support (all seasons): <i>Amelanchier, Liriodendron tulipifera</i> Cooling / transpiration: <i>Quercus bicolor, Nyssa sylvatica, Tilia americana</i> Stormwater uptake / flood edges: <i>Taxodium distichum, Betula nigra</i>	
2. Enable climate adaptation through genetic diversity	2a. Prototype local seed collection from well-adapted trees.	Mid
	Germinate and plant seedlings in naturalized areas. <i>City has some examples of propagations from cuttings (apple tree at Tobin School, CoPP sugar maple)</i> Rec 1: Test small-scale programs where seeds are collected from healthy, locally adapted trees and grown into new seedlings. These seedlings are then planted in naturalized or restored areas. This helps build a self-sustaining, locally adapted tree population over time and increases ecological resilience. Test plot at Danehy or Fresh Pond (plant in place) and partner with community organization so they can monitor and care for the plot. Rec 2: Pilot program with a community organization like City Sprouts or with the CoPP to dedicate space like a raised bed to growing tree species by seed, which later could be transplanted.	
	2b. Explore sourcing and/or contract growing non-clonal plants from local nurseries	Mid
	<i>Planting trees that come from a wide range of seed sources and genetic backgrounds creates a healthier and more resilient urban forest. In parks and natural areas, using seed-grown trees—especially those sourced locally—helps them adapt better to soils, climate, and local wildlife.</i> Rec 1: Identify a grower already producing seed-grown trees within the ecoregion. Source a limited number of trees and assess their viability. Rec 2: Set up 3–5 year agreements to allow nurseries time to collect seed and produce Cambridge-specific stock. Start small first with park trees. • ○ Short term (1–3 yrs): Begin seed-collection partnerships and specify local provenance in new contracts.	

	○ Mid term (3–5 yrs): Contract-grow local stock and test performance (“pilot mixed-provenance plantings”).	
	2c. Encourage private realm sourcing of local genetically diverse species through outreach/education	Mid
	Rec 1: Promote awareness that “<i>native is not always local</i>”—local seed better matches bud-burst timing, pollinator cycles, and frost-free periods (can use existing digital resources from nurseries like Nasami) Rec 2. Publicize lists of nurseries that have seed grown tree stock available to the public	
3. Increase city-wide Biodiversity	3a. Plant tree species that provide food and cover for pollinators and fauna	Mid
	Update species spreadsheet to include habitat value and make this list available to the public.	
	3b. Develop planting strategies with more vertical layers (shrub, understory) to create more habitat opportunities	Mid
	Rec 1: For plaza and street scape plantings, find opportunities to interplant between canopy trees with subcanopy trees. Rec 2: Create recommendations for groundcover planting (what species are appropriate) by trees. Rec 3: For naturalized areas, create more vertical layers to include shrub layer, if possible, and diversify age structure of the urban forest.	
	3c: Conduct a biodiversity study/ecological corridor study	Mid
	XXX	
4.Promote Sustainable Practices	4A. Produce biochar locally	Low
	<i>DPW current applies locally sourced biochar as a soil amendment for newly planted trees. By using Cambridge wood waste, carbon reduction goals could be further supported. Considerations: urban forestry waste is mixed feedstock. Huge variables on what would impact success. Similar to compost, there are many classifications and different purposes of biochar. Precedent: Minnesota biochar initiatives (cooperation and structure), Philadelphia</i> Rec 1: Consider biochar production locally using Cambridge wood waste Rec 2: Track biochar application on Cartegraph over time so biochar application and tree survivability can be assessed.	
	4B: Divert wood waste to other uses	Low
	Rec: Continue to find opportunities and community partnerships to salvage, process, and reuse wood from removed or fallen urban trees, transforming tree loss into local material resources and provide public education opportunities.	

CITY OF CAMBRIDGE

Cambridge Urban Forest Master Plan 5 Year Update

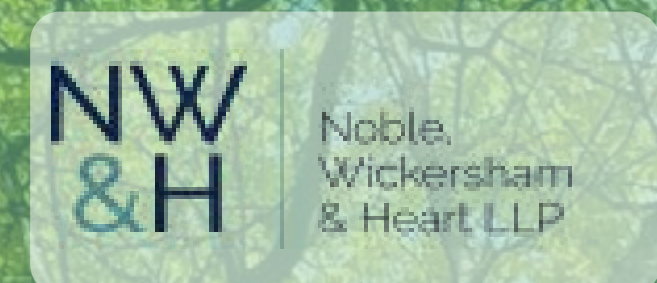
COMMITTEE ON PUBLIC PLANTING
MARCH 11, 2026

REED HILDERBRAND

ARUP

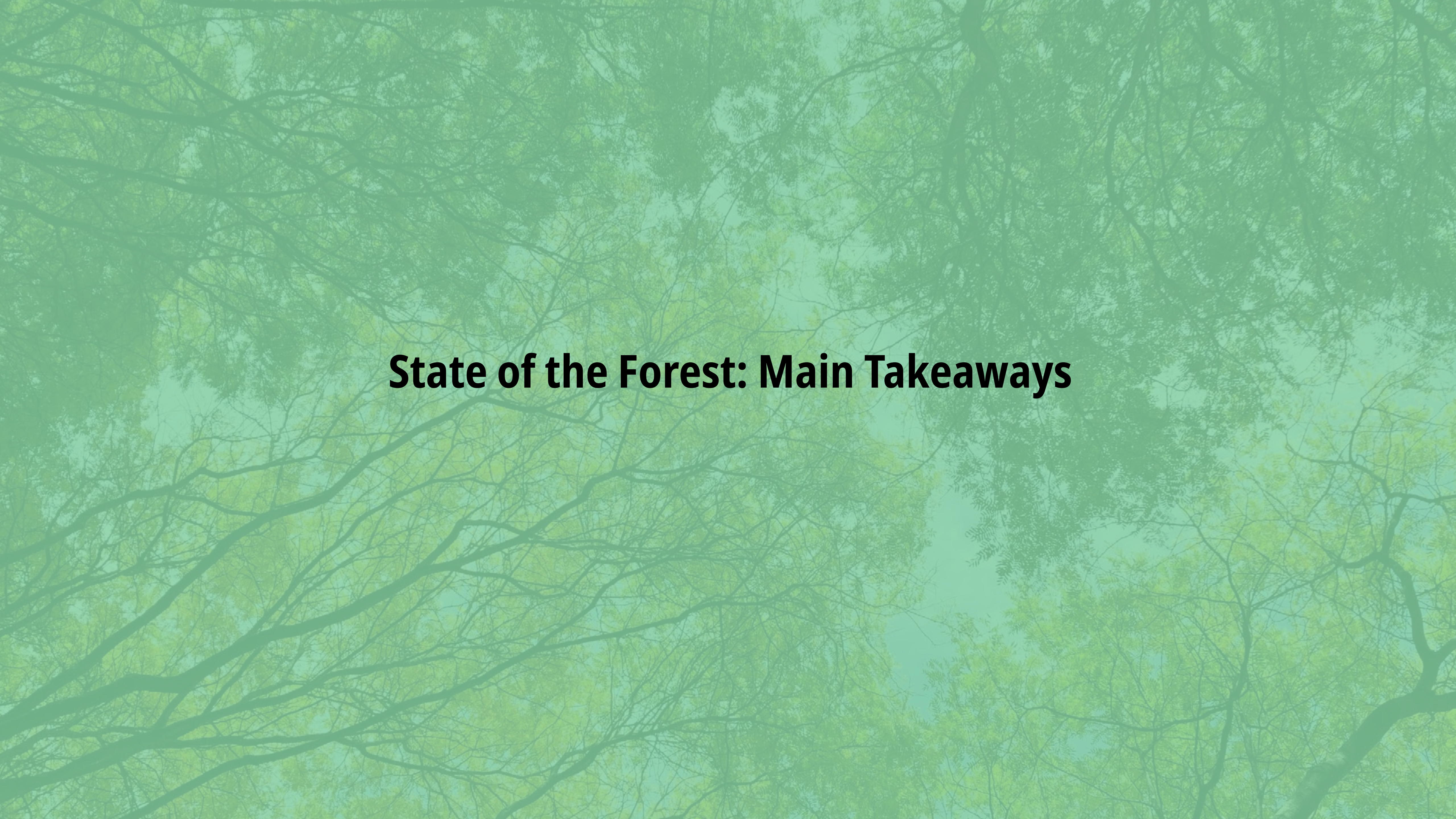


GROUNDTRUTH, INC



AGENDA

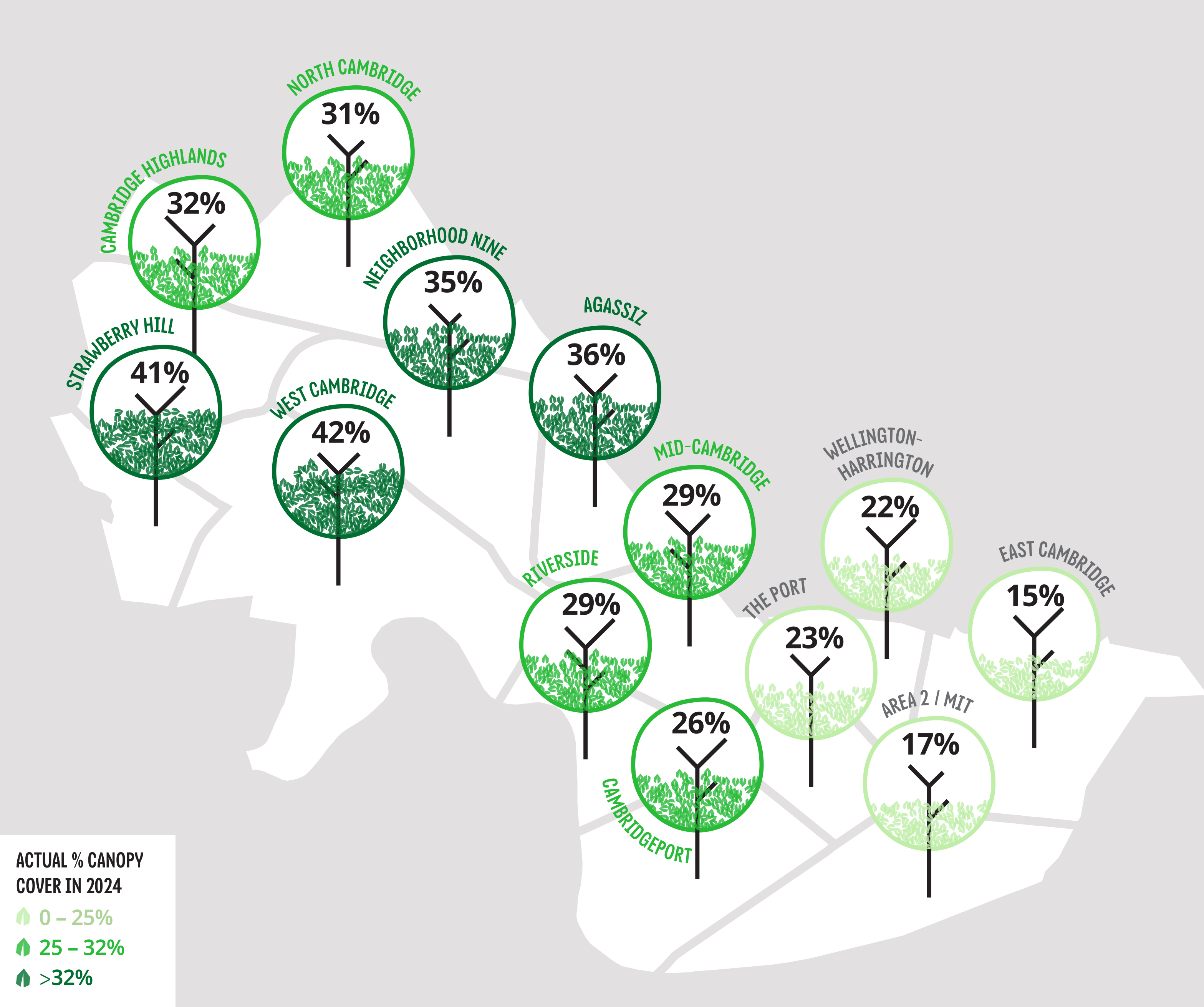
- **State of the Forest: Main Takeaways**
- **Evaluation of Targets**
- **5 Year Plan: Key Recommendations**
- **Workshop: Role of the CoPP**



State of the Forest: Main Takeaways

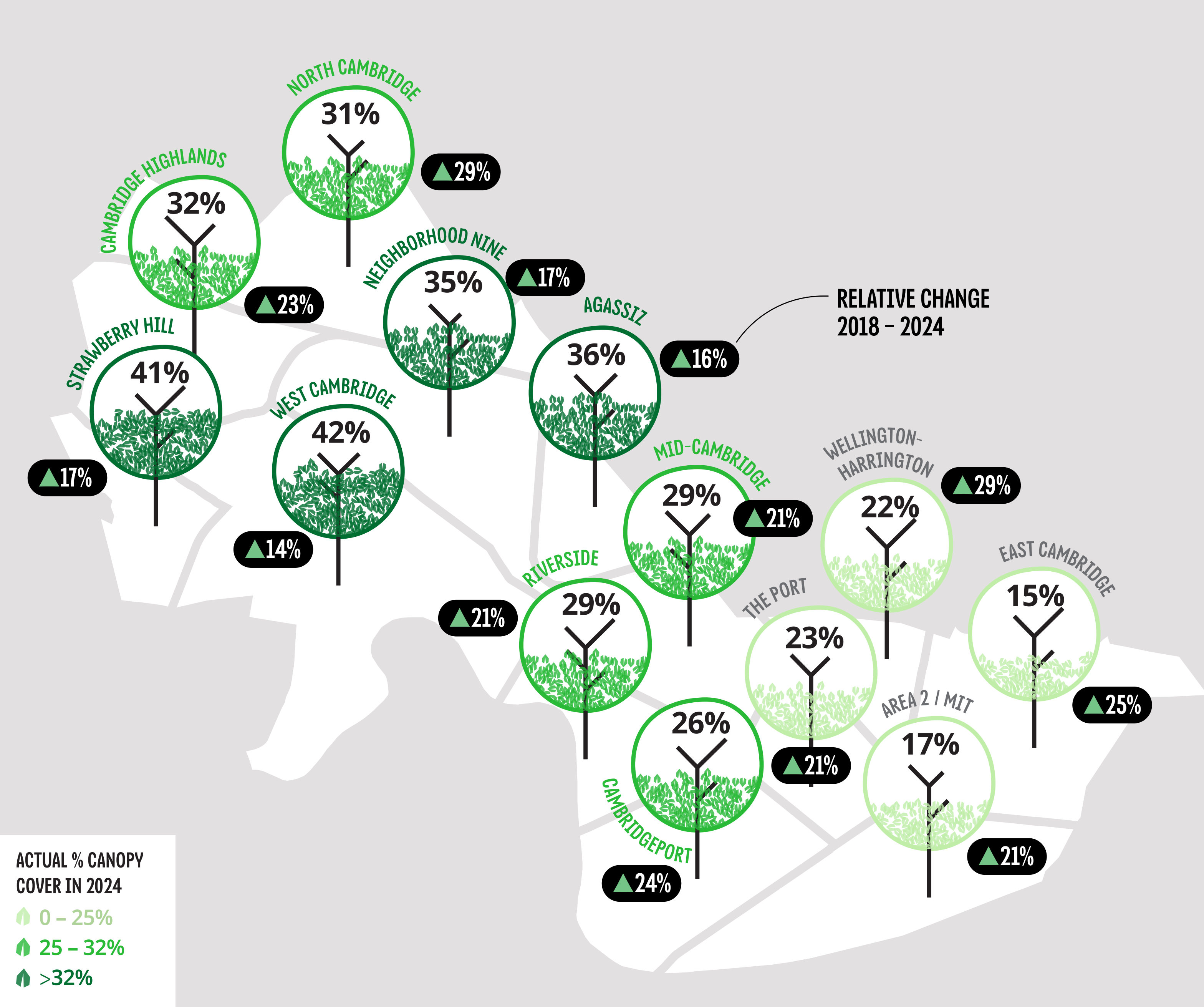
1. CANOPY COVER

Tree planting has been focused on the areas that needed it the most: under canopied neighborhoods and priority areas.



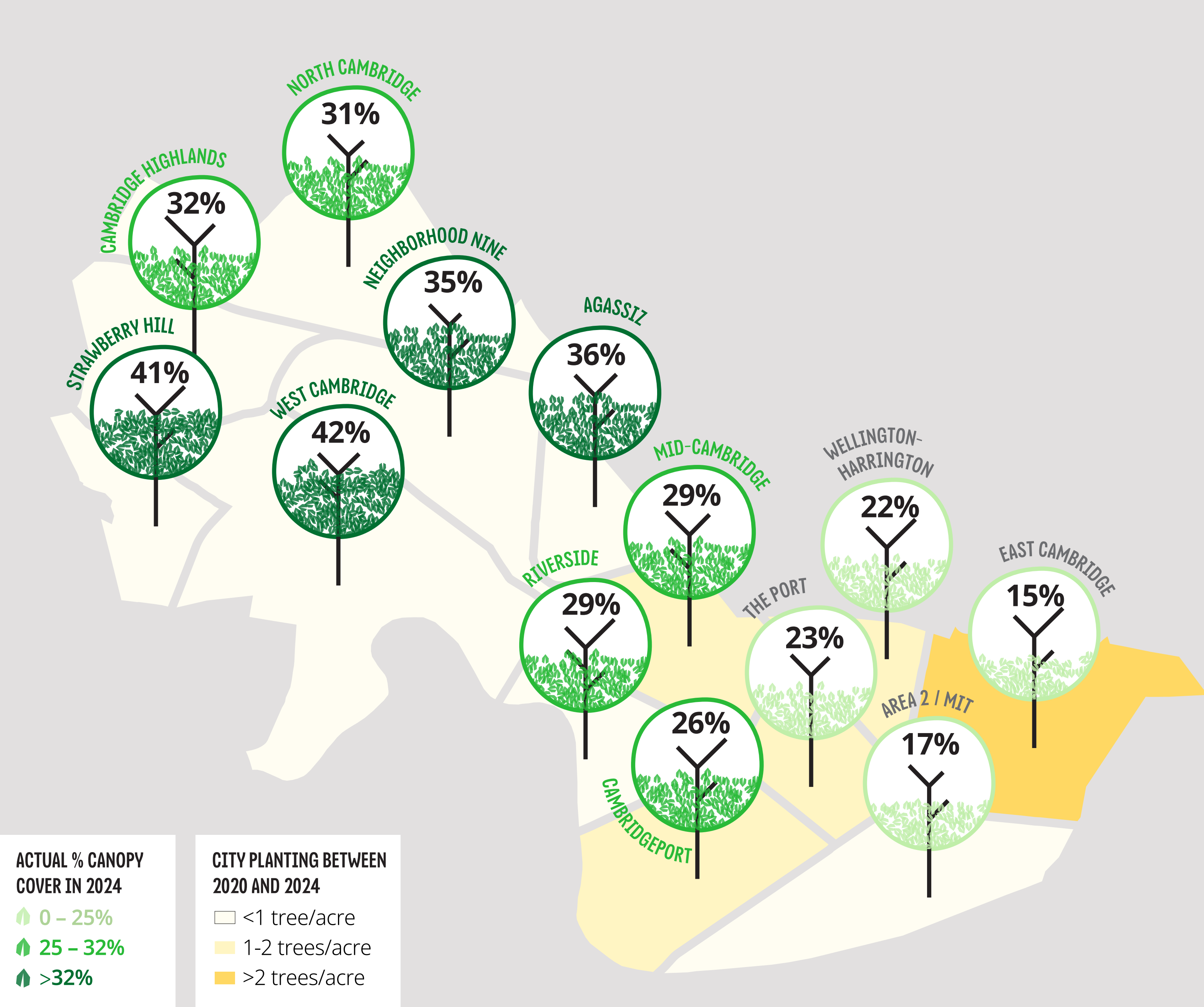
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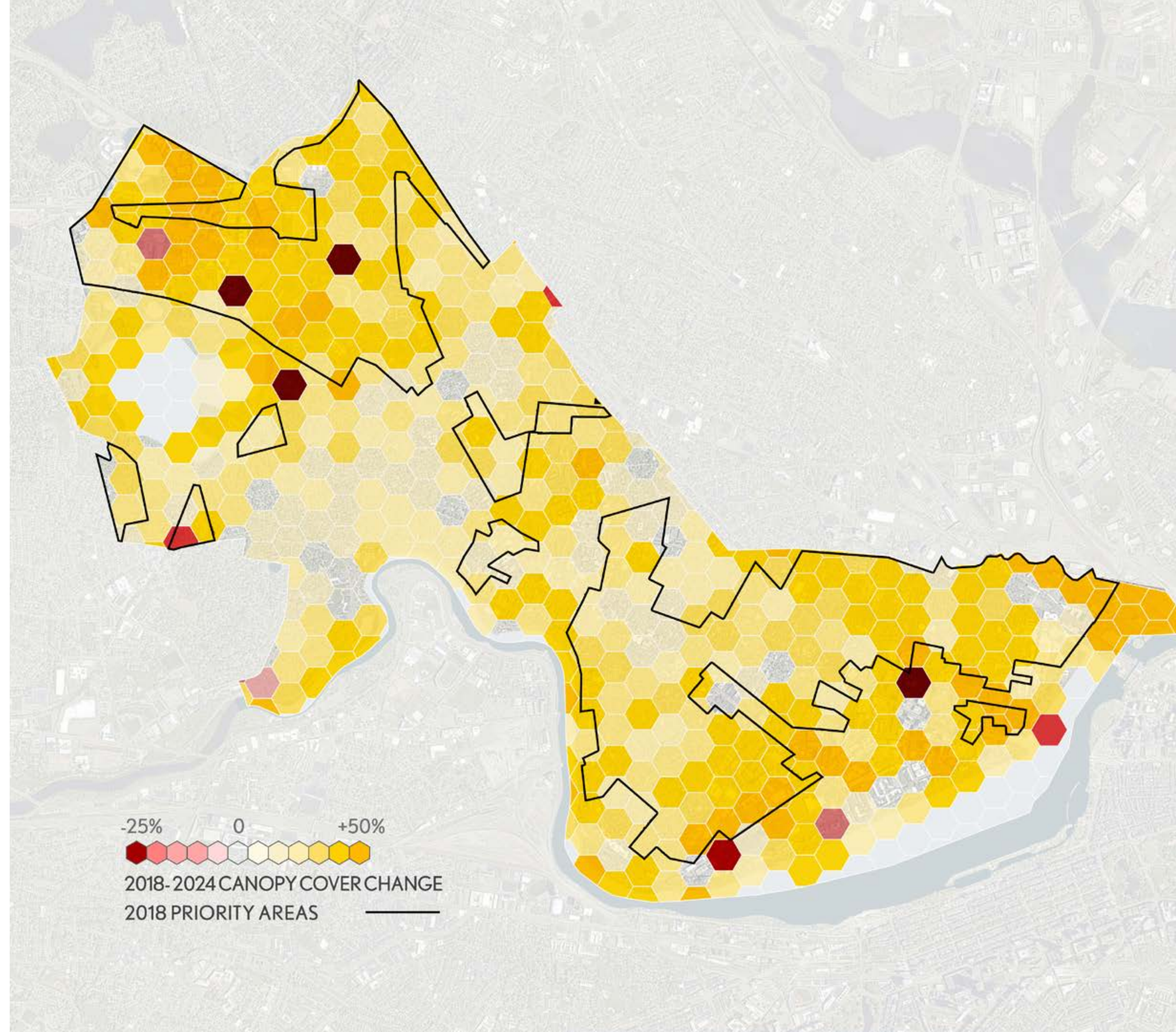
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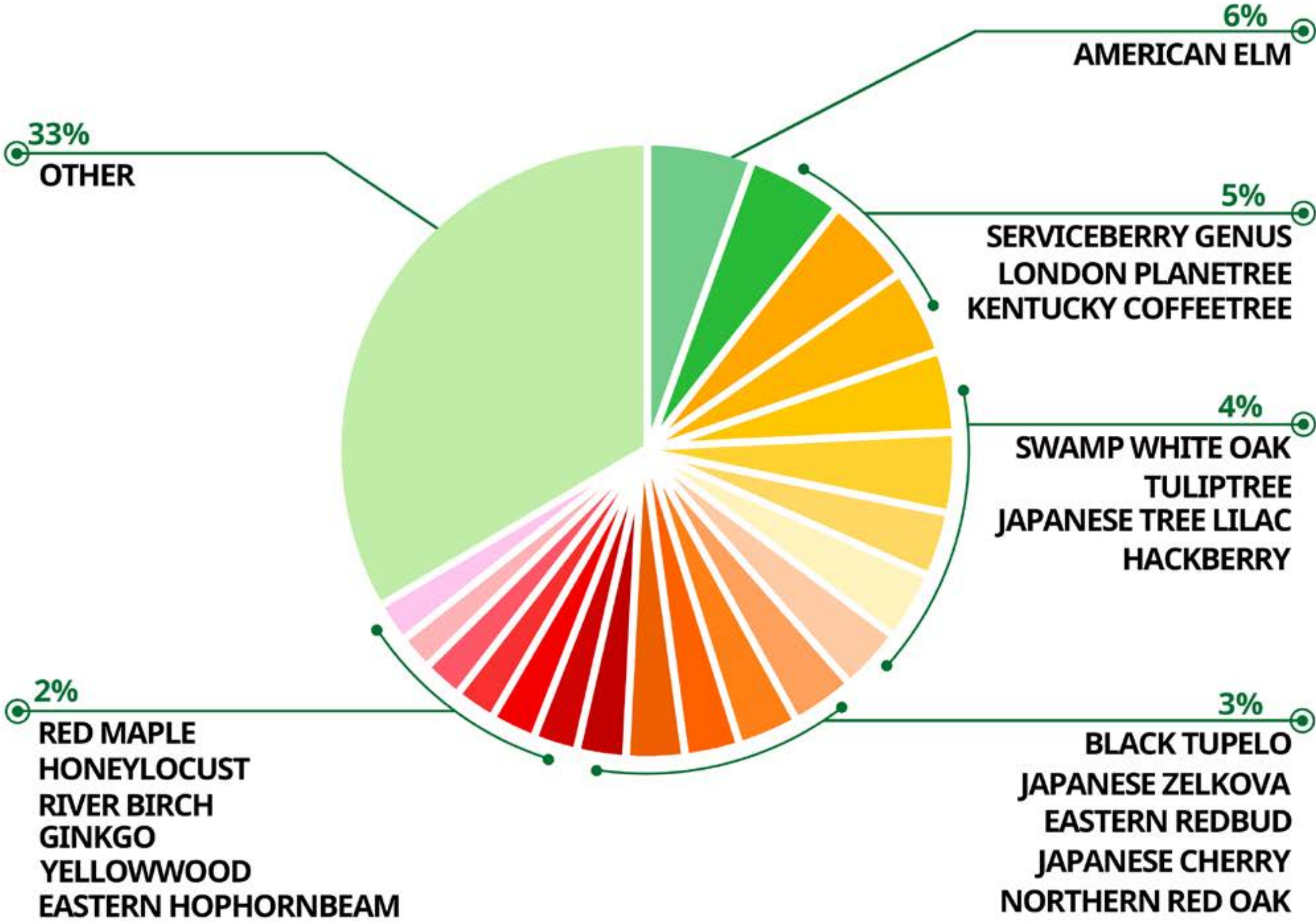
1. CANOPY COVER

Tree planting has been focused on the areas that needed it the most: under canopied neighborhoods and priority areas.



