Public Facilities Committee Agenda

City of Newton
In City Council

Wednesday, December 5, 2018

6:30 PM – Note Early Start Time
Room 204

#599-18 **Update on the status of the Solar Phase 3 Projects**
COUNCILOR CROSSLEY requesting an update on the status of the Solar Phase 3 Projects.

#600-18 **Update on the Climate Action Plan**
PUBLIC FACILITIES COMMITTEE requesting updates on the status of the Climate Action Plan.

#205-18 **Resolution to reach Zero Carbon Pollution by 2050**
COUNCILORS BROUSAL-GLASER, NORTON AND LEARY requesting a resolution from the City Council committing the City to reach Zero Carbon Pollution by 2050, with a plan and interim targets toward reaching that goal.

Chair's Note: The administration will introduce its I&I (inflow and infiltration) Mitigation policy, recently revised in order to manage compliance with DEP rulings, so that the Committee may discuss its application and implications to both municipal and land use development projects across the city.

Respectfully submitted,

Deborah Crossley, Chair

The location of this meeting is accessible and reasonable accommodations will be provided to persons with disabilities who require assistance. If you need a reasonable accommodation, please contact the city of Newton's ADA Coordinator, Jini Fairley, at least two business days in advance of the meeting: jfairley@newtonma.gov or (617) 796-1253. The city's TTY/TDD direct line is: 617-796-1089. For the Telecommunications Relay Service (TRS), please dial 711.

599-18

Ruthanne Fuller
Mayor

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November 28, 2018

NOTICE OF COMMUNITY MEETINGS on Phase 3 Solar Projects on City Owned Property

Dear Newton Residents:

Please join us at upcoming public meetings on possible new solar projects, one of which is within 300 feet of your location.

The City is considering twenty additional locations for solar arrays. The locations are on City owned property including roofs of buildings and on parking canopies to be constructed on some of the City's parking lots. A list of the twenty locations is attached to this letter. The City is holding Public Meetings to present the projects and hear your questions and concerns.

Background

These proposals are for the third phase of the City of Newton's solar development program. The City has already constructed solar arrays on 12 City owned sites. These sites generate about 4.4 million kWh of solar energy which is the equivalent of 21% of our municipal electricity use. The proposed projects would generate another 5.4 million kWh which would bring the percentage of solar energy in our municipal electricity usage to 47%.

These solar projects help reduce our carbon footprint and also generate revenues and savings for the City. The Phase 1 and 2 solar projects generated over $650,000 in savings for the City of Newton in FY 2018. According to the US EPA, the effect of these projects would be the equivalent of either removing 865 gas-powered cars from the road or the carbon sequestration effect of a 4,758 acre forest. The proposed Phase 3 projects would exceed the environmental benefits of Phases 1 and 2 combined.

The Public Meetings are being held as follows:

December 11, 2018 (Tuesday), 6:30 to 9:00 p.m., City Hall in the War Memorial Auditorium, all 20 sites will be presented.

December 12, 2018 (Wednesday), 6:30 to 9:00 p.m., City Hall in the War Memorial Auditorium, all 20 sites will be presented.

December 18, 2018 (Tuesday), 6:30 to 9:00 p.m., Newton Free Library, in the Druker Auditorium. This meeting will focus only on the Library Solar Parking Canopy.

We look forward to hearing your comments. Questions? Reach out to Bill Ferguson at wferguson@newtonma.gov

Warmly,
Ruthanne Fuller
Ruthanne Fuller
Mayor, City of Newton

1000 Commonwealth Avenue Newton, Massachusetts 02459
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PROPOSED PHASE 3 SOLAR SITES

	Roof Sites	Total First Year Output kWh	Location
1	Ed Center roof, 100 Walnut St.	95,799	Roof
2	Fire Station #3 and Headquarters, 31 Willow Street, roof	77,395	Roof
3	Zervas Elementary School, 30 Beethoven Ave	216,094	Roof
4	FA Day Middle School roof, 21 Minot PlaceRoof	303,215	Roof
5	Angier Elementary School Gym roof, 1697 Beacon St	95,355	Roof
6	Williams Elementary School, 141 Grove Street	138,466	Roof
7	Cabot gym roof, 229 Cabot School	68,432	Roof
8	Carr School, 225, Nevada Street	68,486	Roof
	Total Phase 3 Roof sites kWh	1,063,242	

	Parking Lot Canopy Sites		
9	Newton Free Library, 330 Homer Street	262,909	Parking lot
10	Countryside Elementary School parking lot, 191 Dedham Street	383,040	Parking lot
11	North High School lots, 360 Lowell Ave and Walnut Street	973,560	Parking lot
12	Auburndale Cove, West Pine St.	398,677	Parking lot
13	250 Albermarle Road, on street parking	598,100	Parking lot
14	Pleasant Street lot	114,709	Parking lot
15	Brown Middle School lot, corner of Meadowbrook Road and Wheeler Road	466,029	Parking lot
16	Memorial Spaulding Elementary School parking lot, 250 Brookline Ave	178,639	Parking lot
17	Oak Hill MS parking lot, 130 Wheeler Road, behind Oak Hill Middle School	208,718	Parking lot
18	Ed Center parking lot, 100 Walnut St.	302,240	Parking lot
19	Bigelow Middle School parking lot, Park Street (behind Bigelow School)	286,550	Parking lot
20	Mason Rice Elementary School Parking lot, 149 Pleasant St	191,674	Parking lot
	Total Phase 3 Canopy sites kWh	4,364,845	

		FY 2018 kWh	Per Cent of Municipal Use
	Phase 3 Total kWh-design	5,428,087	26%
	Phase 2 Total kWh-actual	3,773,369	18%
	Phase 1 Total kWh-actual	622,475	3%
	All Phases kWh	9,823,931	

Municipal Total Use kWh FY 2018 20,600,000

FY 2018 Solar Projects Financial Report

	Rumford Landfill	Phase 2: seven Locations	Phase 1: four locations	Total
Total Revenues from sale of kWh	$ 720,497.00	$ 291,412.00	$ 128,403.00	$ 1,140,312.00
Total PPA Cost from Ameresco	$ 249,986.00	$ 168,455.00	$ 68,892.00	$ 487,333.00
Net Revenues to Newton	$ 470,511.00	$ 122,957.00	$ 59,511.00	$ 652,979.00

600-18

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Barney S. Heath
Director

MEMORANDUM

DATE: November 30, 2018

TO: Councilor Crossley, Chair
Members of the Public Facilities Committee

FROM: Barney Heath, Director of Planning and Development
Jennifer Steel, Chief Environmental Planner

RE: First Review an early draft of Proposed the Climate Action Plan Actions

MEETING DATE: December 5, 2018

Newton has made a commitment to develop a Climate Action Plan in early 2019. To that end, City staff have been working with staff from the Metropolitan Area Planning Commission (MAPC) and a sub-set of Newton's Energy Commission to review the state of the science and develop draft plan materials.

