

**Climate Resilience Zoning Task Force
City of Cambridge, Massachusetts
Meeting #11 Summary
November 21, 2019
Citywide Senior Center**

Task Force members present

1. Jason Alves, East Cambridge Business Association
2. Louis Bacci Jr, Laborers Local 151/East Cambridge/Planning Board
3. John Bolduc, Environmental Planner
4. Doug Brown, West Cambridge
5. Ted Cohen, North Cambridge/Planning Board
6. Conrad Crawford, East Cambridge/Cambridge Redevelopment Authority
7. Nancy Donohue, Cambridge Chamber of Commerce
8. Iram Farooq, Assistant City Manager for Community Development
9. Brian Goldberg, MIT Office of Sustainability
10. Tom Lucey, Harvard University
11. Lauren Miller, Climate Consultant, CDM Smith
12. Margaret Moran, Cambridge Housing Authority
13. Mike Nakagawa, North Cambridge
14. Mike Owu, MITIMCo
15. Tom Sullivan, Divco West

Staff and facilitation team present

1. Jeff Roberts, Director of Zoning and Development, City of Cambridge
2. Sarah Scott, Associate Zoning Planner, City of Cambridge
3. Pat Field, Consensus Building Institute facilitator
4. Elizabeth Cooper, Consensus Building Institute facilitator
5. Nathalie Beauvais, Kleinfelder
6. Eric Kramer, Reed Hilderbrand

Next steps

- The City will provide Task Force members with an updated work plan and schedule, including additional meetings in early 2020.
- Staff will check on whether a TF member can provide more explanation or research on the question of energy use in basements referenced in the November 6 meeting, specifically on the statement that basements are often “energy sinks.”
- Staff will work with the technical consultants to share zoning-related recommendations from the Urban Forest Master Plan.
- Staff will consider whether a webinar may be useful ahead of the next meeting to help explain to the TF some of the technical content surrounding the cool factor proposal.
- If no further comments are received by email, staff will post the approved November 6 meeting summary to the website.

Meeting overview

The meeting focused on eliciting Task Force feedback on a detailed table of potential changes to specific aspects of the City's Zoning Ordinance, categorized under 1) base zoning provisions, 2) citywide review zoning provisions, and 3) area-specific zoning provisions. Task Force members commented on the approaches outlined in the table and gave recommendations to City staff for drafting zoning changes. Since the November 6 meeting was focused specifically on the flooding-related strategies, this discussion focused on strategies to address heat, as well as strategies that address both heat and flooding. Meeting materials are available online:

<https://www.cambridgema.gov/CDD/Projects/Zoning/climateresiliencezoning>.

Summary

Task Force member comments and discussion are summarized under headings below. *Occasional City staff responses and clarifications are noted in italics.*

Structural shade

- Current zoning requires a variance to cover a porch. This should be allowed by right, with enclosure discouraged, rather than encouraged, by requiring a special permit to enclose a porch.
- Structural shade offers more flexibility than trees for some cases where trees are hard to place (such as tight parking lots, narrow sidewalks, etc.) or need time to reach maturity. For this reason, a performance standard approach could allow more flexibility to meet shading goals. However, performance varies over time, so life cycles must be factored in (e.g., it's challenging to measure tree canopy since it varies over the life of a tree).
- An exemption should be offered for solar panels on parking lots.
- Setback requirements need to be adjusted to allow structural shade as an alternative to trees where needed.
- Structural shade can be surprisingly expensive and requires maintenance. Trees are self-repairing if maintained properly. A Task Force member suggested that taller tree canopies are also more effective at reflecting solar energy and preventing it from reaching people.

Open space

- Existing open space provisions can address many of the objectives of this group. We have an opportunity to clarify how open space provisions help achieve resilience goals.
- Similar to how the group coalesced around using FloodViewer data to inform flooding mitigation recommendations, is there a science-based way to recommend where open space should be focused to maximize the flood and heat mitigation benefits? Could findings of the Urban Forest Master Plan be combined with FloodViewer data to inform which districts should have higher thresholds?
- We should consider what the definition of a green area is for open space. For example, front yards are resource intensive.
- Aggregated open space may lead to greater environmental benefits than small pockets of space separated on multiple parcels. Incentives to aggregate open space and potentially some kind of payment-in-lieu-of arrangement could be beneficial to generate funds from developments to create aggregated open spaces in neighborhoods.
- All property owners have a responsibility to contribute towards solutions, and a 0% open space requirement is often not appropriate.

- In Alewife Overlay Districts, current regulations allow waiving enhanced permeability standards if stormwater storage requirements are met, which does not help with cooling.

