

APPENDICES

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APPENDIX A: TECHNICAL REPORTS

CLIMATE & ENERGY TECHNICAL REPORT

INTRODUCTION

The focus of the Climate and Energy element of Five Villages: One Future is on planning for climate change and related environmental and social challenges in Montague.

Land development, landfills, and the fossil fuels burned to generate electricity, heat homes and workplaces, grow food, and fuel transportation release greenhouse gases (GHGs) into the atmosphere. The excess GHGs emitted in the atmosphere since the Industrial Revolution absorb heat, leading to more heat retention and an increase in land and water surface temperatures around the globe. Earth's temperature has risen at least 1.1°C (about 2°F) since the start of the industrial age, with the ten warmest years in the historical record all having occurred since 2010.¹ The Intergovernmental Panel on Climate

Change recommends that the global average temperature be limited to within 1.5°C (2.7°F) above preindustrial levels, and has identified that the world is on track to exceed that threshold in the early 2030s. This warming pattern is disrupting typical climate patterns and causing more extreme weather events. In Montague, this is evident primarily as increased temperatures and precipitation, increased variability in weather patterns, and more extreme weather events.

Resilience focuses on the capacity of a community to adapt to, mitigate, or recover from **chronic stressors** (issues or burdens that are ongoing, such as housing shortage, economic recession, or the impacts of chronic flooding) and **acute shocks** (problems that arise suddenly and have far-reaching impacts, like a natural disaster or a pandemic). Resilience means that systems maintain their essential function and identity in the face of climate stressors and shocks, through adaptation, learning, and transformation. Generally speaking, resilience is often looked at through four lenses: social, infrastructural, economic, and ecological. **Climate**

Resilience

The capacity of individuals, communities, institutions, businesses, and systems within a [community] to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.

The Rockefeller Foundation,
100 Resilient Cities

¹ Lindsey and Halhman, "Climate Change: Global Temperature" on Climate.gov, 1/18/2023.

resilience is specifically the practice of resilience under chronic stressors and acute shocks brought on by climate change. **Sustainability** is an important companion concept to resilience in all its forms. It promotes the goal of meeting the needs of a current generation without compromising the needs of future generations.

Key to climate resilience and sustainability at the community level are **mitigation** of the contribution of the GHGs that worsen climate change, active **adaptation** to new social and environmental conditions, and **regeneration** of degraded natural and human systems to address historic degenerative impacts. Climate change mitigation involves the reduction of GHG

emissions through both a reduction in energy use and the transition to renewable energy sources. Climate adaptation entails planning for uncertainty and making changes when new conditions arise. Certain initiatives that will help mitigate climate change will also aid in adaptation (Figure A1). Regeneration focused on natural elements—clean air and water, healthy soil, and functioning ecosystems—are fundamental to ecological resilience. Regeneration focused on trust sense of belonging, social connectedness, and equity are fundamental to social resilience.

Adaptation. The process of adjustment to changes in climate trends and events and their effects.

Mitigation. Actions that reduce the rate and intensity of changes in climate.

Regeneration. Healing, repair, and renewal of ecological and social systems to full health and whole functioning.

CLIMATE & ENERGY TECHNICAL REPORT

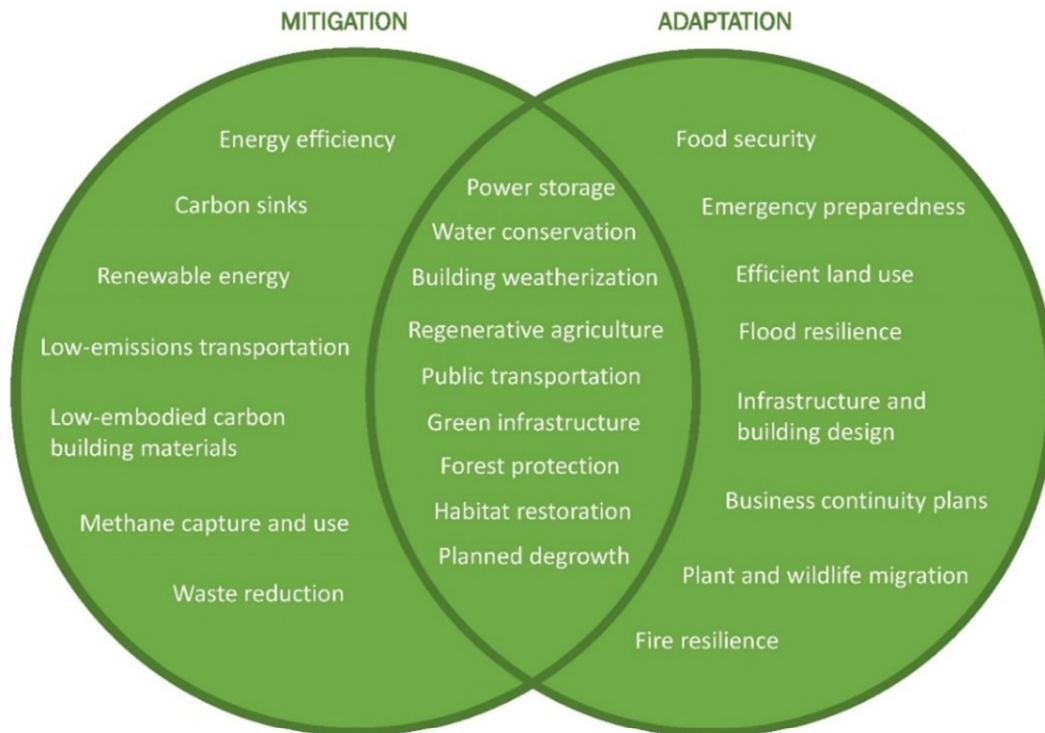


Figure A1. Example Climate Mitigation and Adaptation Strategies

The current and projected impacts of climate change are beyond the Town’s control. At the same time, every effort toward mitigation and regeneration helps to reduce the severity of the impact and improve the odds of adaptation. The very systems that are vulnerable to the impacts of climate change are also important for protecting community members and assets.

Climate resilience and sustainability intersect with every other element of this plan as it outlines likely future climate scenarios and the ways the community can be anticipating and adapting to environmental changes.

This element builds on previous climate and sustainability planning the Town of Montague has conducted:

- [2008 - 2013 Energy Reduction Plan \(ERP\)](#)
- [2018 Municipal Vulnerability Preparedness \(MVP\) Plan](#)
- [2018 Energy Infrastructure Asset Report](#)
- [2020 Hazard Mitigation Plan \(HMP\)](#)
- *2024 Municipal Vulnerability Preparedness (MVP) 2.0 Process*

INVENTORY & EXISTING CONDITIONS

Changes in Local Climate and Weather Patterns

All temperature and precipitation data presented are from modeling conducted for the Commonwealth of Massachusetts and are available at ResilientMA.²

Temperature

In Montague, the impacts from increasing temperatures will include higher average annual temperatures, warmer and shorter winters, more days that feel like 90°F or hotter,³ more frequent droughts, and longer heat waves. Annual temperatures in the Northeast have been warming 0.5°F per decade on average since 1970, with winter temperatures increasing even faster at 1.3°F per decade.⁴ In Western Massachusetts, there were 11 more days with that felt 90°F or hotter in the year 2020 compared to 1979 (for a total of 25).⁵

Based on downscaled⁶ climate projections of a high-emissions scenario (red band in Figures A2 and A3), the average temperatures for the Connecticut River watershed are expected to increase by 4 – 8°F by 2050 and by 7 – 13°F by 2090 (Figure A2).⁷ These warmer temperatures will be punctuated by an estimated median⁸ of 29 days above 90°F by 2050 and by 46 days above 90°F by 2090 (Figure A3). As average temperatures get warmer, the median projected

² Resilientma.mass.gov/ climate change projections for the Commonwealth of Massachusetts are based on simulations from the generation of climate models included in the Coupled Model Intercomparison Project Phase 5 (CMIP5). These same CMIP5 models formed the basis of projections summarized in the IPCC Fifth Assessment Report (2013). The statewide projections comprising county- and watershed-level information are derived by statistically downscaling CMIP5 model results using the Local Constructed Analogs (LOCA) method (Pierce et al., 2014). The LOCA dataset provides values for daily precipitation, and maximum and minimum temperature on a ~6 km grid (available here: <http://loca.ucsd.edu/>). The LOCA method corrects for systematic biases present in climate model simulations, and has been shown to produce better depiction of climate extremes compared to previous statistical downscaling methods. The climate change projections are based on fourteen CMIP5 models and two pathways of future greenhouse gas emissions: RCP4.5 and RCP8.5, the medium and high emissions scenarios, respectively.

³ Feels like temperature = heat index of 90°F or more. The heat index is a measure indicating the level of discomfort the average person is thought to experience as a result of the combined effects of temperature and humidity.

⁴ Resilientma.mass.gov

⁵ Climatecentral.org (based on Springfield, MA data)

⁶ Downscaled climate projections are arrived at by using various statistics-based techniques to determine relationships between large-scale climate patterns/models and observed local climate patterns to provide projections on smaller scales.

⁷ Resilientma.mass.gov

⁸ ResilientMA presents a range of modeled projections with a *median*, or middle value. When a median is given, it means that half of the climate models predict that numbers will be higher than the median, and half of the models predict that numbers will be lower.

number of days below freezing (32°F) are projected to decrease by 28 days by 2050 and 44 days by 2090.

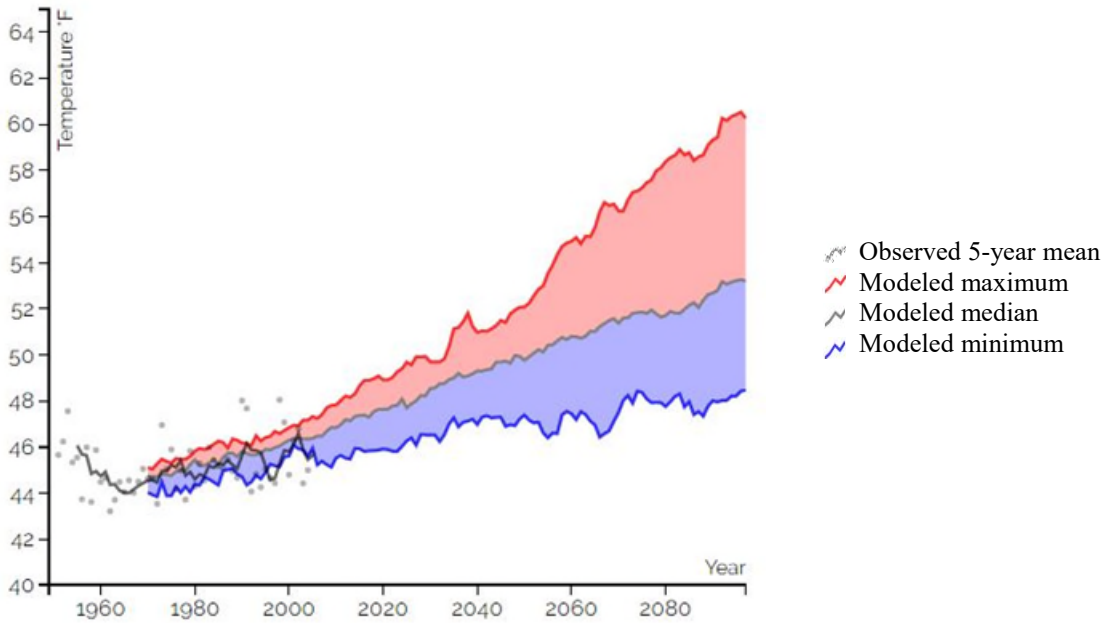


Figure A2. Annual Average Temperature Observed and Projected, Franklin County, 2050s – 2090s (Source: ResilientMA)

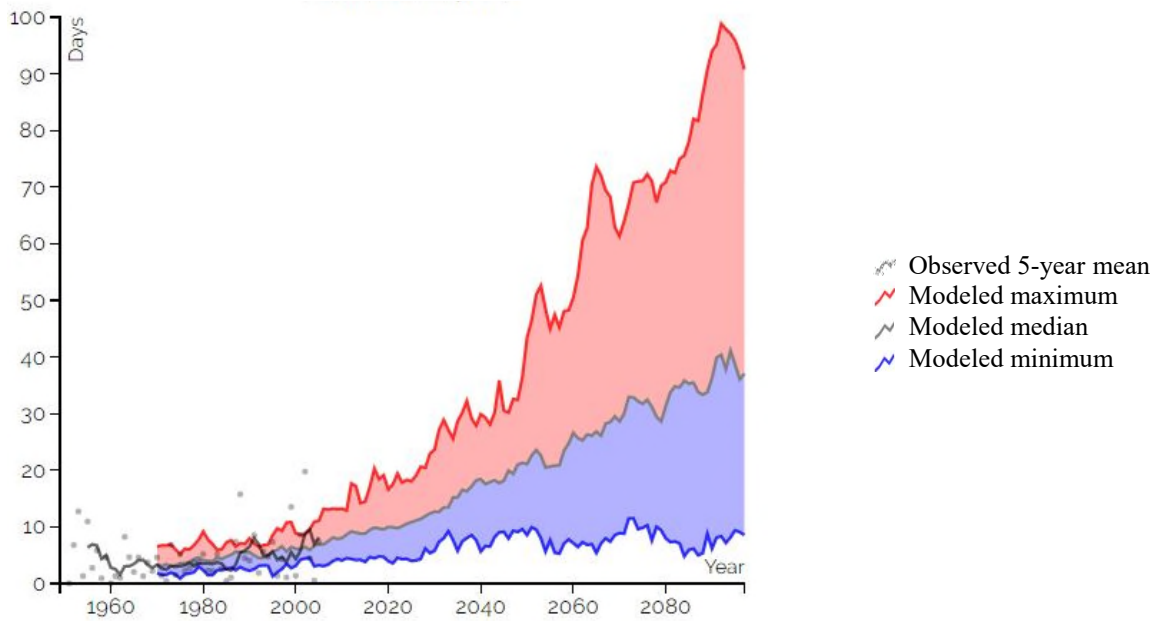


Figure A3. Annual Days with Maximum Temperature Above 90°F Observed and Projected, Franklin County, 2050s – 2090s (Source: ResilientMA)

Precipitation

Even minor changes in average temperatures can cause major changes in precipitation patterns such as rain or snowfall. Impacts from changing precipitation patterns are likely to include less snowfall and snow accumulation, less frequent rainfall but more total precipitation, more days of very heavy precipitation, and greater frequency and severity of droughts. The Northeast has already seen a greater increase in extreme precipitation than any other part of the country, experiencing a 71% increase in heavy precipitation events between 1958 and 2012 (Figure A4).

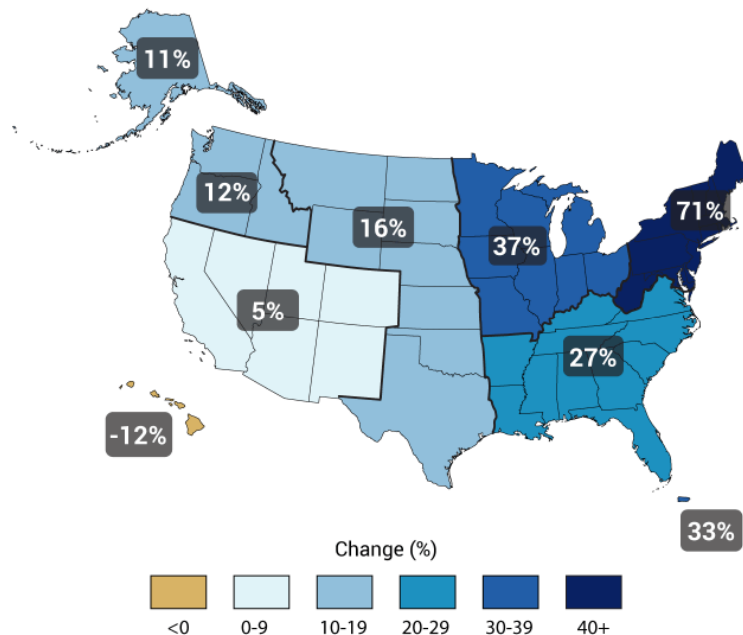


Figure A4. Observed Increase in Very Heavy Precipitation 1958 to 2012 (for top 1% of storm totals)(Source: Groisman et al., 2005, update)

More intense precipitation events, such as snowstorms and downpours, may bring more frequent flooding events, as snowmelt and rain overwhelm stormwater drainage systems and wastewater treatment plants. Paradoxically, these storms may also contribute to more frequent droughts, as the water from short, heavy rainstorms will drain to streams instead of soaking into the ground. In just the past 10 years, Montague has experienced major floods in Millers Falls (2015, 2021) and Turners Falls (2018, 2023), and three years of extreme drought (2016, 2020, 2022).⁹ In general, precipitation projections are more uncertain than temperature projections because precipitation is sensitive to more factors and therefore naturally more variable. Climate-resilient planning for these extremes involves using conservative estimates in designing for future storms.

⁹ National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information Storm Events Database: <https://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=25%2CMASSACHUSETTS>

Currently, the Connecticut River Basin sees an average of 43 inches of annual precipitation. Based on downscaled climate projections, annual precipitation projections show a range of possible change, but the median projection indicates an increase of 3 – 4 inches by 2090 (Figure A5). By 2090, it is estimated there will be approximately 8 days with over 1 inch of precipitation (median projection, Figure A6). As precipitation in the year 2023 showed, annual total precipitation will likely be higher in El Niño years.

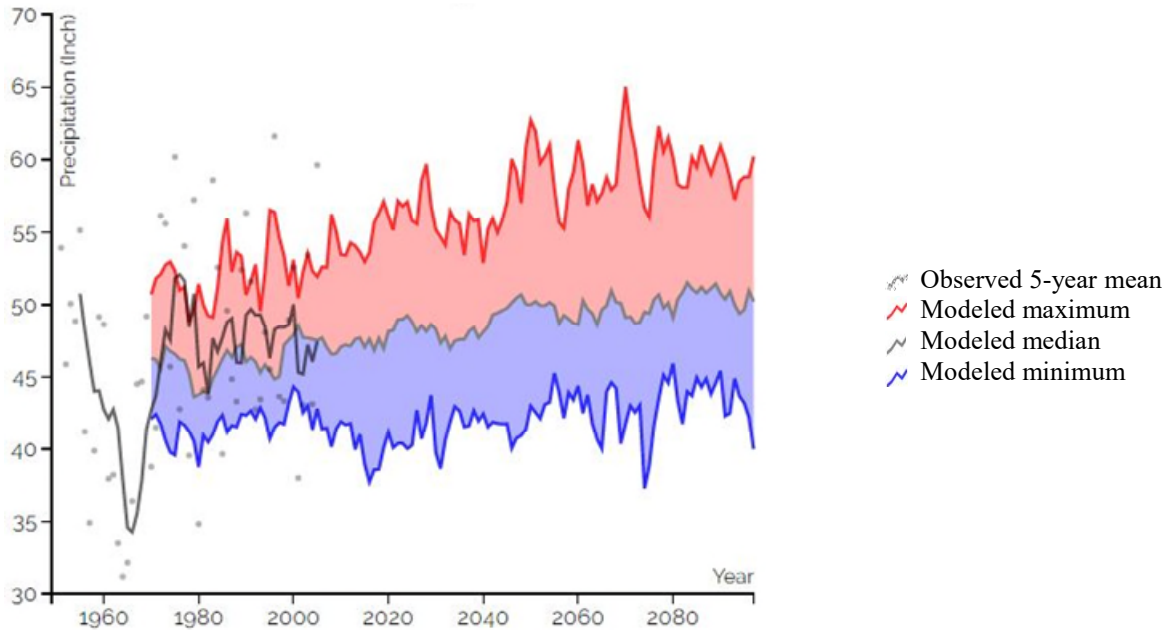


Figure A5. Total Annual Precipitation, Observed and Projected, Franklin County, 2050s – 2090s (Source: ResilientMA)

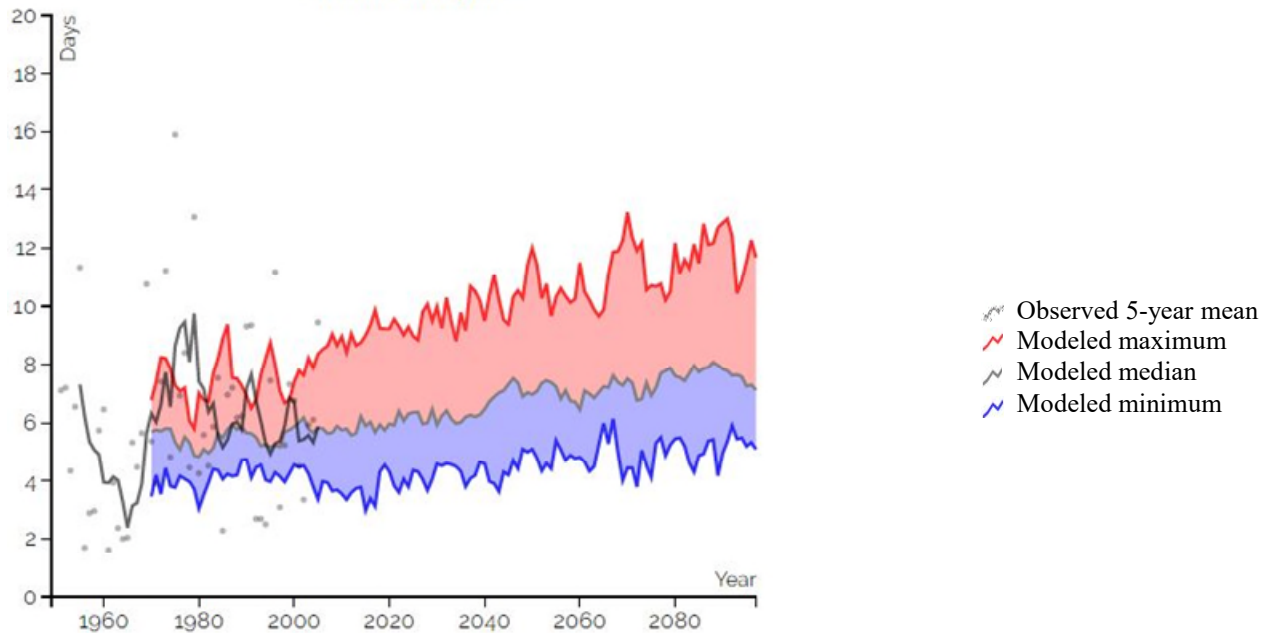


Figure A6. Annual Days with Precipitation Greater Than 1" Observed and Projected, Franklin County, 2050s – 2090s (Source: ResilientMA)

Potential Local Impacts of Climate Change

Seasonal Shift, Variability, and Extremes

With higher temperatures and more precipitation, it is expected that the Northeast will experience a significant shift in seasons with greater variability in weather within each season (Figure A7). Warmer and shorter winters are expected to be followed by greater chance of spring floods. Warmer temperatures will extend the growing season into both the spring and fall; however, reduced snowpack and earlier snowmelt along with less reliable precipitation expected in summer and fall will also increase the likelihood of longer and more severe droughts. Farmers in Montague are already challenged by the increased frequency of droughts, along with extreme temperatures, inconsistent or excess precipitation, and more intense storms. With more droughts and hotter temperatures, the chance of wildfire will increase. Severe hurricanes, heavier snowstorms, and polar vortices (masses of cold air formed over the North Pole that can expand southward to the northern United States) may also be a part of the variability and extremes. Impacts from climate change are summarized in Table A1.

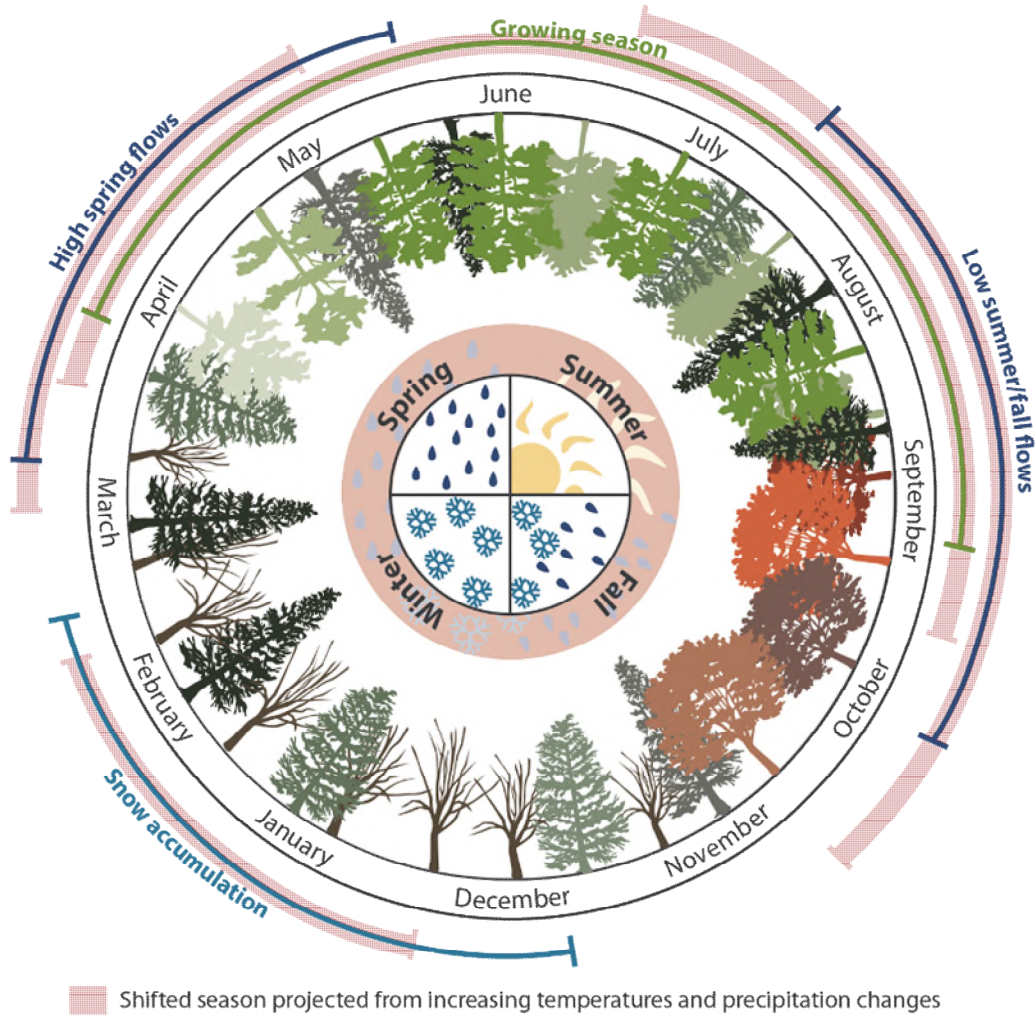


Figure A7. Shifts in Northeast and Midwest Seasonal Patterns due to Climate Change
 Source: Integration and Application Network, University of Maryland Center for Environmental Science

Table A1. Potential Impacts of Changes in Weather Patterns from Climate Change

INCREASING TEMPERATURES	CHANGES IN PRECIPITATION PATTERNS	INCREASING VARIABILITY AND EXTREMES
Changes in Weather Patterns with Climate Change		
<ul style="list-style-type: none"> • Higher average temperatures • Warmer, shorter winters with less snow • More days that feel like 90°F or hotter • Longer heat waves 	<ul style="list-style-type: none"> • Less frequent precipitation • Higher total precipitation linked to more intense precipitation events • Less snowfall and accumulation • More frequent and severe droughts • In El Niño years, more frequent and heavy precipitation 	<ul style="list-style-type: none"> • More severe hurricanes, heavier snowstorms, and more polar vortices • More seasonal variability • More intense freeze-thaw cycles
Potential Impacts		
<ul style="list-style-type: none"> • Mixed impacts on agriculture, including crop stress and timing issues • More heat-related illness • Lost work and school days • Spread of invasive species • Higher incidence of vector-borne disease • Changes in habitats and species populations 	<ul style="list-style-type: none"> • More localized flooding when precipitation overwhelms stormwater systems • More flooding of farm fields • More bank erosion that threatens roads and infrastructure • Greater chance of wildfires • Reduced water quality 	<ul style="list-style-type: none"> • Power outages • Damage to property and infrastructure • Degradation of roads from freeze-thaw • Greater need for shelters and emergency services

Equity Disparities and Priority Populations

The impacts of climate change are not felt equally. Residents with fewer resources and privileges are, and will be, disproportionately impacted by both ongoing and acute climate change impacts. **Environmental Justice** areas are U.S. Census areas where it has been determined that the population meets certain state-designated percentage thresholds for income, minority status, and language. **Priority populations**, in the context of climate change planning, more broadly encompasses the people or communities who may be disproportionately impacted by climate change due to life circumstances that systematically increase their exposure to climate hazards or make it harder to respond.¹⁰ In Montague, this broader definition of priority populations includes:¹¹

I'd like to see our whole town find ways to grow civic agency around climate issues in a way that also helps grow our appreciation of racial, cultural, economic diversity in our town.