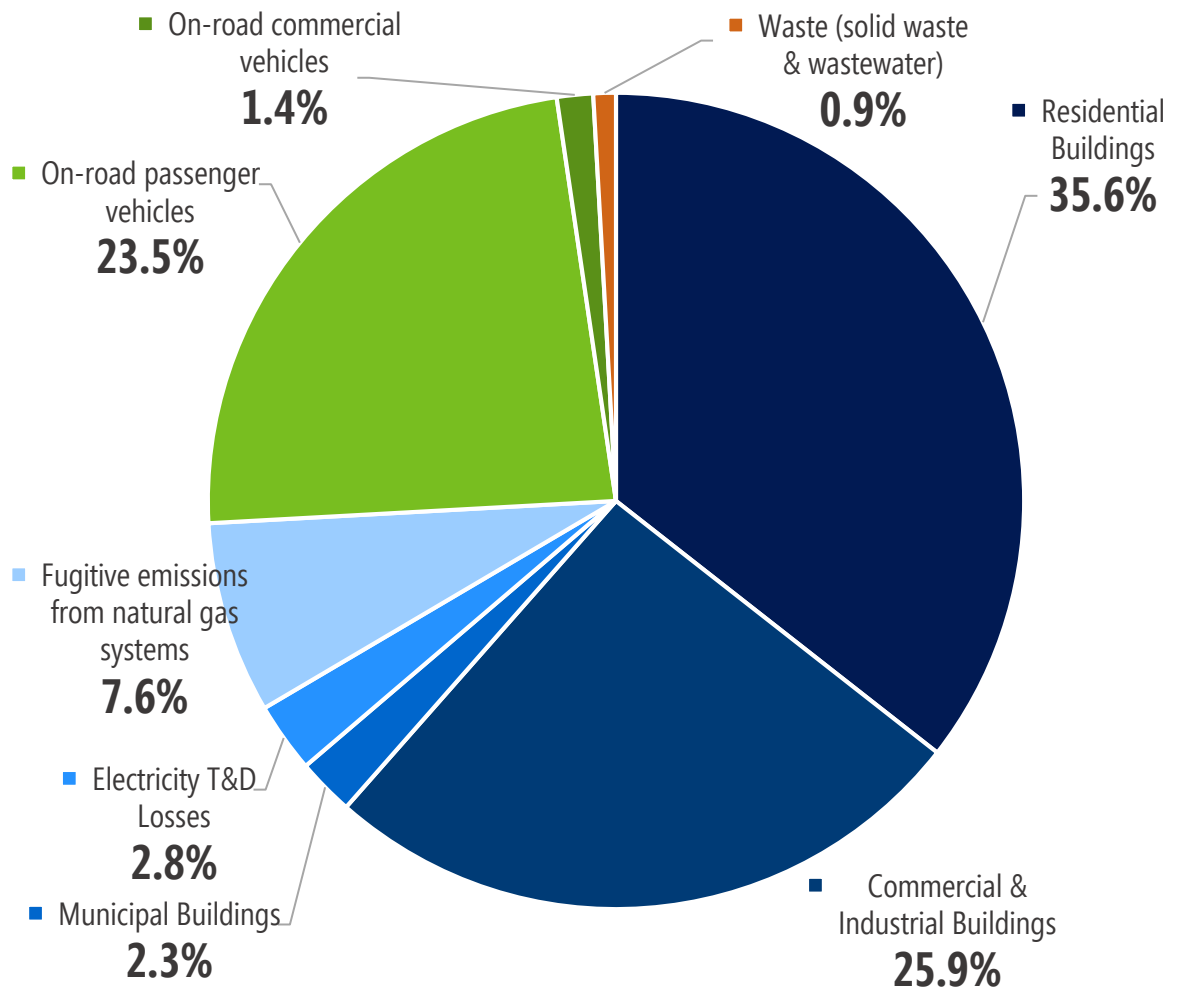
In this packet you will find materials to facilitate a preliminary discussion about the City's Climate Action Plan. Enclosed are:

1. A pie chart illustrating Newton's greenhouse gas inventory
2. A memo summarizing the first public workshop (kick-off session) on the Climate Action Plan
3. A summary of key findings and lessons learned from other illustrative Climate Action Plans
4. A summary of the actions from other Climate Action Plans
5. A matrix designed to guide discussion and illicit feedback on the preliminary list of proposed actions for Newton.

At the December 5 meeting, MAPC will present a summary of their research to date and a compilation of a range of objectives and possible actions. MAPC will then seek your responses to and suggestions regarding those objectives and action to inform their work going forward.

CITY OF NEWTON 2013 GREENHOUSE GAS INVENTORY

798,813 metric tons CO_2e



*Current inventory does not include GHG emissions from public transportation and all methods of waste disposal.

Memorandum

To: Jennifer Steel and Claire Rundelli, City of Newton

From: Megan Aki, MAPC

Date: November 28, 2018

Re: **Summary of Newton's Climate Action Plan Kick-Off Roundtable Discussion Held on October 23, 2018**

On October 23, over 60 people gathered at the Newton War Memorial for the Kick-Off Roundtable Discussion for the City of Newton's Climate Action Plan. MAPC presented on the climate action planning process, greenhouse gas emissions in the City of Newton, and best practices from national and international climate action plans. Ann Berwick, Co-Director of Sustainability for the City of Newton, provided an update on ongoing climate projects and initiatives. Mayor Ruthanne Fuller provided remarks to open up the table discussions where attendees had the opportunity to discuss priority actions and sectors they would like to see the climate action plan address and why these were important to them.

The nine small group discussions, led by members of the Volunteer Climate Action Plan Working Group and City Staff, produced over 80 priority actions that covered recommendations related to buildings, energy supply, transportation, education & outreach, waste, and other topic areas.

Summary of Table Discussion Notes		
Sector	**# of Actions Identified**	**Percentage of Total Priority Actions Identified**
Buildings	21	25%
Energy Supply	20	24%
Transportation	15	18%
Education & Outreach	14	17%
Waste	3	4%
Other	10	12%

The following sections summarize the priority actions captured during the discussion on the large poster notepads used to facilitate the small group discussions.

Buildings

Within the building sector, workshop attendee priorities demonstrate a depth of knowledge of the topic area. Overwhelmingly, the table discussion notes highlighted electrification of the heating and cooling systems for all buildings in Newton as a priority action to address in the Climate Action Plan. Some tables included discussion of how the City could lead by example in its own municipal buildings through energy efficiency and electrification. Residential and commercial energy efficiency also rose to the top of discussions at the workshop. Attendees prioritized

regulation, zoning, requirements for new construction through efficiency standards, and support for rooftop solar PV as actions to take in support of building energy efficiency.

Energy Supply

There was overwhelming support and prioritization of the City's Newton Power Choice initiative as a strategy to increase the renewable energy supply for residents and businesses. The tables emphasized the importance of increasing renewable energy supply in tandem with their prioritization of electrification of heating and cooling and transportation. Several recommendations referenced specific targets for the percentage of renewable energy purchased through Newton Power Choice, such as committing to 100% renewable by different time frames (2021 and 2050 were proposed at some of the tables). Other actions prioritized by some of the groups in this sector included co-generation, community shared solar, district energy, gas leak repair, rooftop solar, and municipal solar.

Transportation

While there was less specificity in the priority actions identified by the workshop attendees in the transportation sector, there was a clear emphasis on several overarching categories of action. This included improved bike infrastructure, increased public transportation options, complete streets, electrification of transportation, and first and last mile connections.

