

SOMERVILLE CLIMATE FORWARD 2020 PROGRESS REPORT

Somerville Office of Sustainability and Environment
March 2021



2020 IN REVIEW

2020 was a difficult year marked by immense loss, widening inequality, and unforeseen challenges in all aspects of life. The COVID-19 pandemic and the accelerating demands for racial justice renewed a commitment for government to lead with equity and to center the needs of those who are most vulnerable. 2020 has made it clear that we cannot address the climate crisis without working to also fix the systems that lead to rampant inequality.

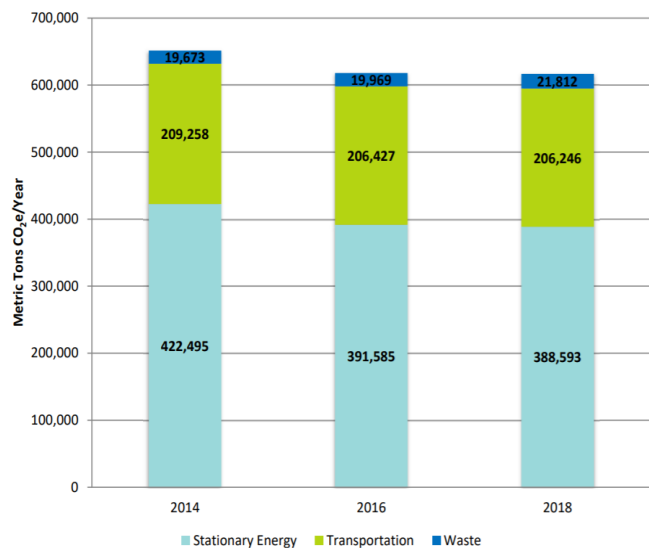
Within the City of Somerville, COVID-19 brought unexpected changes to the role and responsibility of local government. Many staff, including the majority of the Office of Sustainability and Environment, were reassigned to pandemic response roles during the spring and summer of 2020. The pandemic also affected the municipal budget, leading to some projects being put on hold due to lack of funding and limited staff capacity to implement. However, despite having to press pause on some of the initial goals for 2020, progress was nonetheless made.

This report summarizes progress made during 2020 on the priority actions in the Somerville Climate Forward Plan. For more details on each of the actions, please refer to the plan at [somervillema.gov/climateforward](https://somerillema.gov/climateforward).

2018 GHG INVENTORY

COMMUNITY INVENTORY OVERVIEW

- In 2020 Somerville completed its biannual greenhouse gas inventory for 2018.
- Somerville's community-wide carbon emissions decreased 0.2% since 2016 and 5.3% since the 2014 baseline.
- As population in Somerville has grown, emissions have dropped 10% per capita since 2014.
- The energy sector saw the largest reduction in emissions with a drop of 17% due to the grid supplied electricity getting cleaner and the additional renewable electricity that Somerville's Community Choice Electricity Program adds.
- The transportation sector requires modeled data from the Boston Region Metropolitan Planning Organization, which we were unable to obtain for the 2018 inventory. As a result, the transportation sector uses the same assumptions from the 2016 inventory and will be updated when the data become available.



Community GHG emissions trends from 2014 to 2018.

BUILDINGS

NET-ZERO AND RESILIENT NEW BUILDINGS

- Somerville's updated Zoning Ordinance, which was adopted in December 2019, gave a major boost to sustainable development in the city. The new zoning ordinance requires all projects over 25,000 square feet to be LEED Gold certifiable and all projects over 50,000 square feet to be LEED Platinum certifiable. The Zoning Ordinance also provides various incentives for meeting even higher sustainability standards.
- At the beginning of 2021 there were approximately 173 new housing units in the development pipeline that will meet Somerville's Net Zero Ready standard through the Passive House pathway. All buildings seeking the density bonus so far will be Passive House certified from PHIUS and will have no fossil fuel combustion for heating, cooling, or cooking.
- The Green Score in the Zoning Ordinance has also resulted in higher performing landscaping in new development. The Green Score is a performance standard that incentivizes the inclusion of elements that reduce urban heat island, manage stormwater, and filter pollutants.