– 2022 Comprehensive Plan Survey

- Unhoused residents
- Renters
- Low-income households
- Households that speak a language other than English
- Immigrants, asylum seekers, and refugees
- People of Color
- Older residents, particularly isolated older residents
- Youth and parents of youth
- People with a disability
- People dealing with substance abuse issues and people in recovery from substance abuse
- LGBTQ+ residents
- Neurodivergent residents

The 2018 Municipal Vulnerability Preparedness plan identifies the need to strengthen the Town’s relationship with priority populations as a top recommendation to improve climate resilience. In the fall of 2023, Montague began a process to update its Municipal Vulnerability Preparedness (MVP) resilience priorities by participating in what is called the “MVP 2.0 Process.” The MVP 2.0 Process uses the Community Liaison model to work with a team of Town staff, residents, and community organizations to better understand social vulnerability and paths to resilience for priority populations. The project will collect information and stories from

¹⁰ <https://resilientma.mass.gov/mvp/content.html?toolkit=justice>

¹¹ As identified as part of the Town’s MVP 2.0 Process in the spring of 2024

residents, revise the Town’s re-examined resilience priorities, and evaluate resilience project ideas with residents from priority populations.

The early part of the process has already identified stories that illustrate the connection between social vulnerability and climate vulnerability. For example, some families in Montague are forced by lack of affordable housing to double up in the same housing units as other families. During the heavy rains and flooding of 2023, some families living in basements were flooded out. In another example, outdoor laborers who may already be wage laborers with lower incomes, such as farming and landscaping workers, suffer from working under extreme heat or lose work days due extreme weather or flooding.

Regional Impacts of Climate Change

Montague residents know from experience that weather extremes are capable of causing crop failures, power outages, transportation interruptions, reliance on shelters, business and service closures, and more severe health problems. Figure A8 from the 2022 *Massachusetts Climate Impact Assessment* shows the two most urgent impacts per sector for the Greater Connecticut River Valley region (more than two impacts are listed in the case of ties).¹²

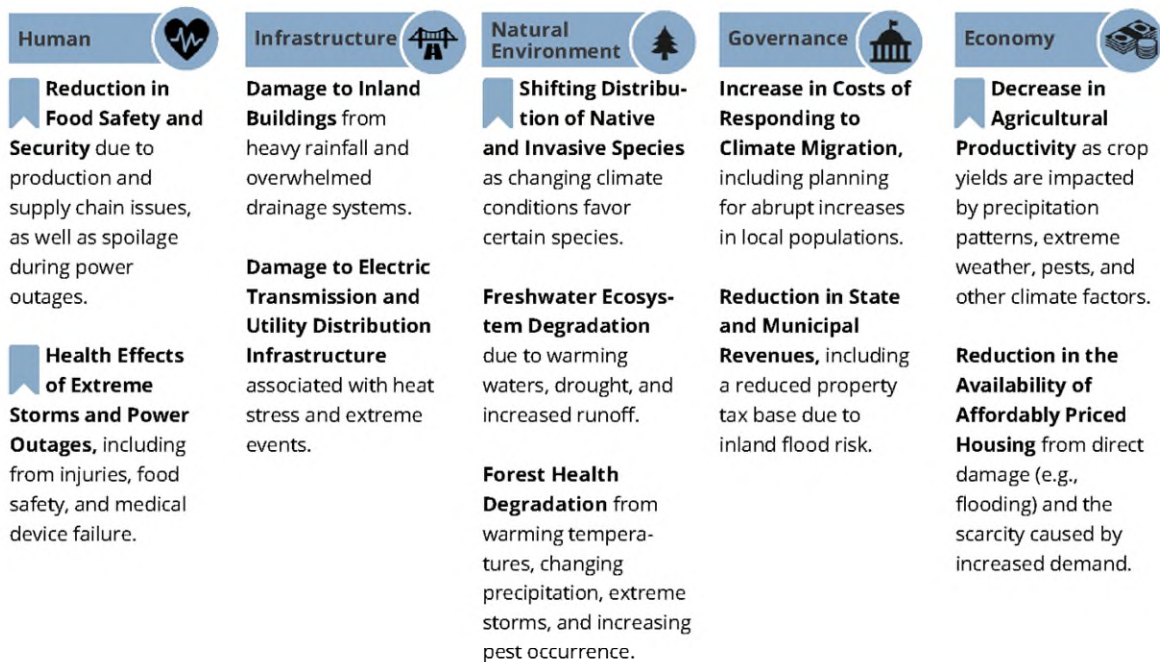


Figure A8. Most Urgent Impacts per Sector for the Greater Connecticut River Valley Region
(Source: *Massachusetts Climate Impact Assessment*)

¹² 2022 Massachusetts Climate Change Assessment <https://www.mass.gov/doc/2022-massachusetts-climate-change-assessment-december-2022-volume-iii-regional-reports/download>.

Community Climate Vulnerabilities

Montague residents identified climate-related vulnerabilities as part of three recent community-based planning processes: the *2018 Municipal Vulnerability Preparedness Plan*, the *2020 Hazard Mitigation Plan*, and the *2024 Comprehensive Plan*. More will be identified as part of the 2024 MVP 2.0 Process and included here in an updated draft of the plan. These identified vulnerabilities are:

Riverine flooding. Montague's FEMA flood insurance maps date to 1982 and thus do not take into consideration recent precipitation rates.

In Turners Falls and Millers Falls, high volumes of stormwater are eroding banks at outfalls along the Connecticut River and Millers Rivers.

In Montague Center, the Sawmill River is prone to inundation flooding and erosion, threatening nearby buildings, agricultural land, and the ecological health of the river.

Localized flooding. There are areas of persistent, localized flooding throughout Montague (e.g., Montague City Road, Hillcrest School parking lot, and the southeast corner of Millers Fall village) caused by a lack of dispersed stormwater management systems and by outdated drainage systems that cannot handle heavy precipitation events.

Nonpoint source pollution. Untreated stormwater across the landscape carries pollutants to streams and rivers that negatively impact riverine health and the ability of people to use streams and rivers for recreation. More extreme flooding and thawing events amplifies this process.

Wildfire. The village of Lake Pleasant is located in the wildfire-prone oak-pitch pine forest of the Montague Plains and has faced catastrophic wildfire in the past. Millers Falls and Montague Center are also at greater risk from wildfire.

Public health risks. Elderly, low income, unhoused residents, and residents with health issues are particularly vulnerable to heat and cold stress, unhealthy air quality from wildfires, and

Community Strengths Identified in the 2018 MVP and 2024 Comprehensive Planning Process

- Some newer facilities and shelters are located safely outside the floodplain and have backup power.
- There is backup public water supply and a connection to Greenfield's water supply for redundancy.
- A diversity of ecosystems reduce the risk that a single major disruption could impact all of the town's landscape in the same way.
- Well-connected informal leaders in the community, including social service agencies and religious groups, help strengthen connections between Town officials and vulnerable or underserved populations.
- Informal neighborhood groups support to residents in emergencies and severe

storms that knock out power or block emergency access to their homes. All residents are experiencing more exposure to insect-borne illnesses and allergies.

Urban heat islands. Residents of Turners Falls and people who work and go to school in the industrial park or other manufacturing buildings are particularly vulnerable to heat stress because pavement and buildings create a microclimate of hotter temperatures.

Industrial hazards. Mill buildings in Turners Falls have unabated toxic hazards that would have wide-ranging impacts if they were to be damaged by floods or collapse into the Connecticut River or Turners Falls Canal.

Schools and other facilities on Industrial Boulevard are potentially vulnerable should a hazardous event occur in the Industrial Park. The Industrial Park is located partially in the scrub oak/pitch pine forest of the Montague Plains, which is susceptible to increasingly intense and frequent wildfires.

The passage of the rail line through Millers Falls, Montague Plains, and other parts of town poses a threat to human health, private wells, and the public water supply if a hazardous spill were to occur.

Impacts on water and sewer infrastructure. Though sewer infrastructure has been updated recently, increasing amounts of stormwater from more intense rain events may overwhelm these systems more frequently, negatively impacting riverine health and the ability of people to use the river for recreation. The wastewater treatment plant is particularly vulnerable to flooding.

Impacts on drinking water supply. The vulnerability of the aquifer from which the Turners Falls and Montague Center Water Districts draw their water supply is not well understood.

Disruptions to agriculture. There are farmers in Montague for whom climate variability, weather extremes, and flooding could threaten farm business viability.

Invasive plants and insects. Invasive plants and pests are abundant in Montague, threatening the health of forests and other natural habitats. The vulnerability of the Montague Plains to southern pine beetle is of particular concern because it can exacerbate wildfire risk.

Impacts on transportation infrastructure. Montague is connected to other towns via several bridges in need of repair, whose closure during emergency events would greatly increase the community's vulnerability. Montague has also identified road drainage infrastructure in need of repair that could fail in the case of an extreme precipitation event.

Impacts on housing. Montague's housing stock, especially in the dense village centers, is old and has higher rates of distressed conditions, making it less easy to repair. Some housing lacks adequate heating/cooling and weatherization and/or needs basic rehabilitation. The strongest concern that came through in the public outreach for this plan was the availability of affordably

priced housing, with many expressing concern about the ability of Montague residents to stay in Montague in the current housing market.

Impacts on unhoused residents. Unhoused residents in Montague often live along floodplains of Connecticut River, making their homes vulnerable to flooding, or in cars, which lack effective heating and cooling systems during temperature extremes.

Gaps in emergency communications. The Town has limited ability to communicate efficiently with unhoused residents and non-English speaking populations.

Gaps in emergency, cooling, and warming shelters. Turners Falls High School, presently the town and regional emergency shelter, is lacking a number of safety and emergency back-up features. The Town has not designated a cooling or warming shelter.

Vulnerabilities that stand out as more unique to Montague as compared to other communities in the region include the proportion of residents who do not speak English as a first language, intensity of the urban heat island effect in Turners Falls, the risk of wildfire in the Montague Plains, the disruption to access and circulation if bridges were to be damaged, and risk of contamination if any mill buildings along the Connecticut River were to collapse.

Montague Community GHG Emissions Inventory

The Commonwealth of Massachusetts is committed to reducing GHG emissions by 50% by 2030 (from a 1990 baseline) and achieving net-zero emissions by 2050.¹³ Achieving net zero means that all of the emissions in the state from transportation, residential energy use, commercial energy use, waste management, and heating and cooling will be balanced to zero when factoring in carbon sequestration from forests, wetlands, and farmland.

Reducing the community's GHG emissions is also a high priority for Montague residents, who see the benefit in reducing energy consumption, improving energy efficiency, and switching to renewables for both climate mitigation and cost savings. As of 2021, the Town had reduced municipal energy use by 22% since becoming a Green Community in 2010. However, a community GHG emissions inventory for Montague shows that municipal energy accounts for only 2% of total community emissions, demonstrating that as the Town strives to eliminate municipal GHG emissions, attention must also be paid to supporting emissions reductions from both commercial (27% of community emissions) and residential (71% of community emissions) sources.

A greenhouse gas (GHG) inventory conducted for Montague provides a baseline from which to measure progress in and the effectiveness of local climate mitigation programs and policies

¹³ <https://www.mass.gov/info-details/ma-decarbonization-roadmap>

(Figure A9). The data provides an understanding of how residents, businesses, and municipal operations contribute to the community's GHG emissions footprint.¹⁴

The inventory focuses on Scope 1 and Scope 2 emissions, as defined by the Global Protocol: GHG emissions from sources located within Montague's boundary or occurring as a consequence of the use of grid-supplied electricity, heat, and/or cooling within Montague's boundary.¹⁵

¹⁴ The community inventory for Montague was developed by the Franklin Regional Council of Governments using methodology provided by the Metropolitan Area Planning Commission (MAPC) and UMass Clean Energy Extension. MAPC's Greenhouse Gas Inventories for Massachusetts Cities & Towns Step-by-Step Guide can be found online: https://www.mapc.org/wp-content/uploads/2020/03/04102020_MAPC-Step-by-Step-GHG-Inventory-Guide.pdf. As previously noted, the tool developed by MAPC aims to simplify the process of developing a GHG inventory by using publicly available datasets, while also maintaining high levels of accuracy.

¹⁵ This inventory relies on the use of publicly available datasets that are periodically updated. Residential, commercial, and municipal energy use data from 2019 were collected for this inventory. Data from 2020 are the most recent available, but were not used due to pandemic-related data anomalies. The use of proxy data was required in several instances. The inventory can be updated as better data become available. Some sources of GHG emissions are not included in this tool (e.g. stationary energy related to agricultural, forestry, and fishing activities, waste, off-road vehicles, and small equipment powered by fossil fuels such as lawnmowers).

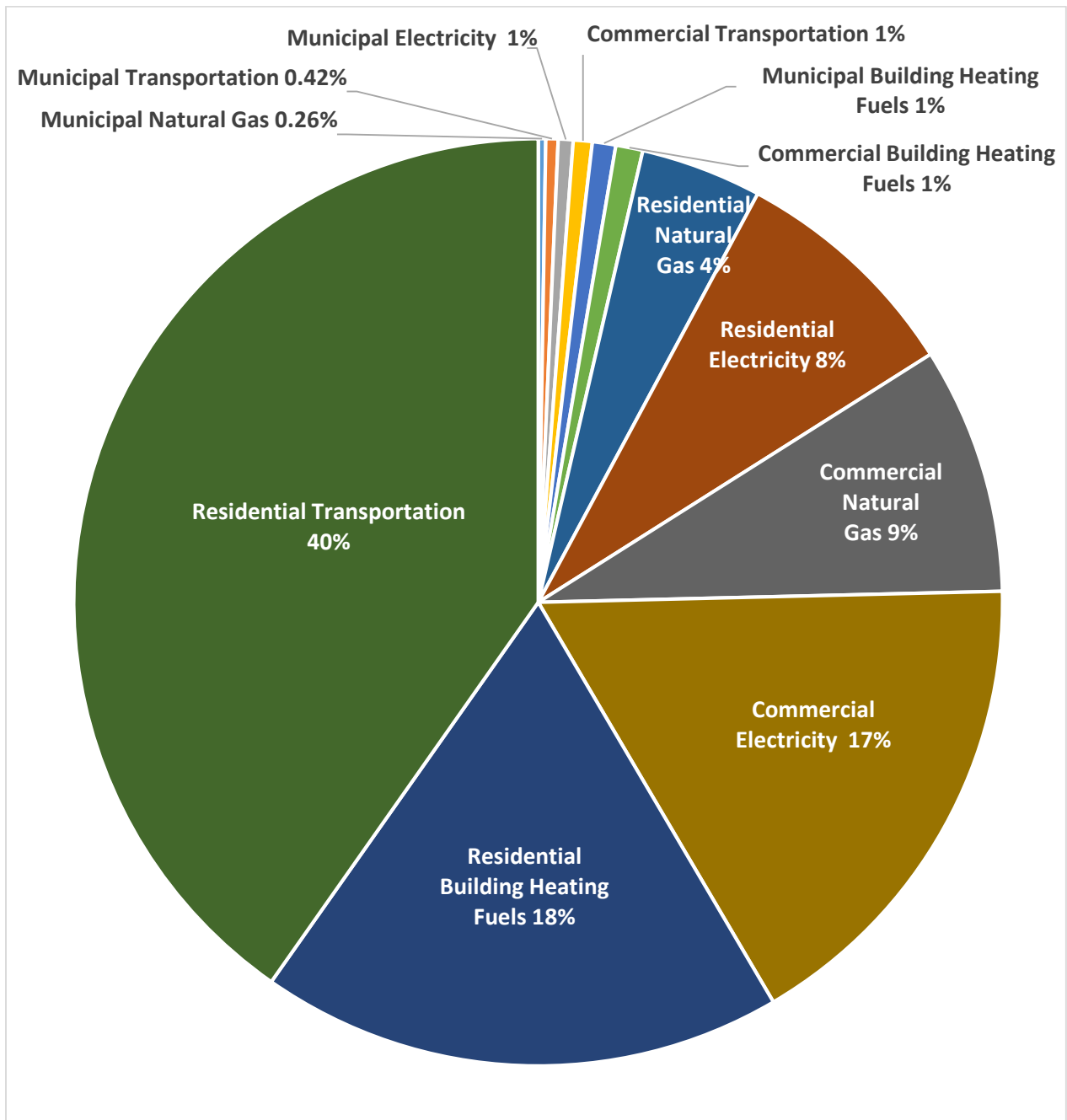


Figure A9. Community Greenhouse Gas Emissions by Sector and Energy Use, 2019

Source: Municipal data

Community emissions in Montague totaled 74,787 MTCO₂e in 2019, or 8.7 MTCO₂e per resident in the period from 2019 – 2020.¹⁶ These emissions are roughly equivalent to 16,642

¹⁶ The unit of measurement used in this GHG inventory is metric tons of carbon dioxide equivalent (MTCO₂e). The unit "CO₂e" represents an amount of a GHG whose atmospheric impact has been standardized to that of one unit

gasoline-powered passenger vehicles driven for one year, or 1.9 gasoline-powered passenger vehicles driven per resident per year. The burning of fossil fuels accounts for 75% of Montague's emissions. Though no one emissions source dominates the emissions profile, the proportion of emissions from transportation (41%) is greater than that of electricity (26%), building heating fuels (20%), and natural gas (13%).

The three most significant sources of community emissions are:

Residential Transportation: 40% of all community emissions. This inventory uses 2015 Department of Motor Vehicles data as a proxy because 2019 data was not yet available. As residents move to driving electric vehicles (EVs) and gas mileage improves on heavy-use vehicles, emissions from this category will continue to decrease.

Residential Heating: 18% of all community emissions. Nearly half of all homes in Montague use fuel oil as a heating source, which accounts for 75% of the emissions reported in the residential building heating fuels category. The other two fuels in this category are propane and wood, which are used by 13% of homes in Montague. As more homeowners switch to using air source heat pumps and a greater proportion of electricity is generated by renewables, emissions from this category will decrease.

Commercial Electricity: 17% of all community emissions. Montague is home to a handful of manufacturing facilities, as well as a commercial downtown area in Turners Falls. While industrial and manufacturing facilities can require a lot of energy to run, as Massachusetts' grid becomes cleaner each year, emissions from this sector will decrease.

The emissions inventoried are those under the direct control of Montague residents, businesses, or municipal officials. If action is taken within the bounds of Montague to decrease emissions, it will be apparent in emissions data over time. See Appendix F for data and documentation related to the Community Green House Gas Inventory.

Municipal Energy Projects

In order to meet the state's net-zero goal, at least 80% of all electricity in Massachusetts has to be clean or renewable by 2050. Locally produced energy can help to meet the needs of the community and the region.¹⁷

In 2010, Montague became one of the first municipalities in the Commonwealth to be designated as a "Green Community." To become a Green Community, the Town worked to meet the following five criteria:

mass of carbon dioxide (CO₂), based on the global warming potential (GWP) of the gas.

<https://www.epa.gov/sites/default/files/2014-12/documents/ghgcalculatorhelp.pdf>

¹⁷ Executive Office of Energy and Environmental Affairs. *Clean Energy and Climate Plan for 2050*, December 2022.

<https://www.mass.gov/doc/2050-clean-energy-and-climate-plan/download>

- Passed zoning in designated locations for the as-of-right siting of renewable or alternative energy generating facilities, research and development facilities, or manufacturing facilities;
- Adopted expedited application and permitting for renewable energy development;
- Adopted an Energy Reduction Plan (ERP) outlining a path to 20% of energy use reduction after five years of implementation;
- Adopted a Fuel-Efficient Vehicle Policy; and
- Adopted the **Stretch Code**, building energy requirements that are more stringent than the state’s base building code.

Becoming a Green Community is advantageous for small communities with limited budgets, as the program provides grant funding for energy efficiency projects with no match requirements. As of 2023, \$559,473 in Green Communities grant funds have allowed the Town to complete energy conservation and energy efficiency measures in nearly all municipally owned buildings. Montague has exceeded its goal of a 20% reduction in municipal use, with municipal building energy use having decreased by 35% since the baseline year.

The Department of Public Works Garage, all three libraries, the Hillcrest Elementary School, the Sheffield Elementary School, and the Wastewater Treatment Plant are heated at least in part by fuel oil. The Energy Committee has been revisiting the *2018 Energy Infrastructure Assessment Report for Montague* on a regular basis to make recommendations to the Town regarding a variety of energy and ventilation improvements to these properties. At present, a 5 MW solar facility on the capped municipal landfill supplies 85% of municipal electricity. There is an additional 6 MW of solar in Montague from commercial solar arrays that account for part of the Town’s revenue stream. There are also opportunities for battery storage. The Town has been working to install solar panels at the Turners Falls Airport—an important anticipated source of revenue for the airport—however the project has been stalled due to the exorbitant cost of interconnecting to the grid. This is a common issue with solar projects, as much of the outdated electrical infrastructure in Franklin County Cannot handle the energy load of larger solar arrays. The project may be re-scoped to be less cost-prohibitive.

OPPORTUNITIES & CHALLENGES

Climate

Climate Migration

People in other parts of the country and world who have been displaced by climate-induced disasters or related crises are relocating to places that are presumed to be more stable. While it

will experience the effects of climate change, New England is expected to fare far better than many other regions of the United States between 2040 and 2060, potentially making the region a “receiver community” for climate migrants.¹⁸ Migration to inland New England due to climate change has already begun; Montague experienced this in 2017 with the arrival of residents from Puerto Rico after Hurricane Maria. Some communities are actively planning for this expected migration, focusing especially on housing and providing a welcoming community.¹⁹

The possibility of climate migration to Montague presents opportunities for the town to maintain population, more fully occupy schools, and bring new energy to the community. However, geography and a cooler climate do not automatically turn communities into functional receiver communities: making that transition will require the Montague to think deeply about its current capacity and prepare current residents for the changes to come.

Heat Islands

The effects of very hot days are not equally experienced equally by all residents in Montague. Heat islands are specific areas that experience higher temperatures than outlying areas due to a concentration of pavement and structures that absorb heat and a lack of cooling features such as greenery and water bodies. These “islands” have higher temperatures relative to outlying areas. Daytime temperatures in urban areas are about 1–7°F higher than temperatures in outlying areas and nighttime temperatures are about 2–5°F higher. A heat island map shows that there are particularly severe heat islands in Turners Falls – specifically along Turnpike Road and Avenue A.²⁰

¹⁸ “New Climate Maps Show a Transformed United States,” *ProPublica*, <https://projects.propublica.org/climate-migration/>. September 15, 2023.

¹⁹ <https://www.npr.org/2021/01/22/956904171/americans-are-moving-to-escape-climate-impacts-towns-expect-more-to-come>; <https://www.wired.com/story/as-climate-fears-mount-some-are-relocating-within-the-us/>; <https://www.wbur.org/news/2023/05/22/climate-change-new-england-migration>

²⁰ <https://eeaonline.eea.state.ma.us/ResilientMAMapViewer/>

Green Infrastructure Projects

A high-level GIS screening and literature review identified the following areas as potential focus areas for **green infrastructure**. Each heading includes the method of assessment and specific locations where that type of green infrastructure could be installed or augmented.

Lack of Riparian Buffer: Appropriate for riparian buffer protection or planting
Assessment of BioMap Aquatic Core and Aquatic Cover areas without 2016 Land Use/Land Cover forest and scrub/shrub cover.

- Sawmill River from the intersection with Route 63 to confluence with the Connecticut River

Unprotected Contiguous Forest: Appropriate for land protection
Assessment of contiguous MassGIS 2016 Land Use/Land Cover forest cover without permanent protection.

- Areas around Montague State Forest and Turners Falls Fire and Water District watershed land between North Leverett Road, Route 63, and Wendell Road
- Forested areas north of the Montague Plains Wildlife Protection Area
- Forested ridge east of Meadow Road

Areas of Riverine Flooding and Fluvial Erosion Hazard: Appropriate for restoring floodplain elements, strengthened flood resilience regulations, and river corridor easements
Sawmill Fluvial Geomorphic Study²¹

- Sawmill River, particularly in the lower watershed

Green infrastructure (GI) Management techniques that protect, restore, or mimic the benefits of nature and the natural water cycle.

On the *watershed scale*, GI looks like:

- Protection of
 - Forests
 - Wetlands
 - Riparian areas
 - Floodplains
- Forest establishment
- Floodplain reconnection
- Bank stabilization

On the *neighborhood scale*, GI looks like

- Vegetated open space
- Street trees/urban tree canopy
- Gardens
- Stormwater management
 - Raingardens
 - Planter boxes
 - Bioswales
- Downspout disconnection
- Green parking lots
- Parking lot removal
- Green roofs

²¹ <https://montague-ma.gov/n/246/Sawmill-River-Corridor-Assessment-Project>

Areas of Localized Flooding or Erosion: Appropriate for **stormwater BMPs**

MVP Plan and HMP

- Montague City Road (*MVP Plan*)
- Hillcrest School parking lot (*MVP Plan*)

Areas of Critical or Poor Culverts: Potentially appropriate for stormwater BMPs

Montague Culvert Assessment Summary, 2021 and Town of Montague Drainage Structures StoryMap

- The 2021 *Culvert Assessment* inventoried all drainage structures in Montague and evaluated their conditions. Culverts and drainage structures that are ranked as in *Critical* or *Poor* in the *Condition* category, as well as 25% to 100% blocked in the *Percent Blockage* category in the assessment, are important areas to examine for the need for additional stormwater management BMPs that would slow the flow of stormwater and filter sediment and other contaminants.

Stormwater Best Management Practice (BMP)

A device, practice, or method used to manage stormwater runoff by controlling peak runoff rate, improving water quality, and managing runoff volume.

Bioswales, vegetated filter strips, check dams, and deep sump catch basins are some of many examples of stormwater BMPs.

Areas of Erosion: Appropriate for stormwater management BMPs, river restoration, or planting

MVP Plan and HMP

- Millers Falls Road (*MVP Plan*)
- Sawmill River (*MVP Plan*)
- Steep slopes and unstable soils at edges of Montague Plains near roads (*MVP Plan*)
- Steep slopes and unstable soils along Connecticut and Millers Rivers (*MVP Plan*)

Areas of High Impervious Surface: Appropriate for impervious surface removal

Visual analysis of directly connected impervious surface using GoogleEarth

- Food City and adjoining retail parking
- Apartments parking between 2nd Street Alley and 3rd Street
- Town Hall parking
- Unity Park parking
- Montague Elks Lodge parking
- Our Lady of Peace Church parking
- Hillcrest School parking
- Sheffield Elementary School parking
- Turners Falls Industrial Park parking, various locations

- North Village Smokehouse parking

Urban Areas with Low Tree Cover: Appropriate for tree planting

Literature review and visual analysis

- Avenue A at the Food City development complex (*Turners Falls Livability Plan*)
- Avenue A, parts of 5th Street, and 3rd Street, to serve as “primary green connector streets.” (*Turners Falls Livability Plan*)
- Street trees at Spinner Park (*Turners Falls Livability Plan*)
- Street trees at Couture Brothers Painting at 187 Avenue A (*Turners Falls Livability Plan*)
- Street trees at Power Town LP Apartment Building at 175 Avenue A (*Turners Falls Livability Plan*)
- Turners Falls: Avenue A south of Cumberland Farms, 11th Street, Unity Park parking lot, bike trail along 1st Street, 2nd Street, 4th Street, T Street (*Downtown Turners Falls Tree Inventory and visual analysis*)
- Millers Falls: Bridge Street, Franklin Street (visual analysis)
- Montague City: Montague City Road, Cabot Street (visual analysis)
- Judd Wire (visual analysis)

Pollinator Corridors and Stepping Stones: Appropriate for pollinator habitat management and planting

Montague Pollinator Action Plan

- Along the Sawmill River
- Along the Connecticut River
- Open fields, hedges, and forest borders along Sunderland Road, Old Sunderland Road, Meadow Road
- Throughout the Montague Plains natural area
- Open fields, hedges, and forest borders along Hatchery Road, Greenfield Road, and Turners Falls Road
- Open fields, hedges, and forest borders along Ripley Road, West Chestnut Hill Road, Dry Hill, and Wendell Road
- Highland Cemetery and solar developments along Millers Falls Road.
- Open fields, hedges, and forest borders at Our Lady of Czestochowa Cemetery, Turners Falls High school, and solar developments off Turnpike Road.
- Powerlines right-of-ways throughout town

Integrating Climate Resilience into Planning and Development

Climate resilience and sustainability are not standalone goals, but frames through which to understand the community's needs and guide future physical and economic development. Addressing the challenges posed by climate change while balancing a sustainable economy and financial impacts to residents requires conducting risk assessments, integrating climate resilience considerations into planning, promoting collaboration, and fostering innovation and adaptability.

Montague has a 2018 *Municipal Vulnerability Preparedness Plan* that identifies top natural and climate-rated hazards of concern, the Town's existing and future strengths and vulnerabilities. The 2024 MVP 2.0 Process will provide an update to the resilience priorities. Preparing for climate change is also aided by the 2020 Montague Hazard Mitigation Plan, which is updated every five years. Montague's six-year capital improvement plan is also considering climate change, calling for almost \$10 million in sewer system and roadway infrastructure repairs with the strong recommendation that sewer system improvements factor in projections for the anticipated increase in the number of heavy rainstorms.