Education & Outreach / Waste

While this is less of a sector, and more of an action type, many of the tables prioritized actions regarding increased education and outreach by the City to address resident and business behavior. Many of these actions were focused on raising public awareness and understanding of high efficiency options through targeted training and programs in schools. There was also a focus on ways that outreach could be implemented to support a comprehensive lifestyle change for Newton residents around food choices and waste. There was a less of an emphasis on specific actions related to waste.

Other Priority Actions

Several of the actions noted down during the discussions did not cleanly fit into the categories above, but still merit mention. Some of the table discussions prioritized overarching concepts the attendees would like to see the City's Climate Action Plan address, such as providing incentives, leading by example, setting short and long term goals, and support for state policies such as carbon pricing. Two of the table discussions also raised the carbon benefits of green infrastructure through creation of tree canopies or tree planting in general.

Local Climate Action Plan Analysis Summary Report

September 2018

Produced by Sabina Grenaderova for the City of Newton*

**Graduate student, Brandeis University*

List of Acronyms

CAP - Climate Action Plan

EPC - Energy Performance Contracting - alternative financing mechanism designed to accelerate investment in cost effective energy conservation measures in existing buildings

EPR - Extended Producer Responsibility - requires companies to set up and pay for recycling programs for the products and packaging they make and sell

EV - Electric Vehicle - may be powered through a collector system by electricity from off-vehicle sources, or may be self-contained with a battery, solar panels or an electric generator.

GHG - Greenhouse Gas - carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O) and ozone - gases in the atmosphere that absorb and re-emit heat, and thereby keep the planet's atmosphere warmer than it otherwise would be

LEED - Leadership in Energy and Environmental Design - is the most widely used green building rating system in the world.

PPA - Power Purchase Agreement - is a contract between two parties, one which generates electricity (the seller) and one which is looking to purchase electricity (the buyer)

PPP - Public–Private Partnership - is a cooperative arrangement between two or more public and private sectors, typically of a long-term nature

ROI – Return on Investment – is usually expressed as a percentage and is typically used to compare the efficiency of different investments

VMT – Vehicle Miles Traveled - total annual miles of vehicle travel divided by the total population in a state or in an urbanized area

Local Climate Action Plan Analysis Summary Report

July 2018 – September 2018

Summary

Ten cities around the world of various population sizes were selected from the C40 web platform and recommendations of the Newton's Climate Action Plan (CAP) planning committee to perform preliminary research on Climate Action Plans and initiatives. Most cities examined for this analysis have larger populations than City of Newton, but also display wider range of initiatives taken to lower GHGs. Official documents published by the cities were used to identify initiatives relevant to the main contributing sectors for the city of Newton - transportation, residential and commercial gas and oil use, and commercial electricity use. *Appendix A* details the cities researched and two categories "Transportation" and "Energy" that outline policies in the CAPs of the corresponding cities that could be relevant to the City of Newton's priorities for GHG reduction.

Natural Gas leaks mitigation strategies have been researched outside of the particular city context as not all cities had this issue highlighted as one of the focus areas. Therefore, actions and policy suggestions to reduce natural gas leaks are highlighted in *Appendix B.*

Key Findings:

- Many municipalities used a combination of capital investment projects (i.e. bikeshare), ordinances (i.e. zoning mandates), and internal adjustments (i.e. retrofitting municipal buildings) to reduce GHGs.
- Most aggressive actions and accomplishments in GHGs reduction came from larger cities that were able to mobilize stakeholders and establish PPPs.
- Transportation sector was the hardest to tackle successfully, where many cities do not show significant progress after many years of targeted policies and investments.
- Most CAPs presented the strategies as initiative and policy suggestions rather than specific quantitative goals. City of Seattle is an exception, highlighting goals as a specific percentage change in each sector.
- Many cities highlighted other benefits to the CAPs initiatives, such as workforce development, health and wellbeing impacts, natural capital preservation, affordability, etc. City of New York's CAP is a good example of such comprehensive evaluation.

Assessment of Local Climate Action Plans

The following summarizes the most common initiatives, innovative initiatives, and stakeholder engagement strategies identified in the review of the local climate action plans. Further detail on each CAP analyzed is included in Appendix A.

Most Common Initiatives:

- Bike share
- Green municipal fleet
- Mixed zoning, high-density planning
- Energy benchmarking and mandates
- LEED mandates for new development
- Retrofitting incentives for private sector and individual residents
- Municipal building upgrades, retrofitting
- Investment in renewable energy development/purchasing
- Home energy performance rating mandates at the point of sale

Most Innovative Initiatives:

- Eugene, OR - *20-minute neighborhoods plan* developed where 90 percent of Eugene residents can safely walk or bicycle to meet most basic, daily, non-work needs, and have safe pedestrian and bicycle routes that connect to mass transit.
- Eugene, OR - Evaluating and removing *financial, infrastructure, regulatory, and perceived barriers* to increase the use of on-site renewable energy systems.
- Boston, MA - *matchmaking service* for businesses that allows them to be paired with sustainability services such as green cleaners, green delivery and courier services, recycling services, etc.
- Washington, D.C. - *Zipcar FastFleet* offers municipal fleet optimization in the form of real-time tracking and sharing technology while downsizing their municipal fleet.

Stakeholder Engagement Strategies:

- Community Summits have been highlighted as a prominent tool to engage community in Boston, Chicago, and other cities. Moreover, City of Chicago CAP recommends bringing stakeholders together every 5 to 6 months to keep stakeholders informed of progress and ensure communities-wide buy-in.
- External Advisory Groups for each goal area with representatives from key partner organizations such as business and industry associations, other levels of government, non-government organizations and academia has been a highlight throughout multiple CAPs to ensure accountability for goals progress. Identifying responsible group of individuals to implement certain goals helped many cities to stay on track and collect better data.
- City of Paris engages stakeholders in a creative way by providing an opportunity to become "Partners" in the Paris Climate and Energy Action Plan by signing dedicated partnership agreement which gave stakeholders status of "Sustainable Paris Doers". This stakeholder network, led by City of Paris, acts as a social network and lists all eco-actions and showcases Doers; encourages exchange of sustainable ideas, offers practical tools, and hosts monthly free events that are open to public.

- Lastly, online discussion threads, surveys, email, focus groups, interviews, representative polling, and events were also widely used by many cities to collect input, but to dot result in long-lasting continuous interaction between communities and CAP initiatives

Methods Used to Estimate Timeline, Impact, & Costs

As a part of the Local Climate Action Plan Analysis, additional research in the estimated timeline, impact, and costs of particular measures was conducted to inform the development of implementation approaches for the City of Newton's Climate Action Plan.
Appendix B - "Calculations" is color-coded in three ways to identify types of the initiatives.

Green category of Capital Investment Projects includes initiatives that require purchases and expenditures.

Orange category includes initiatives executed through ordinances, regulations, and mandates - a policy tools available to Newton's City Council and Mayor.

Blue category includes initiatives that municipality could do on its own internally to reduce GHGs.

Timeline estimation was mostly a rough estimation based on available data. Most CAPs did not have follow up CAPs to report on the actual timeline of implementation for the initiatives. The CAPs that have provided updates were roughly evaluated in 3 to 5 years. The timeline on the bikeshare roll out estimation was used from research that specifically outlined timeframe.

Expected GHG Reduction Impact was assessed based on the available information online about the initiative. In some cases, expected GHG reduction was not possible to estimate, so other proxies such as percent decrease in gas consumption was used to allow further calculate GHG reduction. The other proxy to estimate GHG reduction was a *per unit* proxy, for example, per 1 electric vehicle in a year.

