# Zoning & Planning Committee Report

## City of Newton In City Council

### Monday, April 11, 2022

**Present:** Councilors Crossley (Chair), Danberg, Ryan, Leary, Albright, Krintzman, Wright, and Baker
**Also Present:** Councilors Laredo, Greenberg, Lucas, Bowman, and Malakie

**Planning & Development Board:** Peter Doeringer (Chair), Kevin McCormick, and Kelley Brown

**City Staff:** Barney Heath, Director of Planning & Development; Zachery LeMel, Chief of Long-Range Planning; Andrew Lee, Assistant City Solicitor; Cat Kemmett, Planning Associate; Liora Silkes, City Energy Coach; Ann Berwick, Co-Director of Sustainability; Nathan Giacalone, Committee Clerk

**#193-22** **Appointment of Jennifer Pucci to the Zoning Board of Appeals**
HER HONOR THE MAYOR appointing Jennifer Pucci, 22 Florence Court, Newtonville as an associate member of the Zoning Board of Appeals for a term of office to expire on April 19, 2023. (60 days: 05/20/22)
**Action:** **Zoning & Planning Approved 6-0 (Councilors Baker & Danberg not voting)**

**Note:** Attorney Pucci introduced herself and described her interest in joining the Zoning Board of Appeals (ZBA). Ms. Pucci noted that until recently she worked as a litigator for the City's Law Department before leaving for another position. Having enjoyed her work for the City and being a resident, she stated that she wants to remain involved and serve at the local level and that the ZBA seemed a natural fit for her.

Committee members noted Ms. Pucci's impressive and relevant experience and expressed appreciation for her willingness to serve.

Councilor Albright made a motion to approve which carried 6-0 (Councilors Baker & Danberg not voting).

**#194-22** **Appointment of John Sisson to the Newton Historical Commission**
HER HONOR THE MAYOR appointing John Sisson, 45 Greenlawn Avenue, Newton as an Alternate member of the Newton Historical Commission for a term of office to expire on April 19, 2025. (60 days: 05/20/22)
**Action:** **Zoning & Planning Approved 4-0-2 (Councilors Ryan & Wright abstaining; Councilors Baker & Danberg not voting)**

**Note:** Mr. Sisson introduced himself to the Committee and described his interest in joining the Newton Historical Commission (NHC). He noted that as a 16-year resident he has enjoyed being involved locally to contribute to the community. He created "Newton Villages", a group exploring ways to improve upon Newton's village vitality and produced a magazine on the subject. He was a member of the NHC some years ago before stepping away to address a family matter. As the Economic Development Director for the Town of Dedham, he has a particular interest in village center vitality and understands the value of preserving historic resources.

Committee Discussion, Questions, and Comments:
Councilors thanked Mr. Sisson for his past civic contributions and willingness to serve.

**When the Council revised the Landmark Ordinance, the role of the Planning Board was added to consider and recommend whether landmarking a property would be consistent with city plans and policies, but some NHC members were unaware. Is this something you are aware of?**
Mr. Sisson answered that he was not aware prior to the NHC meeting he observed where the Senior Center was proposed for landmarking, and that examining the ordinances will be a first priority for him. He added that landmarking can be a good tool when used proactively rather than reactively.

**As the Dedham Economic Development Director how do you manage historical buildings with respect to development?**
Mr. Sisson responded that Dedham does not have a demolition delay bylaw but does have three historic districts, and that surveys have been conducted to identify historically significant housing beyond that. Areas to be protected have been identified. Those areas which can be developed are considered with an emphasis on creating a strong sense of place and improving the quality of life.

Councilor Leary made a motion to approve which carried 4-0-2 (Councilors Ryan and Wright abstaining; Councilors Baker and Danberg not voting).

**#195-22** **Appointment of Anne Marie Stein to the Newton Historical Commission**
HER HONOR THE MAYOR appointing Anne Marie Stein, 31 Madoc Street, Newton as an Alternate member of the Newton Historical Commission for a term of office to expire on April 19, 2025. (60 days: 05/20/22)
**Action:** **Zoning & Planning Approved 7-0 (Councilor Danberg not voting)**

**Note:** Ms. Stein introduced herself and described her interest in joining the NHC. She answered that she has lived in Newton for 30 years and went through the NHC historic review process when renovating her own home. Additionally, Ms. Stein stated that she brings professional experience from MassArt. Over the past few years, she began a project with one other resident documenting teardowns in Newton and has so far catalogued almost 200 houses. She added that this collection of photographs and stories will be hung in the Newton Library in September.

Committee Discussion, Questions, and Comments:
Councilors thanked Ms. Stein for her willingness to serve.

**Having seen the fabric of Newton change do you feel comfortable acting in a preservation role?**
Ms. Stein responded that she would be supportive of preserving neighborhood character and that she is prepared to support the demolition delay when appropriate.

**It is important to maintain the historic nature of our community, so we do not forget the past, particularly in areas like Oak Hill Park which have seen many teardowns.**
Ms. Stein responded in agreement, adding that sometimes homes are torn down before she can document them.

Councilor Leary made a motion to approve which carried 7-0 (Councilor Danberg not voting).

**#38-22** **Discussion and review relative to the draft Zoning Ordinance regarding village centers**
ZONING & PLANNING COMMITTEE requesting review, discussion and possible ordinance amendments relative to Chapter 30 zoning ordinances pertaining to Mixed Use, business districts and village districts relative to the draft Zoning Ordinance. (formerly #88-20)
**Action:** **Zoning & Planning Held 8-0**

**Note:** The Committee was joined by Zachery LeMel, Chief of Long-Range Planning, who delivered a brief presentation (attached), reviewing the discussion with Utile and Landwise at the prior meeting on March 28th which used Newton Centre for analysis of development scenarios. Using the regulatory framework in our MU4, BU3, and BU2 zones, hypothetical projects were analyzed on existing parcels for financial feasibility and urban form. In each case, the by-right option did not allow for a financially feasible project, but using what is allowed by special permit, could produce financially feasible options. Mr. LeMel also reminded that certain key factors such as required parking minimums, and restrictive floor-to-floor heights, are barriers to certain development. In the latter case, it is now understood that higher floor to floor heights are needed for retail and restaurant uses on the ground floor, than for residential uses. Using the feedback received at the March 28th meeting, Utile will be returning to ZAP for the April 25th meeting to run more development scenarios along with some financial analysis considering condominiums versus rental units.

Committee Discussion Questions and Comments:
**Why is there no lot area per unit requirement under the MU4 zone?**
Mr. LeMel answered that this requirement should be omitted under all of these zones because it is a redundant requirement which artificially limits the number of units, and since the developer normally seeks to build the maximum square footage permitted, having a lot area per unit requirement promotes larger more expensive units.

**What is the difference between setbacks and stepbacks?**
Mr. LeMel responded that setbacks pertain to the required distance a building may be from a property line, while "stepbacks" pertain to a requirement that upper stories be stepped back further from the building line above a certain height.

**In the Washington Street Vision Plan, village centers have a four-story maximum but under this proposal there are five, will each center have a different maximum?**
Mr. LeMel stated that the different tiers will be presented, and the village center size will be used to determine the type of tiers used.
**Follow up note:** Although the Washington Street Vision Plan was adopted in 2019, which proposes allowing three stories by right, and four to six stories in different locations, the draft zoning for the area has not been adopted.

**It would be interesting to see what is driving the one-to-one or higher parking ratio before moving forward on more assumptions.**
Mr. LeMel responded that the analyses used a parking ratio that has been allowed routinely by special permit of 1.25. This ratio of 1 to 1.25 is what it says in the existing zoning to allow by special permit; see section 5.1.4. Additionally, Landwise used numbers from recent projects in Newton gathered from building permits and other sources.

**Did construction costs take todays costs into account or use a forecast?**
Mr. LeMel answered that they used actual costs from current and prior projects, which were obtained from property owners/ developers.

Councilors discussed the role minimum parking requirements play in this process. Some felt that it will be necessary to remove parking requirements altogether, believing that developers will ensure that they have enough parking to meet the need and that it will promote more affordable moderate density housing. Others urged caution, stating that removing these minimums could have a negative impact on the surrounding neighborhoods and that it cannot simply be left up to the market to decide. It was suggested that since the Land Use Committee routinely waives parking requirements through the special permit process, that parking requirements can at least be reduced.

It was also stated that removing the lot area per unit requirement would incentivize the construction of smaller units.

Mr. LeMel clarified that the input costs and data could be expanded at a later date as new information is gathered. Additionally, the consultant can provide more details about their methodology as desired. He also felt it made sense to deal with parking requirements separately for residential versus commercial uses and emphasized that there is no intention to eliminate the special permit process. Rather these proposals are meant to understand and improve the triggers which activate a special permit, while setting a by-right allowance that is viable, feasible, and desirable.

**Recently a modest three-story building was proposed on California Street with retail on the ground floor and small apartments above. How was this smaller scale development economically feasible at this location?**
Mr. LeMel responded that this project is replacing existing buildings with over 11,000 square feet of commercial space. This is pointed out given Newton's relatively low commercial tax base. On addition, many projects like this are feasible when the owner purchased the property many years ago or inherited the property. If so, the land cost is nearly '$0' - which makes these types of projects feasible.

