

# SUSTAINABLE DEDHAM

## CLIMATE ACTION & RESILIENCY PLAN



PREPARED FOR  
TOWN OF DEDHAM,  
ENVIRONMENTAL DEPARTMENT  
JUNE 2020



Dear Residents,

The Sustainability Advisory Committee is pleased to present the *Sustainable Dedham Climate Action & Resiliency Plan* to the community. This comprehensive, actionable Plan is a continuation of Dedham's leadership in sustainability and climate planning efforts to date. Through the work of this Committee, with support by the Town's Environmental Department, we have made great strides to reduce our impact on the environment and advance sustainability efforts across town, such as the installation of solar panels on our schools, conversion of our streetlights to LEDs, and addition of renewable energy in our Community Choice Aggregation (which again set Dedham apart as a leader, being one of the first two communities in the Commonwealth to make such a commitment). As you may know, the latest report from the United Nations Intergovernmental Panel on Climate Change (IPCC), which is the body for assessing science related to climate change, stresses the need for the global community to respond urgently to our changing climate to avoid dire consequences for humanity. As such, we must continue to fight for a sustainable Dedham, and this Plan is our roadmap to get there.

After a two-year public engagement and planning process, funded by the Executive Office of Energy and Environmental Affairs (EOEEA)'s Municipal Vulnerability Preparedness (MVP) Program, this Plan was driven and developed by various members in the Dedham community, including key representatives in town government, community groups and non-profits, and local businesses, to ensure a diverse, inclusive and broad view of Dedham's vision for a sustainable and resilient community. As a result, more than 20 goals and over 60 actions were identified to strengthen and prepare Dedham community for the impacts of a changing climate. More importantly, similar to the planning process, the identified goals and actions in this Plan were informed and evaluated by a set of guiding principles, including social equity, health, education, cultural and historic preservation, to name a few.

Some highlighted goals outlined in this Plan include:

- » Reducing municipal and community greenhouse gas emissions 80 percent by 2050;
- » Preparing all residents and businesses for the impacts of climate change;
- » Incorporating green infrastructure measures and best practices into future infrastructure projects;
- » Enhancing Dedham's tree canopy to 65 percent of the community;
- » Prioritizing transit access, walkability, and a diversity of uses, while fostering affordability and inclusivity; and
- » Achieving zero waste by 2050.

In addition, we are also releasing a Sustainable Dedham video, a climate action toolkit for local businesses, and a community dashboard –an online platform that will enable all Dedham residents to stay engaged in our town's latest sustainability initiatives and progress. All of these outreach materials can be retrieved at [www.sustainablededham.org](http://www.sustainablededham.org).

We need your support to achieve the ambitious goals set forth in this Plan, and we also look forward to working with all members of the Dedham community to implement the key actions identified. Our community's health and future are relying on us to succeed, and together we will create a healthy and resilient and sustainable Dedham.

Sincerely,

John Gorham, Chair

On behalf of the Sustainability Advisory Committee

## ACKNOWLEDGMENTS

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### PREPARED BY



*This Climate Action and Resilience Plan has been supported by the Massachusetts Municipal Vulnerability Preparedness (MVP) Action Grant.*

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# 1

## INTRODUCTION

The Town of Dedham is a close community where residents are proud of where they live. Located in Norfolk County, on Boston’s southwest border, Dedham offers urban amenities as well as significant natural and recreational resources. Driven by shared values, Dedham residents are working together to reduce their carbon footprint and ensure that their neighborhoods, natural resources, and economy are resilient to the impacts of climate change. The Sustainable Dedham Climate Action and Resiliency Plan (“the Plan”) serves as a roadmap to help Dedham achieve its vision of being a strong, thriving community of the future.

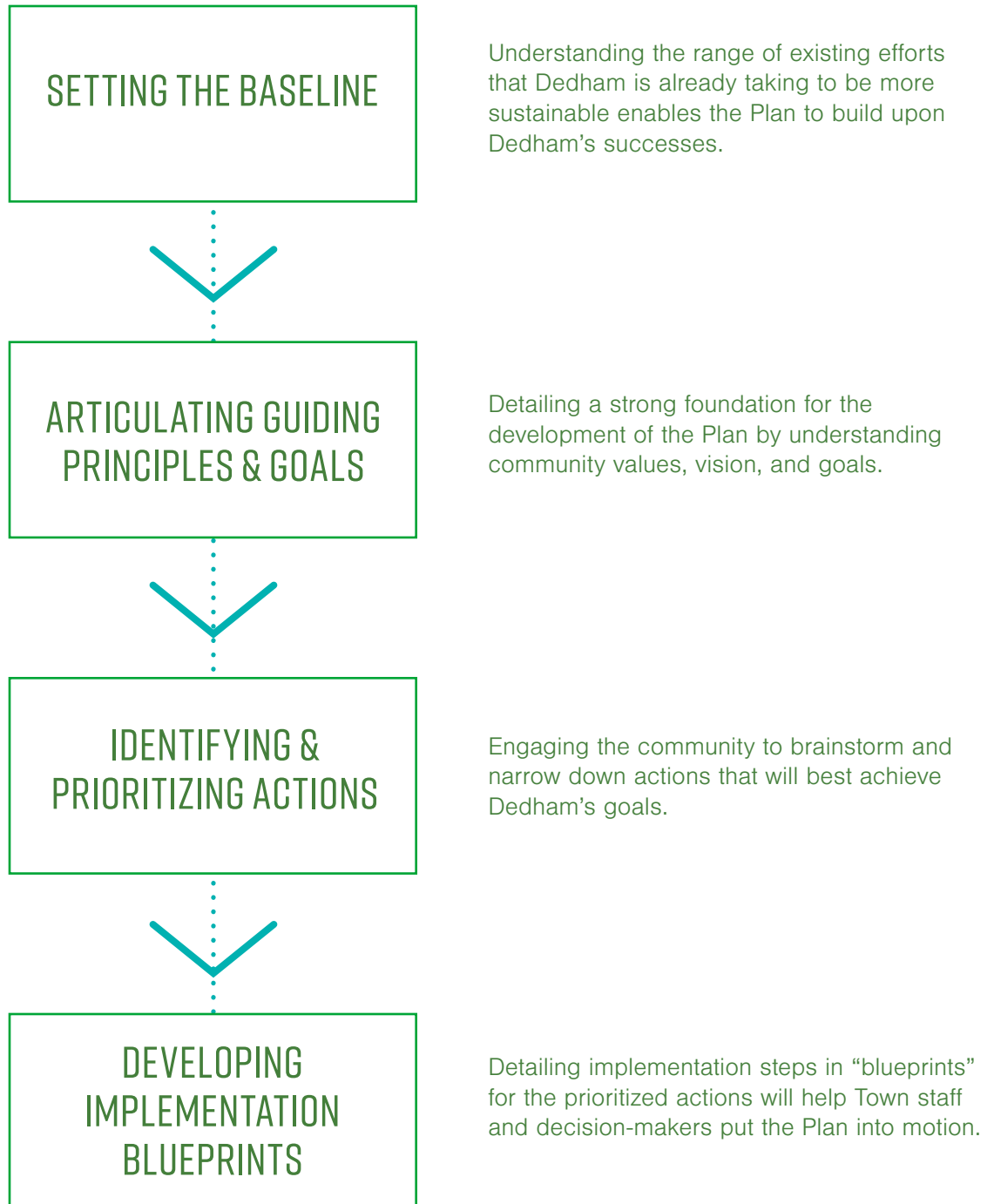
Dedham’s Sustainability Advisory Committee was formed in 2008 in order to advance the Town’s commitment to addressing the impacts of pollution and climate change. Along with the Town’s Environmental Department, created in 2007, the Committee advises the Select Board, municipal departments, committees, and town residents to effect change towards the Town’s sustainability goals.

In 2018, Dedham further solidified its commitment to climate action by joining the Global Covenant of Mayors for Climate and Energy, working with other municipal officials locally and internationally to advance climate change resiliency and mitigation efforts. In that same year, the Town of Dedham was selected by the Commonwealth of Massachusetts to participate in the Municipal Vulnerability Preparedness (MVP) Planning Grant Program to assess the Town’s vulnerability to climate change by identifying community assets and natural hazards, as well as priority actions to improve resiliency. The Town was then certified as an MVP community and awarded MVP Action Grant funding in the summer of 2019 to support the next step to enhance community resiliency: the development of a Climate Action and Resiliency Plan.

The Sustainable Dedham Climate Action and Resiliency Plan is both the culmination of ongoing efforts and a springboard for the Town to advance its priorities. The Plan identifies key mitigation and adaptation actions for the Town, providing a roadmap to accomplish the established goals and objectives toward a Sustainable Dedham.

## DEVELOPING THE SUSTAINABLE DEDHAM PLAN

With stakeholder and community feedback as the guidepost, Dedham, led by the Environmental Coordinator, went through the following process to set goals, identify strategies, and develop the Plan.



## The Planning Elements: What Makes Up Sustainable Dedham?

For residents, sustainability intersects many facets of life in Dedham, from the built environment, to health and livelihoods, to the natural world. The Climate Action and Resiliency Plan is therefore organized around the following seven “plan elements.”

### BUILDINGS & ENERGY

Create municipal regulations that encourage energy efficient, high-performing buildings in all sectors of our economy.

### ECONOMIC DEVELOPMENT

Foster a diverse, resilient economy with sustainable employment options for all.

### INFRASTRUCTURE

Design and build resilient roads, bridges, and other critical systems.



## Guiding Principles

The following guiding principles also informed the development of this Plan. They served as the lens through which to evaluate whether a goal or an action addresses the values of the Dedham community.

### Equity

- » Provide equal access to economic opportunity for all populations.
- » Identify stressors that may be amplified for vulnerable and historically marginalized members of Dedham’s community, and enhance the accessibility of resources to support these populations.

### Health

- » Consider quality of life and well-being for all residents as part of each initiative towards climate mitigation and resilience goals.

### Greenhouse Gas Emissions Reduction

- » Factor energy efficiency and waste reduction measures into all objectives to reduce Dedham’s carbon footprint.





## NATURAL RESOURCES

Protect, expand, and build connections to natural resources and open spaces.

## TRANSPORTATION & LAND USE

Promote smart growth and equitable access to healthy mobility options while preserving Dedham's scale and character.

## SOLID WASTE RESOURCES

Achieve zero waste by expanding education around and options for recycling and composting throughout the town.

## PUBLIC HEALTH & SAFETY

All Dedham community members have access to resources needed to live a healthy lifestyle and are prepared to respond to the impacts of climate change.

### Resilience

- » Pursue collaborative regional actions that increase coordination on climate efforts beyond Dedham's borders.
- » Ensure climate considerations are captured and enhanced by existing bylaws.

### Education and Communication

- » Engage Dedham residents in environmental issues by leveraging communications that are multimedia, multilingual, and inviting.

### Community Character

- » Enhance the unique aspects of the community that make Dedham home for residents.

### Cultural and Historic Preservations

- » Preserve Dedham's historic buildings and resources, as well as its unique histories.

## Community Voices

This Plan was a collaborative effort, shaped primarily by strategic efforts to engage different groups within the community. Different approaches were utilized to reach key representatives from the Town across various departments, local stakeholders, and the broader public.

### Climate Action Stakeholder Group (CASG)



CASG members participate in the second of three workshops.

Comprised of key Town staff members and representatives from community organizations and institutions, this critical group advised and supported the climate action planning process by providing guidance on generating goals and actions, prioritizing actions, and developing appropriate steps for implementation. CASG participated in three meetings – two in-person sessions and one virtual session (due to COVID-19 restrictions), in September and November 2019, and April 2020, respectively.

## INCORPORATING COMMUNITY FEEDBACK

The Project Team gathered **nearly 375 actions** from discussions with the public, surveys, CASG meetings, interviews, and best practices research, as well as existing Dedham planning efforts.

Actions ideas were consolidated, then prioritized using the following evaluation criteria, factoring in the Plan guiding principles, and stakeholder and community input:

- » Greenhouse gas (GHG) emissions reduction
- » Social equity
- » Enhanced infrastructure resiliency
- » Health and well-being
- » Financial feasibility

The prioritization scoring matrix from this exercise is a living document for the Town to use and update going forward.







Project Team member at the Holiday Stroll gathers feedback for the Plan.

### In-Person Events

The Project Team also attended community events to spread the word about the planning process and solicit additional feedback on the Plan’s goals, actions, and targets. The team tabled at the Holiday Stroll in December and met with Mother Brook Community Group in January. These events helped contribute new perspectives to the process to ensure a multitude of community voices shaped the Town's vision for sustainability and resilience.

Each stage of the engagement process was designed to solicit feedback that would shape the formation of guiding principles, goals, actions, and implementation steps for the Plan, as summarized in the following table.

PLANNING STEP	STAKEHOLDER INTERVIEWS	CASG 1	PUBLIC SURVEY 1	CASG 2	CASG 3 (OPEN TO PUBLIC)	PUBLIC SURVEY 2	IN-PERSON EVENTS	MEETING-IN-A-BOX
<b>BASELINE ASSESSMENT</b>								
<b>GUIDING PRINCIPLES AND GOALS</b>								
<b>IDENTIFY ACTIONS</b>								
<b>PRIORITIZE ACTIONS</b>								
<b>IMPLEMENTATION BLUEPRINTS</b>								

## WHERE IS DEDHAM TODAY?

Dedham's unique social, economic, and physical characteristics are at the heart of actions that make up this Plan. The following section provides a brief overview of some of these key characteristics.<sup>1</sup>

### Demographics

**25,377**

2018 population estimate

**94%**

of Dedham residents 25 and older have a high school degree or higher

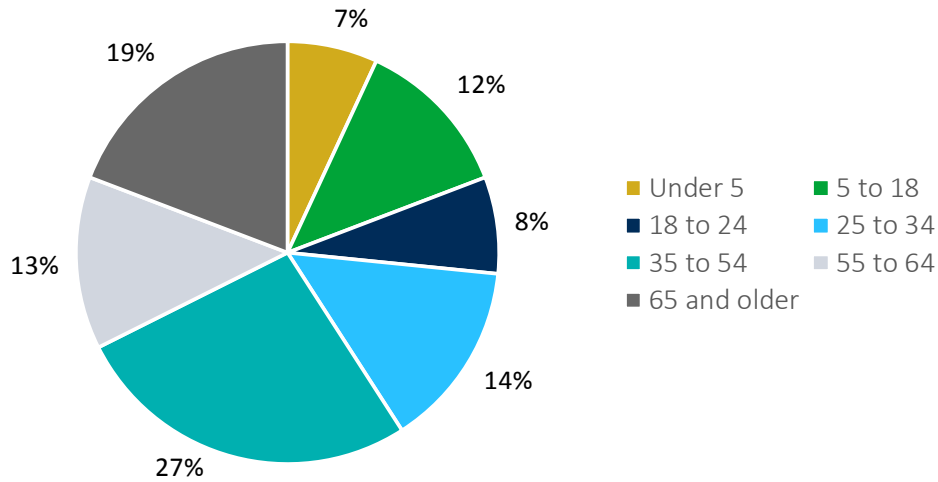
**14%**

of Dedham's population is foreign-born

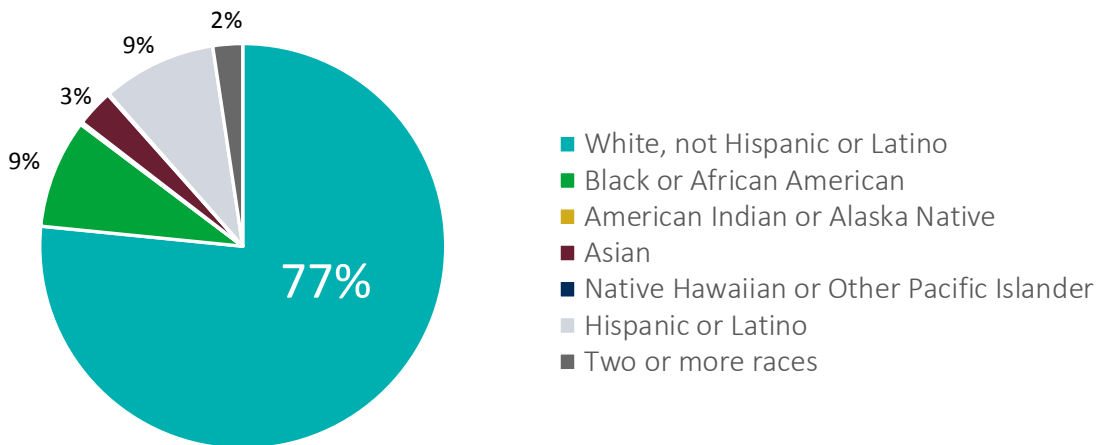
**9%**

of the population speaks a language other than English at home

### AGE OF DEDHAM RESIDENTS, 2018



### RACE OF DEDHAM RESIDENTS, 2018



<sup>1</sup> Source for all data unless otherwise noted: U.S. Census Bureau. 2018. American Community Survey, 5-Year Estimates. Dedham CDP. <https://data.census.gov/cedsci/>.

DEDHAM'S TOTAL AREA COVERS 10.6 SQUARE MILES, 0.2 SQUARE MILES OF WHICH IS WATER.<sup>2</sup>



**OPEN SPACE FEATURES INCLUDE:**

APPROXIMATELY  
**1,200 ACRES**  
OF WETLAND,  
WHICH MAKE UP 18%  
OF DEDHAM'S TOTAL AREA

APPROXIMATELY  
**880 ACRES**  
OF STATE, COUNTY, AND  
FEDERAL LAND.

**50%**  
TREE CANOPY

<sup>2</sup> Town of Dedham. "Geography." <https://www.dedham-ma.gov/discover-dedham/geography>.

**Income**

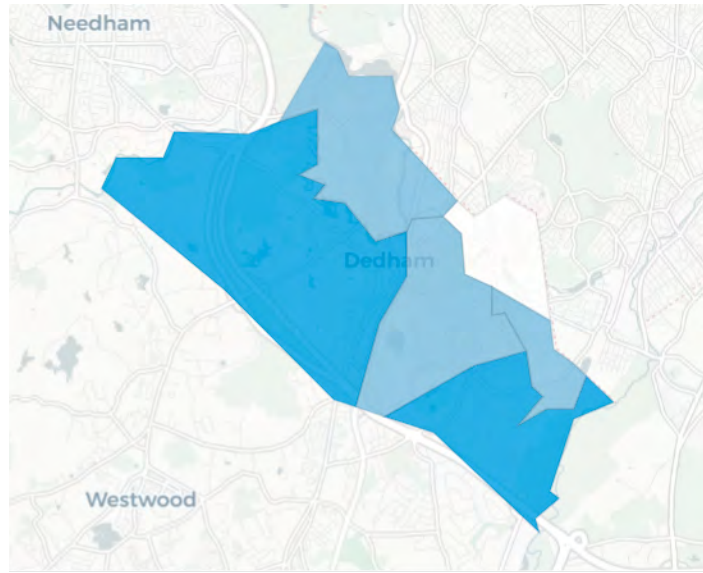
**\$96,992**

Estimated median household income as of 2018.<sup>27</sup>

**5%**

estimated poverty rate in 2018 (10% in Massachusetts and 11% in the U.S.)

**GEOGRAPHIC DISTRIBUTION OF INCOME**



Median Household Income

\$62.4k - \$74.9k
  \$74.9k - \$86.5k
  \$86.5k - \$99.4k
  \$99.4k - \$108k
  \$108k - \$110k

*Households in Dedham with relatively lower incomes (median income between \$62,400 and \$74,900) live in the town’s eastern census tracts.*

**Employment**

**18%**

of individuals employed in Dedham work in Health Care and Social Assistance.<sup>3</sup>

The next most common industries for individuals employed in Dedham are: Educational Services (13 percent); Professional, Scientific, and Technical Services (11 percent); Retail Trade (9 percent); and Finance and Insurance (8 percent).

<sup>3</sup> U.S. Census Bureau. 2017. American Community Survey, 5-Year Estimates. Dedham CDP. <https://datausa.io/profile/geo/dedham-ma>.

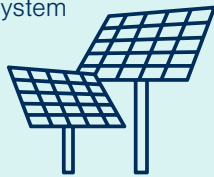
## DEDHAM'S CLIMATE LEADERSHIP AND COMMITMENTS TO DATE

The Town of Dedham has already made important commitments to protecting the natural environment, reducing energy use and waste production, and improving transportation options. In the coming years, Dedham will be challenged to support the health and well-being of its elderly population and other socially vulnerable residents, ensure that its aging infrastructure can withstand climate stressors, and respond to increased housing demand. This Plan will help to identify ways that leaders and residents can leverage successes to address these challenges together.

### DID YOU KNOW?

**1,261,626** KWH

generated since 2009 through installation of 525 photovoltaic (PV) solar panels on the high school and a 23-kW capacity system on Town Hall.<sup>5</sup>



**\$400,000**

received in 2019 from the Massachusetts Complete Streets Funding Program to improve biking and pedestrian access and safety throughout town.<sup>7</sup>



**\$27,630**

received in 2017 from MassDEP's Sustainable Materials Recovery Program Municipal Grant to improve the recycling program in Dedham Schools.<sup>8</sup>



**591,100** KWH  
AND **\$76,843**

per year saved through Dedham's Light Emitting Diode (LED) Streetlight Conversion in 2018.<sup>4</sup>

**8,230,628** pounds of CO<sub>2</sub> displaced  
AND **\$1.71 MILLION**

saved through Renewable Energy Certificates (RECs) as of 2018.<sup>6</sup>



4 Town of Dedham. "LED Streetlight Conversion."

<https://www.dedham-ma.gov/departments/environmental/energy-conservation-efficiency/led-streetlight-conversion>.

5 Town of Dedham. "Solar Projects (2009- )."

<https://www.dedham-ma.gov/departments/environmental/energy-conservation-efficiency/solar-projects>.

6 Town of Dedham. 2018. Dedham Electricity Aggregation Program Update.

<https://www.dedham-ma.gov/Home/ShowDocument?id=10170>.

7 Wicked Local: Dedham. 2019. "Baker-Polito Administration announces \$5.1 million in Complete Streets funding awards."

<https://dedham.wickedlocal.com/news/20190905/baker-polito-administration-announces-51-million-in-complete-streets-funding-awards>.

8 Town of Dedham. "Composting at Dedham Schools."

<https://www.dedham-ma.gov/departments/environmental/composting-at-dedham-schools>.



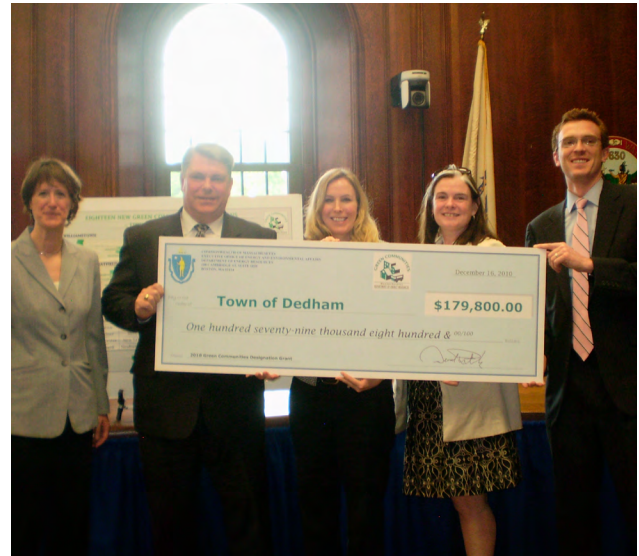
## Partners in Sustainability and Resiliency

Residents, staff, and leaders have already made significant strides toward a more sustainable and resilient Dedham. The Town has also worked with regional partners and participated in global commitments, reinforcing its role in the success of climate action planning efforts both within and beyond Town lines, such as:

- » **Global Covenant of Mayors for Climate & Energy:** In 2018, Dedham joined the international partnership, committing participation in global efforts to reduce greenhouse gas (GHG) emissions and increase climate resilience by advancing local initiatives in support of these goals.<sup>9</sup>
- » **Charles River Watershed Association's (CRWA's) climate coalition – Climate Compact:** Dedham's participation allows the Town to join forces with CRWA and **other watershed** communities to tackle regional issues related to climate adaptation.<sup>10</sup>
- » **Neponset Stormwater Partnership:** Dedham contributes to the regional partnership of communities within the Neponset Watershed that collaborate for more effective management of municipal stormwater programs.<sup>11</sup>
- » **Massachusetts Department of Energy Resources (DOER) Green Communities Designation and Grants Program:** This designation solidifies Dedham's commitment to clean energy goals to reduce energy consumption and lower emissions.<sup>12</sup>

» **Partnerships with higher education institutions:**

- Dedham has collaborated with the University of New Hampshire, through its Sustainability Institute Fellows Program, to develop the Town's GHG inventory as well as other requirements related to the Town's commitment via the Global Covenant of Mayors.<sup>13</sup>
- Dedham also partners with Olin College, Babson College, and Wellesley College as part of their Capstone Courses on Sustainability, through which students supported the Town in completing a traffic counts study and analyzing community air quality.<sup>14</sup>



9 Town of Dedham. "Dedham Joins International Effort to Drive Climate and Energy Solutions." <https://www.dedham-ma.gov/Home/Components/News/News/2327/16>.

10 Charles River Watershed Association. "Adapt." <https://www.crwa.org/adapt.html>.

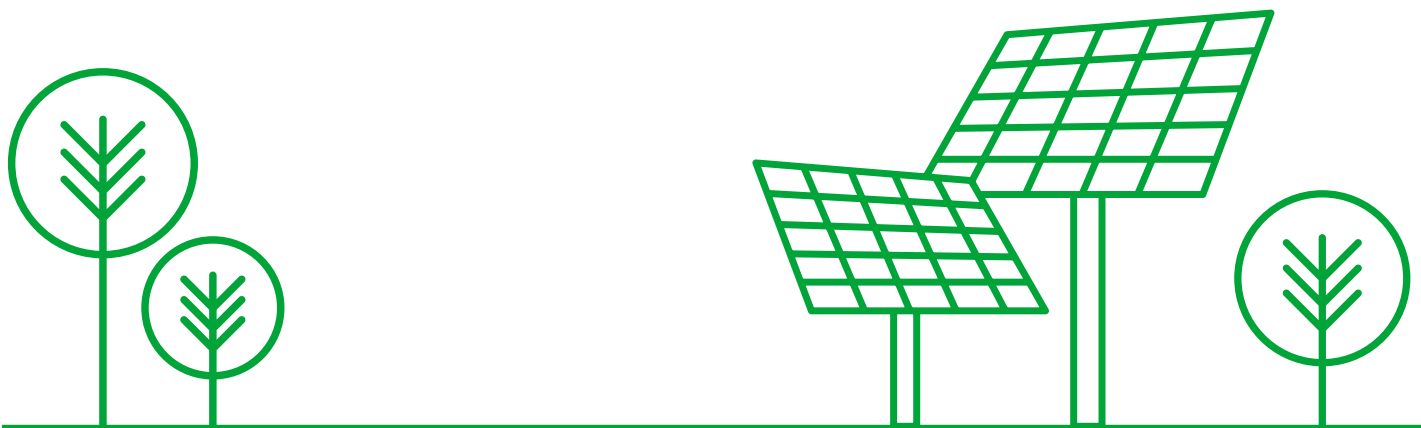
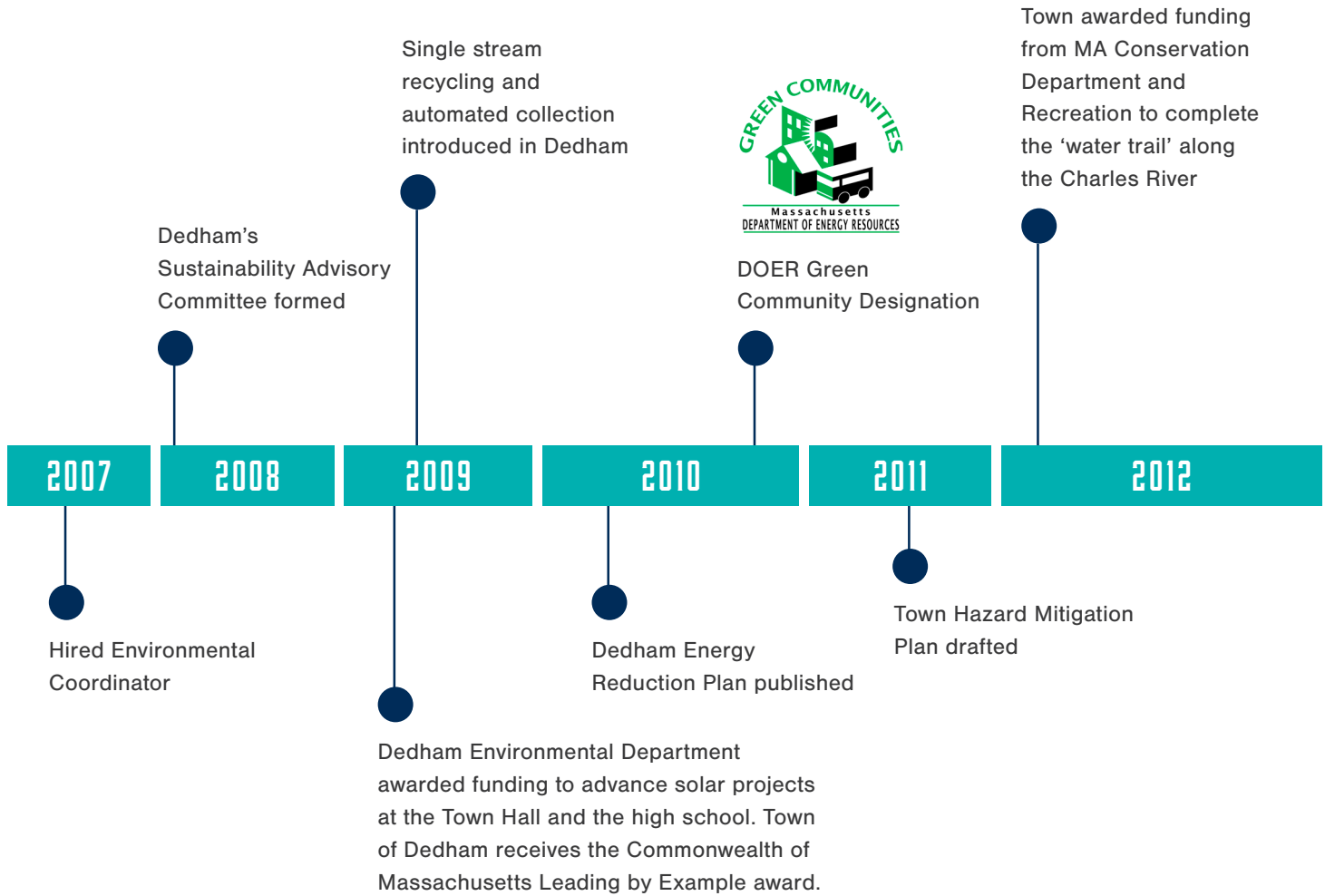
11 Neponset Stormwater Partnership. <https://yourcleanwater.org/>.

