

Urban Forest Climate Resiliency Master Plan Public Forum

Monday, March 15, 2021, 6:00 PM

Zoom Virtual Meeting

Committee Present: Nancy Heller (Chair), Roberta Schnoor, Ken Goldstein, Richard Murphy, Elizabeth Erdman

Staff/Project Team Present: Erin Gallentine, Alexandra Vecchio, Tom Brady, Katie Weatherseed, Kyle Zick, Kara Brewton, Ruthann Dobek, Maria Morelli

Guests: See attached.

Welcome/Call Meeting to Order

N. Heller called the meeting to order and welcomed everyone to the fourth public forum for the Urban Forest Climate Resiliency Master Plan. A roll call was taken.

The Committee reviewed the minutes from December 14, 2020. R. Schnoor made a motion to accept the minutes from December 14, 2020. E. Erdman seconded. A roll call was taken. All in favor.

The Committee reviewed the minutes from March 3, 2021. R. Murphy made a motion to accept the minutes from March 3, 2021. R. Schnoor seconded. A roll call was taken. K. Goldstein abstained. All others in favor.

Project Review and Status Update

E. Gallentine stated that there was a Committee working session to review draft chapters and the draft recommendations section, and noted that the chapters in question are available for review on the project webpage. She invited the public to look through those materials and provide any comments they may have on those drafts to K. Weatherseed. She stated that K. Zick is working on a draft plan, which will be presented at the Committee's next meeting on May 17th.

Review of Preliminary Tree Canopy Assessment (LiDAR) Findings and Potential Applications

K. Zick gave an overview of the project timeline, and stated that the project team has learned a lot since the Committee's last meeting. He stated that the University of Vermont's Spatial Analysis Lab has provided some preliminary LiDAR findings, which he is excited to share. He noted that the information is preliminary and is subject to slight change. He showed a map of Brookline broken into 50-acre hexagons to illustrate how dense canopy coverage is across Brookline. He discussed the differences in tree canopy, highlighting dense patches in South Brookline and less-dense patches in North Brookline. K. Zick showed the average tree canopy coverage percentages of comparative municipalities, noting that Brookline's percentage can most closely be related to that of Annapolis, Maryland or Atlanta, Georgia. He stated that Boston's percentage is 27%, and Cambridge's is 26%, and discussed how their canopies are distributed. He stated that while Brookline may strive for a certain percentage goal, the conversation is more nuanced and should result in canopy goals for smaller geographic areas (a more residential area will be able to sustain a greater canopy cover than a more urban section of Brookline). K. Zick showed the canopy breakdown by precinct, and noted that he would also be looking at private land vs. public land and environmental justice areas. He then discussed canopy change between 2014 and 2020, showing a Town-wide map, again broken into 50-acres hexagons.

K. Zick showed an aerial photo of Griggs Park, and noted the canopy change from 2014 to 2020. He then showed a similar image for the area surrounding Bournemouth Hospital. He stated that he anticipates the final LiDAR data by mid-April, which will include tree canopy metrics for geographies of interest (such as private land, public land, residential areas, commercial areas, park grounds, etc.), a canopy height 3D assessment, and a forest patch analysis. He stated that his team will take that data and look specifically for the areas that require tree planting, with a focus on Environmental Justice Neighborhoods, public housing, transit stops, and demographic census data of interest (elderly populations, children, etc.). He stated it will also be used as part of an urban heat island analysis. He stated that the Town wants equitable tree canopy - for the areas that are most vulnerable have a high percentage of canopy.

Overview of Plan Development: Content and Organization

K. Zick showed a rough outline of what the Master Plan will include and what has been drafted so far, including soils, an assessment of street tree species and tree size, and an analysis of Town forestry budget and operations. He showed several pages pulled directly from the draft plan.

Discussion of Preliminary Goals/Recommendations

K. Zick stated that there are five building blocks for the recommendations section of the plan: 1) Grow/Build the extent of the urban forest, 2) Protect the existing urban forest, 3) Manage the urban forest for long-term health, 4) Engage residents, government and other partners, and 4) Implement recommendations through strategies, tactics, and ongoing monitoring.

In regards to growing the canopy, K. Zick stated that there needs to be a Town-wide canopy increase to mitigate climate change impacts. He stated that the exact numbers will be based on models of canopy increase and associated benefits. He added that goals will be set for specific geographic areas, prioritizing locations where planting can make the biggest impact for at-risk populations and for mitigating climate change (ie. Environmental Justice Areas, Transit Stops, etc.). In regards to residential street tree improvements, the recommendations section will focus on planning for infill and successional planting, a shift away from certain species (such as Norway Maples) and a shift towards plants that will thrive in the projected climate, and an evaluation of streets through a “complete streets” lens. He showed several examples, including Ivy Street and Pleasant Street.