Councilor Baker made a motion to Hold which carried 8-0.

**#192-22** **Request for review and amendments to Section 6.7.1**
COUNCILORS CROSSLEY, DANBERG, LIPOF, KELLEY, ALBRIGHT, NORTON, BOWMAN, GREENBERG, HUMPHREY, LEARY, RYAN, AND KRINTZMAN requesting a review of and possible amendments to, Section 6.7.1 Accessory Apartments, to remove barriers to creating accessory apartments, such as to consider conditions under which detached ADUs may be allowed by right, and under which ADUs may be permitted as part of new construction.
**Action:** **Zoning & Planning Held 8-0**

**Note:** Planning Associate Cat Kemmett delivered the attached presentation on possible amendments to remove additional barriers to accessory dwelling units (ADUs). She briefly described the existing ADU ordinance, its history in the city since 1987, benefits, and current rules and remaining barriers. Ms. Kemmett stated that the proposal is to effect relatively small changes the Council has been considering. An ADU is a self-contained residential apartment within an existing home or accessory building on a property. These can be flexible in form and are permitted city-wide, but only one is allowed per property and the property owner must live on the property. Most detached ADUs require a special permit for construction (except those created within historic carriage houses, not in historic districts) and the principal dwelling must be at least four years old. ADUs provide flexibility to the homeowner and can also assist those seeking to age in place. Different rules exist for internal and detached ADUs. The ordinance was amended in late 2017 to ease restrictions on ADUs, most notably that ADUs are now allowed by right internally in all single- and two-family homes, requiring only a building permit. Before these revisions, only up to three ADUs were approved each year. but after the 2017 revisions about 10 ADUs are permitted per-year. Ms. Kemmett then discussed the Housing Choice Law approved in Massachusetts in 2021 which attempts to make it easier to construct ADUs across the state.

Ms. Kemmett described the barriers to ADUs, highlighting that new construction may not achieve certification for an ADU for four-years, that most detached units require a special permit, and that setbacks for accessory buildings for any other use are five feet from a side or rear lot line, but currently, setbacks for detached accessory apartments must be the same as for the primary dwelling, which are routinely waived by special permit. The recommendation would be to address each of these barriers to promote the construction of ADUs in Newton. She closed the presentation, stating that based upon the conversation tonight, the Planning Department is looking forward to presenting its proposals to the Committee later this year.

Committee Discussion, Questions, and Comments:

**Requiring the second means of egress can be another barrier, can this be addressed or is it within the building code?**

The Chair answered that two means of egress from any dwelling unit is required by the MA building code so the City cannot do anything about this.

**Must historic carriage house conversions go before the NHC?**

Ms. Kemmett confirmed that they do.

**Are there any comments on how the ADUs built since 2017 have fit into the community?**

Ms. Kemmett answered that Councilors would likely know this better. She did add that ADUs are typically built for family members and many of those approved have either been within existing buildings or pre-existing units which were legalized.

**How many of the illegal units in Newton have been brought up to code through this ordinance?**

Ms. Kemmett responded that this would be a question for ISD, and that she would follow up.

**If internal ADUs are allowed by-right, is a special permit needed if it requires an addition to the house?**

Ms. Kemmett answered that a special permit is not needed if within the allowed Floor Area Ratio (FAR) and any other dimensional requirements.

**The Planning Memo mentioned other communities that are changing their ADU rules, have they done so yet?**

Ms. Kemmett responded that Planning would have to look into this more as there is a wide spectrum of ADU ordinances among these communities which are in many ways different than Newton's ordinance.

Councilors were generally supportive of revisions to the ADU ordinance, stating that ADUs could help achieve the smaller housing the City is looking for. Some felt that removing the four-year moratorium and reducing setback requirements would be acceptable, citing a minimal impact on the neighbors. Others urged caution at this, stating that these provisions were put in place to minimize neighborhood impact, specifically that the four-year moratorium was meant to deter teardowns. They emphasized that any changes should be made carefully and also take precautions against teardowns.

It was suggested that if reducing the required setbacks, then the ordinance should require some form of buffering (landscaping/ fencing to be approved by staff) between neighbors. Other Councilors emphasized the potential for these units to offer housing to elderly family members. There was also interest in separating the rules for detached ADUs and distinguishing between exiting buildings and new construction.

A Councilor stated that allowing ADUs in new construction is building a de facto two-family dwelling, creating a loophole for this housing and that the Council is trying to avoid a proliferation

of investment properties. In addition, she said that when units begin as built for family, they can be rented out to non-family later on. However, it was pointed out that significant differences with ADUs are: - that either the main house or ADU must be owner occupied, - the ADU may not be divided and sold separately as condos, - the ADU may not be used for short term rentals and may not exceed a certain size by-right. Some councilors requested more information from staff on the effectiveness of the size requirements, data on who owns the ADUs and how precisely buffering requirements could be written into an ordinance.

Councilor Baker made a motion to Hold which carried 8-0.

**#227-22** **Request for ordinance to regulate embodied carbon in new construction**
COUNCILOR CROSSLEY, on behalf of the Climate & Sustainability Team, requesting a discussion with the Sustainability Team and Planning Department, and to amend the zoning ordinance (Section 5.13, notable 5.13.4.D Reserved) to regulate embodied carbon in large new construction, to further the objectives of the city's Climate Action Plan.

**Action:** **Zoning & Planning Held 8-0**

**Note:** The Chair introduced this item, stating that she docketed it on behalf of the Climate Sustainability team, who have been working with members of the Green Newton Building Standards Committee have and Law department for about nine months to both understand the science and technologies that allow embodied carbon to be measured and reduced, and to learn what the ordinance language should cover versus what belongs in rules and regulations. This is to fill in a section of the ordinances that was reserved when Council passed a range of ordinances designed to inform Special Permit Criterion 5. Tonight, they will present to the Committee an overview of embodied carbon.

The Committee was joined by Energy Coach Liora Silkes, Co-Director of Sustainability Ann Berwick, and members of the Green Newton Building Standards Committee: Structural engineer Mark Webster, Beverly Craig of the Mass Clean Energy Center and architect Russel Feldman. Ms. Silkes and Mr. Webster delivered the attached presentation.

Ms. Silkes stated that embodied carbon comprises the total carbon emissions produced in the manufacturing, transportation, installation, maintenance, and disposal of (building) materials and emphasized that it is a fairly new field of study. Ms. Silkes next addressed the City's Climate Action Plan (CAP), stating that it does not directly address embodied carbon. However, amendments to Section 5.13, adopted in 2019, which were adopted to provide metrics for evaluating compliance with Special Permit Criterion 5, do provide a reserved Section 5.13.4.D. This working group is preparing to develop ordinance language and rules to measure and then regulate embodied carbon in the construction of large buildings.

Mr. Webster, a professional structural engineer, has focused on reducing embodied carbon in his structural designs for a number of years. He described embodied carbon, why it is important to address as part of our Climate Action Plan, and what can be done to reduce it. Mr. Webster noted that as buildings become more energy efficient, and the grid becomes cleaner, embodied

carbon represents more GHG emissions than the energy needed to operate (heat, cool, ventilate and light) a building. Many tools are available to measure embodied carbon in building materials. He then described how when building new or renovating existing buildings, material choices, and even design choices can all cut down on embodied carbon. Specifically, he discussed how concrete is often a large source of embodied carbon and how technologies like using materials such as fly ash, slag and recycled glass in the concrete mix can reduce embodied carbon levels. If specified for new construction, we can lower the embodied carbon in construction.

The next steps in the process are to solicit Councilor feedback, meet with both the Chamber and Economic Development Commission, and return to the Committee with draft ordinance language in the future.

Councilor Discussion, Questions, and Comments:
Councilors thanked Ms. Silkes, Mr. Webster and the team for their work on the presentation, in particular Mr. Webster for making a complex technical subject understandable.

**What is the availability of the recycled materials and how do they impact the quality of concrete?**
Mr. Webster answered that these materials often improve the quality. While fly ash can include heavy metals, these are neutralized through the process of adding it to the concrete. He noted that some materials like fly ash are less available in this region due to the decline of coal-fired power plants.

**How do older structures compare to newer ones regarding embodied carbon?**
Mr. Webster responded that preserving old buildings is a great strategy to reduce embodied carbon as there is relatively much less construction activity in renovations.

**How much is embodied carbon an issue with residential buildings in Newton? How much does residential contribute compared to commercial?**
Mr. Webster answered that nationally, residential and non-residential properties each represent about half of total building. However residential is a greater percentage in Newton.

**Why is wood frame construction not the default (structural material) use if is so much better with embodied carbon?**
Mr. Webster stated that because of building fire code, wood frame buildings often cannot be as large and additionally, it usually cannot span as far as other materials. However, there are strategies to use wood in place of steel for a similar result.

**What is the certified wood mentioned in the presentation?**
Mr. Webster answered that this is wood from sustainably managed sources. Often certified wood also implies support for other social justice causes. This helps preserve forests and cut down on embodied carbon. About 20 percent of U.S. forests are certified under various systems through two main agencies, such as FSC labeled products, Forestry Service Certified.