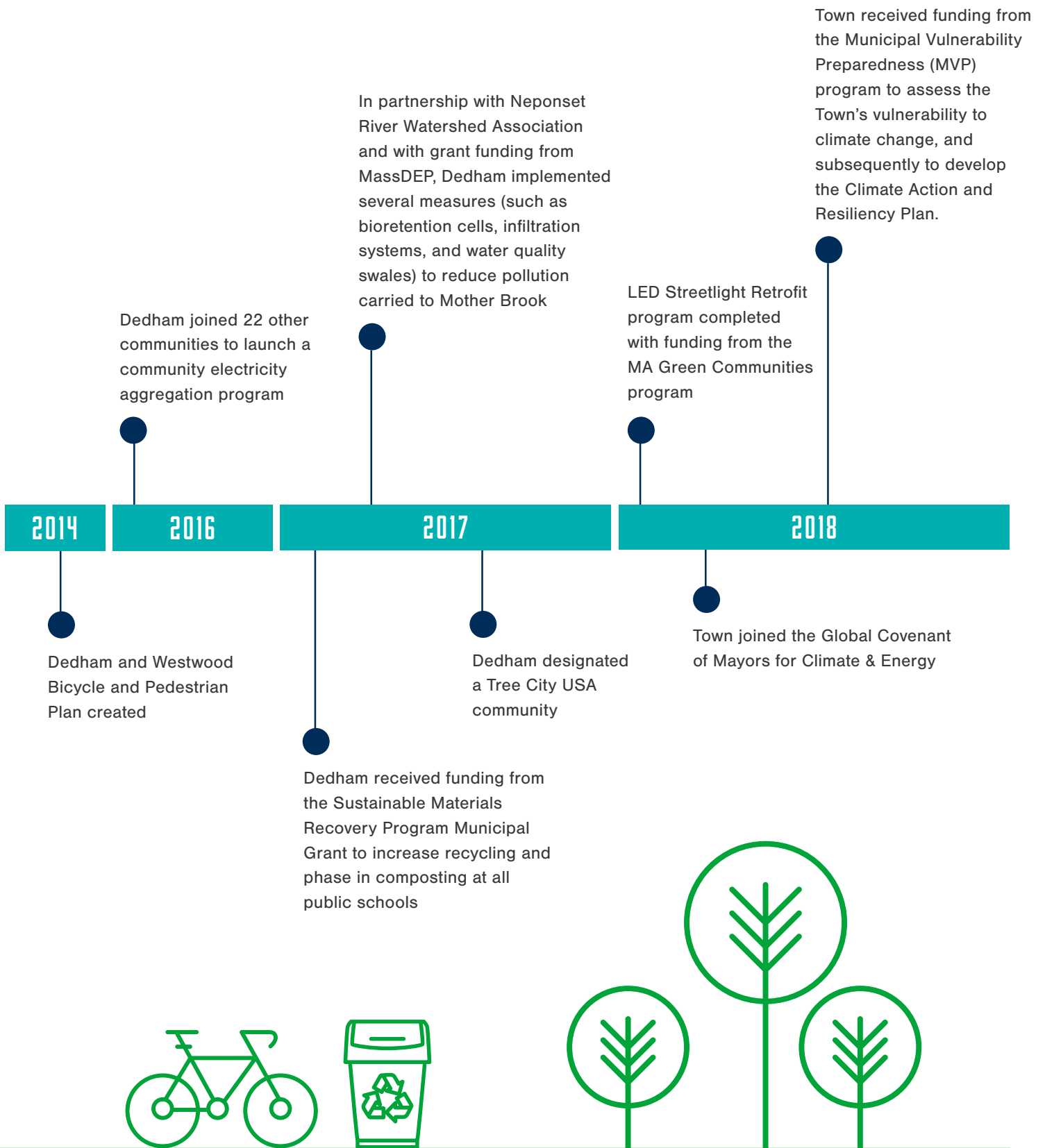
12 Massachusetts Department of Energy Resources. 2020. Green Community Designations Reach Two Hundred Seventy-One. <https://www.mass.gov/doc/map-of-271-gcs-and-grant-summaries/download>.

13 Town of Dedham. "Dedham Joins International Effort to Drive Climate and Energy Solutions." <https://www.dedham-ma.gov/Home/Components/News/News/2327/16>.

14 Ibid.

# DEDHAM'S KEY SUSTAINABILITY AND RESILIENCY INITIATIVES





## WHAT DOES CLIMATE CHANGE LOOK LIKE IN DEDHAM?

Communities across the Commonwealth, including Dedham, are already experiencing changing climate conditions. Average annual temperatures and the number of hot days per year have increased, and more annual precipitation and extreme precipitation events have been observed. Unfortunately, these conditions will likely intensify, along with associated impacts, according to future climate projections.

### CLIMATE CHANGE HAZARDS IDENTIFIED AS TOP PRIORITIES TO CONSIDER IN DEDHAM



#### EXTREME STORMS

- » INCREASE IN THE FREQUENCY AND SEVERITY OF EXTREME RAIN EVENTS
- » HIGH WINDS DURING NOR'EASTERS AND THUNDERSTORMS



#### HEAT WAVES

- » INCREASE IN THE NUMBER OF DAYS WITH ELEVATED TEMPERATURES, PARTICULARLY DAYS OVER 90°F
- » INCREASE IN THE LENGTH AND SEVERITY OF HEAT WAVES



#### DROUGHT

- » SHORT- AND LONG-TERM DROUGHTS, LOW STREAM FLOWS
- » POTENTIAL FOR MORE BRUSH FIRES



#### FLOODING

- » FLASH AND PROLONGED FLOODING
- » INCREASE IN LIKELIHOOD THAT RIVERS WILL OVERTOP THEIR BANKS AND FLOOD SURROUNDING AREAS DUE TO MORE EXTREME STORMS

## Learning from Community Resilience Building Workshops

Based on findings from the MVP Community Resilience Building Workshops, the following summary table highlights key strengths, opportunities, and vulnerabilities that Dedham will need to consider as it evaluates its resources and plans for the future.<sup>15</sup>

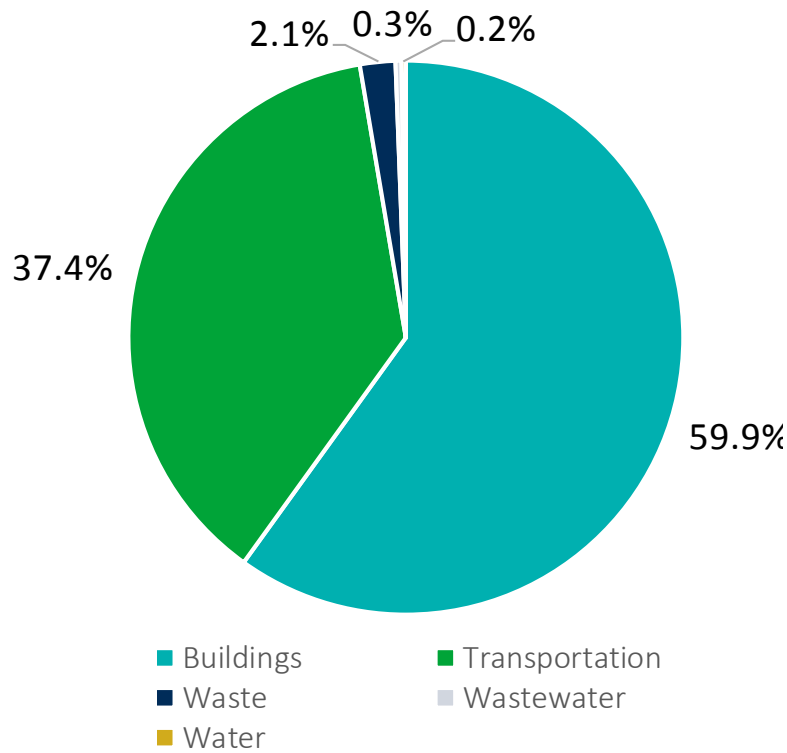
	Key Strengths/Opportunities	Key Vulnerabilities for Dedham
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>» <i>Power and Communications Network:</i> System redundancies and backup capacity exist for power and telecommunication to withstand system disruptions and failures.</li> <li>» <i>Transportation System:</i> Town is connected via Route 1 corridor to regional resources and networks; various public transit options are available (if somewhat underutilized).</li> <li>» <i>Flood Control Measures:</i> Recent updates to culverts and critical dam infrastructure increase flood resilience.</li> </ul>	<ul style="list-style-type: none"> <li>» Flooding, snow, and ice can disrupt transportation patterns and cut off evacuation and rescue routes, harm the local economy, damage infrastructure, and cause flooding of homes and critical infrastructure.</li> <li>» More frequent extreme storm and flooding can result in increased stress on existing, aging stormwater infrastructure.</li> <li>» Increased precipitation volumes could impact water quality.</li> </ul>
<b>Environmental Assets</b>	<ul style="list-style-type: none"> <li>» <i>Wetlands:</i> Abundant (18 percent of the Town's total area) and provide important wildlife habitat and flood mitigation/control.</li> <li>» <i>Open Space &amp; Tree Canopy:</i> Publicly owned spaces provide recreational opportunities and critical environmental services (flood mitigation, groundwater recharge, heat mitigation)</li> <li>» <i>Water Supply &amp; Quality:</i> Groundwater sources provide local drinking water supply; redundancies available through the Massachusetts Water Resources Authority (MWRA). Water reuse technologies and protections for key waterways help maintain quality and manage flood flows.</li> </ul>	<ul style="list-style-type: none"> <li>» High winds produced by extreme storms may threaten Dedham's tree-lined streets, a defining characteristic of the town.</li> <li>» Temperature increases could cause impacts related to increases in the prevalence of invasive species and/or vector-borne diseases.</li> <li>» Flooding events may disproportionately affect vulnerable populations (e.g., low-income residents, aging populations).</li> <li>» Potential for increased brush fires.</li> </ul>
<b>Social and Economic Assets</b>	<ul style="list-style-type: none"> <li>» <i>Local Businesses:</i> Grocery and retail locations are accessible and connected to main transportation routes (e.g., Route 1), providing a reliable source of goods and services in times of need.</li> <li>» <i>Emergency Shelters:</i> Official and unofficial emergency shelters are available to shelter significant portions of Dedham's population if necessary.</li> <li>» <i>Communal Housing:</i> Quality housing options for the aging community are available and located at higher elevation to protect against flood risk. Substantial associated services specific to the elderly population's needs are available to connect these groups to critical resources and the broader community.</li> </ul>	<ul style="list-style-type: none"> <li>» Impacts from extreme weather events (as a result of extreme storms and/or heat waves) may inundate and/or overwhelm available resources and services of existing emergency facilities. At the same time, it can be difficult for residents to access stores and resources, particularly in East Dedham due to lack of grocery stores.</li> <li>» Vulnerable populations in the community (i.e., those with existing medical conditions, lack of cooling mechanisms, etc.) could be particularly hard hit by heat waves.</li> </ul>

<sup>15</sup> For more information about the Dedham's MVP Community Resilience Building Report, visit: <https://www.mass.gov/info-details/municipal-vulnerability-preparedness-mvp-program-planning-reports>.

## A SNAPSHOT OF DEDHAM'S CARBON FOOTPRINT

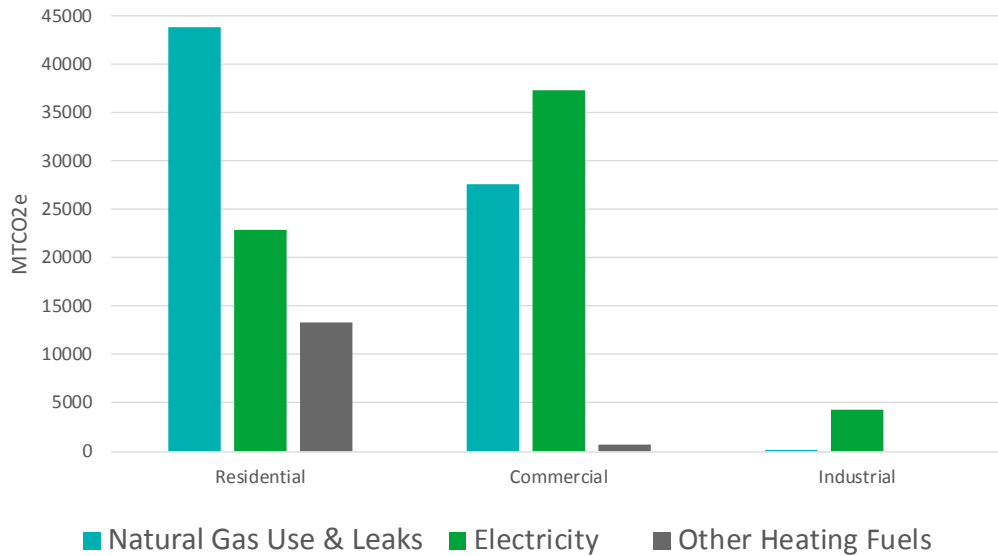
Before figuring out the most impactful way to lower its greenhouse gas emissions, Dedham first had to understand its current carbon footprint. In 2018, the Town completed a Greenhouse Gas Inventory to calculate community-wide and municipal emissions. This inventory, summarized below, serves as a baseline evaluation of Dedham's emissions and a foundation upon which to monitor progress toward emission reduction goals laid out in this Plan. Emissions are reported in metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e)—a common unit used to aggregate multiple kinds of greenhouse gases.

### DEDHAM COMMUNITY GREENHOUSE GAS EMISSIONS BY SECTOR



COMMUNITY ACTIVITIES, INCLUDING ACTIONS BY RESIDENTS, VISITORS, AND WORKERS IN DEDHAM RESULTED IN GREENHOUSE GAS EMISSIONS OF 250,428 MTCO<sub>2</sub>E IN 2018.

## DEDHAM COMMUNITY GREENHOUSE GAS EMISSIONS BY ENERGY SOURCE



**Emissions from building energy** make up the largest portion of Dedham’s emissions. A primarily residential community, most of those energy related emissions come from homes. The single biggest contributor of emissions from buildings is from residential natural gas consumption.



**Transportation** accounts for the next largest sector in the inventory. This estimate is based on vehicle census data from the Metropolitan Area Planning Council (MAPC),<sup>16</sup> scaled to 2018. As such, it represents the miles driven by Dedham residents in and outside the town limits, rather than all of the transportation that occurs on Dedham roadways. This value also includes the emissions of riders on the Massachusetts Bay Transportation Authority (MBTA) Franklin line that board at the Endicott and Dedham Corporate Center stations, though at much lower rates of emissions per mile.



**GHGs from the waste sector** total 5,170 MTCO<sub>2</sub>e and include garbage collected from municipal residents as well as estimated waste from multi-family housing and commercial facilities that are served by private haulers. Like many communities in Massachusetts, solid waste related emissions come from the incineration of solid waste as opposed to methane generation resulting from landfill disposal.

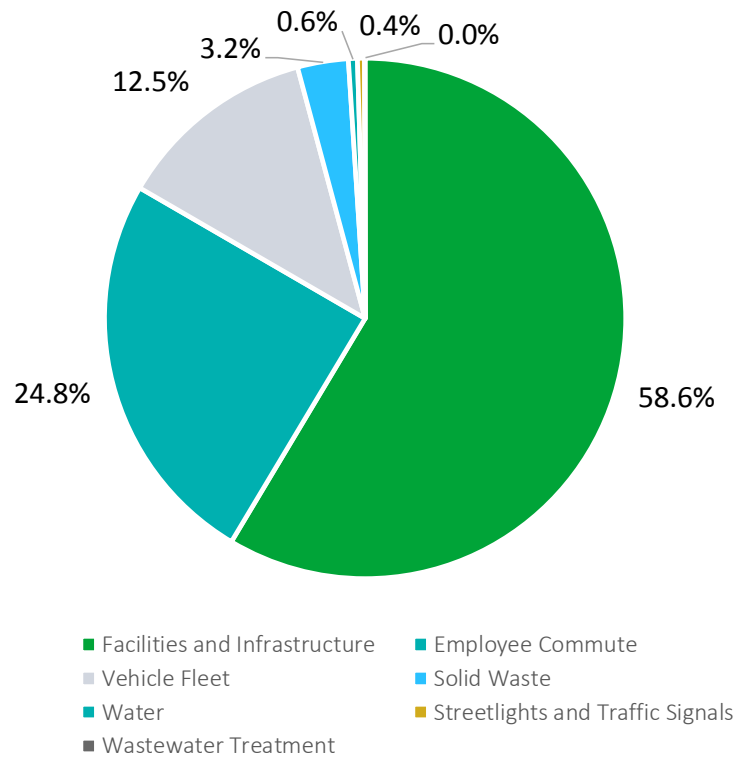


**Wastewater treatment** and provision of potable water make up the remainder of the inventory adding 869 and 626 MTCO<sub>2</sub>e respectively. Wastewater treatment emissions were determined by attributing a population-based portion of the wastewater treated at Deer Island to the town and potable water from the energy used to extract and distribute water throughout the town.

16 <https://datacommon.mapc.org/browser/datasets/330>

Dedham’s municipal operations are a subset of the community total and the municipal greenhouse gas emissions were estimated at 6,568 MTCO<sub>2</sub>e in 2018. Buildings and other infrastructure such as Town-owned water and wastewater pumps are the largest source. Interestingly, the daily commute of the Town’s employees is estimated to be a larger source of GHGs than the fuel consumed in the vehicles of the various Town departments, including Police and Fire. The Town itself generates a small amount of waste and is also a consumer of water. Streetlights and traffic signals now make up a very small percentage of the GHG emissions from municipal operations.

**MUNICIPAL GREENHOUSE GAS EMISSIONS BY SECTOR**



Not only is the greenhouse gas inventory an important metric to track the impact of the actions in this Plan, it is also an important milestone for Dedham’s participation in initiatives such as the Global Covenant of Mayors to take action to reduce GHGs and prepare for the impacts of a changing climate. Meeting long term reduction targets will require reducing the demand for energy in our buildings and transportation system and shifting the remainder towards renewable energy sources. A full description of the methods and results of the greenhouse gas inventory can be found on the Sustainable Dedham's Online Community Engagement Dashboard at [sustainablededham.org](http://sustainablededham.org).



## 2

## PLANNING FOR A SUSTAINABLE DEDHAM

Based on assessments and findings of Dedham’s climate planning efforts to date, and input from key stakeholders and community members, this Plan introduces Dedham’s bold yet realistic goals for each of the seven planning elements to advance sustainability and enhance community resiliency. To demonstrate how Dedham plans on achieving these goals, the Plan also identifies top priority actions and implementation details in the form of “blueprints.” Implementation blueprints have been developed for the top-voted actions with input from the community. Ongoing community engagement beyond this planning effort will be key to ensure that identified actions are effectively implemented.



### Key Considerations During This Planning Process

- Nearly **20 percent** of the population is over 65 years of age.<sup>17</sup> 10 percent of Dedham’s population has a disability.<sup>18</sup>
- Nearly **60 percent** of community greenhouse gas emissions come from the buildings sector.<sup>19</sup>  
**33 percent** of the housing stock was built before 1939. Aging infrastructure and buildings require costly repairs, stressing already limited resources and staffing for sustainability and resiliency improvements.
- Nine** miles of the Charles River flow through Dedham or along its borders. The presence of the Charles River, Mother Brook, and other canals lead to **major flooding risk** in Dedham during storms events.<sup>20</sup>
- 37 percent** of community greenhouse gas emissions in Dedham derive from the transportation sector.<sup>21</sup> **72 percent** of Dedham residents drive alone to work;<sup>22</sup> Heavy reliance on single occupancy vehicles leads to traffic and parking issues.
- There have been **11 mixed-use developments** constructed in Dedham since 2004. Affordable and transit- and pedestrian-accessible housing is a point of ongoing conversation in Dedham.

17 U.S. Census Bureau. 2018. American Community Survey, 5-Year Estimates. Dedham CDP. <https://data.census.gov/cedsci/>.

18 Ibid.

19 Town of Dedham. 2018. Greenhouse Gas Emissions Inventory.

20 Town of Dedham. 2019. Open Space and Recreation Plan. <https://www.dedham-ma.gov/home/showdocument?id=12755>.

21 Town of Dedham 2018. Greenhouse Gas Emissions Inventory.

22 U.S. Census Bureau. 2018. American Community Survey, 5-Year Estimates. Dedham CDP. <https://data.census.gov/cedsci/>.



## BUILDINGS & ENERGY

Dedham’s physical structures—its homes, offices, schools, historic buildings, and public facilities, as well as the energy that powers them—are key to the Town’s day-to-day function and identity. Unfortunately, consumption of energy from traditional sources (fossil fuels) in buildings generates greenhouse gas (GHG) emissions. In fact, buildings are the source of approximately 60 percent of emissions in Dedham, which is why reducing them is essential to reducing the town’s footprint and mitigating the most extreme impacts of climate change.

For Dedham to reduce its buildings’ contributions to climate change, the Town will need to target ways to operate more efficiently across its municipal footprint, as well as throughout the community. Much of this effort will focus on design and upgrade of buildings and utility systems, in both new construction and existing buildings, while also shifting to cleaner, renewable sources of energy.

### Goals

1. Municipal greenhouse gas emissions are reduced **80 percent by 2050**, using 2010 as a baseline.
2. Community greenhouse gas emissions are reduced **80 percent by 2050**, using 2010 as a baseline.
3. All new construction meets **net zero energy building standards**.
4. Existing buildings are **energy efficient** and utilize **renewable energy**.
5. **80 percent of municipal energy** consumed in Dedham comes from **renewable sources by 2050**.

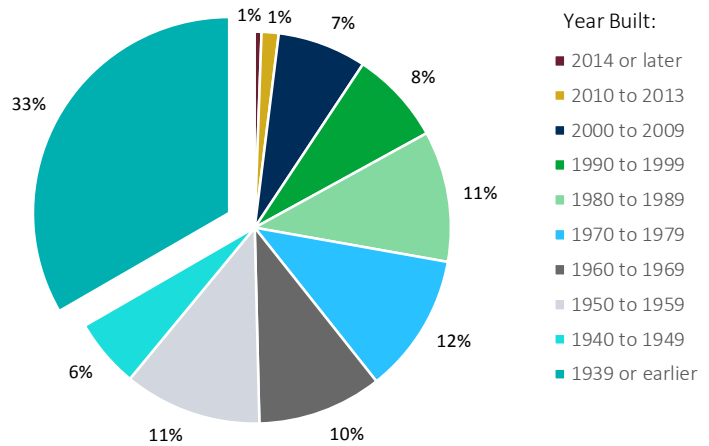
### Buildings and Energy Today

In looking at the data and trends of building efficiency and energy use today, the Town of Dedham was able to set reasonable goals and identify the highest-impact strategies to bridge the gap between where Dedham is today and where it wants to be in the future. The Town’s 2018 Greenhouse Gas Inventory revealed that buildings make up approximately 60 percent of all greenhouse gas emission—both for municipal and community-wide operations. This makes energy use in building a critical area to address to limit Dedham’s contribution to climate change.

Upgrades to residential buildings can go a long way in reducing energy use. Dedham housing stock is relatively old with approximately one third of the houses built prior to 1940. While historic buildings are a core aspect of Dedham’s character, it will be important to consider how to implement climate mitigation and resiliency actions for older buildings while preserving their historic features and character.

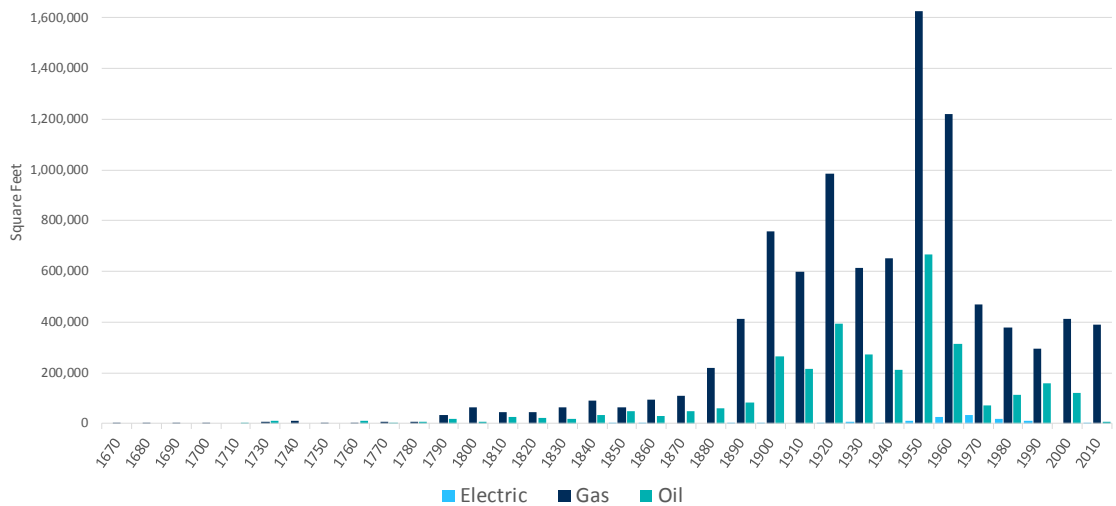
### AGE OF HOUSING STOCK IN DEDHAM

**33%**  
OF HOUSING STOCK IN  
DEDHAM WERE BUILT  
PRIOR TO 1940.



To date, Dedham houses are almost entirely heated with natural gas or fuel oil. Decarbonizing the sector will require electrifying homes with high efficiency heat pumps. Dedham works with Mass Save and other available resources to provide educational outreach for residents on making the switch to electrification.

### DEDHAM HOMES AGE AND HEATING FUELS





Fairbanks House Historical Site,  
<https://fairbankshouse.org/>

## PRESERVING DEDHAM'S BUILT HISTORY SUSTAINABLY

Iconic historic resources (including the Fairbanks House, Old Avery Oak, and farms, mills, and factories along Mother Brook) are part of what make Dedham unique throughout the Commonwealth. Unfortunately, climate change impacts have the potential to cause damage to or loss of the Town's historic fabric, commercial core, and recreational areas; threaten the safety of low-income populations living in older housing stock who can't afford repairs; and raise the cost of flood insurance. As part of the Targeted Vulnerability Assessment, best practices and cutting-edge approaches were identified and recommended to protect and enhance Dedham's historic resources, including:

- Promoting public messaging, training, and resources for those living in aging infrastructure to prepare for extreme events (floods, hurricanes, extreme heat)
- Educating owners of historic buildings about the inherent energy-saving qualities in their buildings how to maintain and enhance them
- Dry flood-proofing or wet flood-proofing
- Allowing water to flow through threatened structures

### Existing Policies and Programs

The Town of Dedham has already laid important groundwork in its efforts to reduce its energy use and the carbon footprint of its buildings. The Town's designation as a Green Community has helped the Town become eligible for competitive grants. As such, achievements to-date included: converting streetlights to LEDs; instituting a Buy Recycled policy for the Town and schools; becoming an early adopter of the state's Energy Stretch Code; creating an expedited permitting zone; as well as establishing a green fleet purchasing policy for municipal vehicles. The Environmental Department was also awarded a \$500,000 grant from DOER to install solar panels on Dedham High School and Town Hall roofs. As a result, revenue generated from these solar panels, as sale of the Solar Renewable Energy Credits (SRECs), enabled the Environmental Department to establish, through special legislation, a designated fund for energy efficiency upgrades of municipal and school buildings. Furthermore, Dedham has been a leader in the Community Choice Aggregation (CCA) program in Massachusetts, being only one of the two communities in 2016 to add an additional 5 percent renewable energy as a default on top of the Massachusetts Renewable Portfolio Standard (RPS), while also offering residents an option to opt in 100 percent renewable energy. Details on these efforts and more are listed below. The Town is looking to continue its commitment to renewable energy and plans to increase the amount in its next contract.

**Policies**

- » Energy Reduction Plan (2010)
- » MA Stretch Building Code (since 2010)
- » Global Covenant of Mayors for Climate & Energy (joined 2018)

**Programs**

- » Dedham Municipal Solar Project (2009): 525 photovoltaic (PV) solar panels (128,635kW capacity) on the high school and a 23kW capacity system on Town Hall.<sup>23</sup>
  - In 2009, the Town was recognized with the Commonwealth of Massachusetts Leading by Example award for these projects.
  - DOER Green Community Designation (2010)
- » Electricity Aggregation Program (since 2016)<sup>24</sup>
  - Working with the broker Good Energy and 22 other communities to become one of the largest buying consortiums in the United States.
  - Saw a peak of 7,558 participants.
- » Light Emitting Diode (LED) Streetlight Conversion (2018)
  - Funded by the DOER Green Communities Designation and Grants Program.
  - Expected to save 591,100 kilowatt hours (kWh) and \$76,843 per year.



Solar panels as part of the Dedham Municipal Solar Project are helping the Town to source more of its energy from renewables.

**LOCAL RENEWABLE ENERGY CREDITS (RECS) THROUGH 2018 HAVE DISPLACED 8,230,628 POUNDS OF CO<sub>2</sub>E (800 CARS NOT DRIVEN FOR 1 YEAR) AND SAVED \$1.7 MILLION<sup>25</sup>**

**Actions for Buildings and Energy**

Shifting current building design standards and requirements and promoting more green building practices will be critical in order to reduce the Town’s carbon footprint. Dedham will need more training resources, financial support, and technical assistance to ensure an

23 Town of Dedham. “Solar Projects (2009–). <https://www.dedham-ma.gov/departments/environmental/energy-conservation-efficiency/solar-projects>.

24 MassCEC. “Dedham Electricity Program. <https://masscea.com/dedham/>.

25 Town of Dedham. 2018. Dedham Electricity Aggregation Program Update. <https://www.dedham-ma.gov/Home/ShowDocument?id=10170>.

equitable process for all, from developers of new construction projects, to long-time residential homeowners, to low-income renters. The following recommended actions represent key next steps to ensure more efficient operations across Dedham’s municipal footprint, as well as throughout the community.

