WESTON AHEAD
Creating our Sustainable Future

# WESTON

## Climate Action Toolkit for Homeowners

KLA

Prepared for the Town of Weston by Kim Lundgren Associates, Inc. as part of a climate action grant from the Massachusetts Executive Office of Energy and Environmental Affairs Municipal Vulnerability Preparedness (MVP) Program.

# Welcome

## TO YOUR TOOLKIT

This toolkit is your guide to reducing your household's greenhouse gas emissions and increasing your resilience in the face of a changing climate.

Whether you are looking to save money on your energy bills, start composting in your backyard, reduce your outdoor water usage, or find more sustainable consumption practices, this toolkit has resources to help guide you.

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Creating a more sustainable and resilient community is a team effort that requires the support of all residents. If you find a tip or resource that is especially helpful, please share with at least three neighbors to keep the momentum going to move Weston Ahead.

# INTRODUCTION

We cherish Weston for its historical character and open spaces – a place where we can recharge on a walk in the woods or relax on the Town Green among our neighbors. Our close proximity to Boston and urban life may draw us here, but the pace of life and rural spaces keep us here. They form the foundation of a community filled with vibrant neighborhoods, great schools, and plentiful natural resources. Much of this is at stake with climate change.

Like most Massachusetts communities, Weston has seen an increase in the frequency and severity of intense storm events, flooding, drought, and extreme heat. These trends are predicted to worsen in coming years.

## DROUGHT

AT-A-GLANCE

IN 2016

**90%** OF MA WAS IN A SEVERE DROUGHT

**52%** OF MA WAS IN AN EXTREME DROUGHT

Weston has the highest water consumption rates in the state.

Drought conditions in MA in 2016.

## INTENSE STORMS

AT-A-GLANCE

FROM 1958-2010

**71%** INCREASE IN STORM INTENSITY

BY 2050

**6"** INCREASE IN PRECIPITATION PROJECTED

With increased storm intensities comes increased clean up costs.

More intense rain and wind from increased severe weather can lead to property damage.

## HEAT WAVES

AT-A-GLANCE

BY 2050

**10-35** MORE DAYS OVER 90° F

**17-39** FEWER DAYS UNDER 32° F

Weston summers are projected to feel more like South Carolina.

Without greenhouse gas emissions reductions driven by climate action initiatives, the MA climate will continue to heat up.

## FLOODING

AT-A-GLANCE

MARCH 2010

**$35.2 M** FLOOD DAMAGE

BY 2050

**10+** EXTRA DAYS RAINFALL OF OVER 1"

$4 M

Weston's Southside Drainage Project to reduce flooding will cost $4 million.

Flooded transfer station access road after March 2010 storm.

These trends affect the health of the Town's residents, natural resources, and infrastructure. Drought puts stress on local wetland and habitats. Heat waves increase the risk of vector-borne diseases, like Eastern Equine Encephalitis (EEE) and Lyme disease, increase energy demand during the summer, and make it hard for kids to focus on hot days in classrooms without A/C. Increasingly intense storms are causing power outages and are especially dangerous for people who rely on electricity to power their medical equipment. Flooding can block essential roadways and cause property damage, such as flooded basements.

The Weston Ahead Climate Action and Resilience Plan is focused on reducing our contribution to climate change and making our community more resilient to its harmful effects. This requires a town-wide effort. Each of us has a responsibility to be a good steward of our community. As a homeowner, you can make a difference and help move Weston Ahead. Together we will ensure a safe, inclusive, thriving, climate-ready community for everyone who calls Weston home.

# HOME ENERGY

Homes use a lot of energy! Buildings generate 67.8% of Weston's community GHG emissions, and residential buildings make up nearly 70% of those emissions. Homes in our town use energy at an especially high rate compared to neighboring communities. Weston homes are much larger than and use twice as much natural gas as similarly-sized homes in the Northeast.

