RESILIENT DANVERS
Our Pathway to a Sustainable Future

Resilient Danvers

Climate Action, Sustainability, Preservation, and Resiliency (CASPR) Plan

PREPARED BY Kim Lundgren Associates, Inc.

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Steve Bartha
Town Manager

RESILIENT DANVERS
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May 2023

Dear fellow community members,

Our town is already facing the all-encompassing consequences of climate change. Some climate hazards are keenly felt and experienced, like extreme heat days during the summer that place stress on humans, wildlife, and our water supply. Others may be less apparent, like small increases in sea level that exacerbate flooding in vulnerable areas. These climate hazards pose significant threats to our health, safety, and quality of life. As a result, we are working to reduce the greenhouse gas (GHG) emissions that cause climate change while also preparing our community for the impacts of a changing climate, both now and in the future.

We are proud to respond to this critical challenge with the *Resilient Danvers Climate Action, Sustainability, Preservation, and Resiliency (CASPR) Plan*. The Danvers Select Board played a crucial role in initiating the climate action planning process. As the governing body of Danvers, the Select Board holds a significant amount of responsibility when it comes to addressing environmental issues and ensuring the well-being of our residents. The Board recognized the importance of developing a comprehensive climate action plan that would address the unique challenges and opportunities in our community and serve as a roadmap for reducing greenhouse gas emissions, adapting to climate change impacts, and promoting sustainable practices in various sectors such as transportation, energy, and waste management.

OVER 700
community members contributed their ideas, priorities, and concerns for implementing a climate action plan in Danvers.

We also could not have completed this plan without all of you, our dedicated municipal staff and residents. In fact, more than 700 community members contributed their ideas, priorities, and concerns for implementing a climate action plan in Danvers. Your creativity and commitment to our shared future laid the foundation for this comprehensive roadmap. This level of community input was integral to creating a plan that directly responds to community needs and highlights residents' voices.

Through the goals, strategies, actions, and targets that follow, we have developed a shared vision for a sustainable future. We know what it will take to achieve success, and through this planning process, we have begun to amass the resources and technical expertise needed to get there. I am eager to work with all of you on implementing the *CASPR Plan* to rapidly reduce our emissions and ensure our community is resilient in the face of climate change.

With our shared future in mind, I hope each of you will join me in supporting the *CASPR Plan* and taking action in your own lives.

Sincerely,

Steve Bartha

Steve Bartha, Town Manager

ACKNOWLEDGMENTS

Town of Danvers

Steve Bartha, Town Manager

Jen Breaker, Assistant Town Manager

Clint Allen, Assistant Utility Director, Danvers Electric Division

Jeff Elie, Energy Resource Manager, Danvers Electric Division

Erica DeDonato, Recycling and Energy Conservation Coordinator, Department of Public Works

Climate Action Advisory Committee

Town Representatives

Aaron Henry, Director, Land Use and Community Services

Adam Federico, Principal, Danvers High School

Brandon Lamson, Firefighter, Fire Prevention and Inspection

Christopher Sanborn, Director, Natural Resources

Colby Cousens, IT Director, Information Technology

Dan Bennett, Chair, Town Select Board

Frank Giacalone, Director, Public Health Department

Georgia Pendergast, Staff Planner, Planning Division

James Lovell, Chief, Police Department

Jasmine Ramón, Director, Equity and Inclusion

Jay Wessell, Lieutenant, Fire Prevention and Inspection

Rodney Conley, Director, Administration and Finance

Scott Vesey, Superintendent, Water and Sewer Department

Sharon Clement, Program Engineer, Department of Public Works

Stephen King, Town Engineer, Engineering Division

Tim Hudon, Building Commissioner, Inspectional Services

Travis Reardon, Supervisor, Forestry and Grounds Division

William Hayes, Chair, Municipal Light Board

Community Representatives

Anthony Michetti, Cell Signaling Technologies

Gavin Porter, Student, Danvers High School

Jillian Parsons, Peabody Institute Library

Linda Leonard, Earth Stewards

Michael J. Wilson, South Essex Sewerage District

Representative Sally Kerans, Essex County State Representative

Robert Gamer, Human Rights and Inclusion Committee

Ryan Monks, Essex Agricultural and Technical High School

Sabrina Auclair, Owner, Unpacked Living

Scott Davidson, North Shore Community College

Engagement Volunteers

Eric Shang

Isah Patel

Julie Curtis

Marybeth Wilhelm

We also want to thank the local businesses, organizations, and community groups that helped raise awareness about the planning process and engage our community.

Consultant Team

KLA | KIM LUNDGREN ASSOCIATES, INC.
Customized Solutions for the Community You Want

RESILIENT DANVERS

Our Pathway To A Sustainable Future

The Town of Danvers is more than meets the eye. It's a blend of big city options and small town comfort, providing a central hub for living, working, and shopping on the North Shore. It's where agricultural roots converge with a vibrant downtown. And it's where challenges meet solutions.

As the impacts of climate change threaten our industry, infrastructure, and way of life, we have a plan to create a thriving, resilient community: *Resilient Danvers*. This initiative is the foundation for partnership and dialogue between municipal staff and community members to identify solutions to the short- and long-term impacts of climate change. This *Climate Action, Sustainability, Preservation, and Resiliency (CASPR) Plan* is the first outcome of our collective efforts.

The *CASPR Plan* includes actions, backed by technical assessments and community input, to help reduce our contribution to climate change and create a more sustainable and healthy future for everyone. Through this plan, we are committing to a Danvers that offers "something for everyone"—clean, connected energy and transportation systems, affordable and livable neighborhoods, and a diverse and sustainable economy.

RESILIENT DANVERS
Our Pathway to a Sustainable Future

STRATEGIC DANVERS
Our Roadmap to 2030

CONNECTED EFFORTS

In 2022, a few months after *Resilient Danvers* was launched, the Town began a second community planning process: Strategic Danvers, the Town's strategic plan to guide growth, adapt to change, and ensure a high quality of life in the town. The topics covered by these two initiatives have some overlap—like considering how we get around and the way we use land—and unique topics that each one will explore more deeply. Working in harmony, the *CASPR Plan* and the strategic plan will guide the actions we take in many different parts of our community, from ensuring our economy is strong to protecting our natural resources for future generations.

Guiding Principles

The *Resilient Danvers* initiative takes a smart and inclusive approach to creating a more sustainable community. Four Guiding Principles were selected to represent the intentions of the planning process and priorities for implementing the *CASPR Plan* while also reflecting the core values of the community. The Implementation Blueprints provide guidance around how each Guiding Principle should be considered as specific actions in the *CASPR Plan* are being implemented.

Community Resilience

Increasing the capacity of community members to prepare for, respond, and adapt to climate change impacts while enhancing the ability of physical infrastructure and natural systems to withstand or recover from those impacts.

Greenhouse Gas Reduction

Reducing Danvers' greenhouse gas (GHG) emissions by reducing or eliminating fossil fuel use from buildings, transportation, waste management, and other sources.

Equity & Inclusivity

Facilitating access to resources and community assets that meet the unique needs of all community members and actively empowering historically marginalized stakeholders in planning and decision-making.

Good Governance

Ensuring honesty and transparency around the allocation of the Town's resources and promoting ongoing communication and collaboration between Town departments.

Electrifying Climate Leadership

Municipal utilities are well-positioned to act as effective, innovative leaders for climate action in their communities. Case in point: As Danvers municipal leaders prepared to launch *Resilient Danvers*, the Town's first climate action planning initiative, Danvers Electric was tapped to lead the effort and drive climate action forward.

As more state and federal funding becomes available for climate mitigation and resilience efforts, municipal utilities can be the key for local governments to more easily make headway on their ambitious climate goals. Danvers Electric can transform energy and infrastructure systems for the Town and lead the transition to a carbon-free future—simultaneously reducing greenhouse gas (GHG) emissions and increasing the resilience of our infrastructure.

The high-impact strategies that have been identified through the development of the *CASPR Plan* bolster the work of Danvers Electric, including renewable energy procurement and infrastructure resilience, while also prioritizing human health and safety, waste reduction, natural resources, efficient buildings, and low-carbon mobility.

Federal and State Actions Create Opportunities to Implement the CASPR Plan Faster

Successfully implementing the CASPR Plan helps to fulfill state and national-level climate commitments. At the same time, action at the state and federal government will enable us to make better and faster progress through funding opportunities and new technologies. As they create new funding and programs that can support our plan, like the opportunities described here, we will be ready to capture associated grants and technical support.

Alignment With State and Federal Government

With the *CASPR Plan*, the Town of Danvers and Danvers Electric have committed to doing their part to prevent the worst impact of climate change while creating a strong and more sustainable community in the process. Our success will require support from outside of the Town, too.

Making the shift to clean energy, electrifying buildings and transportation, modernizing and strengthening the grid—these efforts will all depend on state, regional, and federal climate action.

Bipartisan Infrastructure Law

Can help municipalities establish programs to reduce emissions from transportation and buildings, and provide technical assistance to help communities become more resilient to climate hazards.

Inflation Reduction Act

Homeowners can claim tax credits for purchasing energy efficient appliances, solar panels, heat pumps, back-up power battery storage systems, and more.

MA Decarbonization Roadmap

Includes planning scenarios for Massachusetts to achieve net zero carbon emissions by 2050.

Emphasizes an equitable and affordable transition away from fossil fuels through electrification, efficiency, a decarbonized energy supply, and carbon sequestration.

MA Net Zero Stretch Energy Code

Once final, municipalities in Massachusetts can choose to adopt this code, which will require stricter energy standards for new buildings.

MA Green Communities Program

Helps cities and towns in Massachusetts reduce their energy use and save money by providing grants and technical assistance for energy efficiency and renewable energy projects.

Participating municipalities can receive up to $50,000 in grants to fund energy efficiency projects and up to $1 million in grants for renewable energy projects.

CLIMATE CHANGE IN DANVERS

Our Climate is Changing

Greenhouse gases (GHGs) are essential to life on Earth. They provide a "blanket" in our atmosphere, trapping heat and regulating the Earth's temperature. However, when we burn fossil fuels to power our homes, businesses, and vehicles, we increase the level of GHGs in the atmosphere, creating a much thicker "blanket" that disrupts the Earth's climate. The result is more intense storms, flooding, heat waves, and drought throughout the state of Massachusetts.

The North Shore coastline could see up to **3 feet of sea level rise by 2050** if global efforts to reduce GHG emissions are not successful.[4]

FOUR MAIN CLIMATE HAZARDS

- Intense storms
- Flooding
- Drought
- Heat Waves

2022 was the **sixth hottest year on record** in Massachusetts.[1] The month of August was the warmest on record with **11 extreme heat days** (days over 90 degrees).[2]

By 2050, Danvers can expect an average of **21 extreme heat days** per year. By 2090, we can expect an average of **52 extreme heat days** per year.[3]

Essex County experienced an average of **22 days with extreme storm events** per year between 2018 and 2022.[5] As climate change causes fewer but more intense rain-storms, felled trees, property damage, and downed power lines will continue to be a concern in Danvers.

We Are Feeling the Impacts

Danvers is already experiencing the harmful impacts of climate change. Increasing temperatures and precipitation in the Northeast is projected to continue creating hotter summers, warmer winters, more frequent droughts, and fewer but more intense rainy days. Our community is experiencing more extreme weather than in the past, with increased flooding and more frequent storms. Rising sea levels are also contributing to flooding, particularly in low-lying areas, and extreme weather events can cause infrastructure damage, such as flooding of roads and bridges.

In 2100, summer in Danvers could resemble a present-day summer in South Carolina.

Blizzards in 2013 and 2015—including Winter Storm Nemo and the January 2015 North American blizzard—left residents in Danvers **without power and limited public transportation options** for weeks.

© WEPS

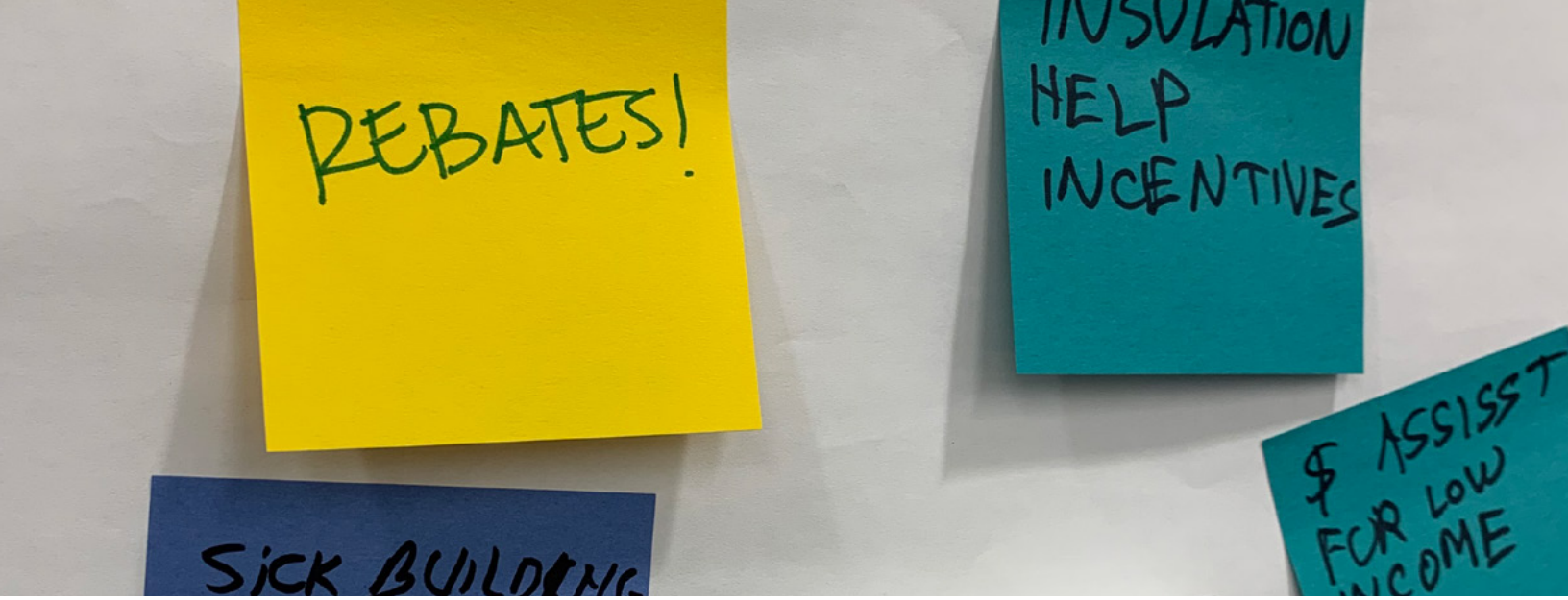
Our window for action is closing

according to the top 2,000 climate scientists in the world.[6]

As the number of extreme heat days and intense storms increases, so will the number of residents who experience related health impacts such as **heat stress or asthma**. Older adults, youth, and people with disabilities are especially vulnerable to negative health impacts.