Action	Potential Partners	Implementation Timeframe
1. Adopt green building standards for municipal retrofit and new building projects.	» See implementation blueprint	
2. Conduct an opportunity screening for on-site combined heat and power (CHP) and potential renewable energy on municipal properties.	» MASS CEA	Short
3. Incentivize the incorporation of renewable/ alternative energy (e.g. rooftop solar, thermal heat pumps) in new development.	» See implementation blueprint	
4. Develop a sustainability and resiliency education program for the town’s cultural and historic property owners.	» Environmental Department » Historical Commission » Cultural Council	Medium
5. Develop sustainable design standards and net zero energy requirements for new development and major renovations.	» See implementation blueprint	
6. Perform deep retrofit of existing municipal facilities.	» Building Department » Mass Save » Facilities Department » Environmental Department	Long
7. Provide energy efficiency and weatherization training and resources for homeowners, landlords, and residents.	» Mass Save	Short
8. Require new development projects (residential and commercial) to incorporate electric vehicle charging infrastructure and parking spaces.	» Planning and Zoning Department » Environmental Department » Building Department	Medium
9. Transition municipal fleet to electric or renewable fuel vehicles.	» All departments	Long

**Blueprints for Priority Strategies**

The following section presents implementation steps in “blueprints” for some of the recommended actions. These actions were considered as priorities based on feedback from CASG workshops and from voting results of the Community Survey 2. These implementation blueprints will help Town staff and decision makers put the Plan into motion.



**ACTION**

**Adopt green building standards for municipal retrofit and new building projects.**

Research and adopt green building standards for municipal retrofit and new building projects to reduce greenhouse gas emissions and set an example for other projects throughout Dedham.

**IMPLEMENTATION LEADS** Facilities and Maintenance Department, Environmental Department, Building Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Research and assess the range of possible green building standards (e.g. LEED Certified, Net Zero) and the feasibility of adopting such standard for municipal buildings.	<ul style="list-style-type: none"> <li>» Facilities and Maintenance Department</li> <li>» Schools</li> <li>» Public Works Department</li> <li>» Sustainability Advisory Committee</li> </ul>	\$	Short
2. Propose and adopt green building standard for all municipal retrofit and new building projects.	<ul style="list-style-type: none"> <li>» Bylaw Review Committee</li> <li>» Environmental Department</li> <li>» Town Meeting</li> </ul>	\$	Medium
3. Host trainings for Town staff on “green” operations and maintenance procedures.	<ul style="list-style-type: none"> <li>» Green building O&amp;M experts</li> <li>» Facilities and Maintenance Department</li> <li>» Environmental Department</li> </ul>	\$	Short
4. Based on the adopted standard and the need for municipal building upgrades, make a multi-year plan for major retrofits and/or new buildings.	<ul style="list-style-type: none"> <li>» Facilities and Maintenance Department</li> <li>» Finance Department</li> </ul>	\$	Short

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Percentage of reduction of municipal building energy use</li> <li>» GHG reduction in municipal buildings</li> <li>» Number of certified green municipal buildings</li> </ul>
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» Reduced energy costs</li> <li>» Economic Development: Leading by example for residential and commercial development</li> </ul>
<b>Educational/Outreach Resources</b>	<ul style="list-style-type: none"> <li>» Training for contractors and Town staff</li> <li>» Public information on retrofit and new building projects available on Town website</li> <li>» Educational opportunity for students to learn about green building practices (Town buildings as models)</li> </ul>
<b>Additional Resources/ Best Practice Example</b>	<ul style="list-style-type: none"> <li>» Massachusetts Department of Energy Resources’ (DOER) Leading by Example Initiative</li> <li>» DOER grant funding for green buildings</li> </ul>

**Implementation Cost**

\$ = up to \$50K  
 \$\$ = \$50–100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**

Short = 1–2 year  
 Medium = 3–5 years  
 Long = more than 5 years



**ACTION**

**Develop sustainable design standards and net zero energy requirements for new development and major renovations.**

Develop sustainable and resilient design standards and performance requirements, including net zero energy, for new construction and major renovation projects in Dedham. A phased approach to implementing the standards will allow Dedham to shift to net zero development over time.

**IMPLEMENTATION LEAD** Environmental Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Establish a multidepartment and multi-stakeholder task force that will drive the development, buy in, and implementation of the guidelines/ requirements.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» School Department</li> <li>» Sustainability Advisory Committee</li> <li>» Historical Commission</li> <li>» Local developers</li> <li>» Green building professionals</li> </ul>	\$	Short
2. Establish scope and scale of the standards/requirements. <ul style="list-style-type: none"> <li>• Clearly define “net zero,” and the scope of other sustainability /resiliency design standards</li> <li>• Establish thresholds for size and types of buildings subject to requirements and timing differentials for compliance.</li> </ul>	<ul style="list-style-type: none"> <li>» Task force</li> </ul>	\$	Short
3. Develop standards and guidelines with expert assistance (e.g. consultants and/ or best practice examples). Be clear about minimum requirements vs guidelines. Revisit requirements every 5 years to increase performance requirements.	<ul style="list-style-type: none"> <li>» Consultant team</li> <li>» Task force</li> <li>» Building Department</li> </ul>	\$\$	Medium/Long
4. Pilot the standards and guidelines with willing developers. Refine them based on feedback. Formally adopt the requirements.	<ul style="list-style-type: none"> <li>» Developers</li> <li>» Building Department</li> <li>» Task force</li> </ul>	\$	Medium
5. Determine a governance structure for the review, approval, and enforcement of the guidelines/requirements. Develop a checklist for developers and reviewers that is a required submittal for permitting (and potentially occupancy).	<ul style="list-style-type: none"> <li>» Task Force</li> <li>» Building Department</li> </ul>	\$\$	Medium
6. Host trainings for building inspectors, Town staff, and developers to increase understanding and buy-in.	<ul style="list-style-type: none"> <li>» Task force</li> </ul>	\$	Short
7. Establish standard language explaining the requirements for RFPs, including what kind of licenses and training is needed.	<ul style="list-style-type: none"> <li>» Task force</li> </ul>	\$	Medium



<p><b>Metrics for Tracking Progress</b></p>	<ul style="list-style-type: none"> <li>» Greenhouse gas emissions in Dedham’s buildings</li> <li>» Commercial and residential energy demand</li> <li>» Number of net zero energy buildings</li> </ul>
<p><b>Co-benefits/Related Planning Elements</b></p>	<ul style="list-style-type: none"> <li>» Economic Development - Expanded demand for green energy jobs and contractors using sustainable practices</li> <li>» Enhanced building resilience and resilience of energy grid</li> </ul>
<p><b>Educational/ Outreach Resources</b></p>	<ul style="list-style-type: none"> <li>» Training resources for contractors (such as webinars, conferences, meetings, flyers, etc.)</li> <li>» Public education on existing or planned net zero building projects                             <ul style="list-style-type: none"> <li>• Utilize pilot net zero projects as demonstration/learning tools</li> </ul> </li> <li>» Skills/workforce development training (and re-training)</li> </ul>
<p><b>Additional Resources/ Best Practice Example</b></p>	<ul style="list-style-type: none"> <li>» Town of Dedham Building Department’s adoption of the stretch code</li> <li>» Brookline, MA Net Zero Schools requirements: <a href="https://www.brooklinema.gov/1461/Net-Zero-Schools">https://www.brooklinema.gov/1461/Net-Zero-Schools</a></li> <li>» Town of Concord, Lexington, and Arlington’s net zero efforts</li> <li>» Metropolitan Area Planning Council’s Net Zero definitions (<a href="https://www.mapc.org/net-zero/what-is-net-zero/">https://www.mapc.org/net-zero/what-is-net-zero/</a>) and Net Zero Planning – Zero to 101 series (<a href="https://www.mapc.org/net-zero/">https://www.mapc.org/net-zero/</a>)</li> <li>» Mass Climate Action Network’s Net Zero Building Factsheet: <a href="https://www.massclimateaction.org/net_zero_building">https://www.massclimateaction.org/net_zero_building</a></li> <li>» RELi 2.0 Resilient Design Standards: <a href="https://www.usgbc.org/resources/reli-20-rating-guidelines-resilient-design-and-construction">https://www.usgbc.org/resources/reli-20-rating-guidelines-resilient-design-and-construction</a></li> <li>» City of Somerville - The Road to a Net-Zero Home: <a href="https://www.somervillema.gov/departments/programs/somerville-energy-efficiency-now-seen">https://www.somervillema.gov/departments/programs/somerville-energy-efficiency-now-seen</a></li> </ul>

**Implementation Cost**

\$ = up to \$50K  
 \$\$ = \$50–100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**

Short = 1–2 year  
 Medium = 3–5 years  
 Long = more than 5 years



**ACTION**

**Incentivize the incorporation of renewable/alternative energy (e.g. rooftop solar, thermal heat pumps) in new development.**

Develop and launch an incentive program to encourage the installation of renewable/alternative energy systems and appliances in new development.

**IMPLEMENTATION LEAD** Sustainability Advisory Committee

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Research best practices for incentive programs for new development projects.	» Sustainability Advisory Committee » Environmental Department » Economic Development Department	\$	Short
2. Assess characteristics of past and potential development in Dedham and design incentive structures appropriate for a wide range of development types and sizes and renewable/alternative energy technologies.	» Economic Development Department » Planning and Zoning Department	\$	Medium
3. Identify funding/financing mechanism for development incentives.	» Mass Save » Massachusetts Clean Energy Center » Eversource » Economic Development Department » Planning and Zoning Department	\$\$	Medium
4. Develop educational and promotional materials and conduct outreach/training to local developers, contractors, and architects.	» Environmental Department » Economic Development Department » Design Review Advisory Board	\$	Short
5. Launch incentive program.	» Economic Development Department » Design Review Advisory Board	\$\$	Short

<b>Metrics for Tracking Progress</b>	» Number of new developments including renewable energy installations » Dollar amount of incentives provided » MW of renewable energy system capacity installed
<b>Co-benefits/Related Planning Elements</b>	» Reduction in energy-related greenhouse gas emissions » Economic Development - Increase in community resilience and local economy as a result of locally-generated energy
<b>Educational/ Outreach Resources</b>	» EnergySage: <a href="https://www.energysage.com/solar-panels/solar-rebates-incentives/ma/">https://www.energysage.com/solar-panels/solar-rebates-incentives/ma/</a> » MAPC Clean Energy Department: <a href="https://www.mapc.org/our-work/expertise/clean-energy/">https://www.mapc.org/our-work/expertise/clean-energy/</a> » Training for developers, contractors, and architects » Training for Town staff
<b>Additional Resources/ Best Practice Example</b>	» Leadership in Energy and Environmental Design (LEED) programs. » State and local tax incentives (See EnergySage or Solar Energy Industry Association for current programs)

**Implementation Cost**

\$ = up to \$50K  
 \$\$ = \$50–100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**

Short = 1–2 year  
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 Long = more than 5 years



DEDHAM

THE TRASK COMPANY  
BOSTON, U.S.A.

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## ECONOMIC DEVELOPMENT

Dedham is committed to enhancing economic opportunities in an equitable and effective manner, in addition to ensuring all Dedham residents have access to safe, quality, affordable housing that supports stability and productive livelihoods. For these reasons, Dedham seeks to revitalize underutilized areas of town, and continue to attract businesses to supply key jobs to residents. Workforce development is also critical to ensuring the Dedham community is well-equipped to serve existing and local businesses and emerging industries as well. Moreover, it is imperative that local businesses are physically and financially resilient and to ensure the local economy has the capacity to adapt and endure future climate challenges.

### Goals

1. Businesses are **prepared** for the impacts of climate change.
2. All residents have access to **skills trainings and professional development opportunities**.
3. Commercial centers are **vibrant, connected, and accessible** spaces.

### Dedham's Economy Today

Actions in pursuit of a more sustainable economy are grounded in an understanding of the make-up of Dedham's workforce and key employers, as well as the degree to which some of Dedham's residents may be more economically vulnerable (i.e., low-income individuals, renters).

# 93.6%

Population with a high school diploma or higher.<sup>26</sup>

# 22.1%

Population with a bachelor's degree or higher.

# \$96,992

Estimated median household income as of 2018.<sup>27</sup>

# 5%

Estimated poverty rate as of 2018.<sup>28</sup>

THE TOP EMPLOYERS IN DEDHAM, REPRESENTING HEALTH CARE, RETAIL TRADE, AND PROFESSIONAL AND TECHNICAL SERVICES, EMPLOYEE 3,352 WORKERS EARNING \$151 MILLION IN TOTAL WAGES.<sup>29</sup>

26 U.S. Census Bureau. 2017 American Community Survey 5-Year Estimates. Dedham CDP.

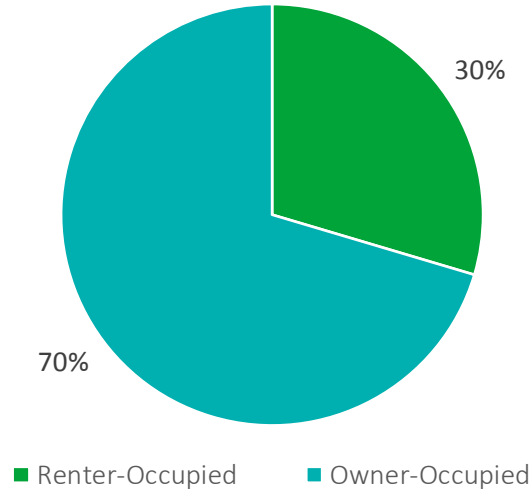
27 U.S. Census Bureau. 2018 American Community Survey, 5-Year Estimates. Dedham CDP.

28 U.S. Census Bureau. 2018 American Community Survey, 5-Year Estimates. Dedham CDP.

29 Massachusetts Labor Market Information. 2018 Average Employment and Wages by Industry All Ownership. <https://lmi.dua.eol.mass.gov/lmi/MunicipalEmploymentData/LmiTown?A=000363>

Additionally, as shown on the following charts, a significant number of people who work in Dedham do not live in Dedham, highlighting a need for expanding transit services, carpooling, and alternative means of working such as telecommuting and attracting more employers in professional and technical services. Expanding affordable housing for the local workforce would also allow more Dedham residents to live and work in town.

**HOUSING UNITS BY OCCUPANT TYPE**



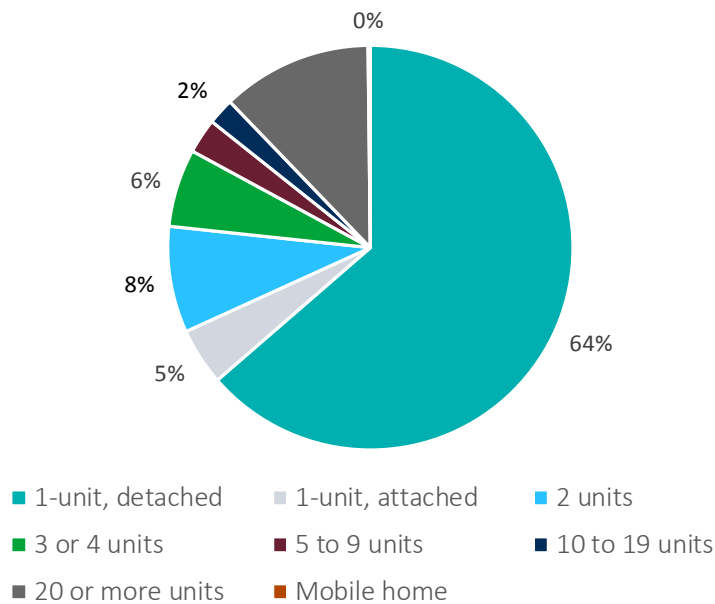
Median monthly rent:

**\$1,614**

Median value of owner-occupied units:

**\$445,500**

**HOUSING CHARACTERISTICS, 2018 ESTIMATE**



**64%**

of Dedham's housing stock is single family homes.

## Existing Policies and Programs

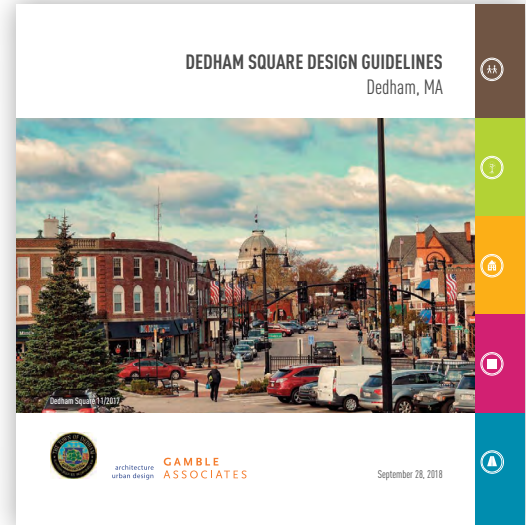
The Town of Dedham has already made strides to foster a more vibrant, accessible economy, including ongoing efforts to promote downtown centers like Dedham Square and East Dedham Square. The current Master Planning process will include further details on the Town's long-range plan for Dedham's economic development and vitality, and the actions proposed in this Plan are thoughtfully crafted to align with that planning process.

### Policies

- » East Dedham Square Design Guidelines (2017)
- » Dedham Square Design Guidelines (2018)

### Programs

- » Commonwealth of Massachusetts' Efficiency and Regionalization program grant for economic development analysis in Dedham, Norwood, Westwood (2018)
- » Massachusetts Downtown Initiative grant for a parking analysis and management plan for Dedham Square (2018)
- » Community Compact program grant for economic development analysis and action plan for Dedham (2018)
- » Designing Dedham: Dedham's 2030 Master Plan (a planning process underway in 2020)



## Actions for Economic Development

A strong, local economy is critical to shaping a more resilient community. As such, Dedham needs to position itself in ways that ensuring affordability, while maintaining a sense of vibrancy that welcomes all businesses and resident to work, live and play. The following recommended actions represent key next steps to support and strengthen Dedham's economic development and vitality in this changing climate.

Action	Potential Partner	Implementation Timeframe
1. Conduct an assessment to identify market opportunities and locations for new types of economic growth that support business diversification and address community interests/needs.	» Dedham Square Circle » Planning and Zoning Department	Long
2. Expand the Green Business certificate program to incentivize businesses to take action around climate change mitigation and adaptation	» Dedham Square Circle » Neponset River Regional Chamber » Environmental Department	Short
3. Focus development and improve bicycle and pedestrian accessibility around identified transportation corridors/centers.	» Planning and Zoning Department » Environmental Department » Public Works Department » Engineering Department	Medium
4. Implement an educational program for small businesses on potential climate change impacts, resource distribution and emergency preparedness measures.	» Environmental Department » FEMA/MEMA	Short
5. Increase the presence of green space / pocket parks in commercial centers.	» See implementation blueprint	
6. Partner with local/regional educational institutions, nonprofits, and businesses to expand training and professional development opportunities in green careers, with a focus on youth, veterans, immigrants, and previously incarcerated populations.	» See implementation blueprint	
7. Work with local businesses to explore opportunities and/or establish resources that will enable them to support the revitalization of existing neighborhood commercial centers.	» See implementation blueprint	

### Blueprints for Priority Strategies

The following section presents implementation steps in “blueprints” for some of the recommended actions. These actions were considered as priorities based on feedback from CASG workshops and from voting results of the Community Survey 2. These implementation blueprints will help Town staff and decision makers put the Plan into motion.



**ACTION**

**Partner with local/regional educational institutions, nonprofits, and businesses to expand training and professional development opportunities in green careers, with a focus on youth, veterans, immigrants, and previously incarcerated populations.**

Develop and improve workforce development opportunities in the green careers sector, including skills training and professional development, with a focus on opportunities for youth, veterans, immigrants, and previously incarcerated populations.

**IMPLEMENTATION LEAD** Economic Development Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Conduct a needs assessment of skills and services in the green careers sector.	<ul style="list-style-type: none"> <li>» School Department</li> <li>» Human Resources Department</li> <li>» Massachusetts Clean Energy Center – Workforce Development Division</li> </ul>	\$	Short
2. Conduct outreach to local and regional organizations to inventory currently available skills training and professional development resources.	<ul style="list-style-type: none"> <li>» Local/regional educational institutions</li> <li>» Veterans Services Department</li> <li>» Nonprofits</li> <li>» Local Businesses</li> <li>» Dedham Square Circle</li> <li>» Cultural organizations</li> <li>» Norfolk County Correctional Center</li> <li>» Business associations</li> <li>» Massachusetts Clean Energy Center – Workforce Development Division</li> </ul>	\$	Medium
3. Develop curriculum for skills training identified in the needs assessment and partner with local organizations to incorporate into existing training programs or develop new programs.	<ul style="list-style-type: none"> <li>» Local/regional educational institutions (ex: Blue Hills Regional High School)</li> <li>» Massachusetts Workforce Development Programs</li> <li>» MassHire Department of Career Services</li> </ul>	\$\$	Medium
4. Launch a Dedham green jobs portal to curate all skills training and professional development opportunities.	<ul style="list-style-type: none"> <li>» Human Resources Department</li> </ul>	\$\$	Medium
5. Host public workshops to promote workforce development opportunities and connect prospective employees with businesses and organizations.	<ul style="list-style-type: none"> <li>» Human Resources Department</li> </ul>	\$	Short

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Number of organizations participating in developing skills training and professional development programs</li> <li>» Number of organizations offering training and professional development programs</li> <li>» Number of residents served</li> <li>» Number of jobs placed</li> </ul>
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» Increased community resilience</li> <li>» Increased economic prosperity</li> </ul>
<b>Educational/ Outreach Resources</b>	<ul style="list-style-type: none"> <li>» Workshops, flyers, and social media promotion of trainings, professional development opportunities, and job postings.</li> </ul>
<b>Additional Resources/ Best Practice Example</b>	<ul style="list-style-type: none"> <li>» Annual Massachusetts Clean Energy Center Clean Energy Industry Report</li> <li>» Massachusetts Green Careers Conference</li> <li>» MassHire JobQuest Green Jobs Search</li> <li>» Ella Baker Center for Human Rights Green-Collar Jobs Campaign Basics</li> </ul>

**Implementation Cost**  
 \$ = up to \$50K  
 \$\$ = \$50–100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**  
 Short = 1–2 year  
 Medium = 3–5 years  
 Long = more than 5 years





**ACTION**

**Increase the presence of green space / pocket parks in commercial centers**

Increase the presence of green space and pocket parks in commercial centers by identifying available area and prioritizing feasible projects.

**IMPLEMENTATION LEAD** Planning and Zoning Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Create an inventory of potential spaces for pocket parks in Dedham’s commercial centers (e.g. underutilized parcels, vacant buildings).	<ul style="list-style-type: none"> <li>» Town Economic Development Director</li> <li>» Parks and Recreation Department</li> <li>» Local university/college (e.g. Department of City Planning and Urban Affairs at Boston College)</li> </ul>	\$	Short
2. Establish a Town advisory committee to guide planning and implementation process.	<ul style="list-style-type: none"> <li>» Select Board</li> </ul>	\$	Medium
3. Solicit public input on location and design of desired green spaces and pocket parks. Engagement might include: <ul style="list-style-type: none"> <li>• Public workshop</li> <li>• Online survey</li> <li>• Design competition</li> </ul>	<ul style="list-style-type: none"> <li>» Sustainability Advisory Committee</li> <li>» Parks and Recreation Department</li> <li>» Dedham Civic Pride</li> <li>» Dedham Square Circle</li> <li>» Local university/college (e.g. Department of City Planning and Urban Affairs at Boston College)</li> <li>» Dedham Square Planning Committee</li> <li>» Neighborhood groups</li> </ul>	\$	Short
4. Establish screening criteria to filter and prioritize project selections.	<ul style="list-style-type: none"> <li>» Advisory committee appointed by the Select Board</li> <li>» Parks and Recreation Department</li> <li>» Local university/college (e.g. Department of City Planning and Urban Affairs at Boston College)</li> </ul>	\$\$	Medium
5. Prioritize options based on public interest, costs, and long-term benefits and other factors established in the screening criteria.	<ul style="list-style-type: none"> <li>» Advisory committee appointed by the Select Board</li> <li>» Parks and Recreation Department</li> </ul>	\$	Short
6. Identify and secure funding to construct the identified projects.	<ul style="list-style-type: none"> <li>» Municipal Vulnerability Preparedness (MVP) program</li> <li>» Parks and Recreation Department</li> </ul>	\$\$\$	Medium/Long

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<p><b>Metrics for Tracking Progress</b></p>	<ul style="list-style-type: none"> <li>» Acres of green space</li> <li>» Number of trees planted</li> <li>» Number of parcels converted</li> <li>» Residents within 1/2 mile of green space/park</li> </ul>
<p><b>Co-benefits/Related Planning Elements</b></p>	<ul style="list-style-type: none"> <li>» Natural Resources: Expanded tree canopy</li> <li>» Reduced urban heat island effect</li> <li>» Public Health and Safety: Improved air quality</li> <li>» Strengthened and more connected community</li> </ul>
<p><b>Educational/Outreach Resources</b></p>	<ul style="list-style-type: none"> <li>» Grand opening of parks and new spaces</li> <li>» Plan special events in new parks</li> <li>» Education around proper care of parks</li> <li>» Partner with Dedham Civic Pride, Dedham Square Circle, etc. to reach public with project communications</li> <li>» Partner with schools/youth in design and development of parks</li> </ul>
<p><b>Additional Resources/ Best Practice Example</b></p>	<ul style="list-style-type: none"> <li>» Dedham Square Design Guidelines</li> <li>» Design Guidelines for East Dedham Square</li> <li>» Avery School Reuse Committee Framework</li> </ul>

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**ACTION**

**Work with local businesses to explore opportunities and/or establish resources that will enable them to support the revitalization of existing neighborhood commercial centers.**

Grow the resilience and prosperity of Dedham business by creating a local network of support, resources, and opportunities to do business.

**IMPLEMENTATION LEAD** Economic Development Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Inventory Dedham business types and sizes and current resources available for local businesses. Consider in the inventory new businesses Dedham would like to attract.	» Neponset River Regional Chamber	\$	Short
2. Conduct outreach to local businesses to survey resource use and needs	» Dedham Square Circle	\$	Medium
3. Identify and evaluate current and potential business parks and areas and consider events and promotions to encourage more visitor traffic.	» Dedham Square Circle » Dedham Civic Pride » Livable Dedham	\$	Short
4. Establish a Dedham chamber of commerce to address local needs not fulfilled by regional chambers.	» Select Board » Local businesses » Nearby local chambers, like the Newton-Needham Regional Chamber	\$\$	Medium

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Number of business support programs developed</li> <li>» Number of businesses served by resources</li> <li>» Percentage of business retention rate</li> <li>» Number of new businesses in Dedham</li> </ul>
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» Increased economic development by way of more dollars staying in Dedham</li> <li>» Increased community resilience</li> </ul>
<b>Educational/Outreach Resources</b>	<ul style="list-style-type: none"> <li>» Climate Action Toolkit for Businesses</li> <li>» Educational and promotional materials on available businesses resources</li> </ul>
<b>Additional Resources/ Best Practice Example</b>	<ul style="list-style-type: none"> <li>» Newton-Needham Regional Chamber</li> <li>» Neponset River Regional Chamber</li> <li>» Watertown Business Coalition</li> <li>» Business Network International</li> <li>» MassHire BizWorks</li> </ul>

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## PUBLIC HEALTH & SAFETY

Climate change impacts can have serious implications for Dedham residents and businesses. For instance, vulnerable populations in the community (i.e., those with existing medical conditions, lack of cooling mechanisms, etc.) could be particularly hard hit by more frequent heat waves. Protecting public health in Dedham relies on the ability of residents to seek healthcare services when needed, to obtain nutritional foods, and to live in an environment that supports well-being and reduces pollutant exposures. Furthermore, Dedham must be prepared to have adequate healthcare services and resources to quickly respond in the event of public health emergencies, as recently experienced with the COVID-19 pandemic. The goals and actions identified in this planning element aim to position the Town to best respond to potential hazards and risks, while also ensuring that Dedham continues to provide a healthy and safe environment in which to work, live and play.

### Goals

1. All residents have **equitable and timely access to health care services** and providers across Dedham's neighborhoods.
2. All residents, especially vulnerable populations, are **prepared for and can recover quickly** from future climate-related impacts and disasters.

### Public Health & Safety in Dedham Today

Dedham has already created a wide range of support services for its residents. Expanding upon these resources and making them more accessible to all members of the population is increasingly important, as climate conditions exacerbate existing health issues and place added stress on emergency response systems. Some public educational material on emergency preparedness is available on the Town website through the Dedham Fire and Police Departments. Abundant medical facilities, as well as a range of food choices, are accessible, though most easily for those with private vehicles. Services including low to no-cost transportation for doctor's appointments and errands are offered, specifically for Dedham's elderly populations.

**GIVEN THAT NEARLY 20 PERCENT OF DEDHAM'S RESIDENTS ARE OVER THE AGE OF 65, HEALTHCARE SERVICES FOR DEDHAM'S ELDERLY POPULATION NEED TO BE A FOCUS WHEN CONSIDERING THE FUTURE OF DEDHAM.**

Existing accommodations for seniors include:

- » Several senior nursing homes/assisted living facilities (a Senior Campus residential land use was specified in the Dedham Bylaws to facilitate development of housing and support services for seniors).
- » The Dedham Council on Aging Transportation Service, which provides residents aged 55 and older with donation-only transportation to medical appointments, grocery stores, and the local food pantry.

Dedham residents have access (via both private vehicle and to some extent MBTA bus service) to several grocery options. Large commercial grocery stores frequented by town residents include Costco Wholesale, Whole Foods Market, Stop & Shop, and Star Market.

### Existing Policies and Programs

Various policies and programs lay the foundation for Dedham to uphold the public health of its populations. Legal frameworks such as the Board of Health Regulations and components of the Dedham Code that speak to emergency services provide space to introduce specific measures addressing climate change. Dedham also has services in place such as Reverse 911 and provides volunteers the opportunity to participate on a Citizen Emergency Response Team (CERT), which could be tailored to support vulnerable populations in times of need. Further training could enhance the ability of staff carrying out these policies and programs to respond to climate stressors.

#### Policies

- » Town of Dedham Board of Health Regulations (1998)
- » Town of Dedham Code - Chapter 30 Emergency Services (various)

#### Programs

- » Hazardous Material Response Plan
- » Reverse 911
- » Emergency Preparedness Management Plan (CEMP)
- » Citizen Emergency Response Team (CERT)



*Dedham Board of Health at a community event.*

**Actions for Public Health and Safety**

High-quality healthcare resources and services, as well as comprehensive emergency management and response protocols, are imperative to protecting and enhancing the adaptive capacity of Dedham’s community in this changing climate. The following recommended actions represent key next steps to ensure that the Town continues to provide a healthy and safe environment for all residents, businesses, and visitors.