Green roofs

- Green roofs should be used where they are most suited. In some situations, white roofs are better suited. We should drive towards performance and the best outcomes for different contexts.
- Parking garages should use green roofs.
- Regarding incentives for green or white roofs:
 - Currently, green roofs do not count towards gross floor area (GFA), but there is no incentive for them, such as offering additional GFA. If an incentive were offered, should it apply to white roofs as well?
 - Might a small incentive entice homeowners to update to a white roof sooner? Roofs are redone infrequently.
 - Since white roofs are not much more expensive, they could be considered as a prescriptive requirement, and incentives could be offered for more costly green roofs in some appropriate contexts.
- How are green roofs that are installed tracked? Since they require maintenance, it is useful to know how they are maintained and performing over time.

Trees

- Recommendations in the Urban Forest Master Plan (UFMP) should be incorporated into the CRZTF recommendations. For example, the UFMP calls for frontage planting with varied setbacks, making room for trees, and establishing canopy coverage requirements per parcel through zoning. Could zoning recommendations be drawn from the plan to share with the TF?
 - *The City is working with Reed Hilderbrand, the consultants who developed the UFMP, to make sure there is a dialogue between the UFMP and this process. It is an important component of the overall strategy for cooling.*
- Existing trees need to be protected whenever possible. Flexible requirements should not be so open to allow all trees on a property to be removed.
 - Perhaps if a performance-based scoring system such as cool factor is adopted, points could be deducted for the removal of trees to incentivize their preservation.
- A minimum canopy coverage percentage should be applied to base zoning, with higher requirements in some contexts of either districts or types of development. The requirement may need to be tested on the ground somewhat to see what it means. It is important to set a bar that can be cleared, not one that will dissuade anything happening.
- At what point in growth of a tree will canopy be measured? Trees are dynamic. This could pose a challenge.
- Consider measuring the value of ecosystem or environmental services trees provide to help form or explain requirements.
- The cooling ability of trees should be considered in the scoring of trees – e.g., smaller or decorative trees do not provide as much cooling benefit as larger canopy trees.
- We should be mindful of the gentrifying effects of more tree canopy and mitigate those potential impacts.
- Zoning recommendations should include requirements for canopy coverage in cool corridors.

- Make sure there is enough open area, so trees have growing space, whether it's through zoning or a non-zoning program.

General recommendations regarding zoning changes

Focused approach

- Seek to reduce regulatory burdens wherever possible.
- Need to think about the applicability and impact of these strategies. Since zoning impacts new development, strategies should focus on property types and conditions that are most likely to see change.
- Not everything can be addressed through zoning. For example, many social equity concerns need to be addressed through City assistance and other programs.
- What other incentives besides GFA incentives can be offered that do not incentivize more development?
- Not just about stopping the bleeding, but also about making real improvement.
- Need to accommodate growth and development in the city, but also need balance with environmental concerns.
- Some standards should be applied citywide, but equity needs to be considered to ensure that vulnerable populations are not disproportionately burdened.

Balancing complexity and feasibility

- Flexibility in parameters and how to achieve requirements allows the best solutions to be designed in different contexts.
- Flexibility in the development review process is desirable.
- Setting a prescriptive standard limits the ability to require or allow other interventions.
- An ideal balance may be setting minimum prescriptive standards with higher performance standards, with some incentives for the highest standards.
- For larger scale developments, more scientifically rigorous study or justification of options is reasonable, but is not realistic for smaller projects. Baseline provisions should be more prescriptive, with more complex performance-based standards that can be used as an alternative. Perhaps a performance-based approach such as the cool factor scoring system would kick in at a certain size of development.
 - Could watershed or district areas be established so that homeowners do not have to analyze their properties, but can check their district to know the level of resilience-related zoning codes they must abide? For example, for canopy cover?
- Performance-based approaches should not be so complex or so ambitious that they dissuade doing anything at all to improve the resilience of properties. In some instances, it would be better to set a low number for a standard than have no number.

Public comment

- Beware of the problems with “spot zoning” and overlay district zoning. The floodplain district in Alewife should be used make development in Alewife more resilient. Linkage mitigation is used in cities around the country and should be considered here. Resilience in East Cambridge is also

important because of income disparities there. The whole ecology, not just trees, needs to be considered.

- The number of cars parking in the City is concerning. The City should take more of a role in public transportation. The trees on Avon Hill make it hard to park. The number of delivery trucks get in the way. There is not enough room for all the cars.
- The Task Force should submit a bulleted list of recommendations, but then reconvene when zoning is drafted for two or three other conversations to refine recommendations. Options for implementation should also be developed. Currently, the examples being discussed are not very concrete.
- This is urgent. Many large developments are being proposed regularly. You may need to consider triaging to focus on recommendations that will make the most difference and for which there is the most agreement to go into a zoning package for the City Council to consider sooner. Recommend focusing on new and larger development, and then work back to a package on smaller development, and then later a question of renovations.
- Are solar installations being considered for their resilience factor in this Task Force?
- Tree canopies will not prevent absorption of solar heat by many houses.
- There is a definition of a green area that is specific and beneficial that was put in place to protect abutting neighbors near Mass. Ave. The beneficial effects of landscaped green space are many, including cooling, oxygenating, and for mental health. Affordable housing is exempt from landscaping requirements.

The meeting was adjourned at 8 PM.