Expected Financial Impact was calculated as a potential cost imposed to the City of Newton if the initiative were to be implemented. For most initiatives it was unclear on what the exact costs may be; for some there was precise information available with documented references; and for regulatory initiatives costs were estimated at $0 under the assumption that it only requires work of City Council members to pass a certain ordinance.

Monitoring and Evaluation metrics were found during the research by identifying common indicators used in the literature.

Prioritization Recommendations

One of the important aspects of developing a successful CAP is understanding what factors to take into account and how they may influence the feasibility of implementing a particular action or the scale of the actions overall impact. The following table includes common factors represented across the CAPs analyzed and how they relate to potential actions to include in a CAP.

Factor	Relationship to Action
Staff Capacity	Available staff capacity can impact the feasibility of an action to be implemented and timeline necessary for implementation. *Example*: In the City of Chicago's CAP, they considered staff capacity when actions were placed along an implementation timeline, suggesting at least two staff and project manager per initiative selected.
Present Stakeholder Engagement	Identifying active stakeholders operating or advocating on the CAP's initiatives and partnering with them to further ensure accountability during implementation. *Example*: Seattle, WA, CAP has extensive list of Community Organizations that are identified as a potential partner for each initiative in the CAP. Washington, DC, has a dedicated non-profit partner just for community engagement (monthly workshops, educational and outreach programs).
GHG reduction per $	ROI and levelized cost calculations per investment.
Ease of Monitoring and Evaluation	Identify data collation mechanisms that are already in place to track measurable changes and progress and communicate that to stakeholders. *Example*: City of Alameda, CA, attributes it's CAPs success due to the strong monitoring and evaluation framework. The City of Pittsburg's previous CAP's actions were framed as suggestions without a clear measure of success, making it difficult to gauge completion. Their new CAP is structured according to emission sources, with a focus on instrumental and measurable actions with assigned stakeholders.
Additional Indicators	Following indicators were used by New York City to evaluate CAP initiatives: Jobs, Economy and Innovation, Workforce Development, Long-term Savings, Health and Well-being, Safety, Affordability, Access, Community, Lead by Example, Resiliency, Reliability, and Natural Capital.

CAMBRIDGE, MA

PLAN NAME	CLIMATE GOAL	FOCUS AREAS	EXAMPLE STRATEGY	EXAMPLE ACTION	IMPLEMENTER
Net Zero Action Plan	**80% by 2050, and Net zero annual emissions for buildings citywide by 2040**	**Energy Efficiency in Existing Buildings, Net Zero New Construction, Local Carbon Fund, Renewable Energy Supply, Engagement and Capacity Building**	Energy Efficiency in Existing Buildings	Initiate a study to explore a requirement for energy upgrades at the time of renovation permit or, if appropriate, time of sale of property.	Cambridge Community Development Department
			Net Zero New Construction	Set targets for net zero new construction in Cambridge by building type / sector.	Cambridge Community Development Department
			Renewable Energy Supply	Develop a memorandum of understanding with local utilities to support collaboration on projects of mutual interest that result in energy use and emissions reductions	Cambridge Community Development Department
			Engagement and Capacity Building	Develop a comprehensive long-term communications strategy around the Cambridge Net Zero objective.	Cambridge Community Development Department

VANCOUVER, CANADA

PLAN NAME	CLIMATE GOAL	FOCUS AREAS	EXAMPLE STRATEGY	EXAMPLE ACTION	IMPLEMENTER
Greenest City 2020 Action Plan	**80% below 2007 emissions by 2050**	**Climate and Renewables, Green Buildings, Green Transportation, Zero Waste, Access to Nature, Clean Water, Local Good, Clean Air, Green Economy, Lighter Footprint**	Climate & Renewables	Work with partners to develop four new neighborhood energy systems.	Sustainability Group
			Green Buildings	Restructure the City's Green Building Rezoning Policies to specifically target GHG emission reductions and introduce mandatory GHG emission targets for new buildings.	Chief Building Official, Planning and Development Services, and Sustainability Group
			Clean Air	Work with Metro Vancouver to ensure air quality data and information is available for sources and locations across the city.	Sustainability Group and Metro Vancouver
			Lighter Footprint	Support a community of action on Lighter Footprint by sharing information and facilitating and encouraging community leaders.	Sustainability Group, CoV lead for other Greenest City targets and community partners

CLEVELAND, OH

PLAN NAME	CLIMATE GOAL	FOCUS AREAS	EXAMPLE STRATEGY	EXAMPLE ACTION	IMPLEMENTER
Cleveland Climate Action Plan: 2018 Update	**80% below 2010 emissions by 2050**	**Energy Efficiency & Green Building, Clean Energy, Sustainable Transportation, Clean Water & Vibrant Green Spaces, More Local Food, Less Waste, and Cross-Cutting Priorities**	Promote new construction and major renovations that meet high green building standards	Incentivize continued use of financing tools to promote green building	Enterprise Community Partners, Cleveland Housing Network, Cuyahoga County, City of Cleveland, banks, utilities
			Improve access to affordable clean energy for residents and small organizations	Create community-wide Clean Energy Equity plan to support low-income residents and small organizations to purchase renewable energy	City of Cleveland, Cuyahoga County, small orgs
			Drive cleaner, more efficient vehicles	Implement approaches for promoting and enforcing anti-idling	Department of Health-Air Quality, CMSD, NOACA, Public Safety, CWRU Prevention Research Center, businesses w/large fleets
			Update land use policy to foster health, equity and sustainability	Create a "Green Infrastructure Guide" and incorporate into Planning Review	City of Cleveland (Sus. & Planning), NEORSD, Cuyahoga SWCD
			Advance green jobs through workforce development	Build a green jobs awareness and recruitment strategy with community organizers and workforce organizations	NLI, GCC, Neighborhood Connections, Towards Employment, employers identified in green jobs analysis

NEW YORK, NY

PLAN NAME	CLIMATE GOAL	FOCUS AREAS	STRATEGY	EXAMPLE ACTION	IMPLEMENTER
1.5°C: Aligning New York City with the Paris Climate Agreement	**Carbon neutral by 2050**	**Buildings, Energy, Transportation, Waste, & All Sectors**	Reduced and more efficient consumption	Provide energy use information to more building owners, managers, staff, tenants, and residents, including by requiring energy disclosure at point of sale and energy grades for large buildings	Mayor's Office of Sustainability
			Transition to clean energy	Catalyze adoption of high-efficiency electric heat and hot water systems paired with appropriate efficiency measures in buildings through policies and programs	Mayor's Office of Sustainability
			Climate change leadership	Partner with manufacturers and industry stakeholders to ensure availability and competitive pricing of high-efficiency construction materials, renewable energy technologies, and energy efficiency technologies	Mayor's Office of Sustainability and Economic Development Corporation

600-18

DRAFT CLIMATE ACTION MATRIX – FOR DISCUSSION & NOTETAKING PURPOSES ONLY

Newton's Climate Action Plan will be structured with the following components. We are seeking your input on all of the following.

PRIORITY AREAS: These are the overarching themes for action that have risen to the top through research, engagement, and communication with City staff and leadership.

