

**Climate Resilience Zoning Task Force
City of Cambridge, Massachusetts
Meeting #17 Summary
February 18, 2021**

Task Force Members Present

1. Jason Alves, East Cambridge Business Association
2. John Bolduc, Environmental Planner
3. Doug Brown, West Cambridge Resident
4. Tom Chase, Energy & Resilience Consultant, New Ecology
5. Ted Cohen, North Cambridge/Planning Board
6. Nancy Donohue, Cambridge Chamber of Commerce
7. Iram Farooq, Assistant City Manager for Community Development
8. Brian Goldberg, MIT Office of Sustainability
9. Mark Johnson, Divco West
10. Tom Lucey, Harvard University
11. Rick Malmstrom, Alexandria
12. Margaret Moran, Cambridge Housing Authority
13. Mike Nakagawa, North Cambridge Resident
14. Jim Newman, Resilience Consultant, Linnaean Solutions
15. Craig Nicholson, Just-a-Start
16. Mike Owu, MITIMCo
17. Kathy Watkins, City Engineer/Assistant Commissioner for Public Works

Project Staff and Facilitation Team Members Present

1. Jeff Roberts, Director of Zoning and Development, City of Cambridge
2. Sarah Scott, Associate Zoning Planner, City of Cambridge
3. Nathalie Beauvais, Climate Change Preparedness & Resilience Plan consultant, Kleinfelder
4. Elizabeth Cooper, Facilitator, Consensus Building Institute
5. Mariana Rivera-Torres, Facilitation team, Consensus Building Institute

Next Steps

The next Task Force meeting will be held on March 3, 2021, at 5:30 pm. The Task Force will continue the process of determining what recommendations move forward with consensus support in the Task Force's package of zoning changes.

Meeting Materials

For more details of the discussion summarized below, see the meeting materials available on the CRZTF webpage: <https://www.cambridgema.gov/CDD/Projects/Zoning/climateresiliencezoning>.

Meeting Overview

The City of Cambridge's Climate Resilience Zoning Task Force (CRZTF) held its seventeenth meeting on February 18, 2021. The facilitator and staff from the City's Community Development Department (CDD) reviewed the timeline and process for completing the Task Force's work. Then, CDD staff provided a brief overview of the revised final recommendations. Task Force members engaged in real-time polling and deeper discussion with the goal of determining what recommendations move forward with consensus support in the Task Force's package of zoning changes. The meeting had two periods of public comment, one at the beginning and one at the end. This meeting was conducted via Zoom webinar because of COVID-19 restrictions on in-person meetings. Below is a summary of key themes and next steps discussed at the meeting. This summary is not intended to be a meeting transcript. Rather, it focuses on the main points covered during the Task Force's discussions.

Meeting Summary

Welcome and Housekeeping

Jeff Roberts, Director of Zoning and Development at the City of Cambridge, welcomed Task Force members and public participants to the meeting and recapped the online public meeting guidelines. Elizabeth Cooper, lead facilitator from the Consensus Building Institute (CBI), reviewed the agenda and objectives. The group also reviewed the past meeting summary (Meeting 16), available on the CRZTF webpage, and provided some feedback. The facilitation team will make appropriate revisions to the summary before finalizing it.

Testing Task Force Consensus on Proposed Zoning Recommendations

Elizabeth Cooper reviewed the Task Force's role and the definition of consensus. During the meeting, the Task Force sought to determine what recommendations move forward with consensus support in the Task Force package of zoning changes, through live polling and discussion. Based on the conversation, CDD staff would draft the report for the Task Force members to review and comment on. Please refer to the revised table of recommendations on the CRZTF webpage listed above for details on each recommendation.

Discussion:

A Task Force member expressed concern that consensus recommendations may not reflect bold ambitions and standards, which could leave the City unprepared for future conditions. Others highlighted that for some consensus will mean "the least you can live with," while for others it would mean "the most you can live with".

Revised Recommendations

City staff assembled the recommendations presented based on the discussion of the Task Force over the past several months on how to amend the Cambridge Zoning Ordinance to make the city more resilient to climate change impacts. Staff focused on the zoning principles, seeking to

maintain some degree of choice and flexibility, and acknowledging zoning is only one tool in the toolkit to build resilience.

The recommendations were grouped and discussed in five categories: (1) New or Amended Standards, (2) Large Project Review, (3) Remove Impediments in Base Development Standards, (4) Strengthen Base Development Standards, and (5) Future Study. These recommendations would need more detailed work to become specific text changes to the Zoning Ordinance.