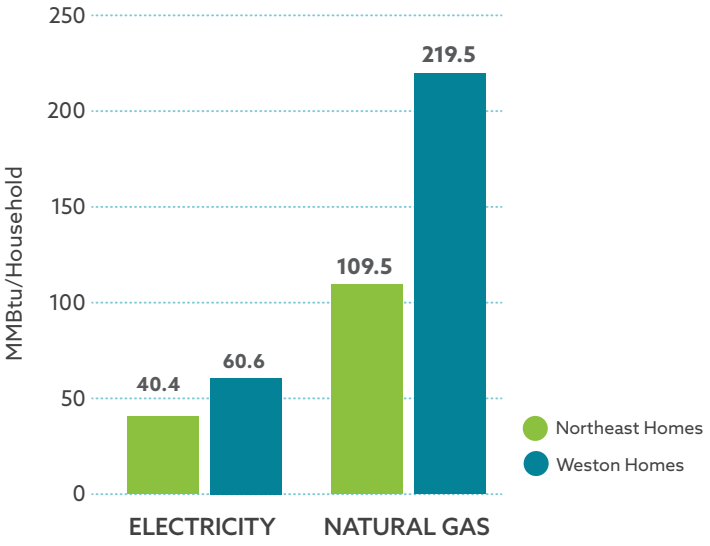
Homes generate about 70% of Weston's community building emissions.

## What are Greenhouse Gas Emissions?

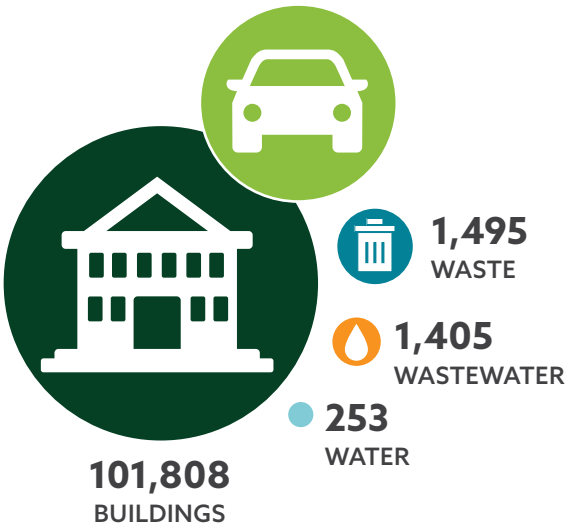
Greenhouse gases (GHGs) are essential to life on Earth. They provide a "blanket" in our atmosphere, trapping heat and regulating the Earth's temperature. However, by burning fossil fuels to power our homes, businesses, and automobiles, we have increased the concentration of GHGs in the atmosphere to levels that have led to disruptions in the Earth's climate.

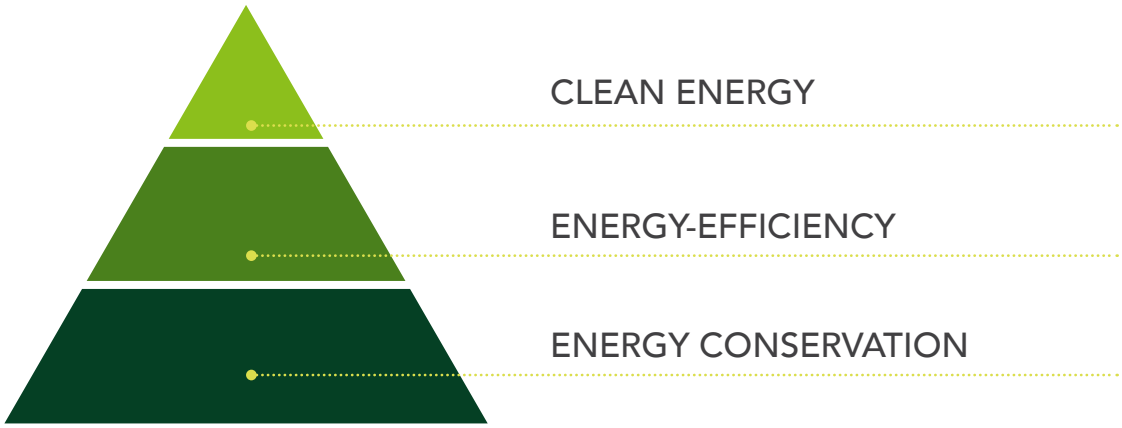
Different GHGs have different heat trapping capacities. $MTCO_2e$ stands for metric tons of carbon dioxide equivalent and is a common unit to measure greenhouse gas emissions that allows us to measure all GHGs together.