- **Energy Efficiency & Net Zero Buildings**
- **Clean Energy Supply**
- **Zero Emission Mobility**
- **Zero Waste**
- **Municipal Climate Leadership**

OBJECTIVES: These are strategic objectives that support progress and impact priority areas.

ACTIONS: These are specific points of municipal leverage that support the implementation of each objective.

FACTORS: Measures of costs and benefits that will assist with prioritization of actions.

- **Feasibility:** Has it been done successfully elsewhere?
- **Impact:** What sector(s) will the action impact?
- **Cost to Implement:** How many resources are needed to support the action?
- **Implementer:** Who is the appropriate actor for implementation?
- **Other Impacts or Benefits:** Who is impacted and how?

600-18

DRAFT CLIMATE OBJECTIVES & ACTIONS

The following is a preliminary list of potential **OBJECTIVES** and **ACTIONS** for inclusion in Newton's Climate Action. Please take any notes on priorities or concerns you have related to this list during discussion and return to MAPC for consideration during the plan development.

Priority Area	Objective Preliminary list of potential objectives	Action Preliminary list of potential actions	Notes
Energy Efficiency & Net Zero Buildings	Advance energy efficiency and weatherization in existing homes and businesses	Adopt a commercial property assessed clean energy (C-PACE) ordinance to support local financing of clean energy projects	
		Partner with the energy efficiency program administrators to implement an energy efficiency outreach program	
	Electrification of heating & cooling in residential and commercial buildings	Implement a solarize plus or Heat Smart program for residents to encourage adoption of air source heat pumps	
	Require high performance or net zero new construction for residential and commercial buildings	Adopt a building energy use disclosure ordinance for commercial and industrial buildings of 20,000 square feet or greater	
		Require that all new construction to meet LEED performance standards	
	Adopt zoning measures to incentivize high performance or net zero new construction	Review the draft Zoning Ordinance for opportunities to align the City's zoning with climate priorities and objectives	
		Evaluate opportunities to establish a net-zero building overlay district or an eco-roof overlay	
		Expedite permitting for net zero construction, support with engineering staff to review proposals	
		Allow for renewables within setbacks (including air-source heat pumps)	
Clean Energy Supply	Increase access renewable energy supply	Carry out an outreach campaign to encourage residents to opt-up to 100% through Newton Power Choice	
		Expand existing community shared solar programs and support new ones	
	Pursue innovative energy delivery systems (i.e. micro-grids, district energy)	Perform a heat map analysis of potential locations in the City that are viable for district heating and cooling	
	Coordinate with utilities on repairing large gas leaks	Request data from National Grid on the location of all leak prone gas infrastructure in the City	
		Implement a shared cost savings program for coordinated repaving of streets (similar to Worcester Cooperative Patching Program)	

Zero Emission Mobility	Increase the availability of electric vehicle charging stations	Create a strategic plan for increasing community-wide infrastructure for electric vehicles	
		Explore opportunities for public private partnerships to support installation of electric vehicle charging stations in key locations	
	Incentivize residents to switch to electric vehicles	Host an electric vehicle ride and drive	
		Explore partnerships with dealers to provide local discounts on electric vehicles for residents and businesses	
	Improve infrastructure to support zero-emissions transportation like biking and walking	Create parking benefits district to raise funding for bike and pedestrian investments	
		Support expansion of the Landline Trail & Greenway Network	
		Encourage Safe Routes to School and MassRides programming	
	Increase access and connections to public transit	Incorporate elements of bus rapid transit in local bus service	
		Advocate for community transit needs during the MBTA Bus and Commuter Rail planning process that are underway and upcoming	
		Evaluate options to implement a municipally operated shuttle to support first and last mile connections for commuters	
Zero Waste	Reduce waste produced by residential and commercial sectors		
	Build public awareness of low impact consumer choices to reduce, reuse, and recycle		
Municipal Climate Leadership	Commit to a prescriptive net zero requirement for all municipal buildings	Perform deep energy retrofits for existing municipal buildings	
		Install solar PV on all properties identified as viable in the municipal solar assessment	
	Convert fleet vehicles to all electric options as cost-effective options emerge on the vehicle market	Assess the suitability of all City fleet vehicles for replacement with full electric vehicles, consolidation, and idle reduction technology	
		Create a vehicle replacement plan for all cost-effective candidates identified in the fleet assessment	
		Implement idle reduction technology in eligible vehicles to reduce wasteful use of fossil fuels	

600-18

	Implement a robust public education program to engage residents and businesses on key areas of behavior change		

Notes on other Actions for consideration:

Newton Resolution to Eliminate Greenhouse Gas Emissions (Zero Carbon)

WHEREAS: The Commonwealth of Massachusetts is heavily reliant on energy that comes from fossil fuels that pollute our air, water and alter our climate; and

WHEREAS: Massachusetts communities are already feeling the impacts of climate change in rising temperatures, increased risk of flooding, and more intense and frequent storms; and

WHEREAS: The City of Newton has been working to reduce its carbon emissions and to promote clean energy, including participating in the Massachusetts Department of Energy Resources Green Communities Program, supporting private and public solar installations, promoting electric vehicles, promoting the use of renewable energy and converting to LED streetlights, among other efforts; and

WHEREAS: Clean energy production brings many benefits to Massachusetts, including improving health, reducing pollution, creating tens of thousands of clean energy jobs, and retaining more of our energy dollars in the local economy; and

WHEREAS: Newton has been a leader in the fight against global warming, and has a responsibility to continue to set a positive example for other towns and cities to follow; and

WHEREAS: Massachusetts can source 100% of its energy from clean, renewable sources by harnessing the region's abundant solar and wind resources, and by taking advantage of innovations in energy efficiency, green transportation, energy storage, and other technologies; and

WHEREAS: The transition to a zero carbon economy will promote employment opportunities and economic growth in our communities, facilitate local control and ownership over energy options and bring tangible benefits to low-income residents and others who have historically been disadvantaged by our energy system; and

WHEREAS: Distributed, local generation of renewable energy enhances community resilience against disruptions to vulnerable centralized energy systems caused by climate and national security threats; now therefore be it

RESOLVED: That the City Council supports the goal of eliminating by 2050 all greenhouse gas emissions in Newton that originate from the heating, electricity, and Newton-based and Newton-serving transportation sectors, and from gas leaks. This effort will include households, businesses, the municipality, and the utilities. It will involve a combination of efficency measures, reducing demand, replacement of fossil fuels with renewable sources, and upgrading the infrastructure; and be it further

RESOLVED: That the City Council supports the interim goal of reducing greenhouse gas emissions to 30% below the 2018 levels by 2025. This can be achieved by reducing emissions

from gas leaks by 50%, electricity by 65%, motor vehicles by 15% and heating by 10%; and be it further

RESOLVED: That the City Council supports the interim goal of reducing greenhouse gas emissions to 55% below the 2018 levels by 2035. This can be achieved by reducing emissions from gas leaks by 100%, electricity by 100%, motor vehicles by 50% and heating by 25%; and be it further

RESOLVED: That the City Council supports the goal of having the municipality serve as a leader in the reduction of greenhouse gas emissions by moving ahead of the residential and commercial sectors as follows: reducing emissions by 35% by 2025 and 60% by 2035; and be it further

