



# ClimateForward



May 16th, 2024



# Agenda

<b>6:00</b>	<b>Introduction, Review of webinar functions</b>
<b>6:05</b>	<b>Update process</b>
<b>6:20</b>	<b>Community engagement</b>
<b>6:30</b>	<b>Key areas</b>  Buildings & Energy  Community Health & Resiliency  Natural Resources & Waste  Transportation & Mobility  Leadership
<b>6:55</b>	<b>Q&amp;A</b>
<b>7:30</b>	<b>Thank you and Adjourn</b>

# Zoom Protocols and Reminders

- This is a zoom webinar, participants are in attendee mode and therefore need to be enabled to speak
- Use the Q&A feature to ask questions during the webinar
- There will be a Q&A portion of this meeting after the presentation, during which participants can ask questions 2 ways:
  - Raise their hand to ask a question verbally
  - Use the Q&A feature to submit your question
- Please be respectful of other participants, their viewpoints, and their time

# Update Process

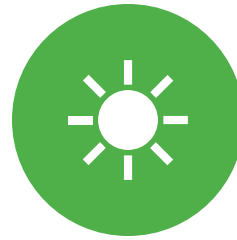
# Vision for Climate Forward



**THRIVING**



**EQUITABLE**

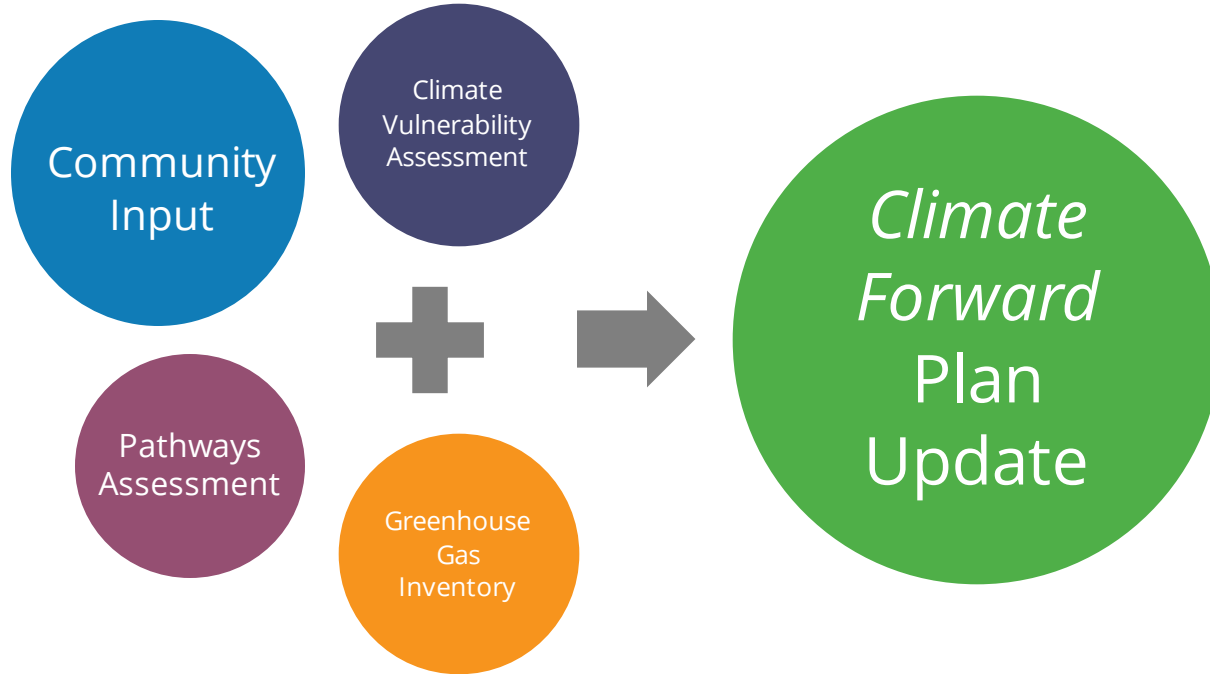


**CARBON  
NET-NEGATIVE**



**RESILIENT**

# Our Process



# What's been updated in Climate Forward?



Measurable goals will be established for all performance metrics to better track progress.



