EXECUTIVE SUMMARY

MAYOR KATJANA BALLANTYNE

CLIMATE FORWARD

City of Somerville
Community Climate Action Plan

UPDATED APRIL 2024

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Moving Somerville Climate Forward

Somerville is a dynamic, ever-evolving city. However, one constant is that when challenges arise, the city comes together as one community to find solutions. Now, climate change is putting that collaborative spirit and resilience to the test. Somerville is proud to meet that challenge with an actionable, ambitious, and progressive plan: *Climate Forward*.

Climate Forward is Somerville's plan to creating a strong, healthy community in the face of climate change while simultaneously reducing climate pollution and our dependence on fossil fuels.

Four vision statements represent the intentions of the planning process and priorities for implementation.

Equitable

Somerville will transform practices to address structural and institutional inequities, allowing resources and the benefits and opportunities created by climate action to be justly distributed to all.

Resilient

Somerville will adapt in order to prepare for the impacts of climate change, and in the process enhance local community power and capacity.

Carbon Net-Negative

Somerville will strive to reach net-negative greenhouse gas emissions by removing more emissions than the community emits, prioritizing the direct emission sources within Somerville.

Thriving

Somerville will continue to be an exceptional place to live, work, play, and raise a family.

To achieve this vision, Somerville will:

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.

Climate Change in Somerville

When we burn fossil fuels to power buildings and vehicles, climate pollution is released. When these gases (also called greenhouse gas emissions) become trapped in the atmosphere, the planet warms and our climate changes. Since the first iteration of *Climate Forward* was released in 2018, Somerville has experienced the escalating consequences of climate change, including extreme heat, coastal flooding, and stormwater flooding. All of these climate hazards put community members at risk and place stress on infrastructure and natural resources. In 2023, Somerville updated its Climate Change Vulnerability Assessment (CCVA) to better understand how, when, and where community members, neighborhoods, and infrastructure will be impacted.

Coastal Flooding

Coastal storms are expected to bring storm surge, heavy rainfall, and high winds to Somerville, resulting in extensive damage to the Boston Harbor region. Coastal storm events are expected to escalate in frequency by nearly 50% by the end of the century (2090).*

Stormwater Flooding

Stormwater flooding is expected to increase in its frequency and intensity. Precipitation projections show that the amount of rain resulting from 10- and 25-year storms is projected to increase by nearly 40% between present day and 2070.*

Heat

Somerville has significant heat exposure, with 82% of the city defined as urban heat island. Prolonged exposure to extreme heat can have severe implications on public health, particularly for seniors, children, people experiencing homelessness, and individuals with chronic illnesses.*

* City of Somerville Climate Change Vulnerability Assessment Update, Arup (2023).

Eliminating Climate Pollution

Most of the climate pollution that is generated in Somerville comes from the energy used to power buildings (63%) and transportation (34%). Somerville must join other cities, states, and countries in eliminating these pollution sources as quickly as possible.

Somerville's Sources of Climate Pollution (2018)*

* City of Somerville GHG Inventory, AECOM (2018).

Buildings
63%
387,114 metric tons of climate pollution

Transportation
34%
209,312 metric tons of climate pollution

Solid Waste
3%
20,564 metric tons of climate pollution

Wastewater
<1%
2,727 metric tons of climate pollution

Total: 619,717 metric tons of climate pollution

BY 2030 Somerville will aim to:	BY 2040 Somerville will aim to:	BY 2050 Somerville will aim to:
Electrify 55% of residential homes and 50% of commercial buildings	Electrify 90% of residential homes and commercial buildings	Electrify 100% of residential homes and commercial buildings
Electrify 40% of passenger vehicles and 10% of commercial vehicles	Electrify 90% of passenger vehicles and 80% of commercial vehicles	Electrify 100% of passenger vehicles and 90% of commercial vehicles
Source 100% of electricity from renewable energy	Source 100% of electricity from renewable energy	Source 100% of electricity from renewable energy
Reduce natural gas leaks by 25%	Reduce natural gas leaks by 50%	Reduce natural gas leaks by 100%
Divert 30% of both residential and commercial waste from incineration	Divert 60% of both residential and commercial waste from incineration	Divert at least 90% of both residential and commercial waste from incineration

Engaging the Community

During the planning process, the *Climate Forward* team endeavored to listen to and engage as many community members as possible. Over the course of 10 months, and with a goal of equitable engagement, the City sought input from key organizations that reflect the diversity of the community to understand their unique experiences, needs, and priorities. The City accomplished this through:

- Attending dozens of community events and meetings.
- Hosting focus groups and informational interviews with individuals and organizations engaged with issues such as housing, climate, social justice, education, and public health.
- Conducting digital outreach.
- Offering a Community Survey in seven languages that collected nearly 600 responses.