IMPROVED ENERGY PERFORMANCE IN EXISTING BUILDINGS

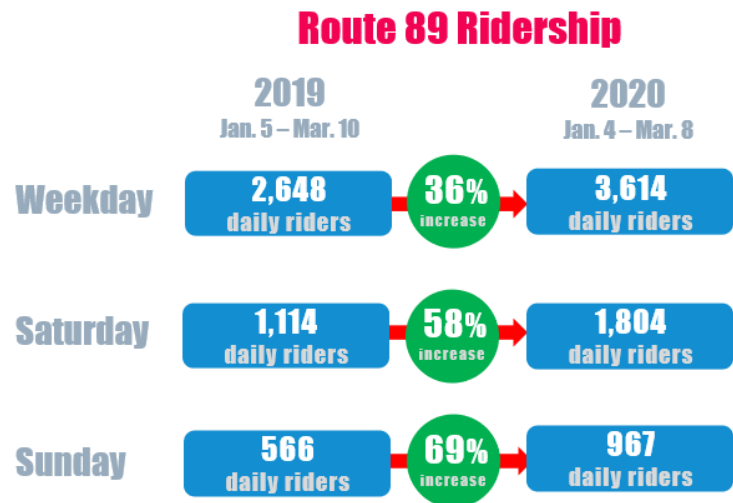
- The Rental Building and Energy Efficiency Standards Internal Working Group issued a report with their findings and recommendations for establishing a rental licensing ordinance with energy efficiency standards and a rental energy disclosure. This report will inform a draft ordinance to create a rental registry and rental energy disclosure, which is planned to be introduced to the City Council in 2021.

SPOTLIGHT ON CLARENDON HILL REDEVELOPMENT

The Zoning Board of Appeals approved a Comprehensive Permit for Clarendon Hill redevelopment on September 30, 2020. This major housing redevelopment project will include 591 dwelling units and will meet Somerville's zoning requirement for all buildings over 50,000 square feet to be LEED Platinum certifiable. The development will include three LEED Platinum apartment buildings that will also maximize electrification by using air source heat pump mini-splits for all units. The project will also include townhouses that will utilize electric air source heat pump mini-splits for heating and cooling.

EQUITABLE LOW-CARBON MOBILITY

- Investments like Somerville’s Broadway bus priority project attracted new ridership on the MBTA system. The project, which included all-day bus lanes, bus stop consolidation, and signal priority changes, helped reduce traffic between 4-14% at the intersections along Broadway.
- The City created new bus lane facilities on Washington Street, Holland Street and College Avenue.
- The City successfully advocated to reduce proposed service eliminations on several local bus routes under the MBTA’s pandemic-related emergency budget cuts.
- The City continued to support construction of the MBTA Green Line Extension and Community Path Extension, which are scheduled for completion in late 2021.
- 1.2 miles of on-street bike facilities were added to Somerville streets during 2020.
- In 2020, the City added 1 new 19-dock BlueBikes station and expanded 2 existing stations from 15 to 19 docks, bringing our citywide total to 29 stations.
- The City created 13-mile seasonal network of Shared Street facilities to support physical distancing for essential trips by walking, rolling and biking.
- The parking study that was planned for 2020 was put on hold due to the COVID-19 pandemic.



Changes in ridership on the 89 bus between and 2020 after the implementation of bus priority projects on Broadway.

RAPID TRANSITION TO ELECTRIC VEHICLES

- In 2020, the City added two new public electric vehicle charging stations. One is at Assembly and the other is at the ice rink parking lot on Somerville Ave adjacent to Conway Park.
- 1,005 unique users recharged at one of Somerville’s public charging stations in 2020.
- The Office of Sustainability and Environment (OSE) commissioned a report on the opportunities, needs, and considerations for expanding the public charging network. This report was the culmination of a multi-year research project to better understand the current context of EV charging in the dense, urban environment of Somerville and provides recommendations for network expansion, financing, and equitable program design.
- Somerville was also part of a multi-city, grant funded project to explore increasing access to EV charging for renters. OSE engaged local stakeholders and collaborated with Cambridge, MA, Burlington, VT, and Portland, OR to publish a guidebook for other cities on how to incorporate renters into an EV strategy.
- OSE developed a guidebook for installing charging at home, with specific guidance for multifamily properties.