### Energy Use in Weston Homes vs. the Northeast Average




### Weston Community Greenhouse Gas Emissions by Sector ($MTCO_2e$)






Fortunately, there are many steps you can take to reduce the emissions from your home. Think of your options like a pyramid, with the bottom layer the simplest, but most foundational, step: adjusting your habits to use less energy. The next layer takes it a step further: making your home more energy efficient. The top of the pyramid goes right to the source: switching to clean energy, like solar or wind, to reduce the carbon footprint of the energy you do use. Action ideas at all levels of the pyramid are shown below.

## Energy Conservation

Start simple by picking a few concrete ways to reduce your energy use at home. Even small habit shifts can make a big difference. Here are a few ideas:

- Turn off the light when you leave the room
- Unplug electronics when not in use
- Use a power strip to turn off electronics and appliances at once when not in use
- Lower the brightness on your computer or television
- Only run your dishwasher and washing machine when you have a full load
- Wash clothes in cold water and avoid overdrying your clothes
- When cooking, use the smallest pot for the job to conserve heat from the stove
- Adjust the thermostat when you leave the house and when you go to sleep
- In the summer, open a window at night instead of turning on the air conditioning
- In the winter, open window coverings during the day to let the sun warm the house, and close them at night to reduce heat loss
- Plant shade trees in your yard to naturally cool your home on hot days
- Make sure your storm windows are properly closed to keep drafts out

Many more energy saving tips are available!

## Energy-Efficiency

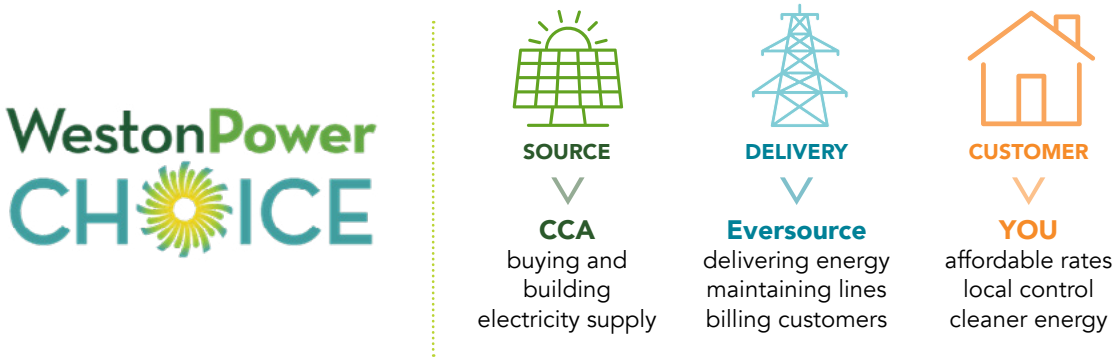
There are many ways to increase energy efficiency at home. Simple DIY steps include switching to energy efficient LED light bulbs and replacing aging appliances with Energy Star models. For professional guidance, or if you aren't sure where to start, schedule a free Mass Save home energy assessment. Mass Save is a collaborative of local electric and natural gas utilities and energy efficiency service providers that helps Massachusetts homeowners save energy and money. Below are some of the services and programs offered through Mass Save.

- Heating and cooling: Electric heating and cooling, gas/oil/propane heating equipment, electric heat pump water heaters, and gas/oil/propane water heaters
- Programmable thermostats: with the option to earn additional incentives based on your energy savings with the Connected Solutions program
- Advanced power strips
- Efficient dryers
- LED bulbs
- Home insulation
- Efficient shower heads
- Efficient washing machines

Looking for more ways to lower your energy costs? Check out the full list of Mass Save rebates/incentives.