2. CANOPY DIVERSITY

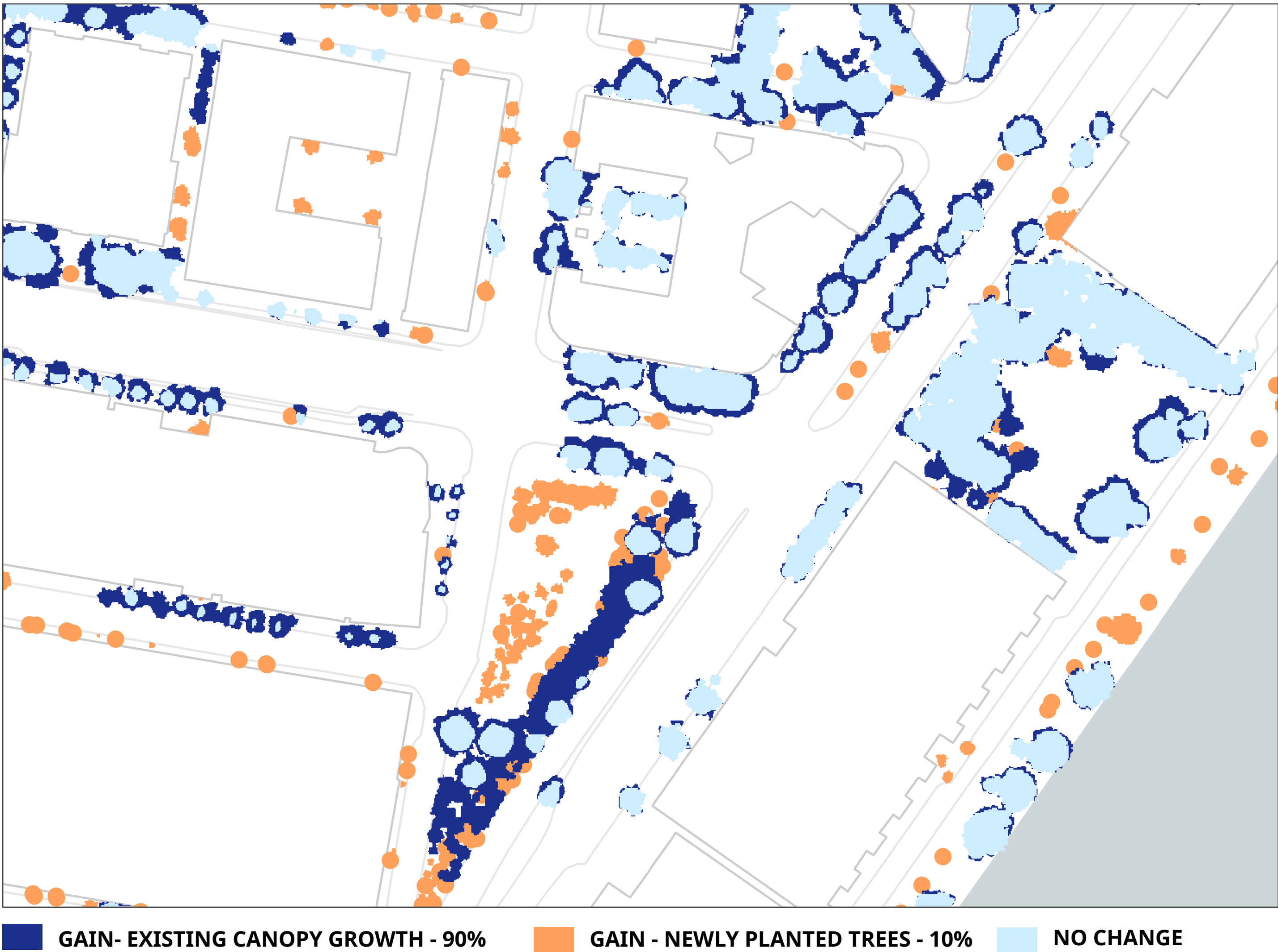
The City has increased the diversity of its planting (109 unique species in the last 5 years).



PLANTING BY SPECIES (2020 to 2024)

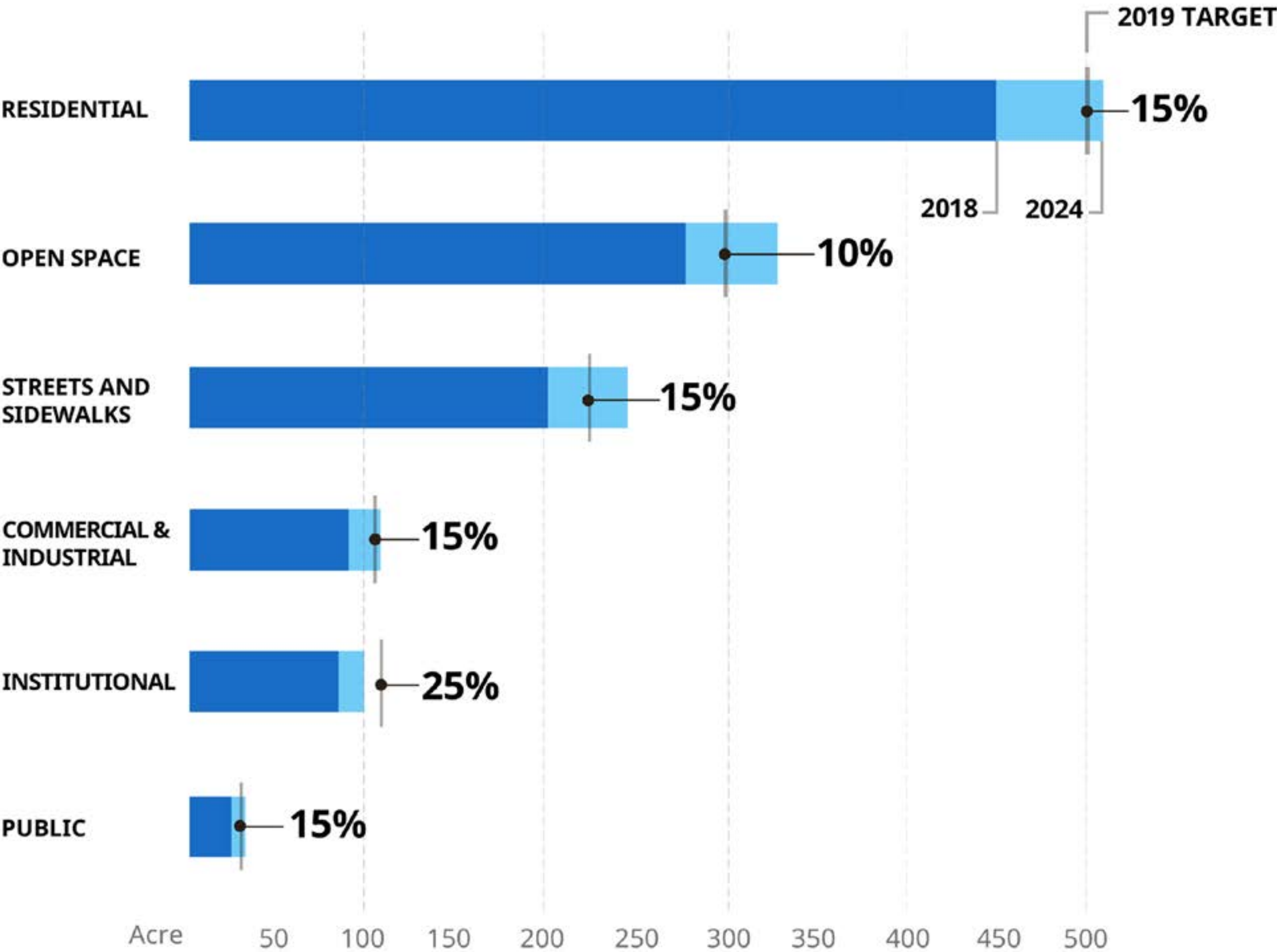
3. CANOPY GROWTH

The urban forest is in a period of growth, with canopy expansion from existing trees contributing most to canopy gain.



3. CANOPY GROWTH

Gain was seen across all property types.



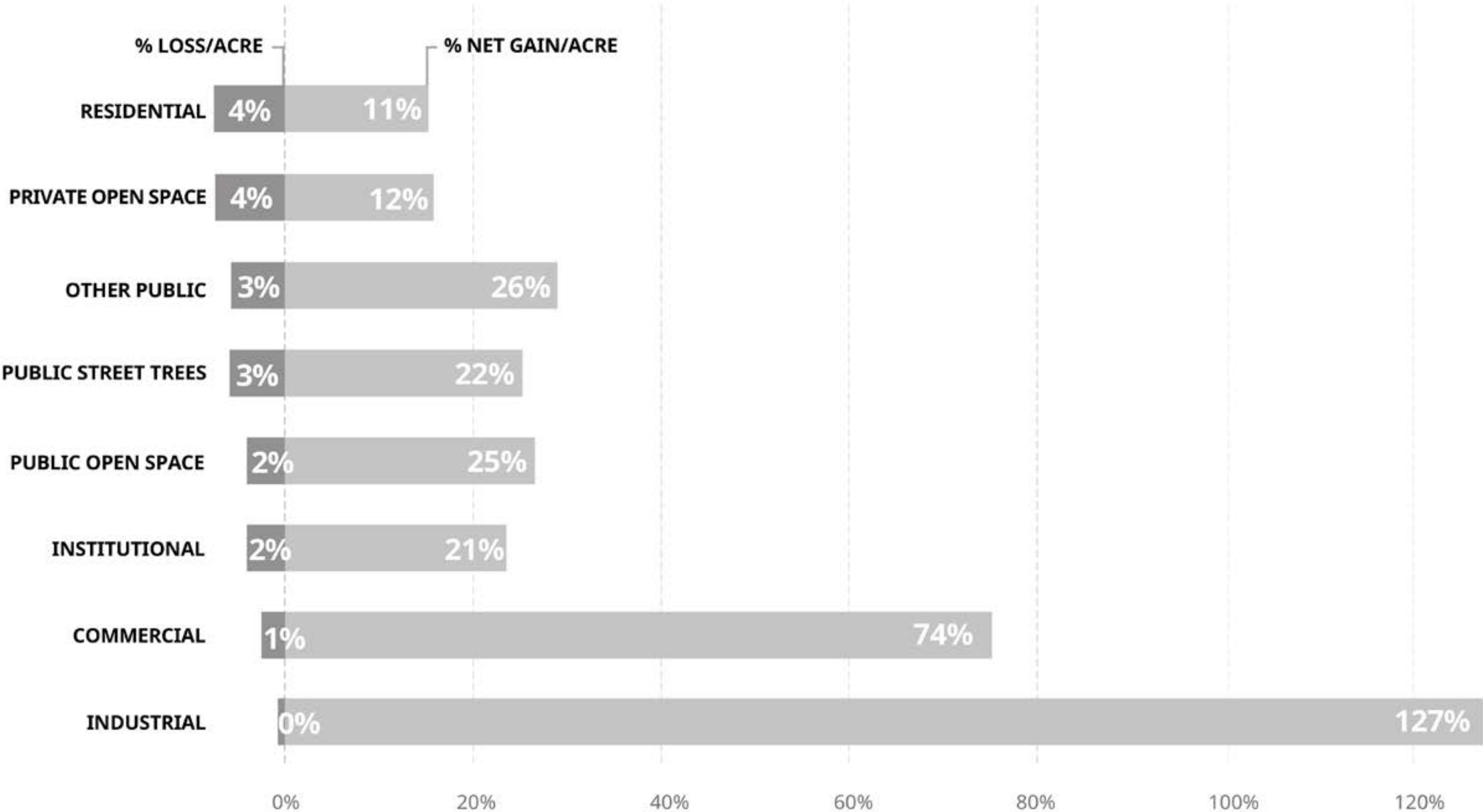
4. PRIVATE ACTORS

The majority of canopy occurs on private property and the most loss and least growth is occurring on residential property.



Private - 54%

Public - 46%

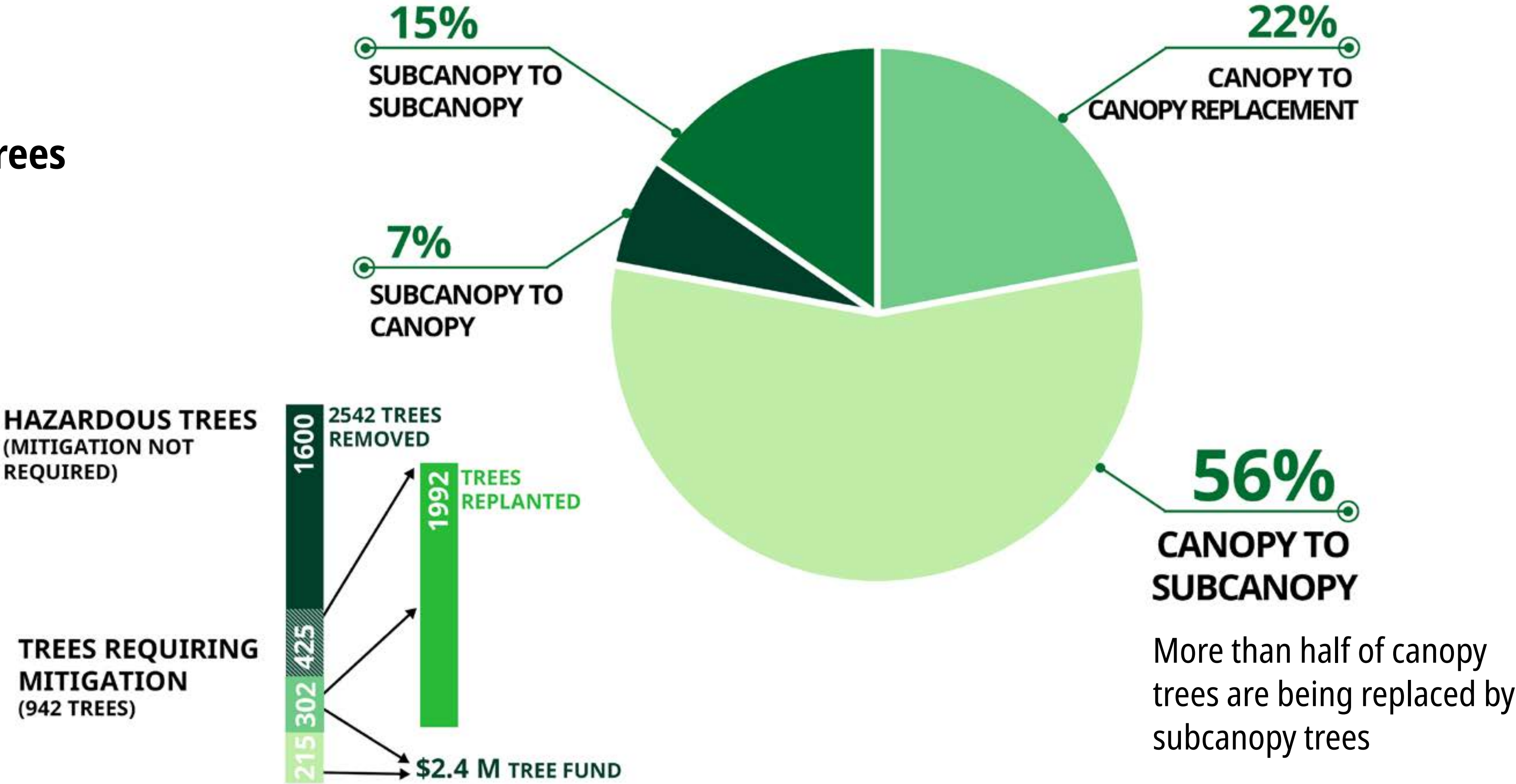


4. PRIVATE ACTORS

More trees are being removed than being replaced through the TPO.

Additionally, half of the canopy trees removed are being replaced with subcanopy trees.

Tree Protection Ordinance Mitigation:



2020 GOALS

EQUITY

Increase canopy cover where it is currently lacking, particularly in areas with high concentrations of minorities, the elderly, non-English speakers and those with low incomes

RESILIENCY

Enhance canopy cover in the public realm to create “cool corridors” that reduce heat island where people are impacted the most

SHARED RESPONSIBILITY

Incentivize each landowner to increase canopy cover - a thriving forest requires mutual care by many parties

MEASURING PROGRESS

EQUITY

 **25% minimum canopy by neighborhood**

RESILIENCY

-  **60% canopy over sidewalks**
-  **50% reduction of heat island hotspots**
-  **Species diversification**

SHARED RESPONSIBILITY

 **10% to 25% increase in canopy cover by across all landowner types**



MEETING/EXCEEDING EXPECTATIONS



IMPROVING/DEVELOPING



FALLING BEHIND

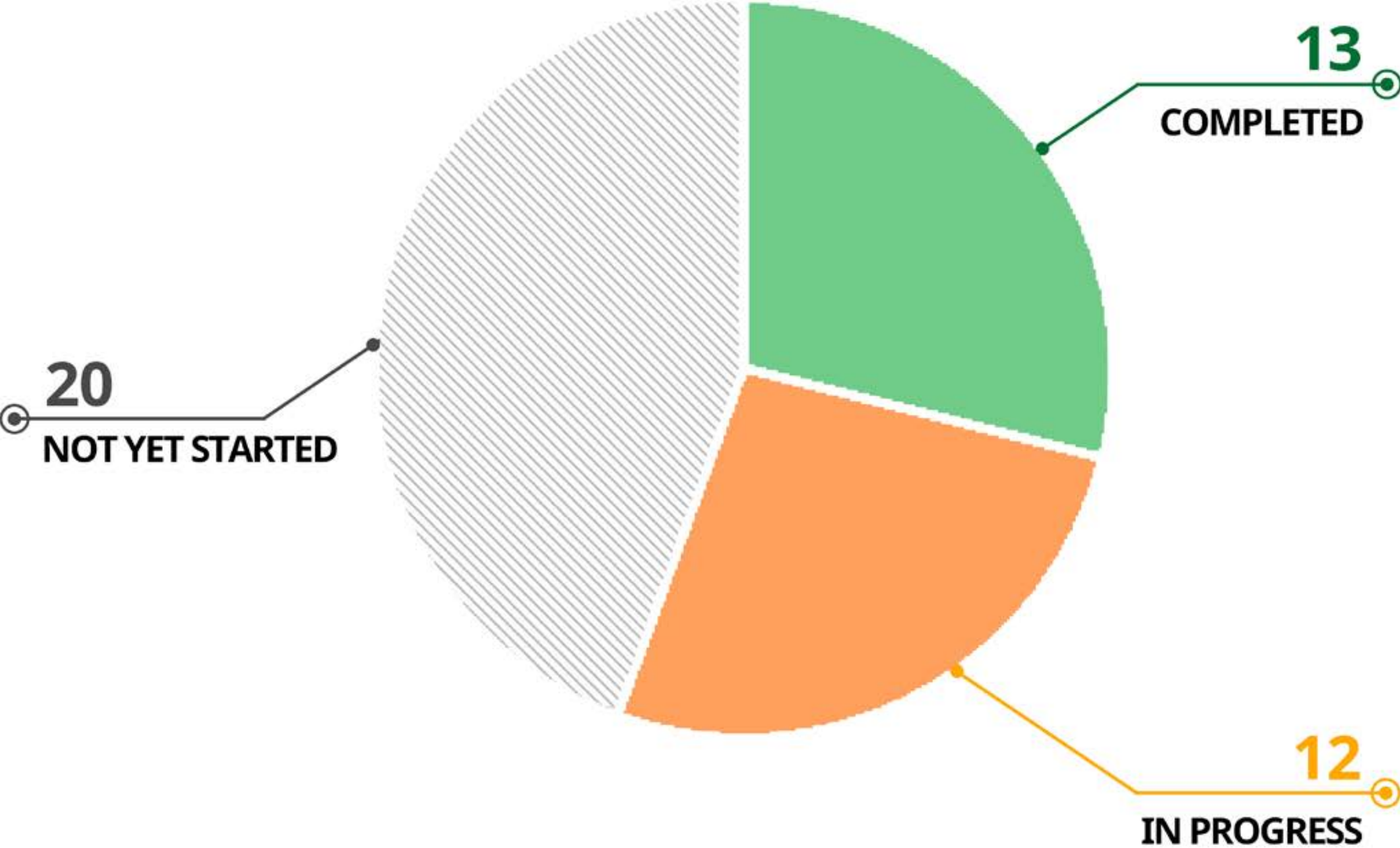
MEASURING PROGRESS

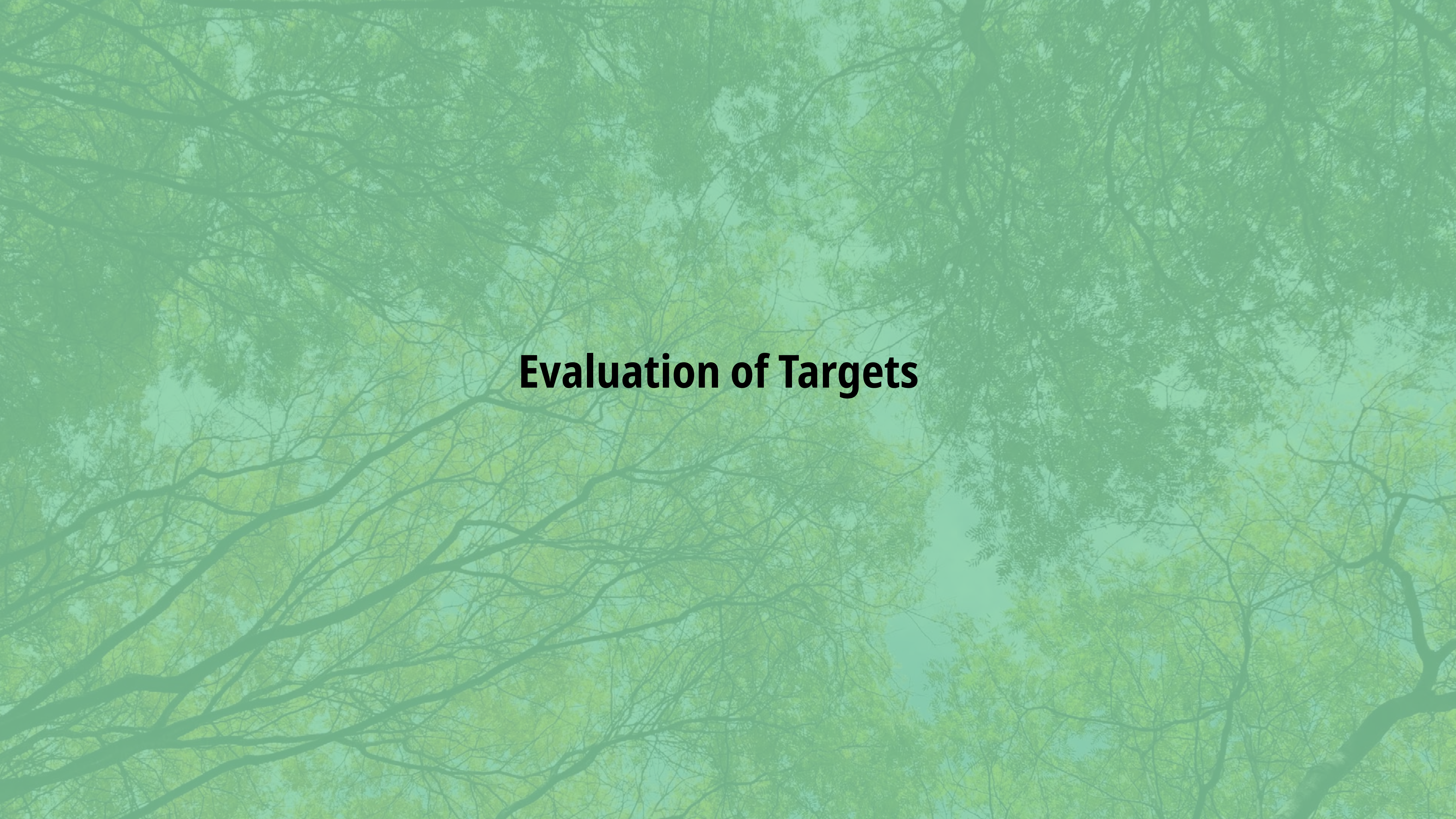


MEASURING PROGRESS

Of the recommendations actions:

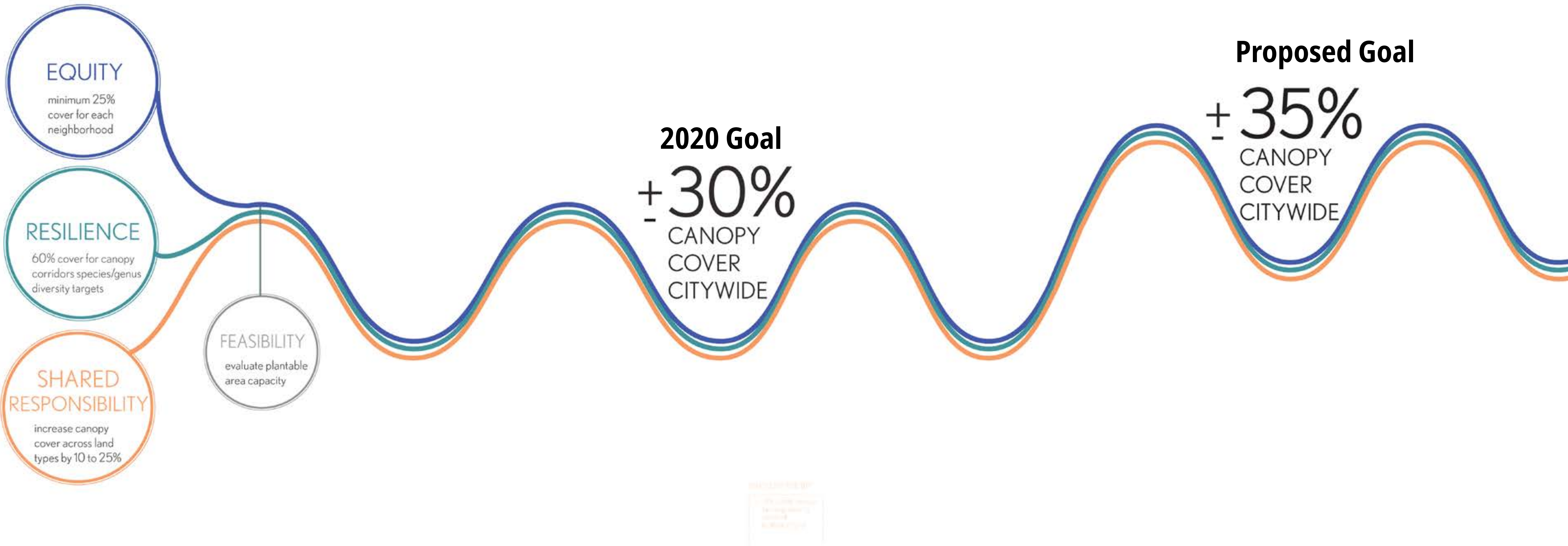
- 29% are completed
- 27% are in progress
- 44% are not yet started





Evaluation of Targets

CANOPY COVER TARGET: CITYWIDE GOAL



2020 TARGETS

EQUITY

→ 25% minimum canopy by neighborhood

RESILIENCY

→ 60% canopy over sidewalks
→ 50% reduction of heat island hotspots
→ Species diversification

SHARED RESPONSIBILITY

→ 10% to 25% increase in canopy cover by across all landowner types

PROPOSED TARGETS

EQUITY

→ 25% minimum canopy by neighborhood

RESILIENCY

→ 50/55% canopy over sidewalks
→ X% canopy within priority areas
→ Species diversification

SHARED RESPONSIBILITY

→ 8% to 55% canopy cover dependent on landowner type

PROJECTION



NEWLY PLANTED
CITY TREES PROJECTED



NEWLY PLANTED
PRIVATE TREES PROJECTED



2024 CANOPY

PROPOSED TARGETS

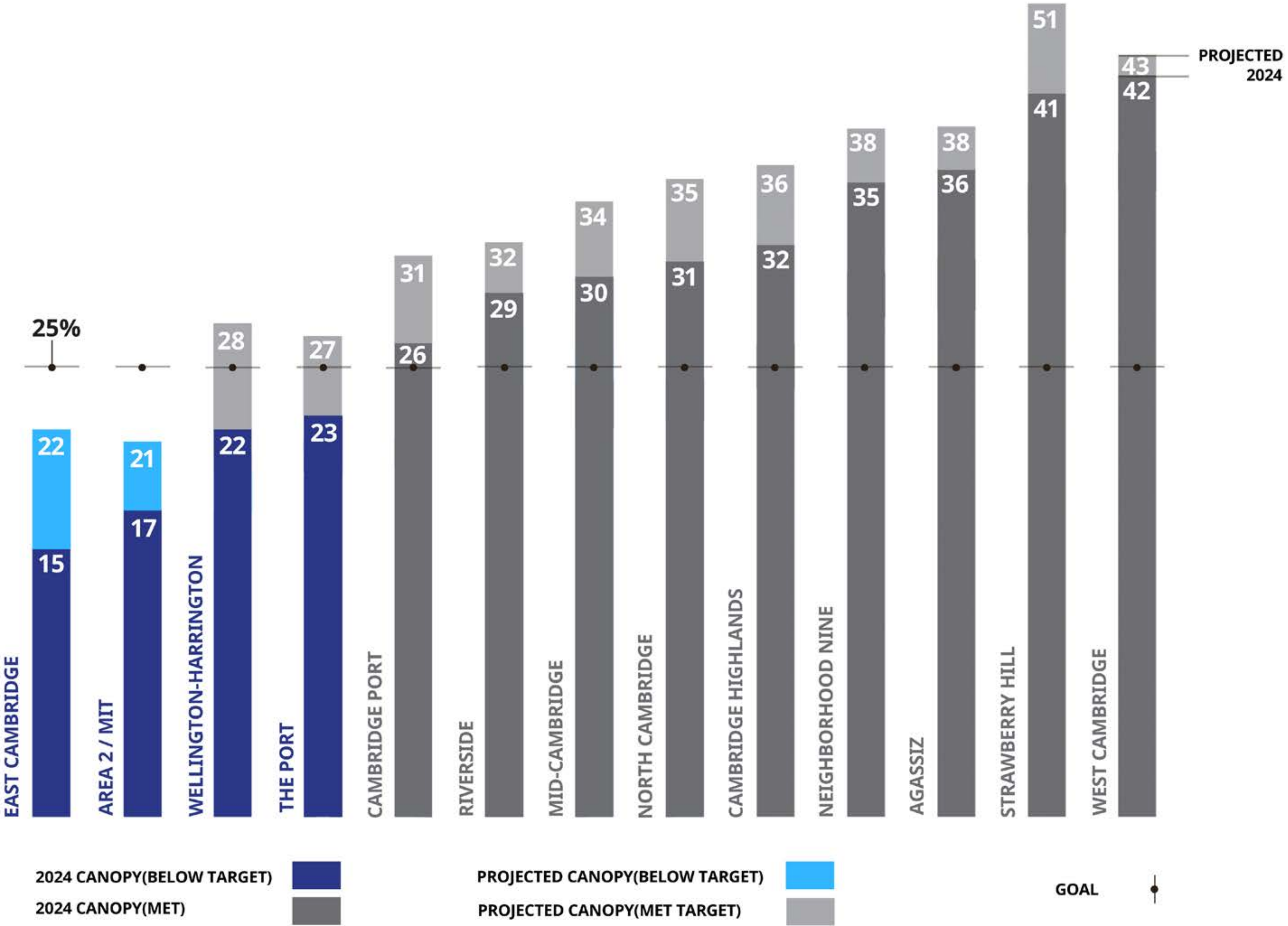
2020 Equity target:

25% canopy cover per neighborhood

Recommendation:

Keep at 25% minimum per neighborhood

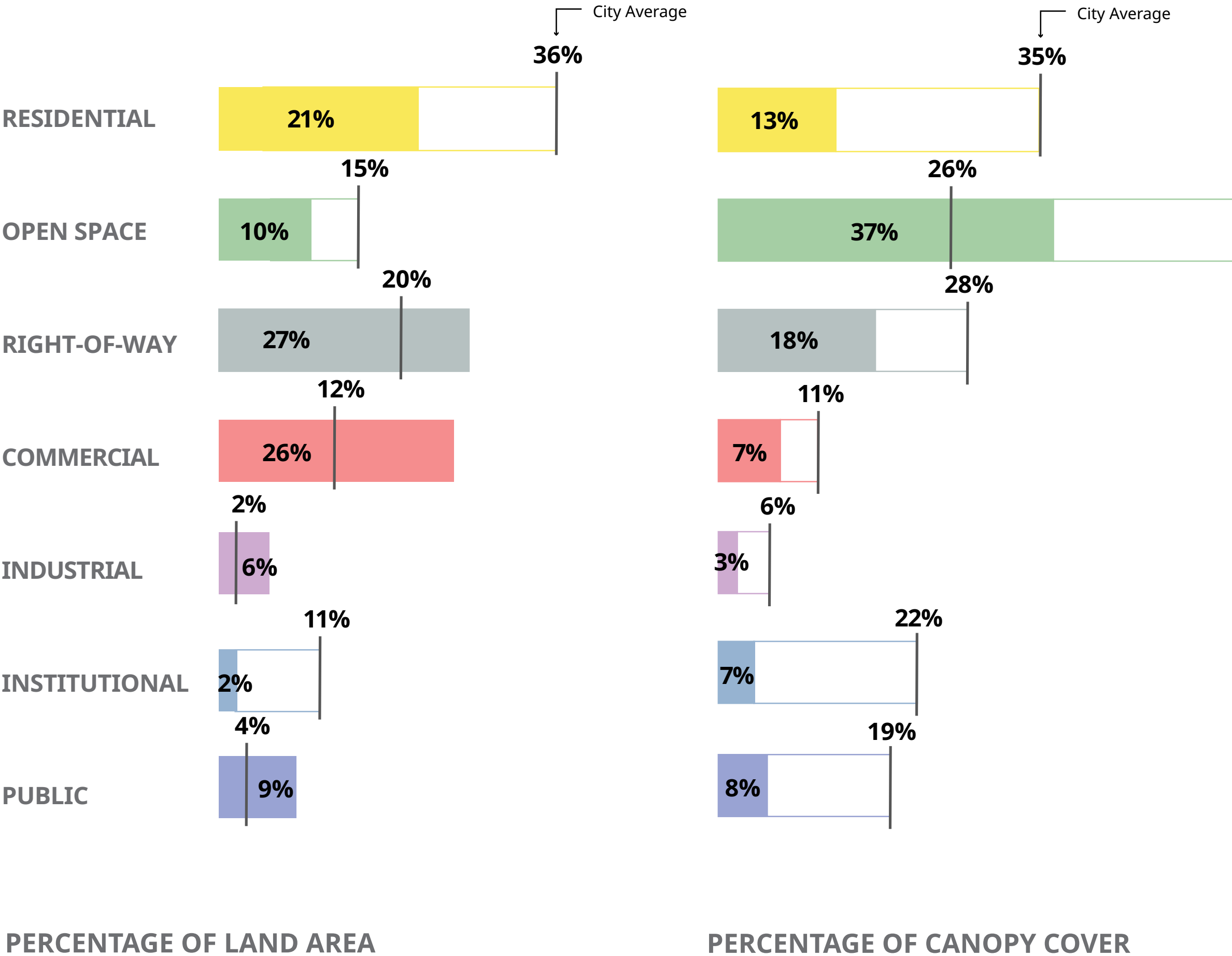
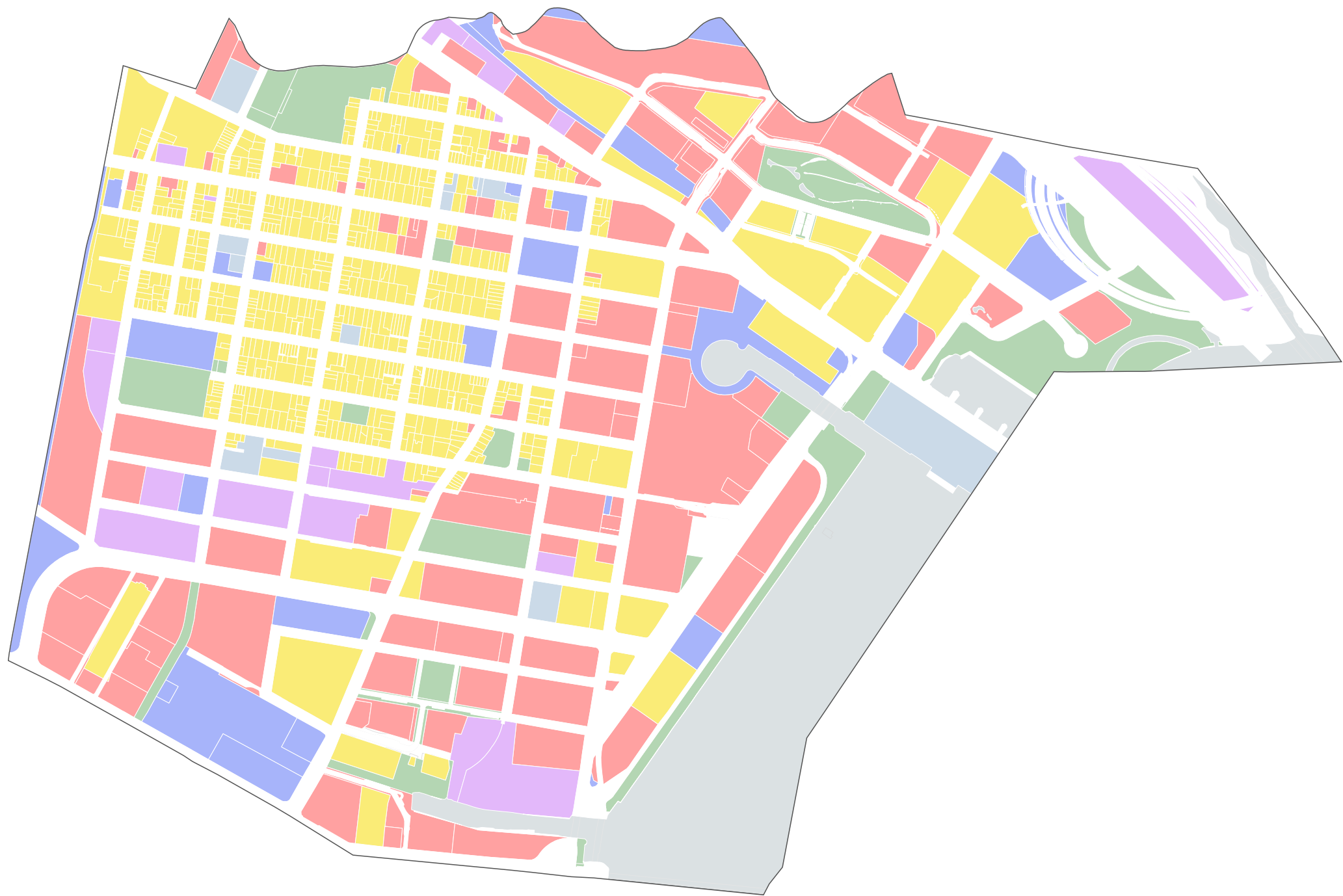
With some hard work,
we think we can achieve this!



EAST CAMBRIDGE CASE STUDY

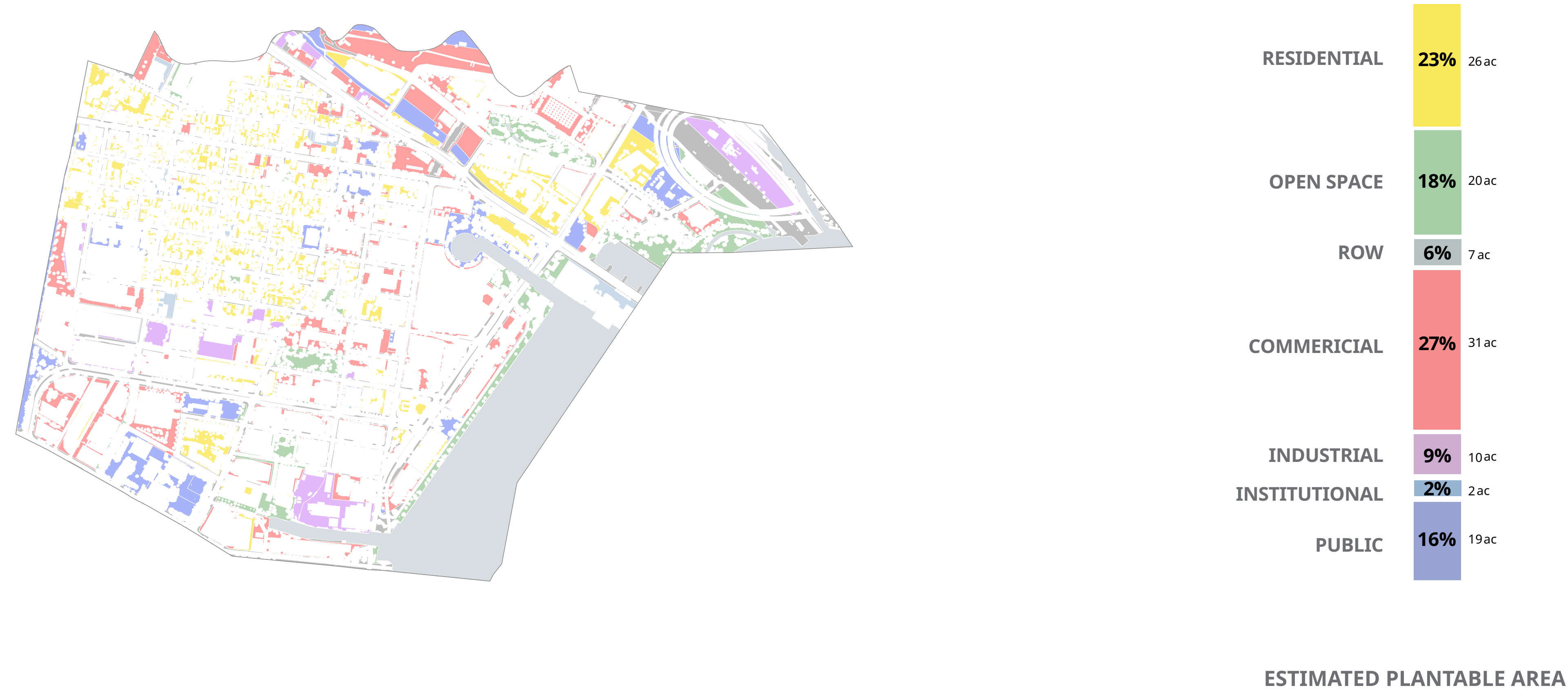
2024 LAND USE AREA East Cambridge

East Cambridge has an over representation of land use types that are more impervious and more difficult to plant.



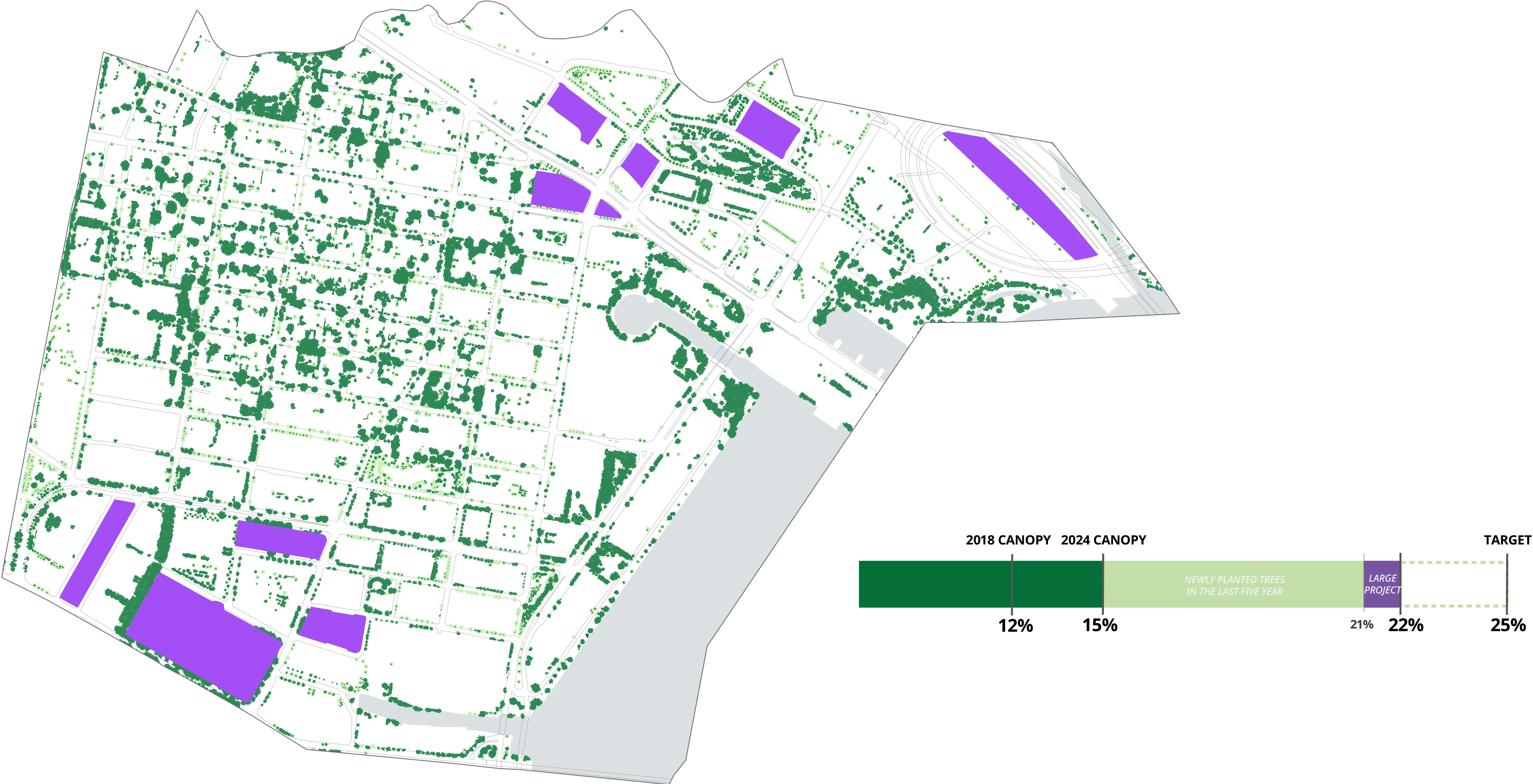
PLANTABLE AREA East Cambridge

Plantable area includes areas outside of buildings, rights-of-ways, and sports fields.

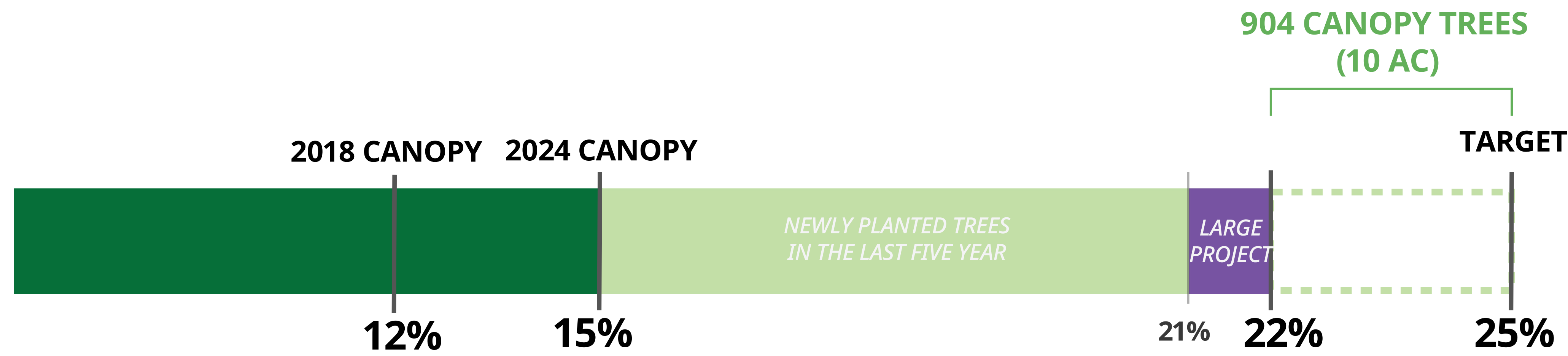


Canopy Projection in Maturity East Cambridge

Parcels undergoing Green Factor are assumed to average 30% canopy cover at maturity.