K. Zick discussed certain streets that have gaps in their canopy. He showed examples of collector, arterial and residential streets. He stated that he wants to make sure business districts are unified, and noted that these areas have many stakeholders. He showed an example of Harvard Street tree pits.

K. Zick discussed options for growing the canopy in public parking areas. He noted that the Town should plant with the goal of achieving a particular amount of shade within a set time period. He noted that the Town could look to LEED, which has standards on how to improve parking areas through light colored pavement, open grid pavement or increasing the canopy. He added that the Town should look for retrofit opportunities where viable. He showed an image of a Center Street parking lot where there is potential for the removal of pavement and planting. K. Zick then discussed private parking, noting that when these areas are developed they have to adhere to zoning and have a certain landscaping requirement. He suggested that the Town develop an increased planting standard and consider enhancing the Zoning Bylaw’s requirement for continued maintenance. He noted several private parking lots which could benefit from additional canopy.

K. Zick stated that protecting the Town’s trees is also integral to a resilient canopy. He noted that tree protection should be integrated into development review. He also discussed the value of encouraging stewardship through non-profits and community groups, and through the development and enforcement of urban forestry policies.

K. Zick noted that mitigating the urban heat island effect doesn't solely need to be achieved through planting, and showed a graphic with a variety of different strategies Brookline could use to minimize heat.

K. Zick discussed how to best manage the urban forest and improve operations. He noted one of the most important takeaways is to improve funding for forestry operations. This would allow for more in-house arborists, increase pruning hours and budget for more hours of storm response tree work.

He then discussed tree planting techniques and methods. He stated that the Town already has dimensional standards for tree planting, including soil volume and soil restoration, but he would like to see this go further. He said that to do substantial environmental work, the Town needs to ensure that their newly planted trees get settled and thrive. It's essential that trees are given enough space to grow to a mature age. He discussed moving the sidewalk up against the roadway curve in residential areas, which would provide space for the roots. K. Zick then focused on commercial areas, where he believes spacing is more challenging. He suggested structural soil under the sidewalks to provide a way for the tree roots to access additional space. He also suggested a goal of 30 foot spacing with a 30 inch minimum tree pit width, utilizing drip irrigation, the use of pervious pavements, and tree pit protection.

K. Zick discussed the 30:20:10 rule (30% of one family, 20% of one genus, and 10% of one species). He also discussed the need for age diversity and suggested actively planting every year. In discussing species, he stated that the palette should be adaptive to the changing climate, and noted the mantra of "right tree, right place, right time".

K. Zick lastly touched on engaging Brookline's residents, and suggested tree report cards to show values, doorhangers, educating private landowners on tree value, and educating business owners. He says that Brookline needs to celebrate these trees - particularly larger trees.

Open Discussion/Questions/Feedback

N. Heller opened the meeting for feedback from the public. Anne Lusk asked whether, after having issued a building/renovation permit, the Town follows-up to determine if the owner actually planted landscaping. She also inquired whether the required landscaping includes shade trees or only bushes and grasses. M. Morelli replied that if there was a condition that landscaping needed to be provided, there would be no Certificate of Occupancy issued until a plan was issued with the landscaping. T. Brady added that while he has no regulatory oversight, he is often asked to look at plans from other Divisions.

Sarah O'Neil asked why the Town should put so much effort into street trees when their life expectancy is only 19-28 years. T. Brady stated that that is not always the case in terms of life expectancy. He stated that the Town is still reaping the benefits of trees planted decades ago.

Wendy Machmuller asked about the inventory of street trees on Boylston Street. T. Brady stated that that is a tough area, and noted that Massachusetts Highway Division maintains those trees.

Sarah O'Neil inquired why the Town would use non-natives, and stated that native trees are of much higher value than non-native trees. K Zick replied that in the face of climate change, we are looking for trees that can survive these changing conditions.

Carol Kuo inquired about the tree removals on Cypress Field. E. Gallentine replied that the trees to be removed are in poor or declining condition. A tree formerly in good condition was damaged during a storm, and two trees in good condition are coming out to create an accessible pathway. She stated that the Parks and Open Space Division will be replanting the site in preparation for the next generation of canopy.

Carol Kuo also asked whether there are plans to control the virus that affects London Plane trees every spring. T. Brady stated that it involves intensive fungicide sprays, which is not something the Town does within the public way. He also noted that most of the Town's sycamores are too large for this treatment. He stated that it goes back to integrated pest management – he is managing to a threshold, not to eradication.

A person who did not provide their name stated that they have a tree in poor/dead condition in front of their house. They asked whether there is a plan for replacing dead or dying trees. T. Brady stated less than 1% of the Town's street trees are dead. He stated that tree assessments are part of his crews' daily activities, and residents will also call in their concerns or submit requests through BrookOnline.

Linda Pehlke asked if someone could explain what structural soil is. K. Zick replied that structural soil is a material able to support load on a sidewalk. He said to think of it as sand that has topsoil in it - it's a granular material that has load bearing capacity.