Jeff Roberts provided an overview of each category, highlighted modifications made in response to previous feedback from the Task Force, and answered clarifying questions from Task Force members. Then, Task Force members engaged in live polling to gauge whether they would be able to support the Task Force package of zoning changes if each recommendation were included. After voting, the facilitator opened discussion to listen to remaining concerns and take note of specific feedback on how those concerns could be addressed, whenever possible.

Task Force Discussion

Category 1: New or Amended Standards

This category includes new concepts that would need to be defined or existing standards that would need to be re-defined to implement the other recommendations. This section is focused on establishing metrics and definitions.

| | Topic | Recommendation |
|----|--|---|
| 1a | Projected Flood Elevation Reference Standards | Establish 10% and 1% probability “long-term flood elevations” based on approximately 50-year climate projections. Update at regular intervals as science evolves with advance publication before they become effective. |
| 1b | Definitions and Minimum Standards for Cooling Strategies | Establish definitions and minimum standards for cooling strategies, e.g., a Cool Factor, such as soil volume for shade tree planting (by tree size), other plantings by size/intensity, depth/planting standards for green roofs (amending current definition), definition of high-SRI surface. Supplement with guidance documents. |

Live Polling Results



Clarifying Questions & Remaining Concerns:

- Staff clarified the Projected Flood Elevation Reference Standards (Flood Viewer) would apply throughout the city, based on elevation not location.
- A Task Force member would like future opportunities to review the details behind the definitions presented. These definitions can be found in the Cambridge Cool Factor Guidance Document, which is being updated in tandem with the Cool Factor Score Sheet.
- Another Task Force member requested a public comment period to highlight existing inaccuracies in the current Flood Viewer and establishing mechanisms for appeal.

Outcome:

- Sixteen of the seventeen Task Force members supported moving forward with recommendations 1a and 1b. One Task Force member decided to abstain from voting, since they had not reviewed the proposed definitions in detail.

Category 2: Large Project Review

This category refers to the addition of new resilience standards that are applicable to major new development regulated by Article 19.000 (including Green Building Requirements in Section 22.20); generally, developments of 25,000+ square feet.

| | Topic | Recommendation |
|----|--|---|
| 2a | Resilience Narrative for Planning Board Review | Require a Resilience Narrative in Section 19.20 (Project Review Special Permit) to include projections for flood risk and heat risk and description of mitigation strategies, including flood protection, heat island mitigation, passive resilience measures, and operational preparedness. |
| 2b | Resilience Criteria for Project Approval | Add to Section 19.30 a Resilience Objective that development is planned to respond to anticipated effects of climate change, with indicators related to flood protection, heat island mitigation, passive resilience measures, and operational preparedness. |
| 2c | Performance Standards for Flood Resilience | Add Flood Resilience Requirement to Section 19.50: <ul style="list-style-type: none"> Below 1%-probability long-term flood elevations: <ul style="list-style-type: none"> Protect vulnerable residential living space and critical building systems; Design other built spaces to recover without irreparable damage. Below 10%-probability long-term flood elevations: <ul style="list-style-type: none"> Protect principal-use spaces intended for regular active use; Design other accessory spaces (e.g., storage) to recover without irreparable damage. |
| 2d | Performance Standards for Cooling | Add Cool Factor Requirement to Section 19.50, calculating the score based on a weighted combination of cooling strategies on a site, with 20% minimum target. |

Live Polling Results



Clarifying Questions & Remaining Concerns:

General Questions and Comments:

- Jeff Roberts clarified that these resilience standards would also be applicable to existing buildings making significant alterations. Alterations could not make the building less conforming than the current structure in place.

2a. Resilience Narrative for Planning Board Review

- Staff clarified that the goal of this strategy is to develop a fact-based narrative that describes projected flood and heat risk as well as specific measures proposed. For flood risk projections, the definition will be based on the City's projections as outlined in the FloodViewer and projected in the Climate Change Vulnerability Assessment (CCVA). All structures are required to reduce heat island effects, regardless of their location in the heat maps in the CCVA.
- Beyond seeing how a building complies with the standard, a Task Force Member would like to see what actions are done that could go against the standards. They asked whether there is a difference between commercial and residential standards in the narrative presented. Specifically, they would like to know if there are considerations for vulnerable small businesses that rent building space. Staff clarified that zoning does not specify actions based on whether the space will be rented or owned by the user, but that it does differentiate between commercial and residential uses.