Action	Potential Partners	Implementation Timeframe
1. Identify partners and improve volunteer support for public health education (e.g., tick education, sunscreen) and emergency response for all residents.	<ul style="list-style-type: none"> <li>» Charles River Watershed Association (CRWA), Neponset River Watershed Association (NRWA)</li> <li>» School Department</li> <li>» Environmental Department</li> <li>» Health Department</li> </ul>	Short
2. Ensure individuals with medical devices have renewable-powered battery for backup generators.	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Health Department</li> <li>» Senior care facilities</li> <li>» Dedham Housing Authority</li> <li>» Healthcare providers</li> <li>» Council on Aging</li> </ul>	Long
3. Provide regional transportation services to health care facilities, especially for seniors in Norwood, Westwood, Dedham.	<ul style="list-style-type: none"> <li>» See implementation blueprint</li> </ul>	
4. Provide training for town staff (e.g., Health Department) and board members on climate-related public health threats, impacts, and response, especially related to vulnerable populations.	<ul style="list-style-type: none"> <li>» See implementation blueprint</li> </ul>	
5. Expand Wi-Fi access throughout Dedham, particularly in limited-access and low-income neighborhoods.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Telecommunications providers</li> <li>» School Department</li> </ul>	Medium
6. Incorporate potential climate impacts into emergency response planning for community needs such as shelter, food, and healthcare resources. Anticipate needs for climate refugees and populations beyond Dedham.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Environmental Department</li> <li>» Fire Department</li> <li>» Faith-based community groups</li> <li>» Council on Aging</li> <li>» Health Department</li> <li>» School Department</li> </ul>	Short
7. Ensure that all communications and outreach utilize multimedia and are inclusive for non-native English speakers.	<ul style="list-style-type: none"> <li>» See implementation blueprint</li> </ul>	

<b>Action</b>	<b>Potential Partners</b>	<b>Implementation Timeframe</b>
8. Provide public community emergency preparedness training workshops for citizens (e.g., what to do under various climate impact scenarios and emergencies; how to support vulnerable neighbors).	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Health Department</li> <li>» Public Works Department</li> </ul>	Short
9. Offer targeted funding and technical support for low-income and elderly populations to repair/weatherize their home.	» See implementation blueprint	
10. Improve affordability of local and healthy foods through farmers markets and expansion existing gardening program, Dedham Grows, to local parks and other Town-owned parcels.	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Health Department</li> <li>» Dedham Food Pantry</li> <li>» Endicott Community Greenhouse</li> <li>» Dedham Square Circle/Dedham Farmers Market</li> <li>» Parks and Recreation Commission</li> </ul>	Short
11. Develop an education and enforcement program to reduce vehicle idling.	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Police Department</li> <li>» Health Department</li> </ul>	Short

**Blueprints for Priority Actions**

The following section presents implementation steps in “blueprints” for some of the recommended actions. These actions were considered as priorities based on feedback from CASG workshops and from voting results of the Community Survey 2. These implementation blueprints will help Town staff and decision makers put the Plan into motion.



**ACTION**

**Ensure that all communications and outreach utilize multimedia and are inclusive for non-native English speakers.**

Inclusive communications and outreach encompass multilingual messaging and support services with dedicated multilingual service providers; as well as diversified public education and outreach using multiple media (radio, TV, web/social media) and a range of public and community meeting locations. More accessible, consistent, and reliable information, community resources, and emergency services will ensure that Dedham can prepare for and respond to climate events in the most equitable manner possible.

**IMPLEMENTATION LEADS** Town Manager's Office, Health Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Assess the communications infrastructure currently in place and its effectiveness, both in Dedham as well as in neighboring municipalities and around the region.	» Planning and Zoning Department » Health Department » School Department » Human Rights Commission	\$	Short
2. Conduct a planning exercise to understand the types of potential emergencies and the range of communications and communities that would need to be reached, with a focus on vulnerable populations (e.g., homebound, elderly, disabled, low-income, minority, and immigrant).	» Planning and Zoning Department » Health Department » Fire Department » Department of Public Works » School Department » Environmental Department » Human Rights Commission	\$	Short
3. Solicit input from residents (via a survey or public workshop) regarding how Dedham should approach the forms and nature of communication available to residents.	» Planning and Zoning Department » Health Department » Neighborhood associations » Faith institutions » Local nonprofits » Human Rights Commission	\$	Short
4. Develop list of priority actions to fill gaps in current communications infrastructure, based on population data, planning exercise, and community input; Assign responsibility, and implement priority actions.	» Planning and Zoning Department » Health Department » Human Rights Commission	\$\$-\$	Short/Medium

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Successful integration of multilingual messaging/capability into all Town communications and outreach</li> <li>» The percentage or number of town messages that have multilingual capabilities</li> <li>» Number of individuals reached through Town communications</li> </ul>
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» Equity: Communications are distributed equitably; Individuals for whom English is not a first language are able to benefit from, participate in, and contribute to Dedham's programs, resources, and services</li> <li>» Economic Development: More equitable opportunities for business development, participating in economic activities</li> <li>» Natural Resources: Improved access for non-native English speakers through messaging around recreation opportunities</li> </ul>



<p><b>Educational/ Outreach Resources</b></p>	<ul style="list-style-type: none"> <li>» Engage volunteer interpreters who can assist with translating resources into other languages spoken in Dedham</li> <li>» Existing communications channels in Dedham:             <ul style="list-style-type: none"> <li>• Official Town website and social media</li> <li>• Media: Dedham TV</li> <li>• Local newspapers</li> </ul> </li> </ul>
<p><b>Additional Resources/ Best Practice Example</b></p>	<ul style="list-style-type: none"> <li>» Metropolitan Area Planning Council Resources:             <ul style="list-style-type: none"> <li>• Community Engagement Guide: <a href="http://www.mapc.org/wp-content/uploads/2017/08/MAPC-Community-Engagement-Guide-2016.pdf">http://www.mapc.org/wp-content/uploads/2017/08/MAPC-Community-Engagement-Guide-2016.pdf</a></li> <li>• Engagement Recipe Book: <a href="http://www.mapc.org/wp-content/uploads/2017/08/RECIPEBOOKFINAL8.16.17FINAL.pdf">http://www.mapc.org/wp-content/uploads/2017/08/RECIPEBOOKFINAL8.16.17FINAL.pdf</a></li> </ul> </li> </ul>

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 \$\$\$ = \$100K or more

**Implementation Timeframe**

Short = 1–2 year  
 Medium = 3–5 years  
 Long = more than 5 years



**ACTION**

**Provide training for town staff (e.g., Health Department) on climate-related public health threats, impacts, and response, especially related to vulnerable populations.**

Climate change presents increased risks to public health from various factors including vector-borne diseases, heat exposure, and food insecurity. Understanding the nature of potential impacts to the Town’s existing healthcare system and services, as well as to local and regional emergency resources, will help Dedham better position itself to support all residents. In addition, understanding climate-related threats to vulnerable populations is particularly important, as these populations will be most impacted and may not have reliable access to health care or other support services. Examples of training for Town staff could include a scenario planning exercise for emergency, epidemic and/or pandemic crises; presentations on the socioeconomically disparate health impacts of poor air quality; informational sessions with local and regional public health institutions to stay updated on latest public health impacts of climate change; and more.

**IMPLEMENTATION LEAD** Health Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Determine what existing trainings might benefit from additional climate, health, and equity-related materials; as well as where new training programs may be more necessary/appropriate.	» Health Department	\$	Medium
2. Connect with neighboring municipalities and public health institutions in the area to share training resources and best practices.	» Health Department » Counterparts in other municipalities » Local public health institutions	\$	Short (ongoing)
3. Coordinate with Town departments to develop training resources and/or modify public outreach materials.	» Health Department	\$	Medium
4. Conduct trainings for all town departments (and applicable Boards).	» Health Department	\$	Medium

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Percentage or number of town staff who have received training in climate-related public health threats, impacts, and responses</li> <li>» Number of workshops or trainings held</li> </ul>
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» Buildings &amp; Energy - Planning for appropriate building occupants’ comfort</li> <li>» Economic Development - Supporting livelihoods/economies in public health crises</li> <li>» Natural Resources - Planning for potential cascading impacts related to recreational activities, as well as local food/land/agriculture</li> </ul>
<b>Educational/ Outreach Resources</b>	<ul style="list-style-type: none"> <li>» Training materials for different town departments</li> <li>» Coordination with public health institutions in the area for additional information and guidance</li> </ul>
<b>Additional Resources/ Best Practice Example</b>	<ul style="list-style-type: none"> <li>» Massachusetts Climate and Health resources: <a href="https://www.mass.gov/climate-and-health">https://www.mass.gov/climate-and-health</a></li> <li>» American Public Health Association Health and Climate Resource Guide: <a href="https://www.apha.org/-/media/files/pdf/topics/climate/health_and_climate_resource_guide.ashx">https://www.apha.org/-/media/files/pdf/topics/climate/health_and_climate_resource_guide.ashx</a></li> <li>» Centers for Disease Control and Prevention Climate and Health Guidance and Trainings: <a href="https://www.cdc.gov/climateandhealth/guidance.htm">https://www.cdc.gov/climateandhealth/guidance.htm</a></li> <li>» World Health Organization Health and Climate Change Toolkit: <a href="https://www.who.int/globalchange/resources/toolkit/en/">https://www.who.int/globalchange/resources/toolkit/en/</a></li> </ul>

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**ACTION**

**Provide regional transportation services to health care facilities, especially for seniors in Norwood, Westwood, and Dedham.**

Expanding on existing services in Dedham such as Council on Aging Transportation Services, a regional transportation service could include a van designated for pick-ups and drop-offs or a designated bus route that visits key stops in Dedham and health care facilities. This service is especially important for individuals who may not have the ability to transport themselves to doctor’s appointments with a private vehicle. A regional transportation service would support more equitable access to health care for Dedham residents.

**IMPLEMENTATION LEAD** Health Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Understand locations of target populations (elderly, disabled, low-income) within Dedham and surrounding communities.	» Health Department » Council on Aging	\$	Short
2. Assess existing transportation services available for target populations and eligible destinations as part of these services, and user satisfaction.	» Health Department » Council on Aging » Dedham Housing Authority	\$	Short
3. Solicit input from residents, neighborhood groups, and community partners, regarding any additional programs or services most needed and desired.	» Hospitals » Council on Aging » Dedham Housing Authority residents » Faith organizations » Neighborhood associations » Livable Dedham	\$	Short/Medium
4. Assess the financial feasibility of expanding priority transportation services.	» Health Department » Dedham Housing Authority » Finance Department » Metropolitan Area Planning Council » MBTA	\$	Short/Medium
5. Seek funding for additional transportation services identified as priorities.	» Health Department » Council on Aging	\$	Medium/Long

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Percentage of Dedham (and neighboring towns) covered by regional transportation services to health care facilities</li> <li>» Number of senior facilities or senior living centers served by the transportation service</li> <li>» Number or percentage of Dedham residents living within half a mile walking distance of the transportation service pick-up location</li> <li>» Number of individuals utilizing service</li> </ul>
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» Greenhouse gas emissions – Potential to reduce individual trips to healthcare facilities</li> <li>» Transportation and Land Use – Expand options for public transportation</li> </ul>
<b>Educational/ Outreach Resources</b>	<ul style="list-style-type: none"> <li>» Dedham Council on Aging Transportation Services: <a href="https://www.dedham-ma.gov/departments/council-on-aging/transportation-services">https://www.dedham-ma.gov/departments/council-on-aging/transportation-services</a></li> </ul>
<b>Additional Resources/ Best Practice Example</b>	<ul style="list-style-type: none"> <li>» Via Mobility Services in Boulder and Denver, CO. This service provides transportation to those with mobility limitations. <a href="https://viacolorado.org/">https://viacolorado.org/</a></li> <li>» Denver Health Medical Center partnered with Lyft to provide transportation for patients. <a href="https://www.aha.org/news/insights-and-analysis/2018-03-01-case-study-denver-health-medical-center-collaborates-lyft">https://www.aha.org/news/insights-and-analysis/2018-03-01-case-study-denver-health-medical-center-collaborates-lyft</a></li> </ul>

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**ACTION**

**Offer targeted funding and technical support for low-income and elderly populations to repair/weatherize their home.**

Low-income and elderly populations in Dedham may not have the physical, financial, or technical ability to repair and/or upgrade their homes to adapt to the changing climate conditions. Identifying funding and offering technical assistance to support these vulnerable populations are prepared will improve community resilience in Dedham.

**IMPLEMENTATION LEADS** Planning Department, Economic Development Department, Environmental Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Assess Dedham’s housing stock and locations of vulnerable populations; this exercise can be built upon the Targeted Vulnerability Assessment for historic resources and infrastructure completed as part of this climate action planning effort.	» Environmental Department » Dedham Housing Authority » Building Department	\$	Short
2. Solicit input from the community regarding the extent of financial and technical support or resources needed to upgrade or repair their homes.	» Planning and Zoning Department » Environmental Department	\$	Short
3. Develop case studies on financial and technical resources for residential energy efficiency and home weatherization program.	» Environmental Department » Planning and Zoning Department » Dedham Housing Authority » Building Department » Metropolitan Area Planning Council » New Ecology, Inc. » Mass Save	\$	Short
4. Identify potential partnership opportunities to pilot the home weatherization program (this could be through incentive programs, grant funding and/or public-private collaborations among town departments, utility providers, local building contractors, local community development organizations, etc.).	» Environmental Department » Economic Development Department » Planning and Zoning Department » Utility providers » MassSave » New Ecology, Inc. » MAPC » Utility providers » Local contractors	\$ - \$\$	Medium
5. Modify and formalize the community-wide residential energy efficiency and weatherization program based on lessons-learned from the pilot effort.	» Environmental Department » Planning and Zoning Department	\$\$ - \$\$\$	Medium/Long

<p><b>Metrics for Tracking Progress</b></p>	<ul style="list-style-type: none"> <li>» Number of homes weatherized or repaired through this program</li> <li>» Dollars provided for weatherizing/repairs and/or hours of technical assistance</li> <li>» Ongoing partnerships (financial and technical assistance secured for the program)</li> </ul>
<p><b>Co-benefits/Related Planning Elements</b></p>	<ul style="list-style-type: none"> <li>» Buildings &amp; Energy: Increase building occupants' comfort and safety; increase building's energy efficiency and resilience</li> <li>» Economic Development: Potential opportunities for local green jobs through the program</li> <li>» Equity: Available resources to help vulnerable populations prepare for and adapt to the changing climate</li> </ul>
<p><b>Educational/ Outreach Resources</b></p>	<ul style="list-style-type: none"> <li>» Public outreach materials about the available funding and technical assistance through this program</li> <li>» Informational sessions with local contractors (especially if tax incentives might be available) to promote the partnerships and/or the weatherization program in general.</li> </ul>
<p><b>Additional Resources/ Best Practice Example</b></p>	<ul style="list-style-type: none"> <li>» Massachusetts Department of Housing and Community Development Weatherization Assistance Program (provides weatherization to low income, disabled, elderly, and Native Americans): <a href="https://www.mass.gov/service-details/weatherization-assistance-program-wap">https://www.mass.gov/service-details/weatherization-assistance-program-wap</a></li> <li>» Mass Save: <a href="https://www.masssave.com/">https://www.masssave.com/</a></li> <li>» Arlington weatherization support for low-income residents. <a href="https://www.arlingtonma.gov/departments/planning-community-development/weatherization-housing-rehabilitation">https://www.arlingtonma.gov/departments/planning-community-development/weatherization-housing-rehabilitation</a></li> </ul>

**Implementation Cost**

\$ = up to \$50K  
 \$\$ = \$50–100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**

Short = 1–2 year  
 Medium = 3–5 years  
 Long = more than 5 years



## INFRASTRUCTURE

Ensuring a continuous supply of potable water, uninterrupted wastewater services and stormwater drainage, as well as viable means of providing community connectivity via roads, bridges, and electricity/power are essential to the functionality of Dedham's communities. With the threats of climate change, these infrastructure systems and associated services need to be resilient, adaptive, as well as redundant to ensure these community lifelines are promptly recovered during extreme events. For these reasons, maintenance of these systems will continue to be critical; at the same time, improvements must simultaneously enhance their adaptive capacity. Thinking in new ways (i.e., using the natural water cycle to manage stormwater in addition to traditional gray infrastructure) and broadening existing networks for collaboration beyond the municipal level will be key to a resilient, sustainable strategy for Dedham.

### Goals

1. Critical utilities, systems, and infrastructure are repaired and enhanced to **withstand climate stressors**.
2. **Water resource management** and protection are effectively coordinated at the **regional** level.
3. All future projects, new and improvement, incorporate **green infrastructure measures** and best practices.

### Dedham's Infrastructure Today

Creating an effective set of actions to address sustainability and resiliency for this planning element requires an understanding of the local and regional interconnectedness of the many resources, structures, and institutions that make up Dedham's complex infrastructure systems. These systems address a range of critical functions, including water supply, stormwater management, wastewater treatment, and green infrastructure, among others.

#### Water Supply

Since 1985, water supply in Dedham has been managed by the Dedham-Westwood Water District (DWWD).<sup>30</sup> DWWD also has emergency water connections with Boston, Norwood, Needham, and the Massachusetts Water Resources Authority (MWRA).<sup>31</sup> In 2018, DWWD obtained about 3 percent of its water supply from the MWRA. The Dedham-Westwood Water District serves a population of about 42,600 through approximately service lines in Dedham and Westwood.<sup>32</sup>

30 Dedham-Westwood Water District. "History." <http://www.dwwd.org/history>.

31 Dedham-Westwood Water District. "Frequently Asked Questions and General Information." <http://www.dwwd.org/frequently-asked-questions#futureplanning>.

32 Dedham-Westwood Water District. 2018. Dedham-Westwood Water District 2018 Water Quality Report. <http://www.dwwd.org/wp-content/uploads/2019/05/DWWD-water-quality-report-2018.pdf>.

**Stormwater Management<sup>33</sup>**

Catch basins and culverts collect and transport Dedham’s stormwater to local rivers, streams, and wetland areas. Undeveloped wetlands in the Charles River Natural Valley Storage area, partially located in Dedham, store floodwaters during extreme storm events and are protected from future development by the United States Army Corps of Engineers (USACE).

**THERE ARE APPROXIMATELY 374,880 FEET OF STORMWATER PIPING IN DEDHAM.**

**Green infrastructure<sup>34</sup>**

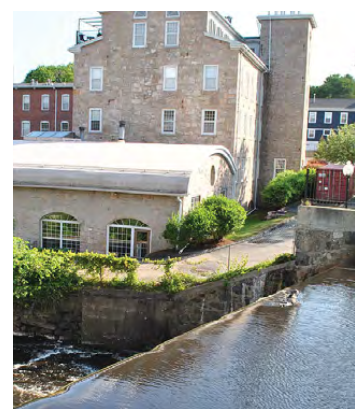
Dedham has taken steps to study and implement green infrastructure projects in order to better manage stormwater, protect water quality, and mitigate heat. The Town received grant funding from the Massachusetts Department of Environment Protection (MassDEP) for two recent projects, completed in 2017:

- » A partnership between the Dedham Engineering Department and Neponset River Watershed Association to construct bioretention cells, subsurface infiltration systems, and water quality swales at three sites to reduce pollution carried to Mother Brook.<sup>35</sup>
- » A Dedham Engineering Department GIS analysis to identify potential stormwater retrofit sites and designs at Paul Park and the Mucciaccio Pool parking lot.

**Wastewater Treatment<sup>36</sup>**

Dedham’s sanitary sewer system serves 95 percent of the town. On average, around 4.46 million gallons of sewage per day (MGD) travels through Dedham’s sanitary sewer system on its way to the MWRA system and treatment at Deer Island.

**60% OF DEDHAM’S SEWAGE FLOW COMES FROM CLEAN GROUND AND SURFACE WATER ENTERING THE SYSTEM THROUGH CRACKS, HOLES, OR ILLEGAL PLUMBING CONNECTIONS.**



33 Town of Dedham. 2019. Open Space and Recreation Plan. <https://www.dedham-ma.gov/home/showdocument?id=12755>.  
 34 Source for all data, unless otherwise noted: Town of Dedham Department of Engineering. "Collection System." <https://www.dedham-ma.gov/departments/engineering/sewer-system/collection-system>.  
 35 Town of Dedham Environmental Department. Dedham Stormwater Best Management Practices Flyer. <https://www.dedham-ma.gov/home/showdocument?id=966>.  
 36 Source for all data, unless otherwise noted: Town of Dedham Department of Engineering. "Collection System." <https://www.dedham-ma.gov/departments/engineering/sewer-system/collection-system>.

## GREEN STORMWATER INFRASTRUCTURE BEST PRACTICES

Green stormwater infrastructure is an approach to restoring ecological and hydrologic functions within an urban environment through the use of small-scale vegetated, infiltration, and detention systems distributed throughout the landscape. These stormwater facilities mimic natural systems to manage stormwater volume, flow rates, and pollutants while generating broad community benefits such as cooling, beautification, habitat, and placemaking.

Through the Targeted Vulnerability Assessment, the following best practices were recommended for integrating and maintaining green stormwater infrastructure throughout Dedham:

- » Apply best practices for phosphorus reduction to the entire town, rather than only areas covered by MS4 Permit requirements and total maximum daily loads (TMDLs);
- » Complete design and construction of Paul Park and Mucciaccio Pool stormwater facilities;
- » Create a stormwater enterprise fund for sustainable funding of maintenance programs, and fee credits to incentivize stormwater retrofits (such as installation of green infrastructure and removal of impervious surfaces) on private property;
- » Provide technical assistance (e.g. design guide, typical details) to private property owners for design, construction, and maintenance of green infrastructure; and
- » Develop a maintenance program for Town-owned green infrastructure.



### Existing Policies and Programs

Dedham has a strong foundation of standards, plans, and procedures in place that help to maintain and repair infrastructure, regulate use of resources, and educate residents about how to do their part to keep Dedham's infrastructure functioning at its best. Enhancing these existing policies and programs is critically important for achieving the Sustainable Dedham the Town envisions.

For example, Dedham's 2011 Draft Hazard Mitigation Plan, which provides significant information on measures to address risk to the Town's infrastructure of different natural hazards, is currently being updated as part of this planning effort.<sup>37</sup>

<sup>37</sup> Metropolitan Area Planning Council. 2011. Town of Dedham Hazard Mitigation Plan.



**Identified Hazards and Mitigation Measures in Draft 2011 Hazard Mitigation Plan**

Hazard	Mitigation Measures
<b>Flood</b>	<ul style="list-style-type: none"> <li>» Participation in the National Flood Insurance Program</li> <li>» Street sweeping</li> <li>» Catch basin cleaning</li> <li>» Roadway treatments</li> <li>» Zoning provisions for Flood Hazard Areas</li> <li>» Groundwater Protection Districts</li> <li>» Site Plan Approval</li> <li>» Open Space Requirements</li> <li>» Wetlands Protection Regulation</li> </ul>
<b>Dam</b>	<ul style="list-style-type: none"> <li>» DCR Dam Safety Regulations</li> <li>» Requirement for construction permits</li> <li>» Comprehensive Emergency Management Plan (CEMP) (addresses dam safety)</li> </ul>
<b>Wind</b>	<ul style="list-style-type: none"> <li>» Public works tree maintenance program</li> </ul>
<b>Winter</b>	<ul style="list-style-type: none"> <li>» Snow operations with restricted salt</li> <li>» Overnight parking bans</li> <li>» Public education on snow operations on town website</li> <li>» Snow and ice disposal bylaw</li> <li>» Sufficient space for municipal snow storage</li> </ul>

Through the actions proposed below, programs that help to educate residents about proper lawn care and water quality, as well as regulations that manage stormwater and water use, can be enhanced to address evolving climate projections. And coordination between various regional water authorities, as solidified in rules including Dedham-Westwood Water District Rules and Regulations, can be replicated to ensure redundancy and strength for other infrastructure systems.

**Policies**

- » Draft Hazard Mitigation Plan (2011, conditionally approved by FEMA)
- » Stormwater Management Rules and Regulations (updated 2018)
- » Stormwater Management Plan (2019)
- » Drainage and Stormwater Design Standards (2002)
- » Dedham-Westwood Water District Rules and Regulations (2019)
  - DWWD can invoke voluntary and mandatory water use restrictions to conserve water<sup>38</sup>
- » Aquifer Protection Overlay District By law for the Bridge Street Wellfield and the Fowl Meadow Aquifer (by-laws updated 2017)
  - Prohibits activities in or near wetlands that may cause pollutants to enter water supplies
- » Town of Dedham Street Opening Regulations (2014)

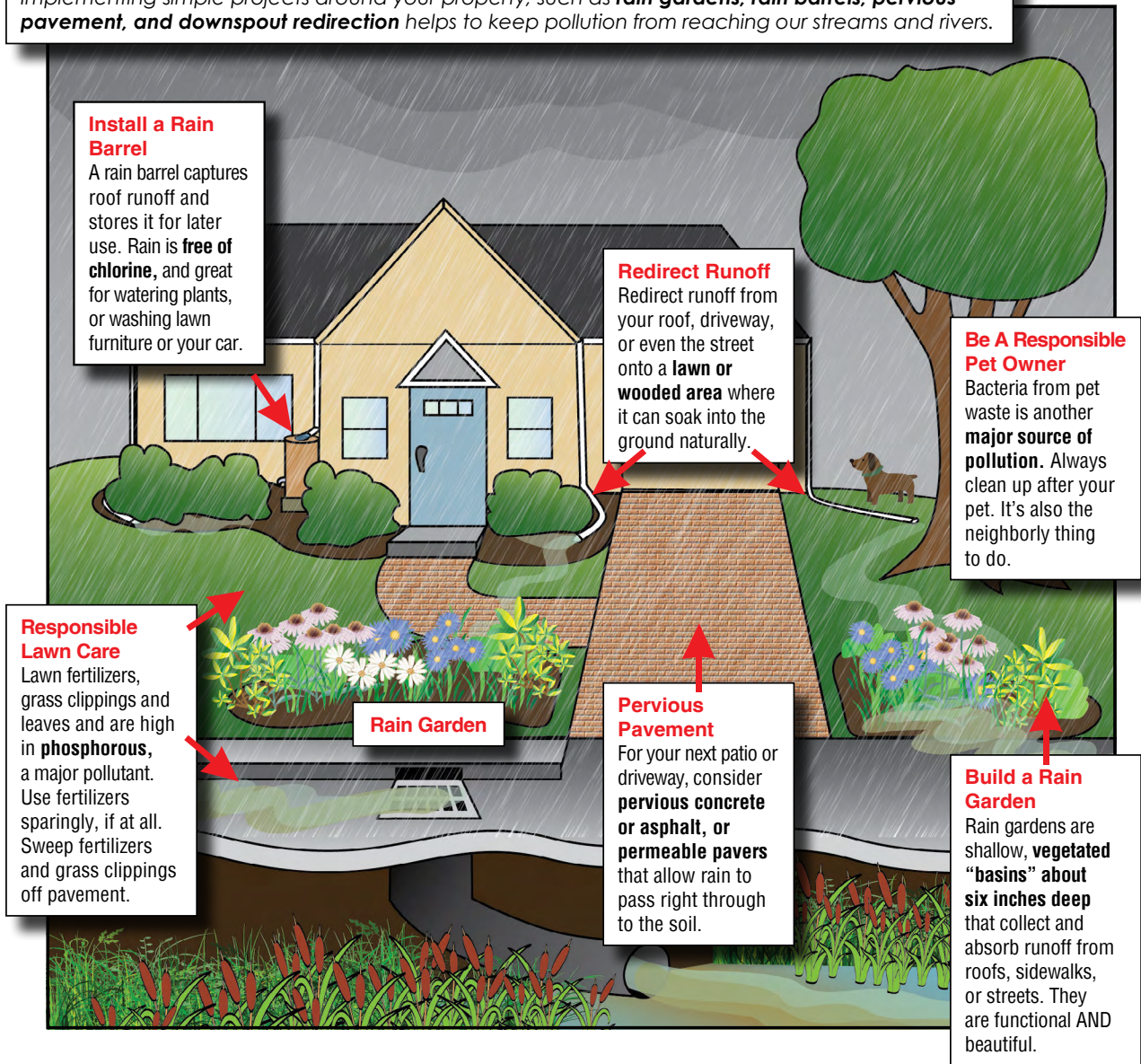
**Programs**

- » Stormwater Management Best Practices and water conservation education for residents
- » Active infiltration and inflow (I/I) and fat-oil-grease (FOG) programs

38 Dedham-Westwood Water District. 2018. Dedham-Westwood Water District Rules and Regulations. [www.dwwd.org/wp-content/uploads/2018/02/DWWD-Rules-and-Regulations-01162018-part-2-of-2.pdf](http://www.dwwd.org/wp-content/uploads/2018/02/DWWD-Rules-and-Regulations-01162018-part-2-of-2.pdf).

## Polluted stormwater flows from stormdrains directly into local waterways, *untreated*. Here's what you can do to prevent pollution.

Implementing simple projects around your property, such as **rain gardens, rain barrels, pervious pavement, and downspout redirection** helps to keep pollution from reaching our streams and rivers.



*This Stormwater Management Best Practices flyer, created by the Dedham Environmental Department, helps residents redirect runoff, reuse water, and reduce pollution on their properties.*

### Actions for Infrastructure

Developing innovative nature-based solutions (i.e., using the natural water cycle to manage stormwater in addition to traditional gray infrastructure) and broadening existing networks for collaboration beyond the municipal level will be key to a sustainable and resilient Dedham. The following recommended actions represent next steps to further strengthen the capacity of Dedham's critical infrastructure and assets.