## Clean Energy

Once you have minimized your energy use, it may be time to go straight to the source! Renewable energy sources, like wind and solar, have much smaller carbon footprints than natural gas and other fossil fuels. Weston is working to implement Weston Power Choice, an electricity aggregation program that will offer electricity supply options with more renewable energy than currently offered by Eversource. All Weston Eversource Basic Service customers will be automatically enrolled in the program, however, you may opt out at any time.



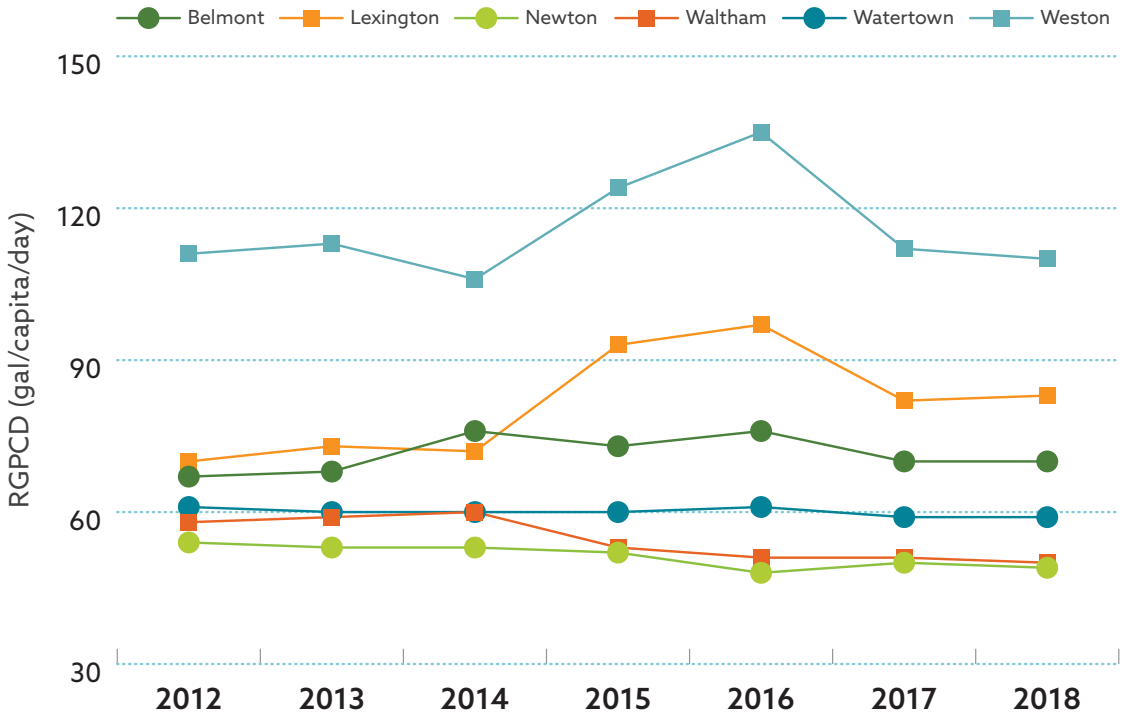
# Project Sunroof

Many Massachusetts residents are installing solar panels directly on their homes, leading to long term energy and cost savings. Project Sunroof combines Google Maps with other information to create a personalized roof analysis. This tool estimates the hours of usable sunlight your roof gets each year, estimated savings over 20 years, recommended solar installation size, the resulting environmental benefits, and detailed financing options. Upfront costs can be reduced by solar tax credits and incentives offered through federal and state programs. Massachusetts Clean Energy Center provides additional resources to help you switch to clean energy in your home.

# SUSTAINABLE LANDSCAPING

Weston prides itself on its vast open spaces and rural character. For many homeowners, maintaining their personal open spaces requires careful upkeep and landscaping, which can come at the cost of high water and chemical use. In fact, Weston has the highest water use per capita rate in the state and 90% of the Town's water use comes from residents. Water use spikes each summer, suggesting a large contributor to this demand comes from watering lawns and landscapes. This section of the toolkit provides resources for how to save water and maintain a more sustainable landscape.