Performance metrics will be integrated into an online dashboard to show progress and promote transparency. Dashboard will be available later this year.



Priority actions will include clear timelines, champions, implementation steps, estimated costs, and resources needed.



Climate Vulnerability Assessment Update re-evaluates socially-vulnerable populations and expands analysis of climate impacts on them.

# Climate change impacts public health

Changing **climate conditions**

Lead to **climate hazards**

Which create the following **impacts to people, property, and ecosystems:**



Heat Waves



Flooding



Intense Storms

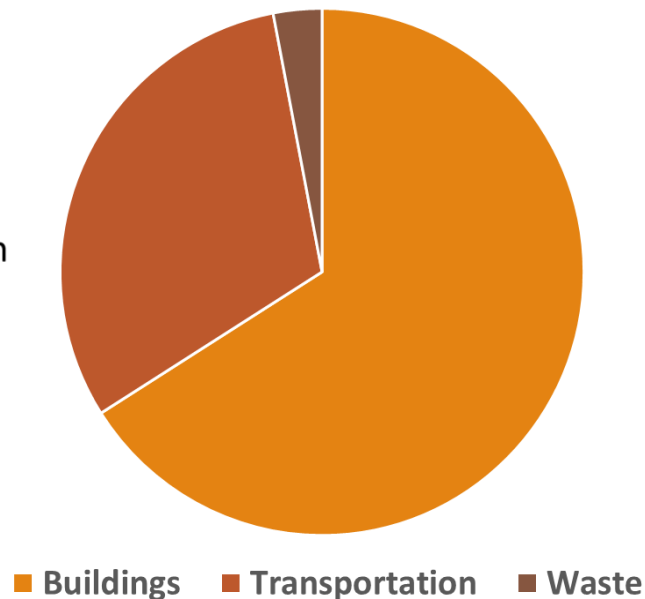
- Heat-related illnesses
- More vector-borne diseases
- Poor air quality
- Increased risk of drought
- Habitat damage
- Blocked roadways
- Infrastructure damage
- Power outages
- Business disruption