Climate resilience and sustainability are not standalone goals, but frames through which to understand the community's needs and guide future physical and economic development. Addressing the challenges posed by climate change while balancing a sustainable economy and financial impacts

Co-benefits

Co-benefits are the added non-climate benefits that are realized when we act to control climate change. Likely co-benefits of climate action in Montague include:

- Reduced maintenance costs;
- Reduced utility costs and other savings;
- Improved public health;
- Buildings that are more resilient in climate emergencies;
- A boost to the local economy;
- Improved ecosystem health;
- Better air and water quality;
- Enhanced public safety; and
- Improved ability to accurately project municipal budget needs into the future.

For example, when buildings are retrofitted with better insulation and efficient heating systems, the co-benefits include:

- Reduced GHG emissions;
- Reduced heating costs;
- Improved indoor air quality; and
- Improved worker comfort.

In another example, Montague has adopted an Open Space Residential Development zoning bylaw that allows new housing to be developed in a way that:

- Protects open space;
- Promotes the efficient installation and maintenance of municipal infrastructure services; and
- Potentially keeps housing more

to residents requires conducting risk assessments, integrating climate resilience considerations into planning, promoting collaboration, and fostering innovation and adaptability.

Building resilience can feel overwhelming, but when climate resilience is integrated into the Town’s approach to projects and routine work, many **co-benefits**—additional non-climate benefits—are realized. When capital or improvement projects are planned, the Town can employ integrated thinking to identify how those projects can simultaneously reduce energy demands, be resilient to severe weather, and support community climate adaptation. Zoning, subdivision regulations, and the development application and approval process can be used to encourage or reward developers for integrating climate resilience into their projects. The Town can develop a checklist to help ensure that all climate-resilience fundamentals have been integrated into a project to the full extent possible. Resilience is best implemented at the municipal level when all Town departments consistently communicate and work together.

Integrating Climate Resilience into Town Projects

REDEVELOPMENT CHECKLIST

- ✓ Energy efficiency
- ✓ Solar – rooftop, canopy
- ✓ Battery storage
- ✓ Low-embodied carbon building materials
- ✓ Water conservation
- ✓ Green Infrastructure for Nature-based stormwater management
- ✓ Reduce impervious surface
- ✓ Shade trees
- ✓ Native plants
- ✓ Walkability and transit connection
- ✓ ADA accessibility
- ✓ Age-friendly design

BENEFITS

- Energy conservation, efficiency
- Budget conservation
- Stormwater management
- Heat reduction
- Habitat
- Accessibility
- Welcoming, inclusive place

In addition to the above, new projects can also consider location, building siting, and building design to maximize energy efficiency, reduce environmental impacts, and increase access to public transportation, employment, and communities amenities.

Energy

Municipal Energy Transition

On the energy side, Montague has been preparing for changes in the climate and an energy transition for over a decade. Starting with the 2008 - 2013 *Energy Reduction Plan (ERP)*, followed by the 2018 *Energy Infrastructure Assessment Report for Montague* and the 2024 *Montague Community Solar Study*, the Town established goals and roadmaps for energy reduction and renewable energy development.

Montague's Energy Committee, an advisory committee, has a broad mandate to help residents, businesses, and the municipality reduce energy use and increase use of renewables. The committee has historically been active and its members very experienced in the energy field. In 2023, the Town worked with the Energy Committee to strategically incorporate energy retrofits and renewable energy installations into the FY 2024 – FY 2029 Capital Improvement Plan, which acts as a blueprint for planning Montague's capital expenditures and informing the Annual Capital Budget. An apparent obstacle to be aware of is the limited ability of the electrical grid in Montague to affordably interconnect with large-scale solar projects.

Montague has been tackling energy transition and climate planning for almost 15 years and as a Green Community, new building energy efficiency standards will continue to rise. The Town, under the advisement of the Energy and Solar Planning Committee, can continue to chip away at energy efficiency and renewable energy development using existing plans and renewing these assessments. Towns can also adopt the Specialized Municipal Opt-In Code to require new buildings to achieve energy savings beyond the updated 2024 Stretch Code that all Green Communities must by default adopt. However, given that municipal energy accounts for less than 2% of municipal energy use, it is important that the Town also be work to assist residents and businesses with improvements to energy efficiency and the transition to renewable energy sources.

Residential and Commercial Energy Transition

The updated 2024 Stretch Code that all Green Communities must by default adopt will require new higher home Energy Rating System (HERS) scores than under the previous edition of the Stretch Code. Beginning in July 2024, residential projects will need to achieve a HERS score of either 42 or 45, depending on if the building is heated with fossil fuels. This is about a 20% reduction from the original requirements. Commercial compliance has multiple pathways.

Montague has not yet adopted a **municipal aggregation program**, the process by which a municipality purchases electricity in bulk from a competitive supplier on behalf of the residents and businesses within the community. A green municipal aggregation program allows consumers to purchase electricity that is sourced by more renewable energy than electricity providers are required to supply. This is one of the most significant leverage points a municipality can use to increase their consumption of renewable energy. The neighboring Town

of Gill, for example, has adopted a municipal aggregation program that gives consumers the option of sourcing 5%, 25%, and 100% of their energy from renewable sources.²²

Another major opportunity for residential and commercial energy is in weatherization and energy efficiency upgrades that lower heating and cooling loads and costs. State programs such as MassSave offers rebates and incentives for weatherization and energy efficiency upgrades. Because Montague met the 20% emissions reduction target under the current version of the Green Communities program, the Town is now designated as a “Specially Eligible Community,” qualifying it for additional funding for energy efficiency measures and outreach programs.

Two of the biggest opportunities for encouraging energy efficiency and renewable energy in the private sector is through the adoption of municipal aggregation and the promotion of state incentives to homeowners and businesses for weatherization and energy efficiency upgrades.

²² <http://colonialpowergroup.com/gill/>

LAND USE, ZONING & OPEN SPACE TECHNICAL REPORT

INTRODUCTION

A resilient long-term plan for Montague will attempt to balance the relationships between the town's urban, suburban, rural, and agricultural landscapes; between the needs of residents for places to live, work, and play; and the need to preserve a natural environment that sustains life and helps buffer the impacts of climate change. The focus of the Land Use, Zoning & Open Space element of *Five Villages: One Future* is on past and present land use and development patterns, environmental characteristics, protected land and recreation assets, and the conditions for development created by environmental constraints and current zoning.

Land use refers to the physical arrangement of a community's residential, commercial, industrial, institutional, and recreational development, along with its transportation network, infrastructure, and open space. Understanding land use change within a community is a key aspect of the overall Comprehensive Plan and forms the basis for discussion regarding the future direction of the town.

Zoning is a part of land use but not synonymous with it. In the early 1900s, local governments began to create zoning laws as a way to regulate the type, amount, and location of development, giving them control over what uses are allowed on any given parcel and the permitted dimensions of development, such as the maximum size and bulk of buildings, the minimum required front, side and back yards, the minimum off-street parking, and other prerequisites to obtaining permission to build on a property. Zoning is one tool that local officials use to balance private property rights with the public interest in trying to encourage orderly growth and change and balance property uses for residential, industrial, commercial, and agricultural users. When done properly, zoning encourages economic growth and provides affordable housing for people who would otherwise be displaced or not have access to a community. In looking at future land use, a comprehensive plan should examine what aspects of a town's land use pattern are essential to the character of the town and whether the existing land use patterns are consistent with community goals.

Public outreach for this plan showed that residents place a very high value on their proximity and ability to access high quality parks, rivers, and undeveloped open space in town. **Open space** is generally defined as undeveloped land or land lightly developed for recreation

purposes. It may be publicly or privately owned, and may or may not be publicly accessible. In Montague, open space includes large tracts of forested land, fields and meadows, streams and rivers, wetlands, lakes and ponds, agricultural fields and barns, significant landscapes and historical structures, and recreational facilities. Montague residents value open space because of what it provides: livelihoods, wildlife habitat, important plant communities, protection and recharge of groundwater, access to recreational lands and trail systems, scenic views, and historic structures and landscapes that represent the community's heritage. Many of these features are vital to climate resilience. This section discusses recreation elements when they relate to open space management. Refer to the Community Facilities and Services section of this plan for more detailed information about Town-owned parks and other recreation areas.

This element builds on previous land use, zoning, open space, and recreation planning the Town of Montague has conducted:

- [2013 Downtown Turners Falls Livability Plan and Turners Falls Livability Plan 2020 Check-In](#)
- [2015 Wildfire Preparedness Plan](#)
- [2017 Open Space and Recreation Plan](#)
- [2018-2023 Community Development Strategy](#)
- 2019 Turners Falls Municipal Airport Master Plan Update
- [2019 Millers on the Move! Strategic Priorities for Millers Falls Village Center](#)
- [2023 Vision Phase Report for the Canal District Master Plan](#)
- [2024 Montague City Village Center Study](#)
- [2024 – 2028 Age-Friendly Franklin County and North Quabbin Regional Action Plan](#)

A final *Community Solar Action Plan*, expected in 2024, will also be a potential community tool for guiding future land conservation and solar development.

INVENTORY & EXISTING CONDITIONS

Landscape Character and Land Use Overview

Growth, development, and industry in Montague were historically concentrated in the five village centers. Each village has distinct patterns of development, shaped in large part by the natural features such as water, waterfalls, or good soils that surround them.

Fertile soils provided the basis for farming in Montague Center along the Connecticut and Sawmill Rivers. The village's historic settlement pattern embodies a traditional New England crossroads village organized around a village green and bounded by low-density development and agricultural fields to the north, west, and south.

The Connecticut River provided the power for industrial development in the village of Turners Falls. Row houses were built in Turners Falls for mill workers in this mixed-use, planned industrial city. The hill above Turners Falls was further developed in the 1900s in a more suburban form.

Montague City developed later just south of Turners Falls along the old locks and boat canals. Following the post-industrial decline in the latter half of the 1900s, residential suburban growth has been the main form of development.

Although it started as a farming community, Millers Falls grew into a mill town and more resembles a traditional mill-focused downtown. The old commercial center of the village is located in Montague, while the large mills were located in Erving.

Lake Pleasant developed in the 1800s as a destination for followers of the 19th Century Spiritualist Movement. The Spiritualists gathered around the lake in tent camps in the summer, and eventually established a permanent village of tightly clustered Victorian homes on the tiny lots that their tents once occupied. The village consists today of approximately 200 densely spaced residences, with many summer cottages converted to year-round homes.

In the center of town lies the Montague Plains, a large sand delta formed more than 10,000 years ago, and on it, an expanse of scrub oak/pitch pine forest that is the most extensive example of this type of ecological community in the Connecticut River Valley.²³ During the late nineteenth century, large portions of the Plains were cleared for farming, but agriculture was abandoned in the early twentieth century, likely due to poor soil fertility. On the northern end of the Plains, the Turners Falls airport was established in 1927, two new schools were built in the 1970s, and the Town developed an industrial park adjacent to the airport during the 1980s

²³ Motzkin et al. 1999

and 1990s. There were several proposals for large-scale industrial use of the remainder of the Plains during the late 1900s, but most of the land under consideration was protected in 1999.

In the last century, recent residential development extended beyond the village centers along roads and into forested areas. Montague is more developed than most neighboring hilltowns, but the fact that development has traditionally been concentrated in villages has helped Montague maintain large swaths of unfragmented forest and farmland.

Land Use and Land Cover

Land use data for Montague shows that parcels where the primary land use is residential accounts for 26% of the town's land area, while industrial and commercial land use are 5% and 3%, respectively (Table A2). Agricultural use parcels account for 7% of the town's land area.

While land use describes how people are using the land, land cover generally describes the physical land type (Table A3). In Montague, 72% of the town is forested, 6% is considered to be in an agricultural state (cultivated, pasture, or hay), 5% in grassland, and 1% scrub/shrub. Wetlands or water comprises 6% of land area. Impervious surface, which includes roads and buildings, comprises 5% of land area. The distribution of land cover types in Montague is seen in Map A1:

Table A2. Montague Land Use

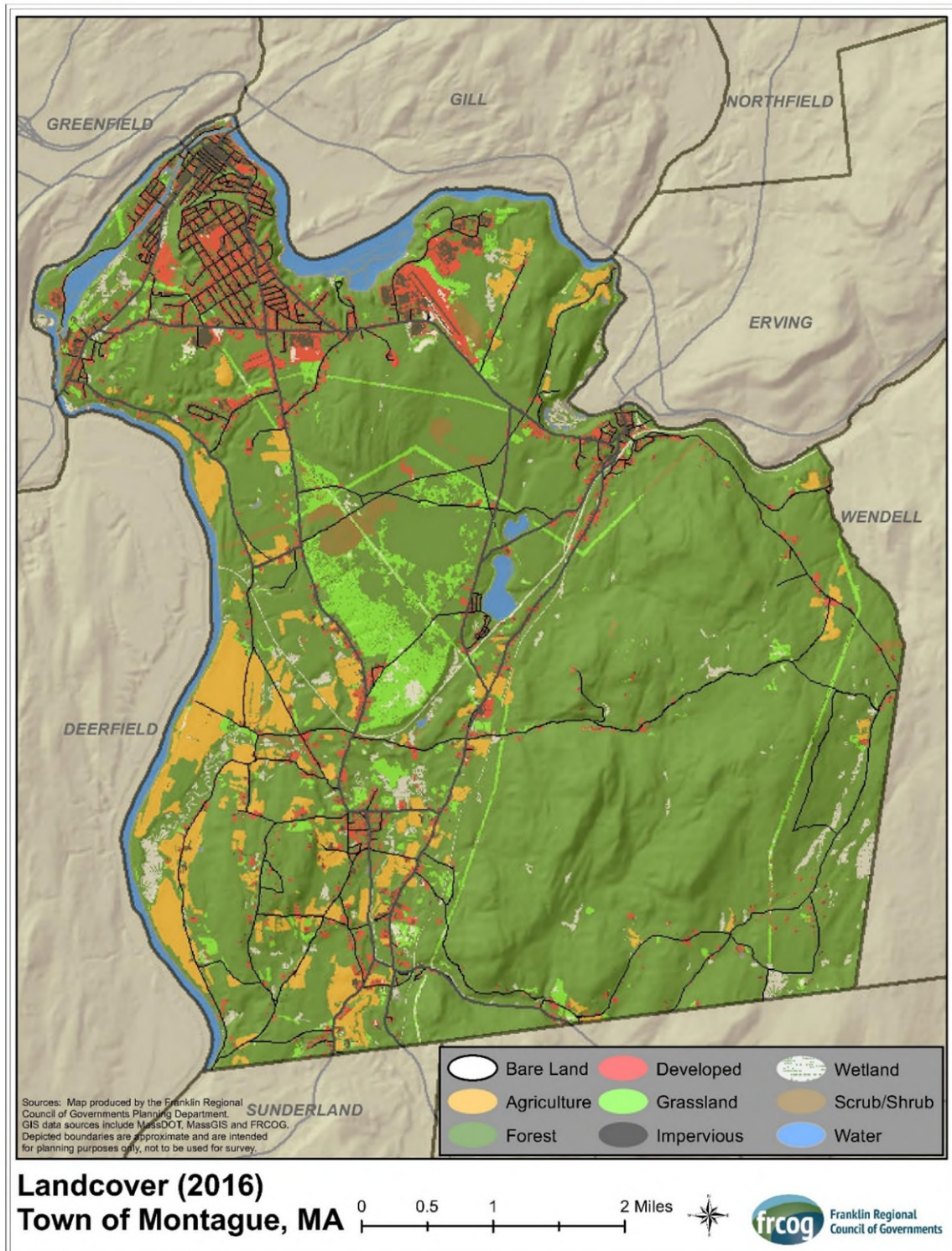
Land Use	Acres	Percentage
Residential (single family, multi-family, other, mixed use)	5,306	26%
Open land	4,501	22%
Tax exempt	4,468	22%
Agriculture	1,408	7%
Forest	1,066	5%
Industrial	955	5%
Right-of-way	792	4%
Water	616	3%
Commercial (including mixed use)	636	3%
Mixed use	192	1%
Recreation	116	<1%
Unknown	40	0%
Total	20,095	100%

Source: MassGIS 2016 Land Use/Land Cover

Table A3. Montague Land Cover

Land Cover	Acres	Percentage
Forest	14,450	72%
Developed Open Space	948	5%
Grassland	980	5%
Impervious	963	5%
Water	773	4%
Cultivated	631	3%
Pasture/Hay	552	3%
Scrub/Shrub	201	1%
Wetland	431	2%
Bare Land	163	<1%
Total	20,095	

Source: MassGIS 2016 Land Use/Land Cover



Map A1. Land Cover

Source: MassGIS 2016 Land Use Land Cover

Different resources are available that help characterize recent development in Montague. The state's GIS office (MassGIS), has mapped major land use changes between 1971 and 1999. Approximately 500 undeveloped acres in Montague were developed in this period, namely through expansion of the Turners Falls Airport and the Industrial Park, an increase in residential development, primarily on lots over a half acre in size. Abandonment of pastureland also counts for some of the change.

No new housing has been developed through subdivisions since the 1990s, when four were built: the tightly clustered community of Randall Woods near Montague City, a publicly-subsidized affordable housing development on Winthrop Street in Millers Falls, Pinewood Circle in Montague City, and a private development known as Whitney's Way near the border with Sunderland.

Commercial and industrial expansion in the past couple decades has occurred on Turners Falls Road, in the Turners Falls Industrial Park, and on Turnpike Road near the old town landfill—all located just outside of Turners Falls village. Sixteen new commercial buildings were permitted between 2016 and 2023.²⁴

Landscape Characteristics

Topography

The topography of Montague is one of sharp contrast. The Connecticut River Valley in southern and western Montague is broad, flat and encompasses much of the prime agricultural land in town. The Montague Plains, central and north, is also an area of flat terrain. Moving east, the landscape changes to rolling hillsides. Although steep slopes can be found throughout, the eastern half of Montague is significantly higher in elevation than the rest of town, with an average height of 900 feet above sea level, and a high point of 1,400 feet at Dry Hill.

Geology

Recent glacial activity has defined much of Montague's topography and soils. Glaciers left till, gravel, and sand deposits across the landscape as they receded northward. Glacial meltwater streams carried silt and clay, forming the rich agricultural soils found along the Connecticut River. The Montague Plains, Turners Falls Airport, and much of the higher elevation portions of Turners Falls are all on top of the Montague Delta, sand deposited by the Millers River as it entered the glacial Lake Hitchcock beginning about 16,000-15,600 years ago. The upland areas of eastern Montague do not have these same characteristics, as they remained above the level of the lake and are covered in glacial till deposited by the receding glacier.

²⁴ U.S. Census, American Community Survey Five-Year Estimates 2011 – 2016 and 2018 – 2022

Soils

The Natural Resources Conservation Service (NRCS) soil surveys identify 58 distinct soil types in Montague. Over a third of the town consists of well-drained soils with low to moderate slopes that may support development. These areas include the Montague Plains, the Airport Industrial Park, developed areas of Turners Falls, Millers Falls, and Montague Center, areas along Route 63, and pockets of farmland and woodlands in the southwest corner of town. Development in other areas of town may be constrained due to steep slopes, including much of the area east of Route 63, or by soil characteristics that impact septic system viability, such as shallow depth to bedrock or a high water table.

Approximately 13% (or 2,557 acres) of the town's total land area consists of the prime farmland soils that have contributed to an economic stability afforded by good agricultural land. These prime farmland soils, considered by the Commonwealth as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, are located in the southwestern section of the town along the Connecticut River as far west as Greenfield Road; in the Sawmill River and Goddard Brook floodplains; and along Route 63. Another pocket of prime farmland also exists to the east of West Mineral Road in Millers Falls. The characteristics that make prime farmland soils suitable for agricultural use also make them easy to develop. Large tracts of level, well-drained farmland are attractive to developers because the cost of installing roads and other infrastructure is relatively low. However, these are resources that are important to protect for because they support food security, carbon sequestration, biodiversity, and climate resilience.

Water and Wetlands

Rivers

Rivers and a lake define Montague's past and present. The location of each of the villages on rivers (Montague City and Turners Falls on the Connecticut River, Millers Falls on the Millers River, and Montague Center on the Sawmill River) and a lake (Lake Pleasant on Lake Pleasant) creates unique scenic and recreational experiences in each village.

Although the Connecticut River no longer directly powers the Montague economy, it continues to provide hydropower and serve as a backdrop to the town. Recreational use of the river has diminished over time due to safety concerns and a lack of formal access points. The Department of Environmental Protection (DEP) has identified that this stretch of the Connecticut River is impaired by PCBs, E.coli, total suspended solids, dewatering, and flow regime modification. FirstLight Power Resources (FirstLight) owns the Turners Falls dam, Cabot Station, and Station No.1—collectively, a hydropower project referred to as the Turners Falls Project. The presence of the Turners Falls dam creates the large lake within the Connecticut River, known as Barton's Cove. The relicensing process of the Turners Falls Project offers an opportunity to reestablish connections to the river, as well as improve the health of the river ecosystem for fish and other wildlife.

While not listed as impaired by MassDEP, the Sawmill River experiences high rates of fluvial erosion, which threaten roads, farms, and other infrastructure. There is an ongoing focus by the Town and other partners on mapping the processes of flooding, sediment deposition, and erosion on this river and promoting practices that enhance instream and riparian habitat, mitigate fluvial erosion hazards, and increase climate resiliency.

Ponds, Wetlands, and Vernal Pools

There are several natural and artificial ponds in Montague, located primarily in the Lake Pleasant and Montague Center areas of town. Swimming is prohibited in Lake Pleasant due to its designation as a back-up drinking water source.

Wetlands can be found almost anywhere in town, but are most common along rivers, ponds and streams. Wetlands provide groundwater supply, flood control, storm damage prevention, filtering of pollution, and wildlife habitat. Their water-regulating effects are becoming even more important as climate change brings more frequent flooding and droughts.

There are at least 15 certified vernal pools in Montague that are protected from development under law (Map A2).

Groundwater Aquifers

According to MassGIS and U.S. Geological Survey (USGS) documents, a large high-yield aquifer is located in the central part of Montague, extending from Millers Falls southwest to the Plains, and as far west as Taylor Hill in Montague Center. All areas of Montague other than the Dry Hill area east of Route 63, Taylor Hill, and Wills Hill have been mapped as low- to medium-yield aquifers.

Soils that allow for efficient aquifer recharge are also easy to develop but do a poor job of filtering septic effluent and other pollutants, as water passes through them very quickly. Geological studies done in the 1970s and 80s showed that a significant aquifer underlays the Montague Plains, prompting the Montague Planning Board to recommend the protection of approximately two-thirds of the land area of the Plains. In 1999, what is now the Division of Fisheries and Wildlife (MassWildlife) purchased 1,490 acres of the plains, including most of the presumed aquifer recharge land. Despite this protection and zoning safeguards, roughly 500 additional adjoining acres remain undeveloped a number of existing uses in the area that may be using or storing hazardous materials that pose potential threats to groundwater quality. The freight rail line is of particular concern. In addition to concerns about protecting water quality, the groundwater supply in the aquifer is poorly understood.

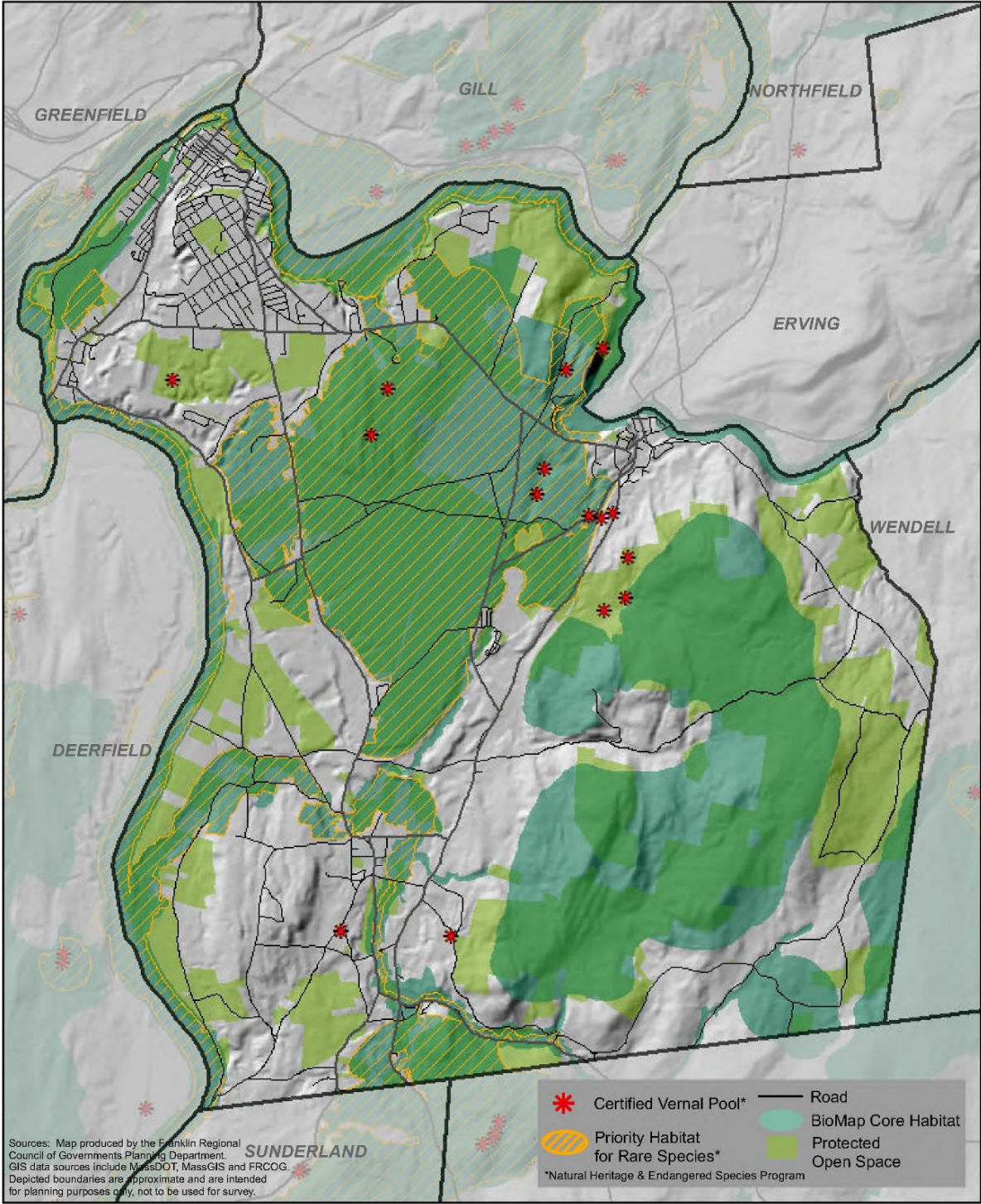
Biodiversity

Montague has more differentiated ecological settings and biodiversity than most towns in the region, containing large and small rivers, floodplain forest, lowland forest with agricultural fields, scrub oak/pitch pine forest, the grassland of the Turners Falls Airport area, and upland forest containing mixed northern and southern hardwood species. There are large areas of Priority Habitat for Rare Species mapped by the Commonwealth's Natural Heritage and Endangered Species Program, which can trigger development review. Around half of Montague (10,173 acres) is mapped as Core Habitat, or areas that are critical for the long-term persistence of rare species, exemplary natural communities, and resilient ecosystems across the Commonwealth (Map A2). Within that Core Habitat, there are over 6,000 acres of mapped Rare (animal) Species Core Habitat and over 1,000 acres of Priority Natural (plant) Communities. Some of the rarer habitats, such as the Connecticut River, scrub oak/pitch pine forest, and grassland habitats, host a disproportionate number of the nearly 40 rare, threatened, or endangered wildlife species found in Montague. For example, the scrub oak/pitch pine forest of the Montague Plains hosts a large number of rare birds, butterflies, and moths. Protecting and promoting pollinator species in decline are also a focus in the community at this time, as pollinator habitat can be enhanced at both the residential and the landscape scale.

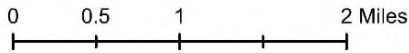
Scenic Landscapes and Nature-based Attractions

Views of the town's rivers and falls, farm fields, and views from the higher elevations make Montague a beautiful place to live and visit.²⁵ Important local spots and tourist attractions are centered around natural features, such as the Great Falls Discovery Center, the French King Bridge, the Montague Bookmill, the Bitzer Fish Hatchery, and the Turners Falls Fishway fish ladder.

²⁵ Refer to the Montague Open Space and Recreation Plan for a comprehensive list of scenic areas identified by residents.



Environmental Considerations



Map A2. Environmental Considerations
 Source: Montague Accessor's Data; MassGIS BioMap

Open Space Inventory

Protected Open Space

Montague contains several large blocks of permanently protected land (Map A2). These areas include state-owned land on the Montague Plains; forest land owned by the Turners Falls Fire District surrounding Lake Pleasant, Green Pond, and the Hannegan Brook watershed; much of Dry Hill and portions of Chestnut Hill and Harvey Hill in the forested, hilly eastern section of town; farmland and riparian areas along the Connecticut and Sawmill Rivers in the southwest section of town; and farm and forest land along East Mineral Road and West Mineral Road near the confluence of the Connecticut and Millers Rivers. Of the more than 10,000 acres of Montague that is mapped Core Habitat, around 28% is protected.