What East Cambridge Needs to Reach 25% Target

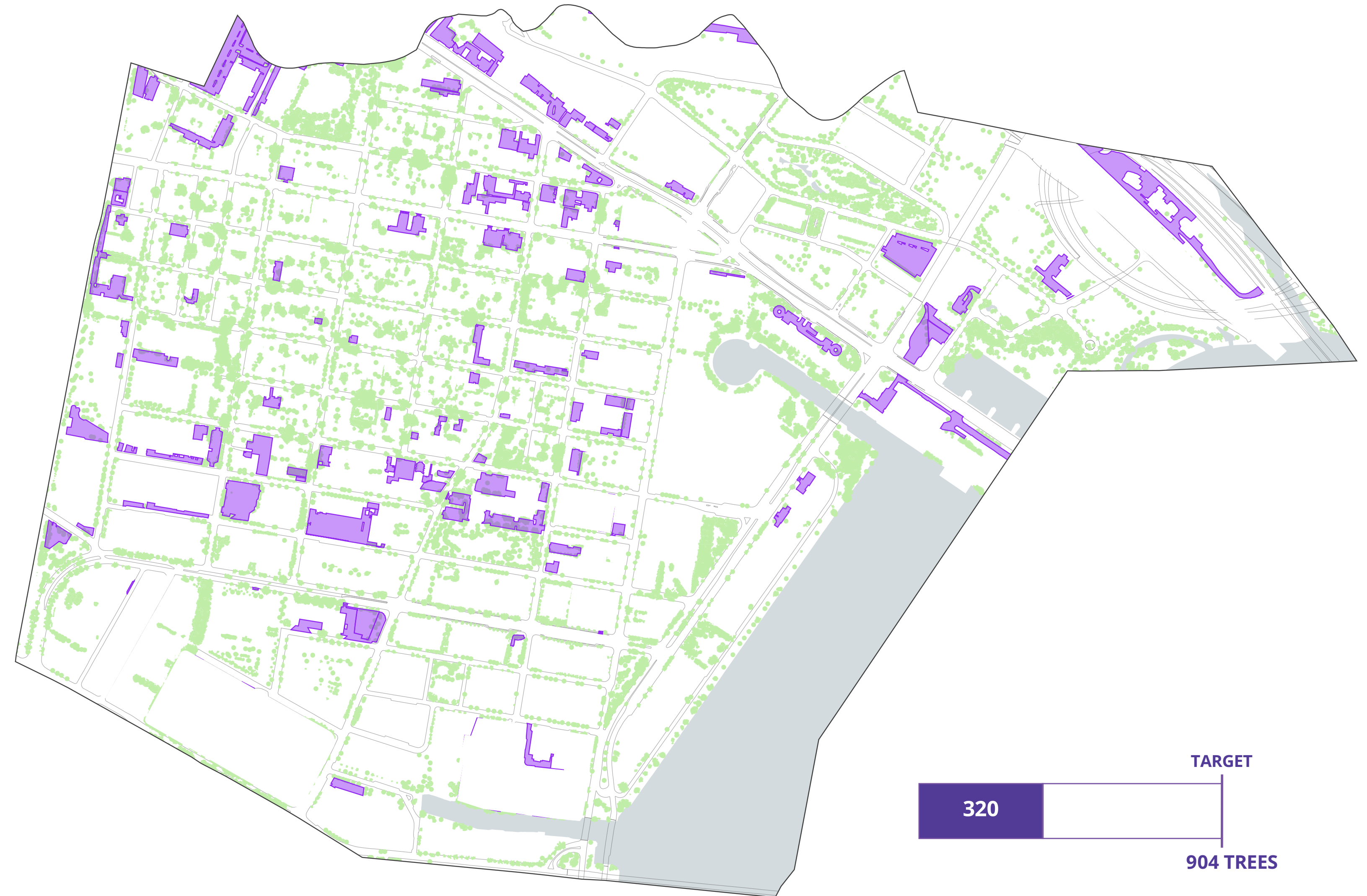


*Large projects assumed to have average Green Factor canopy cover at maturity (30%)

OPPORTUNITY 1 - PARKING LOTS

- Private parking lots (12% canopy cover) take up 20 acres in East Cambridge
- Targeting 30% canopy cover would add 320 trees (3.6 ac)

 CANOPY IN MATURITY
 PARKING LOT





GOOD EXAMPLES



OPPORTUNITY AREAS

OPPORTUNITY 2A - ROW

- **Selected Street (Cambridge St, Roger St, Binney St, First St) together has 23% canopy wihtin the land area.**
- **Targeting 30% canopy cover would add 117 trees (1.4 ac)**



GOOD EXAMPLES

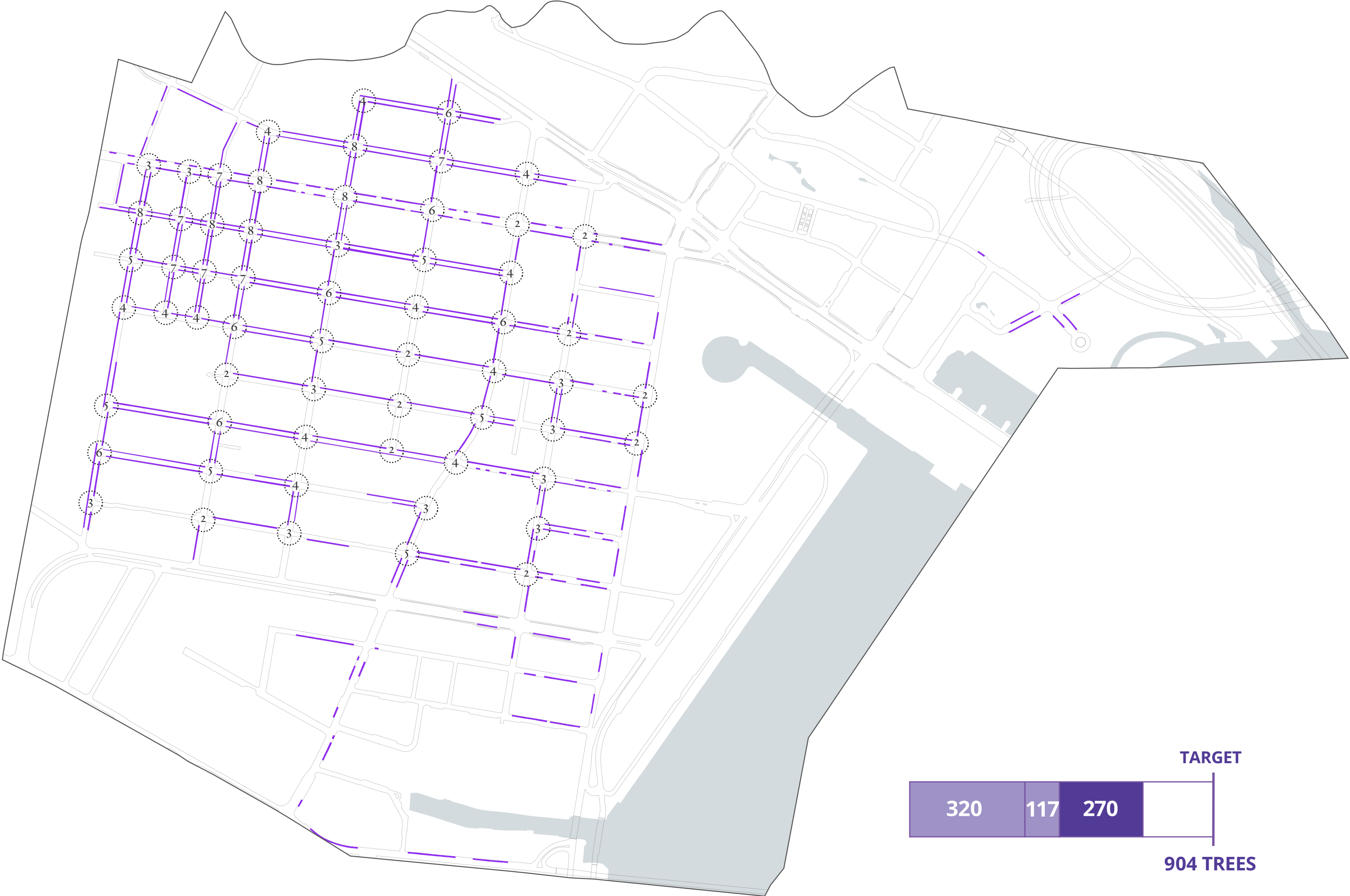


OPPORTUNITY AREAS

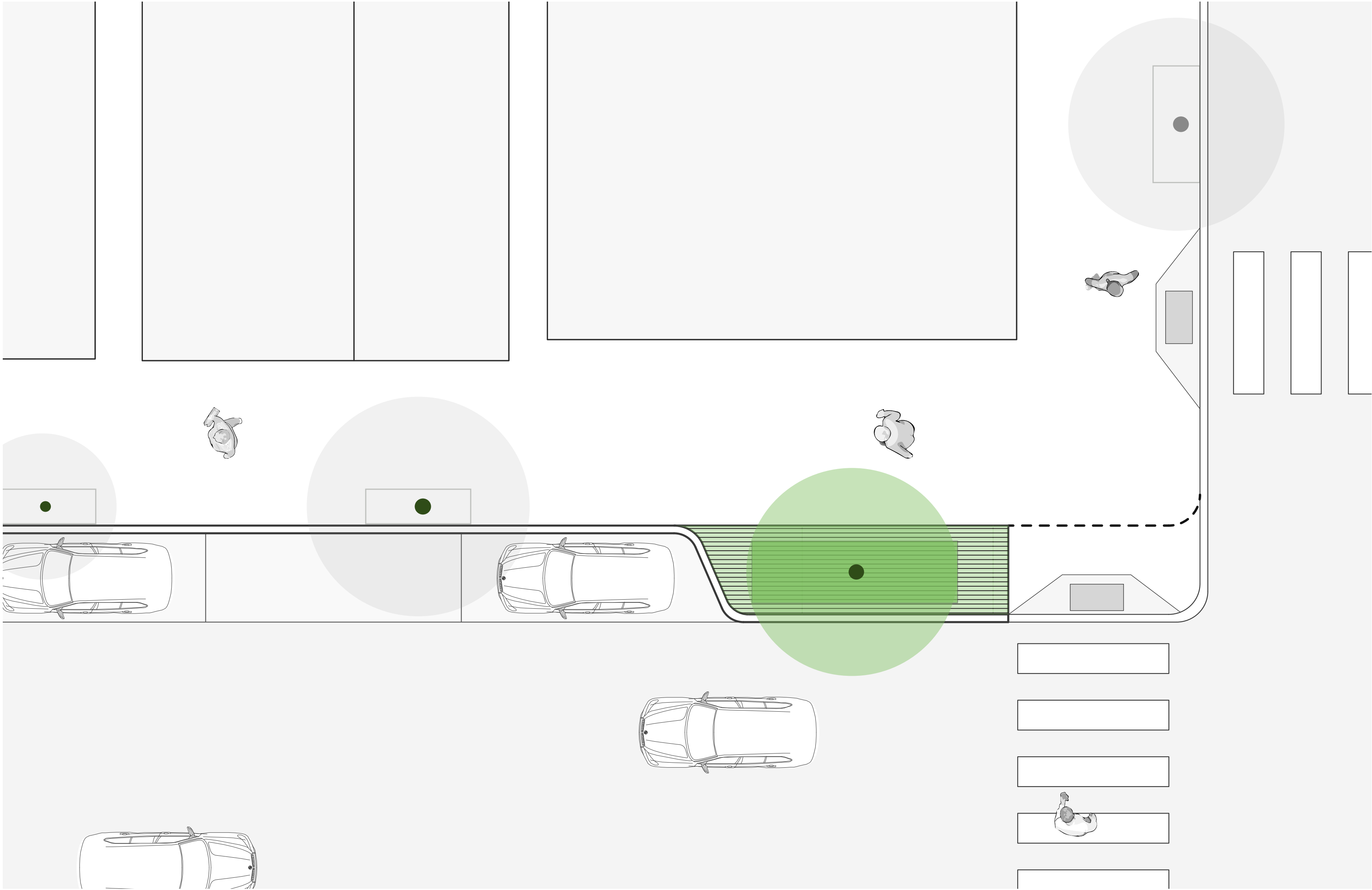


OPPORTUNITY 2B – INTERSECTION DESIGN

- Convert one on-street parking space per continuous parking lane at each intersection.
- In total, 270 trees (3 ac) could be added



OPPORTUNITY 2B - INTERSECTION DESIGN



OPPORTUNITY 3A – DCR LAND

- DCR land occupies 11 acres in East Cambridge (currently it has 43% canopy)
- Targeting 60% canopy cover (citywide average) would add 142 trees (1.6 ac)



**City average canopy % over DCR land is 55%*

OPPORTUNITY 3A - DCR LAND



OPPORTUNITY 3B – DCR LAND (EDWIN H. LAND BOULEVARD)

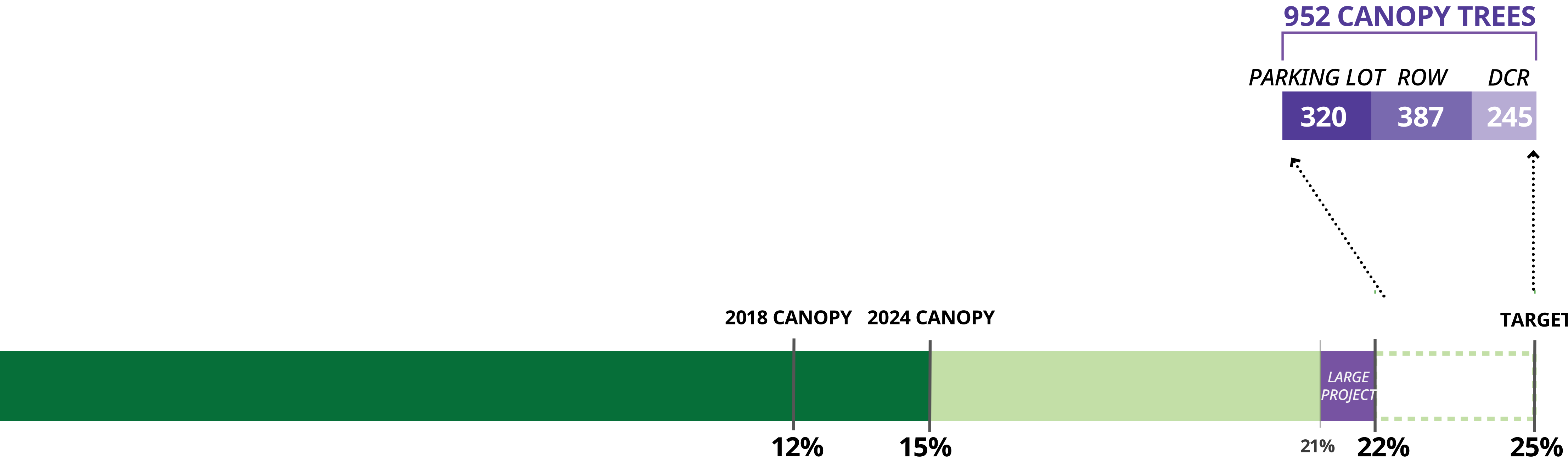
- Edwin H. Land Boulevard occupies 5 acres in East Cambridge (currently it has 17% canopy)
- Targeting 40% canopy cover for this portion of DCR land would add 103 trees (1.2 ac)



OPPORTUNITY 3B – DCR LAND (EDWIN H. LAND BOULEVARD)



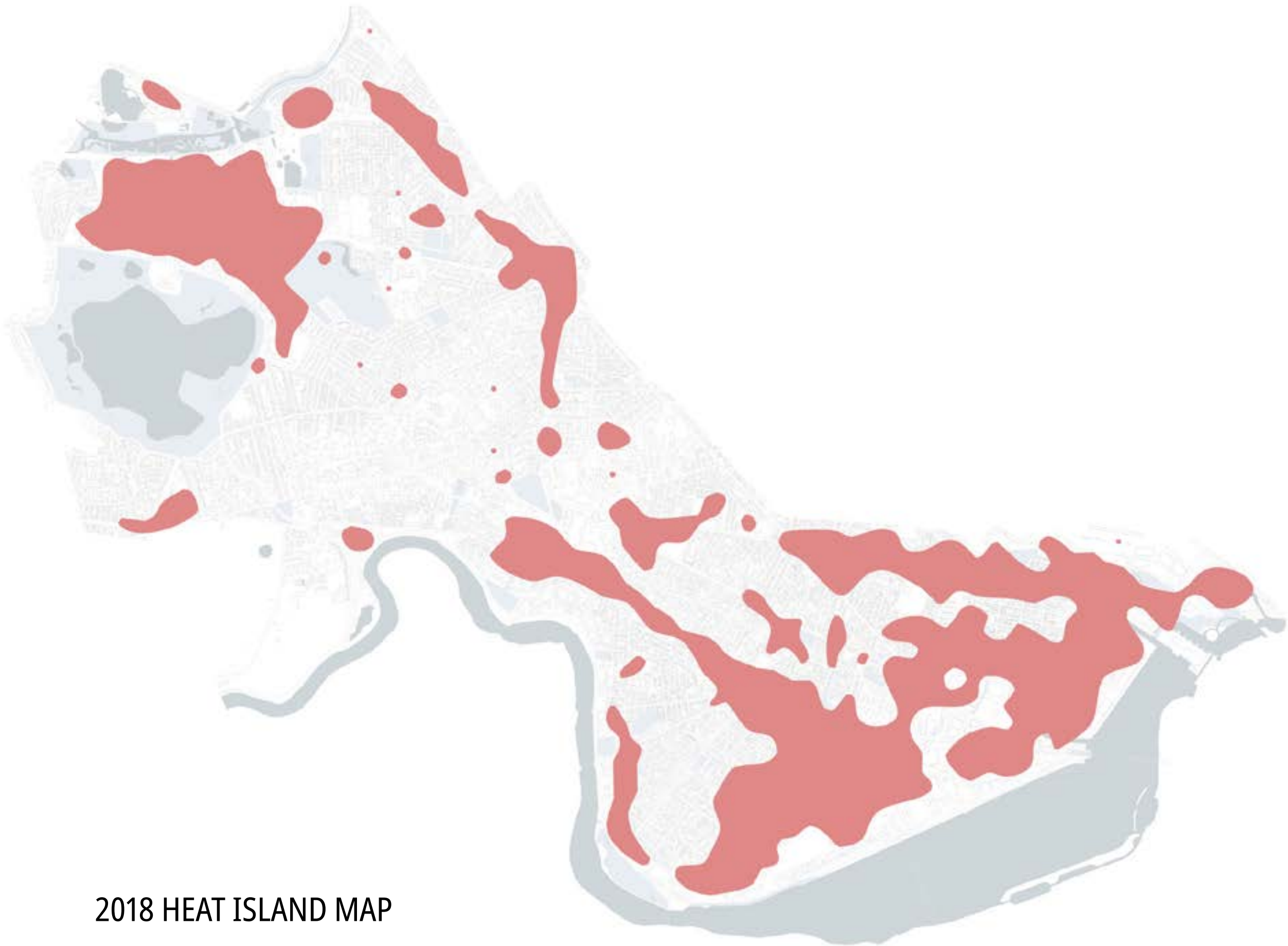
EAST CAMBRIDGE SUMMARY



PROPOSED TARGETS

2020 Resiliency target:
50% reduction in heat island hotspots

Recommendation:
Grow canopy X% (TBD) within priority areas OR
Aim for X% (TBD) canopy cover within priority areas



CANOPY COVER IN
HEAT HOTSPOTS



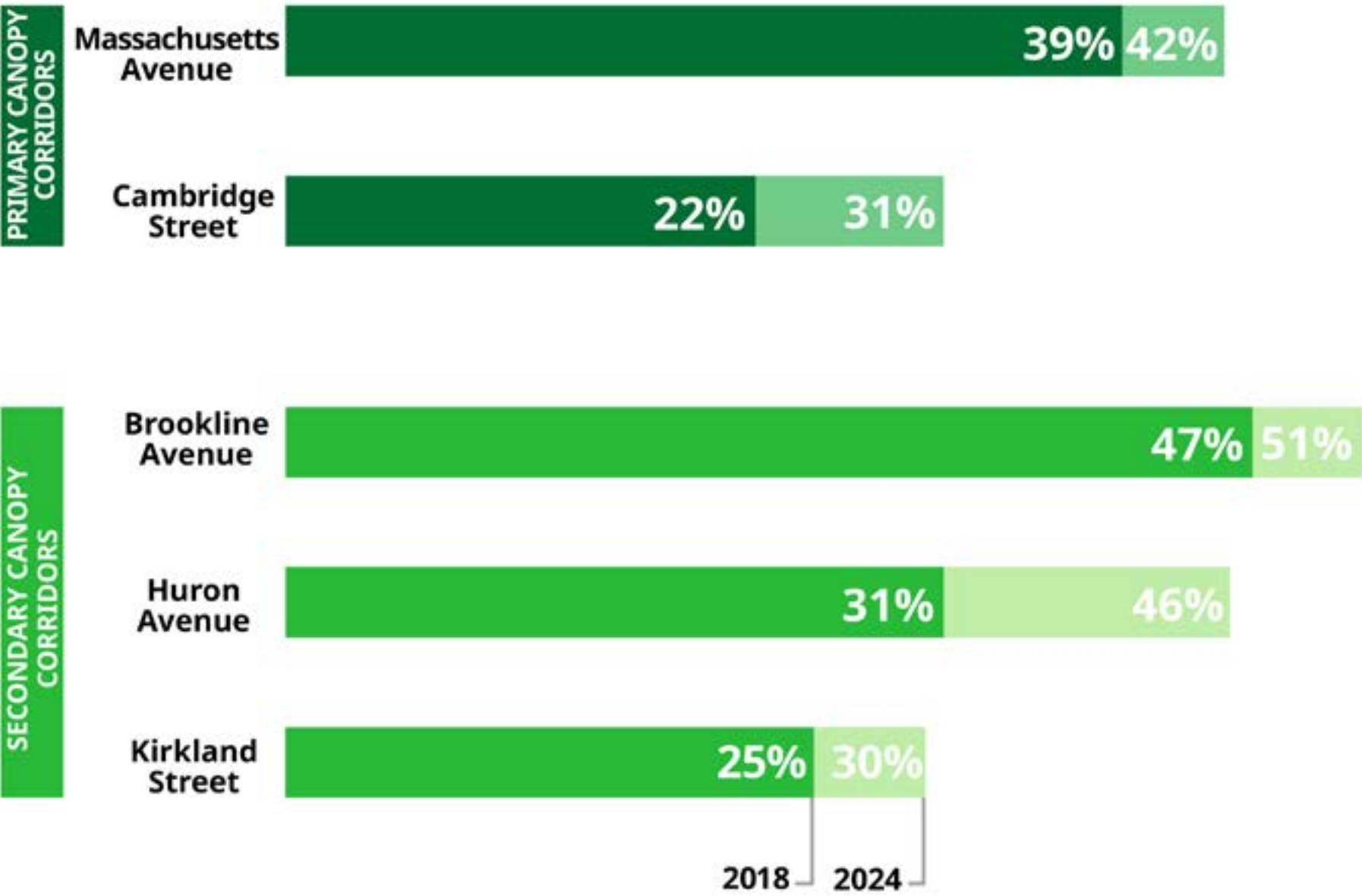
30%

2019 TARGET

2018 HEAT ISLAND MAP

PROPOSED TARGETS

2020 Resiliency target:
60% canopy cover over sidewalks



PROPOSED TARGETS

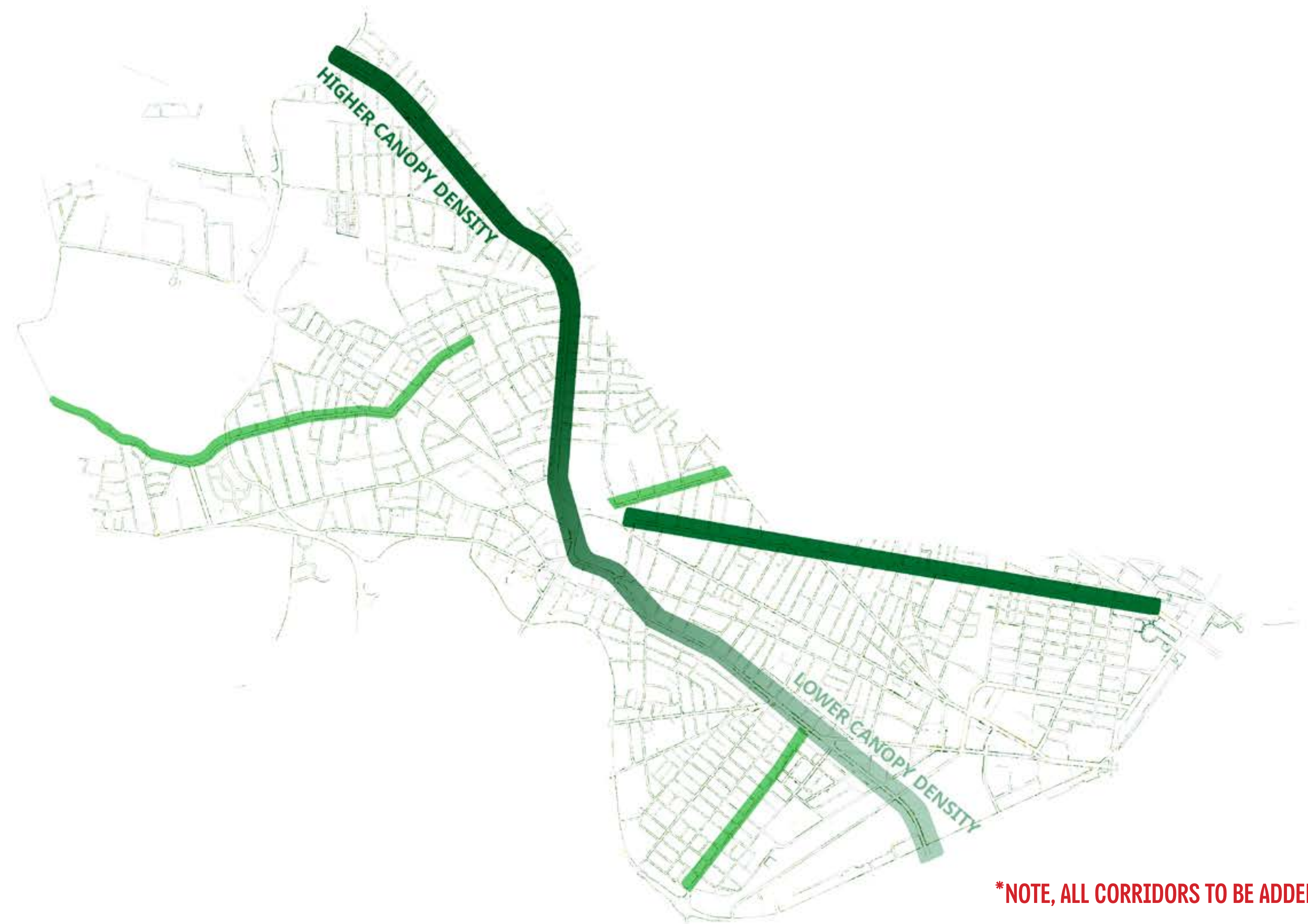
2020 Resiliency target:

60% canopy cover over sidewalks

Recommendation:

50% canopy cover over sidewalks for
primary corridors

55% canopy cover over sidewalks for
secondary corridors



***NOTE, ALL CORRIDORS TO BE ADDED
TO THIS GRAPHIC**

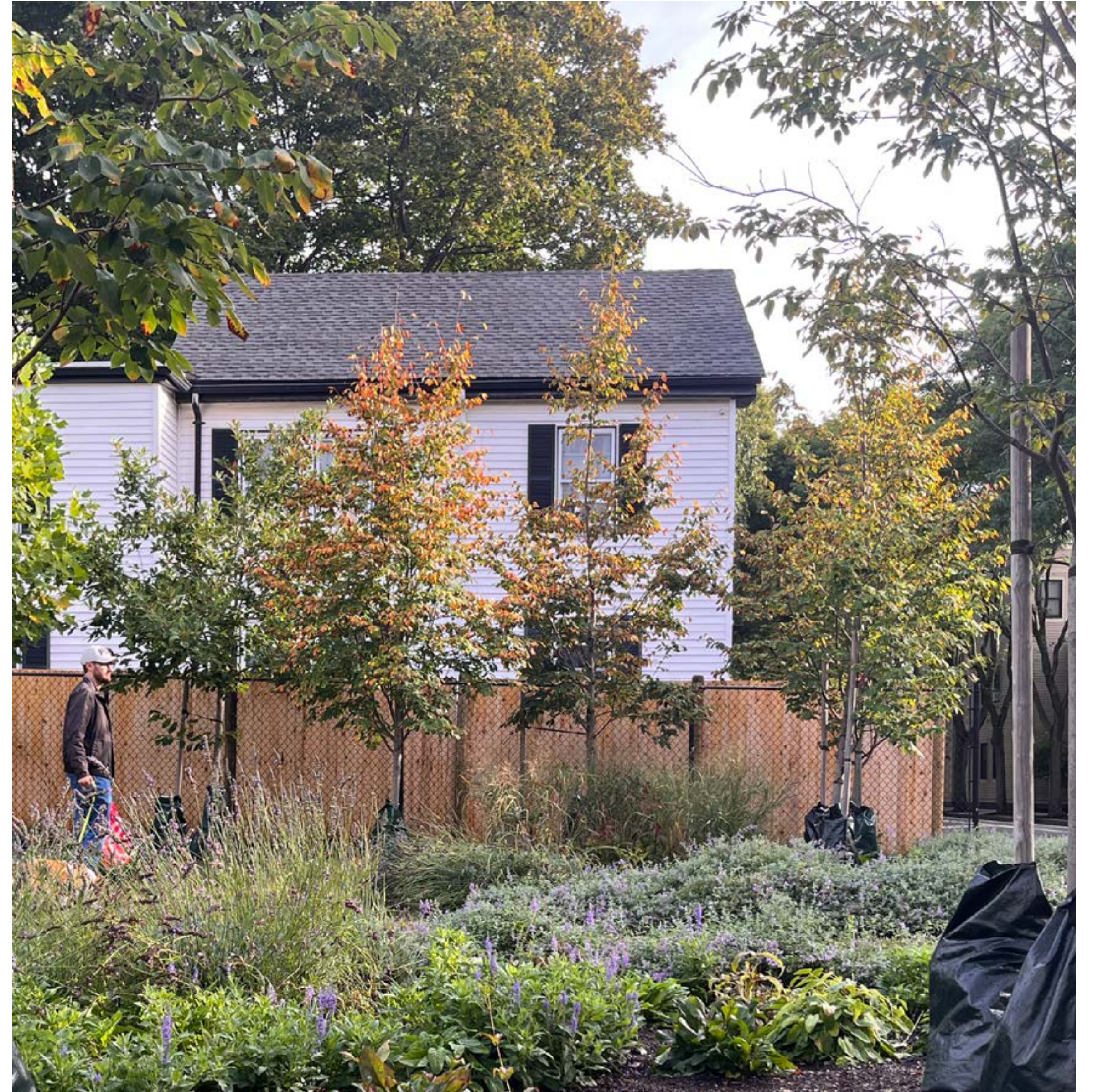
PROPOSED TARGETS

Resiliency target:

No more than 10% of a single species,
20% of a genus, and 30% of a family

Recommendation:

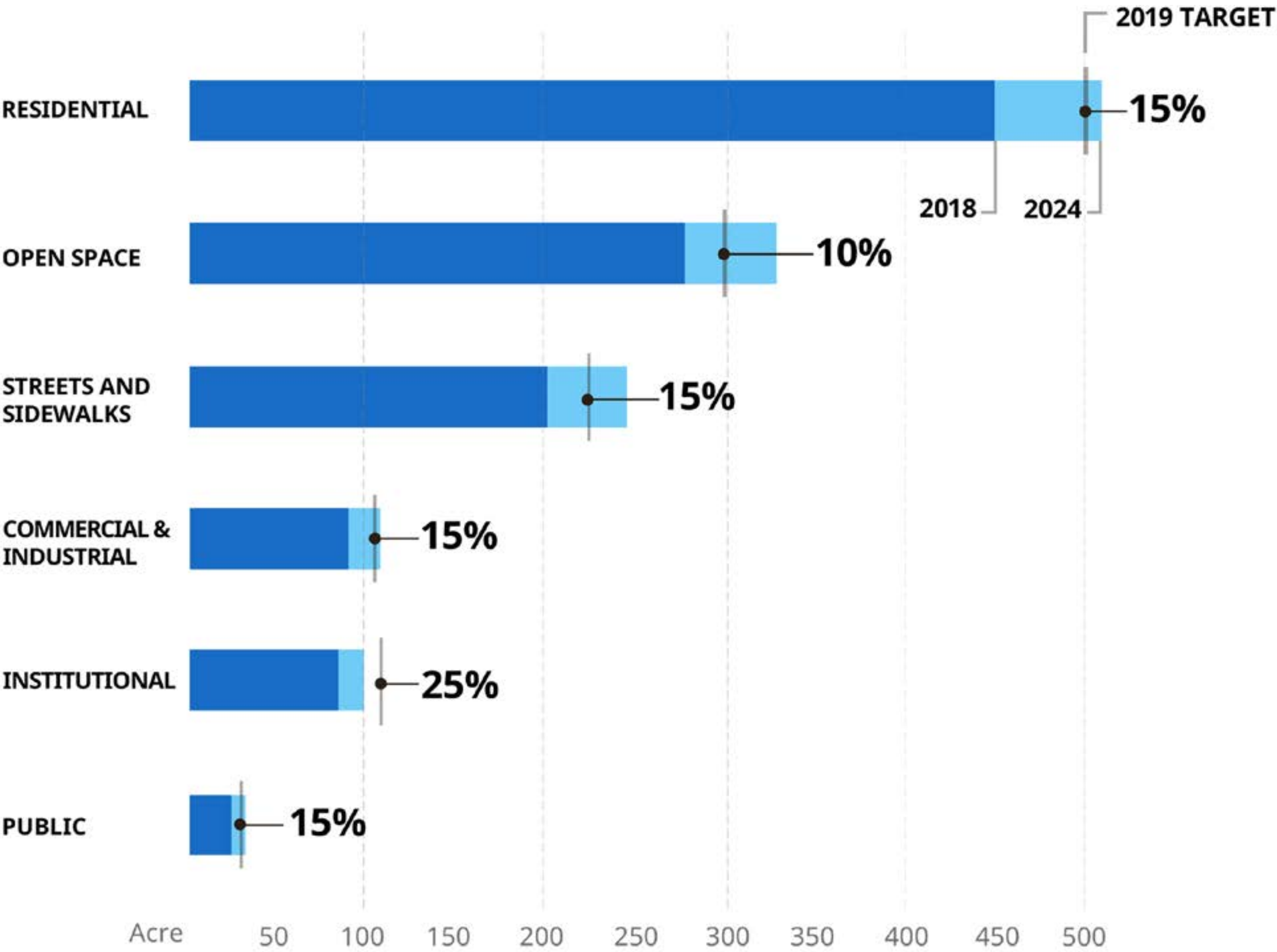
Keep



PROPOSED TARGETS

Shared Responsibility:
Increase canopy cover by 10 to 25% across
landowner types

Recommendation:
Set specific targets for public and
private entities



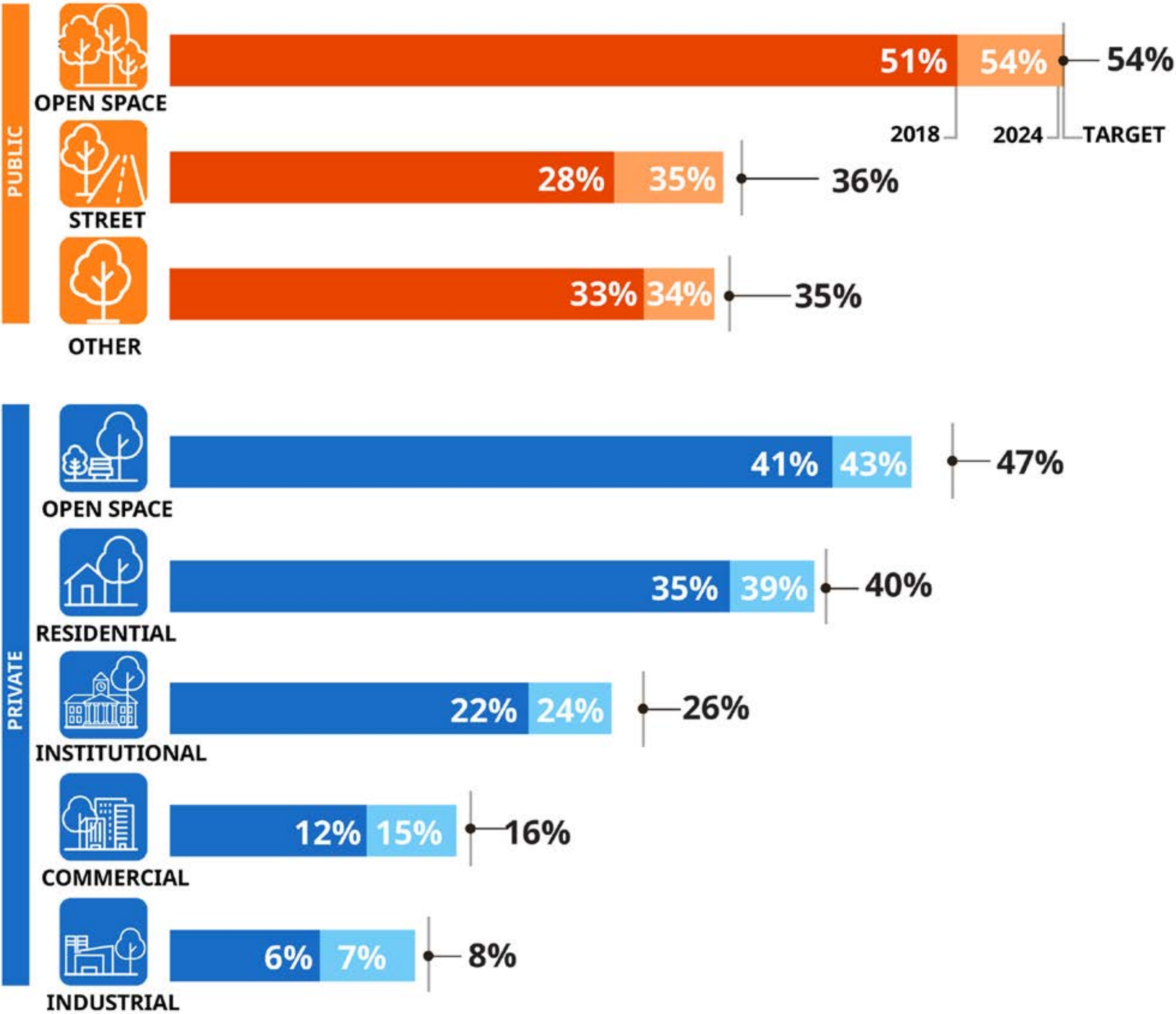
CUFMP TARGETS

Shared Responsibility:

Increase canopy cover by 10 to 25% across landowner types

Recommendation:

Set specific targets for public and private entities



PROPOSED TARGETS: PUBLIC TREES

New canopy tree planting spots
needed to reach goal:

Open space	15
Street Trees	550
Other Public	185
750 trees in total	
150 trees/yr for the next 5 yrs	

Number of trees the City must
plant to replace dead/dying trees:

~ 460* replacement trees

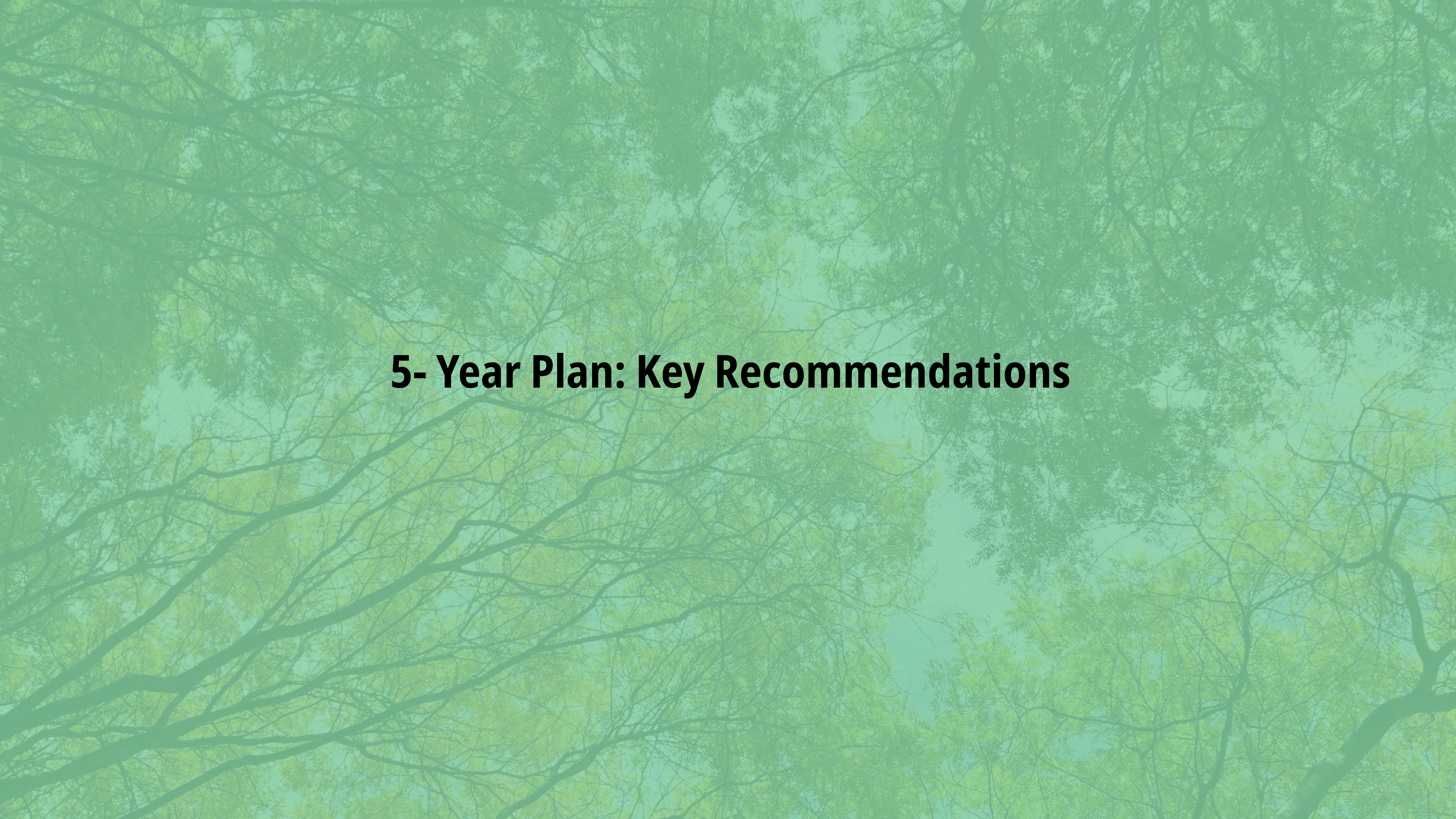
* Assuming 2% mortality rate based on the City tree mortality rate from the last 7 years.
This is similar to the average replacement rate in the last 6 years.
Does not include replacement trees by contractors

CUFMP TARGETS

**New PRIVATE tree planting spots
needed to reach goal:**

Open space	218
Institutional	842
Commercial	360
Industrial	26
Residential	890
2336 trees in total	
467 trees/yr for the next 5 yrs*	

*does not include replacement trees



5- Year Plan: Key Recommendations

RECOMMENDATIONS



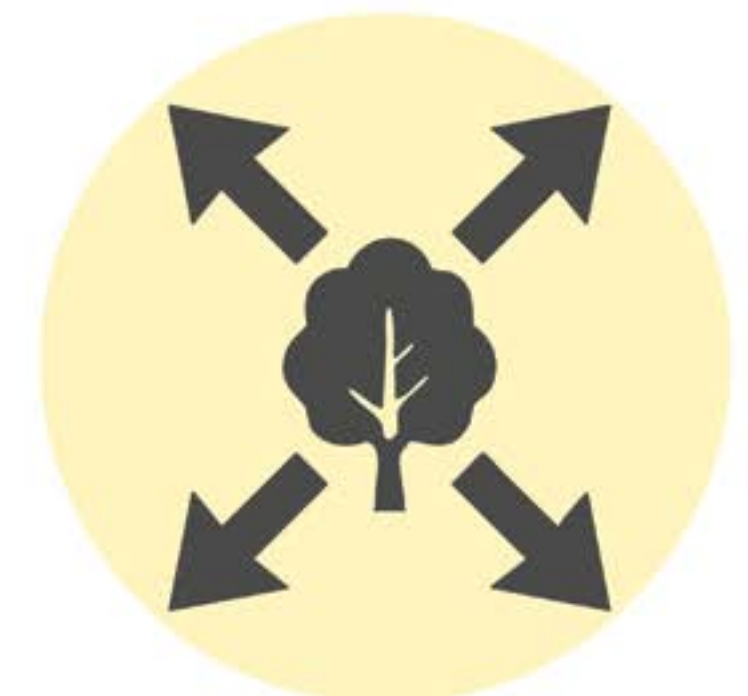
**FOCUS ON QUALITY
OVER QUANTITY**



**MANAGE MORE
STRATEGICALLY**



**SHARE RESPONSIBILITY
AND ALSO SHARE COST**



**BROADEN WHAT
RESILIENCY MEANS**

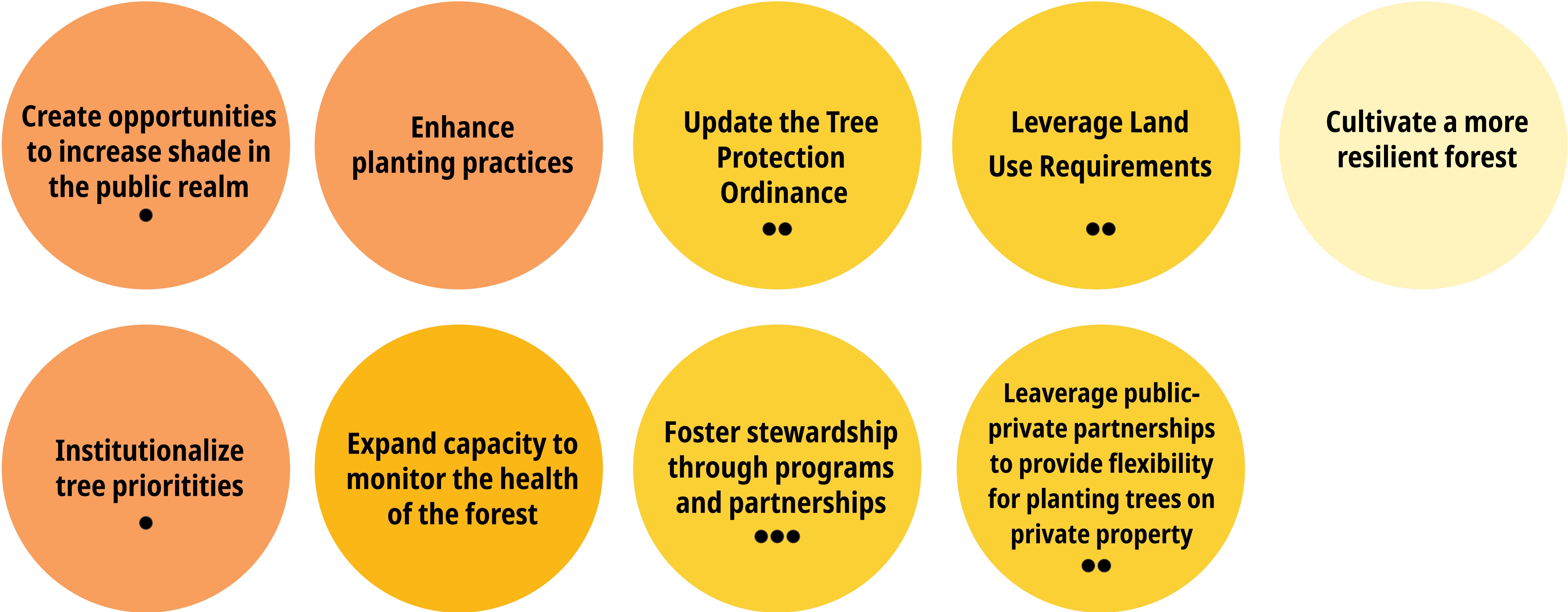
NEW AND REVISED STRATEGIES



RESPONSIBLE PARTIES

● DPW/CoC AGENCIES ●● CITY COUNCIL APPROVAL ●●● EXTERNAL PARTNERSHIPS

5 YEAR PLAN FOCUS



RESPONSIBLE PARTIES

● DPW/CoC AGENCIES

●● CITY COUNCIL APPROVAL

●●● EXTERNAL PARTNERSHIPS

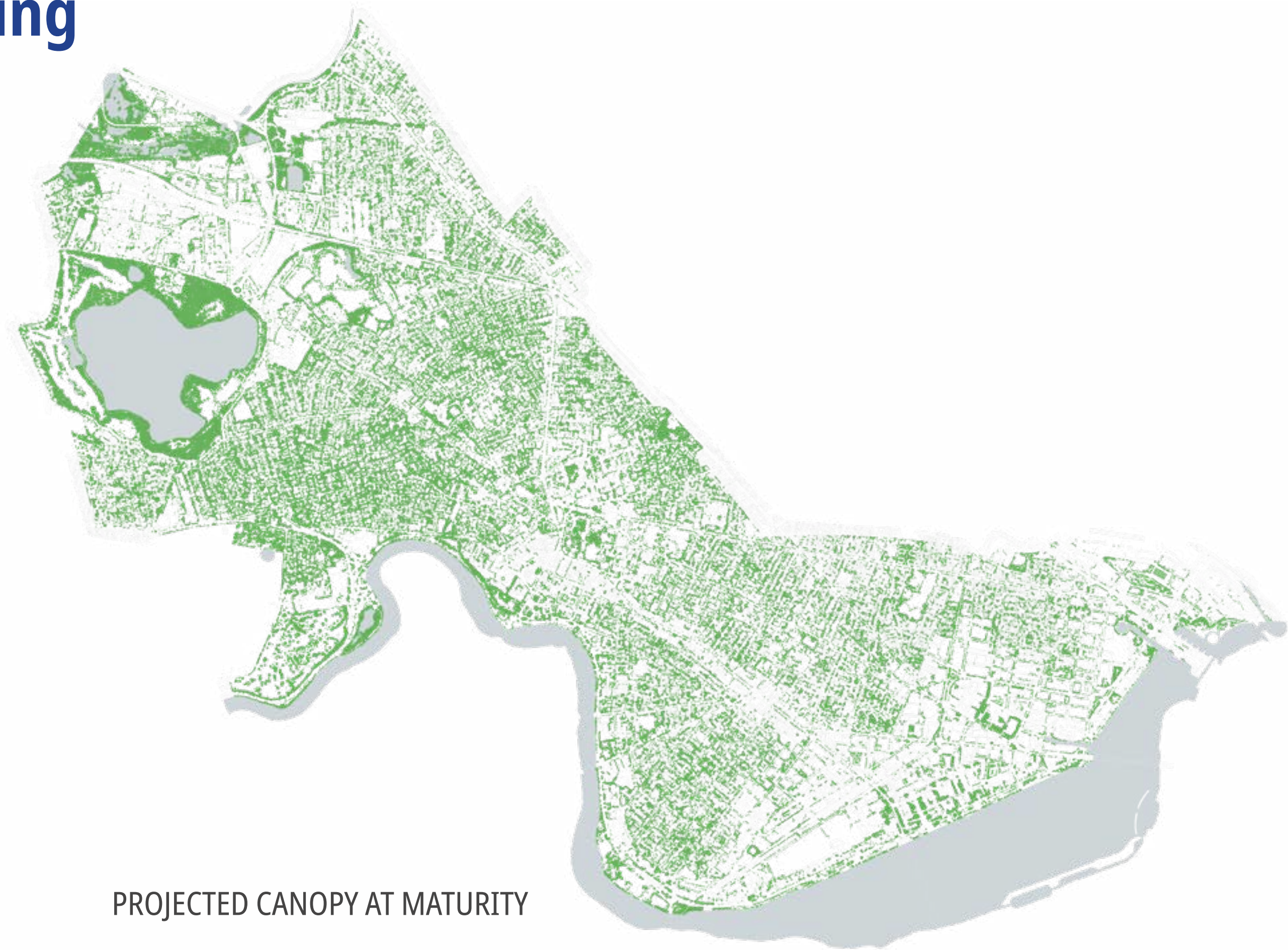
FOCUS ON QUALITY OVER QUANTITY



Implement enhanced planting details and care regimes, especially in the most challenging conditions, to create the best conditions for long-term growth and well-being

The City has met the goal of 30% canopy cover. The focus should be on ensuring the existing tree canopy thrives.