The Future Depends on Our Actions Today

Addressing climate change today has the potential to enhance the health, safety, and quality of life of all Danvers residents tomorrow. Through the *CASPR Plan*, we are working to reduce the emissions that cause climate change while also preparing our community for changes now and in the future.



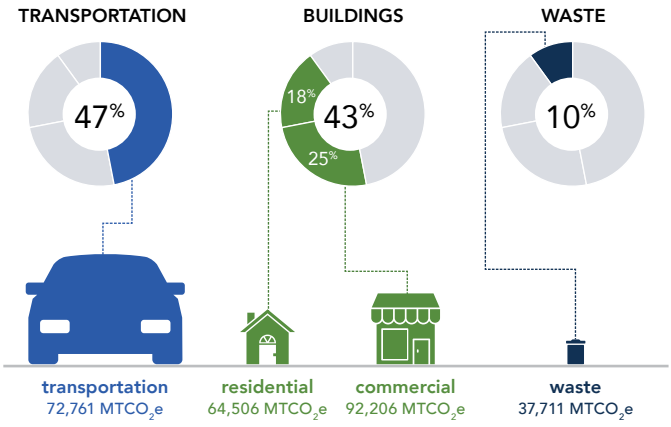
REDUCING OUR CONTRIBUTION

Climate-disrupting greenhouse gases (GHGs) come from many sources, but mostly from the burning of fossil fuels to power our homes, businesses, and vehicles. The faster and more aggressively we act to reduce the emissions we generate, the better chance we have at slowing climate change to a pace we can manage.

Emissions by Sector

To create an actionable and data-driven climate action plan, we needed to identify and understand the sources of GHGs emissions in Danvers. First, the Town conducted a GHG inventory with a 2019 baseline year to identify the largest sectors and sources of emissions, which are also the biggest opportunities to reduce those emissions and have a positive impact. The inventory was then used as a foundation to develop high-impact strategies and actions for the *CASPR Plan*.

In Danvers, the three largest sectors contributing to emissions are: **transportation** (47% of our emissions), **buildings** (43% of our emissions), and **waste** (10% of our emissions).



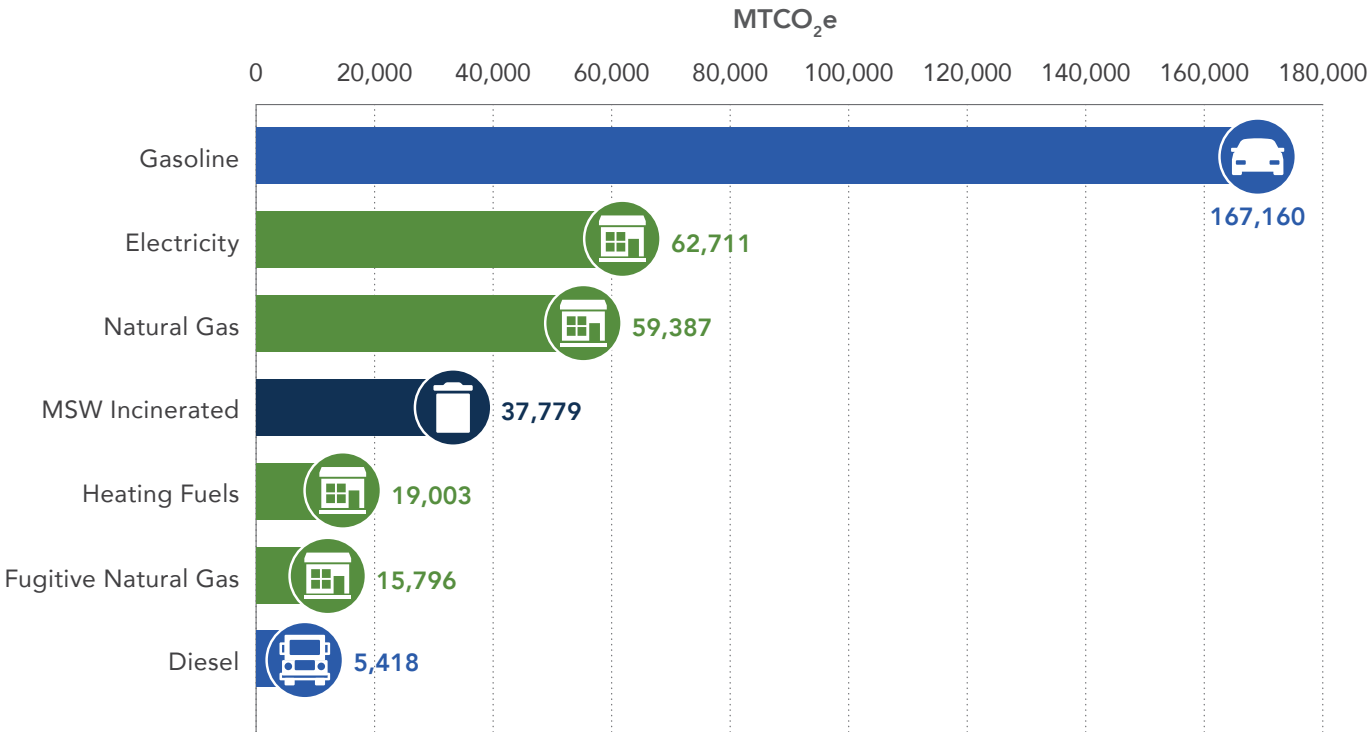
$MTCO_2E$

GHG emissions are measured in terms of metric tons of carbon dioxide equivalent ($MTCO_2e$). CO_2e or carbon dioxide equivalent is a metric that is used to bundle and compare different types of greenhouse gas emissions (e.g., methane, nitrous oxide) by converting them to an equivalent amount of carbon dioxide, the most common GHG.

Emissions by Source

In addition to looking across sectors, looking at the sources of emissions identifies what activities are driving the production of emissions, and what opportunities exist to decrease emissions in the buildings and transportation sectors.

Other large sources of emissions are the electricity and fuels that we used to power our buildings, the solid waste that we incinerate, and diesel used for transportation. These sources also indicate how much energy we use to travel from place to place as compared to what we use to power all other parts of our lives.



Burning gasoline to power our cars is by far the biggest source of emissions in Danvers.

PATHWAYS TO ZERO

Decreasing our reliance on fossil fuels and reducing GHG emissions will require many actions, but there are a few strategies that will be essential:

ELECTRIFY TRANSPORTATION

ELECTRIFY BUILDINGS & PURSUE EFFICIENCY

DIVERT SOLID WASTE

ELIMINATE METHANE GAS LEAKS

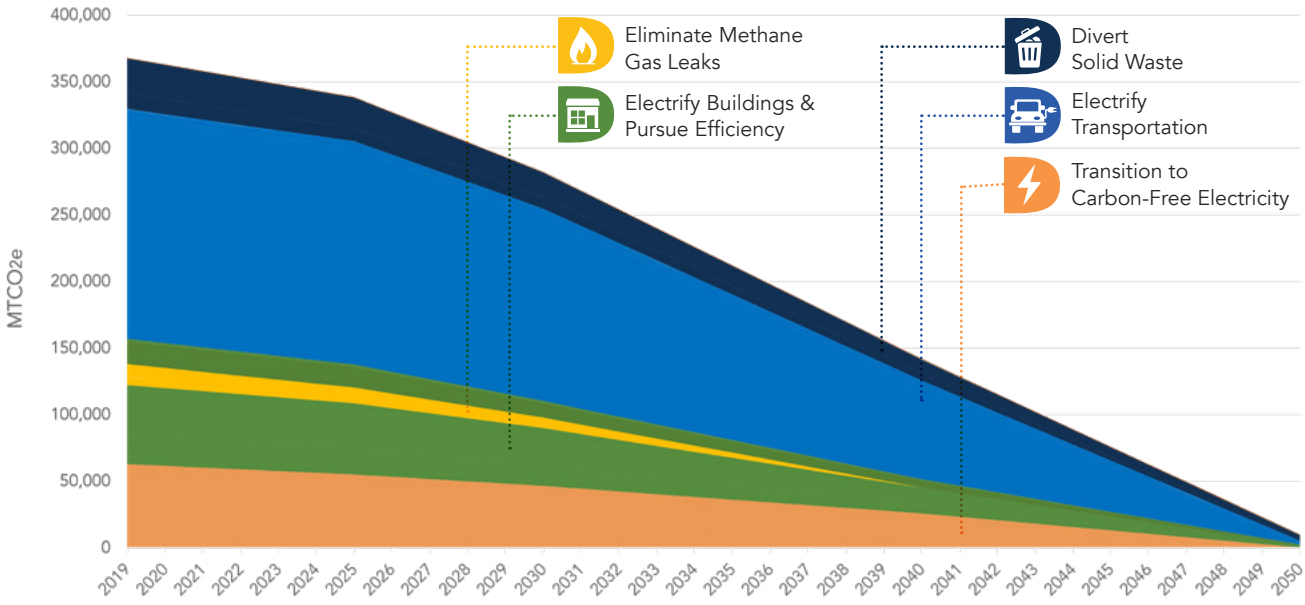
REDUCE ENERGY DEMAND EVERYWHERE

An additional, overarching strategy that will be required is to **transition our sources of electricity to 100% carbon-free energy.** This will ensure we maximize GHG reductions as we transition our homes, businesses, and vehicles to operate using electricity.

Achieving Zero Emissions in Danvers by 2050

The Commonwealth of Massachusetts illustrated key pathways to meeting its emissions reduction goals through these strategies in the *2050 Decarbonization Roadmap*. We downscaled this analysis to local GHGs to see the impact of accelerating these changes in Danvers.

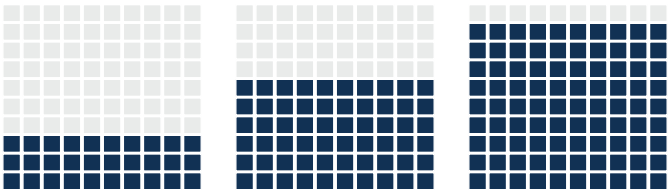
If we can expand rooftop solar, scale up our solid waste diversion rate, reduce how much we commute in single-occupancy vehicles while accelerating the transition to electric vehicles, and retrofit buildings to run on electricity—while simultaneously transitioning our grid to 100% carbon-free energy—we should see our emissions steadily decrease between now and 2050. It's a tall order, and it won't be easy. But we know the scale of action required and the *CASPR Plan* is our roadmap to get there.



DIVERT SOLID WASTE

Between now and 2050, we need to steadily increase diversion rates to ultimately reach 90% (which is the threshold for "zero waste"). This means diverting organic waste (e.g., food waste) to compost, reducing our use of plastics and other non-recyclable materials, and preventing as much waste as possible from being incinerated.

Percent of Waste Diverted



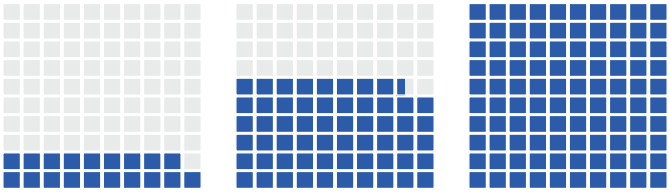
2030 / 30% **2040 / 60%** **2050 / 90%**

PER YEAR	2030	2040	2050
Avg. Tons Residential Waste Diverted	3,878	7,848	11,910
Avg. Tons Commercial Waste Diverted	8,765	17,737	26,916
GHG Reduction ($MTCO_2e$)	11,546	23,366	35,459

ELECTRIFY TRANSPORTATION

To tackle emissions from the transportation sector, we will need to transition a significant number of vehicles to EVs; these milestones are in alignment with the MA Decarbonization Roadmap and the 2025-2030 Climate and Clean Energy Implementation Plan. Transitioning to EVs alone will not fix the significant demand that Danvers residents have for energy to power transportation. As the Town works to support all mobility options—including public transportation, biking, and walking—we could avoid a good chunk of the projected increase in electricity and be better able to supply buildings with the renewable energy they need.

Percent of Passenger Vehicles Replaced



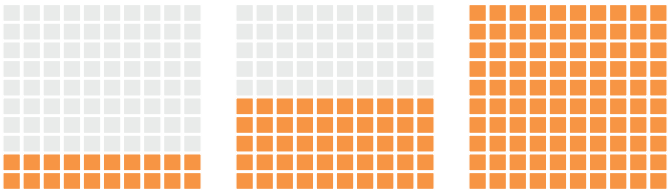
2030 / 19% **2040 / 59.5%** **2050 / 100%**

	2030	2040	2050
Total EVs Registered in Danvers	3,750	11,745	19,739
Avg. New EVs Registered Per Year	469	799	799
Annual Electricity Increase (MWh)	38,606	122,616	208,964

TRANSITION TO CARBON-FREE ELECTRICITY

Danvers Electric Division is working along with every other electricity provider in the State to procure clean renewable energy on our behalf. Meanwhile the entire Danvers community can help meet that challenge by producing as much energy as we can locally through solar on rooftops and any other underutilized space.