ENVIRONMENT

STORMWATER MANAGEMENT

- The Engineering Department developed new [Engineering Site Permit Rules and Regulations](#). The regulations apply to most construction projects in Somerville. The rules and regulations complete the Climate Forward priority action to update stormwater management policies and to develop design guidelines.
- The Engineering Department has been working with a consultant to gather data and conduct analysis to develop an equitable stormwater enterprise fee system. This project was delayed due to the demands to respond to the coronavirus pandemic.

EXPANDED URBAN TREE CANOPY

- In June 2020, the Public Space and Urban Forestry Division published a draft of the [Urban Forest Management Plan](#). This plan will serve as a guiding document for the expansion, preservation, and maintenance of Somerville's urban forest. The final plan will be published in early 2021.
- The City planted 60 public trees during the Spring 2020 planting season and 140 public trees during the Fall 2020 planting season.

REDUCE CONSUMPTION AND WASTE

- OSE's plans to conduct a consumption-based greenhouse gas inventory were put on hold because of budget cuts and competing staffing demands because of the COVID-19 pandemic. It is planned for 2021-22.



HEALTHY AND RESILIENT COMMUNITY

- The City launched a new [Flood Ready website](https://www.somervillema.gov/floodready) with information for the public about flood risk in Somerville and how to stay safe before, during, and after a major storm. Find out more at [somervillema.gov/floodready](https://www.somervillema.gov/floodready).
- In response to COVID safety protocols, the City updated heat safety information and created a new heat safety flyer in five languages. The information is available at [somervillema.gov/keepcool](https://www.somervillema.gov/keepcool).
- Somerville was awarded a technical assistance grant from the Metropolitan Area Planning Council (MAPC) to work with their Public Health team on a project to improve heat health in Somerville. The project, [Keep Cool Somerville](https://www.somervillema.gov/keepcool), included extensive community engagement including convening an interdisciplinary advisory group, conducting interviews with stakeholders ranging from housing advocates to medical providers, sharing a community survey, and hosting two focus groups with older adults and youth. The project team also worked with residents to document their experience managing heat and keeping cool through a PhotoVoice project, where participants kept a photo diary of their experience. The photos created through the PhotoVoice project were shared online and at public parks throughout the city to raise awareness about heat health. The project culminated in the creation of a Heat Health Strategy Toolkit.
- In November, Somerville was awarded a \$52,250 Accelerating Climate Resilience Grant from MAPC to continue the Keep Cool Somerville project into 2021. The grant will support piloting community-driven heat resilience strategies and expanding community engagement.



Keep Cool Somerville 2020 flyer with COVID relevant heat safety tips.



Keep Cool Somerville outdoor photovoice exhibit featuring photo diaries from Somerville residents.

PATHWAY TO 100% RENEWABLE ELECTRICITY

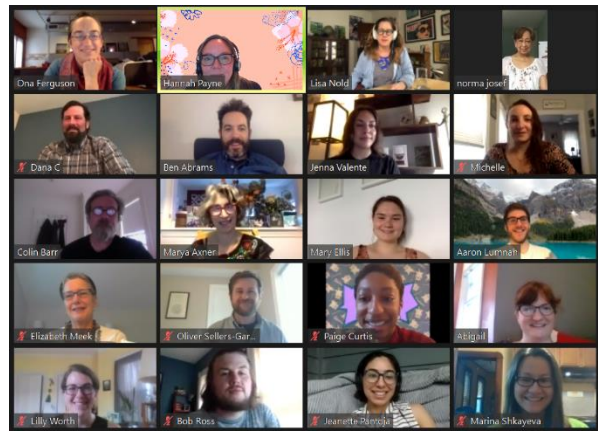
- There were no significant changes to the City's [Community Choice Electricity \(CCE\) program](#) in 2020. The current program runs from July 2019 through December 2021. This program has saved approximately \$500,000 for ratepayers in 2020 and approximately 5,000 metric tons of CO2 savings.
- The current program includes 10% additional renewable energy for customers in the default option, Somerville Local Green.
- At the end of 2020, there were 741 accounts enrolled in the 100% Local Green Option of the CCE program, receiving 100% renewable electricity. Collectively, these accounts consumed 3,332,204 kWh of renewable electricity in 2020, or 12% of all the renewable energy in the Somerville CCE program, despite being only 3% of the accounts.