> "I would like to see more education about climate preparedness."

> "As a renter, I have no say in what energy type we use. Renters should have a mechanism to decide this."

> "I think continuing to improve biking infrastructure and public transit to reduce car usage as much as possible should be the number one priority."

Action Plan

The *Climate Forward Plan* has five key focus areas. Each focus area represents an important aspect of the community that needs to be addressed to decrease climate pollution and increase climate resilience and preparedness. The *Climate Forward* planning process identified goals, strategies, and actions for each focus area. The actions are Somerville's specific next steps that will be acted upon between now and 2035; a selection of them are highlighted here.

BUILDINGS & ENERGY

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

ACTION BE-1.2.C

Develop strategies to deliver funding to rental properties to support sustainability and resiliency upgrades while maintaining affordability and discouraging displacement.

ACTION BE-1.3.D

Launch an energy coaching program to match residents and businesses with existing programs and incentives for electrification, efficiency, and renewable energy.

COMMUNITY HEALTH & RESILIENCY

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

ACTION CR-1.3.A

Collaborate with local partners to integrate climate justice education and literacy into existing educational programming ensuring culturally relevant resources are developed.

ACTION CR-1.2.C

Establish and formalize a communication network between the City of Somerville and community-based organizations to identify resources needed to reduce impact of climate risks and enable information sharing.

NATURAL RESOURCES & WASTE

Vision: Practicing smart use of resources by protecting and enhancing trees and natural resources, decreasing consumption, and enhancing opportunities for recycling, recovery, and reuse of materials.

ACTION NRW-1.1.E

Develop an urban surface transformation program to modify pavement and hardscape in a way that reduces and manages urban heat island impacts.

ACTION NRW-2.2.A

Develop a City-sponsored food waste redirection program, considering services such as composting, organic waste disposal, food donation, and recovery.

TRANSPORTATION & MOBILITY

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

ACTION TM-2.1.B

Partner with MBTA to install weather shelters and real-time arrival signs at bus stops through 'Climate Smart Bus Stop' initiative to reduce urban heat island effect and empower community members to make informed transit decisions, prioritizing the most vulnerable neighborhoods.

ACTION TM-4.1.B

Determine a pilot framework for privately owned but publicly available electric vehicle charging infrastructure.

LEADERSHIP

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

ACTION LE-1.1.A

Set citywide emissions standards for all existing and new municipal buildings.

ACTION LE-2.3.A

Launch a workforce development initiative for community members to ensure skilled labor training opportunities are accessible and sufficiently available as demand for climate-tech increases.

Glossary

Climate Change ..... Long-term shifts in temperatures and weather patterns that go beyond natural climate variability observed over comparable time periods. Climate pollution generated by human activity is the leading cause of the earth's rapidly changing climate today.

Climate Pollution, also referred to as Greenhouse Gas (GHG) Emissions ..... Gases that trap heat in the atmosphere, including carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Carbon dioxide is the primary form of climate pollution emitted through human activities, such as the combustion of fossil fuels for energy and transportation.

Hazard ..... A natural or human-induced physical event or trend that may cause loss of life, injury, or other health impacts, as well as damage to property, infrastructure, livelihoods, services, ecosystems, and environmental resources.

Resilience ..... The ability of individuals and organizations to anticipate, prepare for, and respond to hazardous events, local impacts, and day-to-day disturbances related to climate change.