**In many neighborhoods stucco is a widely used material, do you have any opinion on this?**
Mr. Webster answered that he does not know what the exact embodied carbon impact of stucco is, as his work is on larger buildings, but that it can be easily determined using the tools mentioned in the presentation.

For the next meeting on this item, Councilors requested more information on the recycled materials that would be used, as well as what potential costs would be of mandating these changes. It was also noted that recent special permits, such as Northland and Riverside, due to the Building Standards committee of Green Newton engaging with the developers, embodied carbon is being measured and specifications developed to reduce embodied carbon in structural materials.

Councilor Baker made a motion to Hold which carried 8-0.

**#228-22** **Resolution to pursue a Building Energy/Reporting/Reduction Ordinance**
COUNCILOR CROSSLEY ON BEHALF OF THE ZONING & PLANNING COMMITTEE, seeking a Resolution from the City Council confirming its support for pursuing an ordinance that would require large property owners to report annual energy use and greenhouse gas emissions, and then to reduce energy use and greenhouse gas emissions over time, to further the objectives of the Newton Climate Action Plan.
**Action:** **Zoning & Planning Approved 7-0 (Councilor Baker not voting)**

**Note:** The Chair introduced this item, noting that the Building Emissions Reduction and Disclosure Ordinance (BERDO) was discussed recently by a Committee of the Whole. At that meeting, there was widespread interest among the Council in pursuing development of such an ordinance for Newton. To make a clear statement to the community toward that end, the attached resolution was drafted.

No changes were made to the draft resolution.

Councilor Leary made a motion to approve the resolution which carried 7-0 (Councilor Baker not voting).

**#52-22** **Discussion and possible ordinance amendments regarding the utilization of electric vehicle charging stations**
COUNCILORS GROSSMAN, LAREDO, BOWMAN, NORTON, ALBRIGHT AND CROSSLEY requesting a discussion and possible ordinance amendments with the Planning Department and the Sustainability Directors regarding allowing the utilization of electric vehicle charging stations on private commercial parking lots BY CITY ORDINANCES, including but not limited to the use of digital advertising to pay for the stations and provide free charging to customers. (formerly #340-21)
**Action:** **Zoning & Planning Held 7-0 (Councilor Baker Recused)**

**Note:** The Committee was joined for discussion on this item by Mike Dennehy, General Manager of Volta Charging Boston and attorneys Tom Phillips and Michael Dolan, also speaking for Volta.

Councilor Laredo introduced this item as the lead docketer, stating that the attorneys approached him and Councilor Grossman, as well as some members of the Council on behalf of their clients, who are interested in installing electric vehicle charging stations that have digital advertisement screens that are not currently permitted by the Newton sign ordinance. Councilor Laredo stated that while he is neither in support nor against this currently, the idea deserves a conversation. He said that while this could support the City's climate goals (by increasing EV charging station deployments), the Council also needs to be careful with the signage it allows in the City.

Mr. Dennehy thanked the Committee for the opportunity to speak. He stated that he joined Volta after a career in public works, most recently as the town administrator in Milton. He said these charging stations stand about seven feet tall with digital screens which are 48 by 27 inches in dimension, with one on each of two opposite sides of the charger. The screens display static advertisements, with no audio, which alternate eight times per minute. Working on locations across Massachusetts, he stated that Volta would like to propose this project at the Chestnut Hill Mall to the Council at a later date.

Mr. LeMel added that the Urban Design Commission will now be able to review the sign ordinance after being backed up due to the Northland and Riverside projects.

Land Use will also look at things like this. Chair said the conversation tonight is to introduce the item and discuss the process by which this can be considered as part of other necessary revisions to the ordinance.

Committee Discussion, Questions, and Comments:

**Are these screens like those found at some gas pumps?**
Mr. Dennehy answered that they have no sound and that theirs have larger dimensions at 48 by 27 inches.

**Is this a for-profit company and does Volta pay for the operation?**
Mr. Dennehy confirmed that Volta is for-profit and that it pays for the infrastructure of these stations, which it subsidizes with advertising. Volta has some of these stations installed at the Natick Mall which does not pay for the units.

**Are these screens lighted at all times of the day or only when charging?**
Mr. Dennehy answered that they are on continuously but can be dimmed and set to run within a predetermined time frame (for example, only during business hours at the mall). Atty. Dolan added that they are prepared to comply with Newton's sign ordinance and that these units are deigned to target pedestrians, not moving vehicles.

**Are these DC fast chargers?**
Mr. Dennehy stated that they are L2 chargers.

Councilors asked if this request would also need to come before the Land Use Committee as the Chestnut Hill Mall operates under a special permit, and whether this use would require an amendment to the special permit site plan.

It was also stated that the Council will need to consider if these should be allowed at all and, if so, under what conditions. Some felt that this was an intriguing concept which could help the City meet its climate goals while others expressed caution at allowing more bright signage within the city. They also felt that the Council wants to hear from Sustainability on this and that it would be helpful to see examples presented to the Committee.

Assistant City Solicitor Andrew Lee added that Law and the Planning Department will work together to develop a process for review and updating the sign ordinance, including digital signage.

Councilors thanked Mr. Dennehy, and Attys. Phillips and Dolan for their time.

Councilor Krintzman made a motion to Hold which carried 7-0 (Councilor Baker recused).

The meeting adjourned at 10:16pm.

**Respectfully Submitted,**

**Deborah J. Crossley, Chair**

4/11/2022

# City of Newton
# Zoning & Planning Committee

Zoning Redesign

# Village Center Rezoning
# Phase 2, Scenarios

# Important Links

1. 3/28 ZAP presentation and report:
   https://www.newtonma.gov/home/showpublisheddocument/82561/637841543812970000 (presentation)
   https://www.newtonma.gov/home/showpublisheddocument/82915/637844260116000000 (report)

2. 2/28 ZAP presentation and report:
   https://www.newtonma.gov/home/showpublisheddocument/81553/637819174426530000 (presentation)
   https://www.newtonma.gov/home/showpublisheddocument/81715/637820084381300000 (report)

3. Zoning Redesign Village Center Webpage:
   https://www.newtonma.gov/government/planning/village-centers

# Agenda

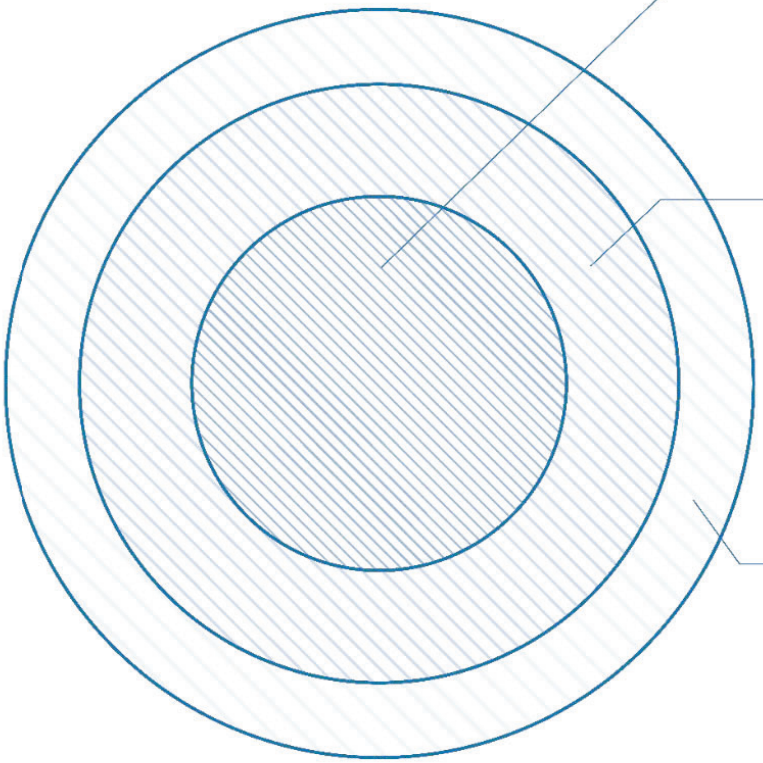
1. What was presented and takeaways from the 3/28 ZAP meeting
2. Looking ahead to the 4/25 ZAP meeting
3. Discussion

# What was presented at the 3/28 ZAP meeting
# **Analysis of potential zoning in large village centers**

1. Select a large village center for analysis: Newton Centre
2. Development scenarios on "hypothetical sites" using REVISED ZONING:
   a. Example with Mixed Use District 4 (MU4)
   b. Example with Business District 3 (BU3)
   c. Example with Business District 2 (BU2)
3. Analysis of:
   a. Zoning constraints
   b. Economic feasibility
   c. Achieves community takeaways

Zoning Scenarios

# Tiered Framework*



## Center

The heart of the village center, closest to transit.

### MU4

***FAR special permit***..... *2.5*
***Stories special permit***.. *5*
***FAR by-right***..... *1.5*
***Stories by-right***..... *3*

MU4 is a relatively new zone that has led to mixed-use multi-family developments in village centers. It is currently mapped in limited areas. It could be a promising model to apply near transit in village centers.

### Consider changing

- FAR
- Height
- Parking ratio

etc

## Periphery

The area around the center of the village, that is less intense than the center but more intense than the edge.