Action	Potential Partners	Implementation Timeframe
1. Establish a regional coordination system with neighboring towns for emergency planning and response, ensuring shared resources and quick recovery for critical municipal infrastructure during a major climate event.	» See implementation blueprint	
2. Require an assessment or feasibility study for moving above-ground utilities to underground prior to all major repairs and/or replacements.	» Public Works Department » Utility providers	Medium
3. Conduct an assessment of existing stormwater infrastructure and its condition based on future storm events and flood projections.	» See implementation blueprint	
4. Evaluate and acquire additional backup power capacity (e.g., generators, distributed/renewable energy sources) across critical facilities, such as schools, police, fire, Town Hall, DPW and libraries.	» Public Works Department » Engineering Department » Planning and Zoning Department » School Department	Medium
5. Require the consideration of future precipitation projections when evaluating stormwater structures or conducting drainage studies for repairs or proposed development.	» Public Works Department » Engineering Department	Medium
6. Develop Capital Improvements Projects Resiliency Scoring system.	» Environment Department » Planning and Zoning Department » Public Works Department » Engineering Department	Medium
7. Identify existing septic systems within the 500-year flood zone, and transition/connect those systems to municipal sewer where feasible.	» Public Works Department » Engineering Department	Short
8. Conduct a detailed hydraulic analysis to evaluate flood-prone areas.	» Engineering Department	Medium
9. Update guidelines for new public and private infrastructure, specifically the Town of Dedham Design Guidelines, to include design recommendations for considering increased storm frequency and enhancing flood resiliency.	» See implementation blueprint	
10. Address upstream issues impacting Dedham by working collaboratively with regional entities (e.g., flood storage, dam control and protection).	» Public Works Department » Engineering Department » CRWA, Neponset RWA » MassDEP » Conservation Commission	Long

Action	Potential Partners	Implementation Timeframe
11. Update local stormwater bylaws and regulations to incorporate climate change considerations, improve enforcement, and enhance consistency across other municipalities in the watershed.	<ul style="list-style-type: none"> <li>» Public Works Department</li> <li>» Engineering Department</li> <li>» Planning and Zoning Department</li> <li>» Conservation Commission</li> <li>» Environmental Department</li> </ul>	Medium
12. Introduce and share information on water-saving technologies across the region, including greywater systems and smart water meters.	<ul style="list-style-type: none"> <li>» Dedham-Westwood Water District</li> <li>» Public Works Department</li> <li>» Environmental Department</li> </ul>	Short
13. Expand existing education around water conservation to the regional scale to encourage a regional management perspective.	<ul style="list-style-type: none"> <li>» Dedham-Westwood Water District</li> <li>» Environmental Department</li> <li>» Metropolitan Area Planning Council</li> </ul>	Short
14. Evaluate feasibility of incorporation of green infrastructure in all new development projects.	» See implementation blueprint	
15. Create education programs to promote green infrastructure techniques in landscaping practices.	<ul style="list-style-type: none"> <li>» Public Works Department</li> <li>» Planning and Zoning Department</li> <li>» Conservation Commission</li> </ul>	Short
16. Create a technical/financial assistance program to accelerate removal of private infiltration and inflow sources.	<ul style="list-style-type: none"> <li>» Public Works Department</li> <li>» Engineering Department</li> </ul>	Long
17. Create an enterprise fund for stormwater maintenance program, including fee credits to incentivize stormwater retrofits (e.g. installation of green infrastructure, removal of impervious surfaces) on private property.	<ul style="list-style-type: none"> <li>» Public Works Department</li> <li>» Engineering Department</li> </ul>	Long
18. Develop a maintenance program for Town-owned green infrastructure.	<ul style="list-style-type: none"> <li>» Public Works Department</li> <li>» Engineering Department</li> </ul>	Medium

### Blueprints for Priority Actions

The following section presents implementation steps in “blueprints” for some of the recommended actions. These actions were considered as priorities based on feedback from CASG workshops and from voting results of the Community Survey 2. These implementation blueprints will help Town staff and decision makers put the Plan into motion.



**ACTION**

**Update design guidelines for new public and private infrastructure, specifically the Town of Dedham Design Guidelines, to include design recommendations for considering increased storm frequency and enhancing flood resiliency.**

Accounting for the projected increase in extreme storm frequency and flooding due to climate change will ensure that the Town’s infrastructure is prepared for these events. Resilient design considerations could include measures such as elevating critical infrastructure and equipment in current and future flood-prone areas, right-sizing stormwater infrastructure, selecting more durable equipment and materials to withstand extreme storm events, and more.

**IMPLEMENTATION LEADS** Engineering Department, Public Works Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Conduct an inventory of existing critical infrastructure and facilities, both public and private, that are frequently and/or most impacted by extreme storm events or flooding.	» Engineering Department » Public Works Department	\$	Short
2. Determine the common key design issues for the identified infrastructure and facilities that frequently need repair or maintenance (i.e., culvert sizing, material selection, location, etc.).	» Engineering Department » Public Works Department	\$	Short
3. Research best practices and case studies of resilient design measures being piloted or utilized for similar infrastructure types, and based on similar climate change projections and considerations for Dedham.	» Engineering Department » Public Works Department » Environmental Department » Planning and Zoning Department	\$	Short
4. Review Dedham’s current Design Guidelines and identify specific opportunities for updating and/or making recommendations for new resilient design standards.	» Engineering Department » Building Department » Public Works Department » Facilities and Maintenance Department » Environmental Department » Planning and Zoning Department » Conservation Commission	\$	Medium
5. Review the new MA Resilience Design Standards (when available) and any other standards to align efforts.	» Engineering Department » Environmental Department » Public Works Department » Planning and Zoning Department	\$	Medium
6. Identify potential projects to pilot the newly incorporated resilient design standards. This could potentially be a public-private partnership for private infrastructure projects.	» Engineering Department » Public Works Department » Environmental Department » Planning and Zoning Department » Private developers » State and regional agencies, including MassDOT, MassDEP, MAPC, etc.	\$\$-\$\$\$	Medium
7. Incorporate lessons-learned from the pilot projects to modify and formalize the resilient design considerations in the Town’s Design Guidelines.	» Engineering Department » Public Works Department	\$	Long

<p><b>Metrics for Tracking Progress</b></p>	<ul style="list-style-type: none"> <li>» Number of infrastructure projects that incorporate resilient design considerations.</li> <li>» Decrease in annual costs associated with maintaining and/or repairing infrastructure projects frequently impacted by storm and flooding events</li> </ul>
<p><b>Co-benefits/Related Planning Elements</b></p>	<ul style="list-style-type: none"> <li>» Buildings &amp; Energy - More resilient infrastructure can help protect and strengthen the surrounding built environment</li> <li>» Economic Development - More resilient infrastructure can help reduce repair and maintenance costs. It can also help minimize disruption to the Town's operations and business services; this may be especially beneficial to vulnerable populations who may depend more on the continuity of operations and services</li> <li>» Public Health &amp; Safety - Infrastructure incorporates measures and design features that will protect people from acute or prolonged climate stressors</li> </ul>
<p><b>Educational/ Outreach Resources</b></p>	<ul style="list-style-type: none"> <li>» Envision Sustainable Infrastructure Framework: <a href="https://sustainableinfrastructure.org/">https://sustainableinfrastructure.org/</a></li> <li>» American Society of Civil Engineers Climate-Resilient Infrastructure: Adaptive Design and Risk Management: <a href="https://ascelibrary.org/doi/book/10.1061/9780784415191?utm_campaign=PUB-20181023-COPRI+Alert&amp;utm_medium=email&amp;utm_source=Eloqua&amp;#">https://ascelibrary.org/doi/book/10.1061/9780784415191?utm_campaign=PUB-20181023-COPRI+Alert&amp;utm_medium=email&amp;utm_source=Eloqua&amp;#</a></li> <li>» The Organization for Economic Co-operation and Development (OECD) Policy Paper No. 14 – Climate Resilient Infrastructure <a href="http://www.oecd.org/environment/cc/policy-perspectives-climate-resilient-infrastructure.pdf">http://www.oecd.org/environment/cc/policy-perspectives-climate-resilient-infrastructure.pdf</a></li> </ul>
<p><b>Additional Resources/ Best Practice Example</b></p>	<ul style="list-style-type: none"> <li>» Boston Climate Resilient Design Standards &amp; Guidelines (includes infrastructure): <a href="https://www.boston.gov/sites/default/files/imce-uploads/2018-10/climate_resilient_design_standards_and_guidelines_for_protection_of_public_rights-of-way_no_appendices.pdf">https://www.boston.gov/sites/default/files/imce-uploads/2018-10/climate_resilient_design_standards_and_guidelines_for_protection_of_public_rights-of-way_no_appendices.pdf</a></li> <li>» Federal Emergency Management Agency, Floodproofing: Non-Residential Buildings: <a href="https://www.fema.gov/media-library-data/9a50c534fc5895799321dcdd4b6083e7/P-936_8-20-13_508r.pdf">https://www.fema.gov/media-library-data/9a50c534fc5895799321dcdd4b6083e7/P-936_8-20-13_508r.pdf</a></li> <li>» MBTA Flood Resiliency Design Directive: <a href="https://cdn.mbtta.com/sites/default/files/2019-12/2019-11-18-flood-resiliency-directive-accessible.pdf">https://cdn.mbtta.com/sites/default/files/2019-12/2019-11-18-flood-resiliency-directive-accessible.pdf</a></li> <li>» Mass.gov Literature on Resilience Best Practices: <a href="https://www.mass.gov/service-details/literature-on-resilience-best-practices">https://www.mass.gov/service-details/literature-on-resilience-best-practices</a></li> </ul>

**Implementation Cost**

\$ = up to \$50K  
 \$\$ = \$50–100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**

Short = 1–2 year  
 Medium = 3–5 years  
 Long = more than 5 years



**ACTION**

**Conduct an assessment of existing stormwater infrastructure and its condition based on future storm events and flood projections.**

Assessing the ability of Dedham’s existing stormwater infrastructure (i.e., drains, culverts, basins, etc.) to withstand the projected increase in volume and frequency of precipitation, extreme storms, and flooding will help the Town prioritize upgrades and repairs. As climate science and associated projections are constantly evolving and becoming increasingly accurate at more specific geographic scales over time, it will be critical to monitor more frequently the Town’s stormwater infrastructure and reference the latest climate data as much as possible.

**IMPLEMENTATION LEAD** Public Works Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Monitor the latest climate data on an annual basis to determine whether the existing climate projections and considerations remain relevant or need to be updated.	» Public Works Department » Engineering Department/ Geographic Information Systems (GIS) Team » Environmental Department	\$	Short (ongoing)
2. Develop a master plan for assessing and prioritizing infrastructure for repairs.	» Public Works Department » Environmental Department	\$	Short/Medium
3. Conduct a systematic review of each stormwater infrastructure system and asset using the evaluation criteria from Step 2.	» Public Works Department	\$\$	Medium/Long
4. Develop a geodatabase of assets and systems for management and ongoing monitoring and inspection.	» Public Works Department » Engineering Department/ GIS Team	\$-\$\$	Medium (ongoing)
5. Explore funds as part of Dedham’s capital improvement planning and carry out repairs/ upgrades in order of priority	» Public Works Department » Capital Expenditures Committee	\$\$\$	Long

<b>Metrics for Tracking Progress</b>	» Percentage of town stormwater infrastructure assessed, repaired, and/or upgraded » Reduction in damages due to flooding and/or impacts of extreme storms
<b>Co-benefits/Related Planning Elements</b>	» Buildings & Energy Enhance building resilience through more resilient infrastructure » Economic Development - Minimize infrastructure damage or failure that could result in disruption of the Town’s operations and business services » Public Health & Safety - Proper management of stormwater reduces risks associated with flooding, property damages, and public safety » Transportation & Land Use - Reduce cascading impacts on surrounding built environment
<b>Educational/ Outreach Resources</b>	» Training resources for Public Works Department staff to conduct assessment » Public outreach (flyers, handouts) to recruit support for on-the-ground tracking and monitoring of stormwater infrastructure/assets across neighborhoods
<b>Additional Resources/ Best Practice Example</b>	» Available Funding for Stormwater Projects in Massachusetts: <a href="https://www.mass.gov/service-details/available-funding-for-stormwater-projects-in-massachusetts">https://www.mass.gov/service-details/available-funding-for-stormwater-projects-in-massachusetts</a> » Massachusetts Stormwater Handbook and Stormwater Standards: <a href="https://www.mass.gov/guides/massachusetts-stormwater-handbook-and-stormwater-standards">https://www.mass.gov/guides/massachusetts-stormwater-handbook-and-stormwater-standards</a> » Massachusetts Stream Crossing Standards (for culvert and bridge design): <a href="https://www.nae.usace.army.mil/Portals/74/docs/regulatory/StreamRiverContinuity/MA_RiverStreamCrossingStandards.pdf">https://www.nae.usace.army.mil/Portals/74/docs/regulatory/StreamRiverContinuity/MA_RiverStreamCrossingStandards.pdf</a> » Boston Water & Sewer Commission Green Infrastructure and Low Impact Development resources: <a href="https://www.bwsc.org/environment-education/green-programs/green-infrastructure-and-low-impact-development">https://www.bwsc.org/environment-education/green-programs/green-infrastructure-and-low-impact-development</a>

**Implementation Cost**  
 \$ = up to \$50K  
 \$\$ = \$50–100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**  
 Short = 1–2 year  
 Medium = 3–5 years  
 Long = more than 5 years



**ACTION**

**Evaluate feasibility of incorporation of green infrastructure in all new development projects.**

Green infrastructure utilizes vegetation, soils, and landscaping to allow for pervious surfaces that help absorb and filter pollutants, and therefore improve quality of stormwater runoff. Green infrastructure techniques including porous pavement, rain gardens, vegetated swales, green roofs, rainwater harvesting and recycling, and other methods will help increase pervious surface area. The incorporation of green infrastructure into new development projects going forward will enhance the longevity and adaptive capacity of Dedham’s built environment.

**IMPLEMENTATION LEADS** Planning and Zoning Department, Engineering Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Convene a Green Infrastructure Task Force to discuss the criteria, challenges, and opportunities in implementing this requirement.	» A Task Force or Committee comprised of representatives from: <ul style="list-style-type: none"> <li>• Planning and Zoning Department</li> <li>• Environmental Department</li> <li>• Engineering Department.</li> <li>• Conservation Commission</li> <li>• Public Works Department</li> <li>• Developers, contractors, landscape architects/urban designers, engineers, etc.</li> </ul>	\$	Short
2. Identify opportunities to incorporate green infrastructure guidelines into the Town’s Design Guidelines for new public and private infrastructure development	» Planning and Zoning Department » Public Works Department » Environmental Department » Engineering Department » Conservation Commission	\$	Short
3. Require new proposed development projects to assess and present the feasibility and consideration of green infrastructure elements into the project.	» Planning and Zoning Department » Engineering Department » Conservation Commission	\$	Medium
4. At the same time, collaborate with developers to identify pilot projects to demonstrate the feasibility and benefits of incorporating green infrastructure elements; one of them could be a municipal infrastructure improvements project as a lead by example.	» Planning and Zoning Department » Environmental Department » Public Works Department » Developers	\$\$-\$\$\$	Medium
5. Incorporate lessons-learned from the pilot projects to modify and formalize the requirement for incorporating green infrastructure into new development projects, starting 2022 .	» Planning and Zoning Department	\$	Medium

<b>Metrics for Tracking Progress</b>	» Successful establishment of green infrastructure requirement by year 2022. » Number of new projects that incorporate green infrastructure » Gallons of water of the watershed area treated and collected by the green infrastructure projects
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<p><b>Co-benefits/Related Planning Elements</b></p>	<ul style="list-style-type: none"> <li>» Buildings &amp; Energy - Enhance resilience of infrastructure and surrounding built environment through green infrastructure technologies</li> <li>» Economic Development: Enhance resilience of infrastructure to ensure continuity of operations, minimizing disruptions to businesses and essential services</li> <li>» Public Health &amp; Safety: Increase more green spaces (which could lead to improved air quality), reduce urban heat island effect, and reduce risks associated with stormwater runoff pollution</li> </ul>
<p><b>Educational/Outreach Resources</b></p>	<ul style="list-style-type: none"> <li>» Educational resources to developers, practitioners, as well as internal Town staff on green infrastructure technologies, opportunities, and associated benefits</li> <li>» Utilize pilot green infrastructure projects to demonstrate their feasibility, lessons-learned, and overall benefits/outcomes of the projects</li> <li>» Continue circulating Dedham Stormwater Best Management Practices flyer: <a href="https://www.dedham-ma.gov/home/showdocument?id=966">https://www.dedham-ma.gov/home/showdocument?id=966</a></li> </ul>
<p><b>Additional Resources/Best Practice Example</b></p>	<ul style="list-style-type: none"> <li>» MassDEP Stormwater Management Standards/Regulations</li> <li>» Boston Water &amp; Sewer Commission Green Infrastructure and Low Impact Development resources: <a href="https://www.bwsc.org/environment-education/green-programs/green-infrastructure-and-low-impact-development">https://www.bwsc.org/environment-education/green-programs/green-infrastructure-and-low-impact-development</a></li> <li>» US EPA, “Building Climate Resiliency with Green Infrastructure,” <a href="https://www.epa.gov/green-infrastructure/building-climate-resiliency-green-infrastructure">https://www.epa.gov/green-infrastructure/building-climate-resiliency-green-infrastructure</a></li> <li>» US EPA, Storm Smart Cities: Integrating Green Infrastructure into Local Hazard Mitigation Plans <a href="https://www.epa.gov/sites/production/files/2018-04/documents/storm_smart_cities_508_final_document_3_26_18.pdf">https://www.epa.gov/sites/production/files/2018-04/documents/storm_smart_cities_508_final_document_3_26_18.pdf</a></li> <li>» ASCE Permeable Pavement Book <a href="https://sp360.asce.org/PersonifyEbusiness/Merchandise/Product-Details/productId/233129065">https://sp360.asce.org/PersonifyEbusiness/Merchandise/Product-Details/productId/233129065</a></li> <li>» Boston Porous Alley: <a href="https://www.crwa.org/uploads/1/2/6/7/126781580/porous-alley-demonstration-project.pdf">https://www.crwa.org/uploads/1/2/6/7/126781580/porous-alley-demonstration-project.pdf</a></li> <li>» Recover Rooftop farm examples in Massachusetts/Boston: <a href="http://www.recovergreenroofs.com/food-roofs">http://www.recovergreenroofs.com/food-roofs</a></li> </ul>

**Implementation Cost**

\$ = up to \$50K  
 \$\$ = \$50–100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**

Short = 1–2 year  
 Medium = 3–5 years  
 Long = more than 5 years



**ACTION**

**Establish a regional coordination system with neighboring towns for emergency planning and response, ensuring shared resources and quick recovery for critical municipal infrastructure during a major climate event.**

A coordination system with neighboring towns (as well as other municipalities in the Boston metropolitan area) will strengthen communication and access to shared resources and services that will allow for quick response and recovery during major climate events as well as any other emergency events.

**IMPLEMENTATION LEADS** Police Department, Fire Department, Public Works Department, Town Manager's Office

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Establish a Regional Advisory Committee with representatives from neighboring town emergency management, health, planning, and fire departments to discuss regional opportunities and challenges, existing resources, and needs of each community.	<ul style="list-style-type: none"> <li>» Town Manager</li> <li>» Planning Department</li> <li>» Economic Development Department</li> <li>» Metropolitan Area Planning Council</li> <li>» Counterparts from municipalities in Norfolk County</li> </ul>	\$	Short
2. Facilitate a series of scenario planning exercises to map out and/or update specific response protocols under different emergency circumstances, taking lessons learned from COVID-19 and other recent events.	<ul style="list-style-type: none"> <li>» Fire Department</li> <li>» Public Works Department</li> <li>» Environmental Department</li> <li>» Health Department</li> <li>» Planning and Zoning Department</li> <li>» Healthcare and emergency response professionals</li> <li>» Key business representatives</li> <li>» Community development organizations (CDCs, etc.)</li> <li>» Counterparts from municipalities in Norfolk County</li> <li>» Metropolitan Area Planning Council</li> </ul>	\$	Short (ongoing)
3. Develop a coordinated response framework that assigns roles and responsibilities, accounting for critical infrastructure and assets that serve the region.	<ul style="list-style-type: none"> <li>» Regional Advisory Committee</li> <li>» (see proposed participants under Implementation Steps 1 and 2)</li> </ul>	\$	Medium
4. Reconvene Regional Advisory Committee to review framework periodically to ensure applicability and accuracy.	<ul style="list-style-type: none"> <li>» Regional Advisory Committee (see proposed participants under Implementation Steps 1 and 2)</li> </ul>	\$	Long

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Successful establishment of regional coordination system/framework with municipalities in Norfolk County</li> <li>» Increased municipal leadership confidence with regard to emergency preparedness (based on survey administered to officials before/after creation of coordination system)</li> <li>» Enhanced collaboration among municipalities beyond emergency management and climate change preparedness</li> </ul>
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<p><b>Co-benefits/Related Planning Elements</b></p>	<ul style="list-style-type: none"> <li>» Transportation &amp; Land Use—Improve/Enhance coordination of regional transportation infrastructure, services, and resources</li> <li>» Equity—Enhance support, in terms of resources and services, for vulnerable populations</li> </ul>
<p><b>Educational/Outreach Resources</b></p>	<ul style="list-style-type: none"> <li>» Increase public outreach on regional coordination and available resources</li> <li>» Massachusetts Executive Office of Public Safety and Security resources: <a href="https://www.mass.gov/orgs/executive-office-of-public-safety-and-security">https://www.mass.gov/orgs/executive-office-of-public-safety-and-security</a></li> <li>» Ready.gov: <a href="https://www.ready.gov/">https://www.ready.gov/</a></li> <li>» Dedham Public Safety resources page: <a href="https://www.dedham-ma.gov/departments/police/public-safety">https://www.dedham-ma.gov/departments/police/public-safety</a></li> <li>» Resilience and Adaptation in New England (RAINE) database of resources: <a href="https://www.epa.gov/raine">https://www.epa.gov/raine</a></li> </ul>
<p><b>Additional Resources/Best Practice Example</b></p>	<ul style="list-style-type: none"> <li>» Charles River Watershed Climate Compact: <a href="https://www.crwa.org/adapt.html">https://www.crwa.org/adapt.html</a></li> <li>» Metropolitan Mayors Coalition: <a href="https://www.mapc.org/get-involved/coalitions/mmc/">https://www.mapc.org/get-involved/coalitions/mmc/</a></li> <li>» Minuteman Advisory Group on Interlocal Coordination (MAGIC): <a href="https://www.mapc.org/get-involved/subregions/magic/">https://www.mapc.org/get-involved/subregions/magic/</a></li> <li>» North Suburban Planning Council (NSPC): <a href="https://www.mapc.org/get-involved/subregions/nspc/">https://www.mapc.org/get-involved/subregions/nspc/</a></li> <li>» New Hampshire Coastal Adaptation Workgroup: <a href="https://geopub.epa.gov/RAINE/PDF/NH_CAW_collaboration.pdf">https://geopub.epa.gov/RAINE/PDF/NH_CAW_collaboration.pdf</a></li> </ul>

**Implementation Cost**

\$ = up to \$50K  
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**Implementation Timeframe**

Short = 1–2 year  
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 Long = more than 5 years



## NATURAL RESOURCES

Protecting open space, natural ecosystems, habitat areas, and water resources are important for maintaining functional natural environments that support both wildlife and ecosystem services for the Dedham community. For example, preserving forested areas and urban trees not only provides habitat for native species, but it also mitigates local flooding and the urban heat island effect. Access to green spaces can provide recreation, as well as reprieve from environmental exposures (i.e., water and air quality in the environment), enhancing the well-being of residents and visitors. For these reasons, maintaining environmental quality and opportunities to interact with nature are crucial components of environmental and community resilience in Dedham.

### Goals

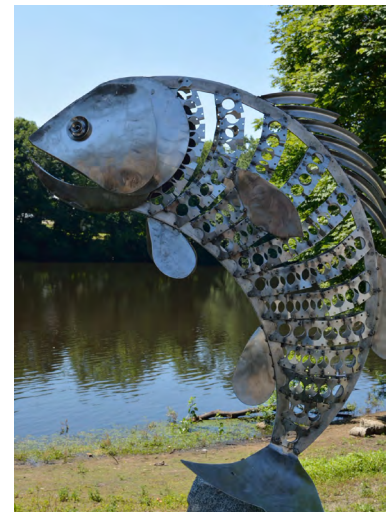
1. Dedham's **tree canopy is enhanced to 65 percent** of the community.
2. Dedham's trails provide **accessible connections** between economic centers and neighborhoods.
3. The Town's wetland areas provide their full ecological value, including **providing essential habitat, and water storage and purification.**
4. **Air and water quality** meet or exceed **state and federal standards.**

### Natural Resources Today

Dedham residents are fortunate to have access to abundant open space, accessible trails, and a robust tree canopy. These resources, along with wetlands, rivers, ponds and other bodies of water, create a dynamic environment for animals and people alike to call home.

CONSERVATION COMMISSION  
HAS JURISDICTION OVER

**271** ACRES  
of public land



*A sculpture at Mill Pond Park along the banks of Mother Brook in Dedham.*

**OVER  
1,200** ACRES  
of wetlands  
(almost 18 percent of  
Dedham's total area)

**904** ACRES  
of private and  
nonprofit open space

**880** ACRES  
of county, state or  
federal vacant land



**ACCESS TO PARKS  
AND RECREATION  
FACILITIES KEEP  
RESIDENTS HAPPY  
AND HEALTHY.**

**101** ACRES  
Total park/recreation land

**271** ACRES  
Total Conservation  
Commission properties

**763** ACRES  
Total state/federal  
recreation land

**15**  
Parks and  
Recreation parcels

Dedham's many water resources are responsibly maintained and monitored for assured quality. While the Charles River has a long history of pollution, samples in Dedham have indicated improvements, with the majority samples indicating water quality that is safe for swimming and boating. There are 58 dams in Dedham, which play a critical role in water resource and flood protection. The Town is closely monitoring dam health and recently upgraded the Mother Brook Dam to accommodate 500-year flood events. Actions identified in this plan propose ways to better manage stormwater runoff and protect the town's water bodies



**Existing Policies and Programs**

From adopting protective bylaws to providing educational resources to residents, the Town of Dedham prioritizes the protection of its natural resources. Actions proposed below will build off the strong foundation that has already been laid.

**Policies**

- » Wetland Bylaws (established 1996, amended 2013)
- » Stormwater Bylaw
- » Public Shade Tree policy
- » Two-for-one tree replacement policy<sup>39</sup>
- » Zoning Bylaw tree requirements for preservation and planting (Section 5.2 Landscape, Section 9 Site Plan Review) (bylaw revised 2017)
- » Zoning Bylaw requirements for plan maintenance (bylaw revised 2017)

**Programs**

- » MS4 Stormwater Reporting (annual)
- » Invasive species information sheets on website
- » Storm drain stenciling program
- » Dedham is designated a Tree City USA community (2017)
- » Tree Inventory: The Town has documented the number, species, and health of trees on public streets, at the Endicott Estate, the Village Cemetery, and at Parks and Recreation properties.

**Actions for Natural Resources**

Achieving Dedham’s goals for natural resources will mean modifying regulations and policies as necessary and continuing to educate residents about how they can pitch in. The following recommended actions build off of the extensive work done prior to this Plan in order to preserve and enhance Dedham’s extensive natural resources for the benefit of all.

Action	Potential Partners	Implementation Timeframe
1. Advance the tree inventory into an asset management program for tree planting, care, and removal/replacement.	<ul style="list-style-type: none"> <li>» Conservation Commission</li> <li>» Public Works Department</li> </ul>	» Medium
2. Develop a tree preservation bylaw.	» See implementation blueprint	

39 Town of Dedham. 2019. Open Space and Recreation Plan. <https://www.dedham-ma.gov/home/showdocument?id=12755>

Action	Potential Partners	Implementation Timeframe
3. Educate residents and businesses around environmentally friendly lawn/yard management and sustainable landscaping techniques (e.g., pet waste disposal, reduced pesticide use).	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Conservation Commission</li> <li>» Dedham Public Library</li> <li>» Parks and Recreation Department</li> </ul>	Medium
4. Employ creative ways to educate town staff, residents, and businesses around the importance and role of trees.	<ul style="list-style-type: none"> <li>» Conservation Commission</li> <li>» Public Works Department</li> <li>» Dedham Public Library</li> <li>» Parks and Recreation Department</li> </ul>	Medium
5. Implement prioritized actions from the 2019 Open Space and Recreation Plan (OSRP) that address the expansion and maintenance of open space and trails.	» See implementation blueprint	
6. Leverage existing work and repairs within public spaces to plant more trees (e.g., DPW work with town sidewalks)	» Public Works Department	Short
7. Protect and promote the preservation of wetlands, including restoration of filled wetlands and floodplain areas.	» See implementation blueprint	
8. Review preferred tree species lists against climate projections and update to ensure trees planted will thrive under future conditions.	<ul style="list-style-type: none"> <li>» Conservation Commission</li> <li>» Public Works Department</li> </ul>	Short
9. Review the Town's Wetlands Bylaws to incorporate climate change considerations related to potential habitat loss/degradation, flood storage, etc.	» Conservation Commission	Short
10. Support the development of the Dedham Rail Trail to provide accessible connections between economic centers, schools and neighborhoods.	<ul style="list-style-type: none"> <li>» Friends of Dedham Heritage Rail Trail</li> <li>» Select Board</li> <li>» Town Manager</li> <li>» Planning and Zoning Department</li> <li>» Environmental Department</li> </ul>	Long

### Blueprints for Priority Actions

The following section presents implementation steps in “blueprints” for some of the recommended actions. These actions were considered as priorities based on feedback from CASG workshops and from voting results of the Community Survey 2. These implementation blueprints will help Town staff and decision makers put the Plan into motion.





**ACTION**

**Implement prioritized actions from the 2019 Open Space and Recreation Plan (OSRP) that address the expansion and maintenance of open space and trails.**

Encourage outdoor recreation for residents and visitors through the maintenance and expansion of current open space and trails.

**IMPLEMENTATION LEAD** Parks and Recreation Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Conduct feasibility assessment of prioritized actions from the 2019 Open Space and Recreation Plan.	<ul style="list-style-type: none"> <li>» Open Space &amp; Recreation Committee</li> <li>» Public Works Department</li> <li>» Conservation Commission</li> <li>» Environmental Department</li> <li>» Dedham Trails</li> </ul>	\$\$	Medium
2. Hold public sessions to gather feedback on project selections.	<ul style="list-style-type: none"> <li>» Open Space &amp; Recreation Committee</li> </ul>	\$	Short
3. Identify funding sources and apply for grants for selected projects.	<ul style="list-style-type: none"> <li>» US National Park Service Rivers, Trails, and Conservation Assistance Program</li> <li>» Arbor Day Foundation</li> <li>» American Trails</li> <li>» The Conservation Alliance</li> </ul>	\$	Medium
4. Implement selected projects.	<ul style="list-style-type: none"> <li>» Open Space &amp; Recreation Committee</li> <li>» Public Works Department</li> <li>» Conservation Commission</li> <li>» Environmental Department</li> </ul>	\$\$\$	Medium
5. Develop educational and promotional material for residents and visitors, such as trail maps, conservation facts, etc.	<ul style="list-style-type: none"> <li>» Open Space &amp; Recreation Committee</li> <li>» Conservation Commission</li> <li>» Public Works Department</li> </ul>	\$\$	Short

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Miles of trails added</li> <li>» Acres of open space added and protected</li> <li>» Number of annual users of trails and open space</li> <li>» Number of programs added or events hosted to increase awareness of trails and conservation land</li> </ul>
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» Natural Resources - Conservation of natural resources</li> <li>» Public Health and Safety: Improved public health</li> <li>» Increase environmental stewardship</li> <li>» Transportation/Land Use: Increased community building and connectedness</li> </ul>
<b>Educational/ Outreach Resources</b>	<ul style="list-style-type: none"> <li>» Brochures and online maps/mobile applications of available trails and open space</li> <li>» Increase signage at Open Space parcels</li> <li>» Increase educational signage</li> <li>» Community events (i.e Dedham Trails Day, Farmers Markets, etc.)</li> <li>» Health and exercise benefits to outdoor recreation</li> </ul>
<b>Additional Resources/ Best Practice Example</b>	<ul style="list-style-type: none"> <li>» Metropolitan Area Planning Council Trailmap: Metro Boston's Regional Walking and Cycling Map</li> <li>» Town of Weston Conservation Trail Maps and recommended walks</li> </ul>

**Implementation Cost**

\$ = up to \$50K  
 \$\$ = \$50-100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**

Short = 1-2 year  
 Medium = 3-5 years  
 Long = more than 5 years



**ACTION**

**Develop a tree preservation bylaw.**

Develop a tree preservation bylaw, including a minimum tree planting requirement for new development, consideration for public access to shade, and required tree maintenance as part of Site Plan approval.