As of the most recent open space inventory in 2017, Montague had over 12,000 acres of open space, or about 60% of the town area, under some form of protection.²⁶ Publicly owned land accounted for over half (55%) of all protected land in town. The diversity of public landowners includes the federal government, the state, the Town, the Montague Conservation Commission, EDIC, the school district, and the fire and water districts.

The remaining 45% of protected open space was owned by individual landowners and FirstLight. Privately owned land is protected by conservation restriction (CR), agricultural preservation restriction (APR), or enrollment in the Chapter 61 Tax program, though Chapter 61 only grants temporary protection status. As of 2017, the FirstLight Power Company owned 522 acres of land, managing most of the land in Montague along the Connecticut River north and east of its confluence with the Deerfield River, a condition of its Federal Energy Regulatory Commission (FERC) license for its hydroelectric facilities in Montague and Erving; therefore, all land subject to the FERC license is considered to have limited protection from development.

The Town will update its data on acreage and ownership of protected open space when it updates its *Open Space and Recreation Plan*, following the expiration of the most recent plan in December 2023.

Farmland

According to inventory done for the 2017 *Montague Open Space and Recreation Plan*, there are approximately 25 commercial or garden-scale farms in Montague. Parcels with farmland, including farm woodlots, constitute approximately 15% of the town's total land base. Approximately 1,388 acres of farmland in Montague were permanently protected by APR, CR, or both. Protected farmland accounted for less than half—approximately 46%—of all farmland in town.

²⁶ The open space inventory for the 2017 *Montague Open Space and Recreation* plan relied on the MassGIS Open Space data layer and Town of Montague Assessor's Office data.

Land Use Regulations

Zoning

Montague regulates development through zoning, subdivision regulations, development standards, a stormwater policy, and overlay districts. State wetlands regulations, the Town’s general bylaws, and the Town’s health regulations also control development, but are overseen by different Town agencies and are not considered part of zoning. Zoning is the most important of these regulatory tools because of its capacity to guide the development and redevelopment of land across the entire town.

The purpose of Montague’s Zoning Bylaw²⁷ is “to promote the health, safety, convenience, amenities, and general welfare of the inhabitants of the Town of Montague, through encouraging the most appropriate use of the land [...]” with the following objectives:

- To conserve health;
- To secure safety from fire, flood, panic and other dangers;
- To lessen congestion in the streets and ways;
- To provide adequate light and air;
- To prevent overcrowding of land;
- To avoid any undue concentration of population;
- To recognize the need for housing for persons of all income levels;
- To facilitate the adequate provision of transportation, water supply, drainage, schools, parks, open space, and other public requirements;
- To conserve the value of land and buildings, including the conservation of natural resources and the prevention of blight and pollution of the environment;
- To encourage the most appropriate use of land throughout the town, including consideration of town plans and programs; and
- To preserve and increase amenities available to the citizens of Montague.

In 2019, Montague voters approved a comprehensive update to the Zoning Bylaw to better reflect current land use and community priorities, such as removing barriers to farmland and scenic resource protection, guiding development to existing developed areas, easing restrictions on housing to allow for more diverse housing stock, and enabling growth of the commercial and industrial bases in targeted areas. Other major changes in the last few years included the re-zoning of two subdistricts in Turners Falls as 40R Smart Growth Overlay Districts designed to encourage affordable housing, and the inclusion of battery storage in the large-scale solar regulations. All of these zoning changes have already helped to move Montague in

²⁷ https://montague-ma.gov/files/Zoning_Bylaw_Effective_Date_May_7_2022.pdf

the directions desired by the community as expressed in the public feedback collected during the development of this comprehensive plan.

Recent Updates to Montague's Zoning Bylaw

2019

- Created a new section explaining the Special Permit Process and Procedures
- Allowed rear yard and building height relief by Special Permit (previously by variance)
- Rezoned existing residential areas served by water and sewer from Agricultural – Forest (AF) to Residential Zoning Districts
- Separated residential districts into Residential-1 (RS-1) (sewered) and Residential-2 (RS-2) Zoning Districts (not sewered)
- Zoned new locations on Millers Falls Road, Thomas Memorial Golf Course area, Turnpike Road/Turners Falls Road, and Montague Center for mixed-use or commercial development
- Allowed 1-acre zoning in the Agricultural – Forest (AF) Zoning District
- Eased restrictions on two-family and multi-family dwellings
- Eased restrictions on accessory dwelling units (ADUs)
- Created new tools for flexible development: Planned Unit Development and Open Space Residential Design
- Changed some uses allowed by-right and by special permit in each zoning district
- Updated regulations for signage, parking, and solar
- Adopted a new zoning map reflecting the changes

2022

- Zoned two subdistricts in Turners Falls as 40R Smart Growth Overlay Districts
- Amended the Solar Energy Installations & Facilities Zoning Bylaw section to include Special Permit Standards for battery energy storage facilities

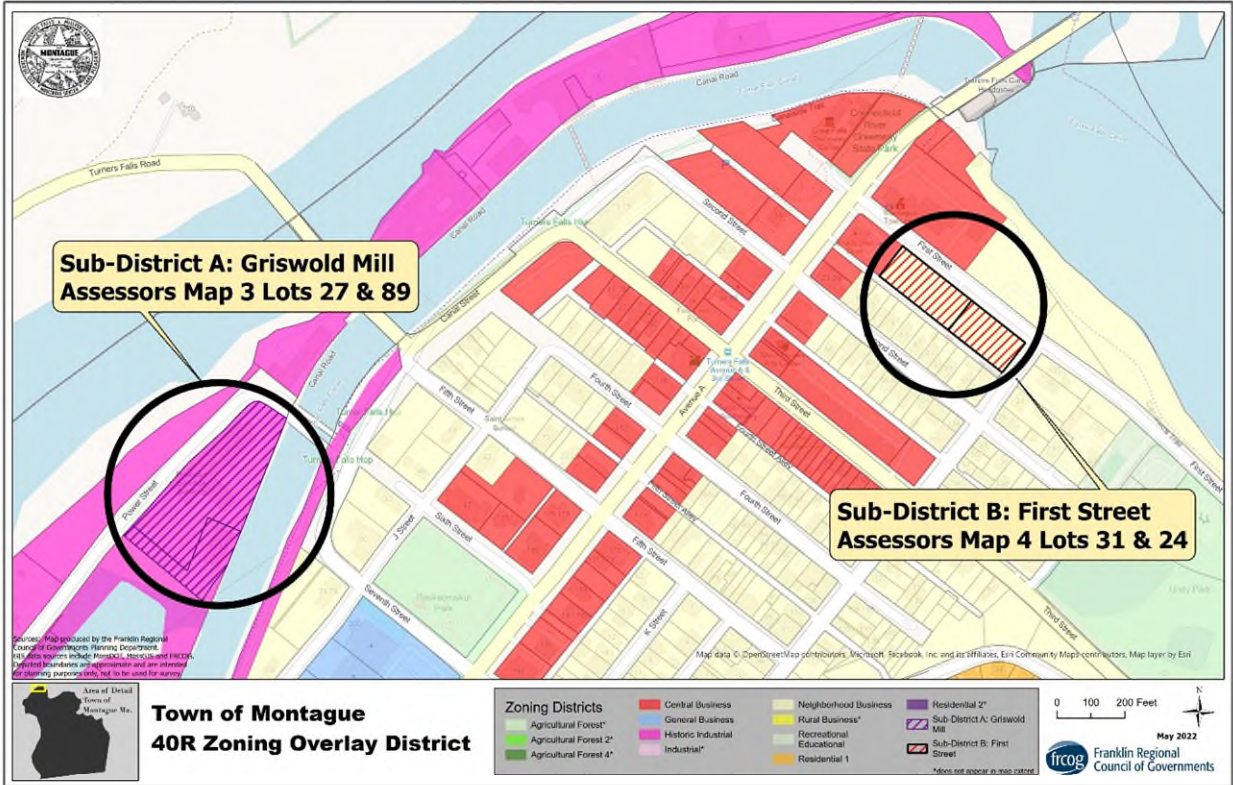
Montague's zoning framework includes twelve conventional use districts and three overlay districts (see Zoning Maps A3 and A4 and Table A4). A zoning district is a geographic area delineated on a zoning map that designates the allowed use for every parcel of land within that district. Zoning also establishes dimensional regulations that control the location, size, and placement of buildings on each parcel.

Each zoning district allows certain uses by-right. Other uses are permitted pending a conditional approval from the Planning Board called a special permit. The standards and conditions for granting a special permit are laid out in the Zoning Bylaw. In Montague, the Planning Board and

the Zoning Board of Appeals both function as the Special Permit Granting Authority (SPGA) in the General Business (GB), Industrial (ID), and Historic-Industrial (HI) Zoning Districts; the Zoning Board of Appeals is the SPGA in all other zoning districts, unless specifically designated otherwise in the Zoning Bylaw. Special Permits shall be granted, denied, or issued with conditions by the SPGA according to the provisions of Chapter 40A of the Massachusetts General Laws.

Site Plan Review is a procedure for reviewing development plans that are likely to have a noticeable impact on the surrounding land uses, natural resources, and traffic. It does not allow the granting authority to disapprove uses that are permitted by-right or subject to special permit, however it does allow reasonable conditions to be placed on projects prior to the issuance of a building permit. In Montague, the Planning Board conducts site plan review. The following activities and uses are subject to site plan review:

- All uses that involve the construction or expansion or change of use of over 3,000 square feet of floor area.
- All uses that involve the development of over 130,680 square feet (3 acres) of land.
- Any new structure, group of new structures, changes of use, or additions that result in an increase of 500 or more vehicle trips per day, as proposed in an applicant's business plan acceptable to the reviewing authority or estimated by a professional engineer.
- All uses that involve the construction or expansion of a parking area that creates ten (10) or more new parking spaces.
- Specific Uses identified elsewhere in this bylaw:
 - Accessory Apartments within existing single family homes;
 - Self-storage facilities;
 - Solar energy and battery energy storage facilities;
 - Medical marijuana treatment center or marijuana retailer, cultivation, production, research, or testing;
 - Open Space Residential Development; and
 - Planned Unit Development.



Map A4. Montague 40R Zoning Overlay District

Table A4: Zoning Districts Purpose

Zoning District Name	Abbreviation	Purpose	Percentage of land within town
Recreation - Education	RE	To allow for public enjoyment and use of parks and schools	0.7%
Agriculture - Forestry	AF	To allow for a viable farming and forestry industry, protect natural resources, and preserve rural character	29.1%
Agriculture - Forestry – 2	AF-2	To allow for a viable farming and forestry industry, protect natural resources, and preserve rural character	2.9%
Agriculture - Forestry – 4	AF-4	To allow for a viable farming and forestry industry, protect natural resources, and preserve rural character	47.3%
Residential – 1	RS-1	To allow for livable and walkable residential neighborhoods on generally smaller lots serviced by municipal sewer	5.8%
Residential – 2	RS-2	To allow for livable and walkable residential neighborhoods that are generally not serviced by municipal sewer	2.0%
Rural Business	RB	To allow small and natural resource based businesses that are compatible with existing agricultural and residential uses and scenic character	4.2%
Neighborhood Business	NB	To allow for compatibility of residential and business uses in village areas	1.1%
Central Business	CB	To allow for pedestrian-oriented downtown areas with mixed-use buildings and a range of retail and commercial services	0.2%
General Business	GB	To allow for commercial activity that enables access to a broad range of products and services	1.0%
Industrial	ID	To allow high quality employment opportunities through manufacturing, production, and research	5.3%
Historic Industrial	HI	To allow for adaptive reuse of historic industrial buildings and sites	0.2%
Zoning Overlay District Name	Abbreviation	Purpose	Percentage of land within town
Floodplain	FP	To prevent loss of life, damage to private property, and lessen the impacts of flooding	7.9%

Water Supply Protection	WSP	To prevent contamination of the surface water and groundwater resources providing present and significant potential public water supplies for the Town of Montague	5.7%
Agricultural Business	AB	To maintain the viability of agricultural businesses by conserving land with productive soils in large, contiguous blocks and minimizing conflicts between agricultural operations and residential uses, and to identify an area of town where other policies should be developed to promote and facilitate commercial agriculture	8.6%
Smart Growth 40R	SGOD	To encourage smart growth in accordance with the purposes of G. L. Chapter 40R; To encourage the revitalization of underutilized properties to benefit the general health and welfare of our residents and the region; To encourage the creation of new multifamily and residential developments in appropriate locations at appropriate densities; To maintain or increase the supply of affordable dwelling units; and, To maintain a consistently high level of design quality.	<0.1%

Zoning Overlay Districts

An overlay district, typically delineated on a zoning map, may limit uses allowed in the underlying district or allow uses that would otherwise be prohibited in the underlying zoning district. Montague has four overlay districts (see Zoning Maps A3 and A4).

Floodplain Overlay District

Montague's Floodplain Overlay District applies to all special flood hazard areas designated as Zone A (1% annual chance of flood or the 100-year flood). The Zoning Bylaw requires that new and redeveloped structures meet the elevation or flood proofing requirements of the State Building Code and that any encroachment, including fill, new construction, substantial improvements to existing structures, and other development must not result in any increase in flood levels during the occurrence of the 100-year flood.

Montague's Flood Insurance Study and associated special flood hazard areas maps, also known as Flood Insurance Rate Maps or FIRMs, were completed by the Federal Emergency Management Agency (FEMA) in 1982. These tools are used in the administration of the National Flood Insurance Program (NFIP). FEMA is currently working to digitize the FIRMs for all Franklin County towns but that project will likely take another five years to complete.

Along with a strong local floodplain bylaw, Montague's FIRM maps can be used to manage or restrict development in flood hazard areas. However, these maps do not account for the

increasing frequency and severity of flood events along rivers and streams and in more developed areas, where flooding can overwhelm drainage systems.

There are approximately 17 primary structures located within the Floodplain Overlay District.²⁸ Most are along the Sawmill River, along the Connecticut River in Montague City, and along the Connecticut River in the Industrial Boulevard area.

Water Supply Protection Overlay District

Montague's Water Supply Protection Overlay District is mapped as two areas located on Route 63: one east of Lake Pleasant and one east and south of Montague Center. The purpose of the overlay district is to prevent contamination of surface and groundwater resources providing public water supply. The overlay district limits the use of sodium chloride and other deicing materials, fertilizers, pesticides, herbicides, and other leachable materials that could result in groundwater contamination, above ground storage tanks for fuels or hazardous materials, and run-off from impervious surfaces. It also limits the amount of impervious surface created, natural vegetation removed, and certain commercial uses.

Agricultural Business Overlay District

Montague's Agricultural Business Overlay District contains agricultural areas in southwest Montague, particularly along Meadow Road. The purpose of the overlay district is to maintain the viability of agricultural businesses by conserving land with productive soils in large, contiguous blocks to minimize the conflicts between agricultural operations and residential uses, and to identify an area of town where other policies should be developed to promote and facilitate commercial agriculture. The overlay allows by special permit the creation of impervious surface up to 25% of the lot, back lot residential development, and government facilities. The overlay district also restricts earth removal except as accessory to agricultural uses.

Smart Growth Overlay District

Montague's Smart Growth Overlay District, authorized under Massachusetts General Law Chapter 40R, is comprised of two subdistricts in Turners Falls on First Street and on Power Street. This overlay district encourages mixed-use or housing development by allowing it by-right subject to Plan Approval by the Planning Board. Each 40R proposal is required to provide at least 25% of the total dwelling units as affordable. Each proposal must meet 40R design standards and is subject to Plan Approval process. Montague adopted the overlay in part to encourage the revitalization of historically developed properties in downtown, to maintain or increase the supply of affordable units and control the quality of their design, to encourage the production of market rate housing within mixed income projects, and to steer housing production to appropriate locations and at appropriate densities.

²⁸ FRCOG GIS desktop analysis

Subdivision Regulations

Local subdivision regulations govern the division of land, with rules for the creation of lots, streets, utilities, drainage, and circulation. In 2017, Montague prepared an update to their Subdivision Regulations that included Low Impact Development (LID) techniques. The current subdivision regulations govern the subdivision's streets, easements, inclusion of natural features, open space, drainage, sewage and water, and passive solar design. Its purpose is to provide safe and convenient access for vehicles, pedestrians, and bicycles, minimize congestion, improve safety in the case of emergencies, reduce impacts on the environment, secure adequate provision of utilities and municipal services, coordinate with other public ways, and ensure consistency with zoning and Town planning.

Stormwater Policy

In 2009, the Planning Board adopted a Stormwater Policy that requires the development of a Stormwater Management Plan for projects undergoing Site Plan Review.²⁹ The purpose of the stormwater policy is to “ensure high water quality standards and address any potential water quantity problems associated with development and to:

- Preserve hydrologic conditions that closely resemble pre-development conditions.
- Prevent or reduce flooding and erosion by managing the peak discharge and volume of runoff.
- Reduce the amount of suspended solids and other pollutants in order to maintain water quality.”

Montague's Stormwater Policy requires that stormwater management systems be designed so that the post-development peak discharge and annual recharge rates do not exceed the pre-development discharge rates for a 25-year 24-hour storm. For redevelopment projects, stormwater management should improve existing site conditions. The regulations also require that stormwater management systems be designed in accordance with the most recent edition of the Massachusetts Stormwater Manual.

Other Non-Zoning Regulatory Mechanisms

Wetlands Regulations

The Town's Conservation Commission administers and enforces the state Wetlands Protection Act, which regulates activities that have the potential to remove, fill, dredge, or alter wetland resource areas. Inland wetland resource areas protected by Massachusetts law include the banks of streams and ponds, vegetated wetlands bordering the banks, land under water, bordering and isolated areas subject to flooding and a 200-foot riverfront area extending

²⁹ https://montague-ma.gov/files/Planning_Board_Stormwater_Policy.pdf

horizontally from the banks of rivers that run all year. In addition, the Act protects a 100-foot buffer zone extending horizontally from the banks of streams and ponds.

Some towns also have their own, local wetlands regulations that set standards for development around wetlands higher than the state's law. Montague does not have a local wetlands bylaw.

Board of Health Regulations

The Board of Health administers and enforces the Town's Well Drilling Regulations, which requires wells to be minimum distances from certain features, as well as located and constructed in such a way that a safe potable water supply is available for the associated dwelling prior to usage.

General Bylaws

Some Town of Montague General Bylaws also govern the use of land and creation of structures. These are administered by the Selectboard. The Building and Use Bylaw enacts the Stretch Energy Code. The Swimming Pools regulation requires a perimeter fence around any pool. A Stripping Land of Soil and Loam Bylaw prohibits the removal of soil, loam, sand, or gravel done not in connection with development, improvement, landscaping, and an existing sand and gravel pit. And the Right-to-Farm Bylaw, adopted in 2012, protects and regulates agricultural practices that function in harmony with the community and Town services.

LAND USE ANALYSIS

The goal of this comprehensive plan's Land Use element is to balance the need for housing, jobs, and vibrant village centers with the protection of farmland, forests, and water. The following section looks at what may be possible for additional housing and manufacturing development.

Housing Infill Analysis

Community feedback collected for this plan demonstrated that the public would both like more housing and would like to keep the current land use and development pattern in Montague. The Housing Infill Analysis explores whether it is possible to add a meaningful amount of additional housing in or near village centers, or on already developed lots, so as not to build on undeveloped land outside village centers.

Current Allowed Residential Density

Analysis of residential density allowed by current zoning gives a sense of where denser housing is encouraged relative to other parts of Montague. Table A5 shows the minimum required lot size and maximum units allowed per lot for zoning districts in which residential development is allowed. The last column of the table shows the *relative* density of housing allowed for each zoning district, compared across Montague. Map A5 illustrates this relative housing density allowed in each zoning district and how it aligns with water and sewer service.

The map does not show existing density. To illustrate, Lake Pleasant and parts of Turners Falls’ Hill neighborhood are both zoned RS-1. Housing in Lake Pleasant was built in a way that is close to the maximum allowed density in RS-1. The existing single-family development density on the Hill is significantly less dense than what is allowed.

Table A5: Residential Density Permitted by Zoning District (not existing density)³⁰

Zoning District	Minimum lot size in square feet (ft ²)	Maximum building height in feet (ft)	Residential use permitted in each zoning district (either by-right or by Special Permit)	Maximum dwelling units allowed per lot	Relative density of housing allowed
Agriculture-Forestry (AF)	43,560 ft ² , plus 22,500 ft ² per dwelling unit after first dwelling unit	28 ft	Single Family dwellings; Two-family dwellings	2	Low density

³⁰ **Residential Density Permitted: Analysis Method**

In order to be able to compare the residential density allowed in zoning districts, which each have a different minimum lot size and maximum number of dwelling units permitted, the number of units allowed for each residential zoning district was normalized to units per acre using the equation *Units per acre = Maximum units allowed per lot / (Minimum lot size in square feet * Acres per square foot)*. Normalizing is the process of adjusting values measured on different scales to a common scale. For example, AF-4 requires a minimum lot size of 174,240 square feet, or 4 acres. Given that AF-4 allows two-family dwellings, the normalized number of units allowed per acre in AF-4 is 1 unit per 2 acres, or 0.5 units per acre. RS-1 allows multi-family dwellings up to 4 units and requires a minimum of 25,000 square feet for those four units, resulting in a normalized 1 unit per 6,250 square feet or approximately 7 units per acre.

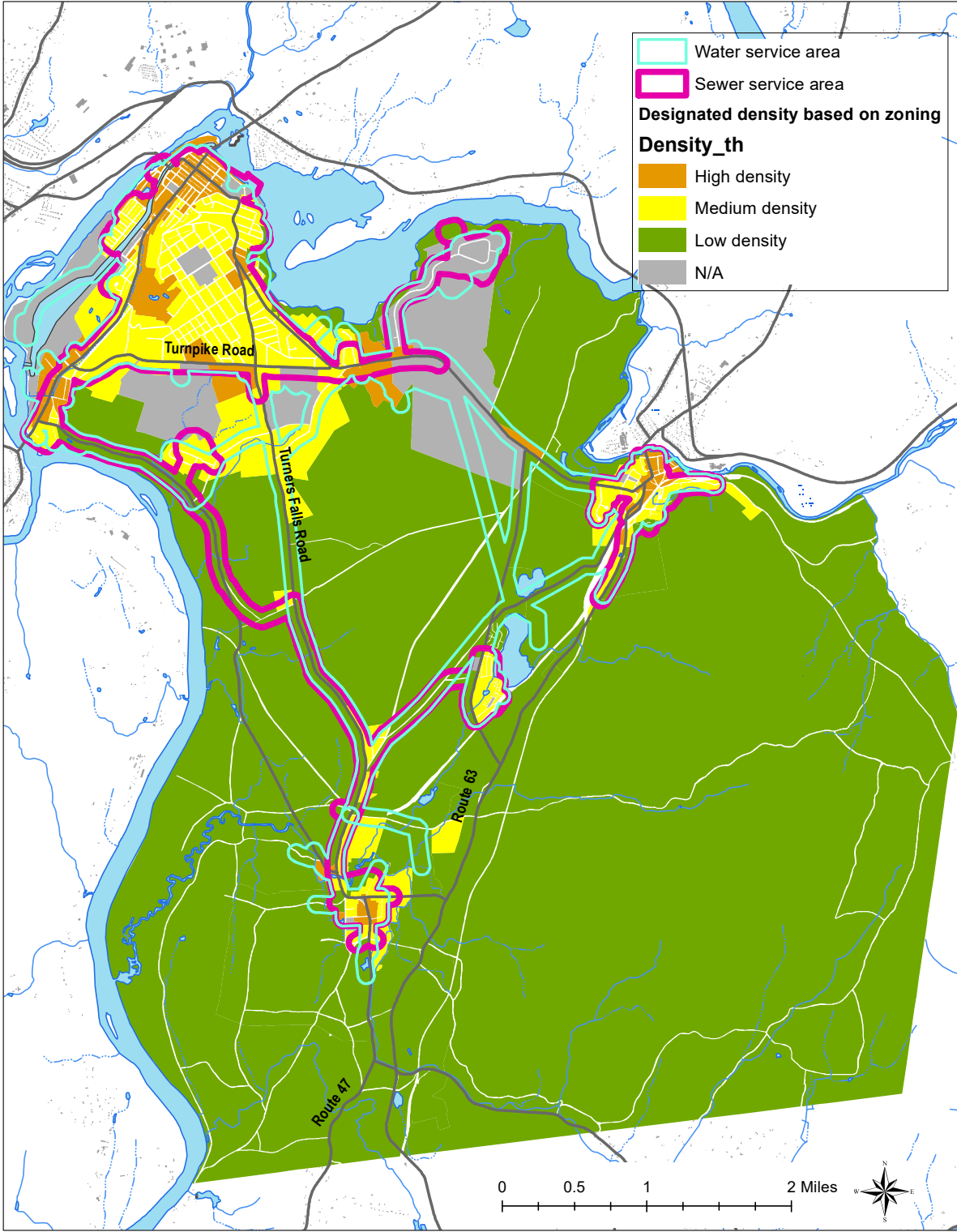
A relative density scale was created specifically for this Montague analysis based on the normalized values of units per acre. The units per acre calculation and density rating do not account for various lot restrictions that are possible. It is meant to provide a general sense of relative density for planning purposes only.

<u>Units per acre</u>	<u>Density rating</u>
1 – 3	Low density
4 – 10	Medium density
10+	High density

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Agriculture-Forestry – 2 (AF-2)	87,120 ft ²	28 ft	Single Family dwellings; Two-family dwelling	2	Low density
Agriculture-Forestry – 4 (AF-4)	174,240 ft ²	28 ft	Single Family dwellings; Two-family dwelling	2	Very low density
Residential – 1 (RS-1)	15,000 ft ² , plus 5,000 ft ² per dwelling unit after second dwelling unit	28 ft	Single Family dwellings; Two-family dwelling; Multiple-family dwellings (max 4 units)	4	High density
Residential – 2 (RS-2)	22,500 ft ² , plus 5,000 ft ² per dwelling unit after first dwelling unit	28 ft	Single Family dwellings; Two-family dwelling; Multiple-family dwellings (max 4 units)	4	Medium density
Rural Business (RB)	43,560 ft ² , plus 22,500 ft ² per dwelling unit after first dwelling unit	28 ft	Single Family dwellings; Two-family dwellings; Multiple-family dwellings (max 4 units)	4	Low density
Neighborhood Business (NB)	10,000 ft ²	28 ft	Single Family dwellings; Two-family dwelling; Multiple-family dwellings	5+	Very high density
Central Business (CB)	No minimum lot area	36 ft	Mixed-use developments	5+	Very high density
General Business (GB)	No minimum lot area	36 ft	Single Family dwellings; Two-family dwellings; Multi-family dwellings, including mixed use	5+	Very high density
Historic Industrial (HI)	No minimum lot area	50 ft	Multi-family dwellings	5+	Very high density

Source: Montague Zoning Bylaw, updated 2019



Map A5. Residential Density Permitted by Zoning (not actual density)

Source: Montague Zoning Bylaw, updated 2019

Potential for Housing Infill

Presently, the town does not have enough housing for current residents. Looking forward, even if Montague’s population decreases or stays the same over the next 15 years, the number of households will increase due to decreasing household sizes (on average fewer people per housing unit; see Housing Technical Report for more information). This translates to a need for the development of more housing in Montague—particularly if the town’s population begins to increase over the next 15 years. Several development patterns could unfold that accommodate more housing:

- 1) Additional housing could be focused in the currently developed villages
- 2) Additional housing could be allowed in previously undeveloped areas in town
- 3) Additional housing could be created in both the villages and undeveloped areas

Sentiment from public outreach that was conducted for this plan was clear that most residents were interested in conserving open space and directing future growth to remain in or near the villages. The following high-level analysis seeks to better understand whether village areas with water and sewer can accommodate more housing under current zoning or whether they are built out, what development might look like if it was not contained to villages, and if additional areas in town need to be examined as potential areas to build out.

- **Scenario A:** The first scenario estimates how many housing units could be accommodated on currently vacant parcels in areas that are already served by public sewer and water (i.e. existing villages) under the existing zoning regulations.
- **Scenario B:** The second scenario estimates how many accessory apartments/accessory dwelling units (**ADUs**) could be accommodated on parcels anywhere in town with existing single family homes under the current Accessory Apartment zoning provision

Infill

Infill development refers to building on vacant and underutilized (vacant or blighted) parcels within existing development patterns. Infill can also involve properties on which property owners voluntarily redevelop the property to increase the unit density within allowed zoning. Infill development, in contrast to development in previously undeveloped areas, accommodates growth where there is more likely to be existing infrastructure and proximity to services. This can reduce the cost of municipal services and lessen the impact of development on the environment.

In Montague, infill to increase housing density could take the form of building on a vacant parcel, creating detached accessory dwelling units (ADUs), remodeling a house or building to include more units, or redeveloping a single-family property into multi-family housing, for example.