### BU3

***FAR special permit***..... *2.0*
***Stories special permit***.. *4*
***FAR by-right***..... *1.5*
***Stories by-right***..... *3*

BU3 allows less height and FAR than MU4, and allows for slightly more height than BU2. It is not currently mapped.

### Consider changing

- FAR
- Height
- Parking ratio

etc

## Edge

The furthest extent of the village center's area of influence.

### BU2

***FAR special permit***..... *2.0*
***Stories special permit***.. *4*
***FAR by-right***..... *1.0*
***Stories by-right***..... *2*

Current BU2 special permit zoning creates almost viable developments at a low scale. It is commonly mapped in village centers. With revisions, the BU2 zoning could allow for modest development.

### Consider changing

- FAR
- Height
- Parking ratio

etc

*This would require remapping the districts accordingly

Zoning Scenarios

# Findings From Applying Revised Zoning (existing districts)

### MU4 (center)

1. By-right doesn't pencil out.
2. Special permit pencils out for mixed-use residential development with underground parking.
3. Stepbacks can result in unpredictable and undesirable urban form.
4. Floor-to-floor heights (rather than number of stories) should be increased to allow for market-standard heights.
5. Lower parking requirements will result in better design outcomes.

### BU3 (periphery)

1. By-right doesn't pencil out.
2. Special permit can pencil out for residential with surface parking but leads to less desirable urbanism. Factors like minimum lot area per unit make other special permit options infeasible.
3. Floor-to-floor heights (rather than number of stories) should be increased to allow for market-standard heights.
4. Lower parking requirements will result in better design outcomes.

### BU2 (edge)

1. By-right doesn't pencil out.
2. Special permit doesn't work in most cases, medium-size parcels are potentially viable.
3. Floor-to-floor heights (rather than number of stories) should be increased to allow for market-standard heights.
4. Lower parking requirements will result in better design outcomes.

Zoning Scenarios

# Ensuring viability and desirability in Village Centers

## Viable Development

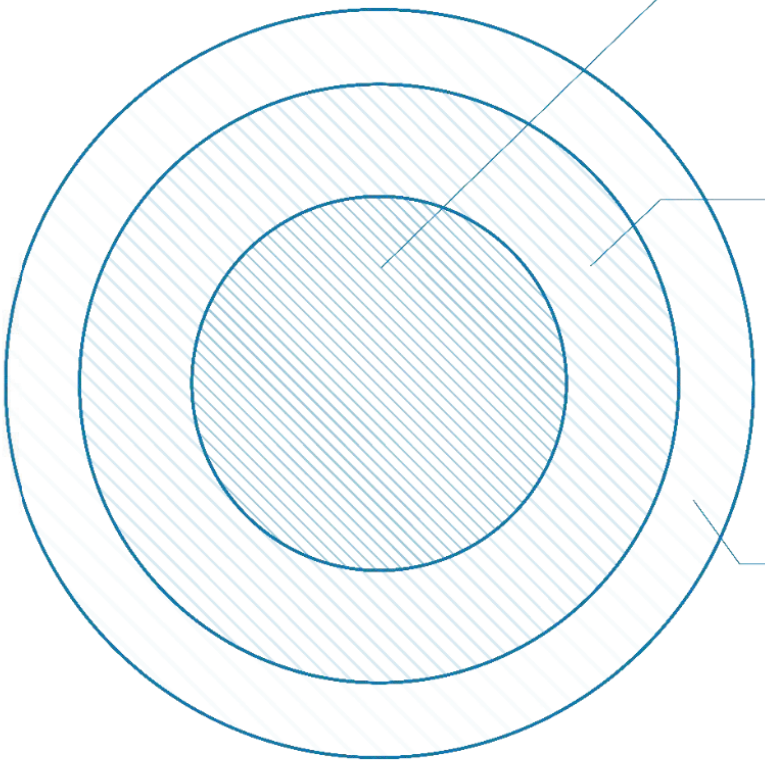
1. Lower parking requirements
2. Heights increase to allow for minimum standard floor-to-floor heights.
3. Remove maximum building area by-right. Instead, lot size is the threshold, with lots over 1 acre requiring a special permit.
4. Remove minimum lot size

## Desirable Urban Form

1. Introduce maximum building footprint size
2. Establish a minimum threshold for site plan review.
3. Introduce design standards.

Zoning Scenarios: Summary

# Tiered Framework*



*This would require remapping the districts accordingly. #s may be updated to reflect ZAP input from the 3/28 meeting.

| Center | MU4 (Special Permit) | Example Revised MU4 |
|---|---|---|
| FAR | 2.50 | 2.50 |
| Height | 5 stories, 60’ | 5 stories, 65’ |
| Lot area per unit | -- | -- |
| Bldg Footprint | -- | 15,000 sf max |
| Parking Ratio | | |
| Retail | 1 per 300 sf | exempt for ground floor commercial |
| Office | 1 per 250 sf | 1 per 700 sf |
| Multi-family | 1.25 per unit | 1 per unit |
| Allowed Uses | Retail, Office, Multi-family | Retail, Office, Multi-family |

| Periphery | BU3 (Special Permit) | Example Revised BU3 |
|---|---|---|
| FAR | 2.00 | 2.00 |
| Height | 4 stories, 48’ | 4 stories, 52’-6” |
| Lot area per unit | 1,200 sf | eliminate requirement |
| Bldg Footprint | -- | 10,000 sf max |
| Parking Ratio | | |
| Retail | 1 per 300 sf | First 5,000 sf ground floor commercial exempt, otherwise 1 per 350 sf |
| Office | 1 per 250 sf | 1 per 500 sf |
| Multi-family | 1.25 per unit | 1 per unit |
| Allowed Uses | Retail, Office | Retail, Office, Multi-family |

| Edge | BU2 (Special Permit) | Example Revised BU2 |
|---|---|---|
| FAR | 2.00 | 1.75 |
| Height | 4 stories, 48’ | 3.5 stories, 41’-3” |
| Lot area per unit | 1,200 sf | eliminate requirement |
| Bldg Footprint | -- | 10,000 sf max |
| Parking Ratio | | |
| Retail | 1 per 300 sf | First 5,000 sf ground floor commercial exempt, otherwise 1 per 350 sf |
| Office | 1 per 250 sf | 1 per 500 sf |
| Multi-family | 1.25 per unit | 1 per unit |
| Allowed Uses | Retail, Office | Retail, Office, Multi-family |

# Looking ahead to the 4/25 ZAP meeting

1. Run recommended development scenarios on “hypothetical parcels”
    a. Further revise zoning tiers based on ZAP discussion, engagement takeaways, urban design best practice, and financial feasibility

2. Additional financial analysis looking at condos vs. rentals

3. Tiered framework application to different scales of village centers

4. Analysis of existing zoning in small village centers

# Accessory Apartment Amendments

## Docket #192-22

Zoning and Planning Committee
April 11, 2022

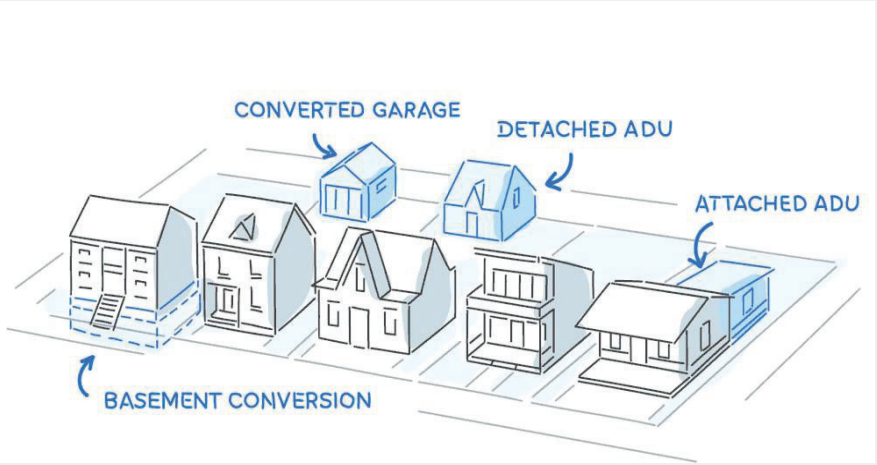



*Image Source: hausable.com*

# Overview

- Background & History
- Benefits of ADUs
- ADUs 2017 - Today
- Current ADU Rules
- Barriers to ADU Creation

# Background

# What are Accessory Dwelling Units (ADUs)?

- A self-contained apartment on an existing property
- Can be attached or detached
- Many different configurations
- One ADU allowed citywide for each single- and two-family homes