RESOLVED: That the City Council urges the Newton Legislative Delegation in the State Legislature to do everything in its power to remove the obstacles that Newton and other cities face in pursuing their greenhouse gas emission targets, and to support and harmonize these efforts; to enable Massachusetts to eliminate greenhouse gas emissions from all sources by 2050, and to ensure that the benefits of eliminating the emissions are realized by Massachusetts residents at all income levels; and be it further

RESOLVED: That the means to achieve the above goals include but are not limited to municipal solar projects; energy efficiency upgrades; municipal aggregation; municipal fleet replacement; installing public electric vehicle charging stations; adopting a Net Zero Action Plan; constructing fully electric Net Zero schools and other municipal buildings; improving biking and walking infrastructure; providing incentives for private renewable energy use for electricity, transportation, and heating; promoting and participating in community solar projects; developing a “Solar Ready” Ordinance; streamlining and standardizing permitting and inspection for renewable energy systems and high performance buildings; planning future housing developments that reduce demand for heating, cooling, electricity and private automobile trips; and prioritizing and investing in public transportation; including setting specific, measurable, attainable, realistic and timely goals for all of the above; and be it further

RESOLVED: That in setting the above goals the voices and interests of low income, disadvantaged and/or vulnerable members of the Newton community are considered to ensure that the benefits of a transition to a renewable energy economy are shared by all and any costs or negative impacts do not fall disproportionately on any individuals or segment of the community, i.e. that the principles of climate justice are central to Newton’s energy strategies; and be it further

ORDERED: That the Mayor, or his or her designee, shall create a plan with interim targets to demonstrate progress toward the above goals, and provide a report to the Council on an annual basis on progress toward achieving these goals, and

ORDERED: That the Chair of the Newton City Council send this Resolution to elected officials, including Governor Charlie Baker, State Treasurer Deborah B. Goldberg, Attorney General Maura Healy, State Senator Michael J. Barrett, and State Representative William Smitty Pignatelli, Senator Harriet Chandler, Senate President; Representative Robert A. DeLeo, Speaker of the House; and all Newton legislators: Senator Cynthia S. Creem, Representatives Ruth B. Balser, Kay Khan, John J. Lawn, Jr.; and Senators Elizabeth Warren and Edward Markey, and Representative Joseph P. Kennedy, and to take any other action relative thereto.

About This Resolution

Why We Need It
Scientists and government leaders around the world have recognized the existential threat posed by global warming. There is widespread agreement that to avoid the worst consequences of climate change, temperature increases need to be kept to less than 2°C (3.8°F) below pre-industrial levels – the explicit goal of the Paris Climate Accords. Otherwise, coastal communities being innundated by rising sea levels, storms of increasing frequency and severity, and disruption to food supplies due to changing weather patterns will become all too common.

Because the Federal Government has reneged on the United States' commitment under the Paris Accords, the responsibility to take action is now in the hands of State and Local officials, including the Newton City Council.

Why Zero Emissions by 2050
To meet the goals of the Paris Accords, the world will need to eliminate net carbon emissions by 2050. By choosing this date, we will be aligning ourselves with the Paris Accords, which was designed based on scientific consensus and agreed to by every country in the world with the exception of the United States.

Fighting Climate Change is Good for the Newton Economy
While opponents will seek to portray this as a decision between the economy and the environment, it is a false choice. Fighting climate change presents a major economic opportunity, especially for Newton.

- *Keeping More of Our Money Here.* Newton doesn't produce any fossil fuels. As a result, every dollar we spend on them, estimated at over $200M/year, goes elsewhere. As we reduce what we spend on fossil fuels via clean energy and conservation, that money stays in our community and in Massachusetts more generally.

- *Clean Energy Jobs.* Today, there are already over 100,000 clean energy jobs in Massachusetts, a number which will grow as our share of clean energy increases.

- *Growing the Innovation Economy:* Since 2012 over $4B in venture capital has been invested in Boston-area clean tech companies, creating thousands of high paying jobs. It is well established that companies are formed close to the market for their products. Our fight against climate change will bring more investment in the area. Otherwise, the jobs will go to California and other places that are fighting climate change more aggressively.

Fighting Climate Change is Good for Our Health
Pollution from burning fossil fuels has been proven to cause cardiovascular disease, respiratory disease, premature births, asthma attacks, heart attacks, premature deaths, and more. Phasing out fossil fuels will save lives and billions in health care costs. A recent Harvard Study of accelerating the phase out of fossil fuels measured the benefits for Massachusetts at $2.9B in

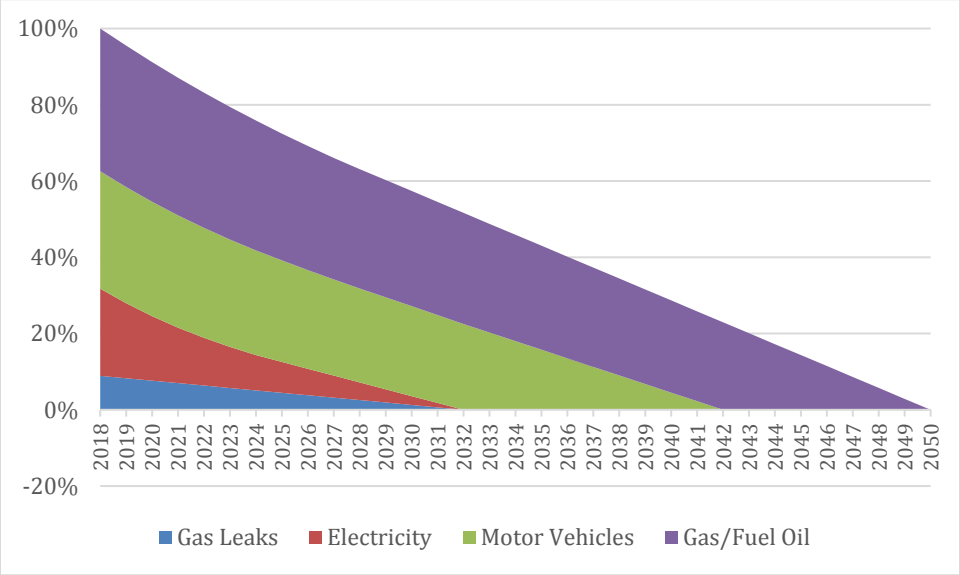
healthcare cost savings and 340 lives. Based on population, Newton's share of those benefits comes to $38M and 5 lives. Furthermore, in addition to these quantifiable benefits, it will also improve the quality of life for many in our community.

How the Interim Goals Were Set

The resolution includes interim goals of reducing emissions by 20% from 2018 levels by 2025 and 55% by 2035. These goals were set using an emissions reduction model with a small front-end load, meaning that the emissions reductions in the first few years are a little bit larger than the reductions in the later years.

This model was chosen as it takes into account that there are some comparatively easy steps the City can take in the near term, such as setting a high default level for Newton Power Choice that can deliver substantial reductions quickly while recognizing that over time, as those opportunities become exhausted, the rate of emissions reductions will slow.

Figure 1: Model for Achieving Zero Carbon by 2050



Realistic Targets

How realistic is it for Newton to achieve the targets called for in this resolution? The answer: Quite realistic.