(these accessory apartments could be constructed on parcels that are on either sewer or septic).

- **Scenario C:** The third scenario is a more intense one, in which the analysis estimates the development potential on all parcels served by public sewer and water (i.e. existing villages) under existing zoning regulations regardless of whether it is presently vacant or not. In other words, this scenario explores both developing vacant parcels and redeveloping parcels on which there is existing housing. This scenario calculates three different levels of development intensity in order to illustrate the range of potential for adding housing.

Accessory Apartments or Accessory Dwelling Units (ADU)

ADUs are additional housing units added within an existing home, attached to the outside of an existing home, or detached from an existing home on the same property.

Montague’s Zoning Bylaw allows ADUs to be up to 900 square feet requires that the property owner occupy the single family home or the ADU as their Principal Residence.

Scenario A: Infill Potential on Vacant Parcels on Sewer

In Scenario A, FRCOG staff performed a GIS mapping analysis identified potentially buildable *vacant* parcels based on the unit maximums and lot size minimums for all parcels within 500 feet of Town sewer and water (see Table A6).³¹

Table A6: Infill Potential on Vacant Parcels within 500 Feet of Water and Sewer (Scenario A)

Zoning District	Potential Units in Vacant Parcels
Agricultural - Forest (AF)	239
Agricultural - Forest 2 (AF2)	3
Agricultural - Forest 4 (AF4)	8
Neighborhood Business (NB)	289
Rural Business (RB)	32
Residential 1 (RS1)	650
Residential 2 (RS2)	219
Total Units	1,440

Source: Montague Assessors Data 2019; Montague Zoning Bylaw, updated 2019

³¹ **Scenario A Analysis Method**

Parcels were considered eligible if they were privately owned/not institution/not utility-company owned, contained no structures over 500 square feet, and were within 500 feet of sewer and/or water mains. From the eligible parcels, parcels were excluded if any of the following environmental constraints dominated the parcel, leaving no buildable area:

- Permanently protected status
- 100-year floodplain
- 100-foot wetland buffer
- 200-foot riverfront area
- Slopes >12%

While this analysis took care to consider a number of environmental constraints, it did not exclude parcels located on Core Habitat or on prime farmland soil because these are not regulatory or physical constraints.

For each parcel meeting the above criteria, the total number of allowed units (see footnote 30) were calculated based the parcel size. The GB, CB, and HI Districts allow five or more residential units and do not require minimum lot sizes, so though not calculated, it is assumed that each of those districts also have substantial infill potential.

Scenario B: Infill Potential of ADUs on Sewer and Septic

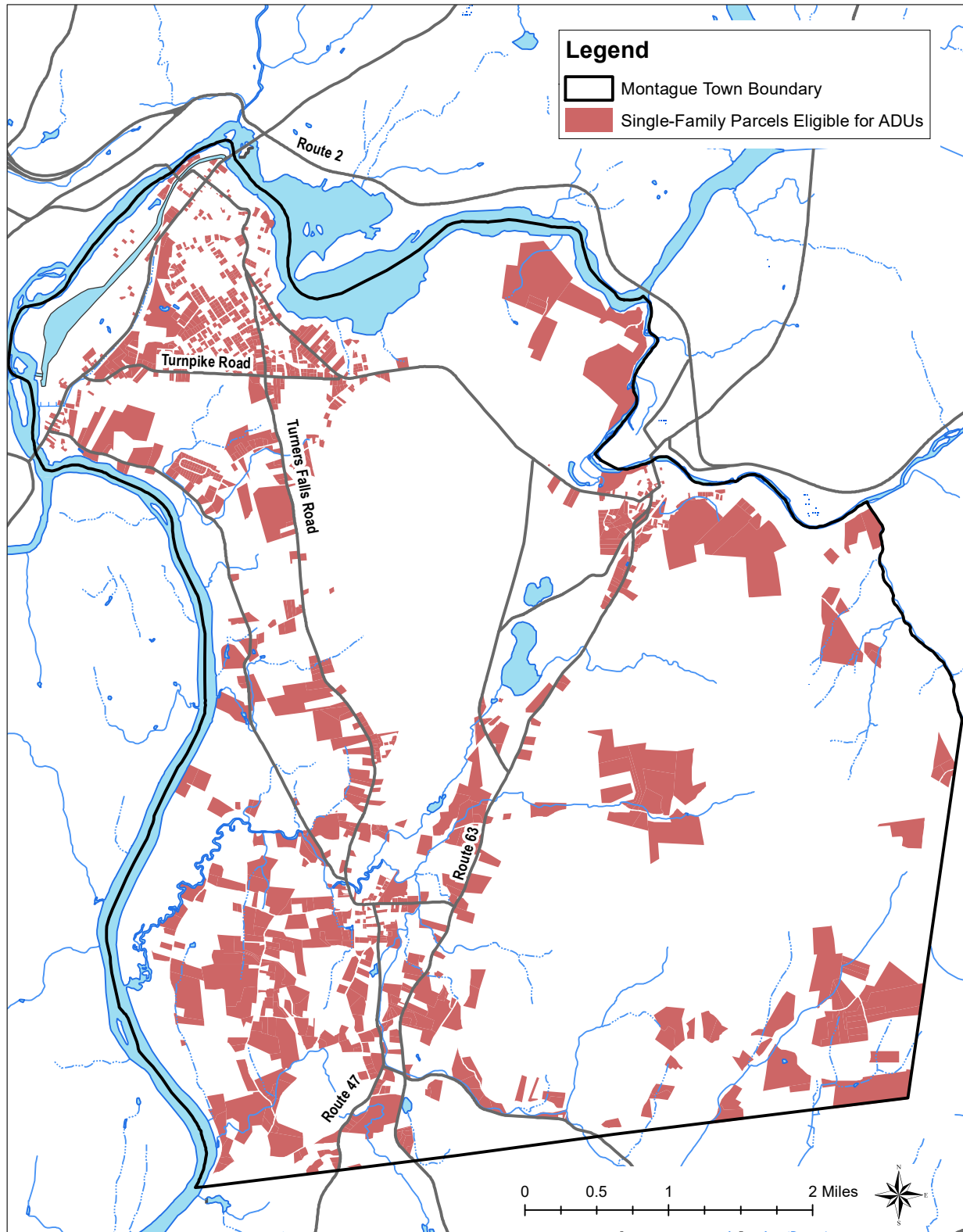
In Scenario B, FRCOG staff performed a GIS mapping analysis identified all parcels with single family homes that were big enough for one additional unit in the form of an ADU (see Table A7 and Map A6).³² This analysis did not consider proximity to water or sewer.

Table A7. Infill Potential of ADUs on Sewer and Septic (Scenario B)

Zoning District	Potential ADUs
Agricultural - Forest (AF)	168
Agricultural - Forest 2 (AF2)	52
Agricultural - Forest 4 (AF4)	85
Neighborhood Business (NB)	62
Rural Business (RB)	69
Residential 1 (RS1)	664
Residential 2 (RS2)	51
General Business (GB)	5
Central Business (CB)	7
Historic Industrial (HI)	1
Total Units	1,164

Source: Montague Assessors Data 2019; Montague Zoning Bylaws

³² Parcels were considered eligible if they were privately owned, were currently occupied by a single family home, and had the required parcel area for a two-family home (see footnote 30). Parcels were not excluded based on proximity to sewer and/or water mains or environmental constraints.



Map A6. Infill Potential of ADUs on Sewer and Septic

Source: Montague Assessors Data 2019; Montague Zoning Bylaw, updated 2019

Scenario C: Infill Potential of Development on all Parcels within 500 Feet of Water and Sewer

In Scenario C, FRCOG staff performed a GIS mapping analysis identified all potentially buildable parcels based on the unit maximums and lot size minimums for each zoning district with Town sewer and water (see Table A8).³³ The three levels of development intensity calculated for this scenario are:

- **Maximum Potential (100% of potential)** – Assumes that all parcels are (re-)developable under the current Zoning Bylaw. This scenario imagines that all eligible parcels are developed or redeveloped to accommodate the maximum density allowed under zoning. This is not a likely or realistic scenario, but serves to illustrate full density potential.
- **Moderate Potential (50% of maximum potential)** – Assumes that not all parcels are (re-)developable under the current Zoning Bylaw due to dimensional requirements, lack of frontage, etc. This scenario imagines that a majority of eligible parcels have an ADU added, that some buildings are torn down and developed to the parcel’s max potential, and there is a moderate amount of new development on vacant parcels. This is not a likely scenario, but is possible.
- **Limited Potential (25% of maximum potential)** – Assumes that not all parcels are (re-)developable under the current Zoning Bylaw due to dimensional requirements, lack of frontage, etc. This scenario imagines that almost all existing structures will remain, but that there will be limited additional units added through accessory apartments, selective parcel redevelopment, and some development on vacant parcels. This scenario is very possible and demonstrates the degree to which infill may be achieved.

³³ Parcels were considered eligible if they were privately owned/not institution/not utility-company owned and were within 500 feet of sewer and/or water mains. From the eligible parcels, parcels were excluded if any of the following environmental constraints dominated the parcel, leaving no buildable area:

- Permanently protected status
- 100-year floodplain
- 100-foot wetland buffer
- 200-foot riverfront area
- Slopes >12%

While this analysis took care to consider a number of environmental constraints, it did not exclude parcels located on Core Habitat or on prime farmland soil because these are not regulatory or physical constraints.

For each eligible parcel, the total number of allowed units (see footnote 30) were calculated based the parcel size. For *Vacant Parcels*, this directly shows the number of units allowed before any lot restrictions are applied. For each *Parcels with Existing Structures*, the number of existing structures was subtracted from the total number of allowed units to get the number of additional units allowed before any lot restrictions are applied. The GB, CB, and HI Districts allow five or more residential units and do not require minimum lot sizes, so though not calculated, it is assumed that each of those districts also have substantial infill potential.

Table A8. Infill Potential on All Parcels within 500 Feet of Water and Sewer (Scenario C)

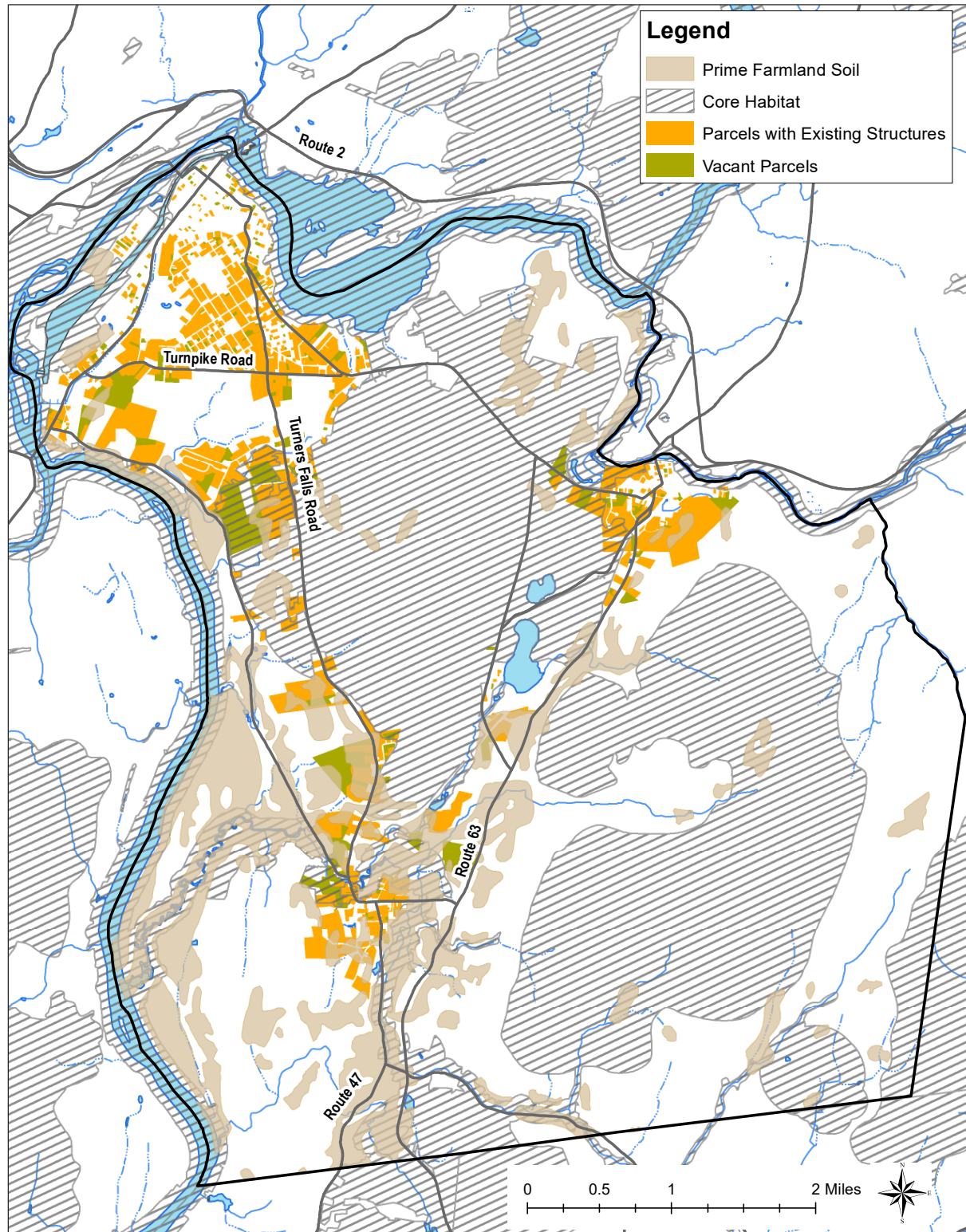
Zoning District	Maximum Potential 100%		Moderate Potential 50%		Limited Potential 25%	
	Existing	Vacant	Existing	Vacant	Existing	Vacant
Agricultural - Forest (AF)	365	239	170	114	34	53
Agricultural - Forest 2 (AF2)	65	3	29	1	12	0
Agricultural - Forest 4 (AF4)	43	8	21	4	10	2
Neighborhood Business (NB)	963	289	438	131	188	56
Rural Business (RB)	18	32	9	15	4	7
Residential 1 (RS1)	2,619	650	1,015	273	349	0
Residential 2 (RS2)	318	219	143	105	58	51
Total Units	4,391	1,440	1,825	643	655	169
	5,831		2,468		824	

Source: Montague Assessors Data 2019; Montague Zoning Bylaws

The analysis shows that even under the limited infill scenario, there is room for over 800 additional housing units on Town sewer and water. Nearly half of that opportunity is in the Residential-1 District, followed by the Neighborhood Business District and the Agricultural-Forest District.

Ecological Considerations

Map A7 shows all parcels identified for potential infill in Scenario C: Infill Potential of Development on all Parcels within 500 Feet of Water and Sewer (100% of potential) overlaid with BioMap Core Habitat and prime farmland soil maps. While this housing infill analysis considered development constraints, it did not exclude parcels located in ecologically important areas or on prime farmland soil. Core Habitat shows high-quality habitat in areas not already impacted by development. Prime farmland soil maps are based on soil surveys that *do not* account for where development has already occurred. Although preservation of prime farmland soil is critical to protecting agriculture in town, areas of prime farmland soil areas that are no longer available for agricultural production due to development could be considered for infill.



Map A7. Infill Potential of Parcels on Sewer with Ecological Considerations
Source: Montague Assessors Data 2019; Montague Zoning Bylaw updated 2019; MassGIS

The largest opportunities for housing infill on sewer and water that do not impact BioMap Core Habitat include the following locations:

- Turners Falls:
 - Downtown
 - The Patch
 - The Hill
 - Along Turnpike Road, Hillside Road, Randall Road, and Greenfield Road
- Montague City
 - Near the intersection of Greenfield Road
 - Near the intersection of Turnpike Road
- Sections of Greenfield Road
- Sections of Turners Falls Road
- Montague Center
 - Village
 - Court Square Road
 - A section of Ferry road
- Millers Falls
 - Village
 - Along Route 63 south of the village
 - Along Millers Falls Road near the village
 - Along Wendell Road

There is additional opportunity for infill in the General Business, Central Business, and Historic Industrial Zoning Districts, which were not captured in the infill calculations but allow high-density housing. In contrast to most of the villages, the area around Lake Pleasant does not afford many opportunities for infill.

Overall, this housing infill analysis shows that under current zoning, Montague can accommodate residential growth. This can be achieved either through limited infill where there is municipal sewer and water or through the addition of ADUs on single-family parcels throughout town while still maintaining the community's goals of protecting farmland and maintaining important habitat areas without having to dramatically expand water and sewer infrastructure.

If the cost of building or personal preference means that most residents are not likely to add units to their existing house, or vacant parcels are tied up, gains in the creation of new housing will likely only be from what the Town is able to do with large, redevelopable parcels like the former Farren Care Center or the Griswold Mill site.

Potential for Infill Housing in Villages:

Existing Assets and Community Needs

Montague residents are interested in infill development in the village centers because it helps to preserve the Town’s traditional development patterns and allows people easier access to services, community life, walkability, and alternative transportation. The following is a summary of what assets each village already has that supports infill development and the feedback collected in the community visioning workshops on how residents would make their villages more livable. This feedback provides some guidance for encouraging housing growth. Each section takes a look at the potential challenges to increasing residential development and what other kinds of planning, infrastructure, and services might be necessary for creating additional housing.

Turners Falls

Assets

The urban feel, cultural vibrancy, opportunities for recreation, and access to the Connecticut River in downtown Turners Falls offer residents something they do not experience anywhere else in Montague. The whole of Turners Falls village is an ideal location for infill because it is fully serviced by public water and sewer, it is generally walkable and has access to public transportation, and schools are located there. Because of its walkability and the proximity of goods and services, downtown Turners Falls is one of the easiest places for older adults to live.

Community Ideas for Improving Sustainability & Livability

- Improved pedestrian safety and sidewalk maintenance
- School bus route between downtown Turners Falls and the elementary schools

Montague City

Assets

Montague City village is a mostly walkable neighborhood with a bus route and access to the Canalside Rail Trail and Connecticut River. It is located relatively close drive or ride to amenities in Greenfield center and downtown Turners Falls. It is serviced by public water and sewer.

Community Ideas for Improving Sustainability & Livability

- Improved pedestrian safety and sidewalk maintenance.
- Creation of a village park
- More visibility as a village
- The feeling of having a village center
- Localized flooding issues addressed

Millers Falls

Assets

Millers Falls village is a mostly walkable neighborhood with a bus route and access to the Millers River. The village center is mostly built out where steep slopes do not limit development, but a few vacant parcels remain available for development.

Community Ideas for Improving Sustainability & Livability

- More parking
- Improved pedestrian safety and sidewalk maintenance
- Stormwater management
- Place to buy groceries
- Larger meeting space

Lake Pleasant

Assets

Lake Pleasant village is walkable, has access to recreation options, and is fully serviced by public sewer and water. Lake Pleasant is also the most fully built-out of the villages. The lack of land for new development, the risk of wildfire, the need to protect public water supply resources in this area (surface and groundwater), and lack of access to a bus route may make Lake Pleasant a low priority location for the construction of new housing.

Community Ideas for Improving Sustainability & Livability

- Low-impact design of new development to protect the public water supply
- Public transportation options
- Place to buy groceries
- ADA accessible meeting space

Montague Center

Assets

Montague Center village is mostly walkable, has access to recreation options, and is fully serviced by public sewer and water. A bus route connects the village with Franklin County Transit Authority (FRTA) and Pioneer Valley Transit Authority (PVTA).

Community Ideas for Improving Sustainability & Livability

- Protection of agricultural land
- Expansion of walking and biking infrastructure
- Working bridges for emergency evacuation
- Sustainable management of the Montague Meadows WMA (managed by MassWildlife)
- More commercial development

Manufacturing Suitability Analysis

Demand for manufacturing space in Montague continues, however there are only a few parcels remaining in Montague that are currently zoned as manufacturing. The Town is interested in knowing where there is potential for additional manufacturing development and which locations are best suited. To better understand the potential for more industrial development, FRCOG staff performed a GIS-mapping suitability analysis was conducted to identify vacant properties with road frontage, within 500 feet of water, and not affected by major development constraints.³⁴ The analysis looked at both parcels at least 5 acres in size on both public water and sewer, and parcels at least 7 acres in size on water but not sewer (two additional acres needed for on-site septic). The analysis considered as eligible privately owned properties as well as properties not currently zoned for manufacturing uses, as property can be bought or rezoned in order to accommodate manufacturing development.

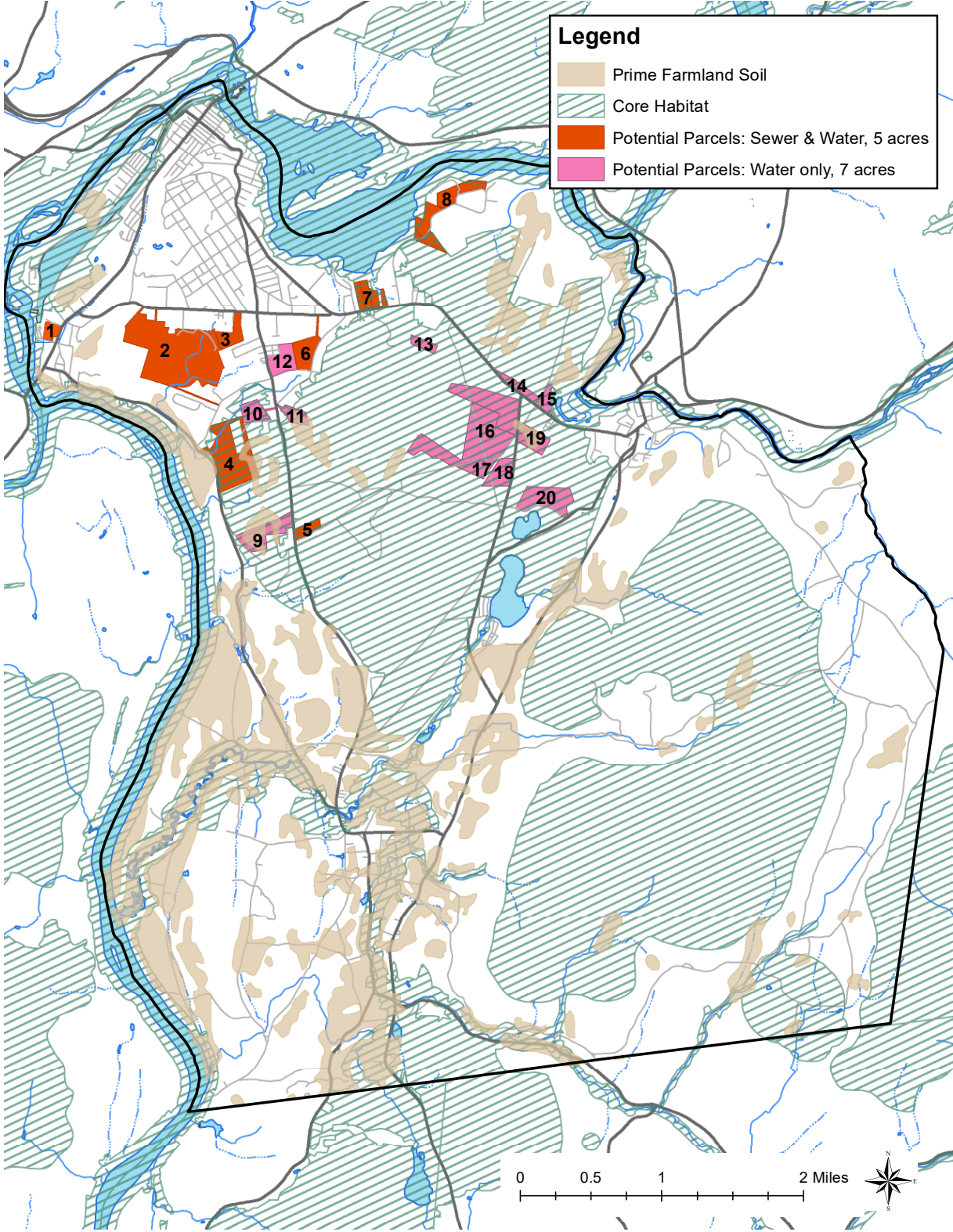
This high-level screening identified 20 potential parcels or parcel clusters that met the initial eligibility criteria and were absent of major environmental constraints. These sites are shown in Map A8, overlaid with BioMap Core Habitat and prime farmland soils. Table A9 provides details for each site and limiting site characteristics.

³⁴ Parcels were eligible if they were:

- Vacant (no structures >500 square feet)
- Within 500 feet of water line
- Minimum 5 acres or grouped with other parcels to total 5 acres if within 500 feet of sewer line
- Minimum 7 acres or grouped with other parcels to total 7 acres if not within 500 feet of sewer line

Parcels were excluded if any of the following environmental constraints dominated the parcel, leaving less than 5 acres of building area:

- Permanently protected status
- 100-year floodplain
- 100-foot wetland buffer
- 200-foot riverfront area
- Slopes >20%



Map A8. Potential Manufacturing Development Sites
Source: Montague Assessors data, MassGIS

Table A9. Potential Manufacturing Development Sites

Map Number	Owner	Zoning	Parcel size (acres)	Parcel ID	Limiting Site Characteristics
1	Town of Montague	CB	7.3	12-0-044	<ul style="list-style-type: none"> • Close to residential areas
2	Town of Montague	ID	157.9	21-0-006	<ul style="list-style-type: none"> • Nearly built-out • Some steep slopes
3	Town of Montague	NB	15.6	21-0-152	
4	Private	AF	69.4	26-0-02	<ul style="list-style-type: none"> • Almost entirely Core Habitat • Some prime farmland soil • Some steep slopes
5	Private	ID	9.2	26-0-15	<ul style="list-style-type: none"> • Close to residential areas • Entirely Core Habitat • Some steep slopes
6	Gill-Montague Regional School District	RE	20.2	22-0-43	<ul style="list-style-type: none"> • Close to residential areas
7	Private	GB	17.3 in total	23-0-31 23-0-26 23-0-27 23-0-28	<ul style="list-style-type: none"> • Close to residential areas • Entirely Core Habitat
8	Multiple: Town of Montague; Franklin County Technical School District; private	ID	39.3 in total	17-0-015 17-0-011 17-0-052 17-0-059 17-0-13A 17-0-058	<ul style="list-style-type: none"> • Some steep slopes • Some Core Habitat
9	Private utility	AF	30.0	26-0-40	<ul style="list-style-type: none"> • Close to residential areas • Entirely Core Habitat • Some prime farmland soil
10	Private	AF	15.0	21-0-27	<ul style="list-style-type: none"> • Close to residential areas • Entirely Core Habitat
11	Private	RS	10.6	21-0-31	<ul style="list-style-type: none"> • Close to residential areas • Entirely Core Habitat • Some prime farmland soil
12	Gill-Montague Regional School District	RE	20.0	21-0-011	<ul style="list-style-type: none"> • Close to residential areas • In use by school district (corner of ballfield)
13	Private	ID	7.8	24-0-15	<ul style="list-style-type: none"> • Entirely Core Habitat

14	Private	GB	10.3	25-0-14	<ul style="list-style-type: none"> Entirely Core Habitat
15	Private	AF-4	8.25	28-0-09	<ul style="list-style-type: none"> Entirely Core Habitat
16	Private utility	ID & AF	133.4	28-0-03 27-0-15	<ul style="list-style-type: none"> Entirely Core Habitat
17	Private utility	AF	48.1	27-0-016 27-0-009	<ul style="list-style-type: none"> Entirely Core Habitat
18	Private utility	AF	20.3	27-0-018 27-0-019	<ul style="list-style-type: none"> Entirely Core Habitat
19	Private utility	AF-4		28-0-15	<ul style="list-style-type: none"> Close to residential areas Entirely Core Habitat Prime farmland soils
20	Private utility	AF-4		28-0-25	<ul style="list-style-type: none"> Entirely Core Habitat Water Supply Protection District

Source: Montague Assessors data, MassGIS

Map A8 and Table A9 show that there are limited suitable options for new manufacturing development in Montague. All of the parcels in the area of eastern Turners Falls/Millers Falls/Lake Pleasant are entirely in BioMap Core Habitat and three are in the AF-4 Zoning District, which is designed to have the least dense and intense development. Site #5 appears to potentially be an important forested habitat corridor between the Montague Plains and the Connecticut River. Sites #14 and #15, although they are in Core Habitat, are located directly on a major road and already fragmented by development. Many of the parcels along Greenfield Road, Turners Falls Road, and Hillside Road also in Core Habitat or prime farmland soil areas and are close to residential areas, but, similarly, may not be as impacted by development. Of the parcels not in Core Habitat, one is the former Farren Care Center site, which the community would prefer to become mixed use housing. Sites #12 and #6 are currently part of Turners Falls High School and are close to residential areas, making them less suitable for development. The most suitable parcels are #6, #2, and #3. Site #6 is in the Airport Industrial Park, is on sewer, is zoned Industrial, and has few limiting site characteristics beyond being a long and narrow area. Site #2 is a large parcel with large municipal solar developments and steep slopes, but the parcel is on public sewer, is zoned Industrial, and some area remains available for building. Site #3 is on sewer and has the fewest limiting site characteristics of all parcels, but would require rezoning.