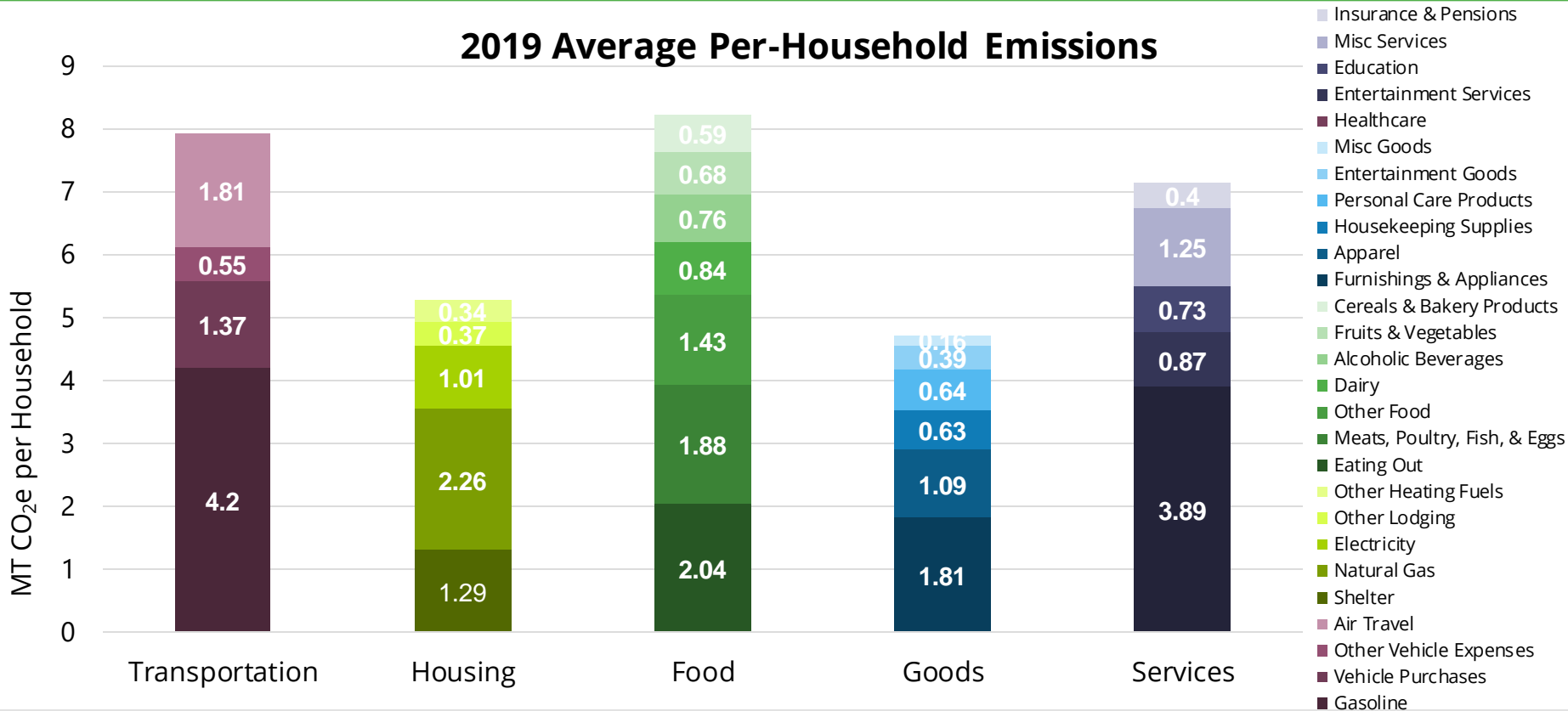
# Where do our greenhouse gas emissions come from?

- 63% from buildings
- 33% from transportation
- 4% from waste

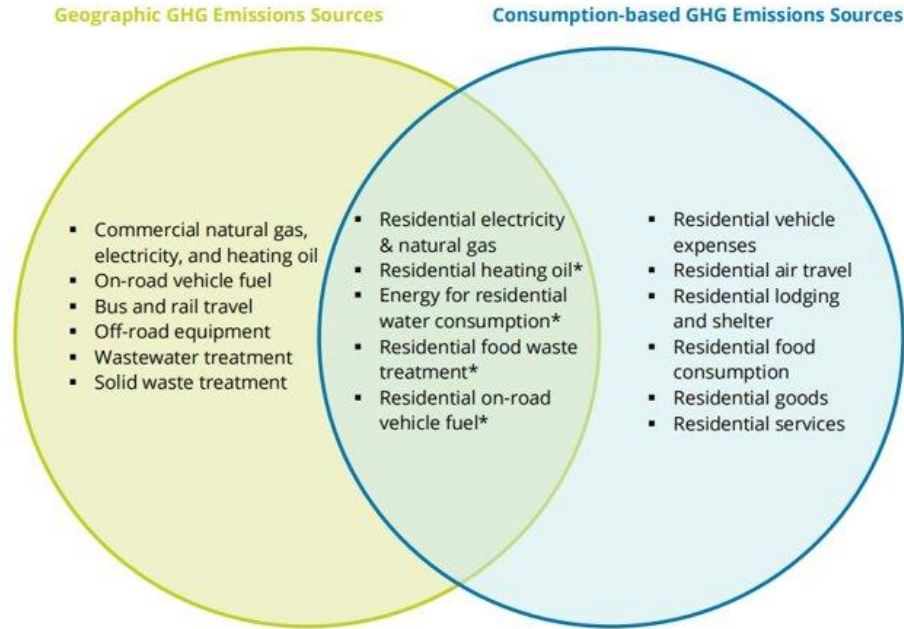
Somerville 2018  
Greenhouse Gas Inventory