Percent of Rooftop Solar Development



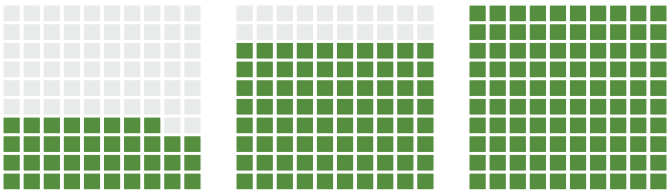
2030 / 20% **2040 / 50%** **2050 / 100%**

	2030	2040	2050
Total Homes Retrofitted	3,036	5,592	7,989
Avg. # Homes Retrofitted Per Year	379	256	240
Annual GHG Reduction ($MTCO_2e$)	5,862	13,456	23,020

ELECTRIFY BUILDINGS & PURSUE EFFICIENCY

To rapidly reduce emissions, we must eliminate the direct use of fossil fuels for heating, cooking, and other uses in all existing buildings. These tables illustrate the scale of the milestones that we need to meet every year to electrify all buildings in Danvers and reach zero emissions by 2050.

Percent of Homes Retrofitted



2030 / 38% **2040 / 70%** **2050 / 100%**

	2030	2040	2050
Total Solar Systems Installed	1,380	3,450	6,900
Avg. # Systems Installed Per Year	173	207	345
Local Energy Produced Annually (MWh)	33,200	83,000	166,000

DEVELOPING THE PLAN

Resilient Danvers is a joint effort across Town departments, a diverse group of stakeholder organizations, and residents. Many people with different experiences, priorities, and interests were engaged in the development of the *CASPR Plan* to ensure that it addressed the community's needs, challenges, and opportunities. The yearlong planning process built off past work and ongoing efforts that the Town is taking to create a healthier and more resilient community that is thoughtfully planning for the future.

December 2019-March 2020
Community Resilience Building Workshop and Listening Session held for the Municipal Vulnerability Preparedness (MVP) program

May 2020
MVP Summary of Findings published

May 2021
Danvers and Peabody Rapid Recovery Plan published

May 2021
Danvers Electric earns Platinum Level Reliable Public Power Provider (RP3) national designation from the American Public Power Association (APPA)

October 2021
Danvers Electric earns Smart Energy Provider (SEP) designation from APPA

March 2022
***Resilient Danvers* launched**

March-May 2022
GHG Emissions Inventory conducted

June 2022
Introductory Advisory Group meeting held for Town Staff

We can't manage what we don't measure. The GHG inventory helped us understand where our emissions are coming from.

MUNICIPAL VULNERABILITY PREPAREDNESS (MVP) PROGRAM

Assessed where our social, physical, and natural systems are vulnerable to the impacts of climate change.

CLIMATE ACTION ADVISORY GROUP

Brought together **32 individuals** from across Town departments, the community, and local businesses to shape the goals, strategies, and actions in the *CASPR Plan*.

COMMUNITY SURVEY

708 community members contributed their ideas, priorities, and concerns for implementing a climate action plan in Danvers.

August 2022
Strategic Danvers, the Town's strategic planning process, launched

September 2022
Advisory Group Meeting #1

November 2022
Advisory Group Meeting #2

January 2023
Advisory Group Meeting #3

April 2023
Final *CASPR Plan* launched

With input and guidance from stakeholders, we launched the final plan.

May-October 2022
Goals, Strategies, and Actions developed

July-October 2022
Community Survey distributed

October-December 2022
Implementation Blueprints developed

We developed targeted actions to help achieve our goals.

We created a roadmap for implementing actions in this plan.

ENGAGING THE COMMUNITY

Involving the broader community was crucial to developing the *CASPR Plan*. Throughout the planning process, we engaged residents, businesses, and community organizations to understand and incorporate their diverse priorities, concerns, and ideas. To empower residents to help implement the *CASPR Plan* going forward, we focused on growing a foundation of climate literacy—knowledge about the causes and solutions of climate change—through a community-wide survey, events, and educational materials.

Community Survey

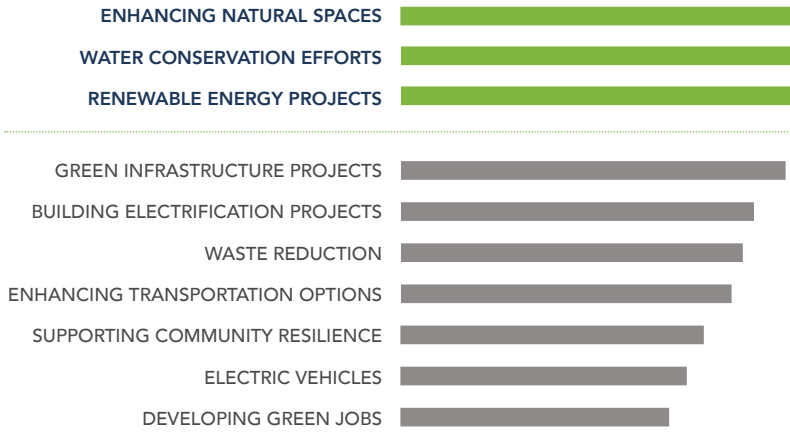
708 Community Survey Respondents

44% already save water at home

60% enthusiastic to adopt EV as their next vehicle

81% support town-wide clean electricity

Prioritizing our Investments / Respondents allocated a hypothetical budget to demonstrate the types of projects that our community should prioritize.



"I would love to see Danvers take on some immediate impact projects that help to demonstrate its commitment to addressing climate change."

Survey Demographics

RACE & ETHNICITY

- White or Caucasian / **85.2%**
- Hispanic / **3.7%**
- Asian/Pacific Islander / **3.7%**
- Black or African American / **2.9%**
- Other/Multiple Ethnicities / **2.5%**
- American Indian or Alaskan Native / **2.0%**

YEARS LIVING IN DANVERS

- More than 10 years / **56%**
- Between 1-10 years / **35%**
- Less than 1 year / **6%**
- I don't live in Danvers / **3%**

Isha Patel
HIGH SCHOOL VOLUNTEER

"I think climate change and environmental issues are not talked about enough in the community, so I am thankful for *Resilient Danvers* speaking up and trying to tackle those issues."

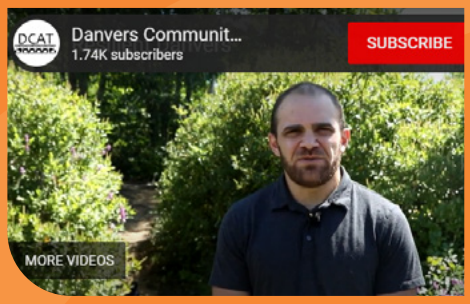
Robert Gamer
VOLUNTEER AND ADVISORY GROUP MEMBER

"The environment is no one's property to destroy; it is everyone's responsibility to protect...*Resilient Danvers* is our part on a grassroots level to prevent climate impacts on a global scale."

26

Community members engaged in training about *Resilient Danvers* through the Town's Citizens Academy

ENGAGEMENT highlights



Distributed a *Resilient Danvers* video produced by Danvers Community Access Television

Encouraged climate literacy through a book display at the Peabody Institute Library

10+

community organizations, local businesses, and Town departments actively involved in engaging the community

60+

volunteer hours spent attending 7 major community events

10+

blog posts written for the *Resilient Danvers* website

PLAN FOCUS AREAS

The *CASPR Plan* has six focus areas. Each focus area represents an important aspect of the community that needs to be addressed in order to decrease GHG emissions and increase climate resilience and preparedness. The planning process identified goals, strategies, actions, and key metrics for each focus area, which are outlined in the following sections.

ENERGY

VISION

Driving the transition to 100% carbon-free energy use.

KEY AREAS

- Energy supply
- Local renewable generation
- Grid and infrastructure resilience

BUILDINGS

VISION

Using energy efficiently and encouraging resilient and high-performing buildings.

KEY AREAS

- Electrification and deep energy retrofits
- Energy efficiency and conservation
- Infrastructure resilience

NATURAL RESOURCES

VISION

Protecting and enhancing the natural resources of Danvers and ensuring clean water and open spaces are accessible to all.

KEY AREAS

- Parks and open space
- Biodiversity and habitat
- Tree canopy
- Water supply, quality, and conservation
- Stormwater management

PUBLIC HEALTH & SAFETY

VISION

Preparing the community for emergencies while improving community health through equitable access to services and resources.

KEY AREAS

- Emergency preparedness
- Health and wellness
- Neighborhood resilience

TRANSPORTATION & LAND USE

VISION

Transitioning to low-carbon mobility and reducing car dependence through expanded transportation options and smart community planning.

KEY AREAS

- Walking and biking
- Access to public transit
- Quality of Place
- Electric vehicles

SOLID WASTE

VISION

Reducing waste by decreasing consumption, increasing low waste design practices, and enhancing opportunities for recycling, recovery, and reuse of materials.

KEY AREAS

- Waste reduction and minimization
- Recycling
- Composting and organic waste

ENERGY

Energy powers our lives. From switching on lights and appliances at home, to keeping our stores and businesses warm in the winter, we use energy—both directly and indirectly—every day. **But where our energy comes from matters.** Currently, 78% of the energy used in Danvers is from the direct use of fossil fuels in buildings and vehicles.[10]

To drastically reduce GHG emissions, we need to electrify our homes, cars, and businesses and transition the energy sources that supply our electricity to renewables. We are already well positioned to make this transformation. As a municipal-owned utility, Danvers Electric has the advantage of choosing what sources of energy provide our community's electricity. By targeting procurement of the Town's power supply mix from new renewable generation resources within New England, Danvers can play a large role in transitioning the entire region to 100% renewable energy. In addition to greening our grid while keeping electricity rates lower than investor owned utilities, we can also maximize the renewable energy we generate in town and invest in systems to store energy, which will make our award-winning, reliable electric systems and infrastructure stronger and more resilient.[11]

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By the Numbers

ONLY 3%

of the 150,000 kW rooftop solar potential in Danvers has been developed.[7] By maximizing local solar installations, including installations that are being planned on municipal buildings, we can add more clean energy to our power grid and make our energy system more resilient.

0.63

The average number of sustained outages per customer per year in Danvers, compared to 0.81 across New England.[8] We have one of the most reliable electric systems in the region which can be made even stronger with local generation and energy storage.

15%

of our electricity in 2021 came from renewable sources (hydro, solar, and wind). Most of the remainder was sourced from nuclear (46%) and natural gas (21%).[9]

LEADING BY EXAMPLE

The Town is moving forward to install a 1.2-1.5 megawatt (MW) solar array at the closed Danvers Landfill. The proposed array could generate 1.4M-1.7M kWh per year, which is enough electricity to power about 225 homes. This project would avoid more than 750 tons from traditional natural gas power plants—which is equivalent to taking 125 cars off the road each year![12] Investments in local infrastructure showcase our capacity to lead the transition to 100% renewable energy.

Tracking Progress

Measuring our progress over time is crucial to ensuring that we achieve our goals for Energy. The following metrics represent just some of the data we will be tracking in the coming months and years to demonstrate success.

Metric	Baseline Data	Baseline Year	2030 Target	2040 Target	2050 Target
Electricity supply from renewable energy	14.98%[13] Hydro (9.2%) Wind (5.1%) Solar (.68%)	2021	40%	70%	100%
Electricity supply from non-GHG-emitting sources*	61.46%[14]	2021	80%	100%	100%
Total kW of installed rooftop solar	4,901 kW[15]	2022	45,215 kW	95,608 kW	146,000 kW**
Solar rooftop capacity utilized	3%[16]	2022	31%	65%	100%

* Includes nuclear energy, which accounts for 46.48% of the electricity supply.

** Maximum potential if all roof space utilized.

While less than 1% of all properties in Danvers have a solar system installed, six communities in Massachusetts have solar systems installed on over 10% of their properties.[17]

6 states and the District of Columbia have renewable energy portfolio standards that are stricter than Danvers' targets.[18]

kW (KILOWATT)

Unit of measurement used for electricity. One kilowatt is equal to one thousand watts, which would power a 50-watt LED TV for 20 hours.

Action Table

The *CASPR Plan* establishes the following goals, strategies, and actions for Energy.

Goal 1: Danvers sources energy that is carbon-free and local.	
1.1 Secure long-term supply contracts with new utility scale renewable sources in the region.	
1.1.A	Secure supply contracts that support new renewable energy development in the region via the Massachusetts Offshore Wind Industry Investment Trust Fund and Energy New England Programs.
1.1.B	Identify neighborhoods and building clusters that are suitable candidates for geo-microgrid systems.
1.2 Maximize local solar production within Danvers.	
1.2.A	Implement policies and practices necessary to achieve SolSmart Gold level certification for the Town.
1.2.B	Identify potential locations for large solar + storage developments on municipal, state-owned, or underutilized sites, such as large surface parking areas.
1.2.C	Provide as-of-right siting in designated locations for renewable or alternative energy generating facilities, research and development facilities, or manufacturing facilities, per Green Communities Criterion 1.
Goal 2: Danvers strategically uses and stores energy to reduce emissions and costs.	
2.1 Deploy energy storage and appropriate rate structures to minimize energy supply costs.	
2.1.A	Develop rebates that encourage more battery systems in Danvers with "adders" to solar net-metering rates modeled on the Massachusetts SMART program.
2.1.B	Create additional rebates to access demand response services provided by home and commercial battery systems modeled on the Eversource Connected Solutions Program.
2.1.C	Introduce off-peak pricing program for electric vehicle charging.
Goal 3: Electricity infrastructure in Danvers is well prepared for weather-related disruptions and meets requirements for community electrification.	
3.1 Upgrade distribution infrastructure to meet the needs of fully electrified buildings and transportation.	
3.1.A	Develop a prioritization framework that anticipates likely rate of transition, current system capacity, and other maintenance priorities of the distribution system.
3.1.B	Engage operators of commercial fleets and large facilities to collaboratively plan electrification transitions.
3.2 Ensure critical facilities and infrastructure are resilient to climate hazards.	
3.2.A	Communicate with staff at critical facilities about backup power options and best practices.
3.2.B	Elevate or relocate vulnerable substations and avoid siting future substations in flood zones.
3.2.C	Maintain a list of ready project ideas to draw on unspent ARPA and other block funding received by the Town.