CULTURE OF CLIMATE ACTION

- The second cohort of Climate Forward Ambassadors graduated from the program in 2020. Although the meetings shifted to a virtual format halfway through the program, approximately 20 residents ranging from high school students to retirees gathered every three weeks during the spring to learn about climate change at the local level and to complete small projects. Projects included podcasts, recipe books, research projects, and art projects. Find out more about the program at somervillema.gov/cfa.
- OSE also spent time in 2020 planning for a fully virtual Climate Forward Ambassadors program in 2021. The virtual format allows for accommodating over 50 participants in the 2021 program.



2020 Somerville Climate Forward Ambassadors participate in a mock United Nations climate negotiation simulation prior to the COVID-19 pandemic.

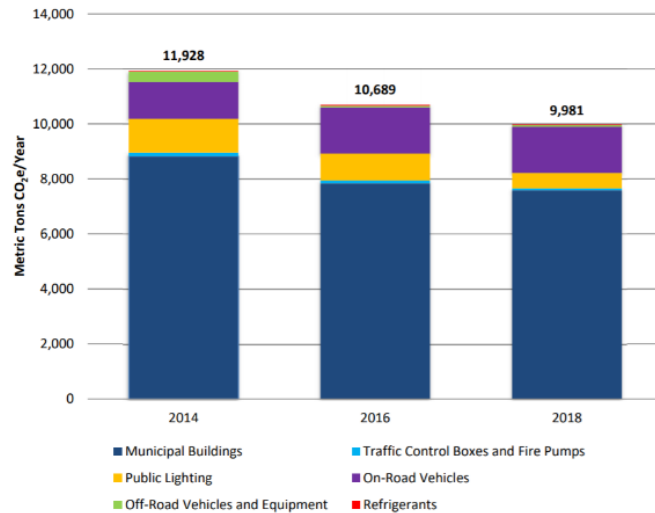


2020 Somerville Climate Forward Ambassadors and guests gather for the virtual presentations of Ambassadors' final projects.

LEADERSHIP

CITY GOVERNMENT LEADING BY EXAMPLE

- The 2018 Somerville Local Government Operations Greenhouse Gas Inventory showed a 7% drop in emissions from 2016 and a 16% reduction from the 2014 baseline.
- The City completed two Green Communities Grant funded projects in 2020 including LED lighting and controls upgrades as well as steam trap repair and replacement, which will save \$16,581 per year in energy costs. In addition, smart monitoring technologies were installed on steam boilers to better optimize boiler performance and improve comfort issues.



Local government operations GHG emissions trends 2014 to 2018.

STATE ADVOCACY FOR CARBON NEUTRALITY

- Somerville staff voted on the International Energy Conservation Code (IECC), helping to secure a least a 10% improvement in efficiency in the 2021 residential and commercial codes over the 2018 codes. The 2021 IECC includes efficiency improvements for building envelope, HVAC performance, water heating, and more. Massachusetts adopts the IECC with local amendments as the base energy code.
- City staff and Mayor Curtatone continued to engage in discussions with the Massachusetts Board of Building Regulations and Standards to advocate for the creation of a net-zero stretch code that would require new construction across the Commonwealth to be highly energy efficient and fossil-fuel free where possible.