**IMPLEMENTATION LEAD** Conservation Commission

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Using the Tree Inventory Viewer, other GIS technology, and fieldwork, evaluate Dedham’s tree canopy, considering tree health and areas of low tree coverage.	» Public Works Department	\$\$	Medium
2. Based on the findings in the tree study, propose policies, standards and regulations to protect and expand trees both in the public Right of Way and on private property. Policies may include: <ul style="list-style-type: none"> <li>• Formalizing the Conservation Commission’s tree replacement requirement</li> <li>• Creation of a town tree planting program</li> <li>• Adding tree maintenance to Site Plan approval</li> </ul>	» Environmental Department » Design Review Advisory Board » Planning Board	\$	Short
3. Formalize recommendations into a proposed bylaw and present to Town Meeting for approval.	» Bylaw Review Committee	\$	Short
4. Start a Tree Fund into which Dedham residents can contribute to fund tree plantings in residential neighborhoods.	» Environmental Department	\$	Short
5. If the bylaw is approved, provide education to residents and developers about how to meet the new requirements and contribute to Dedham’s tree health.	» Public Works Department » Environmental Department » Civic Pride Committee	\$	Medium

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Percent of coverage</li> <li>» Total number of public and private trees</li> <li>» Number of trees planted each year</li> </ul>
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» Public Health &amp; Safety - Air quality</li> <li>» Natural Resources: Increased carbon sequestration</li> <li>» Public Health and Safety: Reduced urban heat island effect</li> <li>» Infrastructure: Reduced erosion</li> <li>» Infrastructure: Improved stormwater management and flood control</li> <li>» Economic Development: Beautified Town spaces</li> </ul>
<b>Educational/ Outreach Resources</b>	<ul style="list-style-type: none"> <li>» Education for residents about how to care for trees on their property</li> <li>» Education about the benefits of trees (e.g. air quality, water quality, carbon sequestration, cooling effect)</li> <li>» “Adopt a Tree” program</li> <li>» Tree planting and care program in schools</li> </ul>
<b>Additional Resources/ Best Practice Example</b>	<ul style="list-style-type: none"> <li>» Tree Preservation Bylaws in other Massachusetts towns (e.g. Concord, Wellesley, Arlington, Lexington)</li> <li>» Somerville Landscape Standards</li> </ul>

**Implementation Cost**  
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 \$\$ = \$50–100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**  
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 Medium = 3–5 years  
 Long = more than 5 years



**ACTION**

**Protect and promote the preservation of wetlands, including restoration of filled wetlands and floodplain areas.**

Examine and update bylaws to ensure protection of wetlands and initiate restoration of filled wetland and floodplain areas.

**IMPLEMENTATION LEAD** Conservation Commission

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Examine and update Town bylaws to ensure wetlands are protected from development and restoration is feasible (e.g., setbacks from wetlands and floodplain areas).	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Town boards and committees, including Planning Board, Zoning Board of Appeals, Open Space &amp; Recreation Committee</li> <li>» Neponset River Watershed Association</li> <li>» Charles River Watershed Association</li> <li>» Bylaw Review Committee</li> </ul>	\$	Medium
2. Inventory and assess the health of existing wetlands and floodplain areas.	<ul style="list-style-type: none"> <li>» Neponset River Watershed Association</li> <li>» Charles River Watershed Association</li> <li>» Dedham Civic Pride</li> </ul>	\$	Medium
3. Prioritize wetland remediation projects based on flood reduction potential and ecosystem health improvement potential.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Neponset River Watershed Association</li> <li>» Charles River Watershed Association</li> </ul>	\$	Short
4. Secure regional grants to explore wetland remediation at the watershed/regional level.	<ul style="list-style-type: none"> <li>» Municipal Vulnerability Preparedness (MVP) program</li> <li>» Greenworks program</li> </ul>	\$	Medium
5. Conduct a public education campaign on wetland protection, including education on development restrictions, flood management best practices, and location of online Town resources.	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Sustainability Advisory Committee</li> </ul>	\$	Medium

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Acres of protected wetlands</li> <li>» Acres of remediated wetlands</li> </ul>
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» Public Health and Safety - Improved water quality</li> <li>» Infrastructure - Flooding reduction</li> <li>» Infrastructure - Reduces stress on stormwater drainage system</li> </ul>
<b>Educational/ Outreach Resources</b>	<ul style="list-style-type: none"> <li>» Collaboration with the Charles and Neponset River Watershed Associations</li> <li>» Drive online traffic to the Conservation Commission’s Wetland Protection page</li> <li>» Host town-wide volunteer wetlands/floodplain cleanup days</li> </ul>
<b>Additional Resources/ Best Practice Example</b>	<ul style="list-style-type: none"> <li>» Massachusetts Wetland Protection Act</li> <li>» Surrounding Town’s Wetland Protection bylaws, such as Arlington’s update to the Town’s Wetlands Regulations to include climate change resilience evaluations when proposing new projects.</li> </ul>

**Implementation Cost**

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## TRANSPORTATION & LAND USE

Dedham seeks to increase the connectivity of its community by supporting a variety of transportation options that are accessible to all residents and visitors. Recently, the Town has made great progress to enhance infrastructure that supports active transportation modes such as walking and bicycling. Public transportation is available, though factors including convenience, route coverage, and perception generally encourage community members to utilize private vehicles over transit to get around town. Changing incentive structures, infrastructure, and patterns of development can improve the quality of connectivity to transit and other alternative modes. Strategically planned and transit-oriented hubs, for example, can provide a variety of amenities and mixed-uses, a diversity of housing types that meet the needs of residents, and access to mobility alternatives beyond cars.

### Goals

1. Future developments in Dedham **prioritize transit access, walkability, and a diversity of uses**, while **fostering affordability and inclusivity**.
2. Zoning and design tools **incorporate sustainability and climate resilience**.
3. Neighborhoods across Dedham are connected and accessible by a **multimodal transportation** and public transit system.

### Transportation and Land Use Today

Dedham's land use planning has produced patterns of development that generally support private vehicle use. Ample opportunity exists to pursue actions that will help future development support more sustainable transportation as well as resident well-being.



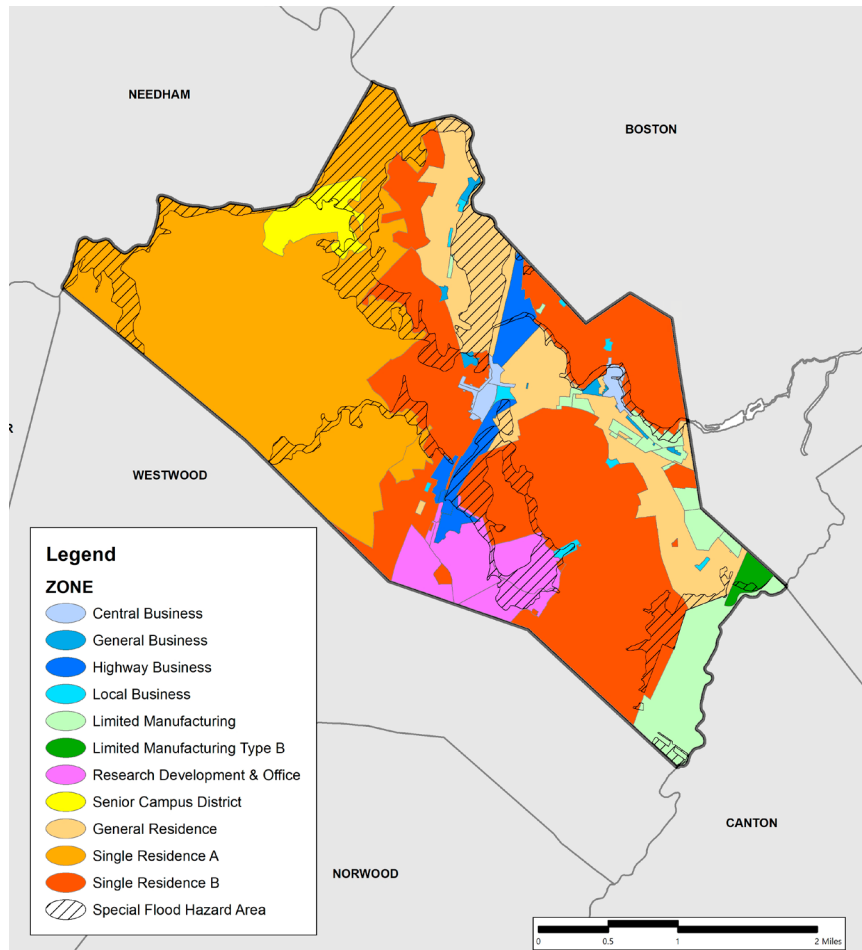
*Dedham Square accommodates pedestrians and vehicles alike.*

As a residential town, Dedham's land is primarily zoned for residential use. As previously noted, approximately 64 percent of Dedham's housing stock is single family homes,<sup>40</sup> recent construction (between 2005 to 2010 and 2012 to 2013) has included a majority of multifamily homes.<sup>41</sup> Dedham also has several significant non-residential land uses.<sup>42</sup> Commercial uses occupy the Highway Business Zoning District along Route 1 (e.g., Dedham Mall and Dedham Plaza) and Central Business District around Dedham Square. Research Development and Office Zoning Districts support the Legacy Place Development and surrounding commercial uses including major employers (e.g., New England Baptist Outpatient Care Center).

40 U.S. Census Bureau. 2018 American Community Survey, 5-Year Estimates. Dedham CDP.

41 Town of Dedham. 2019. Open Space and Recreation Plan. <https://www.dedham-ma.gov/home/showdocument?id=12755>.

42 Dedham Planning Board. 2017. Town of Dedham Zoning Bylaw. <https://www.dedham-ma.gov/departments/town-clerk/laws-records/town-code/zoning-bylaw>.



In 2004, the Dedham Zoning Bylaw was amended to regulate Mixed-Use Developments, defined as “A building containing lower floor commercial and other nonresidential uses allowed in the zoning district...with residential dwelling units on upper floors.”

THE FIRST MIXED-USE DEVELOPMENT WAS CONSTRUCTED IN 1910, AND **ELEVEN MIXED-USE DEVELOPMENTS HAVE BEEN CONSTRUCTED IN DEDHAM SINCE 2004.**<sup>43</sup> MIXED-USE DEVELOPMENTS CAN PLAY AN IMPORTANT ROLE IN DEDHAM TO IMPROVE CONNECTIVITY AND WALKABILITY.

To get in and around Dedham, residents may choose from a variety of options. Some, however, particularly driving, are much more widely utilized. Goals and actions identified as part of this planning element are intended to enhance connectivity by making alternative modes safer and

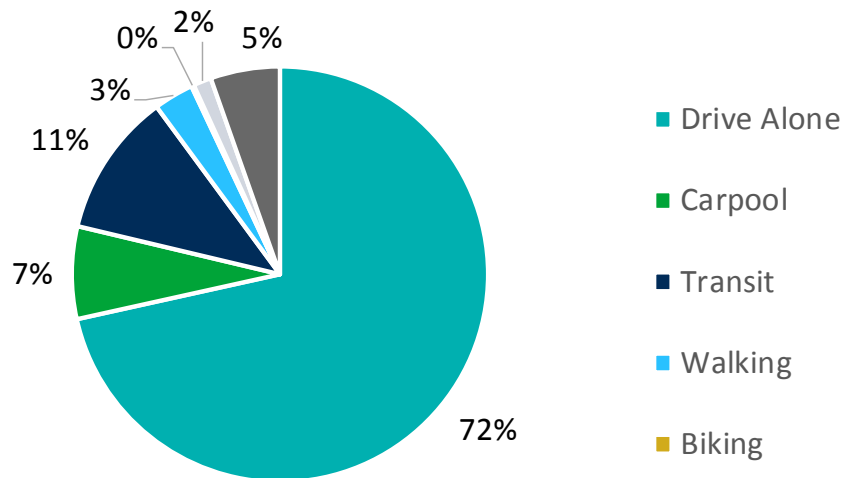
<sup>43</sup> Town of Dedham. “Mixed-Use Study.” <https://www.dedham-ma.gov/departments/planning-zoning/studies-reports/mixed-use-study#ad-image-2>.

more convenient. This in turn will help Dedham to reduce pollution and greenhouse gas emissions, and be more nimble in the face of changing climate conditions.

Dedham has an average Walk Score of 40 (out of 100), which means that getting around Dedham generally requires a car.<sup>44</sup> Some areas, including Dedham’s historic town center, Dedham Square, and neighborhoods immediately surrounding the Square are relatively walkable and tailored to pedestrians.<sup>45</sup>

## THE VAST MAJORITY—72 PERCENT—OF COMMUTERS IN DEDHAM DRIVE ALONE TO WORK.

### COMMUTING MODE SHARE IN DEDHAM, 2018 ESTIMATE



Source: U.S. Census Bureau. 2018 American Community Survey, 5-Year Estimates. Dedham CDP.

Transit options in Dedham do make it possible to get to Boston and surrounding municipalities without a car, and 11 percent of Dedham commuters use transit. Rail options by MBTA and Amtrak and bus options by MBTA and local Dedham operations include:<sup>46</sup>

- » Two MBTA Franklin Line commuter rail stations (Dedham Corp and Endicott station)
- » Several MBTA bus lines
- » MBTA commuter rail stations Readville (located in Hyde Park, Fairmount Line) and Route 128 (located in Westwood, Providence/Stoughton line; Amtrak service also available).
- » Town of Dedham-run local bus service, managed by the Neponset Valley Transportation Management Association.<sup>47</sup>

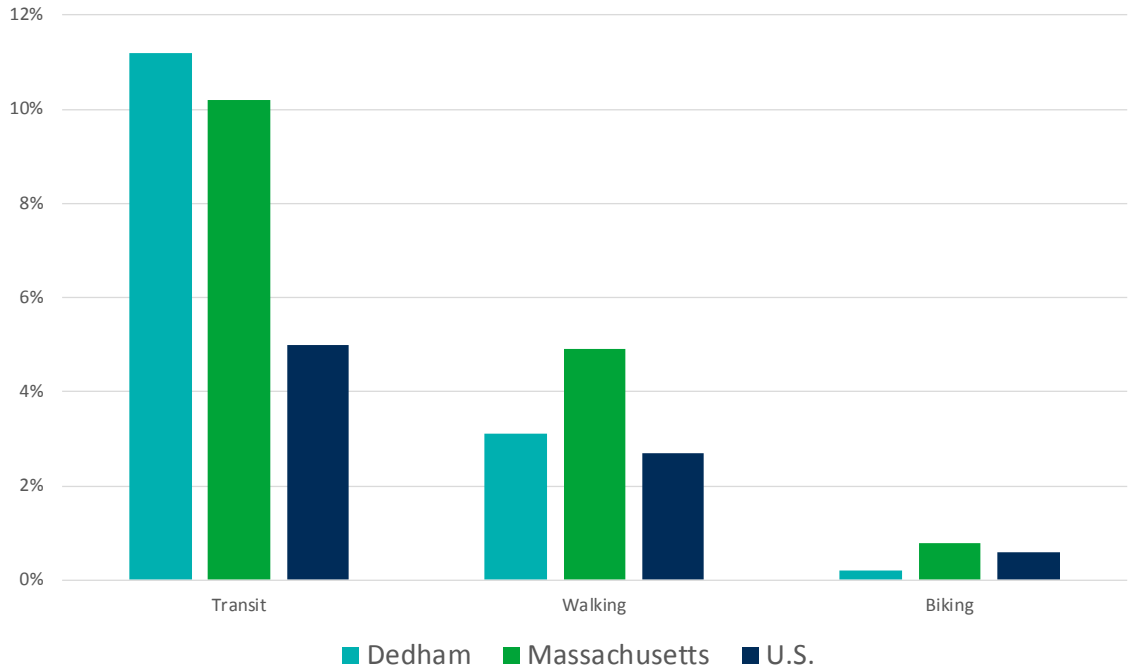
44 Walk Score. 2020. <https://www.walkscore.com/MA/Dedham>.

45 Town of Dedham. “Dedham Square: Design Guidelines (2017-2018).” <https://www.dedham-ma.gov/services/projects-studies/dedham-square-design-guidelines-2017-2018>.

46 Town of Dedham. 2019. Open Space and Recreation Plan. <https://www.dedham-ma.gov/home/showdocument?id=12755>.

47 Neponset Valley Transportation Management Association. “Dedham on the Move.” <https://www.neponsetvalleytma.org/dedham-on-the-move>.

**TRANSIT, WALKING, AND BIKING COMMUTE MODE SHARES IN DEDHAM VERSUS MASSACHUSETTS AND THE U.S., 2018 ESTIMATE**



A combined 3.3 percent of Dedham’s commuters walk or bike. Bicycle and walking mode shares were lower for Dedham compared to that of the Massachusetts. Actions for this element will build off of existing efforts to expand infrastructure that enhances safety and accessibility for pedestrians and bikers.

IN SEPTEMBER 2019, THE MASSACHUSETTS COMPLETE STREETS FUNDING PROGRAM GRANTED DEDHAM NEARLY **\$400K TO IMPROVE PEDESTRIAN AND BICYCLE ACCESS & SAFETY** AROUND PARKS, SCHOOLS, THE TOWN CENTER, THE MBTA COMMUTER RAIL STATION, AND SURROUNDING NEIGHBORHOODS.<sup>48</sup>

48 The MetroWest Daily News. 2019. “Baker-Polito Administration Announces \$5.1 Million in Complete Streets Funding Awards.” <https://www.metrowestdailynews.com/news/20190905/baker-polito-administration-announces-51-million-in-complete-streets-funding-awards>.



New bike lanes in Dedham Square.  
Credit: John Tlumacki, Boston Globe

IN 2014, THE ENVIRONMENTAL DEPARTMENT WORKED WITH MAPC, THROUGH A TECHNICAL ASSISTANCE GRANT, TO CREATE THE DEDHAM AND WESTWOOD BICYCLE AND PEDESTRIAN NETWORK PLAN. THIS PLAN IDENTIFIED GAPS IN TRANSIT SECTORS AND PRIORITIZED ROADWAYS FOR BIKE AND PEDESTRIAN ACCESS.

### Existing Policies and Programs

Land uses and development in Dedham are guided by several policies, guidelines, and programs, from the Zoning Bylaw, which prescribes where and how development can occur, to design guidelines for specific neighborhoods, to studies that inform future development. The actions included in this planning element will enable Dedham build upon these tools in order to grow and connect its communities more sustainably, into the future.

#### Policies

- » Town of Dedham Zoning Bylaw (updated 2017)
- » Design Guidelines recommending specific sustainable development and design components:
  - Dedham Square Design Guidelines (2017)
  - East Dedham Square Design Guidelines (2018)

#### Programs

- » Mixed-Use Study (2019)<sup>49</sup>
- » Providence Highway Development District (ongoing)<sup>50</sup>
- » Mother Brook Corridor Study (ongoing)<sup>51</sup>
- » Dedham and Westwood Bicycle and Pedestrian Plan (2014)<sup>52</sup>

49 Town of Dedham. "Mixed-Use Study." <https://www.dedham-ma.gov/departments/planning-zoning/studies-reports/mixed-use-study#ad-image-0>.

50 Town of Dedham. 2019. "Providence Highway: Creating a Better Corridor." <https://www.dedham-ma.gov/departments/planning-zoning/studies-reports/providence-highway-create-a-better-corridor#ad-image-0>.

51 Town of Dedham. 2019. "Mother Brook Corridor Study." <https://www.dedham-ma.gov/departments/planning-zoning/studies-reports/mother-brook-corridor-study#ad-image-0>.

52 Sustainable Metro Boston. 2014. Dedham and Westwood Bicycle and Pedestrian Network Plan. <https://www.dedham-ma.gov/Home/ShowDocument?id=3894>.



**Actions for Transportation and Land Use**

Managing transportation and land use sustainably will require Dedham to create structures and systems that enhance accessibility to and around Dedham. To do so, the Town can leverage regulatory mechanisms, incentives, and guidelines, as well as make strategic modifications to the built environment. The following recommended actions will help key partners and decisionmakers grow Dedham’s physical resources while upholding equity, character, and safety.

Action	Potential Partners	Implementation Timeframe
1. Complete a Housing Plan to identify and address key housing and resource access needs for all community members, and identify potential redevelopment opportunities.	» Planning and Zoning Department	Medium
2. Incentivize high-density development near transit hubs.	» See implementation blueprint	
3. Review and update Dedham’s Zoning bylaws to proactively enable increased density, diversity of housing types, and transit-oriented development.	» Planning and Zoning Department	Medium
4. Require new development/redevelopment of sites and buildings to create/provide access for non-motorized transportation (including pedestrian and bike amenities) and public transit.	» Planning and Zoning Department » Public Works Department » Engineering Department » Environmental Department	Medium
5. Work with town boards and department to review and update zoning and permitting requirements, ensuring all provisions are compatible with sustainability and resiliency goals.	» See implementation blueprint	
6. Review and update existing design guidelines for transportation projects and new development to include sustainability and resiliency provisions.	» Planning and Zoning Department » Environmental Department	Medium
7. Introduce sustainability guidelines/requirements in site plan applications.	» Planning and Zoning Department » Environmental Department	Medium
8. Install safety measures to ensure safer pedestrian, cycling, and transit access across major roads and highways at targeted locations (e.g., for Legacy Place, across Route 1).	» See implementation blueprint	
9. Expand pedestrian, bike, and transit infrastructure to and around major Town attractions, commercial centers, as well as local and regional parks and trails, including supporting the creation of the Rail Trail.	» See implementation blueprint	
10. Establish part of the revenue from Motor Vehicle Excise Tax to fund pedestrian, bike, and transit infrastructure.	» Planning and Zoning Department » Environmental Department	Medium

Action	Potential Partners	Implementation Timeframe
11. Continue implementing the Complete Streets program to ensure roads have bike, pedestrian, and transit access.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Public Works Department</li> <li>» Environmental Department</li> </ul>	Ongoing
12. Work with MassDOT officials to explore multimodal transportation infrastructure, increased green space, and vegetation options for Route 1.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Conservation Commission</li> <li>» MassDOT</li> <li>» Locally elected state officials</li> </ul>	
13. Enhance regional coordination for more substantial funding of transportation projects and to better integrate Dedham into regional networks of non-motorized transportation options, as well as potential MBTA projects for high frequency and high capacity transit such as BRT.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» MBTA</li> </ul>	Medium

### Blueprints for Priority Actions

The following section presents implementation steps in “blueprints” for some of the recommended actions. These actions were considered as priorities based on feedback from CASG workshops and from voting results of the Community Survey 2. These implementation blueprints will help Town staff and decision makers put the Plan into motion.



**ACTION**

**Expand pedestrian, bike, and transit infrastructure to and around major Town attractions, commercial centers, as well as local and regional parks and trails, including supporting the creation of the Rail Trail.**

Building off existing efforts to expand pedestrian, bike, and transit infrastructure (e.g., additional bike lanes, enhanced sidewalks, improved public transit shelters) will promote the use of these alternative modes of transportation, reducing vehicle use and greenhouse gas emissions. Targeting this infrastructure to support access to locations that Dedham residents and visitors already frequent, as well as improving access to recreational and natural resources previously accessible only by private vehicle, will ensure that Dedham’s transportation system is safer, greener, and more equitable.

**IMPLEMENTATION LEADS** Environmental Department, Engineering Department, Public Works Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Review existing efforts/plans (e.g., Complete Streets, Dedham and Westwood Bicycle and Pedestrian Network Plan) to identify additional locations for potential expanded pedestrian, bike, and transit infrastructure around major attractions.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Public Works Department</li> <li>» Active Transportation Working Group</li> <li>» Livable Dedham</li> <li>» Dedham Cycle Club</li> <li>» Engineering Department</li> <li>» Environmental Department</li> </ul>	\$	Short
2. Estimate the costs and benefits associated with proposed infrastructure changes in order to prioritize locations most in need of improvements.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Public Works Department</li> <li>» Engineering Department</li> <li>» Active Transportation Working Group</li> <li>» MBTA</li> <li>» Dedham Cycle Club</li> <li>» Friends of Dedham Heritage Rail Trail</li> </ul>	\$	Short
3. Gather community input to inform prioritization and improvement needs.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Active Transportation Working Group</li> <li>» Planning Board</li> <li>» Dedham Circle Square</li> <li>» Livable Dedham</li> <li>» Dedham Civic Price</li> <li>» Residents</li> <li>» Businesses</li> </ul>	\$	Short
4. Explore funding resources to support improvements. At the same time, collaborate with developers on potential financial contribution to be considered as a mitigation measure for large development project proposals.	<ul style="list-style-type: none"> <li>» Finance Department</li> <li>» Environmental Department</li> </ul>	\$	Medium
5. Select priority projects to construct, based on public interest and funding feasibility.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Environmental Department / Sustainability Advisory Committee</li> <li>» Conservation Commission</li> <li>» Active Transportation Working Group</li> <li>» Parks and Recreation Department</li> </ul>	\$\$ - \$\$\$	Medium/Long

<p><b>Metrics for Tracking Progress</b></p>	<ul style="list-style-type: none"> <li>» Number and percentage of major Dedham attractions (commercial centers, local and regional parks, etc.) accessible by walking, biking, and public transit</li> <li>» Miles of new biking or walking trails</li> <li>» Connectivity – miles of continuous biking or walking trails</li> <li>» Number and percentage of residents living within a half-mile of a transit (bus or commuter rail) connection</li> <li>» Greenhouse gas emissions avoided through increased use of alternative modes of transportation</li> </ul>
<p><b>Co-benefits/Related Planning Elements</b></p>	<ul style="list-style-type: none"> <li>» Equity – Improved access for all populations to Town resources</li> <li>» Community Character – Enhanced walkability and access to the resources that make Dedham unique</li> <li>» Economic Development – Improved access to all areas of town including commercial centers.</li> <li>» Reduced traffic congestion</li> <li>» Public Health &amp; Safety – Improved bike/pedestrian infrastructure reduces accidents; increases access to active forms of transportation; and reduces pollution from vehicle emissions. Dedham Westwood Bicycle and Pedestrian Network Plan <a href="https://www.dedham-ma.gov/Home/ShowDocument?id=3894">https://www.dedham-ma.gov/Home/ShowDocument?id=3894</a></li> </ul>
<p><b>Educational/ Outreach Resources</b></p>	<ul style="list-style-type: none"> <li>» Dedham Trails: <a href="http://www.dedhamtrails.com/">http://www.dedhamtrails.com/</a></li> <li>» Dedham Water Trails: <a href="http://www.dedhamtrails.com/map.html">http://www.dedhamtrails.com/map.html</a></li> <li>» Massachusetts Complete Streets Website (includes educational resources; <a href="https://masscompletestreets.com/">https://masscompletestreets.com/</a>)</li> <li>» Massachusetts Department of Transportation (MassDOT) Separated Bike Lane Planning &amp; Design Guide <a href="https://www.mass.gov/lists/separated-bike-lane-planning-design-guide">https://www.mass.gov/lists/separated-bike-lane-planning-design-guide</a></li> <li>» Smart Growth America: <a href="https://smartgrowthamerica.org/program/national-complete-streets-coalition/">https://smartgrowthamerica.org/program/national-complete-streets-coalition/</a></li> </ul>
<p><b>Additional Resources/ Best Practice Example</b></p>	<ul style="list-style-type: none"> <li>» Massachusetts Transit-Oriented Development Case Studies (Canton, Concord, and Somerville): <a href="https://www.mass.gov/service-details/case-studies-transit-oriented-development-tod">https://www.mass.gov/service-details/case-studies-transit-oriented-development-tod</a></li> <li>» Towns with complete streets policies: <ul style="list-style-type: none"> <li>• Gardner, MA: <a href="https://www.gardner-ma.gov/730/Complete-Streets">https://www.gardner-ma.gov/730/Complete-Streets</a></li> <li>• Wellesley, MA: <a href="https://wellesleyma.gov/1414/Complete-Streets">https://wellesleyma.gov/1414/Complete-Streets</a></li> <li>• Ashland, MA: <a href="https://www.ashlandmass.com/564/Complete-Streets">https://www.ashlandmass.com/564/Complete-Streets</a></li> </ul> </li> </ul>

**Implementation Cost**

\$ = up to \$50K  
 \$\$ = \$50–100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**

Short = 1–2 year  
 Medium = 3–5 years  
 Long = more than 5 years



**ACTION**

**Incentivize high-density development near transit hubs.**

A high-density development concentrates residential and commercial buildings together. Locating high-density development near transit hubs in Dedham will provide convenience and potentially better access to public transportation for those working and living in Dedham. Introducing incentives for developers who build dense, transit-oriented development (TOD) in the form of density bonuses, expedited permitting, or other means could support Dedham’s goals of improving access to transit, promoting a diversity of uses, enhancing connectivity, and fostering inclusivity.