# Consumption-Based Emissions Inventory (CBEI)



# Inventory Comparisons



*\*Different methodologies are used to quantify these emissions in each inventory.*

# Path to Carbon Net-Negative

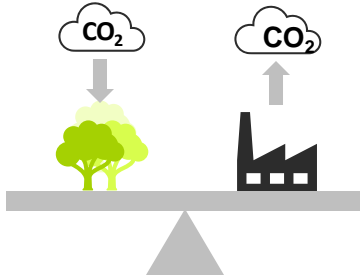
## Carbon Neutral

## Net Zero

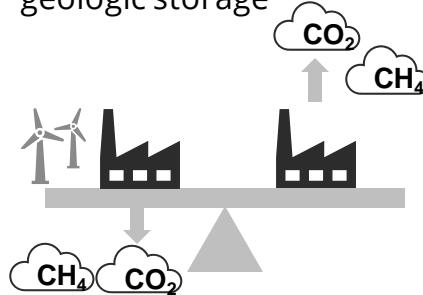
## Carbon Net-Negative

### How is it defined?

The emissions released into the atmosphere from a community's activities is equal to the amount removed.



Removals are balanced and they are equivalent in terms of the source and sink, meaning that fossil GHGs require permanent geologic storage



The emissions that are removed exceeds the emissions from a community's activities.



### What does it mean for Somerville?

- ✓ Owning clean energy with renewable purchasing
- ✓ Growing and maintaining tree canopy in Somerville and elsewhere
- ✓ Avoidance of significance generation of lifecycle GHGs

- ✓ Maximize direct support to eliminate/decarbonize remaining sources attributable to Somerville
- ✓ Utilize offsets and other technologies and strategies to mitigate remaining emissions

- ✓ Develop enforceable net-zero embodied carbon requirements to use regenerative materials in the built environment

# Community Goals

2030	2040	2050
Electrify 55% of residential buildings & 50% of commercial buildings	Electrify 90% of residential buildings & commercial buildings	Electrify 100% of residential buildings & commercial buildings
Electrify 40% of passenger vehicles & 10% of commercial buildings	Electrify 90% of passenger vehicles & 80% of commercial buildings	Electrify 100% of passenger vehicles & 90% of commercial buildings
Source 100% of electricity from renewable energy in CCE	Source 100% of electricity from renewable energy in CCE	Source 100% of electricity from renewable energy in CCE
Reduce natural gas leaks by 25%	Reduce natural gas leaks by 50%	Reduce natural gas leaks by 100%
Divert 30% of residential & commercial waste from incineration	Divert 60% of residential & commercial waste from incineration	Divert at least 90% of residential & commercial waste from incineration

# City and School Goals

**2030**

Reduce emissions by 50%

**2040**

Reduce emissions by 90%

**2050**

Reduce emissions by 100%

# Community Engagement



## Community Engagement Process

### Online Feedback

- Survey translated into 7 languages, ran for 5 months
- Online drafting review for public comments and proposed edits

### Tabling

- Summer and Fall Festivals
- Farmers Markets
- Community Spaces

### Focus Groups

- 3 focus groups with general residents
- 5 focus groups with youth
- 1 focus group with older adults

### Informational Interviews

- Key stakeholders and community representatives
- Climate justice organizers and advocates

### Block Walks

- Meeting with mainly immigrant small business owners and residents





# Major Themes

- Equity
- Environmental Justice
- Increased community involvement and ownership
- Focus on resiliency
- Workforce development, focus on unionized jobs
- Regionalism

# Limitations

- Less engagement with immigrant communities than representative of Somerville demographics
- Minimal survey completion by non-english speakers
- Minimal engagement with residents living in public housing, older adults not affiliated with the council on aging, and immigrant families
- Lack of relationship development pre-process –OSE completely turned over in the last two year –actively working to address

# Moving Forward



**Equitably consider the needs of the community** to ensure these goals are met for highest-need stakeholders within the community.