# Interior ADUs

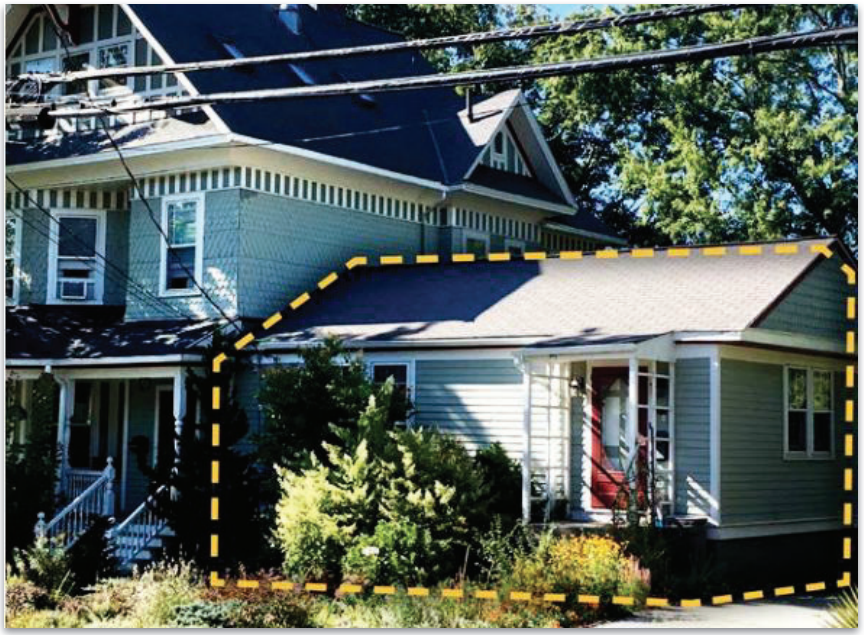


*Image Source: https://rpa.org/work/reports/be-my-neighbor*

# Detached ADUs

*Image Source: Google Earth*

*Image Source: https://rpa.org/work/reports/be-my-neighbor*

*Image Source: Somerville Zoning Ordinance*

# History of ADU Ordinance in Newton

**1987** — ADU Ordinance adopted

- Only allowed in Single-Residence zones
- Special Permit required

**1990** — No ADUs created

- Amendments adopted based on ZAP subcommittee report
- Established an administrative review process
- Reduced required lot area

**2010** — Further amended to ease rules

- Amended to permit the owner to occupy either the accessory apartment or principal dwelling
- Changed the look-back period

**2017** — Most recent amendment

- Internal ADUs allowed by-right
- Removed parking requirements
- Ability to create ADUs no longer directly tied to lot size

## ADUs 2017- Today

- Approved permits  have increased, but not dramatically
- At least 10+ permitted each year
- Majority are internal units (55)

| Year | Total ADUs permitted |
|---|---|
| 2017 | 10 |
| 2018 | 10 |
| 2019 | 17 |
| 2020 | 17 |
| 2021 | 18 |
| **Total** | **72** |

# Benefits of ADUs

- Diversify housing options
- Add flexibility for homeowners
- Allow for new housing without adding new buildings
- Support for aging in place & needs of a dynamic, changing community

# Housing Choice Law

- Makes approval of amendments to increase ADUs easier statewide
- Progress is happening, but slowly
- Increasing interest regionally to encourage ADUs


*Image Source:* https://www.bostonglobe.com/2021/07/11/business/years-in-law-apartments-have-been-discouraged-greater-boston-housing-shortage-is-changing-that/

# Current ADU Rules

## Rules for all ADUs

- Only one ADU allowed per principal dwelling
- ADU cannot be turned into condominiums or used for short-term rental
- One of the units must be owner-occupied
- No additional parking is required for ADU
- The principal dwelling unit must have been constructed 4 or more years prior to the date of application for a building permit

# Rules for Internal vs Detached ADUs

| | Internal ADUs | Detached ADUs |
|---|---|---|
| Allowed by-right | Yes, with size restrictions | No (except historic carriage houses in non-historic districts) |
| Allowed size by Special Permit | Up to 1,200 sq. ft. or 40% of the total Habitable Space, whichever is less, allowed by special permit | Up to 1,500 sq. ft. |
| Setback requirements / Other standards | Must meet setback requirements of the principal dwelling unit, as well as FAR and other dimensional controls, except by special permit | Must meet setback requirements of the principal dwelling unit, as well as FAR and other dimensional controls, except by special permit |

# Barriers to ADU Creation

## Primary residence must be at least 4 years old to get a permit for an ADU, except by special permit

Sec. 6.7.1.C.5

- Allowing ADUs from the beginning could enable more ADUs, and a greater variety of building forms
- Ability to include ADU at design stage could result in better accessibility and design

# Special permit is required for most detached accessory units

Sec. 6.7.1.E.1

- Except for some historic carriage houses, all detached ADUs require a special permit
- Very few homeowners pursued detached ADUs in new structures, or non-historic ones
- Special permit requirement has deterred some from pursuing an ADU

# 361 Wolcott

- Detached ADU (new)
- 616 square feet
- Designed to have all amenities on one level

*Image Source: Google Earth*

# Special permit required to convert detached garages to ADUs

*Image Source: Google Earth*

## A detached ADU must meet the setback requirements of the principal dwelling unit, except by special permit

Sec. 6.7.1.E.5

- Most existing accessory buildings do not meet the setback requirements of the principal dwelling
- Many special permits granted for detached accessory apartments included setback relief
- Existing detached ADUs have a median side setback of 6.85’ and rear setback of 10.45’

## Looking Ahead:

- Develop proposals per ZAP's guidance
- Perform data analysis to support proposals

## Thank you!

# EMBODIED CARBON 101

## PRESENTATION TO ZONING & PLANNING COMMITTEE

**April 11, 2022**

Climate & Sustainability Team

Embodied Carbon Working Group

NEWTON CLIMATE ACTION

# What is embodied carbon in the built environment?

**Embodied carbon** refers to the greenhouse gas (GHG) emissions associated with the manufacturing, transportation, installation, maintenance, and disposal of building materials.

**Upfront embodied carbon** focuses on the GHG emissions released before a building is constructed. These can also be thought of as supply chain emissions.

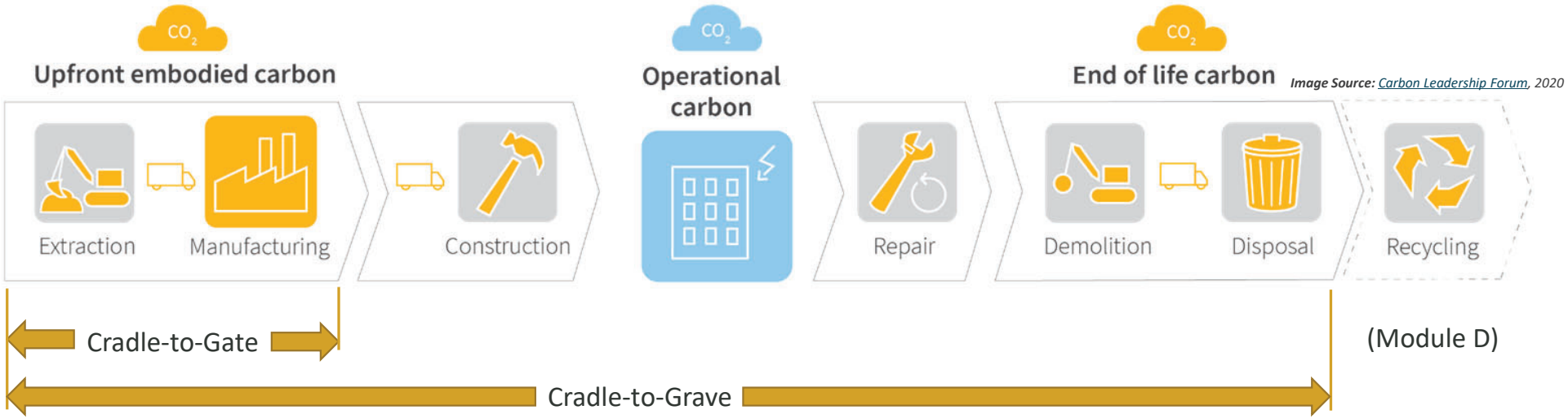



*Image Source: Carbon Leadership Forum, 2020*

Note: some content courtesy of Rebecca Esau of RMI

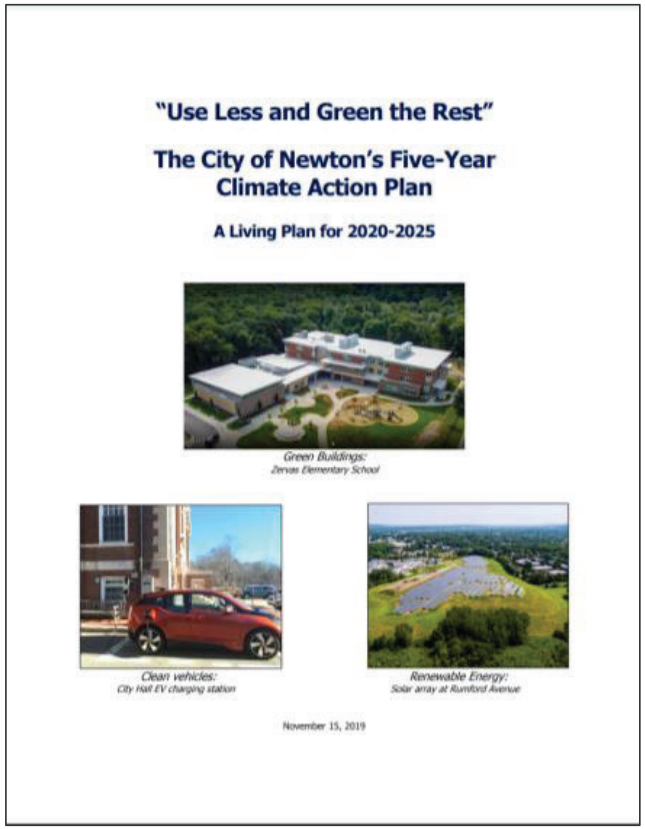
# Background

**Climate Action Plan, 2019**

- "Neither this Climate Action Plan nor the NCCE Plan directly addresses embodied energy. Embodied energy will need to be addressed in the future, as accounting methodologies and mitigation strategies continue to be developed."