### Historical Water-Use Trends (Residential Gallons Per Capita Per Day)




Not everyone has the physical ability or time to dedicate to landscaping. If that is the case, consider hiring a professional who makes sustainability a top priority.

- Grow Native Massachusetts provides a list of landscapers with a sustainability mission.
- Ecological Landscape Alliance (ELA) provides access to webinars, events, resources, and connections to local professionals.
- Massachusetts Horticulture Society offers online resources and lists of local events.

- American Society of Landscape Architects and Boston Society of Landscape Architects provide databases to search for landscape designers in the area, as well as sustainability articles.
- Weston Plant Pollinator Alliance is dedicated to inspiring Weston to take action to restore and protect habitats for a diversity of wild pollinators throughout Town.

Whether you are doing the work yourself or hiring a professional, below are some goals to consider and resources to help you meet your goals.

## Reduce Water Use

Reducing water use in your landscape doesn't requiring sacrificing aesthetic appeal. Create your dream landscape that doesn't require as much watering and help Weston cut its water usage. The EPA's WaterSense program has a number of tips to reduce outdoor water use, including landscaping tips, drought-tolerant plant suggestions, watering tips, sprinkler maintenance recommendations, and connections to professional irrigation services.

Consider the following steps:

- Install a rain recapture system like a rain barrel or a rain garden.
- Plant regionally appropriate, low water-using and native plants.
- Raise your lawnmower cutting height. Longer grass promotes deeper root growth and creates more drought resistant lawns.
- Minimize or eliminate fertilizer use. Fertilizers promote thirsty growth that requires more water than more established plants.
- Minimize watering when it is hot outside. Water use is often five times higher in the summer than during the winter.
- Upgrade to an irrigation system that has a WaterSense label.

From EPA's WaterSense: To create this lush landscape, the owners replaced turfgrass with a granite walkway and native plants, with a focus on drought-tolerant grasses native to the Northeast U.S. Now established, these plants require no water beyond normal rainfall.

# What Does Restricted Water Use Mean For Me?

During times of drought, the Town of Weston reserves the right to implement a State of Water Supply Conservation or Emergency. These issues place limits on non-essential water usage to protect essential uses, such as drinking water and public safety needs. These restrictions may include any of the following:

### Odd/Even Day Outdoor Watering

Outdoor watering on property having an odd numbered address is restricted to odd numbered days. Outdoor watering on property having an even numbered address is restricted to even numbered days.

### Outdoor Watering Hours

Outdoor watering is permitted only during daily periods of low demand, to be specified in the declaration of a State of Water Supply Conservation and public notice thereof.

### Automatic Sprinkler Use

The use of automatic sprinkler systems is prohibited.

### Outdoor Watering Ban

Outdoor watering is prohibited.

### Outdoor Watering Method Restriction

Outdoor watering is restricted to bucket, can or hand-held hose watering with automatic shutoff nozzle.

### Car Washing

Car or vehicle washing is prohibited.

### Swimming Pools

Filling and topping off of swimming pools is prohibited.

DID YOU KNOW?

According to the National Wildlife Federation:

**42%**

of native plants and animals are at risk because of invasive species.

## Promote Native Species

Invasive species are non-native plants that spread to a new area and quickly become dominant, stifling the growth of native plants and eliminating important habitat for native insects, birds, mammals, and other animals. You can do your part by eliminating invasive species such as buckthorn and knotweed on your own property and planting native species. Consult the Massachusetts Invasive Plants Advisory Group for a list of common invasive species, or the Native Plant Trust and Grow Native Massachusetts to help you find native species that benefit your yard. Native species are also great for pollinators that help gardens flourish naturally!

## Reduce Impervious Surfaces

Impervious surfaces, such as concrete and asphalt, block rain from infiltrating into the soil. Instead, rain runs off these surfaces, often carrying salts and other pollutants into our local waterways. You can reduce impervious surface around your home by reducing the surface area of your driveway or using alternative driveway materials (e.g. grass pavers, mulch, gravel, swept sand pavers, uncemented brick, or pervious concrete).