DID YOU KNOW?

Danvers Electric Division has received the Platinum Level Reliable Public Power Provider (RP3) national designation from the American Public Power Association. This designation recognizes Danvers Electric for providing a high degree of reliable and safe electric service—only the top 15% of the nation's public power utilities hold an RP3.

BUILDINGS

Buildings run on massive amounts of energy. Our lights, appliances, air conditioning and heating systems all consume energy. In Danvers, buildings account for nearly half of all energy used (while transportation accounts for the other half).

Operating buildings with fossil fuels such as oil and natural gas is less efficient, produces more emissions, and poses greater health and safety risks compared to operating buildings with electricity from renewable sources.

In Danvers, 42% of greenhouse gas emissions come from buildings.[22] We have a significant opportunity to electrify and retrofit existing homes and businesses and construct new buildings that are more efficient, powered by clean energy, and resilient to the impacts of climate change.

© North Shore Community College

By the Numbers

93%
of homes in Danvers are heated by fossil fuels such as natural gas and oil.[19]

75%
of commercial structures in Danvers use natural gas.[20]

70%
of housing units are 50+ years old, making them strong candidates for energy retrofits and electrification.[21]

LEADING BY EXAMPLE

Danvers was the first municipality in the Commonwealth to generate and distribute its own electricity in 1889.[29] Since then, Danvers Electric has continued to serve the community by supporting residents and businesses owners in saving energy and decarbonizing their homes and commercial buildings. The Danvers Smart Savings Program incentivizes residential and small business customers to reduce their energy use and manage energy demand during peak hours. Rebates for electric heat pumps, efficient lawn equipment and appliances, and solar panels are making it easier for members of our community to operate homes and businesses more efficiently and save money in the process.

Tracking Progress

Measuring our progress over time is crucial to ensuring that we achieve our goals for Buildings. The following metrics represent just some of the data we will be tracking in the coming months and years to demonstrate success.

Metric	Baseline Data	Baseline Year	2030 Target	2040 Target	2050 Target
Heat pump rebates approved annually	120 rebates [23]	2022	3,000 rebates	5,500 rebates	8,000 rebates
Residential buildings heated with fossil fuels	93%[24]	2019	60%	30%	0%
Residential buildings heated with electricity	7%[25]	2019	40%	70%	100%
Commercial buildings heated with fossil fuels	94%[26]	2019	61%	30%	0%
Commercial buildings heated with electricity	6%[27]	2019	39%	70%	100%
Town building municipal energy use	58,528 MMBtu[28]	2019	46,800 MMBtu	38,000 MMBtu	29,200 MMBtu

Between 2010-2020 , the annual dollar value of energy efficiency rebates distributed in Massachusetts increased +180%.[30]

MMBtu (MILLION BRITISH THERMAL UNIT)

A common measure for different energy sources (electricity, natural gas, oil, etc.) that helps compare total energy use.

Action Table

The *CASPR Plan* establishes the following goals, strategies, and actions for Buildings.

Goal 1: Buildings in Danvers are designed, constructed, and maintained to be energy efficient and minimize greenhouse gas emissions.	
1.1 Require new construction and significant renovations to minimize greenhouse gas emissions.	
1.1.A	Adopt the Stretch Energy Code and Municipal Opt-In Provisions to ensure new construction is designed for electrification and can meet net-zero performance standards, per Green Communities Criterion 5.
1.1.B	Establish expedited zoning and permitting processes for new construction and significant rehabilitation projects incorporating on-site renewable energy and storage, as well as as-of-right renewable energy facilities per Green Communities Criterion 2.
1.2 Pursue deep energy efficiency through retrofits and electrification in existing buildings.	
1.2.A	Enhance existing incentives for homeowners to encourage energy efficiency and conversion of homes to all-electric systems.
1.2.B	Develop incentives to encourage energy efficiency and conversion of commercial and institutional buildings to all-electric systems.
1.2.C	Establish an energy use baseline inventory for municipal buildings and facilities, street and traffic lighting, and vehicles and adopt a plan to reduce energy use by 20% within five years, per Green Communities Criterion 3.
1.2.D	Enable Commercial PACE by opting into MassDevelopment Program and develop supporting programs to drive participation.
Goal 2: Homes, businesses, and municipal buildings are resilient to the impacts of climate change.	
2.1 Enhance resilience and minimize failure of Town-owned buildings and infrastructure.	
2.1.A	Relocate the Electric Department to a facility outside a floodplain and ensure the overall design and structure consider flooding and other climate hazards.
2.1.B	Implement short-term actions to increase the resilience of the Electric Department facility and all emergency response facilities to climate hazards.
2.2 Prioritize and incentivize resilient retrofits for existing buildings to minimize their vulnerability to physical climate risks, including heat stress, flooding, and intense storms.	
2.2.A	Establish and implement flood prevention measures that exceed the Town's current standards to be eligible for the FEMA Community Rating System program in the future.
2.2.B	Review guidelines for historic buildings to identify potential conflicts with energy-efficiency enhancements and identify appropriate solutions.
2.2.C	Provide financial assistance to low- and fixed-income individuals for weatherization and efficient cooling.

DID YOU KNOW?

Danvers is home to the first state-owned net zero energy building in Massachusetts. The Health Professions and Student Services Building at the Danvers Campus of North Shore Community College features onsite renewable energy and a green roof to reclaim rainwater. This innovative building was designed to save an estimated $142,000 in electricity costs per year.[31]

NATURAL RESOURCES

Danvers is home to parks, forests, wetlands, and natural spaces that residents enjoy all year long. These treasured areas are not only valuable for recreation, but they provide essential benefits to our community and environment by keeping us cool, cleaning our air and water, and providing habitat for local wildlife.

Danvers is a dense community, and only 25% of our land remains undeveloped.[35] We must balance supporting our growing community while protecting our valuable natural resources. A first step is ensuring that our buildings, roads, and landscapes are designed to support a healthy environment while making our community more resilient to the impacts of climate change. Being responsible stewards of our water, trees, parks, and open spaces will ensure that these resources are healthy and resilient for future generations to enjoy.

© WEPS

By the Numbers

15%
reduction in water consumption in Danvers from 2017 to 2021—a decrease of nearly 180 million gallons per year![32]

53%
of residents live within a 10-minute walk to a park.[33]

¾
of public open space is protected from development.[34]

LEADING BY EXAMPLE

Danvers has been drawing our drinking water from Middleton Pond since 1876. Today, climate impacts like drought are exacerbating existing threats to our main water supply, the Ipswich River Basin. The Ipswich River supplies most of the drinking water to communities in Northeastern Massachusetts, but it has been stressed by excessive water withdrawals for years—so much so that it was recently named the eighth most endangered river in the country.[40] The good news is that Danvers residents already use less water per person per day than the Massachusetts consumption target. The Town of Danvers has also identified several capital improvement projects that would help to protect our water supply, including increasing the size of Middleton Pond Reservoir and redeveloping several wells. But there is still more to be done in terms of identifying funding for these projects, and both residents and commercial property owners should minimize water consumption whenever possible.

Tracking Progress

Measuring our progress over time is crucial to ensuring that we achieve our goals for Natural Resources. The following metrics represent just some of the data we will be tracking in the coming months and years to demonstrate success.

Metric	Baseline Data	Baseline Year	2030 Target	2040 Target	2050 Target
Tree canopy coverage	42%[36]	2016	46%	50%	53%
Gallons of water consumed per person per day	49 gallons[37]	2020	Maintain below MA target (65 Gallons per person per day)		
Residents that live within a 10-minute walk to a park	53%[38]	2022	66%	83%	100%
Land cover that is impervious	26%[39]	2016	24%	22%	20%

91 out of 234 Massachusetts communities on public water supplies use less water per person than Danvers. Our ranking is impressive given the suburban layout of Danvers—we have a greater number of outdoor water uses than many other communities on the list—but we still have room to improve.[41]

IMPERVIOUS SURFACE

A hard surface like a paved road, parking lot, sidewalk, or roof that prevents storm-water from naturally soaking into the ground.

Action Table

The *CASPR Plan* establishes the following goals, strategies, and actions for Natural Resources.

Goal 1: All residents have equitable access to protected and enhanced parks, forests, and open spaces in Danvers.		
1.1 Protect private and town-owned open space and undeveloped parcels.		
	1.1.A	Pursue local, state, and federal funding to acquire private parcels with a high natural resource or recreational value.
1.2 Protect existing tree cover and encourage tree planting.		
	1.2.A	Create an inventory, planting, and management plan for all Town trees.
	1.2.B	Develop and implement an appropriate tree protection ordinance applying to public and private land that maintains tree cover and values resilience benefits of trees.
1.3 Enhance recreation spaces and ensure access for minority, low-income, and senior residents.		
	1.3.A	Ensure update to Open Space and Recreation plan prioritizes equitable access to recreation areas, open spaces, and trails and potential strategies to increase access.
	1.3.B	Develop and disseminate guidance, tools, and best practices on incorporating site-appropriate cooling features in parks and open space areas.
Goal 2: Infrastructure and landscapes in Danvers support a healthy and diverse local ecosystem.		
2.1 Preserve and enhance Danvers' existing saltwater shores, watersheds, and freshwater resources.		
	2.1.A	Preserve undeveloped land around water resources and coastal areas.
2.2 Promote regenerative landscaping practices, biodiversity, and connected wildlife habitat on public and private land.		
	2.2.A	Accelerate the uptake of sustainable landscaping practices through rebates, incentives, and education.
	2.2.B	Create a municipal planting policy that prioritizes native species well-suited for anticipated climate changes, different soil types, and supports pollinators.
Goal 3: Water infrastructure and resources are reliable, safe, and resilient to climate change.		
3.1 Ensure an adequate, safe, and resilient water supply for all.		
	3.1.A	Design and implement a rain garden program that provides financial and technical assistance to residential and commercial properties.
	3.1.B	Research funding opportunities and prepare materials to apply for funding to implement capital improvement projects to enhance the long-term sustainability of the water system and protect public health.
3.2 Prioritize resilient stormwater infrastructure that incorporates nature-based solutions.		
	3.2.A	Prioritize and highlight green infrastructure and Low Impact Development (LID) best practices in public open spaces and other municipal properties.
	3.2.B	Create a stormwater utility to fund projects and enhance Town drainage infrastructure.

DID YOU KNOW?

Trees cover 42% of all land in Danvers. Most of our trees are located on private property (homes and businesses), meaning that residents play a big role in protecting the trees that keep us cool, provide shade and habitat, and clean our air.[42]

PUBLIC HEALTH & SAFETY

Climate change is already causing extreme heat, intense storms, and increasing the risk of vector-borne diseases like eastern equine encephalitis (EEE). Protecting the health and safety of our residents is essential to enhancing the resilience of our community in the face of climate hazards that will worsen in the coming decades.

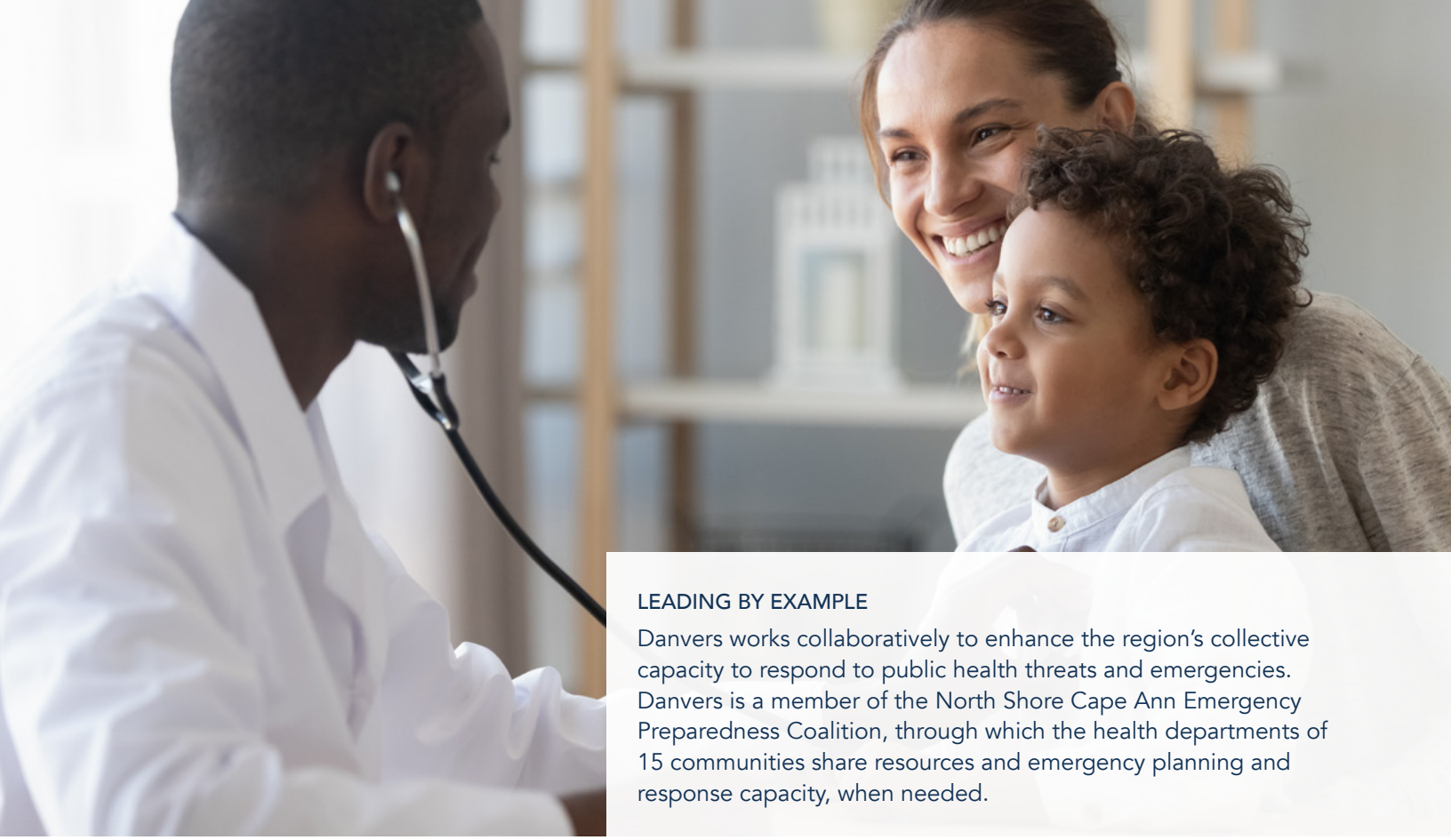
A strong and resilient future for Danvers will mean proactively investing in enhancing our emergency systems, resources, and the preparedness of our residents and businesses. We can promote a vibrant, equitable, and healthy community by expanding resident access to health and well-being services and reliable emergency services and communications systems.