**Sustainable Development Design, 2019**

- Section 5.13 of the Zoning Ordinance adopted
- 5.13.4.D: Embodied Carbon [reserved]


"Use Less and Green the Rest"

The City of Newton's Five-Year Climate Action Plan

A Living Plan for 2020-2025

Green Buildings:
Zervas Elementary School

Clean vehicles:
City Hall EV charging station

Renewable Energy:
Solar array at Rumford Avenue

November 15, 2019

# Recent Steps

**Formation of Working Group, Fall 2021**

- Mark Webster
  - Structural Engineer, SGH
- Russel Feldman
  - Architect, President of AIA Massachusetts
- Beverly Craig
  - Project Manager, MassCEC

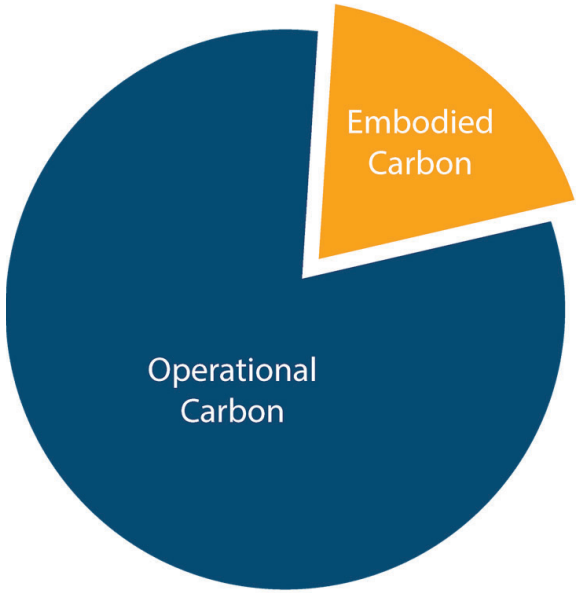
**In conversation with:**

- Climate & Sustainability Team
- Planning Department
- Councilor Deb Crossley

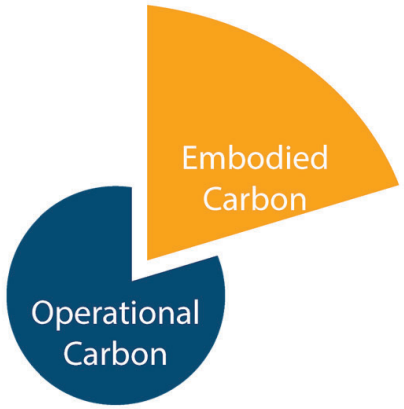
# Embodied carbon is significant

Energy efficiency and grid decarbonization efforts will decrease operational carbon over time.

Embodied carbon contributes a higher proportion of life-cycle emissions in more energy-efficient buildings.




**Building as Usual**




**High Performance Buildings**

***Image Source:*** *Carbon Leadership Forum, 2020*

Note: some content courtesy of Rebecca Esau of RMI

# Embodied carbon is urgent

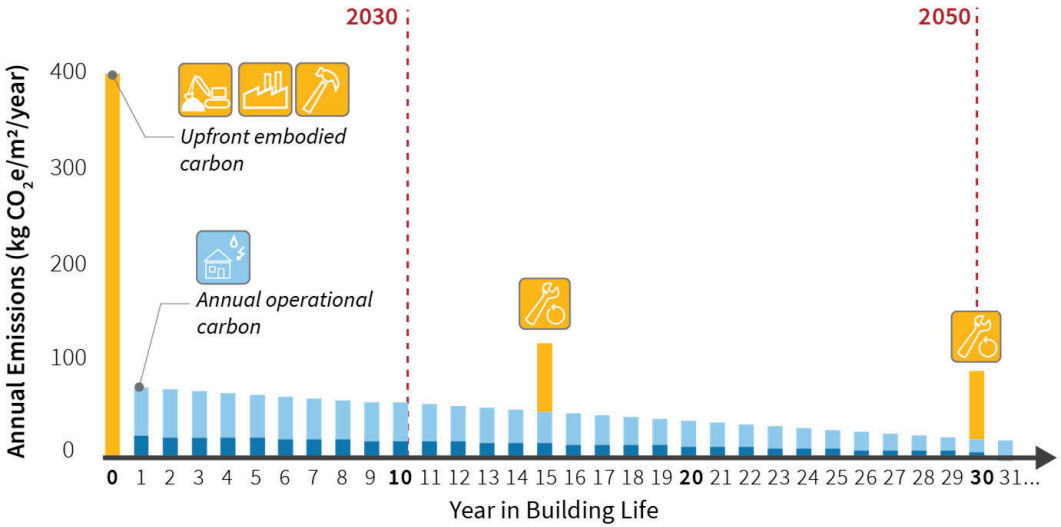
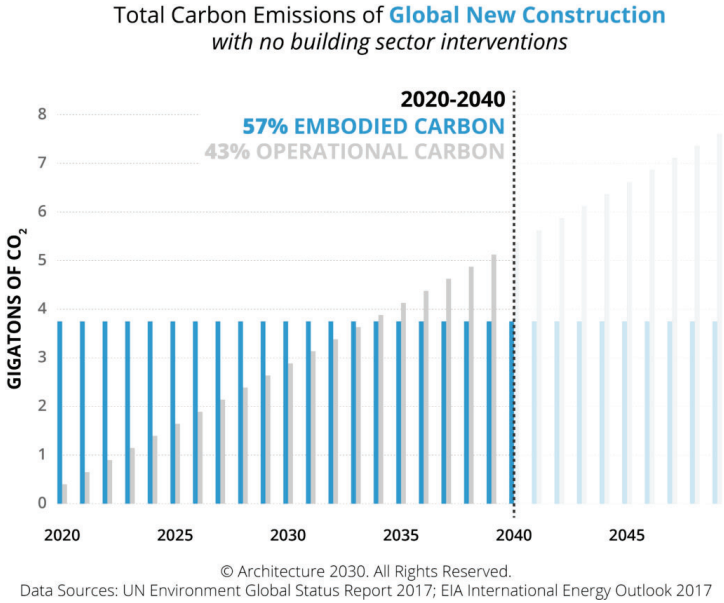



***Image Source:*** *Carbon Leadership Forum, 2020*

Embodied carbon
Scenario 1: Standard performance building
Scenario 2: High-performance building





Data Sources: UN Environment Global Status Report 2017; EIA International Energy Outlook 2017

Note: some content courtesy of Rebecca Esau of RMI

# WHY FOCUS ON STRUCTURAL MATERIALS?

- Structural materials account for over half of building embodied carbon for most projects.
- Design decisions such as choice of materials and procurement decisions such as concrete mix requirements can have a big influence on emissions.