**IMPLEMENTATION LEAD** Planning and Zoning Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Conduct case studies of options and/or successful models for TOD developer incentives.	» Planning and Zoning Department » Economic Development Department	\$	Short
2. Facilitate discussions with developers, as well as neighboring municipalities and regional transportation planning organizations, to better understand feasibility, opportunities, and barriers associated with TOD development.	» Planning and Zoning Department » Economic Development Department	\$	Short
3. Identify transit hubs (existing or potential) in Dedham that could accommodate (or should consider) high-density development projects.	» Planning and Zoning Department	\$	Medium
4. Pilot an incentive program or menu of incentives for proposed TOD projects; examples of incentives or incentive programs could include density bonuses, expedited permitting, etc.	» Planning and Zoning Department » Developers	\$\$-\$\$\$	Medium
5. Based on lessons-learned and improvements to considered from pilot projects, formalize the incentive program for high-density, TOD development projects.	» Planning and Zoning Department	\$	Medium
6. Introduce a new ordinance that promotes the incentive program for TOD development.	» Planning and Zoning Department » Planning Board	\$	Medium

<p><b>Metrics for Tracking Progress</b></p>	<ul style="list-style-type: none"> <li>» Number of new high-density developments near transit hubs</li> <li>» Number and percentage of residents living within a half-mile of a transit (bus or commuter rail) connection</li> <li>» Greenhouse gas emissions avoided through increased use of alternative modes of transportation</li> <li>» Reduction in vehicle-miles-traveled (VMTs)</li> </ul>
<p><b>Co-benefits/Related Planning Elements</b></p>	<ul style="list-style-type: none"> <li>» Equity – Improve access for all populations to Town resources, increased housing with potential for more affordable options</li> <li>» Buildings and Energy – New construction provides opportunities for incorporating sustainability and resiliency measures</li> <li>» Economic Development – Improve access to commercial and residential areas, attract new residents and visitors to Dedham with convenience of public transportation options</li> <li>» Public Health &amp; Safety – TOD promotes alternative transportation, avoiding single-occupancy vehicle pollution</li> </ul>
<p><b>Educational/ Outreach Resources</b></p>	<ul style="list-style-type: none"> <li>» Handout materials, informational sessions for contractors, developers to learn more about the TOD incentive program</li> </ul>
<p><b>Additional Resources/ Best Practice Example</b></p>	<ul style="list-style-type: none"> <li>» Massachusetts Transit-Oriented Development Case Studies (Canton, Concord, and Somerville): <a href="https://www.mass.gov/service-details/case-studies-transit-oriented-development-tod">https://www.mass.gov/service-details/case-studies-transit-oriented-development-tod</a></li> </ul>

**Implementation Cost**

\$ = up to \$50K  
 \$\$ = \$50–100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**

Short = 1–2 year  
 Medium = 3–5 years  
 Long = more than 5 years



**ACTION**

**Install safety measures to ensure safer pedestrian, cycling, and transit access across major roads and highways at targeted locations (e.g., for Legacy Place, across Route 1).**

Improving safety across major roads and highways will ensure continuity of walking and biking paths and connect areas of Dedham that may currently be inaccessible to pedestrians and cyclists. Safety measures may include barriers and flashing signs that alert motorized vehicle users to passing cyclists or pedestrians crossing busy intersections. These measures will promote the use of alternative transportation and reduce reliance on cars, improving sustainability in Dedham by reducing greenhouse gas emissions, improving public safety, and enhancing access to Dedham’s resources.

**IMPLEMENTATION LEAD** Planning and Zoning Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Review key indicators (including traffic, pedestrian, and cycling fatalities/accidents) to determine priority locations for pedestrian and bicycle safety improvements.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Engineering Department</li> <li>» GIS Department</li> <li>» Active Transportation Working Group</li> <li>» Police Department</li> <li>» Livable Dedham</li> </ul>	\$	Short
2. Research effective safety improvement measures (technologies, physical structures) to determine what measures might best address safety concerns in priority locations.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Public Works Department</li> <li>» Active Transportation Working Group</li> </ul>	\$	Short
3. Gather community input to inform prioritization and character of improvements.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Active Transportation Working Group</li> <li>» Planning Board</li> <li>» Residents</li> <li>» Businesses</li> </ul>	\$	Medium
4. Seek Town funds and/or research and apply for external funds to support improvements.	<ul style="list-style-type: none"> <li>» Finance Department</li> <li>» Planning and Zoning Department</li> <li>» MassDOT</li> </ul>	\$	Medium
5. Implement priority improvements.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Engineering Department</li> <li>» Public Works Department</li> </ul>	\$ - \$\$	Medium/Long

<p><b>Metrics for Tracking Progress</b></p>	<ul style="list-style-type: none"> <li>» Number and percentage of major Dedham attractions (commercial centers, local and regional parks, etc.) accessible by walking, biking, and transit</li> <li>» Miles of new biking or walking trails</li> <li>» Connectivity – miles of continuous biking or walking trails</li> <li>» Number and percentage of residents living within a half-mile of a transit (bus or commuter rail) connection</li> <li>» Greenhouse gas emissions avoided through increased use of alternative modes of transportation</li> </ul>
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<p><b>Co-benefits/Related Planning Elements</b></p>	<ul style="list-style-type: none"> <li>» Equity – safer access for all populations to Town resources</li> <li>» Economic Development – safer access to all areas of town including commercial centers.</li> <li>» Public Health &amp; Safety – safer bike/pedestrian infrastructure reduces accidents; increases access to active forms of transportation; and reduces pollution from vehicle emissions.</li> </ul>
<p><b>Educational/Outreach Resources</b></p>	<ul style="list-style-type: none"> <li>» Massachusetts Pedestrian and Bicyclists Safety Information: <a href="https://www.mass.gov/service-details/pedestrian-and-bicyclists-safety">https://www.mass.gov/service-details/pedestrian-and-bicyclists-safety</a>; <a href="https://www.youtube.com/watch?v=gEcSubcnHk">https://www.youtube.com/watch?v=gEcSubcnHk</a></li> <li>» Massachusetts Bicycle Transportation Plan: <a href="https://www.mass.gov/service-details/bicycle-plan">https://www.mass.gov/service-details/bicycle-plan</a></li> <li>» MassDOT Municipal Resource Guide for Bikeability: <a href="https://www.mass.gov/files/documents/2019/06/13/2019_Municipal_Resource_Guide_for_Bikeability.pdf">https://www.mass.gov/files/documents/2019/06/13/2019_Municipal_Resource_Guide_for_Bikeability.pdf</a></li> <li>» WalkBoston: <a href="https://walkboston.org/">https://walkboston.org/</a></li> <li>» MassBike: <a href="https://www.massbike.org/">https://www.massbike.org/</a></li> <li>» City of Boston Transportation Department Boston Bikes: <a href="https://www.boston.gov/departments/boston-bikes">https://www.boston.gov/departments/boston-bikes</a></li> </ul>
<p><b>Additional Resources/ Best Practice Example</b></p>	<ul style="list-style-type: none"> <li>» Massachusetts Transit-Oriented Development Case Studies (Canton, Concord, and Somerville): <a href="https://www.mass.gov/service-details/case-studies-transit-oriented-development-tod">https://www.mass.gov/service-details/case-studies-transit-oriented-development-tod</a></li> <li>» Pedestrian and Bicycle Information Center (PBIC) Case Study Compendium: <a href="http://www.pedbikeinfo.org/cms/downloads/pbic_case_study_compendium.pdf">http://www.pedbikeinfo.org/cms/downloads/pbic_case_study_compendium.pdf</a>; Additional resources: <a href="http://www.pedbikeinfo.org/resources/pbic_resources.cfm">http://www.pedbikeinfo.org/resources/pbic_resources.cfm</a></li> <li>» Pedestrian Safety Guide and Countermeasure Selection System, Massachusetts Case Studies (Cambridge): <a href="http://www.pedbikesafe.org/pedsafe/casestudies.cfm?op=L&amp;subop=I&amp;state_name=Massachusetts">http://www.pedbikesafe.org/pedsafe/casestudies.cfm?op=L&amp;subop=I&amp;state_name=Massachusetts</a></li> </ul>

**Implementation Cost**

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 \$\$ = \$50–100K  
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**Implementation Timeframe**

Short = 1–2 year  
 Medium = 3–5 years  
 Long = more than 5 years





**ACTION**

**Work with town boards and departments to review and update zoning and permitting requirements, ensuring all provisions are compatible with sustainability and resiliency goals.**

This action will ensure that climate change considerations permeate the way that Town leadership makes decisions impacting land use and development. This review should include all bylaws (e.g., Zoning Bylaws, Wetlands Bylaws); design guidelines (e.g., Dedham Square and East Dedham Square); and departmental and committee policy/procedures (e.g., permitting procedures). Reviewing and updating these processes and documents will ensure that Dedham’s governance structures and regulations align with the sustainability and resiliency goals established as part of the Climate Action and Resiliency Plan.

**IMPLEMENTATION LEAD** Planning and Zoning Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Create a Climate Resilience Zoning Task Force	<ul style="list-style-type: none"> <li>» Planning &amp; Zoning Department</li> <li>» Bylaw Review Committee</li> <li>» All other relevant departments/committees</li> </ul>		
2. Develop a comprehensive list of all potential department procedures, regulations, and bylaws to be reviewed (as well as the scope and status of any recent updates) and identify opportunities to incorporate sustainability and resiliency measures into these documents.	<ul style="list-style-type: none"> <li>» Climate Resilience Zoning Task Force</li> </ul>	\$	Short
3. Prioritize key procedures, regulations, and bylaws to be updated, and establish a timeline and process for implementation (including assigned implementation leads).	<ul style="list-style-type: none"> <li>» Climate Resilience Zoning Task Force</li> <li>» All other relevant departments/committees</li> </ul>	\$	Short
4. Provide public review process for all revisions.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» All relevant Committees/ Departments</li> </ul>	\$	Short (ongoing)
5. Communicate key changes to the zoning and permitting requirements.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» All relevant Committees/ Departments</li> </ul>	\$	Medium
6. Adopt key changes (i.e., new revisions or incorporation of sustainability and resiliency considerations) to the zoning and permitting requirements, procedures, bylaws.	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Planning Board</li> </ul>	\$	Short/Medium (ongoing)
7. Conduct periodic review and consider revisions based on latest climate change data and literature.	<ul style="list-style-type: none"> <li>» Planning &amp; Zoning Department</li> <li>» Planning Board</li> </ul>	\$	Short/Medium (ongoing)
<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Number of policies, bylaws, and/or procedures successfully updated to reflect and ensure compatibility with the sustainability and resiliency goals</li> </ul>		
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» All planning elements and guiding principles see potential benefits (Town committees and departments cover all)</li> </ul>		

<p><b>Educational/ Outreach Resources</b></p>	<ul style="list-style-type: none"> <li>» Develop outreach materials to communicate key changes and updates made to the Zoning Bylaws</li> <li>» Develop case studies, best practices, and/or resources associated with the key revisions made to the zoning and permitting requirements</li> </ul>
<p><b>Additional Resources/ Best Practice Example</b></p>	<ul style="list-style-type: none"> <li>» Massachusetts Division of Capital Asset Management and Maintenance Office of Energy and Sustainability Resilience Resources and Tools: <a href="https://www.mass.gov/service-details/resilience-resources-and-tools">https://www.mass.gov/service-details/resilience-resources-and-tools</a></li> <li>» ResilientMA: <a href="https://resilientma.org/">https://resilientma.org/</a></li> <li>» Massachusetts Wildlife Climate Action Tool: Adaptation Strategies and Actions Adapt or update municipal plans: Master Plans <a href="https://climateactiontool.org/content/adapt-or-update-municipal-plans-master-plans">https://climateactiontool.org/content/adapt-or-update-municipal-plans-master-plans</a></li> </ul>

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 Long = more than 5 years



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Handicapped Accessible



## SOLID WASTE RESOURCES

Dedham acknowledges that single-use products and the linear path of traditional waste disposal are problematic for the environment, and that there is much opportunity to reuse and repurpose many of the community's goods. The Town is committed to increasing rates of community-wide recycling, and investing in composting services to reduce the community's overall waste generation. Dedham will increase public outreach and awareness of sustainable waste management options, while also fostering a culture that emphasizes shared resources, exchanges of goods, and innovative means of upcycling products that are used and consumed in the community. The actions for this planning element build upon the successes that Town has had implementing innovative waste solutions, like composting in schools and instituting a Plastic Bag Ban, to move Dedham toward a zero-waste future.

### Goals

1. Reduce solid waste generation by **30 percent by 2030**.
2. Waste diversion practices throughout the community have eliminated contamination.
3. Dedham achieves **zero waste by 2050**.
4. Dedham creates a **circular economy through creative solutions** for production, consumption, and waste management.

### Solid Waste Resources Today

Dedham's varied solutions to manage municipal waste have set the Town on the right track. Getting to zero waste, however, will require the full participation of informed residents, strategy around waste contracting and collection, and forging new connections and partnerships with public and private sectors alike.

**6,264** TONS

Total trash collected in 2018<sup>53</sup>

**2,763** TONS

Total recycled in 2018<sup>54</sup>

**42.5%** DIVERSION RATE

In the first seven months following the introduction of single stream recycling and automated collection in 2009, Dedham's total trash tonnage dropped by **4,000 tons**.

Recycling rates increased from **12 TONS** to **25.29 TONS**.<sup>55</sup>

<sup>53</sup> Town of Dedham. 2018. Greenhouse Gas Emissions Inventory.

<sup>54</sup> Town of Dedham. 2018. Greenhouse Gas Emissions Inventory.

<sup>55</sup> Town of Dedham. "How to Recycle in Dedham."  
<https://www.dedham-ma.gov/departments/environmental/how-to-recycle-in-dedham>.

The Dedham Public Works Department and Environmental Department manage common trash, as well as single stream recycling (as of 2009), which includes paper, metal, and glass. For both trash and recycling pick-up, the Town contracts with Waste Management.<sup>56</sup>

The Town also offers options for recycling/disposing of specific materials that cannot go in common recycling streams, including free curbside textiles recycling (through Simple Recycling); hazardous waste collection (through the Health Department);<sup>57</sup> and drop-off recycling of electronics and bulky items with private partners (e.g., Sleepy's, Best Buy, Staples).<sup>58</sup> Twice a year, the Environmental Department and Sustainability Advisory Committee host an event for residents to recycle items that can't be easily recycled through curbside programs, such as Styrofoam, electronics, paper for secure shredding, mercury lamps, textiles, bikes, packing peanuts, and scrap metal. Residents may purchase Earth Machine Compost bins through the Environmental Department.<sup>59</sup>



*Bins for automated collection of single stream recycling.*

Dedham's Environmental Department has had great success supporting more sustainable materials management.

## DEDHAM RECEIVED FUNDING FROM MASSDEP'S SUSTAINABLE MATERIALS RECOVERY PROGRAM IN 2017 TO CREATE A COMPOSTING AND RECYCLING IN DEDHAM SCHOOLS<sup>60</sup>

<sup>56</sup> Town of Dedham. "Recycling & Trash." <https://www.dedham-ma.gov/departments/public-works-dpw/recycling-trash>.

<sup>57</sup> Town of Dedham. "How to Recycle in Dedham." <https://www.dedham-ma.gov/departments/environmental/how-to-recycle-in-dedham>.

<sup>58</sup> Ibid.

<sup>59</sup> Town of Dedham. "Recycling & Trash." <https://www.dedham-ma.gov/departments/public-works-dpw/recycling-trash>.

<sup>60</sup> Town of Dedham. "Composting at Dedham Schools." <https://www.dedham-ma.gov/departments/environmental/composting-at-dedham-schools>.

## Existing Policies and Programs

Dedham's regulations around waste and recycling are the backbone of its materials management program. But the real innovation has been the programming that Town staff have implemented to engage students and residents to go the extra step to reuse and recycle more.

### Policies

- » Chapter 160 Town Code – Garbage, Refuse, and Waste Materials (2013; 1996)
- » Chapter 216 Town Code – Recycling (1997, 2013)
- » MassDEP Waste Rules and Regulations (various years)<sup>61</sup>
- » Plastic Bag Ban (2019)

### Programs

- » Weekly curbside trash pick-up for 64-gallon totes
- » Bi-weekly curbside recycling pick up for 96 gallon totes (single stream, as of 2009)
- » Overflow bag program for excess household trash, sold for \$2 each
- » Seasonal, bi-weekly yard waste pick-up
- » Bi-annual Recycle Events for select materials, such as Styrofoam and scrap metal
- » Curbside textile recycling available through Simple Recycling
- » Earth Machine Compost Bins available at a discounted rate through grant funding by MassDEP
- » Composting and Recycling Program in Dedham Schools



*Earth Machine Compost Bins available for purchase through Dedham's Environmental Department.*

## DEDHAM'S PLASTIC BAG BAN HELPS THE TOWN TACKLE THIS ENVIRONMENTALLY PERSISTENT AND PERVASIVE MATERIAL.

<sup>61</sup> Massachusetts Department of Environmental Protection. "Waste & Recycling Laws & Rules." <https://www.mass.gov/service-details/waste-recycling-laws-rules>.

**Actions for Solid Waste Resource**

With its ambitious goals for solid waste management, the Town will need to ramp up its recycling efforts, including education and engagement, in partnership with haulers. New town-wide standards will help to curb the disposal of materials that cause the biggest issues for waste processors and markets. Partnerships with businesses and institutions will enable Dedham to create local markets for recycling and reusing. Together, the following actions pave the way for Dedham’s zero waste future.

Action	Potential Partners	Implementation Timeframe
1. Expand composting programs and associated education to all public schools in Dedham.	» School Department » Environmental Department » Public Works Department	Medium
2. Establish a consistent recycling education program in partnership with Waste Management.	» Waste Management » School Department » Environmental Department » Dedham Public Library	Short (ongoing)
3. Establish a Town-wide recycling identification system (e.g., sticker system) to support residents with proper recycling and/or to alert residents to improper sorting and disposal practices.	» Public Works Department » Environmental Department	Short
4. Require businesses and multi-family residences that contract with private haulers to obtain recycling services by implementing Private Hauler Regulations.	» Public Works Department » Environmental Department » Private haulers » Local businesses	Medium
5. Provide increased recycling options for bulk items including white goods and furniture. Consider establishing of a town collection area.	» Public Works Department » Environmental Department	Short/Medium
6. Consider additional waste bans (beyond plastic bags, Styrofoam, straws) to reduce key sources of recycling contamination.	» Public Works Department » Environmental Department	Short/Medium
7. Expand options for and education around proper disposal of medical waste.	» Environmental Department » Health Department	Short
8. Develop new outreach and education materials specifically targeted at those audiences/neighborhoods with the lowest recycling rates to encourage proper recycling through clear, multilingual messages.	» See implementation blueprint	
9. Establish a community-wide composting program.	» See implementation blueprint	
10. Introduce a fee for bulk trash items per MassDEP's guidelines.	» Environmental Department » Public Works Department	Medium

Action	Potential Partners	Implementation Timeframe
11. Establish a recycling and repurpose policy/ program for furniture and other bulk items from all public buildings/facilities. Explore creative options for donation and reuse.	» Environmental Department	Short
12. Establish takeback programs in partnership with large businesses (e.g., Amazon cardboard) and vendors of select materials/ contaminants (e.g., batteries, mercury bulbs).	» Public Works Department » Environmental Department » Businesses	Long
13. Promote “buy-nothing” and establish a “swap shop” and other freecycling opportunities for residents in Dedham.	» See implementation blueprint	
14. Adopt guidelines such as Zero Waste Community Principles (from the Zero Waste International Alliance) for Dedham.	» See implementation blueprint	
15. Work with MassDEP requirements to host two or more Hazardous Waste Days annually, regionally or exclusively for Dedham residents.	» Environmental Department » Public Works Department	Short
16. Establish a Pay-As-You-Throw (PAYT) program.	» Environmental Department » Public Works Department	Medium

**Blueprints for Priority Actions**

The following section presents implementation steps in “blueprints” for some of the recommended actions. These actions were considered as priorities based on feedback from CASG workshops and from voting results of the Community Survey 2. These implementation blueprints will help Town staff and decision makers put the Plan into motion.





**ACTION**

**Establish a community-wide composting program.**

Dedham has already made great strides to introduce composting in schools and offer compost bins for residents to purchase at a discounted cost. A community-wide composting program would make it even more convenient for residents and businesses to divert food waste and other biodegradable materials from Dedham’s waste stream, while also creating nutrient rich soil for farming and gardening. Community-wide composting could include a regular composting pick-up and/or a designated drop-off area in partnership with a specialized composting company or private waste hauler.

**IMPLEMENTATION LEADS** Environmental Department and Public Works Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Develop and distribute a survey to gauge resident and business interest in a composting program.	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Sustainability Advisory Committee</li> <li>» Local businesses</li> <li>» Residents</li> <li>» Community organizations</li> </ul>	\$	Short
2. Conduct research (case studies, best practices, etc.) and coordinate with local haulers and Town committees/departments to understand the constraints (e.g., costs, scale, logistics) of implementing various community-wide composting options.	<ul style="list-style-type: none"> <li>» Public Works Department</li> <li>» Environmental Department</li> <li>» Haulers</li> <li>» Finance &amp; Warrant Committee</li> </ul>	\$	Short
3. Based on research conducted in step 2, select a community-wide composting option that best suits the needs of the community.	<ul style="list-style-type: none"> <li>» Public Works Department</li> <li>» Environmental Department</li> </ul>	\$	Short
4. Implement a pilot program within a specific Dedham community or location(s) (e.g., 2-3 neighborhoods, Dedham Square businesses).	<ul style="list-style-type: none"> <li>» Public Works Department</li> <li>» Environmental Department</li> <li>» Pilot users</li> </ul>	\$-\$	Short/Medium
5. Expand the pilot program (first to additional groups, then community-wide) along with a composting education campaign.	<ul style="list-style-type: none"> <li>» Public Works Department</li> <li>» Environmental Department</li> <li>» Local businesses</li> <li>» Residents</li> <li>» Community organizations</li> </ul>	\$\$	Medium/Long

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Creation of community compost option/program</li> <li>» Tons of compost collected/removed from the waste stream</li> <li>» Town-wide diversion rate (tons diverted/total waste tonnage)</li> <li>» Dollars saved by the Town through avoided tipping fees</li> <li>» Number of households participating in compost program</li> </ul>
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» Greenhouse Gas Emissions Reductions – Reduced food waste in landfills</li> <li>» Natural Resources / Public Health &amp; Safety – Soil creation promotes local gardening; reduced pollution due to less truck traffic from waste pickup</li> <li>» Transportation &amp; Land Use – Potentially reduced land needed for landfill</li> </ul>
<b>Educational/ Outreach Resources</b>	<ul style="list-style-type: none"> <li>» Dedham Schools composting outreach materials</li> <li>» MassDEP resources (<a href="https://www.mass.gov/info-details/recycling-waste-reduction-help-for-cities-towns">https://www.mass.gov/info-details/recycling-waste-reduction-help-for-cities-towns</a>)</li> <li>» RecyclingWorks Massachusetts (<a href="https://recyclingworksma.com/source-reduction-guidance/">https://recyclingworksma.com/source-reduction-guidance/</a>)</li> </ul>
<b>Additional Resources/ Best Practice Example</b>	<ul style="list-style-type: none"> <li>» Massachusetts Department of Environmental Protection (DEP) Waste &amp; Recycling Grants</li> <li>» City of Salem (provides three options for residents: curbside, drop-off, and at-home)</li> <li>» City of Cambridge (provides curbside composting)</li> </ul>

**Implementation Cost**  
 \$ = up to \$50K  
 \$\$ = \$50–100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**  
 Short = 1–2 year  
 Medium = 3–5 years  
 Long = more than 5 years



**ACTION**

**Promote “buy-nothing” and establish a “swap shop” and other freecycling opportunities for residents in Dedham.**

“Buy-nothing,” “swap shop,” and freecycling are all methods of reducing new goods purchased by either promoting not buying non-essentials or by purchasing or trading used goods, like clothing, toys or furniture. Promoting “buy nothing” and providing access to freecycling opportunities reduces waste by reducing the amount of new materials purchased and sourced, and provides reuse options, diverting waste from landfills. “Buy-nothing” and freecycling opportunities support the Sustainable Dedham goals by keeping new material out of Dedham’s waste stream.

**IMPLEMENTATION LEAD** Environmental Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Develop survey to gauge resident interest in freecycling and “buy nothing” opportunities, and types of goods residents are interested in freecycling.	» Environmental Department	\$	Short
2. Consult with managers of Town facilities and other community spaces to select potential locations for freecycling events.	» Environmental Department » Facilities & Maintenance » Faith institutions » Nonprofits » Local businesses	\$	Short
3. Assess/understand the implications of the “buy nothing campaign” for local businesses; promote alternative options to purchasing that support the local economy.	» Environmental Department » Sustainability Advisory Committee » Economic Development	\$	Short
4. Create and distribute outreach material to town residents about freecycling, its benefits, and upcoming events; leverage social media and other online resources to promote “buy nothing” campaign and promote alternative options (such as freecycling).	» Environmental Department » Sustainability Advisory Committee	\$	Short
5. Pilot freecycling events to gauge turnout and future facility/resource needs.	» Environmental Department	\$	Short
6. Hold regularly scheduled freecycling events in varying locations to ensure access for all demographics, especially seniors and low-income populations.	» Environmental Department	\$	Short (ongoing)

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» number of “buy-nothing” days or events</li> <li>» number of freecycling and swapping events held</li> <li>» Town-wide diversion rate (tons of waste diverted/total waste tonnage)</li> </ul>
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» Greenhouse Gas emissions reductions – Reduce materials in landfills</li> <li>» Public health - Reduced pollution due to fewer trash truck traffic</li> <li>» Economic development – Create new business opportunities</li> </ul>
<b>Educational/ Outreach Resources</b>	<ul style="list-style-type: none"> <li>» TrashNothing <a href="https://trashnothing.com/help/what-is-freecycling-and-how-does-it-work">https://trashnothing.com/help/what-is-freecycling-and-how-does-it-work</a></li> <li>» The Buy Nothing Project <a href="https://buynothingproject.org/about/">https://buynothingproject.org/about/</a></li> </ul>
<b>Additional Resources/ Best Practice Example</b>	<ul style="list-style-type: none"> <li>» The Freecycle Network: <a href="https://www.freecycle.org/">https://www.freecycle.org/</a></li> <li>» Arlington Community Clothing Swap for seasonal clothing: <a href="https://www.arlingtonma.gov/Home/Components/Calendar/Event/22442/3711?backlist=%2F">https://www.arlingtonma.gov/Home/Components/Calendar/Event/22442/3711?backlist=%2F</a></li> </ul>

**Implementation Cost**  
 \$ = up to \$50K  
 \$\$ = \$50–100K  
 \$\$\$ = \$100K or more

**Implementation Timeframe**  
 Short = 1–2 year  
 Medium = 3–5 years  
 Long = more than 5 years



**ACTION**

**Develop new outreach and education materials specifically targeted at those audiences/ neighborhoods with the lowest recycling rates to encourage proper recycling through clear, multi-lingual messages.**

Dedham has implemented bi-weekly recycling pick-up, bi-annual recycling events for select materials through the Sustainability Advisory Committee, and curbside textile recycling through Simple Recycling. Creating new education and outreach materials that describe proper recycling practices will help improve the efficacy of these recycling programs. Examples of education and outreach materials are fliers or stickers that illustrate what can be recycled for residents to post in their homes; promotional videos on the Town’s social media and television channel, website; and a community dashboard that demonstrates recycling best practices. These outreach materials should be multilingual to ensure that recycling is accessible to all demographics.

**IMPLEMENTATION LEAD** Environmental Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Develop and distribute a survey to gauge resident understanding of recycling and current recycling practices.	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Sustainability Advisory Committee</li> <li>» Neighborhood associations, nonprofits, community organizations</li> <li>» Local businesses</li> <li>» Public Works Department</li> </ul>	\$	Short
2. Conduct an assessment of Dedham’s general recycling stream, and identify key issues and potential opportunities for improvements.	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Department of Public Works (DPW)</li> <li>» Recycling contractor</li> </ul>	\$	Short
3. Review and update existing educational materials based on feedback from steps 1 and 2 that can be understood by all ages. Include multi-lingual versions.	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Public Works Department</li> </ul>	\$	Short
4. Translate outreach materials into multiple languages to align with the needs of populations in Dedham for whom English is not a first language.	<ul style="list-style-type: none"> <li>» Environmental Department</li> </ul>	\$	Short
5. Distribute updated educational materials to all households, business, schools, and public facilities, ensuring all households receive physical copies of educational materials, with materials providing details to additional online materials if applicable.	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» School Department</li> <li>» Health Department</li> <li>» Neighborhood associations, community organizations</li> <li>» Local businesses</li> </ul>	\$	Short

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Diversion rate (tons diverted/total waste tonnage)</li> <li>» Number of households receiving recycling education materials</li> <li>» Increase in recycling rate, and reduction in contamination rate</li> </ul>
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» Greenhouse Gas emissions reductions – reduced waste in landfills</li> <li>» Reduction in contamination, decrease in fees associated with contamination</li> </ul>

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**Implementation Timeframe**

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<p><b>Educational/ Outreach Resources</b></p>	<ul style="list-style-type: none"> <li>» Workshop or informational sessions to communicate new outreach materials, particularly for those who will be conducting the outreach.</li> <li>» Promote the updated resources on Dedham TV, departmental newsletters, through local businesses, etc.</li> <li>» MassDEP resources <a href="https://www.mass.gov/info-details/how-where-to-recycle#what-to-put-in-your-bin-">https://www.mass.gov/info-details/how-where-to-recycle#what-to-put-in-your-bin-</a>; <a href="https://www.mass.gov/topics/recycling-waste-management">https://www.mass.gov/topics/recycling-waste-management</a></li> <li>» Recycle Smart <a href="https://recyclesmartma.org/">https://recyclesmartma.org/</a></li> <li>» RecyclingWorks Massachusetts <a href="https://recyclingworksma.com/">https://recyclingworksma.com/</a></li> </ul>
<p><b>Additional Resources/ Best Practice Example</b></p>	<ul style="list-style-type: none"> <li>» The City of Boston Recycling and Trash Directory: <a href="https://www.boston.gov/trash-and-recycling-day-schedule-and-search#!rc-cpage=wizard_material_list">https://www.boston.gov/trash-and-recycling-day-schedule-and-search#!rc-cpage=wizard_material_list</a></li> <li>» Framingham Recycling and Trash directory, the Waste Wizard, with infographics to show how to dispose of plastics: <a href="https://www.framinghamma.gov/2854/Recycling-Plastics">https://www.framinghamma.gov/2854/Recycling-Plastics</a></li> </ul>

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**ACTION**

**Adopt guidelines such as Zero Waste Community Principles (from the Zero Waste International Alliance) for Dedham.**

Dedham has already adopted policies and programs to manage its waste more sustainably. Officially adopting a set of Zero Waste principles would publicly solidify the Town’s commitment to a zero-waste future while providing a helpful framework for public education and further action. Zero Waste Community Principles (from the Zero Waste International Alliance) are one example of guidelines that the Town can consider. They include elements such as establishing a standard definition of zero waste, establishing benchmarks and a timeline for specific waste targets, conducting community engagement, introducing extended producer responsibility (EPR) rules, and expanding zero waste infrastructure. Dedham can build on these guidelines to establish the principles that make most sense for the Town.