By the Numbers

30%
of households in Danvers are cost burdened (spending 30% or more on housing costs).[43]

29%
of the 65+ population in Danvers lives alone.[44] Ensuring access to medical assistance and other basic services, particularly during heat waves and extreme storms, is critical.

13%
of our critical facilities are located in flood zones.[45]



LEADING BY EXAMPLE

Danvers works collaboratively to enhance the region's collective capacity to respond to public health threats and emergencies. Danvers is a member of the North Shore Cape Ann Emergency Preparedness Coalition, through which the health departments of 15 communities share resources and emergency planning and response capacity, when needed.

Tracking Progress

Measuring our progress over time is crucial to ensuring that we achieve our goals for Public Health and Safety. The following metrics represent just some of the data we will be tracking in the coming months and years to demonstrate success.

Metric	Baseline Data	Baseline Year	2030 Target	2040 Target	2050 Target
Heat-related ER visits annually	83 visits in Essex County[46]	2017	Monitor and minimize		
Critical infrastructure in the floodplain	13%[47]	2019	8%	4%	0%
Housing with central AC	24%[48]	2022	38%	70%	100%

In 2020, 66% of U.S. households use central air-conditioning equipment.[49]

Action Table

The *CASPR Plan* establishes the following goals, strategies, and actions for Public Health & Safety.

Goal 1: Residents, businesses, and municipal operations are prepared to recover quickly from short-term shocks and long-term stressors.	
1.1 Enhance services, infrastructure, and communications systems to be resilient to the impacts of climate change.	
1.1.A	Build in redundancies and battery backup across communications infrastructure.
1.1.B	Increase training for emergency response personnel around climate hazards.
1.2 Prepare for climate change impacts at the neighborhood level.	
1.2.A	Pilot a neighborhood resilience hub that provides daily needed resources and emergency response services to enhance community resilience.
1.2.B	Partner with local health and wellness service providers to promote access to resources that address chronic stressors, including mental health services.

DID YOU KNOW?

Did you know that Danvers has a community partnership through the school district called DanversCARES? This program supports youth and families to make healthy choices and improve access to resources, including a mentorship program with high school students and tips for active and healthy lifestyles. Youth and young families are especially vulnerable to the physical and mental health effects of the changing climate. Programs like this make our community a more vibrant, resilient place for all!

TRANSPORTATION & LAND USE

The choices and investments we make today will influence our community's character and transportation needs for years to come.

Transportation is the largest sector of emissions in Danvers at 47%.[56] Most of these emissions are generated when people drive alone to work, school, and everyday activities. We have an opportunity to invest in infrastructure that supports convenient, emissions-free transportation options, such as walking and biking, and encourages active and healthy lifestyles. We must also encourage residents and businesses to make the switch to electric vehicles (EVs), so that we're minimizing our contribution to climate change when driving is essential. Both pathways will require investments (e.g., public charging stations, bike lanes, benches, and other amenities) that enhance our public spaces and the downtown to ensure that all residents can get around safely, efficiently, and sustainably.

© Danvers Rail Trail

By the Numbers

Gasoline
is the largest source of emissions in Danvers. In 2019, the amount of gasoline burned to power our vehicles created 167,160 $MTCO_2e$ emissions [50]—equivalent to the GHGs produced from 185 million pounds of coal burned each year.[51]

509 million
annual vehicle miles traveled,[52] 17,678 miles per household[53]. Beverly and Salem rack up fewer miles, despite having larger populations.[54]

65%
of all emissions from trips in and out of Danvers come from residents driving within Danvers.[55]

LEADING BY EXAMPLE

Danvers updated its zoning codes in 2021 to encourage compact, walkable, and vibrant neighborhoods. Placemaking activities like outdoor dining zones and pop-up parks are underway. Bike parking and EV charging requirements in the new code will make it easier to get around town without burning gasoline.

Tracking Progress

Measuring our progress over time is crucial to ensuring that we achieve our goals for Transportation & Land Use. The following metrics represent just some of the data we will be tracking in the coming months and years to demonstrate success.

Metric	Baseline Data	Baseline Year	2030 Target	2040 Target	2050 Target
Vehicles registered in Danvers that are electric	<1%[57]	2019	36%	68%	100%
Public electric vehicle charging stations	12 charging stations[58]	2023	122 (Workplace Level 2) 107 (Public Level 2) 19 (Public DC Fast)	296 (Workplace Level 2) 244 (Public Level 2) 44 (Public DC Fast)	470 (Workplace Level 2) 359 (Public Level 2) 67 (Public DC Fast)
Percentage of municipal fleet that is all-electric	<1%[59]	2023	40%	54%	Continue EV replacement as municipal fleet is retried (as market allows)
Share of regionally connective bike routes with designated bike markings[60]	New metric	2022	50%	75%	100%

2019 DANVERS COMMUNITY VEHICLE MILES TRAVELED (VMT)[61]

401,254,495 VMT
Gasoline-powered vehicles

3,626,729 VMT
Diesel-powered vehicles

2,727,381 VMT
Electric-powered vehicles

Action Table

The *CASPR Plan* establishes the following goals, strategies, and actions for Transportation & Land Use.

Goal 1: People in our community have more options to travel for work, school, and errands.	
1.1 Reduce solo car trips and promote zero-carbon mobility options.	
1.1.A	Develop a bicycle infrastructure plan.
1.1.B	Establish signed bike routes between key destinations.
1.1.C	Create connections between existing transit stops and employment or economic centers.
Goal 2: Development creates vibrant and healthy places.	
2.1 Establish programs and incentives that follow the principles of Quality of Place.	
2.1.A	Create a public realm improvement program that prioritizes pedestrian safety and comfort.
2.1.B	Promote incentives and highlight best practices from developers to incorporate Quality of Place into construction and renovation.
Goal 3: Danvers is an EV-ready and friendly community.	
3.1 Accelerate electric vehicle adoption among Danvers residents, businesses, schools, and municipal departments.	
3.1.A	Create an EV charger incentive and technical assistance program for commercial and public spaces.
3.1.B	Adopt a Fuel-Efficient Vehicle Policy for all municipal departments and the school district and develop a plan for transitioning vehicles, per Green Communities Criterion 4.
3.1.C	Leverage municipal utility to facilitate installation of electric school bus and municipal vehicle charging infrastructure.

DID YOU KNOW?

Less than 1% of all passenger vehicles registered in Danvers are currently electric and there are 12 public EV charging stations in town. To speed up the transition to EVs, Danvers Electric is helping residents make the switch through the Danvers Drives Electric program which offers rebates for home charging stations and resources to connect buyers with local EV dealers.

SOLID WASTE

Our economy is largely based on the use of limited resources to make products that are ultimately wasted. This linear economy model pollutes our environment and does not realize the full value of our natural resources. More than just littering our environment, the waste our homes and businesses produce accounts for 10% of our total greenhouse gas emissions.[65]

Danvers can tackle these issues by aligning economic growth with circularity, which prevents waste from being produced in the first place. To do this, we must first reduce our consumption of disposable goods, reuse materials as many times as possible, and then divert the remaining waste. By taking smart steps to manage waste responsibly, we can avoid the costs, pollution, and resources of burning our trash and achieve our target to divert 90% of waste from incineration.

By the Numbers

28,677 tons
of commercial waste generated each year in Danvers.[62]

26%
of residential waste diverted from incineration through recycling.[63]

1,232 tons
of mixed paper recycled each year, which is the Town's largest category of recycled materials.[64]

CIRCULAR ECONOMY

A closed-loop system that keeps products and materials in use, thereby reducing waste piling up in landfills and decreasing the need for new materials.

LEADING BY EXAMPLE

In 2019, the Town implemented a stickering program to reduce recycling contamination. Contamination of recycling bins decreased by 90% a month after introducing the program. Danvers has also held several zero waste recycling weekends to educate residents on recycling best practices.

Tracking Progress

Measuring our progress over time is crucial to ensuring that we achieve our goals for Solid Waste. The following metrics represent just some of the data we will be tracking in the coming months and years to demonstrate success.

Metric	Baseline Data	Baseline Year	2030 Target	2040 Target	2050 Target
Tons of waste sent to incineration	41,366 tons[66]	2019	26,688 tons	13,344 tons	0 tons
Tons of textiles recycled[67]	122 tons[68]	2019	260 tons	395 tons	525 tons
Average household diversion rate	26% [69]	2019	52%	76%	100%
Households with recycling service	50%[70]	2021	66%	83%	100%

32%

The national average household diversion rate.[71]

Action Table

The *CASPR Plan* establishes the following goals, strategies, and actions for Solid Waste.

Goal 1: Businesses, households, municipal operations, and individuals minimize waste and consumption of disposable goods.	
1.1 Reduce consumption of single-use items.	
1.1.A	Expand existing plastic bag ordinance to target other types of single-use plastics.
1.1.B	Expand sustainable purchasing programs within Town operations.
1.2 Explore opportunities to reduce waste and reuse materials.	
1.2.A	Partner with Essex North Shore Agricultural and Technical School to offer repair clinics.
Goal 2: Waste is managed responsibly across the community and all possible recyclable and organic materials are diverted from incineration.	
2.1 Increase recycling and composting infrastructure and education.	
2.1.A	Develop an ordinance for all multi-family residences, commercial establishments, and schools that phases in mandatory recycling and composting requirements in alignment with state policies.
2.1.B	Implement a residential curbside composting pilot program.
2.2 Divert materials that are difficult to recycle and reuse in existing programs.	
2.2.A	Determine the best way to incorporate a Save-Money-And-Reduce-Trash (SMART) program into the new waste franchise agreement.
2.2.B	Expand the types of waste that can be collected at Town drop-off events.
2.2.C	Support the development of producer responsibility approaches for materials that are difficult to manage in local programs, including paint, packaging, electronics, and carpet, via the Massachusetts Product Stewardship Council.

DID YOU KNOW?

Danvers has implemented a plastic bag ban. This policy bans the use of single-use plastic bags, such as thin grocery bags, which cannot be recycled through residential recycling programs and lose most of their value after just one use. However, our community generates a total of 41,366 tons of waste per year,[72] so while removing some materials out of our waste stream is a great step—we have more opportunities to minimize the trash and recycling we produce and work towards a circular economy.

EDUCATION, OUTREACH, AND BEHAVIOR CHANGE

No single individual, organization, or government entity can address climate change alone. It will take nothing short of a worldwide movement to transition our society away from fossil fuels and towards a more sustainable future powered by renewable energy, circular economies, and healthy ecosystems. In Danvers, we can contribute to this global effort by coming together as a community to learn and understand the challenges we face and then collectively implementing climate solutions.

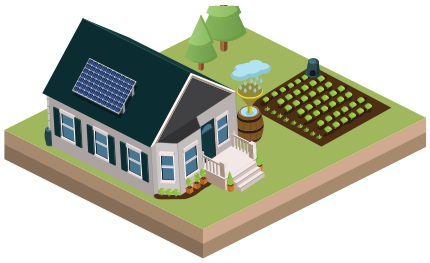
Education and Outreach Priority Areas

INCREASING PROPER RECYCLING AND COMPOSTING PRACTICES

PRIMARY AUDIENCE
Danvers Residents

BARRIERS TO OVERCOME
Access to collection containers; Misconceptions about what can and cannot be recycled and composted; Lack of incentives to participate; Lack of recycling service for multi-family housing; Lack of town-wide compost service

MECHANISMS TO EDUCATE AND CHANGE BEHAVIOR
Partnership with local compost service; Expanded recycling service to all multifamily housing; Training for haulers to identify and reject contaminated materials through "stickering" program; Targeted outreach materials: flyers, door hangers, social media posts, email newsletters

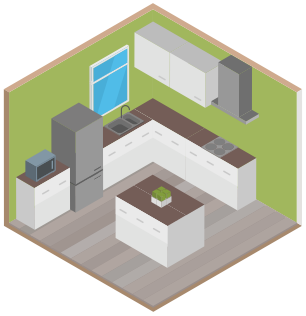


REDUCING WATER USE AND INCREASING EFFICIENCY

PRIMARY AUDIENCE
Danvers Residents

BARRIERS TO OVERCOME
Affordability and upfront cost to property owners; Ability for renters to modify landscaping and upgrade appliances; Lack of knowledge and awareness of ways to save water and benefits

MECHANISMS TO EDUCATE AND CHANGE BEHAVIOR
Residential rebates; Targeted outreach materials: flyers, door hangers, yard signs, cost savings calculators, email newsletters; Energy use summary and comparison to neighbors in utility bills; How-to guides and resources



REDUCING ENERGY USE AND INCREASING EFFICIENCY

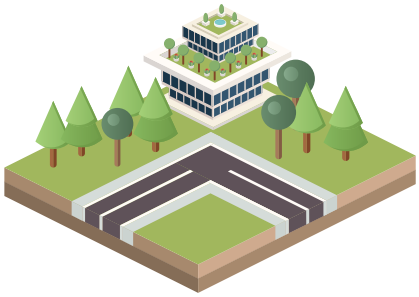
PRIMARY AUDIENCE
Danvers Residents

BARRIERS TO OVERCOME
Affordability and upfront cost to property owners; Ability for renters to modify and upgrade lighting and appliances; Lack of knowledge and awareness of ways to save energy and benefits

MECHANISMS TO EDUCATE AND CHANGE BEHAVIOR
Residential rebates; Targeted outreach materials: flyers, door hangers, yard signs, cost savings calculators, email newsletters; Energy use summary and comparison to neighbors in utility bills; How-to guides and resources

While some of the actions in the *CASPR Plan* require Town departments to take the lead, other actions will only be successful with the support and mobilization of community members. In short: This plan cannot be fully implemented without individuals on the ground adopting and supporting new behaviors, new policies, and new ways of living.