**Ensure meaningful involvement** in decision making, implementation, and leadership by low-income communities of color.



**Co-create the policies and programs** identified in this plan, prioritizing working with [frontline communities](#) who experience the ongoing burden of environmental injustices.

# Key Areas



NATURAL  
RESOURCES  
& WASTE



COMMUNITY  
HEALTH &  
RESILIENCY



LEADERSHIP



TRANSPORTATION  
& MOBILITY



BUILDINGS  
& ENERGY

# Buildings & Energy



**BUILDINGS  
& ENERGY**

# What does Climate Forward recommend?



## Vision

Driving a just transition to renewable energy while prioritizing affordable, resilient, healthy, and high-performing buildings and homes.

**Somerville's buildings and homes are constructed and retrofitted to be healthy, safe, resilient, net-zero, and affordable, to the greatest extent**

- Require new construction and major renovations to minimize climate pollution and climate risk
- Improve environmental health, indoor air quality, and energy performance in Somerville's rental properties
- Pursue deep energy efficiency and electrification through retrofits of existing buildings

**Clean energy supplies 100% of community energy through local and regional generation**

- Expand access to local and regional renewable energy sources

**The energy grid is more resilient to shocks and stressors through the use of local backup power and increased efficiency**

- Ensure Somerville's energy grid system is resilient to climate impacts

# How did engagement shape this section of the plan?



## Community Engagement

- More support for renters and property owners to make energy and environmental health upgrades to properties
- More access to renewable energy sources

## City Engagement

- Rental registry and energy disclosure, technical support and resources for renters and property owners

# Community Health & Resiliency



COMMUNITY  
HEALTH &  
RESILIENCY



# What does Climate Forward recommend?



## Vision

Preparing the community for the risks from climate change and ensuring all community members have access to resources to meet their basic needs.

**Somerville's residents, businesses, and institutions are informed and prepared for the acute and prolonged risks from climate change and can effectively adapt to changing conditions**

- Implement a multi-faceted strategy to increase access to cooling and other amenities during climate emergencies
- Enhance social capital and social infrastructure throughout Somerville to strengthen community resilience
- Support a culture of climate action in Somerville

**Somerville's emergency response services and physical infrastructure are resilient to climate hazards**

- Enhance public services and infrastructure to be resilient to the impacts of climate change
- Ensure development of physical infrastructure needed to support community resiliency
- Expand equitable access to emergency preparedness resources and education ensuring language justice principles and accessibility are prioritized.

# What does Climate Forward recommend?



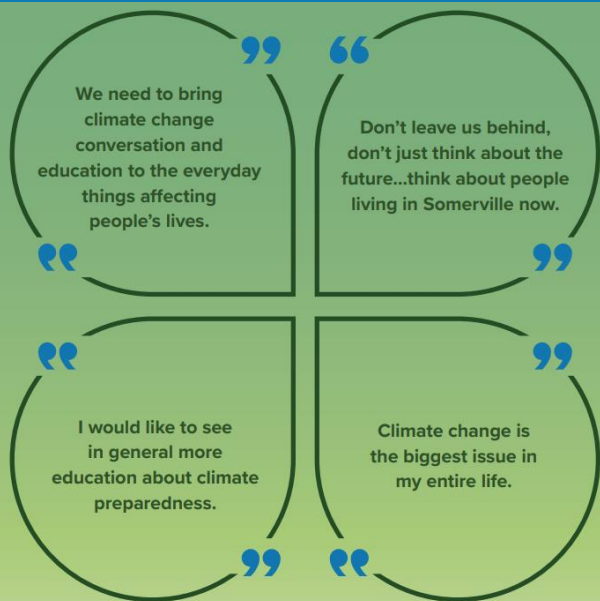
## Vision

Preparing the community for the risks from climate change and ensuring all community members have access to resources to meet their basic needs.