## Looking for Ideas?

Visit the demonstration native garden at Town Hall that was installed by the Weston Garden Club. Stay tuned for a demonstration rain garden at the Arts & Innovation Center, as well as several demonstration Pollinator Preservation Gardens at locations throughout Weston.

# WASTE REDUCTION

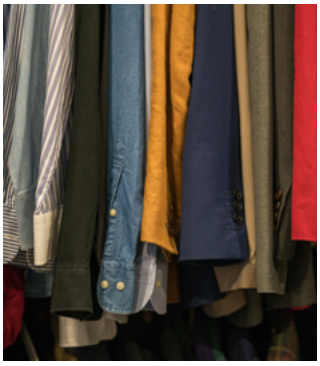
**Weston produces 0.79 tons of trash per household, per year! While the Town has made some progress in the past several years, there's still an opportunity to further reduce the amount that we throw away.** Much of this waste ends up in incinerators, which emit toxic pollutants, or in landfills, where waste decomposes and releases methane emissions that contribute to climate change. Explore this section for ideas to reduce your household waste.

## Consumption

The simplest way to keep waste out of the landfill is to consume less. Streamlining what you use in your daily routine can be refreshing, and good for the environment. Below are some easy ways to reduce your consumption.

**Reduce packaging and single use plastics.** Reusable bags, water bottles, utensils, and containers are easy ways to cut out single use plastics. Limiting what you order online is another great way to reduce harmful packaging.

**Buy local.** Locally produced products have not been shipped across the country or world, which means they have a much smaller carbon footprint and are typically sold with less packaging.



**Trade with neighbors.** Build community and reduce clutter by swapping toys, Halloween costumes, and books with neighbors.

**Buy secondhand.** Shopping secondhand can turn up some unexpected treasures and especially makes sense for growing kids! Shop secondhand online at companies like ThredUp and TheRealReal.

The average Weston household generates

**0.79 tons**

of waste per year! That's about the weight of a Clydesdale horse!

## Recycling Fast Facts*

*Source: https://www.westonma.gov/747/Recycling-Solid-Waste

**50%**

of the plastic we use globally is used just once and then thrown away

**17 trees**

Every ton of paper recycled saves 17 trees and 380 gallons of oil

**$17,000**

In 2017, Weston saved over $17,000 in disposal fees by recycling paper

All electronics can be recycled!

**4x**

Enough plastic is thrown away globally each year to encircle the earth four times

**70 lbs.**

The average U.S. citizen throws away 70 lbs. of clothing every year

**95%**

of clothing can be recycled

## Recycling

Weston has its own Transfer Station that allows residents to recycle a vast amount of materials, keeping recyclables and reusables out of the incinerator/landfill. Not only is recycling good for the environment and state-mandated, it also has the potential to save the Town money. During fiscal year 2016, recycling generated $8,700 in revenue, which then saved a total of $48,121 in avoided disposal costs. Making a habit out of recycling is an easy way to help the environment and make sure Weston spends its resources on the things you value most.

**Not sure what can be recycled at the Transfer Station?**

Weston Recycling at-a-Glance is a good place to start. If you are looking to do more, the Town website has resources on how to recycle the following:

- Cardboard
- Electronics
- Ink Cartridges
- Mercury
- Paper
- Plastic
- Textiles
- Food Waste

Compost pile at Weston Middle School's educational garden

## Composting

Composting can divert as much as a third of household waste away from landfills and incinerators. The process also creates nutrient-rich soil and is an effective natural alternative to chemical fertilizers.

To make composting easier for residents, Weston has initiated a pilot composting program at the Transfer Station. You can bring a wide range of food scraps, including many items (like dairy and meat scraps) that often cannot go in backyard composting systems.

If you prefer to compost at home, setting up a backyard composting system is easier than you think. This Earth Easy guide provides all the information you need to pick the right composting system, learn what can and cannot be composted, and get tips on how to create the richest soil. Choosing an enclosed system will help ensure pests are not an issue. Consult the MassDEP's composting guide for more information.