In Figure 1, Newton’s carbon emissions are divided into 4 separate sectors – gas leaks, electricity, motor vehicles and gas/fuel oil (heating), with the current share of emissions from each source coming from the last Newton greenhouse gas emissions inventory in 2013. To achieve the overal 2025 and 2035 interim targets, targets were set for each of the 4 sectors at levels based on input from Newton energy experts Asa Hopkins (Principal Associate at Synapse

Energy Economics, previously Director of Energy Policy and Planning for the State of Vermont, PhD in Physics from CalTech) and Larry Aller (Managing Director, Bluewave Solar, previously Partner at Redwood Ridge Consulting and Leader of Business Development, Strategy and Regulatory Affairs at NextStep Living, MBA from Stanford)

- **Gas Leaks:** There are no technological barriers to eliminating emissions from gas leaks, only political barriers. Today, the leaked gas is paid for by Newton residents as it is included in our utility bills. Therefore, unless a leak is deemed to pose an immediate danger to the public, the utility has no incentive to fix it. By putting the cost and responsibililty back where it belongs, on the utilities, the City can reach the goal of eliminating 100% of the emissions from this source by 2032 while saving residents money.

- **Electricity:** Already, all of the technology required to go to fully renewable electricity is available. It is estimated that today, it would cost the average Newton household $5 per month to go to 40% green above the state mandate (53% total) using New England, Class 1 renewable electricity. Given the cost reductions in renewable energy, by 2032, the target date for eliminating all electricty emissions, that same $5 will likely enable each household to reach 100% New England, Class 1 renewable electricity.

- **Motor Vehicles:** While still an emerging technology, electric cars are quickly gaining traction. Already, there are over 30 fully electric and plug-in hybrid models available and each day automakers are announcing plans for more. Furthermore, by 2023, electric cars are expected to cost less than equivalent gasoline-powered models even before fuel and maintenance cost savings are taken into account. The 2040 date for eliminating emissions from motor vehicles that is built into the models for this resolution provides a long window for the replacement of conventional cars and is in line with plans announced by Britain and France, and considerably less aggressive than the plans announced by India, Norway and others.

- **Heating:** Heating is the most challenging of the 4 areas, as it requires replacing the installed base of heating equipment as well as new solutions to make it economically competitive with gas. It is for this reason that heating reductions are back-end loaded. In the early years, through 2035, reductions can be accomplished largely through conservation and a modest transition to economically viable technologies such as heat pumps. In the later years, to accomplish this plan would require residents to switch to electric-powered heat sources as their equipment needs replacing (typically 15 to 25 year life). For this to happen, through a combination of technology (more efficient equipment and insulation) and government-sponsored incentives (taxes on carbon fuels), switching to electric heat will need to become an economically viable option. In the event that this does not occur, future Councils, beyond 2035, will have the option of revisiting this objective.

Figure 2: Reductions by Sector and in Total Emissions by Year

Source	2025	2035	2050
Gas Leaks	50%	100%	100%
Electricity	65%	100%	100%
Motor Vehicles	15%	50%	100%
Gas/Fuel Oil (Heating)	10%	25%	100%
Total	30%	55%	100%

City of Newton

Ruthanne Fuller
Mayor

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
OFFICE OF THE CITY ENGINEER
1000 Commonwealth Avenue
Newton Centre, MA 02459-1449

November 30, 2018

To: Public Facilities Committee
From: Louis M. Taverna, P.E., City Engineer
Subject: Discussion of Sewer Infiltration/Inflow (I/I) Mitigation

Since the early 2000's, the Department of Public Works, through its Engineering Division, has been implementing sewer infiltration/inflow mitigation for special permit projects, comprehensive permit projects, and 40-B projects which contribute additional sewer flows into the city's sewer system. This policy for sewer infiltration/inflow (I/I) mitigation stemmed from a March 1997 Administrative Consent Order (ACO) between the City of Newton and the Department of Environmental Protection (DEP) Division of Water Pollution Control, and a successor ACO of February 2000, which superseded the 1997 ACO. The February 2000 ACO requires the City to mitigate excessive sewer I/I and to create a sewer I/I Abatement Plan. The ACO leaves it up to the City to determine the methods by which excessive I/I is mitigated. Due to our substantial work in reducing sanitary sewer overflows, this ACO has been recently closed.

The sanitary sewer system in the City of Newton transports wastewater to the Massachusetts Water Resources Authority (MWRA) system. Flows are conveyed through City and MWRA pipes, pump stations and other facilities for treatment and ultimate discharge at the Deer Island Wastewater Treatment Facility. Particularly during intense rain events, the Newton sewer system has insufficient capacity to accommodate the flows, thereby creating flooding and surcharges or overflows at manholes or into buildings, particularly into below-grade plumbing fixtures. Newton's connections to the MWRA system, and the MWRA system itself are also capacity limited, and intense rain events can cause sanitary system overflows that discharge pollutants, including disease-causing bacteria to local surface waters such as the Charles River.

To mitigate both the local and regional impacts of insufficient capacity, long-standing policies of the City of Newton, administered by the Department of Public Works (DPW) Engineering Division, have regulated connections to the sewer system from private properties. The policies are consistent with and informed by the City Ordinances, the permits, policies and guidance issued by the MWRA, Environmental Protection Agency (EPA), and the Massachusetts Department of Environmental Protection (MassDEP), and applicable federal and state regulations, including, but not limited to:

- Newton Revised Ordinances, Chapter 29 – Water, Sewers and Drains
- MWRA Municipal discharge permit # 24101388 issued to Newton on January 1, 2019
- 314 CMR 12.00: Operation, Maintenance and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers
- MWRA Enabling Act, MGL Chapter 372 as Amended

The City's existing sewer infrastructure is old and has limited capacity. New developments can and will substantially burden the system. Sewer I/I mitigation funds allow the City to clean and re-line the sewer pipes and manholes in order to reduce the amount of I/I entering the sewer system, thereby accommodating the increased demand on the City's sewer pipes resulting from various new developments.

Since 2000, the City has performed sewer I/I removal projects in many of the interceptor and collector sewer pipes and manholes throughout the City. However, much work remains to be completed. The City initiated a strategic sewer I/I removal plan in 2012, targeting the entire sewer infrastructure city-wide.

This policy currently applies to all proposed developments subject to special permits, comprehensive permits, and 40-B projects, regardless of the proposed sewer flow rate. The revision expands this policy to other development projects.

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Louis M. Taverna, P.E.
City Engineer

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City of Newton

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
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Ruthanne Fuller
Mayor

POLICY FOR SEWER INFILTRATION/INFLOW (I/I) MITIGATION FOR NEW CONNECTIONS AND MODIFICATIONS TO EXISTING CONNECTIONS TO THE MUNICIPAL SEWER SYSTEM

UPDATED: *December 1, 2018*

The following summarizes, clarifies and updates the City of Newton's policy for infiltration/inflow mitigation for new connections and modifications of existing connections to the municipal sewer system.

Purpose and Background

A. City & State Sewer System

The sanitary sewer system in the City of Newton transports wastewater to the Massachusetts Water Resources Authority (MWRA) system. Flows are conveyed through City and MWRA pipes, pump stations and other facilities for treatment and ultimate discharge at the Deer Island Wastewater Treatment Facility. Particularly during intense rain events, the Newton sewer system has insufficient capacity to accommodate the flows, thereby creating flooding and surcharges or overflows at manholes or into buildings, particularly into below-grade plumbing fixtures. Newton's connections to the MWRA system, and the MWRA system itself are also capacity-limited, and intense rain events can cause sanitary system overflows that discharge pollutants, including disease-causing bacteria to local surface waters such as the Charles River.