REGIONAL COLLABORATION FOR COASTAL RESILIENCE

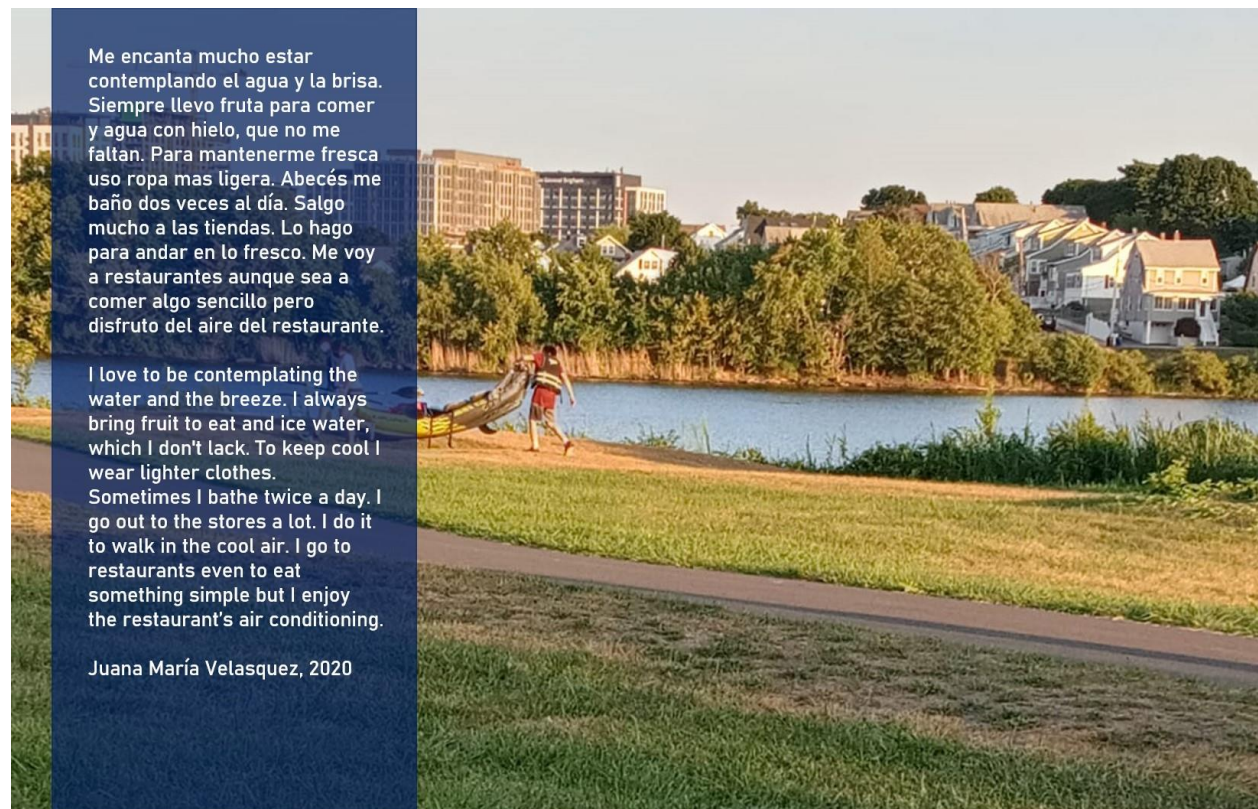
- Somerville has been leading a Municipal Vulnerability Preparedness (MVP) Program grant funded project with Boston, Chelsea, Everett, Revere, Winthrop, and the Mystic River Watershed Association (MyRWA) focused on regional infrastructure resilience. The project will identify vulnerabilities in regional infrastructure in the lower Mystic River basin and will prioritize improvements based on their impact on the lives of vulnerable populations. In October, the participating cities, project partners, and infrastructure owners and operators conducted a tabletop exercise that simulated a major winter storm. In 2021, the community-based organizations in the seven cities will collect data on how infrastructure disruptions affect residents' lives and routines.
- Somerville continues to be an active participant in the Resilient Mystic Collaborative, which focuses on building regional resilience to climate change within the Mystic River Watershed.

WHAT'S NEXT FOR 2021?

2020 showed us all that even with the best of plans, we can't predict the future. There remains much uncertainty about what 2021 will look like as we all recovery from the COVID-19 pandemic and the resulting economic recession. We will need to continue to be responsive and flexible to unforeseen situations as we push ahead with our work to make Somerville a carbon neutral, resilient, and equitable city.

A few of the priorities that we have on the agenda for now include

- Expanding electric vehicle charging access through new partnerships and pilot initiatives.
- Welcoming dozens of residents as new Climate Forward Ambassadors.
- Funding community-designed heat intervention pilots with immigrant families and youth through the Keep Cool Somerville project.
- Introducing a rental licensing ordinance with energy disclosure to the City Council.
- Proposing the creation of an energy stabilization fund, which would use savings from solar projects and other energy cost saving initiatives to fund further efficiency improvements in municipal buildings.
- Continuing to center equity as we implement the Climate Forward Plan in the wake of the pandemic and the national reckoning on race.



[Keep Cool Somerville PhotoVoice submission from Juana María Velasquez.](#)