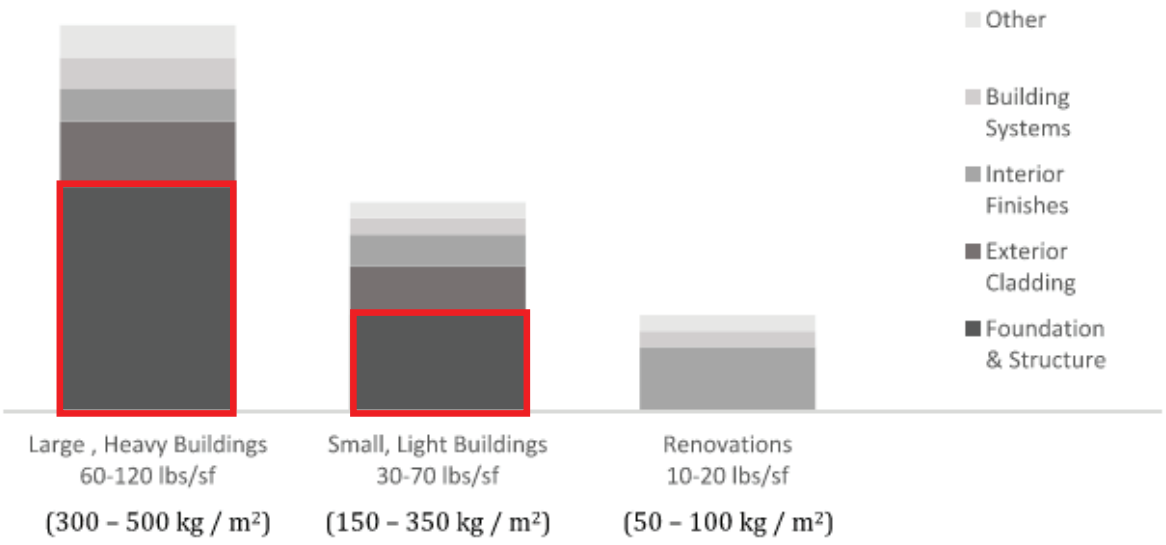
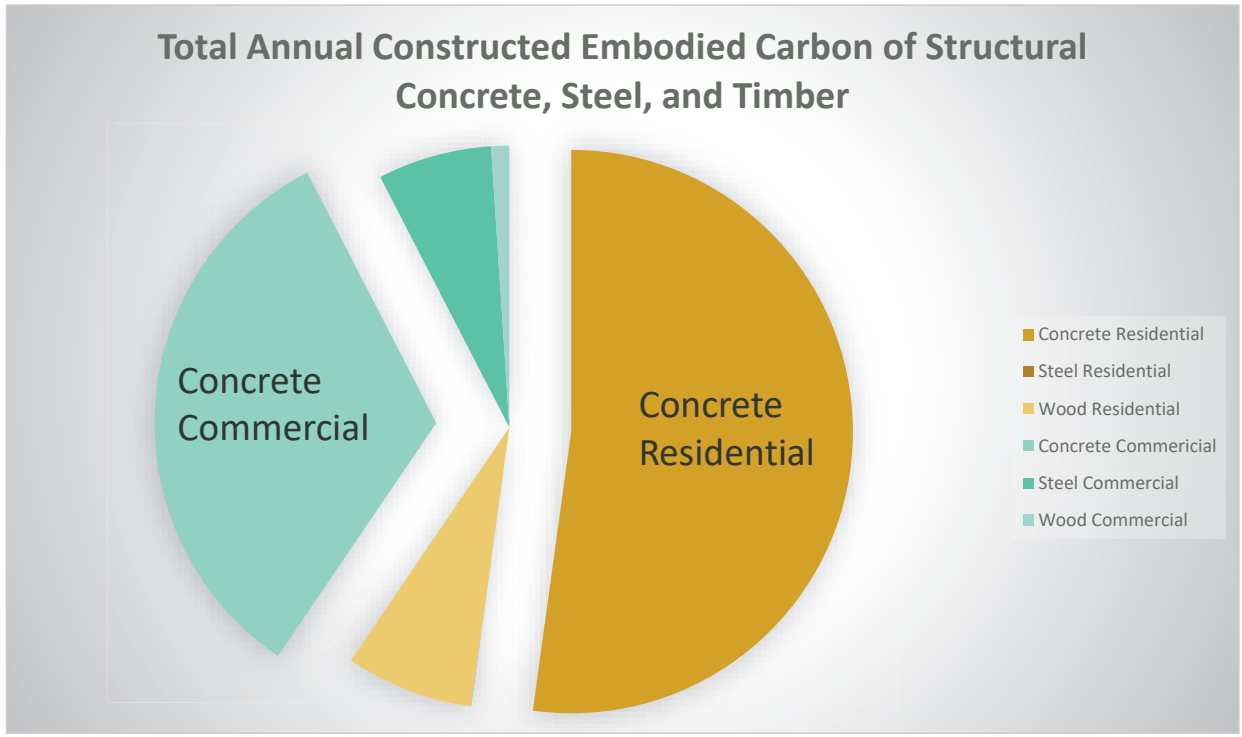



**Figure 5. Carbon Emissions by Building Type and Building Element**
*Source: Embodied Carbon Benchmark Project, Carbon Leadership Forum, and review of multiple embodied energy and carbon studies*

Source: CLF "Time Value of Carbon" (2017)

# CONCRETE DRIVES STRUCTURAL EMBODIED CARBON




Achieving Net Zero Embodied Carbon in Structural Materials by 2050
(https://seisustainability.files.wordpress.com/2020/05/how-to-get-to-zero-200525.pdf)

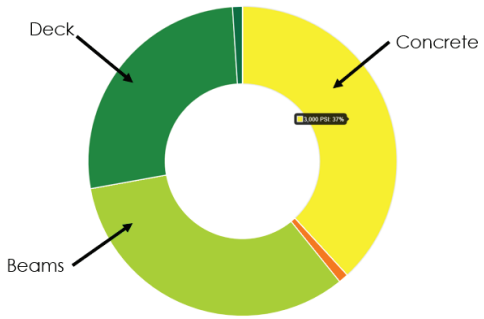
# EMBODIED CARBON ESTIMATION TOOLS

Athena Impact Estimator for Buildings

One Click LCA

tally™

**SE 2050 – ECOM**



# REDUCING EMBODIED CARBON IN STRUCTURAL DESIGN

## Design vs. Procurement Strategies

Design strategies relate to the form of the building:

- Renovation vs. New Construction
- Form: how tall, how deep into the ground, how many irregularities such as column offsets
- Bay Size: widely spaced columns increase structural framing sizes significantly
- Choice of Materials (e.g. steel vs. concrete vs. timber framing)
- Designers can use embodied carbon tools to optimize these options

Procurement strategies relate to how the materials are specified after design:

- Cement limits for concrete
- Embodied carbon limits for materials
- Certified wood

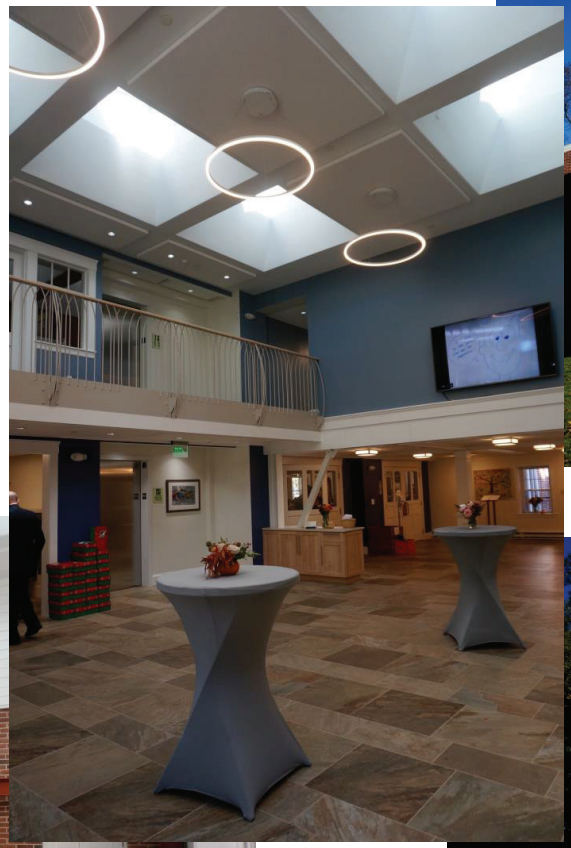
## PROCUREMENT STRATEGIES FOR REDUCING EMBODIED CARBON

### Concrete

- Specify cement replacement
  - slag, fly ash
  - Pozzotive
- Specify cement or GWP limits
- Carbon mineralization (CarbonCure)
- Blended cements
- Performance-based specifications

# ADDITION PROJECT

## Westborough Church Project (opened 2021)



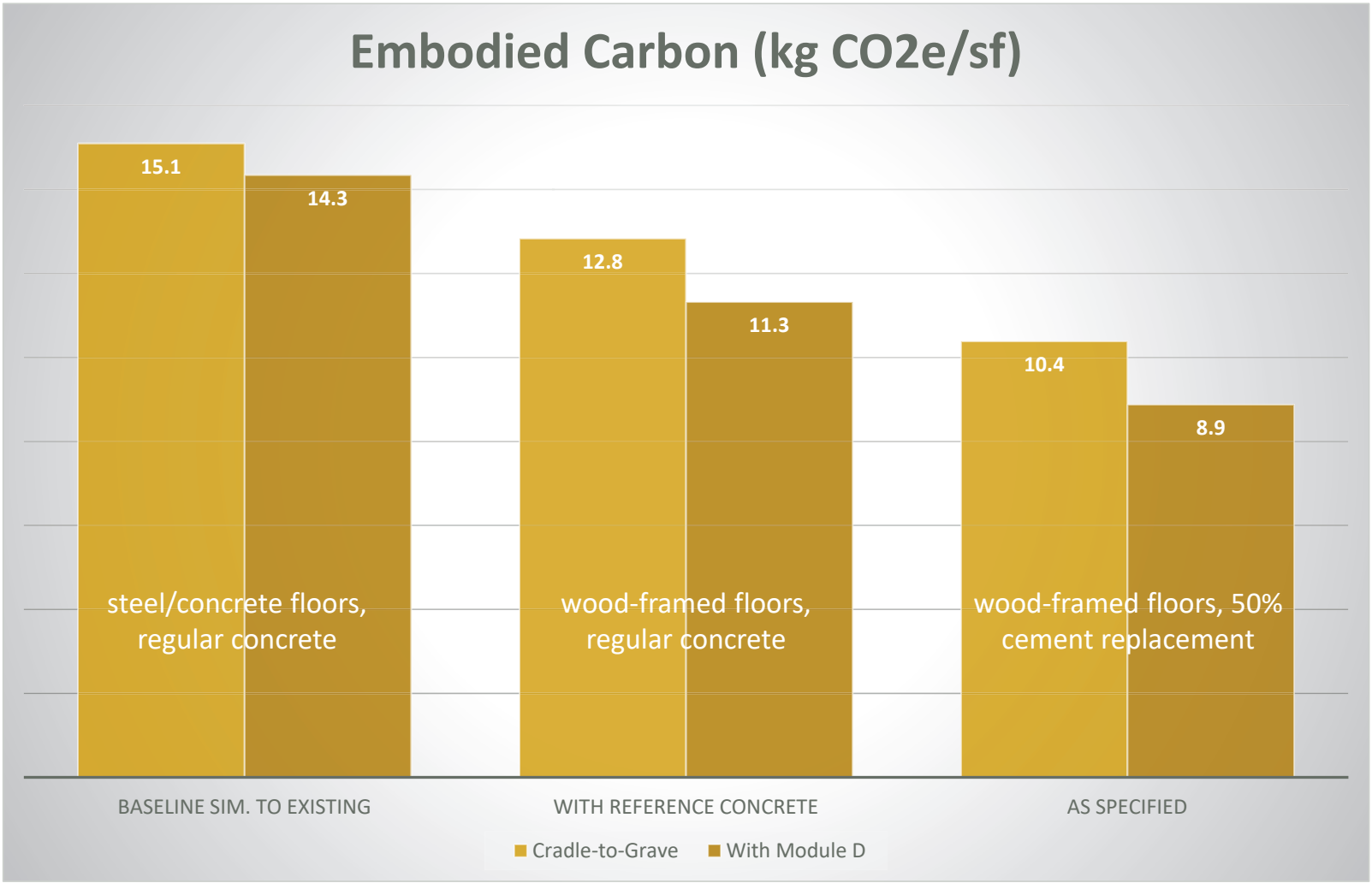
# Embodied Carbon of Concrete Mixes (kg CO2e/cy)