To mitigate both the local and regional impacts of insufficient capacity, long-standing policies of the City of Newton, administered by the Department of Public Works (DPW) Engineering Division, have regulated connections to the sewer system from private properties. The policies are consistent with and informed by the City Ordinances, the permits, policies and guidance issued by the MWRA, Environmental Protection Agency (EPA), and the Massachusetts Department of Environmental Protection (MassDEP), and applicable federal and state regulations, including, but not limited to:

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- MWRA Enabling Act, MGL Chapter 372 as Amended

B. Infiltration and Inflow

Infiltration, generally groundwater, is water other than sanitary wastewater that enters the sewer system through cracks and structural defects in the system. Inflow, generally stormwater, is water other than sanitary wastewater that enters the system, either illegally or incorrectly, through roof leaders, sump pumps, cellar drains, cooling towers, yard drains, driveway drains, catch basins, and other storm drain connections. Infiltration and Inflow (I/I) causes a range of problems including reducing the ability of wastewater treatment facilities to adequately cleanse sanitary flows, increasing operations and maintenance costs for sanitary pumping equipment, limiting capacity for sanitary flows, and creating sanitary system overflows.

The City of Newton requires I/I mitigation in order to deal with the increased demand on the City's sewer system. The City's existing sewer infrastructure is old and has limited capacity. New development can and will substantially increase the burden on the system and will impact its capacity and capability. The purpose of the mitigation requirement is to decrease the burden on the City's overtaxed sewer system by ensuring that I/I is removed in sufficient amounts to accommodate the increased demand on the City's sewer pipes resulting from new developments. Since 2000, the City has performed sewer I/I removal projects in many of the interceptor and collector sewer pipes and manholes throughout the City. However, much work remains to be completed. The City initiated a strategic sewer I/I removal plan in 2012, encompassing the entire sewer infrastructure city-wide.

Reducing I/I is a requirement of the permits issued to Newton as well as policies and regulations enforced by EPA, MassDEP and MWRA to which Newton is subject. In 2014, MassDEP revised 314 CMR 12.00, and in 2017 issued revised policies and guidance for I/I removal. Consequently, the City's stormwater, sewer system, and I/I management policies that have been employed since the 1990s are subject to state review and enforcement.

<u>I/I Mitigation Requirements</u>

For all new connections to the City's sewer system and for all existing connections where the property is completely or substantially reconstructed (both residential and commercial), I/I must be removed from the City's sewer system at a minimum rate of four gallons of I/I removal for each gallon of wastewater that will be discharged to the sewer system.

A property is "completely or substantially reconstructed" when: (i) a dwelling or structure is razed; (ii) a dwelling or structure is renovated and/or gutted more than 50%; or (iii) a dwelling or structure has an addition constructed that increases the footprint by more than 1,000 square feet or increases the total square footage more than 1,000 square feet.

The City Engineer may require a higher removal rate per gallon of sewer flow in sensitive areas, such as where there are frequent sewer overflow events, where overflows have the potential to impact wetlands, water resources or nitrogen sensitive areas, or where the area is so burdened by I/I as to be a hazard to public health, as confirmed by the City's Department of Public Health.

The removal of I/I and/or payment of any monetary fee assessed is required prior to the issuance of a building permit for the subject property.

Residential and mixed-use developments that include four or fewer residential dwelling units on any parcel or contiguous parcels comprising a development site are not subject to the I/I mitigation requirement contained in this policy, but must still comply with the City's Water & Sewer Service Renewal Policy, which further addresses the impact of development on the City's sewer system capacity and capability by requiring new water and sewer services to be installed when a dwelling is razed or completely or substantially reconstructed. For example, while the development of a single family home does not require the payment of any I/I mitigation fee, it will require, in most instances, the developer to install new water and sewer services. A copy of the City's Water & Sewer Renewal Policy is attached hereto as **Appendix A**.

Calculation of Wastewater Flow

In accordance with the MassDEP policy for the calculation of wastewater flows (set forth in Section 15.203 of Massachusetts "Title 5" (310 CMR 15), flow rate is based on the following:

- For residential properties, the flow rate is based on the number of bedrooms and the flow rate of 110 gallons per day per bedroom.

- For commercial properties, the flow rate is based on the estimated generated flow for the proposed use set forth in Title 5.

The calculation of wastewater flow is based on the gross flow generated by the proposed development, without any discount for flow generated by an existing use. For the purpose of encouraging the installation of water-efficient fixtures and equipment, whenever the manufacturer's specifications for such fixtures and/or equipment proposed to be installed as part of any development indicates a flow that is less than the standard set forth in Title 5 and/or normally used by the City Engineer, the City Engineer uses the lower flow amount indicated in the manufacturer's specifications and proposed by the developer.

The City Engineer is responsible for calculating the flows and fees for the use of any building or portion thereof for which an application is submitted and provides applicants with a detailed response to their application within 10 business days of its filing.

Achieving I/I Mitigation

The City of Newton DPW Utilities Division is administering the I/I removal program, including sewer system rehabilitation and sewer cleaning and lining projects. Renovation and development project applicants subject to the I/I Policy may elect to pay a fee based on the project's I/I mitigation requirement. The fee will be deposited into a dedicated account that funds those projects.

The per-gallon fee is established annually based on the program costs to remove I/I. The revised FY2018 I/I mitigation fee is $19.77. This fee is calculated by the City Engineer based on a capital cost analysis report prepared by the City's consulting engineer, attached hereto as **Appendix B.**

Alternatively, development project applicants have the option of implementing the sewer system capital improvement program, subject to the approval of DPW and in accordance with plans and

calculations approved by the City Engineer, and it shall be the applicant's responsibility for completing the sewer I/I removal project, prior to connecting into the sewer system.

Waiver of I/I Mitigation Fee by City Council

The City Council, upon petition from an applicant, may waive, in whole or in part, the I/I fee for a particular property, provided that:

a) the City Council receives written recommendations of the requested waiver from the City Engineer and the Director of Planning and Development;

b) the City Council determines that the waiver will benefit the health and well-being of the public and is reasonably in the best interest of the City; and

c) the applicant has agreed, in writing, to make a voluntary payment to the City for general development mitigation in an amount equal to no less than seventy-five percent (75%) of the portion of the I/I fee being waived.

The City Council, in making its determination, and the City Engineer and the Director of Planning and Development in making their written recommendation to the Council as applicable, shall consider the following criteria:

a) the expected impact of the development on I/I;

b) whether I/I mitigation has previously been conducted in the general area; and

c) whether a greater need has arisen for mitigation of a different nature.

EXAMPLE CALCULATION – PARTIAL WAIVER

- I/I mitigation fee for Project A = $100,000
- City Council determines that 50% of the I/I mitigation fee should be waived
- Project A developer pays:
  - $50,000 = non-waived I/I fee deposited into dedicated account for I/I projects *(50% of the I/I fee)*
  - $37,500 = general development mitigation payment *(75% of the waived amount of $50,000)*
- Project A total payment is $87,500

Effective Date

The effective date of this revised policy is January 1, 2019. The requirements of this revised I/I Policy shall not apply to any building permit, special permit or comprehensive permit issued prior to the effective date. For all developments that have not received any such permit as of the effective date of the revision, compliance with the revised I/I Policy is required.