**IMPLEMENTATION LEADS** Environmental Department and Public Works Department

Implementation Steps	Implementation Partners	Cost (\$, \$\$, \$\$\$)	Timeframe (short, medium, long)
1. Compile a set of potential zero waste principles and frameworks for Dedham.	» Public Works Department » Environmental Department	\$	Short
2. Conduct a high-level feasibility study to understand the relative social, environmental, and economic costs and benefits associated with various principles (e.g., zero waste procurement, EPR).	» Public Works Department » Environmental Department	\$	Short
3. Develop and distribute a survey to town residents and business to gauge the waste reduction principles they would be able to contribute to and are interested in seeing.	» Public Works Department » Environmental Department » Sustainability Advisory Committee	\$	Short
4. Identify waste reduction principles to be adopted, based on community feedback and results of the feasibility study.	» Environmental Department » Public Works Department » Sustainability Advisory Committee	\$\$	Medium

<b>Metrics for Tracking Progress</b>	<ul style="list-style-type: none"> <li>» Adoption of Zero Waste and other waste reduction principles</li> <li>» Tons of waste diverted from landfills (tons diverted/total waste tonnage)</li> <li>» Tons of materials recycled</li> <li>» Tons of materials composted</li> <li>» Tons of materials reused through programs such as clothing swaps and freecycling</li> </ul>
<b>Co-benefits/Related Planning Elements</b>	<ul style="list-style-type: none"> <li>» Public Health and Safety: Improved air quality through emissions reductions and reduced waste truck traffic</li> <li>» Greenhouse Gas emissions reductions – reduction of waste in landfills</li> <li>» Equity – reducing or eliminating landfills disproportionately located in low-income and minority communities</li> </ul>
<b>Educational/ Outreach Resources</b>	<ul style="list-style-type: none"> <li>» Zero Waste International <a href="http://zwia.org/">http://zwia.org/</a></li> <li>» Massachusetts DEP <a href="https://www.mass.gov/info-details/recycling-waste-reduction-help-for-cities-towns">https://www.mass.gov/info-details/recycling-waste-reduction-help-for-cities-towns</a></li> <li>» Massachusetts Solid Waste Master Plan <a href="https://www.mass.gov/guides/solid-waste-master-plan">https://www.mass.gov/guides/solid-waste-master-plan</a></li> </ul>
<b>Additional Resources/ Best Practice Example</b>	<ul style="list-style-type: none"> <li>» City of Boston Zero Waste Boston initiative: <a href="https://www.boston.gov/environment-and-energy/zero-waste-boston">https://www.boston.gov/environment-and-energy/zero-waste-boston</a></li> <li>» City of Cambridge Zero Waste Master Plan: <a href="https://www.cambridgema.gov/Departments/publicworks/Initiatives/zerowastemasterplan">https://www.cambridgema.gov/Departments/publicworks/Initiatives/zerowastemasterplan</a></li> </ul>

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# 3

## IMPLEMENTATION PLAN SUMMARY

Setting the Sustainable Dedham Climate Action and Resiliency Plan in motion will require leadership, participation, and collaboration among Dedham’s residents, staff, community organizations, and businesses. The following matrix summarizes, for all actions under the seven planning elements, the potential key partners that could help implement actions in either a short, medium, or long-term implementation timeframe. With this framework, the Dedham community is better prepared to achieve its goals for a more Sustainable Dedham—one that is equitable, healthy, and resilient—into the future.

**Buildings and Energy**

**Goals:**

1. Municipal greenhouse gas emissions are reduced 80% by 2050, using 2010 as a baseline.
2. Community greenhouse gas emissions are reduced 80% by 2050, using 2010 as a baseline.
3. All new construction meets net zero energy building standards.
4. Existing buildings are energy efficient and utilize renewable energy.
5. 80% of municipal energy consumed in Dedham comes from renewable sources by 2050.

Action	Potential Key Partners / Implementers	Implementation Timeframe	Co-Benefits/ Related Planning Elements
1. Adopt green building standards for municipal retrofit and new building projects ⚙️ See implementation blueprint	» Facilities and Maintenance Department » Environmental Department » Building Department	Medium	» Economic Development
2. Conduct an opportunity screening for on-site combined heat and power (CHP) and potential renewable energy on municipal properties	» Mass CEA » Mass Save	Short	» Economic Development
3. Incentivize the incorporation of renewable/alternative energy (e.g. rooftop solar, thermal heat pumps) in new development ⚙️ See implementation blueprint	» Environmental Department » Economic Development Department » Planning and Zoning Department » Mass Save	Medium	» Economic Development
4. Develop a sustainability and resiliency education program for the town's cultural and historic property owners	» Environmental Department » Historical Commission » Cultural Council	Medium	» Public Health and Safety
5. Develop sustainable design standards and net zero energy requirements for new development and major renovations ⚙️ See implementation blueprint	» Environmental Department » Planning and Zoning Department » School Department » Sustainability Advisory Committee » Building Department » Local developers and green building professionals	Medium	» Economic Development
6. Perform deep retrofit of existing municipal facilities	» Building Department » Facilities and Maintenance Department » Environmental Department	Long	» Economic Development
7. Provide energy efficiency and weatherization training and resources for homeowners, landlords, and residents	» Mass Save	Short	» Public Health and Safety » Economic Development

8. Require new development projects (residential and commercial) to incorporate electric vehicle charging infrastructure and parking spaces	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Environmental Department</li> <li>» Building Department</li> </ul>	Medium	<ul style="list-style-type: none"> <li>» Economic Development</li> <li>» Transportation and Land Use</li> </ul>
9. Transition municipal fleet to electric or renewable fuel vehicles	<ul style="list-style-type: none"> <li>» All departments</li> </ul>	Long	<ul style="list-style-type: none"> <li>» Transportation and Land Use</li> </ul>

**Economic Development**

**Goals:**

1. Businesses are prepared for the impacts of climate change.
2. All residents have access to skills trainings and professional development opportunities.
3. Commercial centers are vibrant, connected, and accessible spaces.

Action	Potential Key Partners / Implementers	Implementation Timeframe	Co-Benefits/ Related Planning Elements
1. Conduct an assessment to identify market opportunities and locations for new types of economic growth that support business diversification and address community interests/needs	<ul style="list-style-type: none"> <li>» Dedham Square Circle</li> <li>» Planning and Zoning Department</li> </ul>	Long	<ul style="list-style-type: none"> <li>» Transportation and Land Use</li> </ul>
2. Expand the Green Business certificate program to incentivize businesses to take action around climate change mitigation and adaptation	<ul style="list-style-type: none"> <li>» Dedham Square Circle</li> <li>» Neponset River Regional Chamber</li> <li>» Environmental Department</li> </ul>	Short	<ul style="list-style-type: none"> <li>» Public Health and Safety</li> </ul>
3. Focus development and improve bicycle and pedestrian accessibility around identified transportation corridors/ centers	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Environmental Department</li> <li>» Public Works Department</li> <li>» Engineering Department</li> </ul>	Medium	<ul style="list-style-type: none"> <li>» Public Health and Safety</li> <li>» Transportation and Land Use</li> </ul>
4. Implement an educational program for small businesses on potential climate change impacts, resource distribution and emergency preparedness measures	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» FEMA/MEMA</li> </ul>	Short	<ul style="list-style-type: none"> <li>» Public Health and Safety</li> </ul>
5. Increase the presence of green space/ pocket parks in commercial centers <ul style="list-style-type: none"> <li>🔄 See implementation blueprint</li> </ul>	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Parks and Recreation Department</li> </ul>	Medium	<ul style="list-style-type: none"> <li>» Buildings and Energy</li> <li>» Transportation and Land Use</li> <li>» Natural Resources</li> </ul>



<p>6. Partner with local/regional educational institutions, nonprofits, and businesses to expand training and professional development opportunities in green careers, with a focus on youth, veterans, immigrants, and previously incarcerated populations</p> <p>✦ See implementation blueprint</p>	<ul style="list-style-type: none"> <li>» Economic Development Department</li> <li>» School Department</li> <li>» Massachusetts Clean Energy Center – Workforce Development Division</li> <li>» Local/regional educational institutions</li> <li>» Local businesses and community organizations</li> </ul>	<p>Medium</p>	
<p>7. Work with local businesses to explore opportunities and/or establish resources that will enable them to support the revitalization of existing neighborhood commercial centers</p> <p>✦ See implementation blueprint</p>	<ul style="list-style-type: none"> <li>» Economic Development Department</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Public Health and Safety</li> <li>» Transportation and Land Use</li> </ul>

**Public Health and Safety**

**Goals:**

1. All residents have equitable and timely access to health care services and providers across Dedham’s neighborhoods.
2. All residents, especially vulnerable populations, are prepared for and can recover quickly from future climate-related impacts and disasters.

Action	Potential Key Partners / Implementers	Implementation Timeframe	Co-Benefits/ Related Planning Elements
<p>1. Identify partners and improve volunteer support for public health education (e.g. tick education, sunscreen) and emergency response for all residents</p>	<ul style="list-style-type: none"> <li>» Charles River Watershed Association</li> <li>» Neponset River Watershed Association</li> <li>» School Department</li> <li>» Environmental Department</li> <li>» Health Department</li> </ul>	<p>Short</p>	<ul style="list-style-type: none"> <li>» Economic Development</li> </ul>
<p>2. Ensure individuals with medical devices have renewable-powered battery for backup generators</p>	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Health Department</li> <li>» Senior care facilities</li> <li>» Council on Aging</li> <li>» Dedham Housing Authority</li> <li>» Healthcare providers</li> </ul>	<p>Long</p>	<ul style="list-style-type: none"> <li>» Buildings &amp; Energy</li> </ul>
<p>3. Provide regional transportation services to health care facilities, especially for seniors in Norwood, Westwood, Dedham</p> <p>✦ See implementation blueprint</p>	<ul style="list-style-type: none"> <li>» Health Department</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Transportation and Land Use</li> </ul>

<p>4. Provide training for town staff (e.g. Health Department) and board members on climate-related public health threats, impacts, and response, especially related to vulnerable populations</p> <p>🔄 See implementation blueprint</p>	<ul style="list-style-type: none"> <li>» Health Department</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Economic Development</li> <li>» Buildings and Energy</li> <li>» Natural Resources</li> </ul>
<p>5. Expand Wi-Fi access throughout Dedham, particularly in limited-access and low-income neighborhoods</p>	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Telecommunications providers</li> <li>» School Department</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Buildings and Energy</li> <li>» Economic Development</li> </ul>
<p>6. Incorporate potential climate impacts into emergency response planning for community needs such as shelter, food, and healthcare resources. Anticipate needs for climate refugees and populations beyond Dedham</p>	<ul style="list-style-type: none"> <li>» Planning Department</li> <li>» Environmental Department</li> <li>» Council on Aging</li> <li>» Health Department</li> <li>» School Department</li> <li>» Fire Department</li> <li>» Faith-based community groups</li> </ul>	<p>Short</p>	
<p>7. Ensure that all communications and outreach utilize multimedia and are inclusive for non-native English speakers</p> <p>🔄 See implementation blueprint</p>	<ul style="list-style-type: none"> <li>» Town Manager's Office</li> <li>» Health Department</li> </ul>	<p>Short</p>	<ul style="list-style-type: none"> <li>» Economic Development</li> <li>» Natural Resources</li> </ul>
<p>8. Provide public community emergency preparedness training workshops for citizens (e.g. what to do under various climate impact scenarios and emergencies; how to support vulnerable neighbors)</p>	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» School Department</li> <li>» Health Department</li> <li>» Public Works Department</li> </ul>	<p>Short</p>	
<p>9. Offer targeted funding and technical support for low-income and elderly populations to repair/weatherize their home</p> <p>🔄 See implementation blueprint</p>	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Building Department</li> <li>» Environmental Department</li> <li>» Mass Save</li> <li>» Green building professionals, local developers</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Economic Development</li> <li>» Buildings and Energy</li> </ul>
<p>10. Improve affordability of local and healthy foods through farmers markets and expansion existing gardening program, Dedham Grows, to local parks and other Town owned parcels</p>	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Health Department</li> <li>» Dedham Square Circle/ Dedham Farmers Market</li> <li>» Dedham Food Pantry</li> <li>» Endicott Community Greenhouse</li> <li>» Parks and Recreation Department</li> </ul>	<p>Short</p>	<ul style="list-style-type: none"> <li>» Economic Development</li> <li>» Natural Resources</li> <li>» Transportation and Land Use</li> </ul>
<p>11. Develop an education and enforcement program to reduce vehicle idling</p>	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Police Department</li> <li>» Health Department</li> </ul>	<p>Short</p>	<ul style="list-style-type: none"> <li>» Natural Resources</li> <li>» Transportation and Land Use</li> </ul>

**Infrastructure**

**Goals:**

1. Critical utilities, systems, and infrastructure are repaired and enhanced to withstand climate stressors.
2. Water resource management and protection are effectively coordinated at the regional level.
3. All future projects, new and improvement, incorporate green infrastructure measures and best practices.

Action	Potential Key Partners / Implementers	Implementation Timeframe	Co-Benefits/ Related Planning Elements
1. Establish a regional coordination system with neighboring towns for emergency planning and response, ensuring shared resources and quick recovery for critical municipal infrastructure during a major climate event  ⚙ See implementation blueprint	» Police Department » Fire Department » DPW » Town Manager's Office	Short	» Public Health and Safety » Transportation and Land Use
2. Require an assessment or feasibility study for moving above-ground utilities to underground prior to all major repairs and/or replacements	» Public Works Department » Utility providers	Medium	
3. Conduct an assessment of existing stormwater infrastructure and its condition based on future storm events and flood projections  ⚙ See implementation blueprint	» Transportation and Land	Medium	» Public Health and Safety » Natural Resources » Transportation and Land Use » Buildings and Energy » Economic Development
4. Evaluate and acquire additional backup power capacity (e.g., generators, distributed/renewable energy sources) across critical facilities, such as schools, police, fire, Town Hall, DPW, and libraries	» Transportation and Land » Engineering Department » Planning and Zoning Department » School Department	Medium	» Public Health and Safety
5. Require the consideration of future precipitation projections when evaluating stormwater structures or conducting drainage studies for repairs or proposed development	» Transportation and Land » Engineering Department	Medium	» Buildings and Energy » Public Health and Safety
6. Develop Capital Improvements Projects Resiliency Scoring system	» Environment Department » Planning and Zoning Department » Public Works Department » Engineering Department	Medium	» Buildings and Energy » Economic Development

<p>7. Identify existing septic systems within the 500-year flood zone, and transition/connect those systems to municipal sewer where feasible</p>	<ul style="list-style-type: none"> <li>» Public Works Department</li> <li>» Engineering Department</li> </ul>	<p>Short</p>	<ul style="list-style-type: none"> <li>» Public Health and Safety</li> </ul>
<p>8. Conduct a detailed hydraulic analysis to evaluate flood-prone areas</p>	<ul style="list-style-type: none"> <li>» Engineering Department</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Public Health and Safety</li> </ul>
<p>9. Update guidelines for new public and private infrastructure, specifically the Town of Dedham Design Guidelines, to include design recommendations for considering increased storm frequency and enhancing flood resiliency</p> <p>🔄 See implementation blueprint</p>	<ul style="list-style-type: none"> <li>» Engineering Department</li> <li>» Public Works Department</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Buildings and Energy</li> <li>» Public Health and Safety</li> <li>» Economic Development</li> </ul>
<p>10. Address upstream issues impacting Dedham by working collaboratively with regional entities (e.g., flood storage, dam control and protection)</p>	<ul style="list-style-type: none"> <li>» Public Works Department</li> <li>» Engineering Department</li> <li>» Conservation Commission</li> <li>» Charles River Watershed Association</li> <li>» Neponset River Watershed Association</li> <li>» MassDEP</li> </ul>	<p>Long</p>	<ul style="list-style-type: none"> <li>» Public Health and Safety</li> </ul>
<p>11. Update local stormwater bylaws and regulations to incorporate climate change considerations, improve enforcement, and enhance consistency across other municipalities in the watershed</p>	<ul style="list-style-type: none"> <li>» Public Works Department</li> <li>» Engineering Department</li> <li>» Planning and Zoning Department</li> <li>» Conservation Commission</li> <li>» Environmental Department</li> </ul>	<p>Medium</p>	
<p>12. Introduce and share information on water-saving technologies across the region, including greywater systems and smart water meters</p>	<ul style="list-style-type: none"> <li>» Dedham-Westwood Water District</li> <li>» Public Works Department</li> <li>» Environmental Department</li> </ul>	<p>Short</p>	<ul style="list-style-type: none"> <li>» Natural Resources</li> <li>» Building and Energy</li> </ul>
<p>13. Expand existing education around water conservation to the regional scale to encourage a regional management perspective</p>	<ul style="list-style-type: none"> <li>» Dedham-Westwood Water District</li> <li>» Environmental Department</li> <li>» Metropolitan Area Planning Council</li> </ul>	<p>Short</p>	<ul style="list-style-type: none"> <li>» Natural Resources</li> <li>» Buildings and Energy</li> </ul>
<p>14. Evaluate feasibility of incorporation of green infrastructure in all new development projects.</p> <p>🔄 See implementation blueprint</p>	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» DPW</li> <li>» Environmental Department</li> <li>» Engineering Department</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Natural Resources</li> <li>» Buildings and Energy</li> <li>» Economic Development</li> <li>» Public Health and Safety</li> </ul>
<p>15. Create education programs to promote green infrastructure techniques in landscaping practices</p>	<ul style="list-style-type: none"> <li>» Public Works Department</li> <li>» Planning and Zoning Department</li> <li>» Conservation Commission</li> </ul>	<p>Short</p>	<ul style="list-style-type: none"> <li>» Natural Resources</li> <li>» Public Health and Safety</li> </ul>

16. Create a technical/financial assistance program to accelerate removal of private infiltration and inflow sources	» Public Works Department » Engineering Department	Long	» Buildings and Energy » Natural Resources » Public Health and Safety
17. Create an enterprise fund for stormwater maintenance program, including fee credits to incentivize stormwater retrofits (e.g. installation of green infrastructure, removal of impervious surfaces) on private property	» Public Works Department » Engineering Department	Long	» Buildings and Energy » Natural Resources » Public Health and Safety
18. Develop a maintenance program for Town-owned green infrastructure	» Public Works Department » Engineering Department	Medium	» Natural Resources » Public Health and Safety

**Natural Resources**

**Goals:**

1. Dedham’s tree canopy is enhanced to 65% of the community.
2. Dedham’s trails provide accessible connections between economic centers and neighborhoods.
3. The Town’s wetland areas provide their full ecological value, including providing essential habitat, and water storage and purification.
4. Air and water quality meet or exceed state and federal standards.

Action	Potential Key Partners / Implementers	Implementation Timeframe	Co-Benefits/ Related Planning Elements
1. Advance the tree inventory into an asset management program for tree planting, care, and removal or replacement	» Conservation Commission » Public Works Department	Medium	» Public Health and Safety » Transportation and Land Use
2. Develop a tree preservation bylaw ✦ See <i>implementation blueprint</i>	» Conservation Commission	Short	» Public Health and Safety » Infrastructure
3. Educate residents and businesses around environmentally friendly lawn/ yard management and sustainable landscaping techniques (e.g., pet waste disposal, reduced pesticide use)	» Environmental Department » Conservation Commission » Dedham Public Library » Parks and Recreation Department	Medium	» Public Health and Safety
4. Employ creative ways to educate town staff, residents, and businesses around the importance and role of trees	» Conservation Commission » Public Works Department » Dedham Public Library » Parks and Recreation Department	Medium	» Public Health and Safety

<p>5. Implement prioritized actions from the 2019 Open Space and Recreation Plan (OSRP) that address the expansion and maintenance of open space and trails</p> <p>🔄 See implementation blueprint</p>	<ul style="list-style-type: none"> <li>» Parks and Recreation Department</li> <li>» Environmental Department</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Economic Development</li> <li>» Public Health and Safety</li> <li>» Transportation and Land Use</li> <li>» Infrastructure</li> </ul>
<p>6. Leverage existing work and repairs within public spaces to plant more trees (e.g., DPW work with town sidewalks)</p>	<ul style="list-style-type: none"> <li>» Public Works Department</li> </ul>	<p>Short</p>	<ul style="list-style-type: none"> <li>» Economic Development</li> <li>» Public Health and Safety</li> <li>» Infrastructure</li> <li>» Transportation/Land Use</li> </ul>
<p>7. Protect and promote the preservation of wetlands, including restoration of filled wetlands and floodplain areas</p> <p>🔄 See implementation blueprint</p>	<ul style="list-style-type: none"> <li>» Conservation Commission</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Transportation and Land Use</li> <li>» Infrastructure</li> <li>» Public Health and Safety</li> </ul>
<p>8. Review preferred tree species lists against climate projections and update to ensure trees planted will thrive under future conditions</p>	<ul style="list-style-type: none"> <li>» Conservation Commission</li> </ul>	<p>Short</p>	
<p>9. Review the Town's Wetlands Bylaws to incorporate climate change considerations related to potential habitat loss/degradation, flood storage, etc.</p>	<ul style="list-style-type: none"> <li>» Conservation Commission</li> </ul>	<p>Short</p>	<ul style="list-style-type: none"> <li>» Infrastructure</li> <li>» Transportation and Land Use</li> </ul>
<p>10. Support the development of the Dedham Rail Trail to provide accessible connections between economic centers, schools and neighborhoods</p>	<ul style="list-style-type: none"> <li>» Friends of Dedham Heritage Rail Trail</li> <li>» Selectboard</li> <li>» Town Manager</li> <li>» Planning Department</li> <li>» Environmental Department</li> </ul>	<p>Long</p>	<ul style="list-style-type: none"> <li>» Economic Development</li> <li>» Public Health and Safety</li> <li>» Transportation and Land Use</li> </ul>

**Transportation and Land Use**

**Goals:**

1. Future developments in Dedham prioritize transit access, walkability, and a diversity of uses, while fostering affordability and inclusivity.
2. Zoning and design tools incorporate sustainability and climate resilience.
3. Neighborhoods across Dedham are connected and accessible by a multimodal transportation and public transit system.

Action	Potential Key Partners / Implementers	Implementation Timeframe	Co-Benefits/ Related Planning Elements
1. Complete a Housing Plan to identify and address key housing and resource access needs for all community members, and identify potential redevelopment opportunities	» Planning and Zoning Department	Medium	» Buildings and Energy » Economic Development
2. Incentivize high-density development near transit hubs ✪ See implementation blueprint	» Planning and Zoning Department » Economic Development Department	Medium	» Buildings and Energy » Economic Development
3. Review and update Dedham's Zoning bylaws to proactively enable increased density, diversity of housing types, and transit-oriented development	» Planning and Zoning Department	Medium	» Buildings and Energy » Economic Development » Public Health and Safety
4. Require new development/ redevelopment of sites and buildings to create/provide access for non-motorized transportation (including pedestrian and bike amenities) and public transit	» Planning and Zoning Department » Public Works Department » Engineering Department » Environmental Department	Medium	» Buildings and Energy » Economic Development » Public Health and Safety
5. Work with town boards and department to review and update zoning and permitting requirements, ensuring all provisions are compatible with sustainability and resiliency goals ✪ See implementation blueprint	» Planning and Zoning Department » Environmental Department » Engineering Department » Building Department	Short	» Buildings and Energy » Economic Development » Public Health and Safety » Infrastructure » Natural Resources
6. Review and update existing design guidelines for transportation projects and new development to include sustainability and resiliency provisions	» Planning and Zoning Department » Environmental Department	Medium	» Buildings and Energy » Economic Development » Public Health and Safety

<p>7. Introduce sustainability guidelines/ requirements in site plan applications</p>	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Environmental Department</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Buildings and Energy</li> <li>» Economic Development</li> <li>» Public Health and Safety</li> </ul>
<p>8. Install safety measures to ensure safer pedestrian, cycling, and transit access across major roads and highways at targeted locations (e.g., for Legacy Place, across Route 1)</p> <p>🔄 See implementation blueprint</p>	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Engineering Department</li> <li>» Public Works Department</li> <li>» Active Transportation Working Group</li> <li>» MassDOT</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Economic Development</li> <li>» Public Health and Safety</li> </ul>
<p>9. Expand pedestrian, bike, and transit infrastructure to and around major Town attractions, commercial centers, as well as local and regional parks and trails, including supporting the creation of the Rail Trail</p> <p>🔄 See implementation blueprint</p>	<ul style="list-style-type: none"> <li>» Environmental Department</li> <li>» Engineering Department</li> <li>» Public Works Department</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Economic Development</li> <li>» Public Health and Safety</li> </ul>
<p>10. Establish part of the revenue from the Motor Vehicle Excise Tax to fund pedestrian, bike, and transit infrastructure.</p>	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Environmental Department</li> </ul>	<p>Medium</p>	<ul style="list-style-type: none"> <li>» Natural Resources</li> <li>» Public Health and Safety</li> </ul>
<p>11. Continue implementing a Complete Streets program that ensures roads have bike, pedestrian, and transit access</p>	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Public Works Department</li> <li>» Environmental Department</li> </ul>	<p>Ongoing</p>	<ul style="list-style-type: none"> <li>» Public Health and Safety</li> <li>» Economic Development</li> </ul>
<p>12. Work with MassDOT officials to explore multimodal transportation infrastructure, increased green space, and vegetation options for Route 1</p>	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» Conservation Commission</li> <li>» MassDOT</li> <li>» Locally elected state officials</li> </ul>		<ul style="list-style-type: none"> <li>» Natural Resources</li> <li>» Public Health and Safety</li> </ul>
<p>13. Enhance regional coordination for more substantial funding of transportation projects and to better integrate Dedham into regional networks of non-motorized transportation options, as well as potential MBTA projects for high frequency and high capacity transit such as BRT</p>	<ul style="list-style-type: none"> <li>» Planning and Zoning Department</li> <li>» MBTA</li> </ul>	<p>Medium?</p>	<ul style="list-style-type: none"> <li>» Economic Development</li> <li>» Public Health and Safety</li> </ul>



**Solid Waste Resources**

**Goals:**

1. Reduce solid waste generation by 30% by 2030.
2. Waste diversion practices throughout the community have eliminated contamination.
3. Dedham achieves zero waste by 2050.
4. Dedham creates a circular economy through creative solutions for production, consumption, and waste management.

Action	Potential Key Partners / Implementers	Implementation Timeframe	Co-Benefits/ Related Planning Elements
1. Expand composting programs and associated education to all public schools in Dedham	» School Department » Environmental Department » Public Works Department	Medium	» Public Health and Safety
2. Establish a consistent recycling education program in partnership with Waste Management	» Waste Management » Environmental Department	Short (ongoing)	» Public Health and Safety
3. Establish a Town-wide recycling identification system (e.g., sticker system) to support residents with proper recycling and/or to alert residents to improper sorting and disposal practices	» Public Works Department » Environmental Department	Short	
4. Require businesses and multi-family residences that contract with private haulers to obtain recycling services by implementing Private Hauler Regulations	» Public Works Department » Environmental Department » Private haulers » Local businesses	Medium	
5. Provide increased recycling options for bulk items including white goods, mattresses and furniture. Consider establishment of a town collection area.	» Public Works Department » Environmental Department	Short/Medium	
6. Consider additional waste bans (beyond plastic bags, Styrofoam, straws) to reduce key sources of recycling contamination	» Public Works Department » Environmental Department	Short/Medium	» Public Health and Safety » Natural Resources
7. Expand options for and education around proper disposal of medical waste	» Environmental Department » Health Department	Short	» Public Health and Safety
8. Develop a new outreach and education materials specifically targeted at those audiences/neighborhoods with the lowest recycling rates to encourage proper recycling through clear, multilingual messages	» Environmental Department » Public Works Department	Short	» Public Health and Safety
<p>🌟 See implementation blueprint</p>			

<p>9. Establish a community-wide composting program</p> <p>♻️ <i>See implementation blueprint</i></p>	<p>» Environmental Department » Public Works Department</p>	<p>Short</p>	<p>» Public Health and Safety » Economic Development » Transportation and Land Use</p>
<p>10. Introduce a fee for bulk trash items per DEP's guidelines</p>	<p>» Environmental Department » Public Works Department</p>	<p>Medium</p>	
<p>11. Establish a recycling and repurpose policy/program for furniture and other bulk items from all public buildings/ facilities. Explore creative options for donation and reuse</p>	<p>» Environmental Department</p>	<p>Short</p>	<p>» Public Health and Safety » Economic Development</p>
<p>12. Establish takeback programs in partnership with large businesses (e.g., Amazon cardboard) and vendors of select materials / contaminants (e.g., batteries, mercury bulbs)</p>	<p>» Public Works Department » Environmental Department » Businesses</p>	<p>Long</p>	
<p>13. Promote “buy-nothing” and establish a “swap shop” and other freecycling opportunities for residents in Dedham</p> <p>♻️ <i>See implementation blueprint</i></p>	<p>» Environmental Department</p>	<p>Short</p>	
<p>14. Adopt guidelines such as Zero Waste Community Principles (from the Zero Waste International Alliance) for Dedham</p> <p>♻️ <i>See implementation blueprint</i></p>	<p>» Environmental Department » Public Works Department</p>	<p>Short</p>	<p>» Public Health and Safety</p>
<p>15. Work with DEP requirements to host two or more Hazardous Waste Days annually, regionally or exclusively for Dedham residents</p>	<p>» Environmental Department » Public Works Department</p>	<p>Short</p>	<p>» Public Health and Safety</p>
<p>16. Establish a Pay-As-You-Throw (PAYT) program</p>	<p>» Environmental Department » Public Works Department</p>	<p>Medium</p>	<p>» Public Health and Safety » Economic Development » Natural Resources</p>

## 4

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# GET INVOLVED!

YOU ARE AN ESSENTIAL PART OF A SUSTAINABLE AND RESILIENT DEDHAM.

Dedham's future depends on our ability to work together to identify and prioritize opportunities to strengthen our community and to be prepared for the impacts of a changing climate. We invite you to participate in this process by:



**Talking with  
Friends & Family**



**Sharing  
Your Ideas**



**Attending  
Events**



**Engaging with  
our Online Tools**

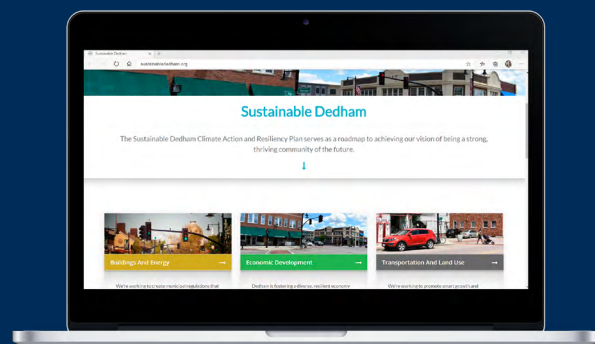
## SUSTAINABLE DEDHAM CLIMATE ACTION TOOLKIT FOR BUSINESSES

In order to support businesses and ensure a resilient local economy, a toolkit was developed alongside the Sustainable Dedham Climate Action and Resiliency Plan. This toolkit contains a set of recommendations, sample projects, and resources that business owners can use to help us achieve our sustainability goals and keep Dedham a safe, thriving community for years to come. With this toolkit you can:

- Reduce your business' greenhouse gas emissions (GHG emissions)
- Prepare your business for disasters and ease recovery
- Help your community prepare for climate change
- Conserve natural resources
- Learn where to find funding for your business to take action

CLICK TO DOWNLOAD 

CHECK OUT THE SUSTAINABLE DEDHAM'S ONLINE COMMUNITY ENGAGEMENT DASHBOARD AT [SUSTAINABLEDEDHAM.ORG](https://SUSTAINABLEDEDHAM.ORG)



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