You can also sign up for a private compost hauling service, such as Black Earth Compost, Bootstrap Compost, or bring your organic waste to the Weston transfer station, which now accepts compost.

## Bulk Waste Donation

Starting in 2021, the Town of Weston will charge residents for bulky waste items. Visit this link on the Town's website for some great options for donation of these items.

## Local Food

Buying local food cuts out the emissions that result from the transportation of the food. It is also a great way to support local farmers, and our local economy. Weston is fortunate to be surrounded by a number of local farms and farm stands, such as Land's Sake Farm, Bush Hill Farm, and Viles Farm Stand.

© https://www.facebook.com/landssake/photos

## Land's Sake Farm

**Land's Sake Farm** is a mission driven farm, dedicated to building meaningful connections between people, the food they eat, and the land. Land's Sake runs a year-round farm, a farm stand, a Community Supported Agriculture (CSA) program, a maple sugaring and forestry program, and more. There are plenty of ways to engage with Land's Sake and start making more sustainable food choices.

VISIT THE FARM STAND

JOIN THE CSA

EXPLORE EDUCATIONAL PROGRAMS

ATTEND AN EVENT

# HOUSEHOLD PREPAREDNESS

Climate change is bringing more frequent and more intense storms to the region, increasing the risk of property damage and power outages. With weather becoming less predictable, it is essential to be prepared for weather related emergencies. The following resources will help you create and communicate your plans with your household and will ensure you are never caught unprepared during an emergency.

**Know your local preparedness resources.** The Weston Fire Department has created a Community Emergency Preparedness & Response Guide, which provides information on everything from signing up for Weston Alerts to making emergency plans that account for vulnerable populations. You can also sign up for Weston's Public Safety News and consider volunteering to make Weston more prepared!

**Make a preparedness kit.** The Federal Emergency Management Agency (FEMA) recommends being ready to survive for 72 hours in your home without power. Creating a preparedness kit with all the essentials will ensure you are ready for an unexpected emergency.

**Communicate with your children.** If you have kids, talking about climate change and disasters can be a daunting task. Yale Climate Connections recommends being honest and focusing on solutions when talking with young children. Ready.gov has also create resources to help prepare kids for disasters in a non-frightening way.

# CLEAN TRANSPORTATION

How you travel can also make a big difference in your carbon footprint. Thirty percent of Weston's GHG emissions come from transportation. Consider the following strategies.

**Walk or bike for short trips.** When possible, leave the car at home! Find safe walking and biking routes, like the Mass Central Rail Trail, the Bay Circuit Trail and Greenway, and other town trails, to work into your routine. Check out these Smart Cycling videos, so you stay safe on the roads.

**Take the Commuter Rail.** Weston is conveniently located near three Commuter Rail Stations: Kendal Green, Hastings, and Silver Hill. Take advantage of the extra time to work or relax by taking the Commuter Rail instead of driving to work!

**Carpool.** Sometimes you simply have too much to carry or too far to go to walk or bike. You can still reduce car trips by carpooling with neighbors to school or work.

**Consider an electric vehicle.** Electric vehicles are a great way to reduce emissions if limiting car trips is not feasible. Rebates and tax incentives are available in Massachusetts, and online resources and apps can tell you where to find nearby charging stations. Never buy gas again!

**Consolidate Trips.** Plan your errands and other outings to minimize driving. What trips can you combine?

Your local government is here to support you in striving for a more sustainable lifestyle. Stay up to date with Weston's efforts in this area.

# STAY CONNECTED

Stay informed with the latest Town news and notifications from Weston Ahead and other Town groups.

Sign up for Weston Alerts, the Town's emergency notification system, and register your communication preferences.

Have ideas to make Weston more sustainable? Email sustainability@westonma.gov

**www.westonahead.org**

**@WestonMass**

**@Town_of_Weston**

**@TownWeston**

1712
WESTON TOWN HALL
1917

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