The City has increased tree planting numbers greatly in the last 5 years and new planting spots tend to be in more difficult to plant places. In those situations, more investment should be spent on each tree to ensure it thrives.



PROJECTED CANOPY AT MATURITY

FOCUS ON QUALITY OVER QUANTITY

Strategies



**Create opportunities
to increase shade in
the public realm**



**Enhance
planting practices**

**Institutionalize
tree prioritities**



**Formalize practices
for planting
and inspection**



RESPONSIBLE PARTIES

● DPW/CoC AGENCIES

FOCUS ON QUALITY OVER QUANTITY

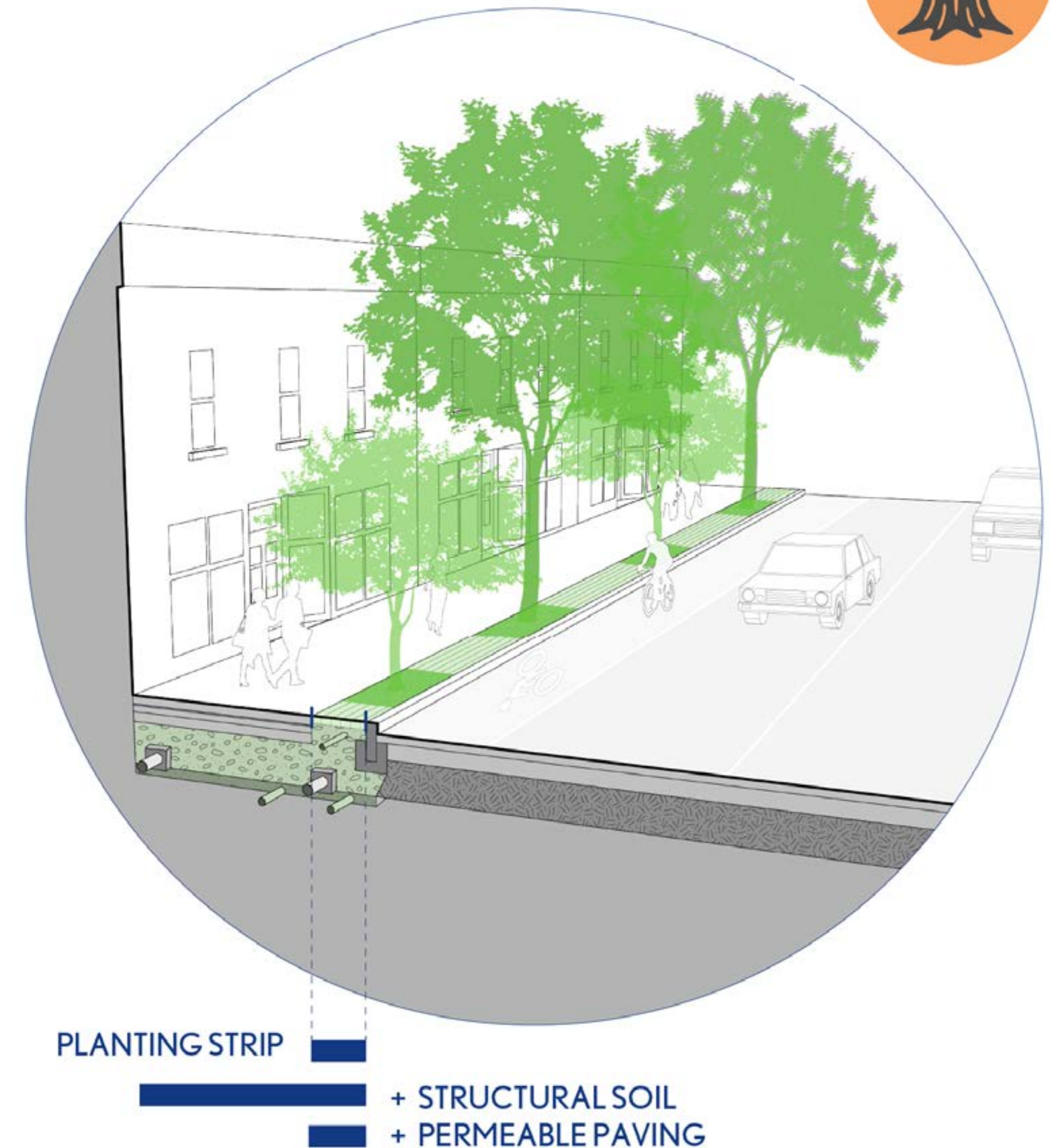
Strategies: Create Opportunities and Institutionalize Tree Priorities

Street reconstruction projects present the best opportunity to make new spaces for trees.

Actions:

- Incorporate Designing for Trees into Other City Department Processes and Standard
- Dedicate Funds for Trees during Street Reconstruction projects
- Redesign streets and sidewalks to create optimal conditions including expanded tree ways and reducing roadway width

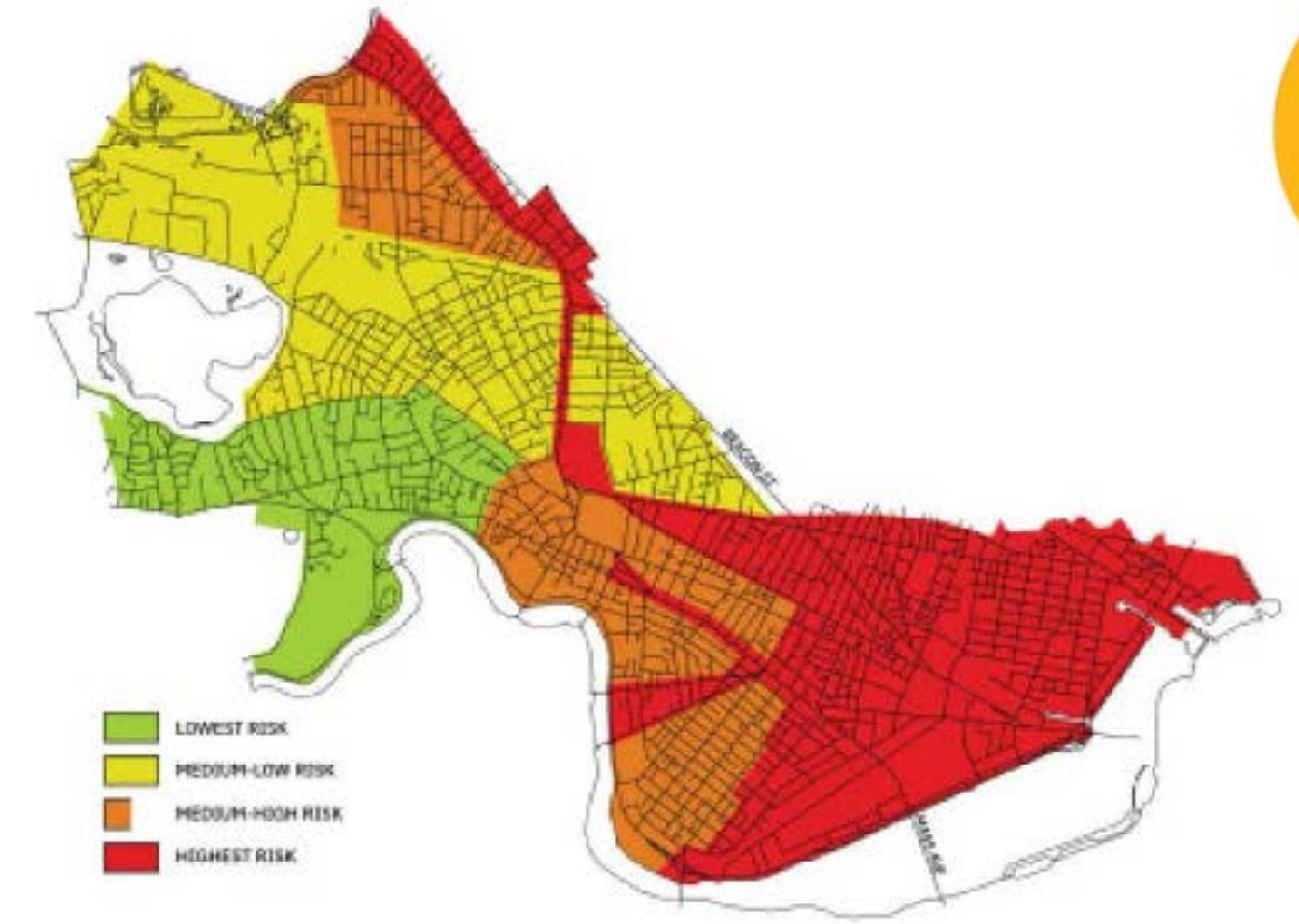
Q: How could CoPP serve as advocates for trees during street reconstruction?



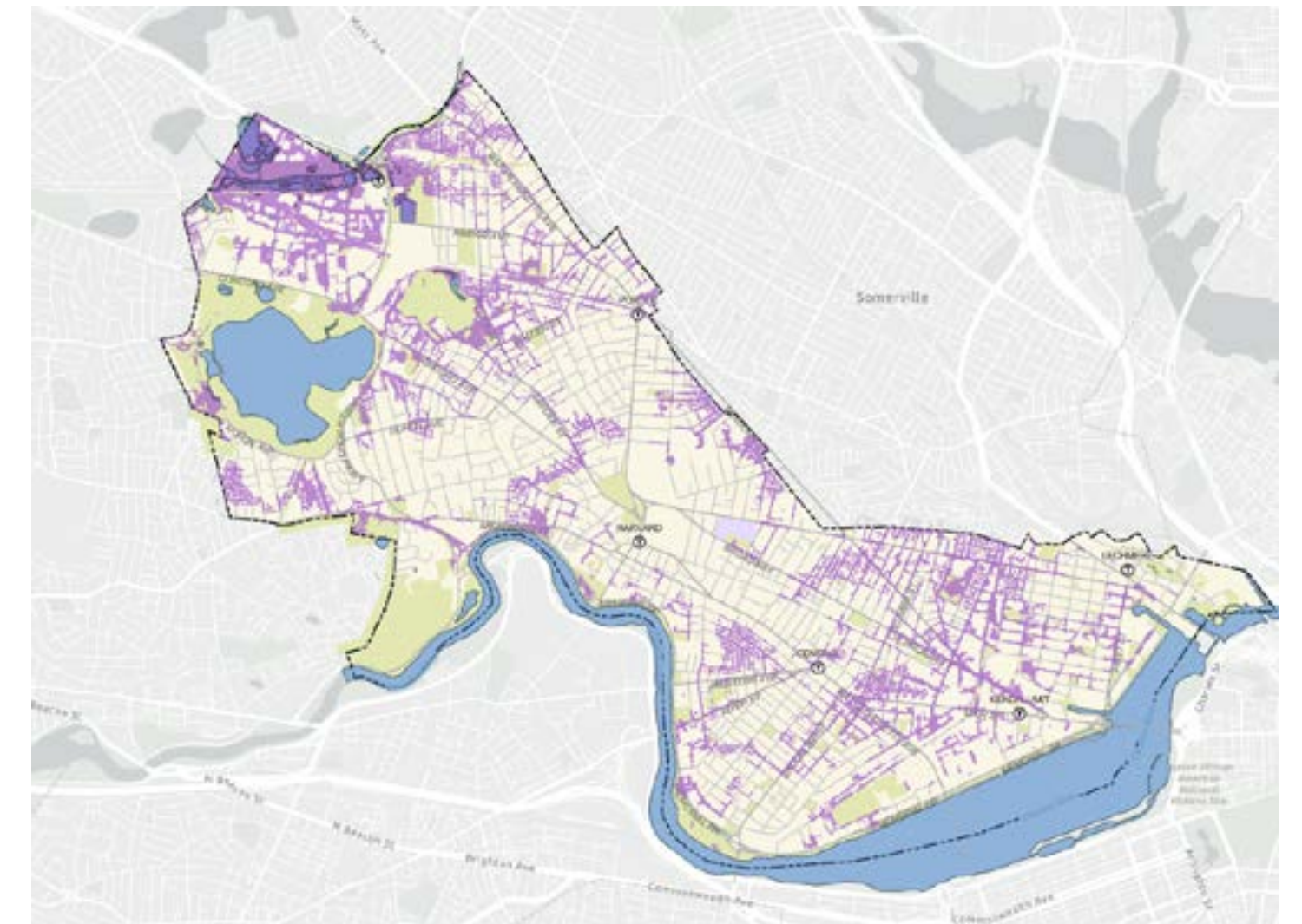
MANAGE MORE STRATEGICALLY

Organize and optimize management strategies based on site type, planting condition, and risk level as opposed to neighborhood.

The City can manage trees based on risk such as flooding, drought and less pervious surface, directing efforts to be both more effective and efficient.



SOILS MANAGEMENT ZONES



FLOOD RISK

MANAGE MORE STRATEGICALLY

Strategies



**Expand capacity to
monitor the health
of the forest**

**Use risk zones to
monitor and
manage trees**

**Inform planting
strategy with
ongoing tree
assessments**

SHARE RESPONSIBILITY AND ALSO SHARE COST



Deploy funding tools or cost sharing to incentivize new planting and retention of mature trees on private property.

To strive for a more equitable distribution of canopy, additional tree planting must occur on private property. In many cases, tree planting would likely not happen without financial incentives to those property owners.

Revise policies that optimize tree protection and in-kind replacement.

The highest rate of loss and lowest rate of growth occurred on residential property and private open space.



SHARE RESPONSIBILITY AND ALSO SHARE COSTS

Strategies



Update the Tree Protection Ordinance



Leverage Land Use Requirements



Leaverage public-private partnerships to provide flexibility for planting trees on private property



Foster stewardship through programs and partnerships



Increase City messaging on urban forestry efforts

Promote urban forestry education



RESPONSIBLE PARTIES

●●CITY COUNCIL APPROVAL

●●●EXTERNAL PARTNERSHIPS

SHARE RESPONSIBILITY AND ALSO SHARE COSTS

Strategies: Outreach Strategies

Actions:

- Build and enhance community partnerships (multi-agency partnerships)
- Build more capacity within the urban forestry department to lead community outreach and engagement
- Build visibility of existing programs
- Find other outreach opportunities in other City department programs
- Establish corporate partnership programs for tree care
- Enhance the role of the Committee on Public Planting

Q: How could CoPP bolster the Forest Friends program?



SHARE RESPONSIBILITY AND ALSO SHARE COSTS

Strategies: Outreach Strategies - Portland, Oregon Example



Neighborhood Tree Teams

Citizen-led and partner with Urban Forestry to:

- Plan and coordinate tree events (walks, workshops)
- Advocate for trees in neighborhood association meetings
- Organize plantings, giveaways, and tree care activities
- Connect residents and volunteers with Urban Forestry resources
- This structure helps empower neighborhoods to set their own tree goals and steward local canopy efforts.

Heritage Tree Volunteers

- Nominate new heritage trees (often in underserved areas)
- Monitor and update health measurements of landmark trees
- Engage the public in the cultural and historical importance of Portland's tree legacy
- This volunteer role blends ecological stewardship with community history and education.



SHARE RESPONSIBILITY AND ALSO SHARE COSTS

Research shows stewardship is one of the most important contributing factors to street tree success.



Goal	Application to Cambridge
------	--------------------------

reduce mortality rate for street trees	increase effectiveness of Forest Friends to provide active maintenance
--	--

reduce voluntary removals	conduct extensive outreach to provide knowledge on tree care
---------------------------	--

	provide advice about the right tree for specific circumstances
--	--

encourage new trees	publicize tree planting programs through neighborhood associations, community groups, and church newsletters
---------------------	--

	provide different types of trees — including those smaller in stature and
--	---

	ones requiring relatively low maintenance — to meet the varying needs of households
--	---

reduce cost for tree care/planting	increase visibility of Green Cambridge planting program
------------------------------------	---

	enhance public and private tree planting cooperatives
--	---

provide tools and knowledge	more knowledge sharing between volunteers
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SHARE RESPONSIBILITY AND ALSO SHARE COSTS

Strategies: Leverage Public-Private Partnerships to Provide Flexibility for Planting Trees on Private Property



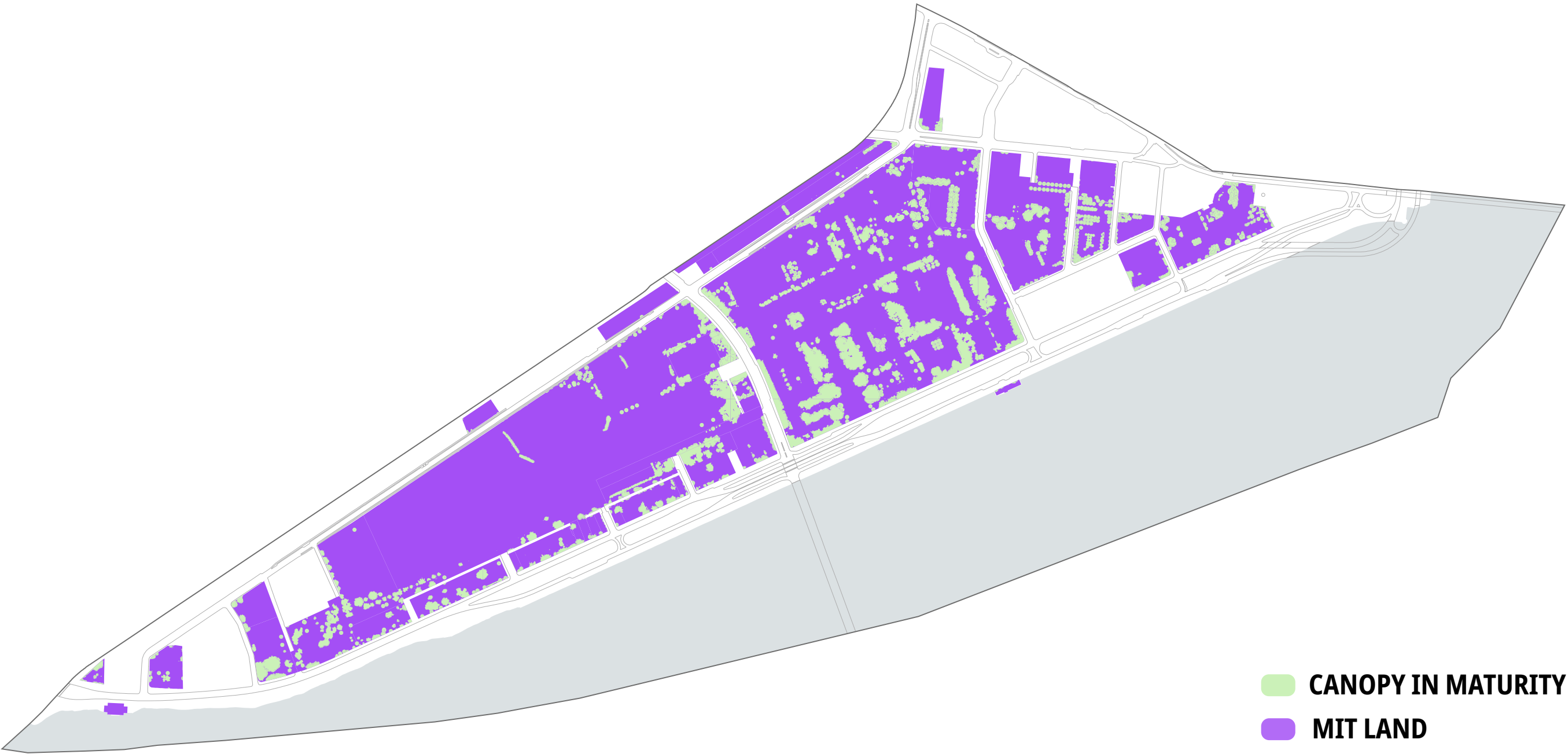
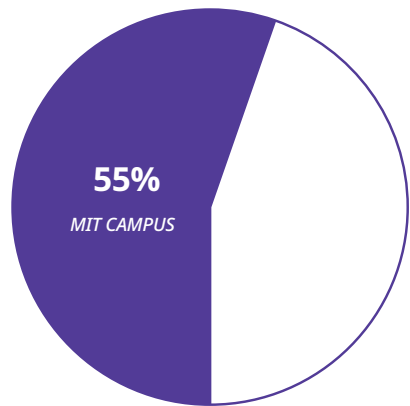
Actions:

- Partner with large institutions to set a minimum of 25% canopy cover target

OR

- Modify the TPO to allow banking of tree credits

- MIT campus occupies 131 acres @18% canopy cover
- Targeting 25% canopy cover would add 829 trees (9 ac)



Q: How would these options be perceived by the public?

BROADEN WHAT RESILIENCY MEANS

Go beyond species diversity by diversifying tree genetics.

The 2019 CUFMP focused on tree species diversity but there is more that can be done to be responsive to the impacts of climate change.

Distribute species strategically to minimize risk from climate pressures.

Plant appropriate species to increase resiliency of the forest to climate risk (drought, flood, pests) and to also diversify ecological function.



CAMBRIDGE CROSSING

BROADEN WHAT RESILIENCY MEANS

Strategies



**Cultivate a more
resilient forest**

**Enable climate
adaptation through
genetic diversity**



**Increase
City-wide
biodiversity**

**Promote
sustainable
practices**

RESPONSIBLE PARTIES

●●CITY COUNCIL APPROVAL

●●●EXTERNAL PARTNERSHIPS

BROADEN WHAT RESILIENCY MEANS

Strategies: Enable Climate Adaptation through Genetic Diversity



Current issue with nursery sourcing and benefits of local seed

- Most trees are genetic clones (monoculture)
- Lack of genetic diversity means the forest is more susceptible to threats like pests and diseases
- Unique physiological mechanisms that are more ecologically appropriate (bud/burst cycle, pollinator interactions, frost free periods)



BROADEN WHAT RESILIENCY MEANS

Strategies: Enable Climate Adaptation through Genetic Diversity



Potential actions

- Spread the word that “native is not always local”
- Amplify local nurseries that grow from seed (Nasami)

Potential projects

- Pilot a program and dedicate a space (retaining bed) to grow tree species by seed (acorns), which later could be transplanted



Trees From Seed

22K followers · 489 following

TFS contains information on locating, gathering, storing, and preparing tree seed for direct seeding.