Facilitating sustainable behaviors that will drastically reduce emissions and prepare our community for climate impacts will require public education, outreach, and behavior change efforts. The Town has prioritized **five areas** to focus its efforts on over the next few years.



ELECTRIFYING COMMERCIAL BUILDINGS

PRIMARY AUDIENCE

Business Owners, Property Managers, and Developers

BARRIERS TO OVERCOME

Affordability and upfront cost to property owners; Misconceptions about heat pump technology; Lack of knowledge and awareness about ways to electrify commercial spaces and benefits; Access to resources and experienced contractors

MECHANISMS TO EDUCATE AND CHANGE BEHAVIOR

Commercial rebates; Expedited permitting; Targeted marketing campaign; Lunch-and-learns; How-to guides and resources

ELECTRIFYING RESIDENTIAL BUILDINGS

PRIMARY AUDIENCE

Danvers Homeowners and Landlords

BARRIERS TO OVERCOME

Affordability and upfront cost to property owners; Misconceptions about heat pump technology; Lack of knowledge and awareness of ways to electrify homes and benefits; Access to resources and experienced contractors

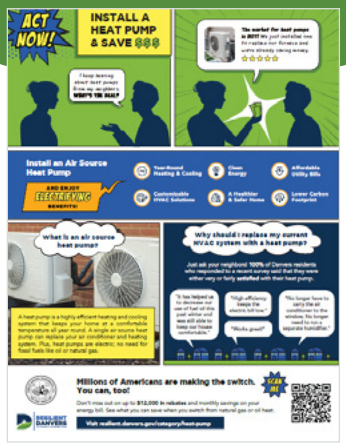
MECHANISMS TO EDUCATE AND CHANGE BEHAVIOR

Residential rebates; Free heat pump coaching; Targeted outreach materials: flyers, door hangers, yard signs, cost savings calculator, email newsletters; How-to guides and resources

OUTREACH CAMPAIGN

HEAT PUMPS + DANVERS ELECTRIC

Danvers Electric made a jump start on implementing the *CASPR Plan* by developing outreach tools and materials to promote **heat pump rebates** available through the Town and MassSave. These materials included a flyer and door hanger, an online calculator for residents to assess how much they could save by installing a heat pump, and a newsletter of resources.



DRIVING IMPLEMENTATION

Implementing the *CASPR Plan*

This plan highlights the urgent need to take action on climate change and the 56 actions that we are committing to executing. The implementation blueprints that follow outline how we will move a selection of these actions forward. Each blueprint indicates a champion who will lead the work, implementation steps with timeframes and key partners, as well as considerations that should be taken into account during implementation that align with the Guiding Principles.

Immediate Next Steps

During the planning process, Danvers Electric, members of the Advisory Group, and other Town staff identified immediate next steps that will be necessary in the next 6-12 months to move the plan forward from vision to implementation:

- Meet the 5 required criteria to become a designated Green Community
- Ensure that the goals of the Strategic Danvers Plan align with the goals of the *CASPR Plan*
- Create and maintain a list of ready project ideas to draw on unspent ARPA and other block funding received by the Town
- Increase program budgets for incentives to electrify homes and vehicles
- Increased heat pump incentives in January 2023
- Incorporate a Save-Money-And-Reduce-Trash (SMART) program into the Town's new waste franchise agreement

TRACKING PROGRESS

The Resilient Danvers Community Dashboard is how the *CASPR Plan* will live online. This tool will demonstrate the progress being made on the goals, strategies, and actions in the plan, and will also act as a resource hub to educate residents on ways that they can take action and "Be Part of the Solution."

IMPLEMENTATION BLUEPRINTS

ENERGY

ACTION

1.1.B

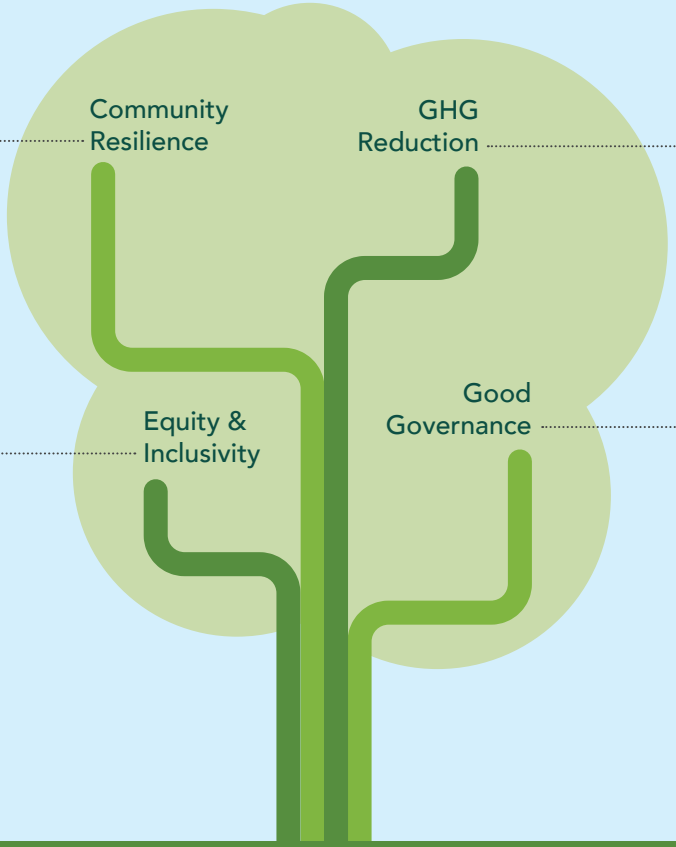
Identify neighborhoods and building clusters that are suitable candidates for geo-microgrid systems.

DESCRIPTION OF ACTION	Identify appropriate locations to install geo-microgrid systems with the long-term goals of lowering customer energy costs, reducing greenhouse gas (GHG) emissions, and providing increased energy resilience. A geo-microgrid operates as a neighborhood-scale networked geothermal heat pump that delivers highly efficient heating and cooling energy to multiple buildings without the use of fossil fuels.
CHAMPION	Danvers Electric Division
OVERALL TIMEFRAME	**Short (<1 year)** for suitable locations to be identified; installation and maintenance will be separate, longer-term actions.
POTENTIAL FUNDING SOURCES	American Public Power Association DEED Grant, Massachusetts Clean Energy Center (MassCEC), Federal Infrastructure Programs

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
1. Connect with City of Framingham, MA staff to learn more about the progress, challenges, and successes of its geothermal pilot program with Eversource.	1 month	-
2. Apply for funding from the American Public Power Association DEED grant program by summer 2023.	1 month	-
3. Develop and convene a working group with primary partners to 1) assess known gaps in the Town's energy resilience that could be enhanced with geo-microgrids and 2) develop goals and suitability criteria for identifying potential project locations.	2 months	Planning and Economic Development Division Water and Sewer Division Engineering Division
4. With the support of collaborators, develop and distribute an RFP for an assessment and feasibility study to identify suitable locations for geo-microgrid systems.	2 months	
5. Review technology options to determine system size and capacity options as well as site geologic feasibility criteria.	3 months	Consultant Water and Sewer Division Engineering Division

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
6. Identify and engage property owners in areas with building density that match ideal conditions for networked geothermal solutions to determine interest and suitability of existing mechanical systems.	2 months	Consultant Planning and Economic Development Division Large Property Owners
7. Evaluate possible regulatory hurdles to Danvers Electric Division acting as a utility supplier of thermal energy in addition to electric service.	3 months	Consultant Massachusetts Department of Public Utilities
8. Evaluate findings and prioritize potential locations and establish agreement with property owners to pursue a project.	2 months	Consultant Planning and Economic Development Division Large Property Owners
9. Identify potential funding sources and establish a plan to implement a microgrid pilot project in Danvers by 2025.	3 months	Planning and Economic Development Division Water and Sewer Division Engineering Division

GUIDING PRINCIPLES Implementation Considerations



Consider previous and projected impacts of climate hazards to help determine neighborhoods, businesses, and other properties that would most benefit from enhanced energy resilience.

Establish a screening process to review early project concepts for adverse impacts to low-income residents and environmental justice populations.

Consider the potential for pairing microgrid pilot projects with electrification retrofits to replace oil or natural gas heating systems, particularly on commercial properties.

Collaborate across departments to establish shared goals and priorities, collect data, provide information and context to the firm conducting the assessment and feasibility study.

Inform residents and property owners about the assessment and feasibility study through the Town's website, utility bills, and direct mailers to target neighborhoods or commercial properties.

BUILDINGS

ACTION

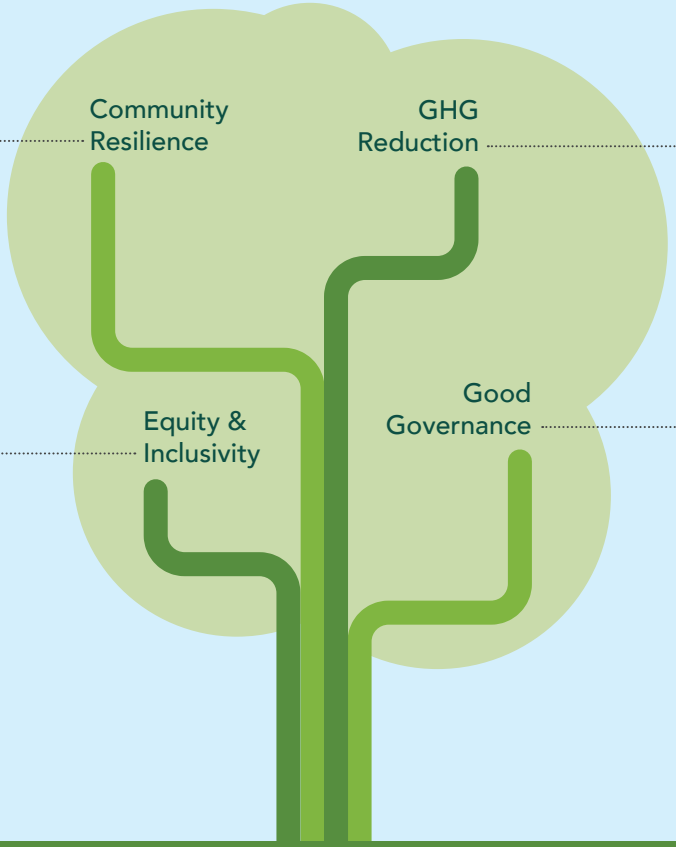
1.2.C

Establish an energy use baseline inventory for municipal buildings and facilities, street and traffic lighting, and vehicles and adopt a plan to reduce energy use by 20% within five years, per Green Communities Criterion 3.

DESCRIPTION OF ACTION	Conduct an energy use baseline assessment for all municipal divisions and departments in order to design and implement a comprehensive plan to reduce municipal energy use by 20% within five years.
CHAMPION	Danvers Department of Public Works
OVERALL TIMEFRAME	**Short (<1 year)** to establish baseline inventory; Medium (5 years) to achieve energy use reductions.
POTENTIAL FUNDING SOURCES	Minimal hard costs, mostly staff time to develop and approve.

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
1. Using data collected during the development of the CASPR Plan, establish an energy use baseline, including all municipal buildings, school buildings, municipal and school vehicles, street and traffic lighting, drinking water and wastewater treatment plants, pumping stations, and open spaces owned by the municipality.	3 months	Consultant
2. Create an Energy Reduction Plan (ERP) to document both the baseline energy consumption and the comprehensive program to reduce total energy use by 20% within the 5-year period following the Baseline Year.	4 months	
3. Present ERP to the Danvers Select Board for review and approval by majority vote.	1 month	Consultant Select Board

GUIDING PRINCIPLES Implementation Considerations



Ensure the ERP considers both previous and expected impacts of climate hazards in order to strengthen energy resilience.

ERP is intended to reduce GHG emissions from municipal operations. Consider showcasing Town's efforts as a model for commercial properties in Danvers to reduce energy use and emissions.

Create a transparent and equitable process for determining when and where energy upgrades and retrofits will occur across municipal properties.

Provide updates to the community about the status of the project through the Town's website, newsletters, and public workshops.

Provide transparency to residents during the Town Meeting about the upfront costs compared to the cost savings over time.