Robert Labaree asked whether the closeness of trees to each other affects their ability to thrive, stating that he believes it should be more favorable to cluster trees on a sidewalk rather than spacing them 30 feet apart. K. Zick replied that research has shown that there is a symbiotic relationship between trees when planted close to one another, but it is particularly difficult to replicate in an urban environment due to the narrow linear corridors. T. Brady added that proximity is also not always great and that pathogens can travel from tree to tree.

Nadine Gerdtz said that she is excited about a Complete Streets approach, and asked whether there would be any recommendations for coordination between departments and how those recommendations will be implemented. K. Zick stated that the Town will identify areas that need increased canopy coverage and note those that are not conducive to planting due to existing infrastructure. E. Gallentine suggested the formation of a working group comprised of representatives of different town departments to coordinate on these projects.

Anne Lusk noted the raised cycle track included in the Town's Gateway East project. She stated that sometimes, in constructing a raised cycle track, the sub-base asphalt below the road is not removed. She stated that if that sub-base could be removed, structural soil could ostensibly be put underneath the raised cycle track, and a tree could be planted between the cycle track and the sidewalk (allowing there to be structural soil on both sides). She then suggested the addition of paver stones by the curb edge of the road to direct water to towards the trees. K. Zick stated that that is a great comment.

Roslyn Feldberg asked whether Brookline has a tree planting dedication program. E. Gallentine replied that it does and that she can contact T. Brady or A. Vecchio with any inquiries. She stated there is some information on the Town's website, but staff typically like to work one on one with people who want to make donations.

E. Gallentine opened the floor to questions and comments from the Committee.

R. Murphy inquired about the tree recommendation list. He asked whether the life cycles of trees are taken into consideration. K. Zick responded that generally short-lived species are not ideal for the public realm, because they are fast growing and are susceptible to storm damage. Generally he recommends planting trees that are going to be around for 50 years or more. R. Murphy inquired about a Bald Cypress, which has a particularly long lifespan and is suitable for a Georgia-type climate. K. Zick responded that Bald Cypress and Dawn Redwoods are great candidates for street trees and should be considered.

K. Goldstein thanked everyone for their comments. He inquired about practical next steps to implement the recommendations that come out of this plan. He discussed new bylaws, zoning changes, new funding sources, etc. E. Gallentine responded that K. Zick is considering all of those listed strategies, and that successful implementation of this plan will happen at many different levels within government. K. Goldstein asked whether it will contain a specific list of action items. K. Zick responded that there will be an action plan that is specific and practical. He noted that there will be different deadlines for each item to denote priority of action items.

N. Heller inquired about the role of evergreens in the Master Plan and the urban forest. K. Zick responded that research shows that evergreens perform a great deal of environmental services, however they are difficult to plant in urban environments, particularly street conditions (due to salt, blocked views, etc.). T. Brady added that evergreens are planted in the Town's open spaces, and stated that they are typically very sensitive to environmental conditions.

Roslyn Feldberg inquired about whether private tree protection would be discussed in the recommendations of the Master Plan. N. Heller responded that the Town already has some protections for private trees, noting the Stormwater Bylaw. T. Brady stated that the Bylaw is administered by the Engineering Division, and described the recent amendment to the Bylaw. If someone is removing vegetation above a specific threshold, they must replace the functions and values of trees and shrubs served in the context of stormwater management. He stated that the intent of the Bylaw amendment was to trigger dialogue and discussion regarding the value of trees prior to removal, and to that end he believes it has been successful. K. Zick stated that the LiDAR results will also determine how important private tree protection measures are. The Committee discussed the role of the Stormwater Bylaw, noting that the Bylaw was intended as a first step towards tree protection and that tree protection would ideally be incorporated into the site plan review process. K. Goldstein commented that he would like the action plan to dovetail with the recommendations of the Tree Protection Committee's findings. M. Morelli stated that there is a site plan review process and design review would build on existing design review for major impact projects. She added that the best way to move forward is to define standards and then update the existing Design Review Bylaw under Section 509 in the Zoning Bylaw.

J. Dempsey inquired if there is anything in the Plan to limit the amount of salt that the Town puts on the sidewalks. E. Gallentine stated that the DPW has successfully implemented a brine application this year and last – a pre-treatment that reduces the amount of salt on road. T. Brady added that the way that the product is released from the truck has also improved substantially over the past few years to reduce bounce-back.

E. Gallentine recognized Carolyn Meklenburg from the MVP Program, noting that without the support of her and the MVP Program, this project would not be happening. C. Meklenburg thanked everyone for their work on this project.

Next Steps

Nancy Heller extended her thanks to Kyle and his team for all their terrific work. She thanked everyone for attending. She noted that the next meeting will take place May 17, 2021.

Adjourn