The limited options for new development that would not impact neighborhoods or habitat makes it clear that redevelopment of existing manufacturing parcels is also very important. Areas that do not meet the criteria for manufacturing could also be considered for housing.

OPPORTUNITIES & CHALLENGES

Balancing Open Space and Development

A strong theme that emerged from the public engagement process was the need to balance the preservation of open space with housing, manufacturing, and solar development. Even as Franklin County's population stays flat or decreases, there remains an increasing demand for housing as household size shrinks. Participants in the visioning workshop identified a number of ways more housing units could be created without dramatic impacts to open space, such as by allowing denser housing development where there is municipal water and sewer, building more housing appropriate for seniors, and allowing more flexibility in the zoning to allow for ADUs on existing lots. Montague's Open Space Residential Design provision in the zoning bylaws exists to encourage a less sprawling form of development that preserves open land and protects the natural and cultural features of the site. The housing element of this plan contains more detailed recommendations for how to guide this balance.

The development of solar and battery storage is emerging as the most common form of forest and farmland conversion in Massachusetts. Poorly sited, large-scale installations can have detrimental impacts on habitat and important landscapes. State agencies are currently engaged in planning efforts to improve the siting process for large-scale battery energy storage systems, as they will play an important role in meeting net-zero emissions and providing grid reliability.³⁵ The forthcoming *Montague Community Solar Study* and *Community Solar Action Plan* are designed to guide the Town and community on strategies and actions for developing solar in developed areas and disturbed lands, as well as exploring options for the ground-mounted solar development on undisturbed lands to meet a goal of community self-sufficiency or to support state goals for solar development.

In the coming decade, Montague will need to make careful choices about where to site needed housing, manufacturing/industrial/commercial uses, and solar and battery energy storage systems so as not to compromise the climate resilience benefits and other ecosystem services provided by undeveloped land. Using the potential development analysis conducted for this plan and the *Community Solar Action Plan* as starting points, the Town can work with the community to build consensus about what areas are not preferred for development and what areas can be reasonably developed. Zoning and land protection can then be explored to guide the kinds of development that are desired.

³⁵ <https://www.mass.gov/guides/charging-forward-energy-storage-in-a-net-zero-commonwealth>

Forest Health and Wildfire Risk

According to the *Massachusetts Climate Change Adaptation Report*, climate change impacts to New England forests could include changes in forest structure, more frequent droughts, forest fires, and invasive insects and diseases. Already, beech, hemlock, and other common trees are weakened by invasive tree insects and diseases and these types of stressors are expected to increase. The Town could consider creating an Invasive Forest Pest Management Plan.

The *2015 Montague Community Wildfire Protection Plan* found that Lake Pleasant village has the highest combined risk and probability of impact from wildfire in town. Critical infrastructure and other areas of concern for wildfire are the Turners Falls Water District's Montague Center Pump Station, structures along Turners Falls Road, the Highland School Apartments, and power lines through the Montague Plains Wildlife Management Area (WMA). Over the past two decades, MassWildlife has used a combination of tree harvesting, shrub mowing, and prescribed burning to benefit rare species and to reduce the risk of a catastrophic wildfire. A 2015 climate change adaptation analysis produced by MassWildlife is being integrated into habitat management on the site.³⁶

Healthy urban forest canopy is also an important ingredient in climate resilience for both humans and wildlife. More urbanized areas of Montague, such as downtown Turners Falls and Millers Falls, and many of the industrial sites with their concentration of pavement and buildings that absorb and retain heat, experience hotter temperatures in summer. Urban heat island effect is also a climate justice issue, as people in urban areas are less likely to be able to afford the cost of cooling or be renters and not have control over cooling. Maintaining a full urban tree canopy provides relief from heat and sun, reduces cooling costs on buildings, and reduces heat-related illness and mortality, in addition to supporting wildlife and mitigating stormwater issues. There is an active Montague Tree Advisory Committee that helps the DPW plant street trees in town.

Forests in Montague are changing under the impacts of climate change and other environmental stressors. The risk of wildfire in the scrub oak/pitch pine forest of the Montague Plains is increasing. While active management is not suitable for all forestlands, sustainable forestry practices can increase resilience to climate change through improvement of wildlife habitat, reduction of invasive species, control of the spread of disease, and increased carbon storage capacity.³⁷ The Town can work with large forest owners, including the state, fire and water districts, and utility companies, to develop climate-smart forest stewardship plans on forestlands to manage forests for the many benefits they provide. The Town also has a

³⁶ Massachusetts Division of Fisheries and Wildlife. "Background information on Montague Plains Wildlife Management Area." Produced for a habitat site walk and information session held in Montague on September 29, 2016.

³⁷ Hines, S.J.; Daniels, A. 2011. Private Forestland Stewardship. U.S. Department of Agriculture, Forest Service, Climate Change Resource Center. www.fs.usda.gov/ccrc/topics/forest-stewardship/

responsibility to promote and maintain an urban tree canopy to protect downtown residents and workers from excess heat, particularly in Environmental Justice communities and near facilities such as schools and bus stops. The Town's Tree Committee has begun this work, but will need ongoing financial support to continue it.

River Access

Montague residents appreciate the access they have to the river for fishing, but would like to see fishing areas be made safer. The limited access to boating is also a concern. The Town of Montague worked alongside neighboring communities to negotiate a 2023 FirstLight Recreation Settlement Agreement that incorporates many of action items identified in the 2017 Montague Open Space and Recreation Plan and additional improvements. The preliminary settlement commits Firstlight to maintaining existing amenities and providing the following new recreation features in Montague:

- A new car-top access and put-in at Unity Park along with a means of storing and locking vessels.
- Creation of a walkable portage around the Turners Falls Dam.
- Provision of two new river access points below the Turners Falls Dam and improvement of the Poplar Street put-in and take-out.
- Construction of a viewing platform and picnic area below the Turners Falls Dam.
- Creation of a path from Cabot Camp to a put-in on the Millers River with expanded parking.
- Water releases at the Turners Falls Dam for 5 weekends to allow for whitewater boating.

However, the Recreation Settlement Agreement is not finalized until the entire hydroelectric license is finalized (anticipated in 2024). Until then, the agreement is subject to change.

While Montague residents can look forward to improved access to the Connecticut River for fishing and boating, the Town will need to continue to work with FirstLight and state entities to plan for increased use of the river. It must also anticipate new considerations for public safety, bathroom facilities, transportation, and more.

Potential for Development

Housing Infill Analysis

The housing infill analysis looked at several potential development scenarios with varying levels of development intensity. Overall, the housing infill analysis shows that under current zoning, Montague can still accommodate some residential growth either through limited infill in areas of town with existing municipal sewer and water and through the addition of **accessory dwelling units** (ADUs) on single-family parcels throughout town. This ability to accommodate

additional growth through infill versus expanding development into greenspace could allow the community to maintain its goals of protecting farmland and maintaining important habitat areas. However, the Town will need to have a conversation to create consensus on the appropriate level of infill development intensity that should occur and where and in what form that will take.³⁸ If homeowners are unlikely to build additional units, additional housing will have to be developed on vacant and redevelopable parcels, such as the former Farren Care Center location.

Manufacturing/Large Commercial Potential Analysis

The manufacturing potential analysis shows that due to a lack of large developable parcels with infrastructure remaining in town, there are limited suitable options for new manufacturing or large commercial development in Montague, especially in the existing Industrial Zoning District. The limited options for new development that would not impact neighborhoods or sensitive habitat makes it clear that redevelopment of existing manufacturing parcels is also very important if the town wants to maintain manufacturing and large commercial endeavors (such as Ja'Duke) as strong sectors of its economy and tax base. The Town may need to conduct further analysis and will need to work with the community to reach consensus on appropriate locations. Areas that do not meet the criteria for new manufacturing or commercial development could also be considered for housing.

Adaptive Reuse of Large Buildings and Properties

The Canal District has been home to various mill buildings since the mid 1800s. For decades, Montague's manufacturing economy has been shifting away from heavy, mill-based industry to light industry, leaving many of the original manufacturing buildings and surrounding sites underutilized, vacant, or deteriorating. Several catastrophic mill fires, canal bridge closures, and failed land development have led to large portions of the Canal District degrading into a blighted state. In recent years, the Town has systematically acquired buildings and land within the Canal District so that the community-supported master plan for the area can be implemented through adaptive reuse of the properties.

Within the Canal District, the 2.8-acre former Griswold Mill (a.k.a. Railroad Salvage) site on Power Street has been cleared and is part of the new 40R Smart Growth Overlay Zoning District, which enables dense residential or mixed-use development. While much of the Canalside District is ready for redevelopment plans, the Town is waiting on planned MassDOT improvements to the 5th Street, 6th Street, and White bridges to improve access to the area before plans for the sites are finalized.

³⁸ The Land Use & Zoning Technical Report provides analysis on several different scenarios of varying development intensity.

The 8-acre former site of the Farren Care Center, on Montague City Road, is slated for redevelopment. Community input is helping to determine the preferred uses of the property, which will likely be a mixed-use development consisting primarily of housing. High-density housing is a high priority of the Town for this site; the 2024 *Montague City Village Center Study* considers densities ranging from 6 units per acre to 17 units per acre. The community is also exploring the potential of village-center style development at this site to provide commercial space and a park to make it a social, village-like focal point for Montague City. There is potential to extend the Canalside Rail Trail through this property along an existing sewer easement.

Two additional large properties that may soon be in transition will also require community planning and potential rezoning. The Montague Machine site, on Rastallis Street, is a 4.3 acre site no longer in manufacturing use. The Gill-Montague Regional School District is also exploring the consolidation of elementary schools and closing of the Hillcrest Elementary School (see Community Facilities and Services Technical Report for more information).

A variety of large public and private properties in Montague are or will no longer be needed in their present form. Places like the former Farren Care Center and old mill sites offer opportunities for the Town to transition them to uses that are needed, such as more housing, flood resilience projects, or community space. These adaptive reuse projects require community input and long-term planning, large amounts of funding, and in some cases, zoning changes to allow those new uses.

Chronic Flooding and Erosion

Significant flooding events are beginning to occur in Montague on an annual basis. A chronic flooding issue on Montague City Road caused by sedimentation of the road drainage system and neighboring wetlands has been partially addressed as of 2023. The number of rain events causing basement flooding is increasing. The 2014 Montague Multi-Hazard Mitigation Plan identifies a number of areas prone to chronic localized flooding. The number of areas impacted by localized flooding is likely to increase in the future during wetter years.

A strong local floodplain bylaw, Montague's FIRM maps are existing tools that the town can use to regulate development in the 100-year floodplain. All towns are expected to update their bylaws to meet the minimum standards in the most current version of the state's Model Floodplain Bylaw in order to maintain compliance with and participation in the National Flood Insurance Program. Adoption of the state's model bylaw is meant to further improve standards for public safety, eliminate new hazards to emergency response, prevent public emergencies, and avoid loss, damage, and costs.

Along the steep, sandy banks of the Connecticut River and Millers River on the Hill and in Millers Falls, major washouts are occurring, particularly at the stormwater system outfalls where runoff is being concentrated. Erosion from stormwater runoff tends to occur on the

steeper unpaved roads in town, such as Dry Hill Road and Taylor Hill Road, though damage to unpaved roads occurred throughout town in the heavy rains of July 2023.

Valuable farmland, property, and infrastructure can be threatened by eroding river banks, also called fluvial erosion. Fluvial erosion and sedimentation are occurring at a high rate in the Sawmill River due to the ways people have manipulated the river over the centuries, including by damming the river, straightening and armoring the channel, cutting off the river from its floodplain, and developing in the floodplain. Along the Connecticut River, bank erosion in Barton's Cove and upstream is linked to river-level fluctuations caused by the operation of FirstLight's hydroelectric projects. Flooding and stormwater also threaten water quality by pulling sediment from riverbanks and pollutants from land into rivers and streams.

The river corridor, the area alongside the river where the channel is likely to migrate to and is therefore susceptible to bank erosion, has been mapped for the Sawmill River. Further assessment of river restoration projects or river corridor zoning are possible next steps for mitigating flooding and erosion issues in this watershed.

The frequency of inundation of flooding in areas normally dry, stormwater erosion, and fluvial erosion are projected to increase in Montague, which will lead to more frequent damage to homes, roads, and infrastructure. Montague residents want to increase flood resilience to reduce the impacts of flooding. Zoning, including the floodplain bylaw and stormwater management policy, and green infrastructure projects are some of the most important tools the Town has for preventing damage to the built environment and for reducing the negative impacts of flooding on the natural environment.

Government Capacity

Montague has a Planning & Conservation Department that provides the capacity to manage land use change and long-range planning. The Town employs a Town Administrator, Assistant Town Administrator, a Town Planner, and a Cultural Coordinator. The Town also has its own Building Department that sees to permits and inspections for building construction and/or renovation, electrical, plumbing, and gas. Town Boards and Committees involved in land use decisions generally have all seats filled. The Land Use, Zoning, and Open Space element of this plan recommends strategies that are achievable with the Town's existing planning capacity, if the funding can be secured when needed.

HOUSING TECHNICAL REPORT

INTRODUCTION

The focus of the Housing element of *Five Villages: One Future* provides is on existing housing conditions, issues, needs of present and future generations of Montague residents, and various housing strategies.

Before the Covid-19 pandemic, Montague’s housing was generally considered affordable from a regional perspective with diverse types of housing available. However, the last several years have shown that housing conditions can change rapidly. As more people began telecommuting and looking to relocate away from cities, Montague’s housing market grew increasingly tight and is no longer affordable to many current residents or families looking to move to Montague.

Demographic changes in Montague and the larger region means that there needs to be an increase in the housing supply, even if the population continues to decrease. This is because there is currently not enough housing for existing residents and the size of households continue to decline. Homes that used to house a family of five, may now only house two to three people as families have less children, people are more likely to live alone, couples divorce, or older adults live by themselves after a partner passes. The population is in effect “spreading out” across more housing units and more housing is needed to maintain the original population.

Through the public outreach conducted as part of this comprehensive planning process, it is clear that residents of Montague are concerned about the current affordability of their homes, as well as future affordability – particularly for seniors on fixed incomes and families with incomes below \$60,000 a year. Eighty percent of survey respondents were supportive of new housing in town that would be intentionally affordable to those in the workforce. The cost of housing also has residents concerned about being able to afford basic repairs to their homes. Residents also expressed a desire to keep villages and neighborhoods livable by concentrating new housing near village centers, with their transportation and services, through infill development.

This element builds on previous planning that the Town of Montague has already conducted:

- [2010 Montague Community Needs Survey](#)
- [2014 Slum & Blight Inventory for Turners Falls Historical-Industrial District](#)
- [2014 Slum & Blight Inventory for Millers Falls Village Center](#)

- [2015 Montague Housing Plan](#)
- [2018 Community Development Strategy](#)
- [2024 Montague City Village Center Study](#)

INVENTORY & EXISTING CONDITIONS

Housing Stock Characteristics

Montague’s housing stock is diverse with many housing types and has more subsidized affordable housing than most other towns in Franklin County. While the town’s number of housing units has grown in the last several decades, this growth has slowed and stabilized in recent years.

Table A10 shows the breakdown of housing types throughout town in 2021.³⁹ Just over half is composed of single-family detached homes, while another 20% are 2-unit structures. Montague has one of the highest amounts of multi-family housing in Franklin County, with 23% of all units located in structures consisting of 3 or more units. The majority (77%) of the multi-family housing in Montague is located in the villages of Turners Falls and Millers Falls.

Table A10: Types of housing Units in Montague, 2021

<i>Housing Type</i>	<i>Number of Units</i>	<i>% of Units</i>
<i>1-unit, detached</i>	2,135	52.0%
<i>1-unit, attached</i>	123	3.0%
<i>2 units</i>	830	20.2%
<i>3 or 4 units</i>	293	7.1%
<i>5 to 9 units</i>	364	8.9%
<i>10 to 19 units</i>	111	2.7%
<i>20 or more units</i>	177	4.3%
<i>Mobile home</i>	74	1.8%
<i>Boat, RV, van, etc.</i>	1	0.0%
<i>Total housing units</i>	4,108	100%

³⁹ Unless otherwise specified, all data in the Housing Technical Report is from the American Community Survey, Five Year Estimates, 2009-2021. U.S. Census Bureau.

Of the 4,108 housing units in town, approximately 37% are rental units. Correlating with the concentration of multi-family units in Montague, the Villages of Turners Falls and Millers Falls contain 73% of all rental units in town.

Montague added approximately 170 housing units between 2009 and 2021, a 4.2% increase. This increase closely mirrors the slight increase in the number of households in town over this time period.

The general age of housing in Montague is on the older side, with over 40% of existing housing built prior to 1939 (see Figure A10 and Map A9). This is a larger percentage than Franklin County as a whole (36%). When looking at just Turners Falls and Millers Falls, the percentage of homes built before 1939 is much greater than Montague as a whole. Over 43% of housing in Turners Falls and 65% in Millers Falls was built before 1939.

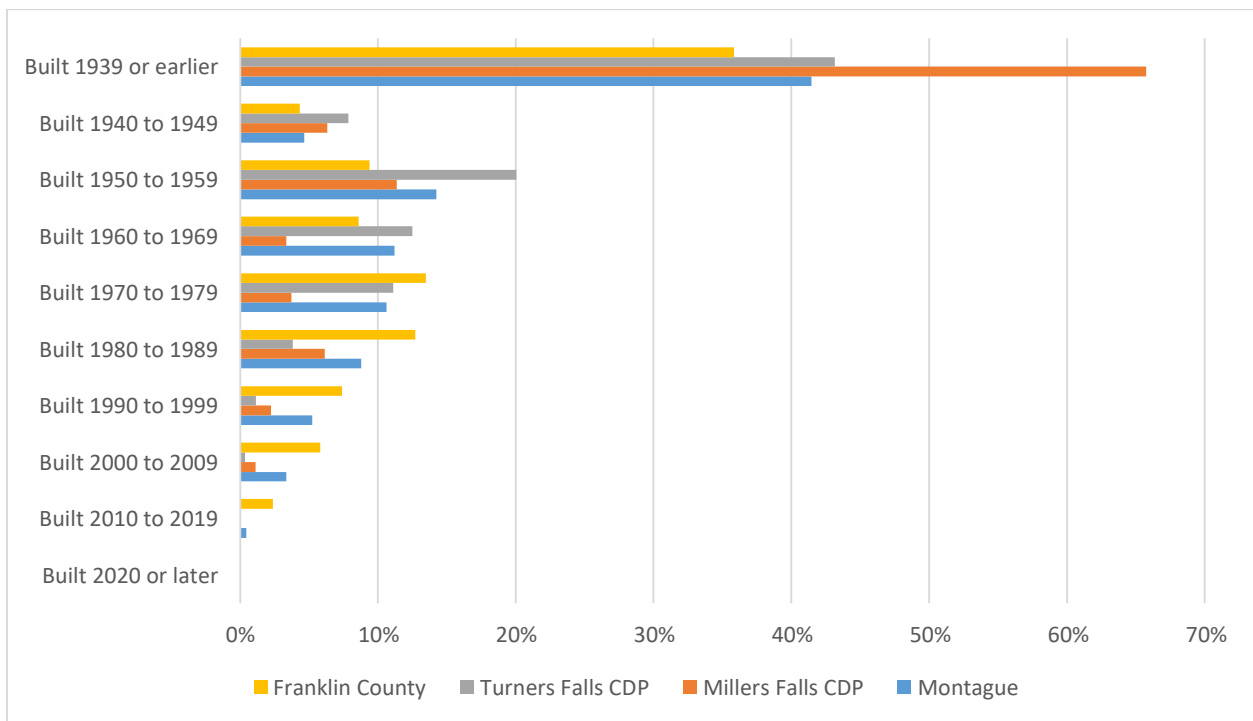
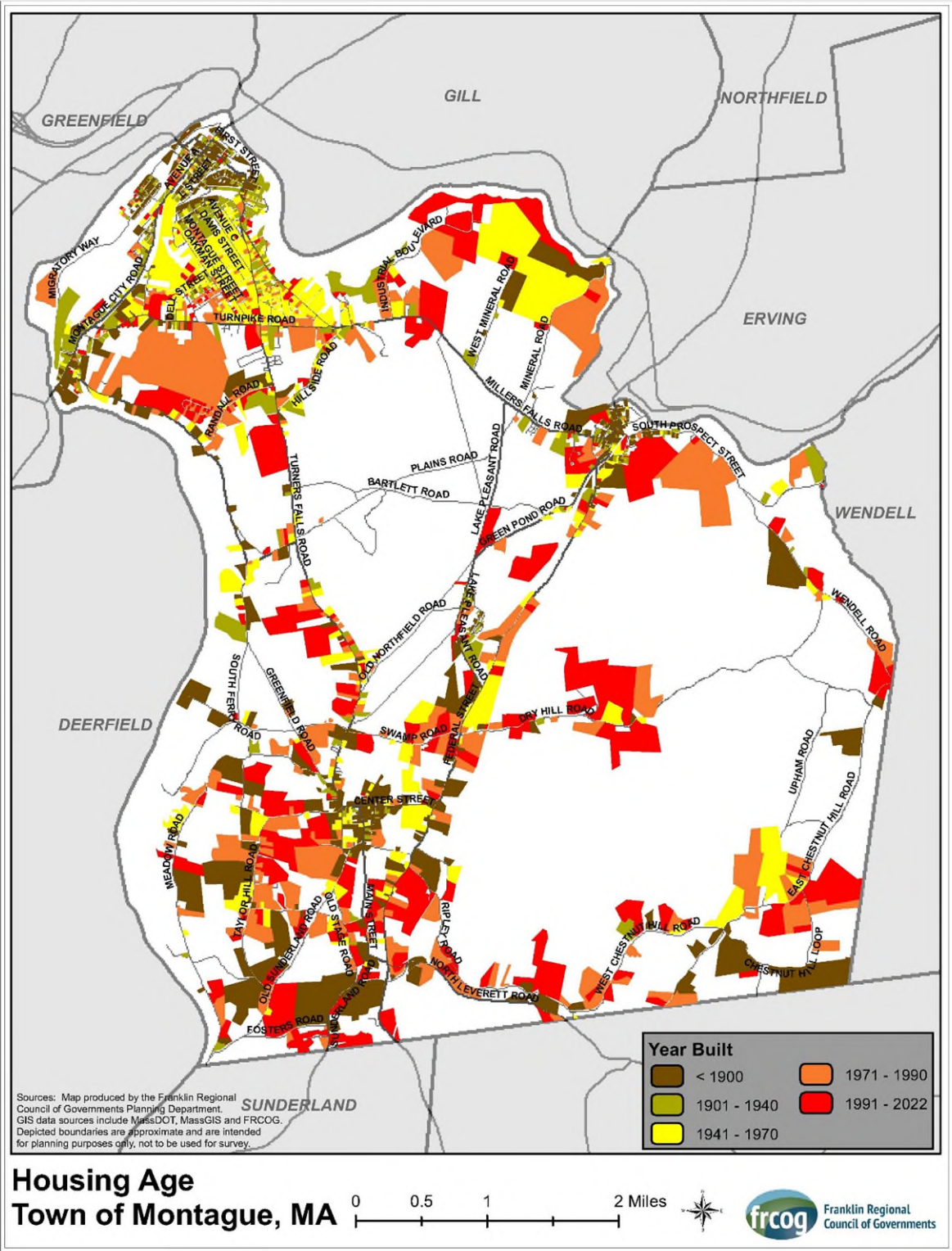


Figure A10. Age of Housing in Montague, 2021 (CDP = Census Designated Place)



Map A9. Age of Housing in Montague, 2021 (CDP = Census Designated Place)

Because the majority of homes in Montague are older, they also tend to rely on traditional heating fuels that use nonrenewable energy sources. In 2021, 45% of homes in town use oil or kerosene to heat their homes, while another 8% use natural gas (Figure A11). Another significant portion of homes rely on electricity (12%) for heat. However, the sources of the electric heat could be a mix of renewable and nonrenewable energy sources depending on whether a resident uses the utility provider’s default energy portfolio or if they have selected to obtain their electricity through more renewable sources.

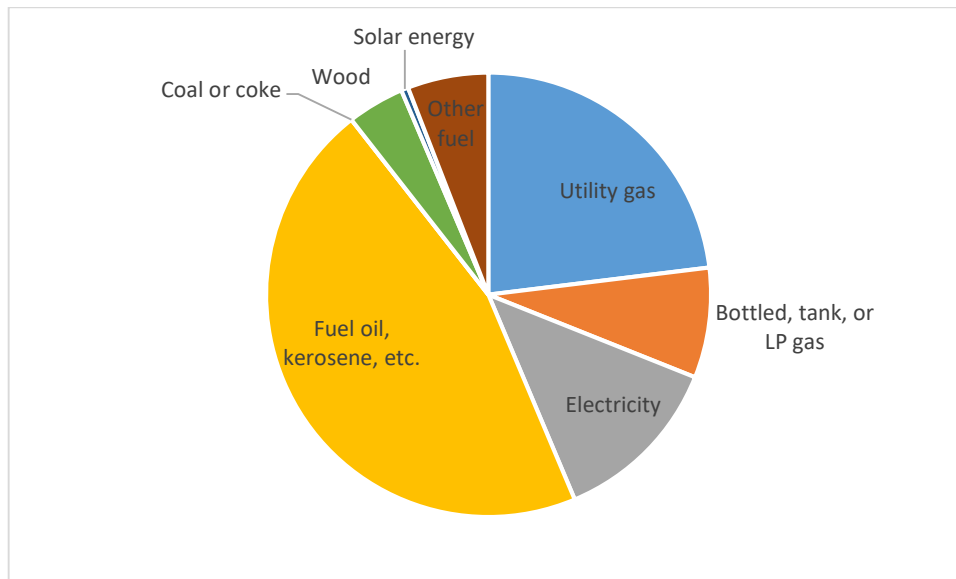


Figure A11. Home Heating Fuel Sources

Housing Development and Supply

Owners or builders file building permits when they initiate any type of major construction or demolition in Montague. Permits for activities such as new construction, renovations, and demolitions are good indicators of the housing market in Montague. While nine units were constructed in 2020 during the height of the pandemic, this was not typical for the past seven years, as the average number of units per year has been around five. A total of 35 units of housing have been constructed over the last 7 years; however this is not enough new supply to meet demand (Table A11).⁴⁰

⁴⁰ Town of Montague Building Department. The building permit data is only available since 2016 through the Town’s permitting software. Data prior to 2016 is not broken down into types of permits.

Table A11. Montague Building Permit Data 2016-2022

Year	Single Family Construction	Accessory Dwelling Unit	Apartments	Total
2022	3	1	3 (added to an existing building)	7
2021	4	1	0	5
2020	8	1	0	9
2019	3	1	0	4
2018	3	1	0	4
2017	4	0	0	4
2016	2	0	0	2

The current vacancy rates in Montague reflect the tight housing supply. As of 2021, the vacancy rate was 0.0% for owner-occupied units and 1.6% for rental units. A healthy housing market is generally considered to have vacancy rates of 2 – 3% for owner-occupied homes and 4 – 5% for rental properties. As Table A12 shows, Montague, Franklin County, and Massachusetts have vacancy rates below this healthy rate, indicating a high demand for more housing options. The vacancy rates also suggests that people seeking to move to Montague, or to relocate within the town, may have difficulty finding affordable homeownership or rental options.

Table A12. Homeowner and Rental Vacancy Rate

	<i>Homeowner vacancy rate</i>	<i>Rental vacancy rate</i>
<i>Montague</i>	0.0%	1.6%
<i>Franklin County</i>	0.5%	2.6%
<i>Massachusetts</i>	0.9%	3.3%
<i>Typical Healthy Vacancy Rates</i>	2-3%	4-5%

Current housing market conditions demonstrate that supply is indeed very limited. A search on real estate websites⁴¹ on April 17, 2023 showed that there were only three listings available for sale—a mixed use building located in downtown Turners Falls with several storefronts and three upper story residential units; a single family home; and 1-bedroom mobile home. On this same date, there were also only three units to rent, ranging from \$1,200 – \$1,800 a month for 1 – 2 bedroom units.

⁴¹ www.Realtor.com and <https://westernmass.craigslist.org/>

Housing Affordability

Housing affordability has remained a major issue both nationally and within Massachusetts. With the tight housing market, housing in Montague has also become increasingly unaffordable. One way of looking at housing affordability is by the percentage of households that are considered cost-burdened. Cost-burdened households are defined as households who spend more than 30% of their income on housing costs. In Montague, over 50% of renters are considered cost-burdened, higher than both Franklin County and the state, and almost a quarter of home owners are cost-burdened, which is slightly under the rates for Massachusetts and Franklin County (Figure A12).