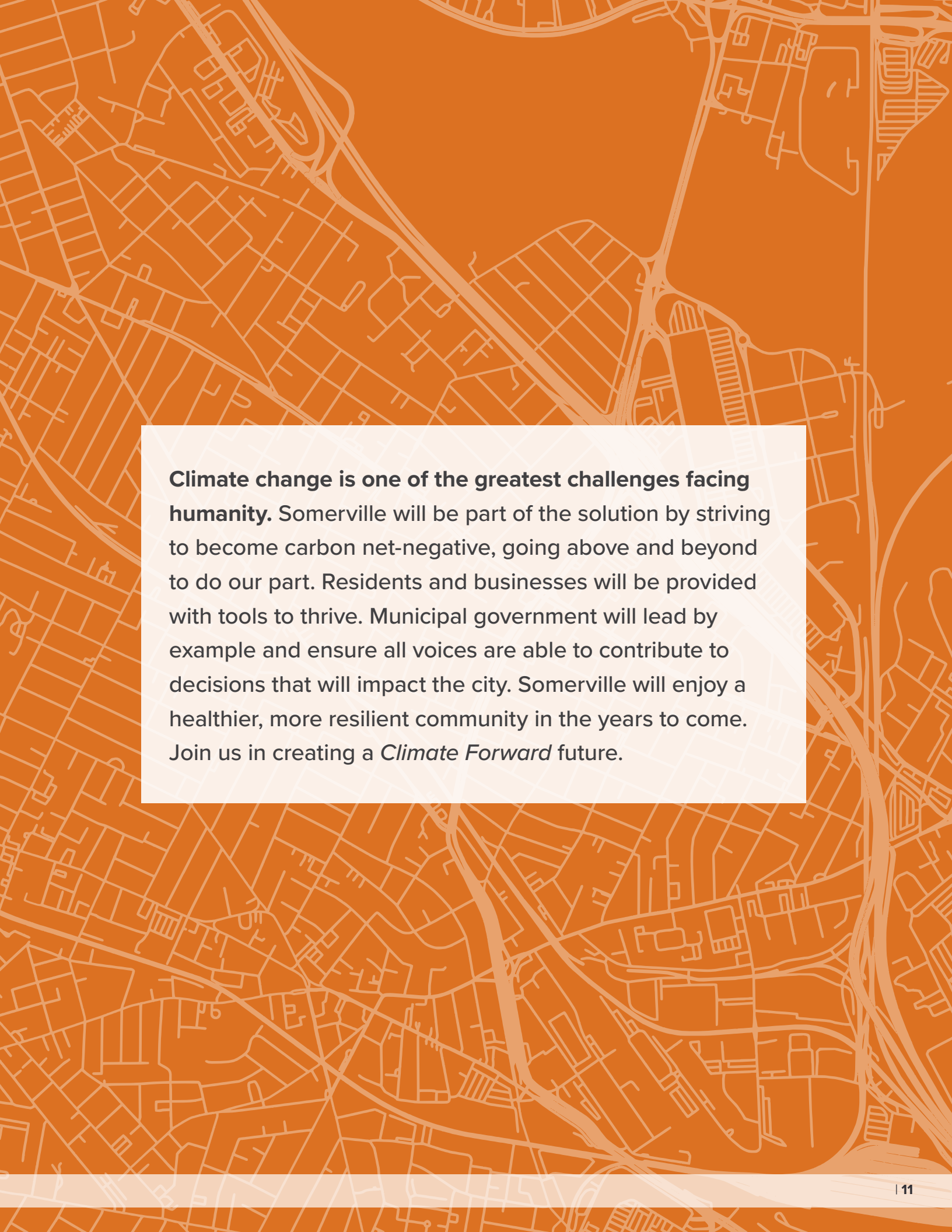
10-year Storm ..... A rainfall of certain duration that occurs, on average, once every ten years is called a 10-year storm and has a 10% probability of occurring in a given year.

25-Year Storm ..... A rainfall of certain duration that occurs, on average, once every 25 years is called a 25-year storm and has a 4% probability of occurring in a given year.

Frontline Communities ..... Communities that experience the most immediate and worst impacts of climate change and are most often communities of color and low-income.

Urban Heat Island Effect ..... Occurs when a city experiences much warmer temperatures than nearby rural areas due to the presence of surfaces such as pavement and buildings that absorb heat.

Art by Kari Percival



Climate change is one of the greatest challenges facing humanity. Somerville will be part of the solution by striving to become carbon net-negative, going above and beyond to do our part. Residents and businesses will be provided with tools to thrive. Municipal government will lead by example and ensure all voices are able to contribute to decisions that will impact the city. Somerville will enjoy a healthier, more resilient community in the years to come. Join us in creating a *Climate Forward* future.

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