■ Environmental Conservation Organization

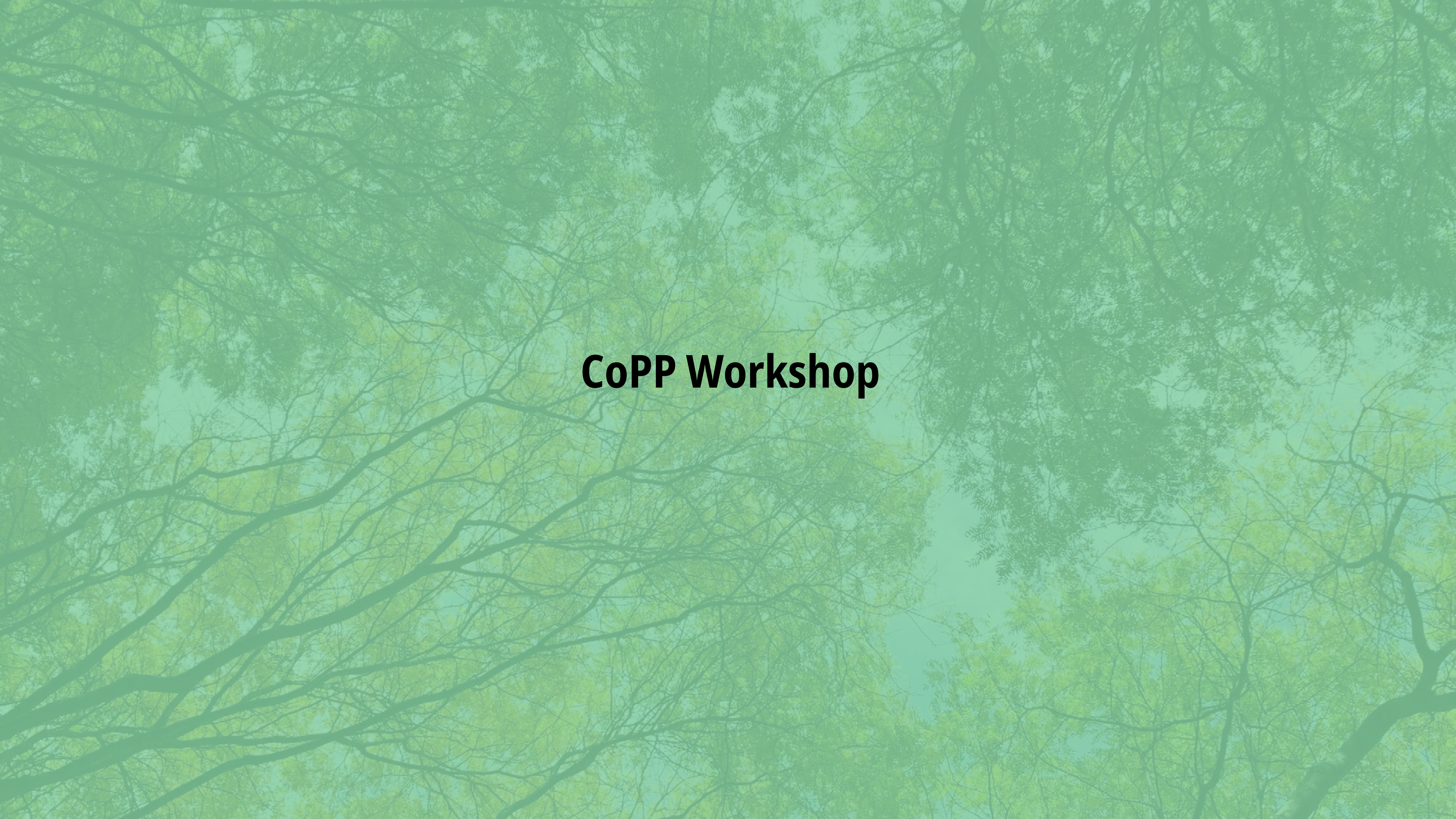
Message Follow Search

Native Plant Trust
Conserving and promoting
New England's native plants



**Q: How could CoPP
bolster the spread of this
information?**

**Q: Could CoPP pilot a “Trees
from Seed” program?**



CoPP Workshop

COPP POTENTIAL OUTREACH AREAS

Role: Forest Friends Ambassador

- Leader in Stewardship/Amplify Forest Friends
- Create and Lead Neighborhood Teams
 - Be a Forest Friends Liason to the City

Role: Tree Advocate

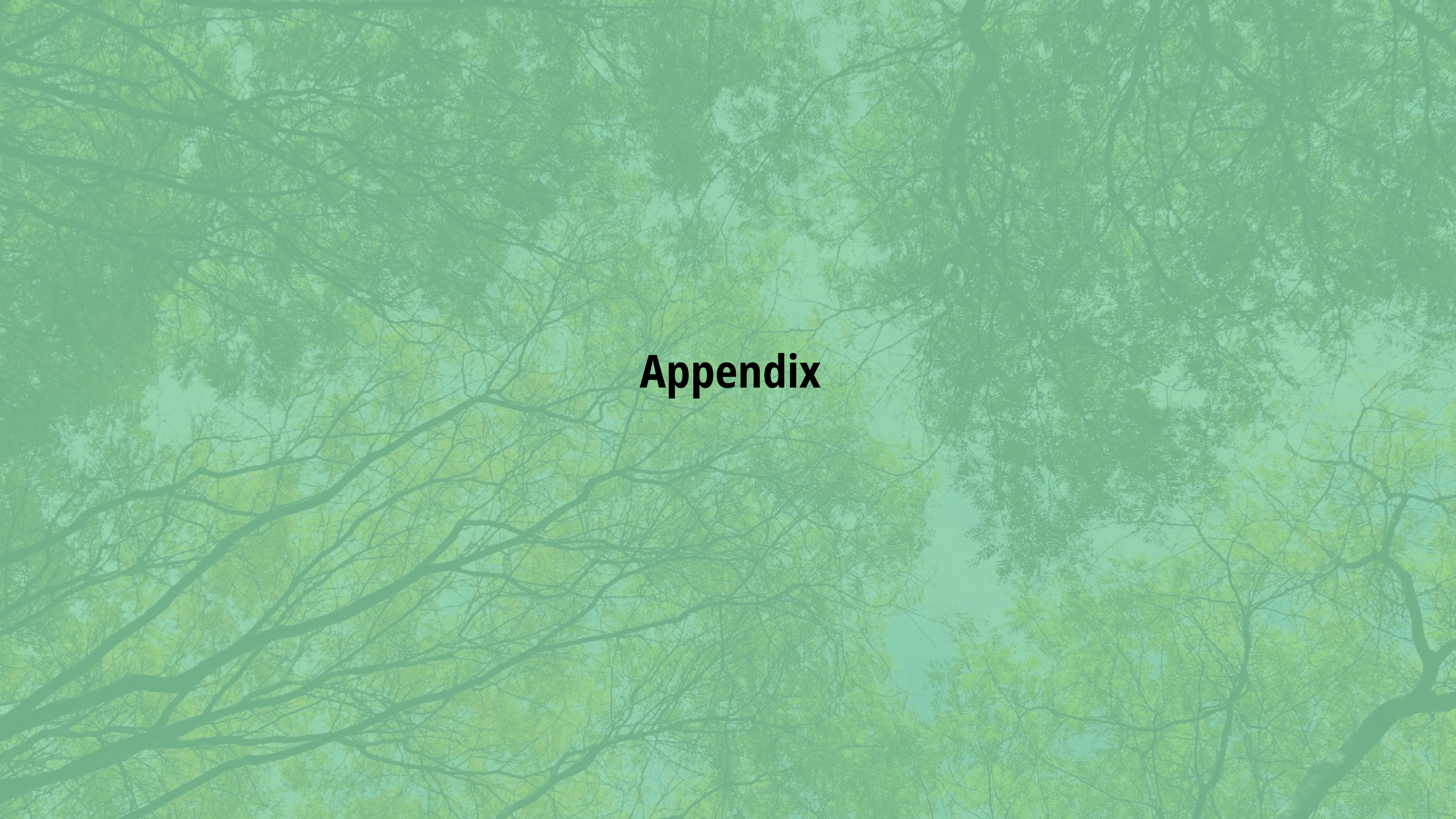
- Tree removals/Capital projects/Project Review
- Work with neighbors to speak up for trees at public meetings
- Lobbying
- Voice support for policy changes recommended in this plan (TPO, GF, Tree Trust)

Role: Communication Ambassador

- Planting on Private Property/ Partnerships
- Publicize Green Cambridge Free Tree Program
 - Reach out to parking lot owners
- Education
- Push out messaging about the importance of genetic diversity/local sourcing/native sources
 - Attend neighborhood block parties



Questions?



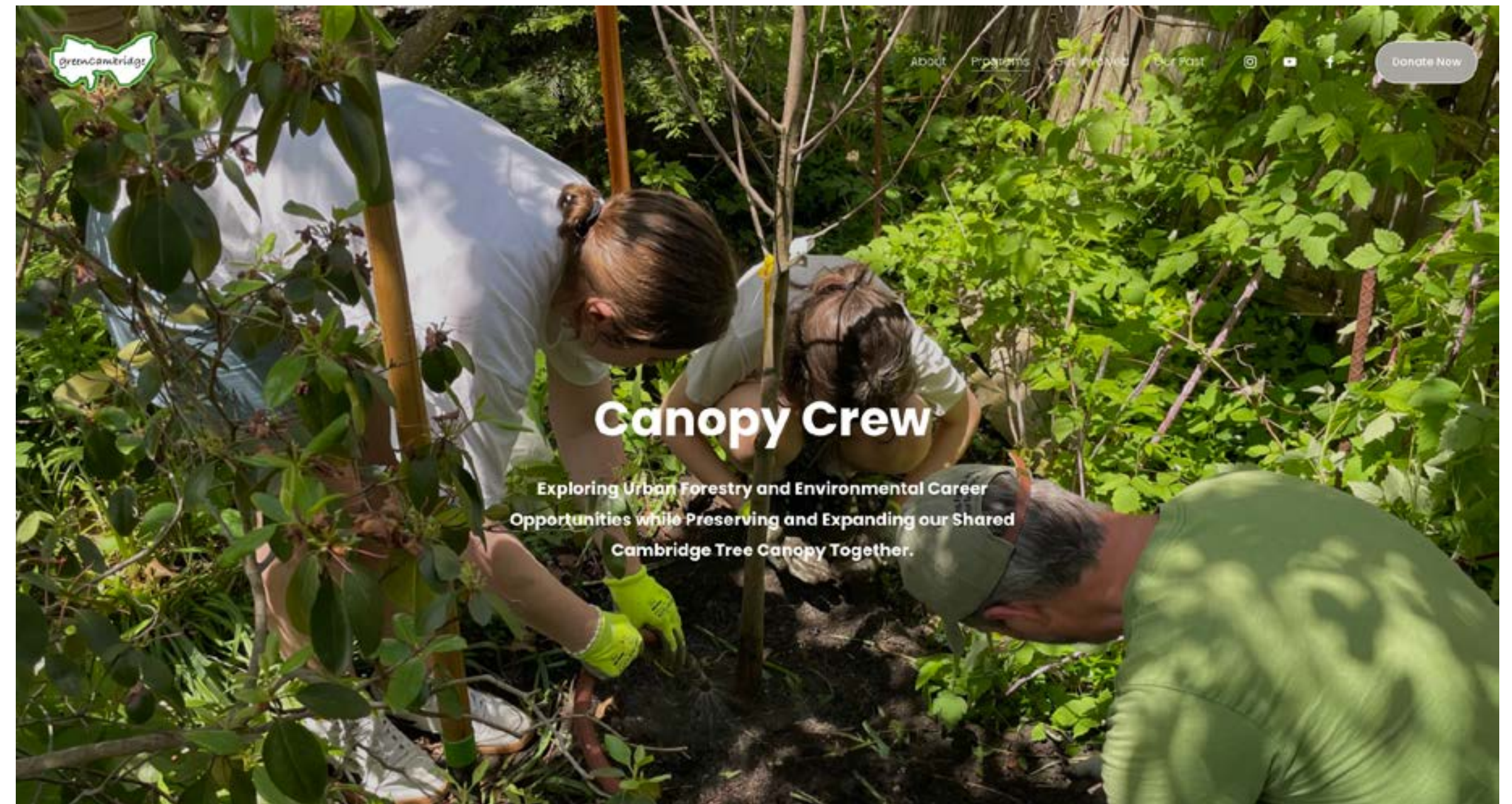
Appendix

SHARE RESPONSIBILITY AND ALSO SHARE COSTS

Strategies: Leverage Public-Private Partnerships to Provide Flexibility for Planting Trees on Private Property

Actions:

- Earmark Tree Fund Dollars for community grants that to fund tree planting on private property
- Establish a Tree Trust
- Partner with large institutions to set a minimum of 25% canopy cover target for institutions



GREEN CAMBRIDGE CANOPY CREW

MEASURING PROGRESS



1
Prepare and implement a
SOILS MANAGEMENT PLAN

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



2
GALVANIZE THE
COMMUNITY through
an outreach and
engagement plan

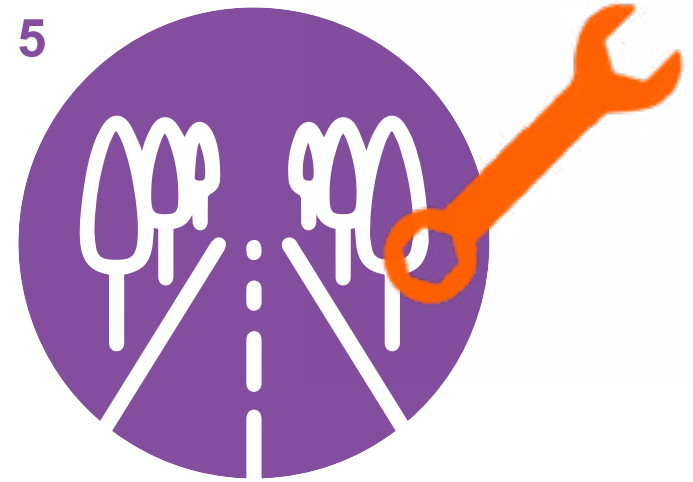
Publicize the BACK OF
SIDEWALK program



3
Update the
TREE PROTECTION
ORDINANCE



4
PLANT 1,000 STREET
TREES per year,
focusing on priority
areas and streets



5
MAKE SPACE FOR
MORE TREES by
prioritizing better
growing conditions
in street redesign



6
Maximize tree
planting in existing
PARKS, focusing on
canopy deficient
neighborhoods



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



MEETING/EXCEEDING
EXPECTATIONS



IMPROVING/
DEVELOPING



FALLING BEHIND

MEASURING PROGRESS



Prepare and implement a
SOILS MANAGEMENT PLAN

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



**GALVANIZE THE
COMMUNITY** through
an outreach and
engagement plan

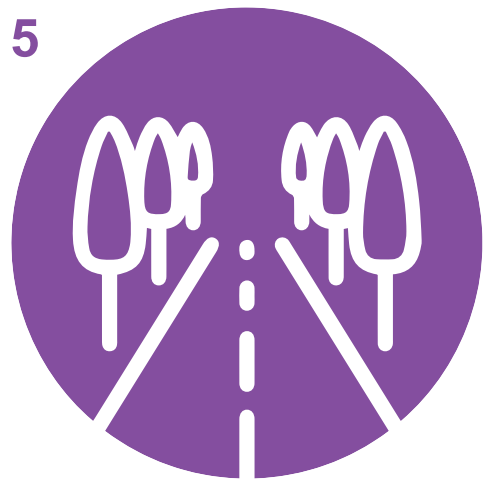
Publicize the **BACK OF
SIDEWALK** program



Update the
**TREE PROTECTION
ORDINANCE**



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



**MAKE SPACE FOR
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Maximize tree
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Establish a
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REFORM ZONING tools
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Leverage planning
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**INSTITUTIONALIZE TREE
PLANTING PRIORITIES**
in City Departments by
forming an interagency
resiliency group

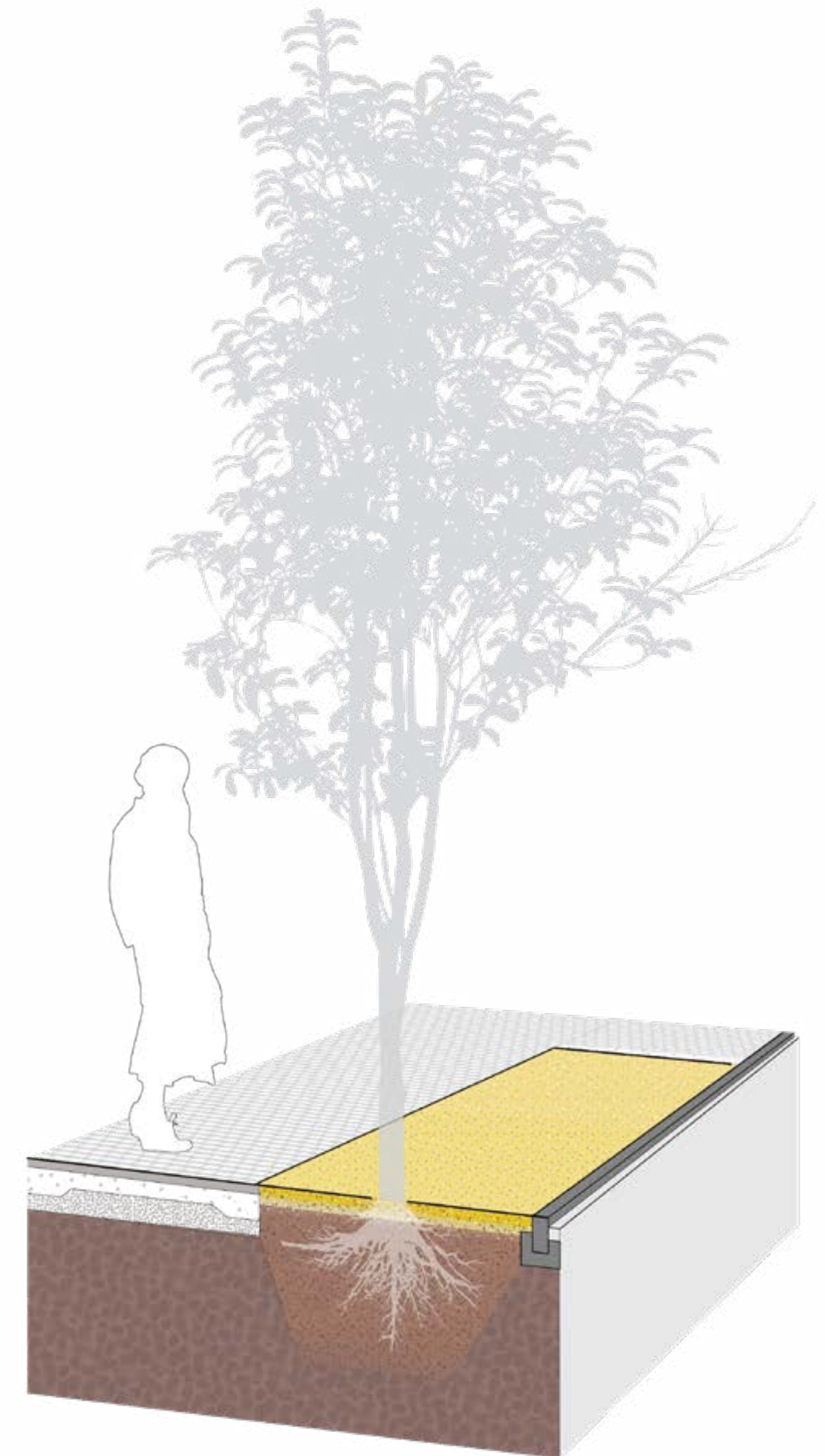
FOCUS ON QUALITY OVER QUANTITY

Strategies: Enhance Planting Practices to Maximize Success

In areas where it is difficult for trees to thrive, create more optimal conditions for newly planted trees.

Actions:

- Prioritize enhanced soils and planting details in defined priority areas
- Use tree guards to reduce compaction and increase stormwater absorption
- Implement a soils management program, prioritizing trees in high risk/high priority areas
- Increase frequency of structural pruning for young trees
- Expand watering program



MANAGE MORE STRATEGICALLY

Strategies: Expand Capacity to Monitor the Health of the Forest

Actions:

- Update City-wide tree condition assessment
- Integrate City programs to better monitor and manage trees
- Evaluate Gas Leaks and Impacts
- Develop a Proactive work plan for trees on public land

[illegible]

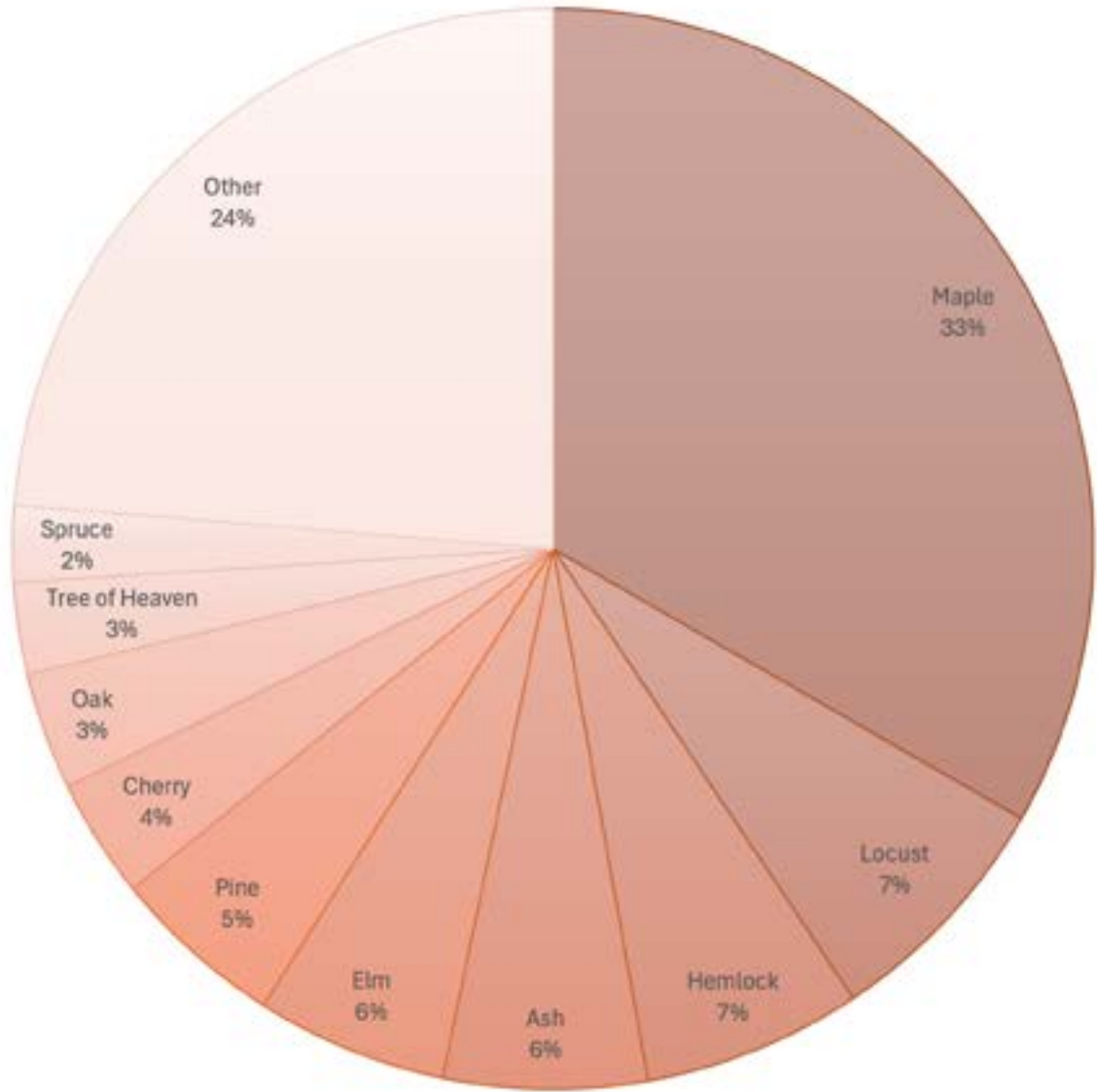
CITY OF CAMBRIDGE CARTEGRAPH DATABASE

SHARE RESPONSIBILITY AND ALSO SHARE COSTS

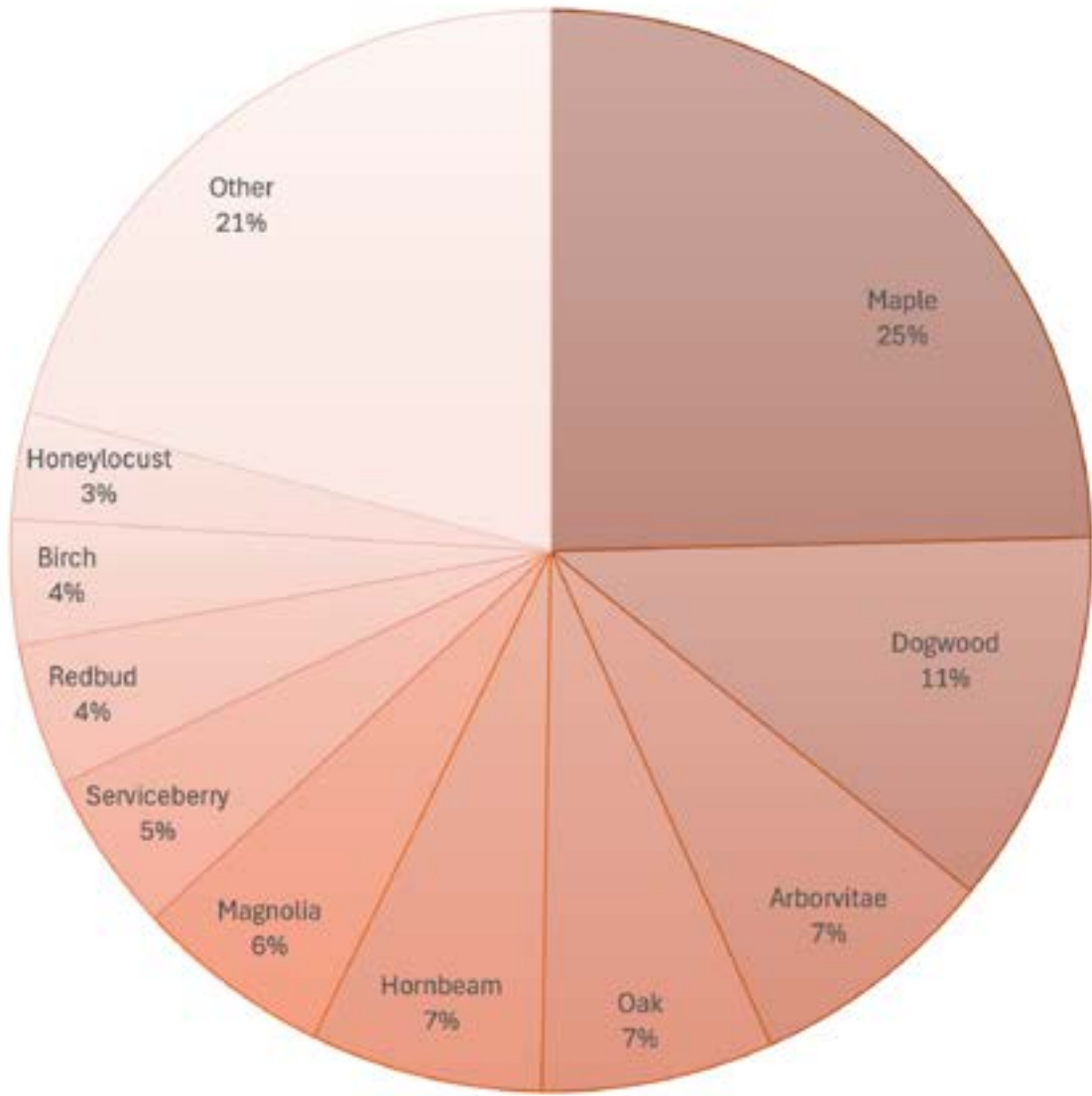
Strategies: Update the Tree Protection Ordinance

Actions:

- Provide alternative mitigation measures for removing hazardous trees and trees in naturally regenerating areas
- Require replacement trees that provide similar benefits to those removed
- Allow banking of tree credits for institutional land owners
- Require protection of critical root zones
- Strengthen and enforce violations
- Improve data collection for Tree Replacement Funds and Fines



MOST COMMON REMOVED SPECIES



MOST COMMON REPLACEMENT SPECIES

SHARE RESPONSIBILITY AND ALSO SHARE COSTS

Strategies: Leverage Land Use Requirements

Actions:

- Strengthen tree requirements in Green Factor

Rec 1: Incorporate the same species requirements as recommended for the TPO. (add hedges as a tree type, climate adaptability, minimum spacing requirements, etc)

Rec 2: Broaden the applicability of the Green Factor requirements by extending the definition of Green Building Project to include all projects requiring site plan review and additional types of projects such as 3 or more units of multifamily housing.