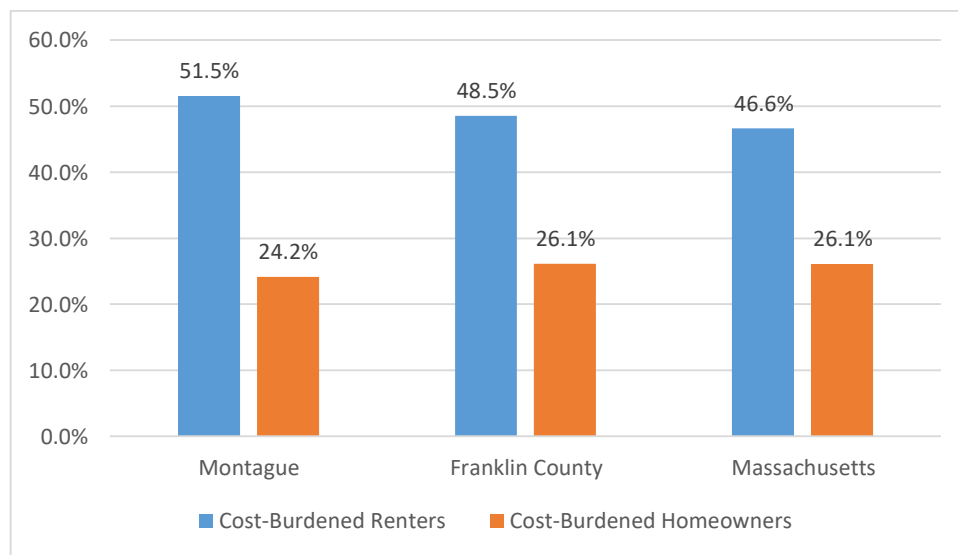


Figure A12. Cost-Burdened Residents, 2021 (pay more than 30% of household income on housing costs)

Because where we live often dictates the transportation we need to use on a daily basis, transportation costs should be considered as part of a household’s living costs. When combining these costs, Montague is an unaffordable place to live due to the need to mostly commute by car. According to the Center for Neighborhood Technology’s Housing + Transportation Affordability Index, the majority of Montague residents pay 52% of their income on both housing and transportation costs.⁴² To have affordable costs, a household should not be paying more than 45% of their combined housing and transportation costs.

Currently, 9.6% of Montague’s housing stock is subsidized and limited to low or moderate income households (Table A13). However, 56% of *current* households have annual incomes that

⁴² “Housing and Transportation Affordability Index (H+T)” Center for Neighborhood Technology. <https://htaindex.cnt.org/map/>, June 2023.

qualify as low to moderate income. The determination of which households are very low income, low income, moderate income, and middle to upper income is based upon the Area Median Income (AMI), which is defined by the U.S. Department of Housing and Urban Development (HUD), and household size.⁴³ Households are considered to be extremely low income if earning less than 30% of AMI, very low income if earning less than 50% of the AMI, low income if earning between 50% and 80% of the AMI, and moderate income if earning up to 100% of the AMI. Middle to upper income households have incomes greater than 100% of the AMI. In Fiscal Year 2021, the Area Median Income for Franklin County (Montague is part of the Franklin County income limit area) was \$82,900 (Figure A13). This AMI is used for planning purposes only.

Table 13. Affordability Spectrum for 4-Person Household in Franklin County by AMI, 2021

<i>Income Category</i>	<i>Montague Households</i>	
	Number	Percent
<i>Extremely Low (below \$25,000)</i>	700	19%
<i>Very Low (\$25,000 - \$39,999)</i>	535	14%
<i>Low (\$40,000 - \$59,999)</i>	491	13%
<i>Moderate (\$60,000 - \$74,999)</i>	396	11%
<i>Middle-Upper (\$75,000 and above)</i>	1643	44%
<i>Total</i>	3765	100%

⁴³ AMI is used by HUD interchangeably with Family Median Income (FMI). This plan will refer exclusively to HUD income estimates as AMI.

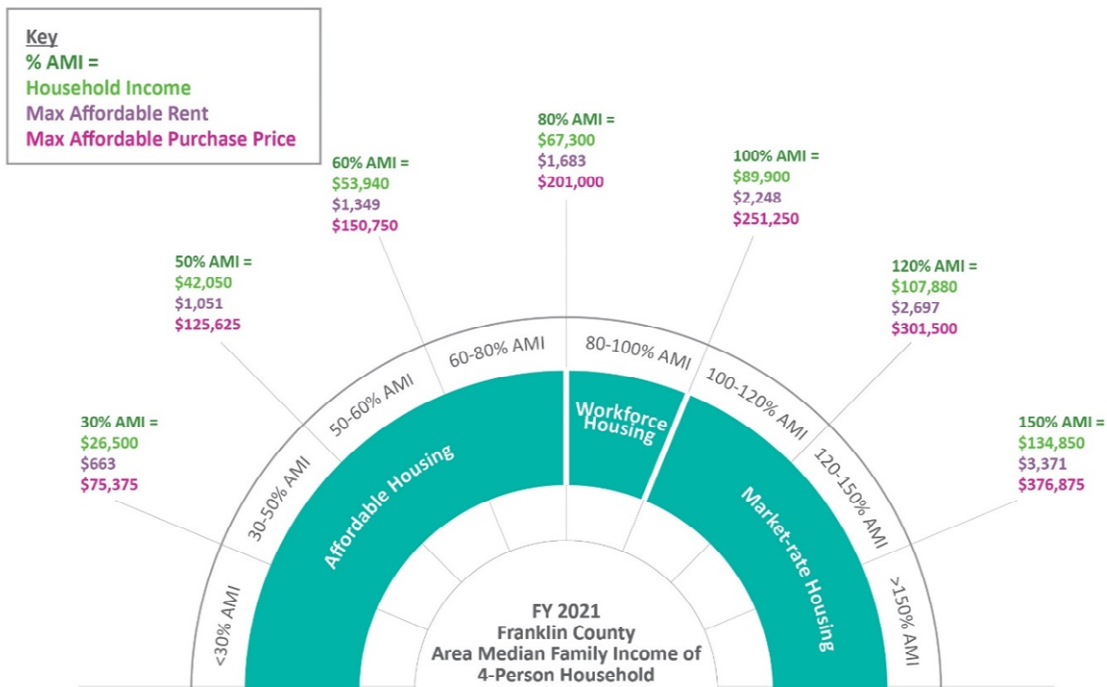


Figure A13. FY 2021 Franklin County Area Median Family Income of a 4-Person Household
 Source: U.S. Department of Housing and Urban Development⁴⁴ and Massachusetts Department of Housing and Community Development.

The state legislation Chapter 40B authorizes a housing agency or developer to obtain a single comprehensive permit for the construction of subsidized low- or moderate-income housing if less than 10% of a community’s total year-round housing is subsidized as low- or moderate-income housing. A Comprehensive Permit allows a developer to override the existing zoning regulations. Because Montague is currently just below this threshold at 9.6% of its housing, it is vulnerable to a Comprehensive Permit application. The Town can work cooperatively with project partners on Comprehensive Permit applications (often referred to as “friendly 40B projects”), but a developer could propose a 40B project that the Town does not agree is a good fit for the community, and because Montague is currently below the safe harbor threshold of 10%, it is unable to deny a comprehensive permit. As a result, there is a need to increase the number of affordable housing units in order to gain greater local control over affordable housing development so that it meets the needs of current and future residents.

Market Conditions

Montague and the larger Franklin County region has had a weak housing market with little demand for new development. The lack of development or redevelopment is due to the fact

⁴⁴ <https://www.huduser.gov/portal/datasets/il.html>

that the cost to develop properties often cannot be recouped through current market housing values or rentals. This difficulty is compounded by the very high cost of upgrading or expanding sewer and water infrastructure or the stormwater management needed for development. The construction of affordable housing is made even more challenging due to the limited availability of incentives to help offset the costs of development, particularly subsidies that are needed for the operation and maintenance costs. Without this funding, it is very difficult for private developers to put together sufficient funding sources to make an affordable housing project feasible.

Zoning and Building Code for Housing

Montague has been a leader in the region with a progressive Zoning Bylaw that allows for diverse housing types and encourages density in its downtowns. In 2022, the Town established a 40R Smart Growth Overlay District in several locations in downtown Turners Falls. The 40R overlay district incentivizes the creation of new housing units by permitting denser development when at least 25% of the units are affordable. Montague also supports the creation of Accessory Dwelling Units (ADUs) by allowing them within, attached, and detached to existing single family dwelling units. ADUs provide a community with moderately priced units that can be adaptable to households at a variety of stages in their life cycle. Montague's zoning also supports historical development patterns in its downtowns by allowing multifamily, mixed uses, and zero setbacks in certain areas. These regulations encourage traditional central business district development patterns that increase livability, making communities walkable and supporting small, local businesses. At the same time, the Town's zoning is protective of water supplies and restricts development in floodplains. The Open Space Residential Development (OSRD) encourages higher density in exchange for preserving a percentage of open space. The OSRD provides incentives for developers to build additional units if they have a certain amount of the units be restricted to be affordable to lower income households.

The Town of Montague adopted the Commonwealth's Stretch Building Code in 2010, which has stricter energy efficiency guidelines for new construction and alterations. The latest edition of the Stretch Code increases energy efficiency requirements and requires wiring for electric vehicle charging at new residential and commercial uses.

Currently, Montague does not have many short-term rentals operating in town (e.g. Airbnb and VRBO). These rentals are becoming more common however throughout Franklin County. While short-term rentals provide a place of lodging for tourists and visiting relatives and provide economic development, they can also consume the already scarce rental housing in a community. The Town may want to consider creating a zoning ordinance that balances their advantages and potential negative impacts. Ideally, a short-term zoning bylaw would allow short-term rentals in certain locations, but regulate them in a way that limits a loss of vitally needed housing units.

OPPORTUNITIES & CHALLENGES

Population Change

Current population projections show that both Franklin County and the Town of Montague are expected to lose population over the next 30 years.⁴⁵ The need for housing does not diminish with potential population loss due to the trend of smaller household sizes. In fact, while Franklin County is projected to lose one person every eight days, the number of households is increasing at a rate of one household per five days. This means that the housing supply in Montague must grow to match household demand and to reduce increasing pressure on housing affordability.

The population in Montague and Franklin County is also aging. Projections indicate that the trend of an aging population over the last two decades appears to be continuing if not accelerating over the next 10-30 years. At the same time, the projected total population of Montague is decreasing, leading to an overall greater percentage of residents over 65. By the end of the decade, almost 30% of residents are expected to be 65 or older.

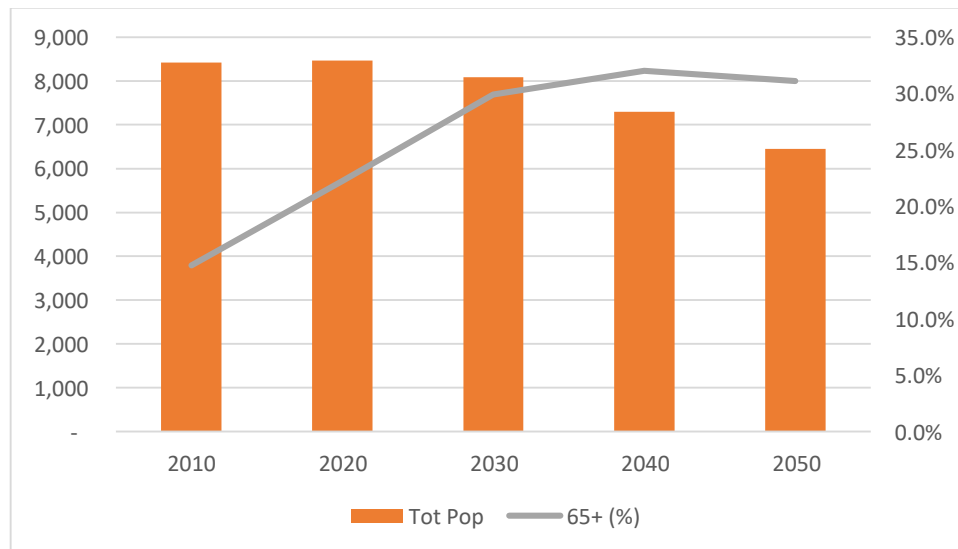


Figure A14. Population Projections for Town of Montague

Older adults have unique needs and often require increased service provisions. Transportation services, grocery delivery, and programming to maintain social interconnectedness are all important pieces in maintaining the general health and well-being of seniors. In Montague,

⁴⁵ UMass Donahue Institute/MA Dept. of Transportation Population Projections (2022): <https://donahue.umass.edu/business-groups/economic-public-policy-research/massachusetts-population-estimates-program/population-projections>.

increasing housing prices and housing-related costs can make it difficult for older residents to remain in their homes. Due to the limited supply of housing in general, and accessible housing in particular, there are very few options for older adults to move into a different type of housing. Planning for a sustainable housing future must focus on the growing older population while continuing to keep an eye on attracting younger residents and families. The Town needs to plan for the changing demographics and the shifts in age groups to continue to provide a high quality of life for its residents.

A second factor creating a need for more housing is the increase in remote working or telecommuting. A monthly study conducted by Stanford University on working from home shows that, nationally, 27% of paid full-time days were worked from home in early 2023.⁴⁶ This level of remote working is a decrease from a pandemic high of 60% paid full-time days, but has remained very stable since the spring of 2022. The same study also reported that as of January 2023, 13% of full-time employees are fully remote, with another 28% using a hybrid work arrangement. While the Montague housing market is tight and unaffordable for many current residents, it is still significantly less expensive than homes in the Boston region. With work location flexibility, it is very likely that Montague may see an influx of residents in the near future that can pay high housing market prices. This could exacerbate current housing affordability issues if the housing supply does not grow and continue to diversify with various housing types.

A third factor in increased demand for housing is climate migration. Migration to New England, particularly inland New England, due to climate change has already begun. Montague experienced this with a recent arrival of residents from Puerto Rico after the devastating Hurricane Maria. This trend is expected to increase over the next decades, suggesting that Montague's population may in fact grow, despite projections.

Population change in Montague and the larger region means that there needs to be an increase in the housing supply, even if the population decreases. This supply should accommodate a range of household types, but in particular be suitable and accessible for older adults. The Town can use its resources, such as Town-owned land, to assist in the production of additional housing. It can also explore ways to assist in financing new housing or accessibility upgrades through policies and programs, such as instituting a lodging tax, adopting the Community Preservation Act, or promoting the state's Home Modification Loan Program to older adults and individuals with disabilities. Another way the Town can assist in the creation of more housing is through changes in the zoning and subdivision bylaws—particularly ones that promote infill development in the villages as appropriate. Allowing and developing units that are flexible to

⁴⁶ Barrero, Jose Maria, Nicholas Bloom, and Steven J. Davis, 2021. "Why working from home will stick," National Bureau of Economic Research Working Paper 28731.

accommodate different generations and household sizes will allow the town to be resilient as demographics change.

Passenger Rail

Another factor that could potentially change the trend of decreasing population in Montague is the presence of passenger rail. Amtrak reestablished north-south passenger rail to New York in 2014 with a stop in nearby Greenfield. The popularity of Amtrak's Vermonter service has led to the establishment of an additional service, the Valley Flyer, and there are now three round trips a day that stop in Greenfield with continually increasing ridership. The state is currently conducting a feasibility study for an east-west passenger rail stop between Boston and Pittsfield. If this route were to be implemented, with either a stop in Greenfield or, potentially, Millers Falls, it would mean that residents could travel to Boston much more easily. With the ability to have remote hybrid work schedules and easily commute to places like New York City and Boston, Montague could become a very desirable place to live for new residents.

The Town will need to monitor the east-west passenger rail studies, which if they come to fruition, could take a number of years to implement. The arrival of east-west rail would only reinforce the need for additional housing units that are affordable for a range of incomes and be diverse enough to attract different types of households as commuting would become more possible.

Older Housing Stock

Montague has an older housing stock, which provides the town with character and opportunities for a diverse housing stock. Developing additional housing units within existing structures can help maintain historic character while providing new housing opportunities and an additional income source for homeowners in the form of rental income. Reusing existing housing also conserves the resources that would be used to build a new house, including materials and the land.

While older homes and their typical architecture provide a community with distinct charm, there are also a number of potential issues related to older housing stock. Older homes can contain environmental health hazards such as asbestos and lead-based paint. High repair costs can also lead to health hazards if years of poor maintenance create issues such as foundation and roof problems, mold, wood rot, and aging electrical wiring. Older housing is also built to outdated building codes, which can present numerous problems for accessibility for handicapped or elderly residents. As the town's share of seniors continues to increase, the accessibility of these older homes may increasingly become an issue for residents as they try to stay in their homes as they age. Finally, they may be energy inefficient and more costly to heat and cool. Substandard older housing may be occupied by those residents least able to afford the regular upkeep required of an older home.

The older houses that are found in the historic neighborhoods provide intangible value to the community. However, the age of much of the housing stock means that additional support will be needed to ensure that they remain in good condition. Older housing in places like Turners Falls and Millers Falls is more likely to be occupied by lower-income owners and renters, who may be less likely to afford repairs, who may have unresponsive landlords, and who may bear an unfair burden of health and financial difficulty as a result. Montague should consider increasing funding to its Community Development Block Grant (CDBG) Rehabilitation Program. Montague may wish to explore other funding options to assist residents and landlords with maintenance or rehabilitation through programs such as the Community Preservation Act or others. Additionally, the Town can create a Landlord Engagement Strategy to create a productive, working relationship with landlords to help promote rehabilitation of the rental housing stock.

Adaption of Homes to Climate Change

The 2022 Massachusetts Climate Change Assessment Report states that the supply of affordably priced housing could be further reduced in the future due to direct physical damage from climate impacts and potentially higher construction costs. The prospect of an increasing number of climate-related extreme weather events drives a need to improve the resilience of both new and existing housing through measures that strengthen their ability to withstand disasters, extreme weather, and power outages.

There is often a trade-off between increased energy efficiency/climate-resilient strategies for housing and keeping the cost of new housing affordable. However, with more frequent and severe weather, heat waves, droughts, and intense rain, having housing that is more resilient to these factors is cost-effective in the long term. The Town can provide educational programs about efficiency/resiliency strategies and explore funding programs to assist more vulnerable residents.

Planning Resources and Public Support

Housing, specifically affordable housing, can be controversial topics in any community. To support and advocate for housing that meets many diverse households' needs, Montague has recently established a Montague Housing Group and the Town Planner participates in the Franklin County Small Town Housing Working Group. These groups and support like this are valuable opportunities to discuss housing needs, exchange knowledge, and advocate for housing and affordable housing in town and in the region. Continuing to capitalize on planning resources and building public support will be necessary for the Town to diversify and increase its housing options.

Acknowledging and communicating the need to increase and diversify the housing supply in town is a major first step to garnering resources and public support for more housing. Clear and regular communication as to why additional and different types of housing are necessary will

help create productive solutions to ensure that Montague has sufficient and affordable housing for its residents. A financial resource that can be helpful in producing affordable housing is the Community Preservation Act (CPA). Dialogue with residents about what CPA is, how it works, and whether it could be a good fit for Montague is an example of conversations and communications that could happen to ensure the town has a guaranteed funding stream for housing in order to be resilient into the future.

I am a family physician at Baystate Franklin Medical Center and the Associate Program Director for our new UMass Chan – Baystate Health Greenfield Family Medicine Residency Program. We are entering our 2nd year with residents and it has become clear that housing is a significant challenge throughout our communities. We will eventually be matriculating four new residents each summer and have a total of 12 trainees at a full complement between 3 classes. These residents are excited to begin their family medicine careers in Franklin County. Many of them would love to work and live in their areas they serve, but current housing shortages have forced residents—and even some attendings—outside of the Greenfield area, simply due to a dearth of housing opportunities. Studies have shown that approximately, 55% of family medical residents stay within their state or 100 miles of where they trained (about 37% stay within 25 miles) after they graduate and practice as attendings. At our new residency program, one of our primary objectives is to grow our own family doctors who will come to Franklin County for at least 3 years and then stay to live and work in for many more. In order to attract residents each year and have them establish roots, we need to help address the housing needs in this region.

TRANSPORTATION TECHNICAL REPORT

INTRODUCTION

Transportation is a critical aspect of any community, affecting the daily lives of residents in numerous ways. Transportation plays a critical role in connecting people to each of the villages, employment opportunities, social events, and essential services. The focus of the Transportation element of *Five Villages: One Future* is on all modes of transportation present in Montague, the systems that make them possible, and present and future needs.

Montague's transportation system presents both unique challenges and opportunities to livability and resiliency. There is a large amount of aging road, bridge, and drainage infrastructure that is nearing or past its useful life. As the population ages and changes, demographic and economic trends also impact transportation needs. For example, the aging population may require more accessible and affordable transportation options, while the rise of remote work may reduce demand for traditional commuting. While Montague is better connected with public transit than the larger region, it is still very limited for those without vehicles.

Despite these challenges, Montague also has opportunities for transportation improvement. Technological advancements, such as electric vehicles, offer more efficient and environmentally friendly alternatives to traditional single-occupied cars. The Town of Montague can invest or incentivize sustainable transportation methods, such as those that use renewable energy sources. Furthermore, the Town can leverage its unique character, including its pedestrian-friendly villages and scenic natural surroundings, to create a more livable community for residents and visitors.

The results of the community survey conducted as part of this comprehensive planning process indicate that there is a need for additional public transit in town. Eighty-five percent of survey respondents said that they would use weekend and/or evening public bus services. The top three destinations survey respondents said they would utilize public transportation to travel to are downtown Greenfield, Northampton, and other shopping areas. A survey question about bicycle and pedestrian facilities received the most responses and recommendations. When asked for ideas to make walking and biking feel safer in town, the top responses were to increase sidewalks and bike lanes and to slow traffic speeds.

This element builds on previous planning that the Town of Montague has already conducted:

- [2010 Montague Community Needs Survey](#)
- [2018 ADA Self-Evaluation and Transition Plan](#)
- 2018 Sidewalk Inventory for Turners Falls
- [2020 Turners Falls Livability Plan](#)
- [2020 Town of Montague Hazard Mitigation Plan](#)
- [2020 Comprehensive Regional Transit Plan Update](#)
- [2021 Town of Montague Culvert Assessment](#)

INVENTORY & EXISTING CONDITIONS

Road and Bridges

The Town of Montague has an expansive road network connecting the five villages and its neighboring towns of Erving, Gill, Greenfield, Leverett, Sunderland, and Wendell. The entire western and northern boundaries of the town are created by either the Connecticut River or the Millers River, resulting in a high reliance on large bridges for transportation connections to the region.

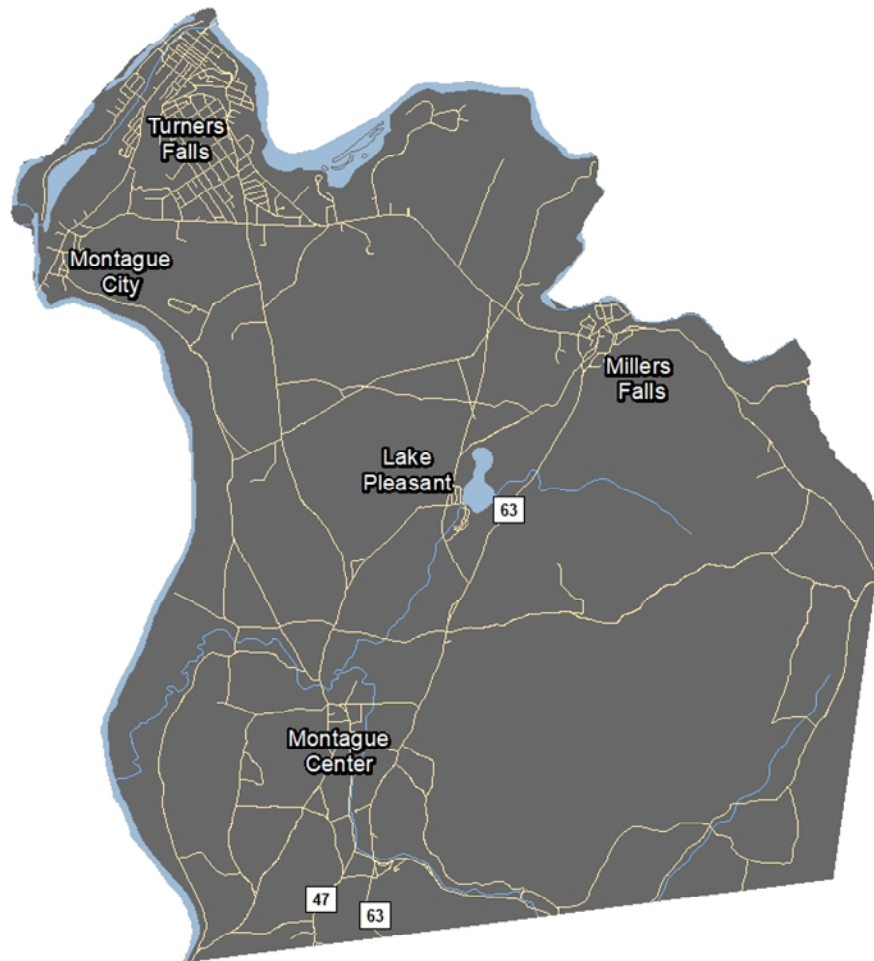
The Town of Montague owns and is responsible for maintaining 103 miles of roads. The Commonwealth of Massachusetts owns and maintains 6.2 miles of roads within town.⁴⁷ The town is served by State Routes 2, 47, and 63. There are two miles of roadways within town classified as unpaved or gravel. See Map A10 for a map of Montague's roadway network.

Traffic Volumes

Traffic surveys are regularly conducted throughout Montague to assess the volume, types, and speeds of vehicles on the roadways.⁴⁸ The top three roads that experience the highest volumes of usage are Route 63, Route 47, and Millers Falls Road. These roads are used most commonly as commuting routes to the larger region. According to the 2020 US Census data, an average of 3,500 Montague residents commute out of Montague to work and approximately 2,000 people commute to work in Montague from other towns.

⁴⁷ MassDOT Roads Inventory 2023

⁴⁸ Detailed locations and information about traffic surveys in Montague can be found on MassDOT's Transportation Data Management website: MassDOT Data Transportation Management website <https://mhd.public.ms2soft.com/tcds/tsearch.asp?loc=Mhd&mod>



Map A10. Montague's five villages and road network.

Bridges

Maintaining the safety and functionality of bridges in Montague is a top priority. There are twenty-five bridges located in Montague that have spans greater than 10 feet. Five bridges were considered structurally deficient as of September 2022.⁴⁹ Bridges are considered structurally deficient if various components of them fall below specific thresholds for a variety of factors, but are not categorically unsafe for use. If deemed structurally deficient, posted weight limits may be needed to ensure safety and the bridges are prioritized for state funding.

⁴⁹ MassDOT GeoDOT

Montague has six bridges scheduled to be rehabilitated or reconstructed between 2024 and 2026. Notable bridges and any relevant planned work are listed in Table A14.

Table A14. Major Bridges in Montague

Bridge	Details and Status of Work
<p>General Pierce Bridge connecting Montague City with Greenfield, over the Connecticut River</p>	<p>The bridge was rehabilitated in 2023 and a complete bridge replacement is in the preliminary planning phase.</p>
<p>11th Street Power Canal Bridge serving 11th Street and the Patch neighborhood, over the Power Canal</p>	<p>This bridge connects the Turners Falls village to the Patch neighborhood and spans the power canal east of the intersection of 11th and G streets. It was most recently repaired in 1996. This bridge will need to be replaced in the near future to remain safe for residents to use.</p>
<p>Power Street and Canal Street Bridge serving Power Street and the Patch neighborhood, over the Power Canal</p>	<p>This is a one-lane bridge that connects Turners Falls to the Patch neighborhood from the north. This bridge was closed in late 2020 for structural repairs and reopened in the spring of 2021.</p>
<p>5th Street/Turners Falls Road Bridge/Green Bridge serving Turners Falls Road and Canal Street, over the Power Canal</p>	<p>This is commonly referred to as the Green Bridge or 5th Street Bridge and plays a crucial role in the inflow and outflow of people to Montague. Adjacent to this vehicular bridge is another pedestrian bridge, which was closed in 2017. It is anticipated that the development plans for this bridge will be completed in 2026, with the expectation that the project will go to bid in 2027.</p>
<p>The White Bridge serving Turners Falls Road, over the Connecticut River</p>	<p>The White Bridge crosses the Connecticut River, connecting Turners Falls Road in Greenfield and 5th Avenue in Turners Falls. MassDOT has begun preliminary planning on the replacement of this bridge.</p>
<p>Gill-Montague Bridge serving Avenue A, over the Connecticut River</p>	<p>This bridge crosses the Connecticut River where the Power Canal begins, and serves as an important access point for people driving into Montague from Route 2. This bridge was rehabilitated in 2013.</p>
<p>South Street and Center Street Bridges serving South Street and Center Street, over the Sawmill River</p>	<p>These two small bridges are located in the same neighborhood of Montague Center on roads that parallel each other as they cross over the Sawmill River. Both of these bridges are considered structurally deficient. As of 2022, the Center Street Bridge was closed to all traffic. The South Street bridge has been reduced to one-lane use since spring 2018, and a replacement project is planned for 2024. This new structure is designed for resilience to accommodate the seasonal changes</p>

	in the river flow and will meet Massachusetts Stream Crossing Standards, providing terrestrial and aquatic wildlife passage/habitat improvements.
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Commuters

Montague’s commuters use different modes of transportation to travel to their jobs including driving alone in a car, truck, or van; taking public transportation; carpooling; walking; or not commuting at all (working from home). When compared to Franklin County as a whole, Montague follows similar trends with regards to the number of commuters in each of these categories. Driving alone and working from home are the top choices by commuters. See Figure A15 for commuting modes in town.

