

**Urban Forest Climate Resiliency Master Plan**  
**Preliminary Recommendations Review**

Monday, March 3, 2021, 1:00 PM  
Zoom Virtual Meeting

**Committee Present:** Nancy Heller (Chair), Elizabeth Erdman, Roberta Schnoor, Richard Murphy, Clara Batchelor

**Staff/Project Team Present:** Erin Gallentine, Tom Brady, Katie Weatherseed, Kara Brewton, Maria Morelli, Dr. Swannie Jett, Kyle Zick, Alexandra Vecchio

**Guests:** See attached.

**Welcome/Call the Meeting to Order**

N. Heller called the meeting to order. She introduced Alexandra Vecchio, the new Parks and Open Space Director. The Committee members and staff present all introduced themselves to A. Vecchio.

**General Project Update**

E. Gallentine, Commissioner of Public Works, welcomed everyone and stated that the purpose of the meeting is for the Committee to have a conversation about the materials provided by the Consultant, including some draft chapters and preliminary recommendations.

K. Weatherseed gave a brief overview of the project timeline. She noted that there was a delay in regards to the LiDAR analysis, but the consultant team has been flexible and accommodating. She is confident that the project is still on target to meet its anticipated June deadline, but stated that the draft report presentation will need to be postponed to May to allow for time to review the final LiDAR results.

**Drafted Chapters and Preliminary Recommendations Overview**

K. Zick presented a list of the chapters within the Master Plan and noted which chapters have been completed as part of the 50% draft. He shared a variety of graphics pulled from the draft plan for the following chapters: “Climate Change Impacts”, “Benefits of Trees”, “Soils”, “Existing Conditions of the Urban Forest”, and “Town Urban Forestry Practices”.

K. Zick then shared the five-step framework of the “Recommendations” chapter: 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 5) implement recommendations through strategies, tactics, and ongoing monitoring. In regards to increasing canopy coverage, K. Zick stated that the recommendations will be very specific in regards to geography, prioritizing locations where planting can make the biggest impact for at-risk populations and for mitigating climate change, such as North Brookline, environmental justice areas, public housing and transit stops.

K. Zick stated that the Project Team met with the University of Vermont’s Spatial Analysis Lab on Monday, and noted that the results he will share are preliminary findings. He stated that the LiDAR analysis showed an overall tree canopy coverage of 45% for 2020, and 47% for 2014, indicating a 2% loss. K. Zick showed an image that depicted the range of canopy coverage across Brookline, noting that South Brookline appears to have areas that have 100% coverage, while North Brookline generally shows less coverage. He noted that the areas showing less canopy cover in South Brookline are the Country Club and Putterham Meadows. K. Zick then showed an image depicting absolute change from 2014 to 2020. He noted the loss in certain areas, and stated that he will have to dive a little deeper into this data to understand the story of each canopy loss or gain. K. Zick

noted that UVM will also be able to analyze this information in the context of public land versus private land and zoning (residential, institutional, commercial, etc.). K. Zick showed aerial maps of the areas around Griggs Park and Bournewood Hospital, and then presented the corresponding LiDAR imagery, indicating the change in canopy from 2014 to 2020. K. Zick noted that the source of the LiDAR information in 2014 was different than that of the 2020 data, and so there is going to be a little bit of variation, but UVM has accounted for that in their analysis.

K. Zick stated that generally speaking, most residential streets have good canopy coverage. He stated that the strategy should be to plant wherever there are gaps in the canopy and to plan for succession. For example, if a Norway maple starts to decline, it should be removed and another tree replanted. He stated he will have very specific recommendation on species. He added that before any large scale tree planting is done, the area in question should be assessed from a Complete Streets perspective. He showed several examples of residential, collector and arterial streets that require attention. K. Zick discussed business districts where trees could be planted, and noted recommendations to coordinate with partners, including MassDOT and MBTA, and to explore more creative ways to expand soil volumes while maintaining or expanding sidewalk width. He noted the many challenges of planting in business districts, and stated that increasing soil volume with structural soils or adding subsurface irrigation for the first five years could be instrumental in increasing survivability. He discussed the success of honeylocusts along Harvard Street and noted that this, along with Washington Street, would be an excellent contender for a comprehensive study to look at the travel lanes, parking, bike lanes, curb positions and trees.

In regards to public parking, K. Zick stated that most sites have the opportunity for tree planting. He referred to the LEED certification program, which has guidance regarding heat mitigation strategies. He showed an image of Center Street parking lot, highlighting an opportunity for pavement removal and planting. He stated that private parking lots are similar in that they also are expanses of pavement which contribute to the urban heat island effect. He suggested developing an increased planting standard in the Zoning Bylaw or enhancing/clarifying the requirement for continued maintenance. He noted Stop and Shop, Trader Joe's and TJ Maxx as potential lots which could benefit from additional canopy.

K. Zick then discussed recommendations regarding tree protection. He suggested integrating tree protection into all Town activities that impact land use, and institute a no net loss goal. He then discussed the importance of stewardship, noting that the Town already has rich partnerships with community groups. He then suggested looking at urban forest policies and ensuring enforcement, particularly in regards to zoning and private tree protection.