City of
Cambridge

Cool Score Sheet

3/1/2024

Project Address	Special Permit Number	Total Lot Area (SF)	
Sample	PB-XXX	5,214	
Applicant Name	Phone Number	Open Space Requirement (%)	Enter minimum required open space ratio. If the ratio is less than 20%, enter 20 here.
Sample	000-000-0000	40%	
Applicant Contact / Address	Email Address	Zoning District	
Sample	sample@sample.com	Residence B	
Project Description		Result	
Sample run to demonstrate how the form works.		Pass	

	Outside 20' of Street	Value Factor		Within 20' of Street	Value Factor	Contributing Area		
Trees Enter the number of trees in each category. Count each tree only once on this form.	Preserved Existing Trees							
	A1	Understory tree currently <10' canopy spread	0	0.80	+	0	1.60	-
	A2	Understory tree currently >10' canopy spread	0	1.00	+	2	2.00	600
	3	Canopy tree currently <15' canopy spread	2	0.80	+	0	1.60	1,120
	4	Canopy tree currently between 15' and 25' canopy spread	1	1.00	+	0	2.00	700
	5	Canopy tree currently >25' canopy spread	0	1.20	+	0	2.40	-
	New or Transplanted Trees							
	6	Understory tree	1	0.60	+	3	1.20	630
	7	Canopy tree	0	0.70	+	0	1.40	-
	Planting Areas Enter area in square feet of each component in the box provided	B1	Lawn Area	1,182	0.30	+	227	0.60
B2		Low Planting Area	0	0.40	+	525	0.80	420
B3		High Planting Area	737	0.50	+	124	1.00	493
Green Roofs & Facades For definitions, see reference document.	C1	Green Façade	150	0.10	+	0	0.20	15
	C2	Living Wall	0	0.30	+	0	0.60	-
	C3	Green Roof Area	0	0.30	+	56	0.60	34
	C4	Short Intensive Green Roof Area	0	0.50	+	0	1.00	-
	C5	Intensive Green Roof Area	0	0.60	+	0	1.20	-
Paving & Structures	D1	Low Slope Roof	650	N/A				
	D2	High-SRI Paving	407	0.1				41
	D3	Shaded Area	0	0.2	+	34	0.40	14
Project Summary	Portion of lot area utilizing green strategies 86%				Total Contributing Area		4,556	
	Portion of score from green strategies 99%				Total Area Goal		2,086	
	Portion of score from trees 67%				COOL FACTOR SCORE		2.18	
	Portion of score contributing to public realm cooling 41%							

When entering strategies that are within 20' of the street (including sidewalks), do not also enter

High-SRI Paving areas within 20' of a Street do not count towards the Cool Score

If your project scores 1 or above, you have successfully met the requirements of the Cool

COOL SCORE SHEET

SHARE RESPONSIBILITY AND ALSO SHARE COSTS

Strategies: Leverage Land Use Requirements

ADD GREEN FACTOR SLIDES HERE

SHARE RESPONSIBILITY AND ALSO SHARE COSTS

Strategies: Leverage Land Use Requirements

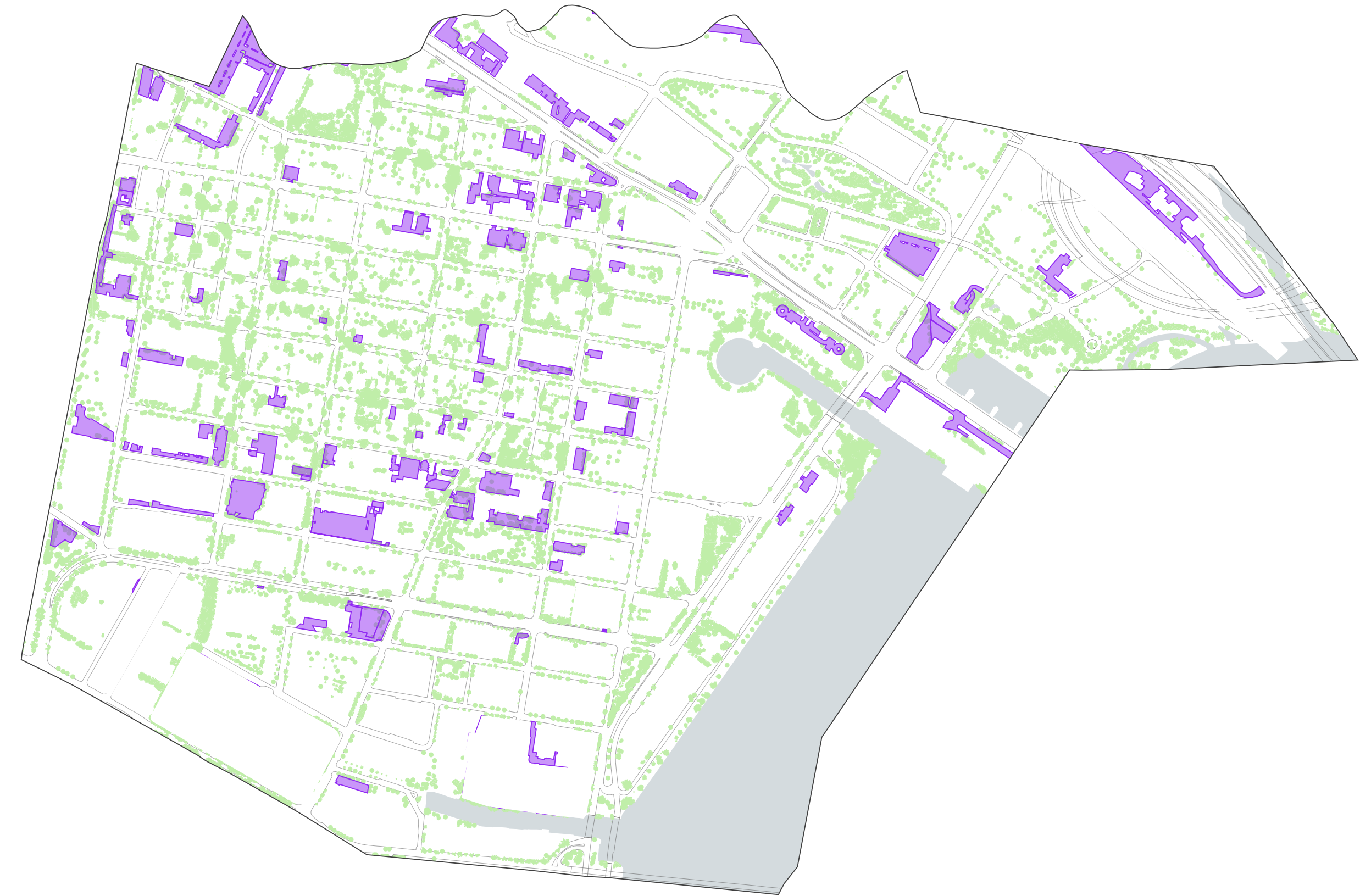
Actions:

- Strengthen tree requirements in Green Factor
- Incentivize Planting within Parking Lots:

Rec 1: Modify the parking lot ordinance to include more specific canopy tree planting requirements., ie., percentage of canopy cover at maturity and minimum soil requirements.

Rec 2: Provide funding (tax rebates, grants, proceeds from the Tree Fund) for planting in existing parking lots.

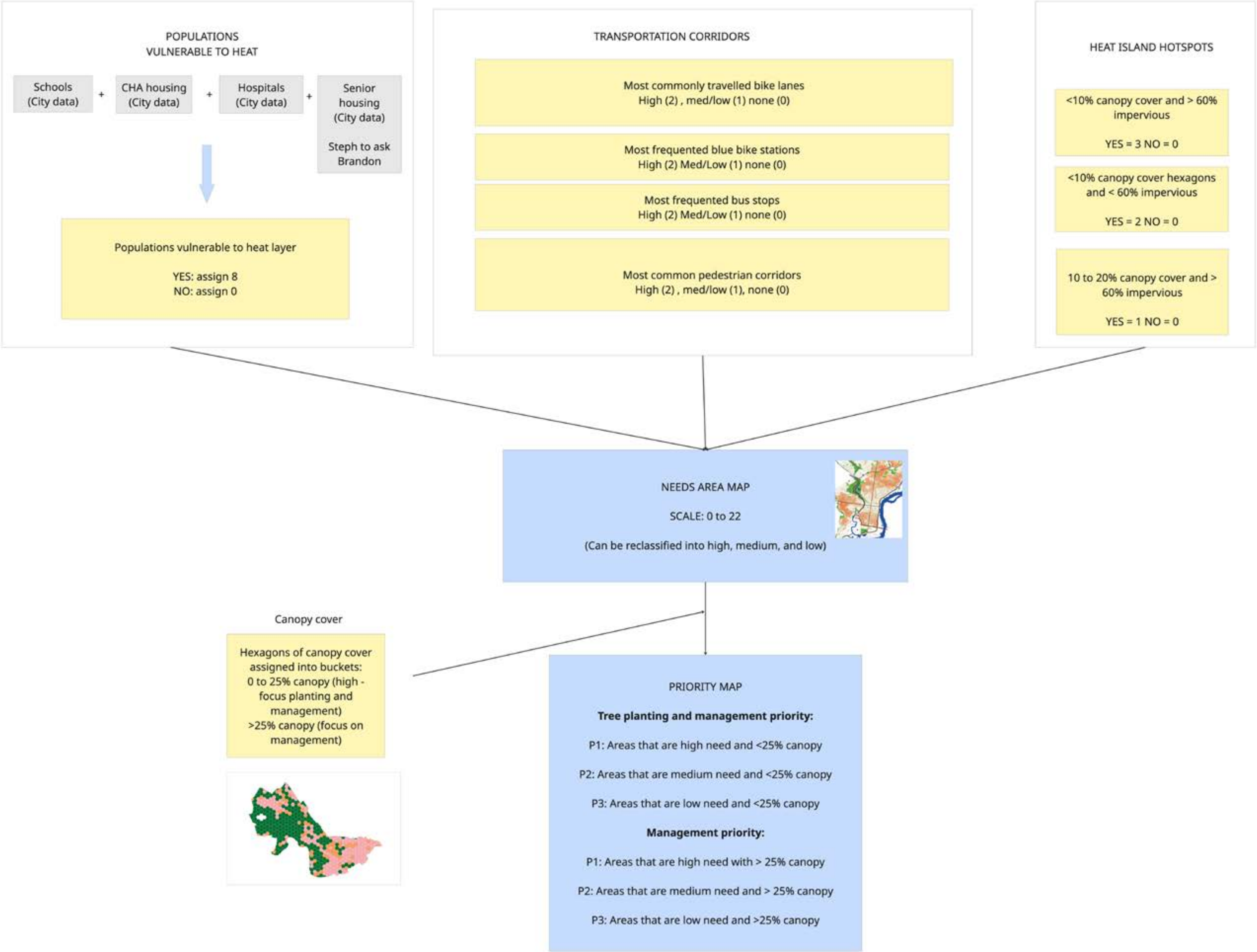
Rec 3: Create a database of parking lot owners amenable to accepting more planting on their parking lots that can provide off-site in-kind mitigation for TPO removals instead of mitigation payments to the Tree Fund.



PARKING LOTS IN EAST CAMBRIDGE

CUFMP TARGETS

Priority area mapping



SHARE RESPONSIBILITY AND ALSO SHARE COSTS

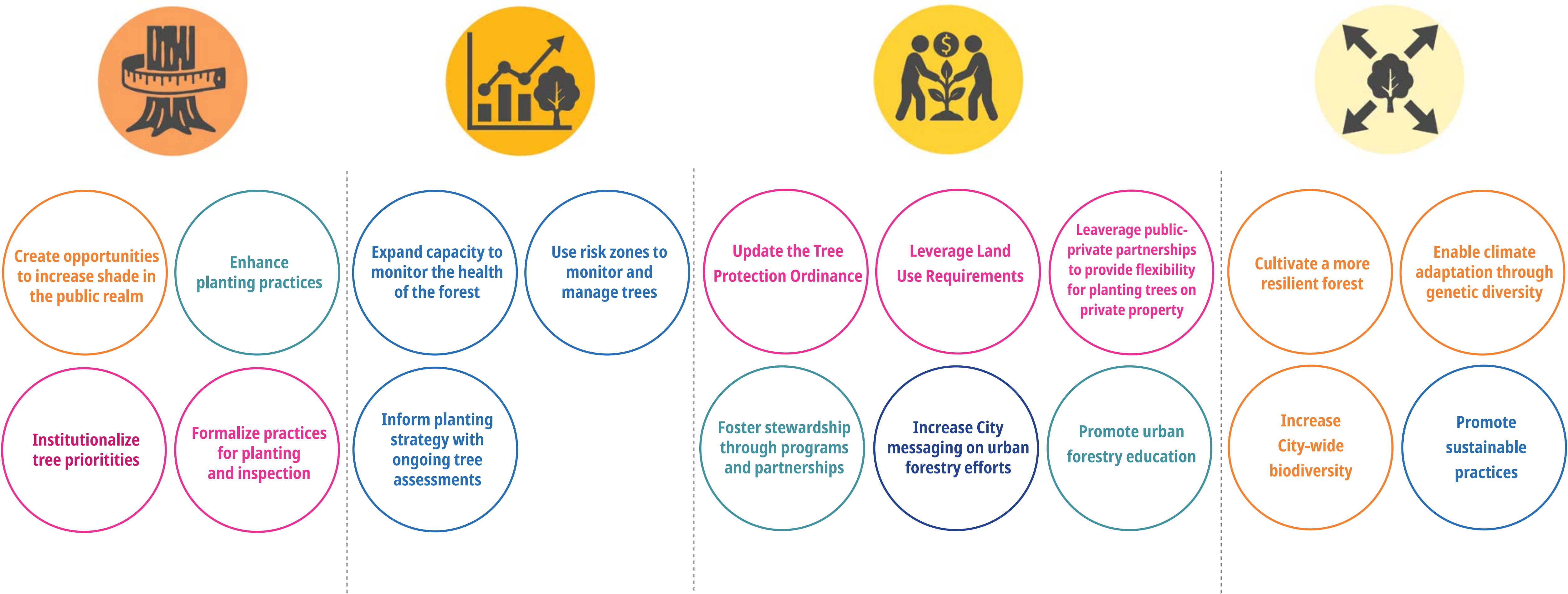
Strategies: Outreach Strategies

Learning from Research and Case Studies

How to forefront trees when so many other social and financial issues are greater priorities?

- Provide effective messaging:
 - messages should come from a trusted community member
 - community member should be paid for their work building relationships and delivering informatione.g. Baltimore, Detroit, Oakland have created an urban forestry workforce
- Give seminars and workshops to schools, community organizations, environmental justice groups, public health organizations and other groups who engage residents in community based environmental stewardship (Oakland)
 - Show public commitment and generate publicitye.g. Mayor of Baltimore biked to community tree planting events
- Involve residents in more meaningful way at the beginning of the decision-making process
- participants plan, coordinate tree planting, tree care and tree monitoring (Oakland)

NEW AND REVISED STRATEGIES



RESPONSIBLE PARTIES



DPW



DPW/CoC AGENCIES

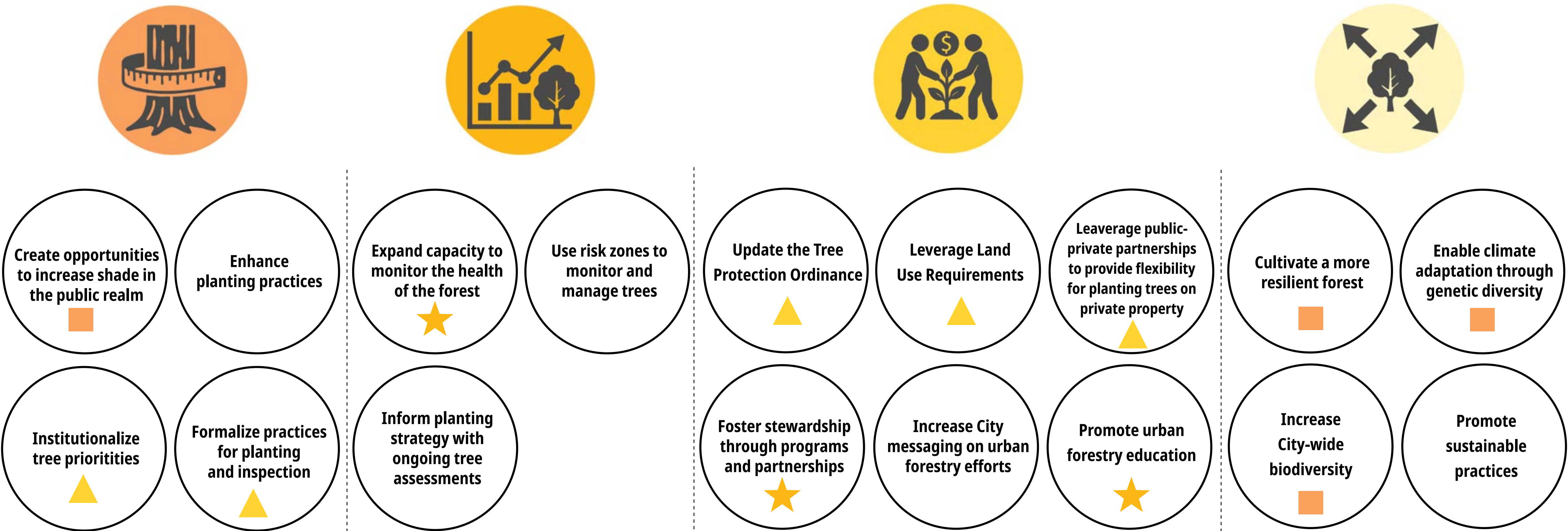


CITY COUNCIL APPROVAL



EXTERNAL PARTNERSHIPS

NEW AND REVISED STRATEGIES



RESPONSIBLE PARTIES

DPW/CoC AGENCIES CITY COUNCIL APPROVAL EXTERNAL PARTNERSHIPS

5 YEAR PLAN FOCUS



Create opportunities to increase shade in the public realm

Institutionalize tree priorities

Enhance planting practices



Update the Tree Protection Ordinance

Expand capacity to monitor the health of the forest

Leverage Land Use Requirements

Foster stewardship through programs and partnerships

Cultivate a more resilient forest

Leverage public-private partnerships to provide flexibility for planting trees on private property

RESPONSIBLE PARTIES



DPW



DPW/CoC AGENCIES



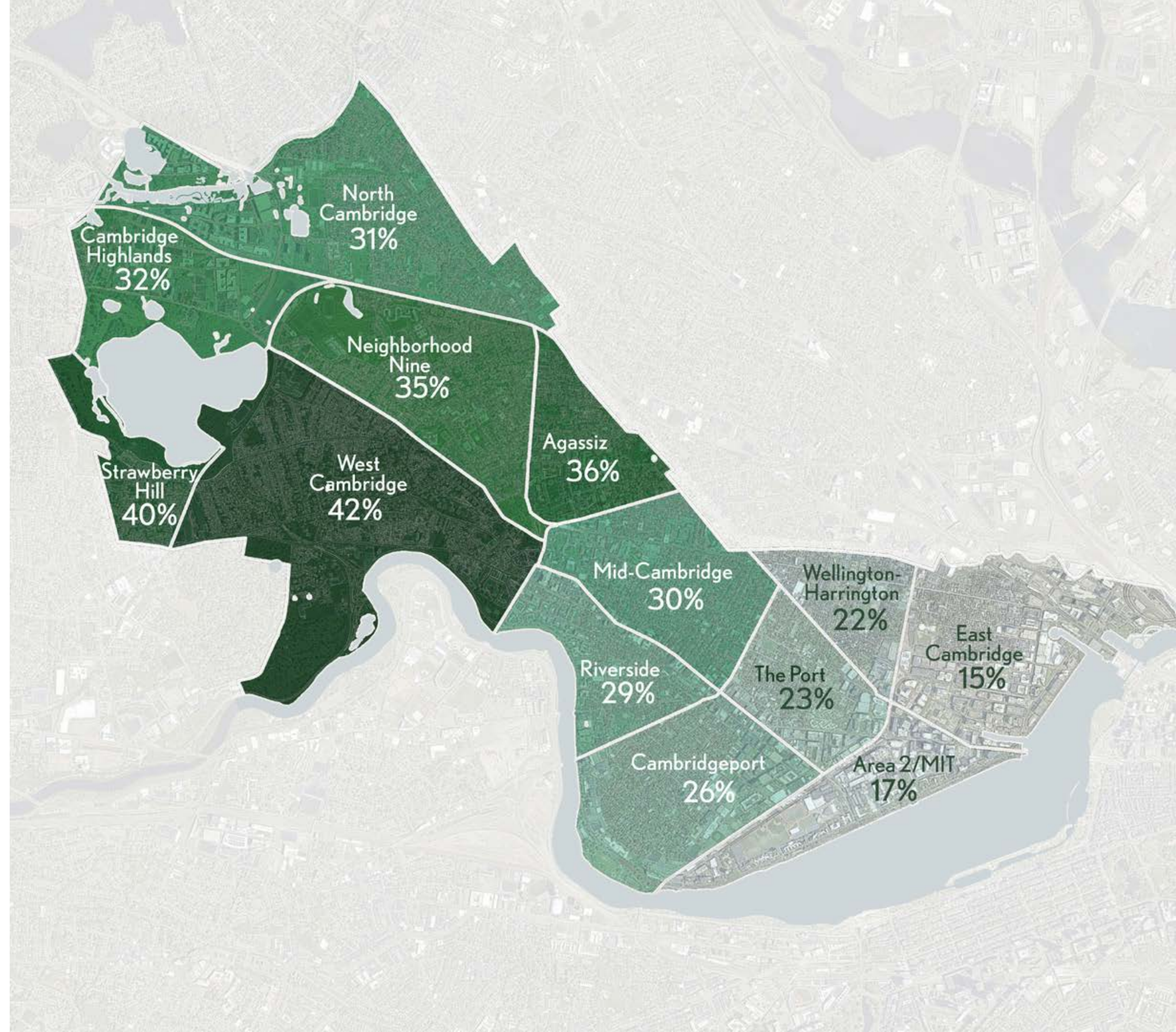
CITY COUNCIL APPROVAL



EXTERNAL PARTNERSHIPS

1. CANOPY COVER

Tree planting has been focused on the areas that needed it the most: under canopied neighborhoods and priority areas.



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Tree planting has been focused on the areas that needed it the most: under canopied neighborhoods and priority areas.