## Somerville addresses the historic inequities that currently impact communities experiencing environmental and climate injustice

- Enhance social support systems to respond to intersecting impacts of climate hazards on marginalized communities
- Identify and mitigate existing environmental hazards that are exacerbated through climate change and negatively impact community health

# How did engagement shape this section of the plan?



## Community Engagement

- Elevate community health and resiliency
- Make climate justice a larger focus of the plan
- More support and education before climate events, better communication during climate events, and more support after climate events

## City Engagement

- Coordination between health services, emergency management, and communication
- Prioritize climate justice and frontline communities

# Natural Resources & Waste



NATURAL  
RESOURCES  
& WASTE

# What does Climate Forward recommend?



## **Somerville's natural systems are resilient and provide benefits to all**

- Construct stormwater infrastructure that incorporates nature-based solutions for enhanced resilience benefits
- Increase citywide canopy cover to 16% from 14.6% and manage Somerville's tree canopy and landscapes to support humans and non-humans

## **Somerville practices smart resource use by minimizing consumption and maximizing efficient reuse of materials.**

- Encourage sustainable consumption practices across Somerville
- Encourage sustainable reuse practices across Somerville

# How did engagement shape this section of the plan?

“  
We need to invest  
in ecology for the sake  
of ecology.”

“  
Our goal should not just  
be to minimize impacts  
of and to humans, but to  
create positive impacts.”

## Community Engagement

- Prioritize permanent closure of combined sewer overflows (CSOs)
- Plant more trees, pollinator habitat, and support biodiversity
- Implement organic waste management, disposal, and composting programs

## City Engagement

- Formalize low-carbon municipal procurement (plant-based meals, low-carbon products, deconstruction)

# Transportation & Mobility



TRANSPORTATION  
& MOBILITY

# What does Climate Forward recommend?



## Vision

Ensuring that affordable, safe, and zero-emission modes of transportation are accessible to all residents in Somerville.

## **Car trips (vehicle miles traveled) are reduced in Somerville by 25%**

- Phase out subsidies for automobile use in favor of promoting alternative low-carbon mobility options

## **Public transit ridership is increased by 25%**

- Reconfigure streets and enhance infrastructure to improve MBTA service and incentivize use of public transit
- Support regional planning for new transit
- 3 Increase affordability of public transit programs

## **Pedestrian and bicycle travel are increased by 100%**

- Reduce accessibility barriers and climate impacts experienced by bicyclists and pedestrians
- Expand options for biking and micromobility throughout the Somerville community



# What does Climate Forward recommend?

## 50% of vehicles driven by residents in Somerville are decarbonized

- Expand access to EV charging infrastructure across Somerville
- Accelerate EV adoption among Somerville's residents and businesses



### Vision

Ensuring that affordable, safe, and zero-emission modes of transportation are accessible to all residents in Somerville.

# How did engagement shape this section of the plan?

Increased heat waves prevents biking. I got an e-bike to overcome weather challenges.

When BlueBikes were free that month in August 2022, that was really nice.

Please improve public transit, including not eliminating existing bus routes that people rely on!

Connect planting street trees to transportation. It's already often too hot to walk or bike on Somerville streets with the lack of mature street trees.

## Community Engagement

- Support and advocate for regional transit coordination and solutions
- Prioritize streetscape improvements to support multimodal transportation
- Prioritize mode-shift and safety
- Support e-micromobility and electric vehicles

## City Engagement

- Prioritize mode-shift and safety

# Leadership



LEADERSHIP

# What does Climate Forward recommend?



## Vision

Proactively preparing for climate change and leading by example, while acting as a regional leader that sparks action in other communities.