BUILDINGS

ACTION

1.2.D

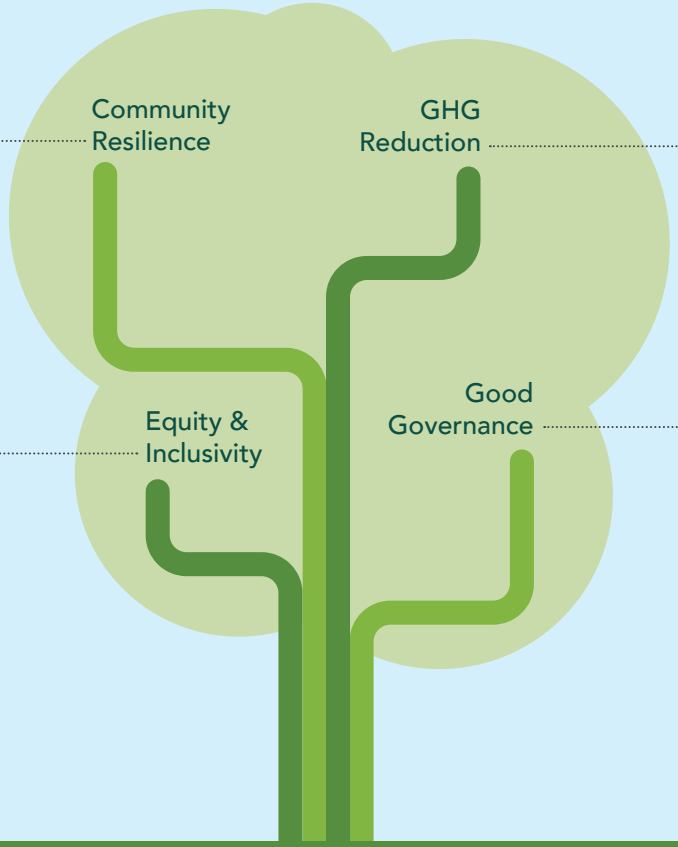
Enable Commercial PACE by opting into MassDevelopment Program and develop supporting programs to drive participation.

DESCRIPTION OF ACTION	Establish a Commercial PACE program in Danvers to provide commercial and industrial building owners access to affordable, long-term financing for energy improvements. Educate and engage local property owners to facilitate and encourage their participation in the program.
CHAMPION	Finance Division
OVERALL TIMEFRAME	**Short (1-2 years)** for PACE resolution to be adopted and approved by Select Board; outreach to building owners is ongoing.
POTENTIAL FUNDING SOURCES	Minimal hard costs, mostly staff time to develop and approve.

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
1. Review Finance Division capacity to place PACE Liens on properties and to receive, manage, and disburse Betterment Assessment Payments in accordance with MassDevelopment Program guides.	3 months	Planning and Economic Development MassDevelopment
2. Develop the PACE Resolution and other necessary materials required for Select Board approval with the support of MassDevelopment.	2 months	
3. Present the PACE resolution to the Danvers Select Board for review and approval by majority vote.	1 month	Planning and Economic Development Select Board
4. Create template energy savings reports designed to facilitate measurement and verification determinations for projects.	2 months	Electric Division MassDevelopment
5. Develop a list of local commercial and industrial property owners that may be eligible to participate in the program. This can be done by looking through property records including property owners, sales & transfer history, deeds & titles, property taxes, valuations, land, zoning, etc.	2 months	Planning and Economic Development Local property owners

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
6. Conduct outreach to these individuals and businesses to 1) explain the PACE financing program, 2) determine if they meet the program's eligibility requirements, and 3) inquire about their availability to attend an educational workshop.	2 months	Planning and Economic Development Local property owners
7. Convene interested property owners for a workshop to educate them on the benefits of PACE and share guidance on how they can participate in the program. Provide them with resources including the Massachusetts Commercial Property Assessed Clean Energy Program Guidelines.	1 month	
8. Support any interested property owners with completing and submitting an application to MassDevelopment for their proposed project.	6 months	Planning and Economic Development Local property owners MassDevelopment
9. Repeat steps 5-7 on an as-needed basis to ensure new property owners receive information and have access to information about the program.	Ongoing	
10. Report regularly on program success including operational savings, qualitative benefits, and energy use reductions.	Ongoing	

GUIDING PRINCIPLES Implementation Considerations



Screen projects for candidates to develop dispatchable energy storage resources.

Conduct targeted outreach to smaller building owners to encourage participation.

Screen projects to avoid investment in new fossil fuel infrastructure and equipment.

Seek opportunities to facilitate transition to zero carbon buildings by bundling all electric or renewable ready upgrades into projects with a limited scope.

Ensure records detailing transactions are tracked separately for PACE agreements and clearly reported as such in Town Financial reports.

Collaborate across departments to collect data, develop a list of eligible property owners, and prioritize outreach to owners with good financial footing and high energy impact potential.

NATURAL RESOURCES

ACTION

2.2.A

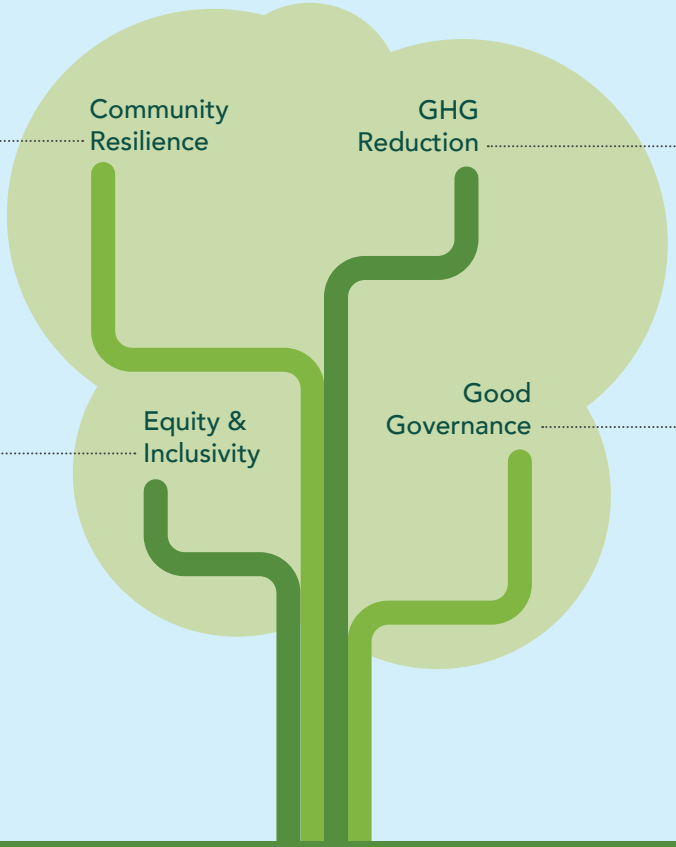
Accelerate the uptake of sustainable landscaping practices through rebates, incentives, and education.

DESCRIPTION OF ACTION	Create incentives and educational materials and demonstration projects to facilitate the adoption of sustainable landscaping practices (e.g., minimal pesticide use, supporting native species, utilizing green infrastructure, managing stormwater, etc.) among residents and commercial property owners.
CHAMPION	Forestry and Grounds Division
OVERALL TIMEFRAME	**Short (1-2 years)** to implement rebates and incentives; **Medium (2-3 years)** to implement educational demonstration projects.
POTENTIAL FUNDING SOURCES	Metropolitan Area Planning Council (MAPC), Massachusetts Department of Conservation and Recreation (MA DCR)

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
1. Convene an ad-hoc working group to 1) review existing sustainable landscaping education and incentive programs, and 2) determine what enhancements can be made to expand offerings to both commercial and residential property owners through rebates, incentives, and education.	6-8 months	Water and Sewer Division Danvers Recreation Finance Department GreenScapes North Shore Coalition Ipswich River Watershed Association Public Schools Essex North Shore Agricultural & Technical School Library Large property owners
2. Work with partners to develop and promote new programs and incentives, alongside expanded technical assistance and education opportunities.	4-6 months	
3. Assess the types and locations of large impervious surfaces, locations of frequent surface flooding, and areas where infrastructure is due for replacement across Danvers to identify high-priority replacement opportunities.	3-4 months	Water and Sewer Division Danvers Recreation Public Schools GIS Consultant

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
4. Develop demonstration projects in these high-priority areas to showcase benefits of sustainable landscaping and educate property owners and community members about it.	1-2 years	Water and Sewer Division Essex North Shore Agricultural & Technical School Public Schools Large property owners
5. Develop a sustainable landscaping workshop series for residents and/or commercial entities that incorporates demonstration projects, in partnership with local experts.	6 months	Danvers Recreation Essex North Shore Agricultural & Technical School GreenScapes North Shore Coalition Garden Club Library

GUIDING PRINCIPLES Implementation Considerations



Implement demonstration projects in neighborhoods or on Town-owned properties that are vulnerable to flooding to help manage stormwater.

Include educational signage alongside demonstration projects to explain ecosystem and stormwater benefits.

Prioritize support for projects in neighborhoods with higher percent impervious surface, lower income residents, and historically limited investment.

Offer a range of incentive options, tailored to different sectors and property types, to encourage adoption of sustainable practices.

Include information about Danvers Electric rebates for purchasing electric lawn equipment on promotional and education materials about sustainable landscaping practices.

Coordinate across departments to cross-promote rebates, incentives, and demonstration projects through existing communications channels and community events.

Establish methods and responsible staff members to track and report progress.

PUBLIC HEALTH & SAFETY

ACTION

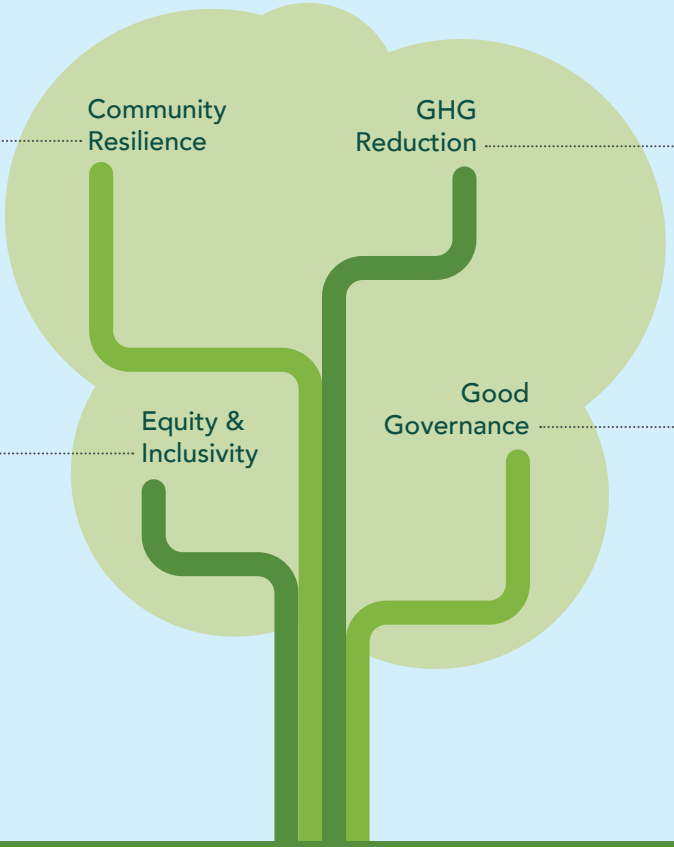
1.1.B

Increase training for emergency response personnel around climate hazards.

DESCRIPTION OF ACTION	Enhance the local capacity of Town staff and community stakeholders to prepare for and respond to climate-related hazards and threats, such as intense storms, flooding, and heat waves, through enhanced training opportunities.
CHAMPION	Danvers Emergency Management
OVERALL TIMEFRAME	**Short (1-2 years)** to establish training programs.
POTENTIAL FUNDING SOURCES	Municipal Vulnerability Preparedness (MVP) Program, Massachusetts Emergency Management Agency (MEMA), Federal Emergency Management Agency (FEMA)

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
1. Conduct a gap analysis to assess ability of existing emergency response training to adequately train staff and residents around climate hazards.	3 months	Police Department Fire Department Public Health Department Department of Public Works
2. Identify existing training programs, vendors, and/or resources to fill identified gaps, including FEMA and MEMA.	2 months	
3. Establish a training plan and schedule to integrate additional trainings into existing training programs and/or professional accreditation.	2 months	
4. Establish a voluntary community training program for residents and businesses to improve their knowledge of disaster preparedness.	3 months	North Shore Cape Ann Emergency Preparedness Coalition

GUIDING PRINCIPLES Implementation Considerations



Community Resilience

Consider both previous and expected impacts of climate hazards to ensure emergency response training can meet the demands of changing climate conditions.

GHG Reduction

N/A

Equity & Inclusivity

Incorporate diversity, equity, and inclusion training into emergency response training.

Good Governance

Collaborate across Fire, Police, Public Health, and Public Works to establish shared goals and priorities.

Inform residents about volunteer training program through the Town's website.

TRANSPORTATION & LAND USE

ACTION

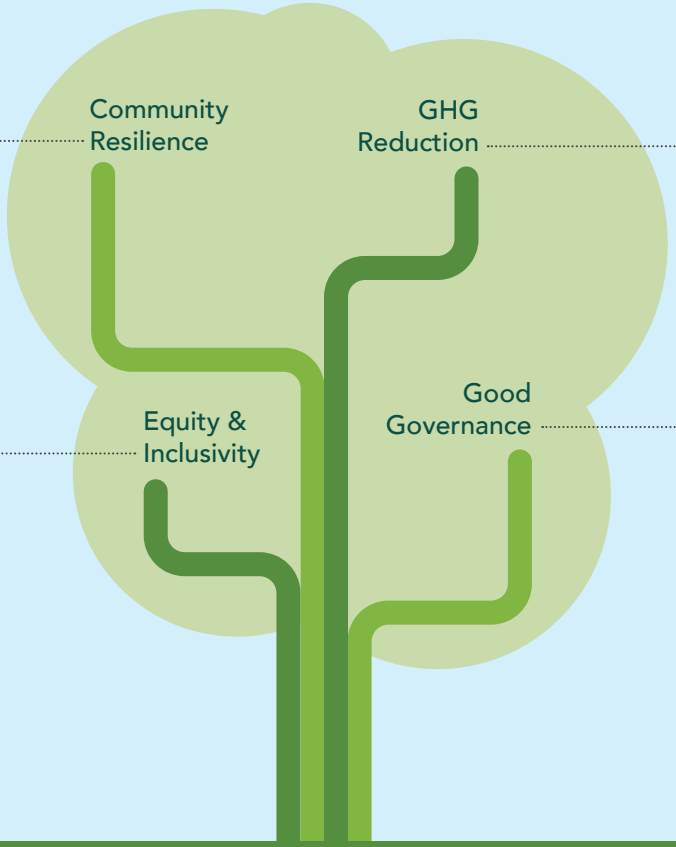
3.1.B

Adopt a Fuel-Efficient Vehicle Policy for all municipal departments and the school district and develop a plan for transitioning vehicles, per Green Communities Criterion 4.