Note: Embodied Carbon of concrete mix with no cement replacement = 327 kg/cy (NRMCA EPD).


"Replacement" refers to the percentage of cement in mix replaced by alternative low-carbon cementitious materials.

**Estimated Using Athena Custom Concrete Mix Tool**

# EMBODIED CARBON RESULTS FOR THE WESTBOROUGH CHURCH PROJECT




With Recycling:
38% reduction from baseline building
22% reduction from reference concrete

Cradle-to-Grave:
31% reduction from baseline building
19% reduction from reference concrete

# EMBODIED CARBON POLICY

## Marin County Low-Carbon-Concrete Code

**Table 19.07.050** Cement and Embodied Carbon Limit Pathways

| | **Cement limits** for use with any compliance method 19.07.050.2 through 19.07.050.5 | **Embodied Carbon limits** for use with any compliance method 19.07.050.2 through 19.07.050.5 |
|---|---|---|
| Minimum specified compressive strength $f'_c$, psi (1) | Maximum ordinary Portland cement content, lbs/yd$^3$ (2) | Maximum embodied carbon kg $CO_2e/m^3$, per EPD |
| up to 2500 | 362 | 260 |
| 3000 | 410 | 289 |
| 4000 | 456 | 313 |
| 5000 | 503 | 338 |
| 6000 | 531 | 356 |
| 7000 | 594 | 394 |
| 7001 and higher | 657 | 433 |
| up to 3000 light weight | 512 | 578 |
| 4000 light weight | 571 | 626 |
| 5000 light weight | 629 | 675 |

**Notes**
(1) For concrete strengths between the stated values, use linear interpolation to determine cement and/or embodied carbon limits.
(2) Portland cement of any type per ASTM C150.

# EMBODIED CARBON POLICY

## Buy Clean California Act

- The **Buy Clean California Act (BCCA)** (Public Contract Code Sections 3500-3505), states that the Department of General Services (DGS) is required to establish and publish the maximum acceptable Global Warming Potential (GWP) limit for select construction materials. The BCCA targets carbon emissions associated with the production of structural steel (hot-rolled sections, hollow structural sections, and plate), concrete reinforcing steel, flat glass, and mineral wool board insulation. These materials must have a GWP that does not exceed the limit set by DGS.

https://www.dgs.ca.gov/PD/Resources/Page-Content/Procurement-Division-Resources-List-Folder/Buy-Clean-California-Act

# EMBODIED CARBON POLICY

## State of California Buy Clean

### GWP limits for eligible structural materials

| Eligible material | Maximum acceptable GWP limit (unfabricated) (MT $CO_2$ eq./MT) | Value in industry-average EPD (MT $CO_2$ eq./MT) |
|---|---|---|
| Hot-rolled structural steel sections | 1.01 | 1.08 |
| Hollow structural sections | 1.71 | 1.71 |
| Steel plate | 1.49 | 1.59 |
| Concrete reinforcing steel | 0.89 | 0.92 |

# REQUIREMENTS FOR ALL FEDERAL PROJECTS

## Effective 17 March 2022

2. The [prime contractor] shall provide **low embodied carbon concrete** that meets the global warming potential (GWP) limits of the table below, for concrete of the mix type and strength class.

| | **Maximum Global Warming Potential Limits for GSA Low Embodied Carbon Concrete** (kilograms of carbon dioxide equivalent per cubic meter - $CO_2e$ kg/$m^3$) | | |
|---|---|---|---|
| Specified compressive strength (f'c in PSI) | **Standard Mix** | **High Early Strength** | **Lightweight** |
| up to 2499 | **242** | **326** | **462** |
| 2500-3499 | **306** | **413** | **462** |
| 3500-4499 | **346** | **466** | **501** |
| 4500-5499 | **385** | **519** | **540** |
| 5500-6499 | **404** | **546** | **N/A** |
| 6500 and up | **414** | **544** | **N/A** |
| These numbers reflect a 20% reduction from GWP ($CO_2e$) limits in proposed code language: "Lifecycle GHG Impacts in Building Codes" by the New Buildings Institute, January 2022. | | | |

## BOSTON AREA

- Town of Brookline: Town must use low carbon concrete (10% less than average) for town-owned projects and encourage developers to do the same.
- City of Cambridge: On path to require measurement and reduction of embodied carbon through Zoning Ordinance.
- City of Boston: Working to implement recommendations of the Embodied Carbon Technical Advisory Group, including measurement and reduction.
- Municipalities share goal of coordinating efforts.

## TAKEAWAYS

- Embodied Carbon represents the climate change emissions associated with construction.
- During the critical period between now and 2030 when we need to cut emissions by half, the embodied carbon of new buildings will exceed the energy-related emissions from occupying those buildings.
- Structural materials, especially concrete, tend to dominate embodied carbon.
- The embodied carbon of concrete can be easily reduced with little or no construction cost impact.
- Building reuse in place of new construction is a great embodied carbon strategy.
- Design decisions such as material selection also can make a big difference in embodied carbon.
- Embodied carbon reduction requirements and incentives are happening at all levels of government.

# NEXT STEPS

- Feedback/questions
- Discussion with EDC, Chamber of Commerce Real Estate Committee
- Refining draft ordinance language, for presentation at future ZAP meeting

**Resolution to pursue a Building Energy Reporting/ Reduction Ordinance**

Councilor Crossley on behalf of the ZONING & PLANNING COMMITTEE, seeking a Resolution from City Council confirming its support for pursuing an ordinance that would require large property owners to report annual energy use and greenhouse gas emissions, and then to reduce energy use and greenhouse gas emissions over time, to further the objectives of the Newton Climate Action Plan.

**RESOLUTION to pursue a Building Energy Reporting/ Reduction Ordinance**

**Whereas**, the City of Newton recognizes the urgency of the climate crisis;

**Whereas**, in December of 2019, the Newton City Council adopted the Newton Climate Action Plan, a collaborative effort among the City Climate and Sustainability Team, the Newton Citizens' Commission on Energy, Councilors and many citizens; and

**Whereas**, Newton's Climate Action Plan requires steady reductions in energy use and GHG emissions across all city sectors over time, in order to meet a long term goal of net zero emissions by 2050; and

**Whereas**, the most significant measure taken to date is the city's implementation of *Newton Power Choice*, where ratepayers on Eversource basic service now purchase electricity powered by 82% clean renewable energy; and

**Whereas**, the Newton Climate Action Plan identifies strategies necessary to reduce carbon emissions from buildings over the next five years; and

**Whereas**, the Newton Citizen's Commission on Energy 2019 citywide emissions update shows that the largest 400 buildings in the City of Newton contribute 27% to Newton's greenhouse gas emissions; and

**Whereas**, the next most impactful measure the city can take to reduce greenhouse gas emissions is to reduce emissions from Newton's large buildings; and

**Whereas**, the City is committed to working closely with property owners and stakeholders to achieve an ordinance that sets clear expectations, is workable and allows building owners time to properly plan; and

**Whereas**, our Mayor, Co-Directors of Climate and Sustainability, Citizens' Commission on Energy, City Councilors, Green Newton Building Standards

committee members and others stand ready to enthusiastically support this measure;

**NOW, THEREFORE BE IT RESOLVED**, That the City Council commits to developing an ordinance that will require large property owners to report energy use and emissions to the city annually, and in subsequent years demonstrate reductions in energy use and emissions to meet benchmarks established for their building type, with the goal of becoming carbon neutral by 2050.