2b. Resilience Criteria for Project Approval

- Task Force Members would like to review the details on the indicators described (i.e., flood protection, heat island mitigation, passive resilience measures, and operational preparedness). These indicators will be developed after consensus has been reached among the Task Force and would include descriptions with facts, figures, and measurements. Task Force Members will have the opportunity to provide input and review the wording once developed.

2c. Performance Standards for Flood Resilience

- One Task Force member raised concerns related to special considerations that historic structures in Cambridge may need, particularly for proposed alterations that may not be able to meet the flood standards. Staff explained that a standard could be written so that modifications would be allowed through a Planning Board special permit process. Staff suggested that clear mechanisms for appropriate exemptions could be included as part of the recommendation.
- A Task Force Member suggested that, especially in cases where the difference between a 10% and 1% storm is small in terms of flood elevation, large project review buildings should be required to protect to 1% probability storms. Kathy Watkins, City Engineer/Assistant Commissioner for Public Works, clarified that buildings still need to recover to the 1% elevation, and that protecting to 1% beyond the "recover" requirement would be quite conservative. The Task Force member suggested language to urge and encourage developers to protect to 1% where possible and to use special project review to encourage this where possible. Staff agreed that that was feasible.

- Another Task Force member expressed concern that requiring a variance to receive relief from this requirement (and in recommendation 2d) could pose a problem for development occurring under the Affordable Housing Overlay (AHO) zoning. As currently formulated, the AHO does not allow variances, so any applicant under the AHO would need to be able to seek relief from resilience zoning, otherwise the developer would have to use the 40B development process. City staff suggested adding language to the final Task Force report that states that the Task Force seeks to ensure that the goals of the AHO are not compromised by these requirements.

2d. Performance Standards for Cooling

- A Task Force Member asked if staff considered including the Green Factor, in addition to the Cool Factor. Jeff Roberts responded that the Cool Factor is a version of the Green Factor that is specifically focused on cooling. The standard focuses on heat mitigation because Cambridge already has standards for other issues that various Green Factors attempt to address, such as stormwater management. The Cool Factor includes most strategies included in other cities' Green Factors but eliminates those that do not have a scientifically proven ability to reduce ambient air temperature and adds ones that do. Other Task Force Members suggested that if strategies identified in other Green Factors are not included in the Cool Factor, but would achieve the Task Force's principles and objectives, they could be incorporated in the Cool Factor.
- Staff clarified that the requirement that building alterations not be "less conforming" means that the Cool Factor score for a parcel could not decrease because of an alteration. Since projects for which Cool Factor applies go through a special permit review, there would be an opportunity for staff and the Planning Board to recommend improvements to the applicant that would increase their Cool Factor score.
- A Task Force Member expressed concern with the fact that the recent Affordable Housing Overlay (AHO) indicates that projects under the AHO are subject to Articles 22 and 20 but excluded from Article 19. This exclusion could put people living in affordable housing in a disadvantage in terms of having the benefits of the Cool Factor provisions included in Article 19. Others agree this consideration is important, as the Task Force wants to cover all large projects and residential buildings are the most important areas to bolster heat resilience. The concern raised above in discussion on 2c about the need for a variance pushing a proposed affordable housing development out of consideration under the AHO was raised regarding the Cool Factor as well. Jeff Roberts noted that this consideration should be emphasized in the final report and flagged for the City Council to address in its implementation of Task Force recommendations in order to ensure that the intentions and impact of both the AHO and the Cool Factor are realized.
- A Task Force member was concerned with supplanting the Green Factor and adding engineered solutions in addition to vegetative ones. They were also concerned that some resilience issues are not addressed in the Cool Factor. They would like to encourage people to add and preserve as much green space (e.g., trees, vegetation) as possible, find an easier way to compare sites, and consider adding a minimum standard for site greening. In response, Kathy Watkins noted that the proposed Cool Factor summarizes and breaks down how many points are obtained from green strategies as a proportion of

the full Cool Factor score. This number could be easily divided by lot size for comparison. Another possible calculation could be total “cooling” per lot area. Task Force members had differing views on whether to include that calculation in a separate section at the bottom part of the current sheet. Some believed it would be useful information for the Planning Board to have when making decisions, serve as useful data-gathering and benchmarking for the future, and could address potential “green washing” by presenting an absolute score. Other Task Force Members thought that adding additional information that is not calculated as part of the Cool Factor score could be confusing. While these Task Force members were not opposed to gathering additional information, they were not fully supportive of adding it to the form.