DESCRIPTION OF ACTION	Adopt a municipal policy and plan to guide the procurement of fuel-efficient vehicles, whenever commercially available and practicable, to reduce GHG emissions.
CHAMPION	Danvers Department of Public Works, Equipment Division
OVERALL TIMEFRAME	**Short (1-2 years)** to adopt the policy and develop a plan.
POTENTIAL FUNDING SOURCES	Minimal hard costs, mostly staff time to develop and approve.

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
1. Establish temporary working group to draft Fuel-Efficient Vehicle Policy, based upon the model policy provided in the Green Communities Criterion 4 Guidance.	3 months	Electric Division Select Board School Committee Purchasing Department
2. Present the Fuel-Efficient Vehicle Policy to the Danvers Select Board for review and approval by majority vote.	1 month	Select Board
3. Present the Fuel-Efficient Vehicle Policy to the Danvers School Committee for review and approval by majority vote.	1 month	School Committee
4. Develop a vehicle inventory for all four-wheeled vehicles, both exempt and non-exempt and establish a plan for replacing non-exempt vehicles.	3 months	-
5. Implement a monitoring system (e.g., a universal fleet card) to record miles driven and fuel consumption for each vehicle in every department to facilitate reduction in aggregate energy consumption.	6 months	-

GUIDING PRINCIPLES Implementation Considerations



Consider introducing vehicle-to-grid technology to enable electric vehicle fleet to provide battery power to the grid, particularly during peak demand.

Prioritize replacement with electric vehicles and/or vehicles with the most efficient fuel economy rating in order to reduce emissions.

Assess if there are gas- or diesel-powered vehicles that operate in a way that results in higher exposure of Town staff or community members to exhaust emissions and prioritize their replacement.

Maintain accurate and transparent record of fuel consumption by department.

Provide updates to the community about the status of the transition through the Town's website and newsletters.

TRANSPORTATION & LAND USE

ACTION

3.1.C

Leverage municipal utility to facilitate installation of electric school bus and municipal vehicle charging infrastructure.

DESCRIPTION OF ACTION	Accelerate the electrification of the transportation sector through introduction of electric school buses and municipal vehicle charging infrastructure.
CHAMPION	Danvers Electric
OVERALL TIMEFRAME	**Short (1-2 years)**
POTENTIAL FUNDING SOURCES	Inflation Reduction Act (IRA), EPA Clean School Bus Program

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
1. Engage stakeholders through temporary working group to provide data and input and review feasibility.	2 months	Building Division Engineering Division Equipment Division School Committee
2. Conduct feasibility analysis to assess electrical upgrades needed to host electric school buses and install charging infrastructure.	4 months	Building Division Engineering Division
3. Identify funding sources, such as public incentives or vouchers, settlement funds, or private foundations, to offset the cost of the electric buses and charging infrastructure.	1 month	-
4. Create an operations and charging plan to evaluate charging and infrastructure needs by looking at trip and route lengths for school buses and fleet vehicles.	4 months	School Committee Equipment Division Building Division
5. Map out installation of new charging stations.	3 months	
6. Investigate procurement options.	2 months	Purchasing Department
7. Provider training to school bus operators and fleet vehicle drivers.	Ongoing	Equipment Division

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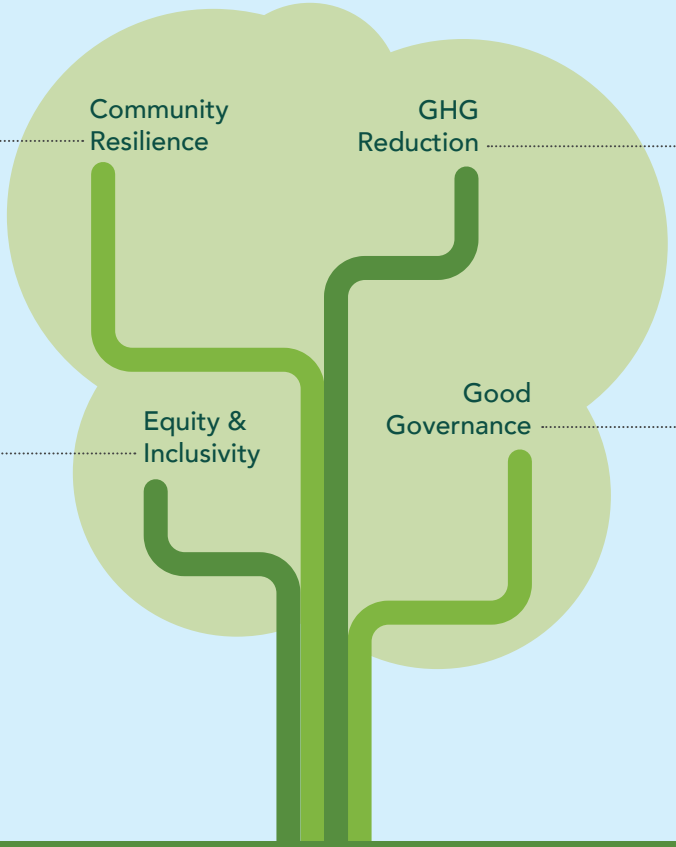
GUIDING PRINCIPLES Implementation Considerations



Community Resilience

Consider introduction of vehicle-to-grid technology to enable vehicle fleet to provide battery power to the grid, particularly during peak demand.

GHG Reduction

Consider the lifecycle emissions associated with different electric bus models.

Consider how to decommission non-electric buses in a way that minimizes waste.

Equity & Inclusivity

Consider using an air quality analysis in planning and route deployments to prioritize deploying electric buses in neighborhoods with poor air quality.

Good Governance

Provide updates to the community about the status of the project through the Town's website and newsletters.

SOLID WASTE

ACTION

2.1.B

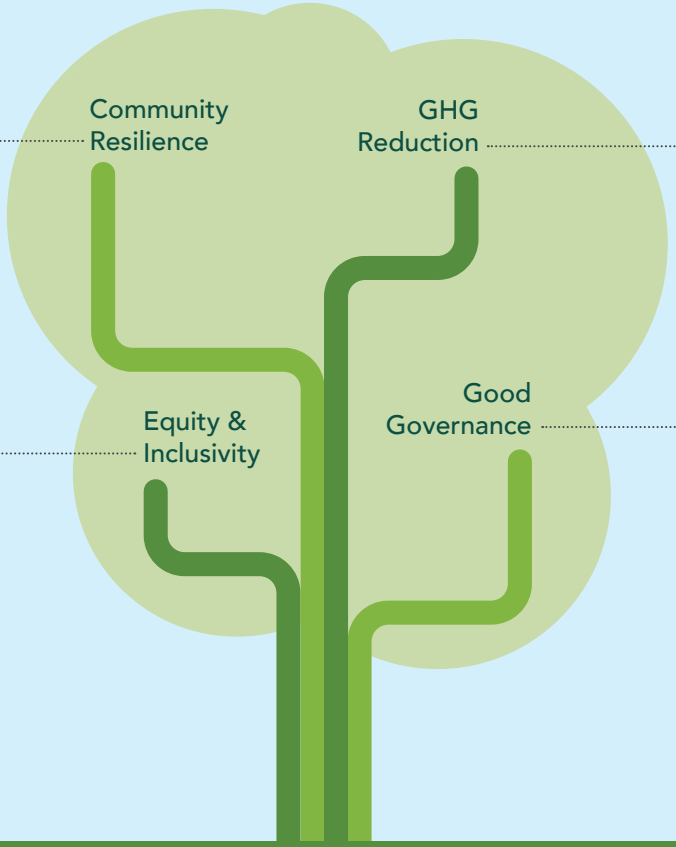
Implement a residential curbside composting pilot program.

DESCRIPTION OF ACTION	Implement a community-wide residential compost pilot program to increase organic waste diversion.
CHAMPION	Danvers Department of Public Works
OVERALL TIMEFRAME	**Short (1-2 years)** to create, implement, and evaluate pilot program.
POTENTIAL FUNDING SOURCES	Massachusetts Department of Environmental Protection (MA DEP)

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
1. Research examples of residential composting options by reaching out to other municipalities. Survey residents to understand interest, needs, and potential barriers.	3-4 months	-
2. Reach out to potential vendors about curbside collection options, including Black Earth Compost.	2 months	-
3. Analyze funding options to determine how the program will be funded (by the Town, by residents, or both), and whether residents need to voluntarily opt-in to participate.	2 months	Finance Department
4. Create a program proposal and present it to the DPW Director, Town Manager, and Select Board for approval.	1 month	Select Board Town Manager's Office
5. Put out an RFP to select a vendor and work with them to roll out a pilot program in a pre-determine neighborhood.	4-5 months	
6. Provide opportunities for ongoing community feedback during pilot program through surveys, interviews, and outreach materials.	Ongoing	-

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
7. Launch the pilot program through an integrated marketing campaign utilizing: Town website, social media, DPW newsletter, videos, DCAT, schools, library, informational webinars, and press releases.	2-3 months	School Committee Library Danvers Community Access Television
8. Manage the program, review mandatory enrollment, and continually track metrics of success.	Ongoing	-

GUIDING PRINCIPLES Implementation Considerations



Consider climate hazards in the logistics planning to ensure the pickup program is resilient to changing climate conditions (e.g., storms, blizzards, hurricanes, etc.).

Seek opportunities to reduce emissions through transitioning to all electric vehicles for compost pick-up as well as ensuring maximum efficiency for driving routes.

Ensure that outreach and education include EJ communities, particularly renters and multi-family homes and translation for communities with language barriers.

Provide updates to community members about the program's implementation through the Town's website, newsletters, public workshops, and Town Meetings.

Ensure feedback from residents is incorporated into the permanent program.

SOLID WASTE

ACTION

2.2.A

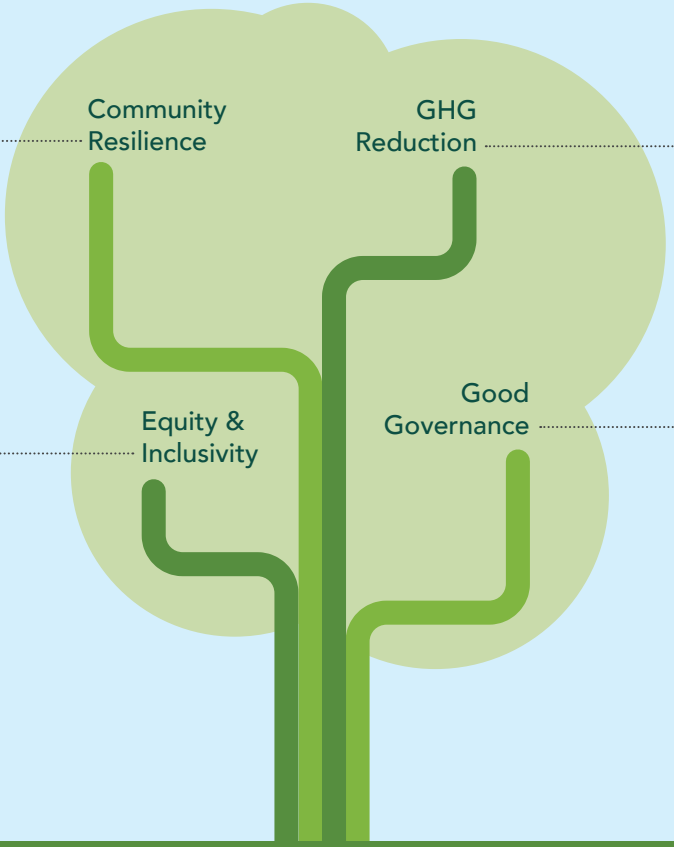
Determine the best way to incorporate a Save-Money-And-Reduce-Trash (SMART) program into the new waste franchise agreement.

DESCRIPTION OF ACTION	Create incentives for waste diversion by charging for trash pick-up and not for recycling services. The Waste Franchise Agreement for the Town is due to expire on June 30, 2023.
CHAMPION	Department of Public Works
OVERALL TIMEFRAME	**Short (1-2 years)** to incorporate a SMART program into the agreement.
POTENTIAL FUNDING SOURCES	Massachusetts Department of Environmental Protection (MA DEP)

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
1. Conduct research on best practices, market trends, data on existing recycling rates in the community, potential amount of waste reduction, funding opportunities and grants. Consult with other communities that have implemented SMART or similar programs.	3 months	Finance Department
2. Design and disseminate a community survey around knowledge of and interest in the SMART program.	2-3 months	-
3. Host a series of focus groups with diverse stakeholders including those living in single family homes, multi-family homes, and a variety of neighborhoods to determine knowledge of and interest in SMART programs as well as ways to assist residents.	2-3 months	-
4. Release RFP to understand interest and compliance from haulers. Consider partnering with commercial businesses to aggregate collection.	1 month	-
5. Present program and research to Town Manager, DPW Director, and Select Board for approval.	1 month	Town Manager's Office Select Board
6. Determine what current town educational materials must be updated with program information.	1 month	-

IMPLEMENTATION STEPS	TIMEFRAME TO IMPLEMENT STEP	COLLABORATORS
7. Develop and implement a multi-media and multi-lingual communications campaign.	2 months	Danvers Community Access Television School Committee Library
8. Incorporate reporting requirements on specific sustainability and GHG related metrics into the Waste Franchise Agreement.	1 month	-

GUIDING PRINCIPLES Implementation Considerations



N/A

Seek opportunities to reduce emissions through transitioning to all electric vehicles for trash and recycling pick-up as well as ensuring maximum efficiency for driving routes.

Ensure EJ communities are included in the research phase at the start of the project.

Prioritize low-income neighborhoods for education and outreach efforts.

Maintain consistent community engagement and provide updates about the status of the project through the Town's website, newsletters, and public workshops.

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