In regards to managing the urban forest, K. Zick stated that a consulting firm looked at the Town's forestry operations. They noted that there is a need for an increase in funding to allow for the implementation of several recommendations. He suggested making the Tree Warden a full time position, hiring more in-house arborists and in-house crews, increasing pruning hours, budgeting more hours for storm response tree work, and enhancing record keeping protocols for the risk management program. He then discussed tree planting techniques and methods. K. Zick stated that instituting standards for tree planting, including soil volume and soil restoration, is particularly essential for commercial areas where it's particularly difficult to ensure survivability. He discussed a variety of planting techniques, including structural soils and Silva Cells. He referenced the 30:20:10 rule, which specifies that the Town should not plant more than 30% of one family, 20% of one genus, and 10% of any species. He stated that the Town currently follows those guidelines, except for the maple genus. He reiterated the importance of "Right tree, right place, right time", noting that the species palette should consider climate change impacts.

K. Zick presented a "street tree report card", stating that it would be a great outreach tool to spread awareness. He also mentioned the value of door hangers, which the Town currently uses, and educating land owners and business owners on tree value. He also suggested recognizing special trees, and making tree benefits visible and quantifiable.

## **Discussion of Preliminary Recommendations/General Feedback**

N. Heller thanked K. Zick for his presentation and opened the meeting for discussion. K. Brewton stated she would send K. Weatherseed some minor comments, and suggested that this report should specifically recommend creating tree canopy on every major impact project. M. Morelli agreed with K. Brewton, stating that it would be great to expand the Department of Public Works' design review guidelines with that kind of standard or requirement.

C. Batchelor noted that some residential properties have very narrow tree lawns, and asked if the Town has considered relocating the sidewalk adjacent to the street curb and planting trees adjacent to private property. She also commented on K. Zick's recommendation for 30-foot canopy in commercial areas, noting the harsh conditions present, and inquired whether K. Zick would consider a 25-foot canopy instead. K. Zick responded that those are both great comments. In regards to C. Batchelor's first point, he stated that he would want to dig deeper and see what streets might be good candidates for rearranging the tree lawn and sidewalk. In regards to C. Batchelor's suggestion for a 25-foot canopy in commercial areas, K. Zick responded that he would look into that, but added that there is a delicate balance, as the business owners want more visibility and the Town wants more canopy. He stated that he agrees that growing a large canopy in the business districts with limited soil volume and all the other stressors is difficult, and that planting trees closer to each other is a way to immediately increase canopy. C. Batchelor commented on K. Zick's statement that Brookline's parks have excellent tree coverage, noting that some of the trees are very mature. She suggested including language that recommends succession planting within the parks to ensure the next generation of canopy. K. Zick agreed, and stated that Brookline must continually plant and that the Town will benefit from that forethought in the long-term. C. Batchelor thanked K. Zick for including non-native species in his list of recommended trees, and asked whether this was the complete list of recommended species, or simply examples of species that are effective at air pollutant reduction. K. Zick replied that the list highlights particular species that are great at mitigating air pollution, but are not the only ones that should be considered. He recommends that the Town plant a much larger diversity than those listed. C. Batchelor asked him to cite this source, and K. Zick replied that he would.

N. Heller stated that K. Zick noted a large number of Norway maples. She said that she is aware that these trees can be large and provide a lot of canopy, but also that they tend to propagate themselves. She asked what the strategy would be for removal of Norway maples specifically. K. Zick agreed that Brookline is getting a great deal of canopy cover from these trees. He stated that Norway maples were planted heavily in 1920s and 1930s, as well as the 1970s and 1980s. Those planted in '20s and '30s are currently in decline and should be actively removed. However, he stated that those planted in the '70s and '80s are providing the Town with a variety of benefits and are well-established. He suggested the Town educate residents on Norway maples to prevent future planting, but to not remove those healthy trees just yet. T. Brady agreed with K. Zick, and noted that Norway maples tend to fall apart and that his crew is aggressive on removing Norway maples from a safety point of view.

L. Erdman relayed her enthusiasm for the LiDAR results. She inquired whether the final report could map some of these streets that are targeted for growth, perhaps showing the percent canopy reduction. K. Zick stated that he can absolutely do that. E. Gallentine added that the LiDAR captures canopies of 16 square feet, so trees that are newly planted will not be captured.

C. Batchelor asked K. Brewton about the new development along Harvard Street near JFK Crossing, noting that street tree planting may be particularly difficult in certain areas due to this development. She asked if K. Brewton's comments were directed at projects such as these. K. Brewton stated that those projects don't have to follow any zoning because of the 40B process. M. Morelli agreed and stated that applicants have to ask for waivers from zoning, and that is why putting language in the guidelines is a powerful tool for both 40a and 40b projects.