- Considering that the Cool Factor score is calculated using the open space requirement as a coefficient, a Task Force member remained concerned with industrial sites’ small open space requirements and high heat impact. Jeff Roberts noted that establishing a 20% minimum, as proposed, would be a higher coefficient than most open space requirements in the City, especially for projects of the size to which Cool Factor would apply. A Task Force member also wanted the minimum to be 25% instead of 20%.

Outcomes:

- Recommendations 2a and 2b are ready to move forward.
- Recommendation 2c: Staff will explain mechanisms to address concern related to historic buildings, specifically laying out options for how “protect” standards could be met. Staff will also prepare to add narrative language in the report to explain the benefits of protecting to a higher standard (e.g. to 1% storm) when doing so is feasible for the project. Further, staff will revisit and discuss the issues raised regarding the Affordable Housing Overlay and Article 19 to flag for the Council.
- Recommendation 2d: The Task Force will revisit the Cool Factor after staff makes suggested revisions to the score sheet to highlight green strategies and allow for easy comparison across sites.

Category 3: Remove Impediments in Base Development Standards

This category includes strategies that would adjust current zoning standards that prevent or discourage the resilience measures that are recommended in the City’s Climate Change Preparedness and Resilience planning.

| | Topic | Recommendation |
|----|--------------------------------|--|
| 3a | Shade Canopies | Exempt outdoor shade canopies from GFA, height, setback, and open space limitations, provided the canopy surface is either solar, vegetated, or high-SRI. |
| 3b | Site Flood Protection | Exempt exterior flood-resilience measures including elevated stairs/ramps and flood barriers (up to the 1%-probability long-term flood elevation, but no more than 4’ above grade) from GFA, setback, and open space limitations. |
| 3c | Green Roofs | Exempt usable green roof areas and rooftop access headhouses from GFA and height limitations as-of-right, requiring a maintenance/upkeep plan to ensure ongoing functionality. |
| 3d | Elevating for Flood Protection | Allow a compensating increase in height limit if the ground story is elevated up to the 1%-probability long-term flood elevation, but no more than 4 feet, and all space below grade is protected or recoverable (depending on use). |
| 3e | Basement Flood Protection | Exempt basement area (stories below grade) from GFA limitations as-of-right, if protected from flooding below 1%-probability long-term flood elevation. |

Live Polling Results



Clarifying Questions & Remaining Concerns:

3a. Shade Canopies

- A Task Force Member asked if there are limits to the GFA exemption allotted. Staff currently did not specify limitations but could consider if need be. Another Task Force

member expressed a concern with exempting shade structures from height and/or setback requirements.

3b. Site Flood Protection

- No comments.

3c. Green Roofs

- No comments.

3d. Elevating for Flood Protection

- Staff will correct the recommendation to indicate all space “below flood level” is protected or recoverable, not below grade.

3e. Basement Flood Protection

- No comments.

Outcomes:

- One Task Force member abstained from voting on recommendation 3a. All recommendations under this section are ready to move forward.

Public Comment

- Councillor Patricia Nolan applauded the Task Force’s work and expressed that the recommendations seem logical, although lacking depth and specificity. She appreciated the Cool Factor but was surprised with the absence of a Green Factor. Councillor Nolan also expressed concern about the limited focus on insulation standards and electrification. She encouraged the Task Force to be bolder in its recommendations and to give the City Council more direct guidance on how to implement climate resilient zoning.
- A public participant encouraged the Task Force to be bolder and lean towards establishing requirements, beyond incentives. They suggested hiring new staff with the technical capacity to support the Planning Board’s review of new projects. Further, they were concerned about maintenance and enforcement, suggesting that the City create a website where the public can report any faulty resilience measures. They concluded that setting standards is good, but there should be a focus on encouraging action.
- A public participant thanked the Task Force for their commitment and work thus far. They were concerned that the Envision Cambridge recommendations have been watered down and are now presented as incentives and not mandates. They encouraged members to consider the neighborhoods that are the most vulnerable to climate impacts. They were not supportive of the Cool Factor and advocated for the Green Factor instead.
- Another member of the public echoed previous remarks. They highlighted Seattle’s Green Factor, which they believe has been highly effective. They reported that now in Seattle, green roofs represent 30% of all rooftops. They liked the idea of including the green metric as data collection; otherwise, they feared that the strategies would not yield resilience benefits, meet citizens’ expectations, and support future generations.

Next Steps

- The next Task Force meeting will be held on March 3, 2021, at 5:30 pm. The Task Force will continue the process of determining what recommendations move forward with consensus support in the Task Force's package of zoning changes.
- Staff to draft final report, then circulate for Task Force member input before submitting it to the City Manager.

The meeting was adjourned at 8:15 PM