## Somerville leads by example by integrating sustainability and resilience principles into city and school operations and decisions

- Reduce GHG emissions associated with city buildings, school buildings and purchases
- Ensure City projects reduce disparate impacts on vulnerable communities

## Somerville is a regional leader that sparks action through advocacy and collaboration

- Foster regional collaboration to enhance knowledge and resource sharing with neighboring communities
- Advocate for State-level policies that increase enabling conditions for accelerated climate action
- Ensure adequate green workforce training and job opportunities for community members to support a just transition to industries impacted or expanded by climate action

# How did engagement shape this section of the plan?

## Community Engagement

- Decarbonize city and school buildings and operations
  - Interim goals developed
- Lead and support regional climate action
- Prioritize workforce development

## City Engagement

- Decarbonize city and school buildings and operations
- Support Somerville Public School's climate curriculum initiative



## Connected Efforts

In addition to the actions included in this plan, the City has also committed to taking action through other many other related initiatives. These efforts create an interconnected network of projects to make Somerville healthier, safer, and more sustainable.

### Capital Investment Plan

Provides a 5-year roadmap for the City's expenditure on major investments for critical infrastructure such as buildings, streetscapes, parks, property, and equipment.

### Vision Zero Action Plan

**2020**  
Identifies long-term strategies for eliminating deaths and serious injuries from the transportation system.

### Building Master Plan

**2021**  
Analyzes the potential relocation of City and School Administration offices to improve the constituent experience, increase service efficiency, and reduce operating costs.



### Zero Waste Plan

**2023**  
Identifies waste reduction and diversion goals and connects these goals to GHG emission reduction targets.

### Public EV Charging in Somerville Report

**2020**  
Identifies potential actions to increase access to electric vehicle (EV) infrastructure in the city.

### Citywide Drainage and Water Quality Master Plan

**2022**  
Recommends a collection of infrastructure projects that will reduce flooding, improve water quality, and mitigate combined sewer overflows.



### Urban Forest Management Plan

**2021**  
Guiding document for the expansion, preservation, and maintenance of Somerville's urban canopy.

### Bicycle Network Plan

**2023**  
Maps out steps to expand and upgrade the current network of bicycle facilities to create safe and connected routes.

Additional plans and studies related to the Climate Forward Plan include Somerville's [ADA Transition Plan](#), [Citywide Parking and Curb Policy Study](#), the [Lower Mystic Regional Climate Assessment](#), and the forthcoming [Pollinator Action Plan](#).



### Somerville 2040

**2021**  
Comprehensive plan to ensure Somerville continues to be an exceptional place to live, work, play, raise a family, and grow older.

### Open Space and Recreation Plan

**2024**  
Will guide the next seven years of City work on parks, sports fields, open space, conservation land, and recreational programming.

### Hazard Mitigation Plan

**2022**  
Guides efforts to respond and adapt to natural hazards, worsened by the impacts of climate change. The Federal Emergency Management Agency said the Plan could be referenced as a best practice for Region 1.

## What are our next steps?

- Develop City task forces to manage the plan implementation
- Reorganize the Commission on Energy Use and Climate Change
- Implement plan based on priority actions identified in the Climate Forward blueprints
  - Amend ordinances and regulations to include additional sustainability and resiliency requirements and incentives for new development and major renovations
  - Establish emissions-based building performance standards for large buildings (20,000 sf+)
  - Launch an energy coaching program
  - Implement resilience upgrades at social infrastructure institutions
  - Develop an urban surface transformation strategy for public property
  - Develop municipal purchasing policy requiring vendors to offer low carbon alternatives
  - Expand the Shared Streets program
  - Establish embodied carbon thresholds for city and school projects
  - Coordinate the Capital Investment Plan with Climate Forward
  - Work regionally to upgrade the electrical grid

# Moving Forward



**Equitably consider the needs of the community** to ensure these goals are met for highest-need stakeholders within the community.



**Ensure meaningful involvement** in decision making, implementation, and leadership by low-income communities of color.



**Co-create the policies and programs** identified in this plan, prioritizing working with [frontline communities](#) who experience the ongoing burden of environmental injustices.



**Q&A**

**Thank you!**

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