R. Schnoor stated that she was struck by the potential in planning and guidelines, and how impactful they can be. She noted that she felt a little discouraged at the beginning of this process, but is now excited about the

possibilities and avenues available to prioritize canopy coverage in Town. R. Schnoor also commented on the no-net loss recommendation, stating that it felt like a relatively low standard. K. Zick replied that, when discussing Brookline's canopy coverage, he should have noted that of our benchmark communities. He stated that most similar communities have approximately 25% canopy cover and that the only municipality with a canopy comparable to Brookline was Annapolis, Maryland. He added that there are certainly areas that need improvement, and cited North Brookline.

R. Murphy inquired what K. Zick would consider an acceptable standard for a community like Brookline in regards to canopy coverage. K. Zick replied that he will eventually have an answer to that question, but not until he has the final LiDAR data and can compare different scenarios. E. Gallentine stated that she liked the idea of the Committee setting a canopy coverage goal.

E. Gallentine also stated that the recommendations and action plan should be incredibly clear, specific and actionable. She suggested the possibility of developing a construction detail outlining how to protect a tree's root zone, provide ample soil growth, and provide safe, accessible sidewalks. She then discussed the no-net loss recommendation proposed by K. Zick. She stated that if a 32 inch tree is removed and replaced with a 3 inch tree, that isn't a comparable replacement. She stated that she and T. Brady have discussed this at length, and that the Town generally abides by a minimum expectation of a two to one replacement goal for public trees. She stated that when it comes to maintenance, the forestry element is falling behind and is unable to execute a three-year pruning cycle. She wants to know what the best practice is for maintaining trees in this urban environment, and how many more hours of pruning the Town needs to fund.

N. Heller was interested in the structural soil that K. Zick mentioned in the report and asked whether the Town currently uses this soil at all, and if not, whether it is possible to add it after the fact. K. Zick stated that the Town does currently use structural soil in certain instances, and that adding structural soil after the fact is feasible and that he has seen it make a difference. He stated that adding irrigation would also help to get the tree roots beyond the tree pits and into the drier structural soils.

M. Morelli stated that she gets a lot of mitigation funds from major impact projects for public infrastructure, particularly green transportation. She said that she would like to codify a lot of these frequent asks, which could potentially go towards important resources.

E. Gallentine stated that there was a comment in the chat box about gas leaks and asked K. Zick to speak to that concern. K. Zick replied that that is a great question and a complicated one. He noted that sometimes when leaks are fixed, it results in a new leak further down the line. T. Brady stated that when the Town finds a leak, they need to be cautious about over-excavating. He explained that if the Town tries to retrofit any of the gas lines, it can sometimes cause harm to existing trees.

E. Gallentine stated that establishing a canopy goal is critical, and that it may be most beneficial to create sub-goals for different areas in Town.

A. Vecchio inquired about the metrics and methods for measuring success. K. Zick responded that the Town should do another LiDAR assessment in 5 to 6 years to observe how the canopy has changed. A. Vecchio also asked if the engage section of the recommendations chapter should perhaps target specific outreach to the most vulnerable populations and areas. K. Zick stated that there will be a specific canopy goal for Environmental Justice neighborhoods. A. Vecchio noted that the Town has a Climate Vulnerability Assessment and Action Plan and wondered how the plans might overlap or interact, and how the project team might facilitate streamlining the implementation of these goals. K. Zick agreed that it is important to make sure that this Plan is developed with the Climate Vulnerability Assessment and Action Plan in mind. He stated that he has reviewed the goals of that plan and is extrapolating on many of them.

Dr. S. Jett agreed that the differences between North and South Brookline must be recognized and called out. He stated that there may be a lack of pavement or sidewalks to implement some of the planting methods in

certain areas of North Brookline. He added that air pollution is higher in concentration in Environmental Justice neighborhoods and the Town needs to concentrate on planting in those areas specifically. He encouraged that the consultant team consider different strategies to make greenspaces in urban environments, such as green roofs. E. Gallentine agreed and noted that one of the goals of this plan is achieving tree equity across Town.

M. Morelli stated that the Climate Vulnerability Assessment and Action Plan identified and mapped vulnerable populations and contains a great deal of information that may be useful to this Plan. Dr. S. Jett stated that he has seen the Climate Vulnerability Assessment, and agreed that it is very specific and contains important information in regards to heat and vulnerable populations.

N. Heller noted that Cathy Corman posted a comment in the chat box stating that the Town should acknowledge the difference between North and South Brookline, and the different canopy targets should reflect these neighborhood differences. E. Gallentine reiterated that she thinks it would be beneficial for the Committee to develop percentage goals, and K. Zick suggested developing goals for Environmental Justice neighborhoods specifically.

### **Next Steps**

E. Gallentine stated that the next step will be to bring this plan to the Climate Action Committee and then to present it before the Select Board. N. Heller suggested inviting the Climate Action Committee and other community groups in Town to the next public forum. E. Gallentine stated that she thinks Dr. S. Jett's point on equity should be at the forefront of all conversations. E. Gallentine thanked everyone for attending and stated that if anyone has any further comments or input, they should email K. Weatherseed.

### **Adjourn**