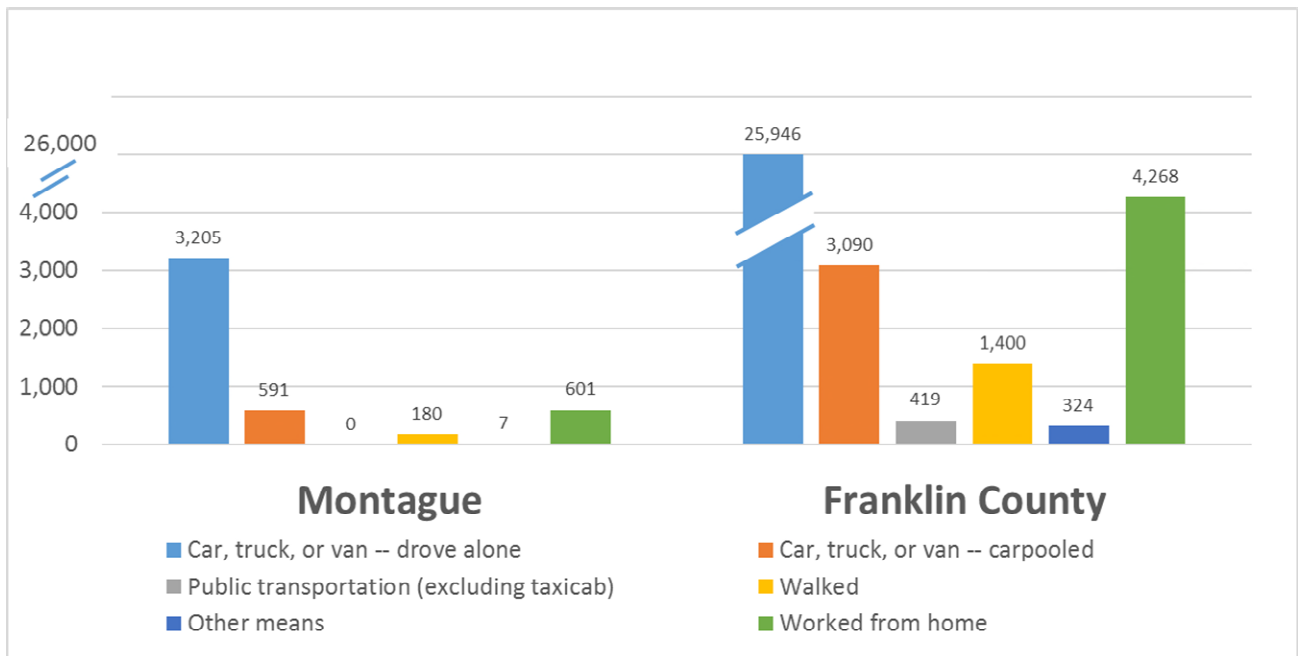


Figure A15. Commuter transportation modes, Montague and Franklin County⁵⁰

Pedestrian Network

Creating safe and accessible streets for pedestrians is a priority for the Town. To this end, the Town has completed many pedestrian-focused projects, including improvements at pedestrian-controlled crosswalks, reconstruction of targeted sidewalks, safety improvements of bicycle lanes, and installation of traffic calming measures. Montague adopted a Complete Streets

⁵⁰ Unless otherwise noted, all socio-economic demographic data is from the U.S. Census Bureau, 2021 American Community Survey, Five-Year (2017-2021) Estimates Program.

Policy in 2017 and participates in the MassDOT Complete Streets Funding Program, which provides technical assistance and construction funding to eligible municipalities.

A priority issue for residents and the Town is safety improvements for pedestrians and bicyclists on Turners Falls Road in Greenfield because it is the most direct connection between Montague and Greenfield. Turners Falls Road is frequently traveled by vulnerable users such as pedestrians and bicyclists, but it does not have a sidewalk or a lane/shoulder to accommodate either. In the *2023 Franklin County Regional Transportation Plan*, the safety concerns over the frequent and regular use of this route by pedestrians and the lack of supporting infrastructure were also one of the top comments received from the public.

Safe Routes to Schools

The Massachusetts Safe Routes to School Program works to increase safe biking and walking among elementary, middle, and high school students by using a collaborative, community-focused approach that bridges the gap between health and transportation. This approach is completed through infrastructure improvements, enforcement, tools, safety education, and incentives to encourage walking and bicycling to school.

The Massachusetts **Safe Routes to School** (SRTS) Program is intended to encourage walking and bicycling to school by providing technical assistance and support to schools. Both Montague elementary schools, Hillcrest Elementary and Sheffield Elementary, are enrolled in the Safe Routes to School Programs. Currently, bus transportation is not available for students who live within a 1.5-mile radius of these elementary schools. Students who live in downtown Turners Falls have to walk a very steep hill to get to the schools, particularly in the winter when snow and ice can cover the sidewalks. Downtown Turners Falls is home to a greater number of low-income people who might not have a vehicle, and young families who might be caring for other children. The Gill-Montague Regional School District has been working with the SRTS program to explore ways to make walking for these students easier and safer. This issue is a priority for the Town of Montague to address.

Sidewalks

Montague has a rolling topography in some places and is rather steep in others. This leads to many steep sidewalks and routes throughout town—particularly in Turners Falls and Millers Falls. Despite this challenge, there are sidewalks and street crossings connecting all major downtowns and neighborhoods.

An inventory and assessment of all sidewalks in Turners Falls was conducted in 2018. This inventory found that while there are places throughout the village where the sidewalks are in poor condition, missing curb cuts, or had faded crossings, the majority of sidewalks and

crossings leading to all municipal buildings and important civic/public sites are accessible and in good condition. As the existing pedestrian infrastructure continues to age, the Town will need to be proactive in reconstructing and maintaining the sidewalks and crossings. In addition to infrastructure maintenance, a well-connected pedestrian network includes cutting back vegetation encroaching into the pedestrian right-of-way, enforcing winter snow/ice clearance, and ensuring well-lit street crossings. The 2018 *Turners Falls Sidewalk Inventory* and the 2018 *Complete Streets Prioritization Plan* identified a number of sites that should be prioritized for safety improvements.

ADA Accessibility

The 2018 *ADA Self-Evaluation and Transition Plan* assesses all Town-owned facilities including sidewalks and crossings. A common recommendation was the need to make sidewalks and door entrances more accessible at municipal facilities, as well as at all retail shops and restaurants. As the Town conducts streetscape upgrades throughout town, sidewalk projects can identify opportunities to include ADA improvements within the sidewalk right-of-way to also make private businesses accessible.

Bicycle Network

Bicycling has become an increasingly popular mode of transportation in Montague. The town has many biking assets, including two local bicycle shops. With much of the town connected by the Franklin County Bikeway system, there is great potential for Montague to become a hub for biking enthusiasts, which could enhance tourism. Maintaining the existing biking assets and working to connect the town's five villages will help to continue to foster a strong bicycling community in Montague. Below is a description of the current bicycling assets in town:

Franklin County Bikeway

The Franklin County Bikeway is a combination of bike path and shared roadway routes that are marked with Franklin County Bikeway trailblazing signs. There are several routes connecting the town to the larger region, including the Northfield Connector, the Greenfield-Montague Loop, the Connecticut River Route, and the Leverett-Amherst Route.

Canalside Rail Trail

The MA Department of Conservation and Recreation (DCR) Canalside Trail is a 3.27-mile off-road multi-use path that starts at one end at Unity Park in Turners Falls, following an abandoned rail corridor along the Turners Falls canal, over a pedestrian-only bridge over the Connecticut River at the confluence with the Deerfield River, and ends at McClelland Farm Road in northeast Deerfield. There is parking at each end of the Canalside Trail (in Turners Falls and in Deerfield).

East Mineral Road Bridge

The East Mineral Road Bridge was reconstructed for use as a bicycle and pedestrian bridge. The former vehicle bridge crosses the Millers River from East Mineral Road in Montague to River

Road in Erving and provides an important link in the Franklin County Bikeway network by allowing bicyclists and pedestrians to travel north and south without having to cross Route 2 at grade. Route 2 is a challenging roadway to cross because of the high vehicle volumes and speeds.

Bicycle/Pedestrian Bridge on Greenfield Road

The bicycle/pedestrian bridge on Greenfield Road was constructed 2017 in the place of a former vehicle bridge over a railroad corridor. The bridge is on the Connecticut River Route of the Franklin County Bikeway, a shared roadway route that travels along the Connecticut River from Montague to Sunderland.

Public Transit

Because Franklin County is so rural, it is difficult to effectively meet all residents' transportation needs through traditional fixed-route transit routes. The consequence is a limited public transit network and a region that is heavily dependent upon personal vehicles. This can be challenging for the estimated 12% of households in Montague that do not have access to a vehicle, or those who are limited in their driving, such as older adults.

Public transit is available through the Franklin Regional Transit Authority (FRTA), which offers multiple routes through town every day. There are seven days of fixed-service transit service per week with three routes passing through Montague. These fixed-route buses are currently fare free. For those who plan ahead, the FRTA also offers a microtransit program, called the FRTA Access program, that allows riders to book rides via a smartphone app up to one week in advance or same-day, similar to ridesharing services such as Uber or Lyft. All of the FRTA's vehicles have bicycle racks on the front of the buses. Fixed route service on the weekends is a reduced schedule. There is no transit service that runs later than 7:30 p.m.

Routes that connect or pass through Montague include:

- **Route 23: Sunderland/Greenfield Route**

Route 23 (Sunderland/Greenfield Route) connects Greenfield to Sunderland, via Turners Falls, Millers Falls, and Montague Center. This route is timed to make transfers at the Sugarloaf Estates to the PVTA Route 31 that provides service to UMass Amherst. The schedule for this route currently consists of six round-trip runs per day.

- **Route 24: Crosstown Connector**

The Route 24 connects downtown Greenfield and Turners Falls throughout the day with runs occurring every hour. Major destinations along the route include Stop and Shop, Franklin Medical Center, Food City, and the JWO Transit Center. The route originates in Turners Falls at Avenue A and 11th Street, and takes approximately an hour roundtrip.

- **Route 32: Orange/Greenfield Route**

Route 32 (Orange/Greenfield Route) connects several communities along Route 2 between Greenfield and Orange. The entire route takes approximately an hour and forty-five minutes roundtrip. The schedule for this route currently consists of seven round-trip runs per day.

- **Demand Response**

The Demand Response program (also known as Dial-a-Ride) is offered to Montague residents aged 60 years or older. This service is available at the same times as the Access program and is a curb-to-curb service.

- **Access Program**

The Access program currently operates in four zones in Franklin County and the fare is \$3.00 one way within a zone and \$4.00 between zones. The service is available on weekdays and on the weekends with more limited hours. Users are able to book rides using an app on their mobile phones on the same day or up to one week in advance. This service has been extremely popular with riders. Currently, the program is at capacity and ridership growth is limited by the number of vehicles and availability of drivers.

Airport

The Turners Falls Airport is a general aviation airport, owned by the Town of Montague and managed by the Turners Falls Airport Commission.⁵¹ Most of the current users of the Turners Falls Airport are flight training students, instructors, and recreational flyers. Many students and families of students from the independent boarding schools in the region use the airport to travel between school and home. There are also some business-oriented travelers that use the airport to transport personnel between a local plant and corporate headquarters.

Passenger and Freight Rail

The State of Massachusetts is currently conducting a feasibility study to restore east-west passenger rail service that runs along Route 2 between North Adams, Greenfield and Boston. The rail line supported passenger rail service until 1968. The study will look at the costs and economic opportunities of establishing rail services between eastern and western Massachusetts along this northern route, nicknamed the Northern Tier. The study is looking at projected capital costs, operating costs, and revenue estimates. Projected ridership levels, community impact and benefits, and environmental impacts will also be evaluated. Montague has the potential to experience a significant boost in tourism and economic development if a rail stop is established in town or even in nearby Greenfield. Surveys and public outreach for

⁵¹ Information about the airport and its services is available on their website at <https://fly0b5.com/>

the 2023 *Franklin County Regional Transportation Plan* update show strong demand for passenger rail service from Western Mass to Boston.

For freight rail service, there are two rail lines located in Montague—one travels east – west and one north – south. During the 2018 MVP planning process, rail lines were seen as a category of concern, especially the Millers Falls rail yard, located adjacent to residences and businesses. Hazardous spills in Millers Falls, as well as ongoing problems with idling that cause air quality issues have been voiced as concerns for this village. A hazardous spill on the rail line as it passes through the Montague Plains would also pose a serious hazard to the Town’s public water supply. In general, rail lines throughout town were also identified as a potential hazard in the event of sparks causing a wildfire, particularly during periods of drought or high winds.

OPPORTUNITIES & CHALLENGES

Bicycle and Pedestrian Facilities

Montague has a network of sidewalks throughout most of its villages as well as the Canalside Rail Trail connecting Turners Falls with northeast Deerfield. In addition, the Franklin County Bikeway runs throughout the town. While these facilities may seem robust, there is a need for improved and additional pedestrian and bicycle facilities. Many existing sidewalks are aging and need to be reconstructed to meet ADA accessibility standards—particularly as Montague’s population continues to age. The need for expanded walking and biking facilities was echoed consistently throughout the community engagement and public outreach efforts for this comprehensive plan. A town-wide multi-use trail connecting the villages and the Montague Plains was a common wish of residents. Not only would a facility like this support connectivity throughout town, but it would also provide outdoor recreation and public health opportunities.

Increase in Grant Funding

One of the biggest opportunities for Montague’s transportation network and infrastructure is the recent increase of funding at both the state and federal levels. Grants for planning, implementation, and construction of safety improvement projects focused on non-vehicular modes of transportation is now more available than ever. In addition, there is a new funding focus on increasing the resiliency of transportation infrastructure to mitigate and protect from the impacts of climate change. Many of these new sources of funding also include an emphasis on environmentally-friendly solutions such as green infrastructure and nature-based solutions.

This source of additional funding is sorely needed as one of Montague’s largest challenges is its aging infrastructure. Upgrading sidewalks, bridges, roads, staircases, crosswalks, lighting, culverts, and more is essential and may require a considerable amount of money and effort.

The Town has been very proactive in conducting assessments of its sidewalks, culverts, and pavement in recent years to begin the planning and budgeting of this endeavor. The Highway Department's investment in an asset management database will assist in this effort.

Because transportation projects can be large, multi-stage, and expensive, Town staff should continue to plan strategically for infrastructure upgrades. In this way, Montague will be ready to apply for the various stages of engineering and construction as grants become available. Creating an asset management database will help the Town more efficiently tie projects together based on location or funding sources.

Public Transit

Another opportunity for the town is the possibility of east-west passenger rail service stopping in or near Montague. The Northern Tier Passenger Rail could connect the town to other cities in the Commonwealth, making it easier for commuters to reach their destination and increasing tourism in the town. Even if a rail stop is sited in nearby Greenfield and not Montague, the proximity of the station would benefit Montague due to its easy connection via roads, bike paths, and transit to Greenfield.

A continuing challenge for Montague is the limited public transit system. While there are transit services that connect Montague with the larger region, these services are not as frequent and efficient for residents, especially those without vehicles. Currently, a bus ride from Turners Falls to the UMass Amherst campus takes easily over an hour with one to two bus transfers, compared to the thirty minute drive in a private vehicle. To expand public transit options and to make transit a viable and reliable alternative to driving, the FRTA will need support and funding from both local and state sources.

As development occurs in Montague, the Town can support transit-oriented development by encouraging the location of new housing and commercial sites near existing and planned transit stops, a concept known as transit-oriented-development (TOD). As grant funding becomes available to the FRTA, Montague can participate in and support pilot transit services to explore how to make the current transit system more effective for a small town in a rural region.

Flooding Vulnerability and Climate Impacts

Certain areas of Montague face increasingly disruptive impacts to transportation infrastructure from climate change. These areas are often close to rivers and in floodplains, such as the Sawmill River corridor or along Montague City Road. Many of the town's bridges and drainage culverts are over 50 years old and are in need of repair or replacement to prevent transportation disruption and risks to public safety due to flooding.

Apart from the vulnerability of Montague's transportation infrastructure to flooding, there are other climate change impacts on the transportation network. These can include extreme heat or rapid freeze/thaw cycles, which weaken or deform road surfaces and associated

infrastructure; high winds which can down power lines and poles adjacent to roads rendering them inaccessible; and prolonged heat waves that hinder residents' ability to walk, bike, or wait for public transit.

Continuing to assess the transportation network's vulnerability to various climate stressors, such as flooding, heat, wind, and freeze/thaw cycles, will enable the Town to better improve its planning and budgeting for emergency events and for capital expenses to mitigate future climate change impacts.

ECONOMIC DEVELOPMENT & CULTURAL AND HISTORIC RESOURCES TECHNICAL REPORT

INTRODUCTION

The Economic Development & Cultural and Historic Resources element of *Five Villages: One Future* focuses on Montague’s existing economic conditions and provides possible strategies for how to take advantage of current and emerging opportunities in a way that supports the community’s vision for economic and cultural vitality and resilience. While market conditions will drive what types of businesses will ultimately choose to locate in Montague, the Town can be proactive in encouraging business development and expansion through its zoning bylaws, permitting processes, and infrastructure improvements.

Economic development is the sustained, concerted actions of policy makers and communities that promote the standard of living and economic health of a specific area. The economy plays a key role in the quality of life within the town. A strong economy provides economic opportunities to all citizens through the creation of quality jobs and business opportunities and by creating a tax base that adequately funds schools, police, fire protection, parks and other community facilities, services, and amenities.

Like many towns in the region, Montague had a manufacturing-based economy for much of the 1900s. Many towns in the region have been hit hard as their locations and their employment bases became less advantageous for manufacturing in the more globalized marketplace. Today the town faces significant economic challenges not uncommon to many older industrial communities. This comprehensive plan combines economic development with cultural and historic resources into a single element to emphasize the recognition that historic preservation and redevelopment of historic structures, along with the continued promotion of cultural venues, are important assets in Montague. These have been, and can continue to be, leveraged to enhance the town’s economy and sense of place.

A nickname for Montague is “Power Town” due to the large role hydropower and electric generation played in town and continue to play. The FirstLight and Eversource companies make up a significant portion of the Town’s tax base and land ownership and contributes to its general character. Their presence enables green energy production for the region as well as the existence of recreation amenities for both residents and tourists.

Through a community survey, residents were able to provide feedback on economic development priorities. There was a strong sentiment for lower taxes, both to encourage people to stay in town, and also for potential businesses to thrive. The need to grow the tax base was also noted as a necessary improvement for future sustainability. Survey respondents indicated a desire for a revitalized downtown Turners Falls, which includes having access to a department store or local place to purchase everyday necessities. Public feedback consistently preferred a general increase in commercial development.

There was also strong desire that any future economic development and growth benefits all population groups in town – particularly people of color, low income households, and immigrants. Ensuring that all who want to participate in the workforce are able to do so will create a more resilient economy for Montague.

This element plan builds on previous economic development plans for Montague, including:

- [2018 Community Development Strategy](#)
- 2019 Turners Falls Municipal Airport Master Plan Update
- [2019 Millers on the Move! Strategic Priorities for Millers Falls Village Center](#)
- [2022 Montague Economic Development and Industrial Corporation Economic Development Plan](#)
- [2023 Vision Phase Report for the Canal District Master Plan](#)
- [2024 – 2028 Age-Friendly Franklin County and North Quabbin Regional Action Plan](#)
- [2024 Montague City Village Center Study](#)

This Plan supports the vision laid out by the Economic Development and Industrial Committee of Montague to facilitate Montague’s transition from its origins as “planned industrial community” to a “planned industrious community” that provides a climate for both business and community growth.

INVENTORY & EXISTING CONDITIONS

Labor Force and Employment

Labor Force Participation Rate and Age

To assess the overall strength or weakness of the Montague labor force and employment, this section looks at the age of the workforce, labor force participation rate, and unemployment rates. The age of the workforce indicates who is actively participating in the labor market, and

provides information on whether there is an aging workforce, a younger workforce, or a balance. The labor force participation rate measures the percentage of the population age 16 or over who are already employed or actively looking for employment. A lower participation rate suggests there is flexibility in the labor market for potential workers, while a higher participation rate indicates lower flexibility and fewer options for employers who might be looking to hire. A low unemployment rate suggests a strong labor market and is a positive for employees, although it may make it more difficult for employers looking for potential workers.

Montague has a strong labor force participation rate—slightly higher than the state, and significantly higher than the county. The unemployment rate in Montague also compares favorably to both the state and the county. Table A15 shows the comparison of labor force participation and unemployment between the town, the county, and the state.⁵² Employment has improved significantly since the height of the COVID-19 pandemic, when the unemployment rate in Montague was almost 11%.

Table A15. Labor Force Participation Rate and Unemployment Rate, 2022

Region	Labor Force Participation Rate	Unemployment Rate
Massachusetts	66.8%	5.3%
Franklin County	60.7%	5.7%
Montague	67.0%	4.3%

Interestingly, there is higher labor participation rate among Montague residents over the age of 60 compared with both the county and the state, suggesting both that Montague residents are working longer in than others in the region, and that there is an aging workforce (Figure A16).

⁵² Unless otherwise specified, all data in the Economic Development Technical Report is from the U.S. Census Bureau, 2022 American Community Survey 5-Year Estimates.

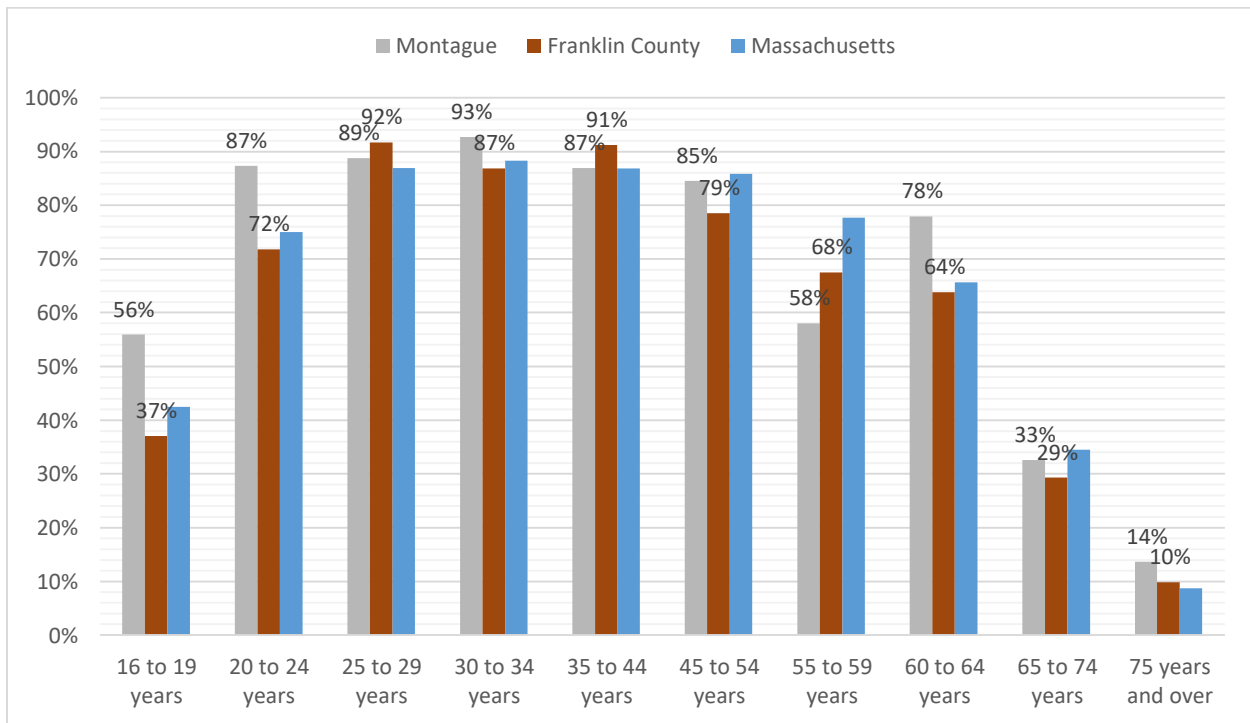


Figure A16. Labor Force Participation Rate by Age Group, 2022

Median Household Income and Poverty Rate

A common measure of income for an area is the median household income.⁵³ The median household income for Montague is \$70,208. This figure is consistent with the county median income, while both are significantly lower than the state’s median household income (Figure A17). The poverty rate, while still significant at over 9%, is lower than the State (almost 10%), and much lower than the county (12%) (Figure A18).

⁵³ Includes the income in households that have families, people living alone and unrelated people living together. The median is the middle statistic in a data set, which makes the measurement relatively unaffected by extreme numbers (either the very wealthy or very poor) influencing the overall figure.

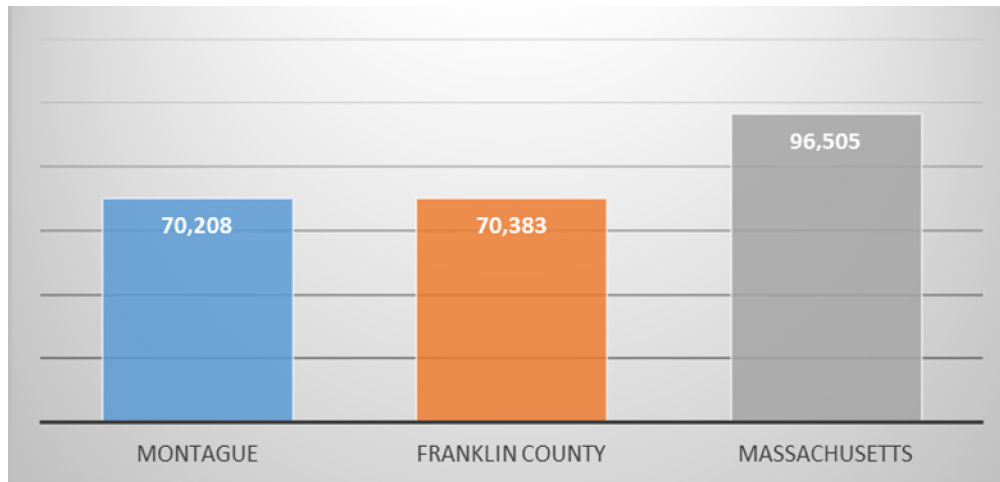


Figure A17. Median Household Income

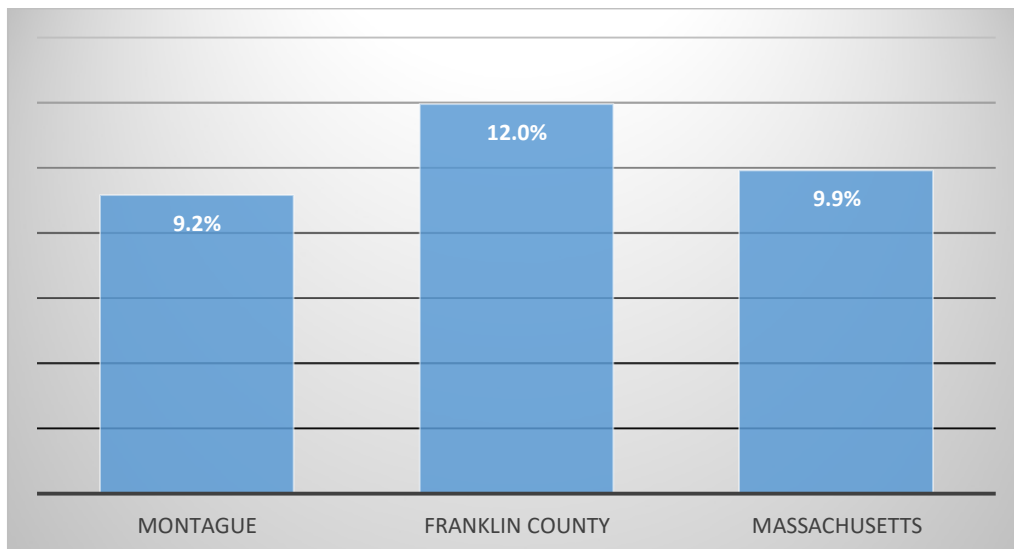


Figure A18. Montague Poverty Rate

Inflow/Outflow of Jobs

Most residents leave Montague for employment. In fact, the number of employees who live in Montague but work outside the town is almost twice the number who live outside Montague and commute into town to work. Approximately 14% of the labor force both live and work in Montague.

Employment Base

Table A16. shows a breakdown of establishments, total wages, and monthly employees for all employer types in Montague in 2022 and 2012. Employer types (a.k.a. Industries) are listed in order of highest to lowest number of average monthly employees.

Table A16. Employment Sectors in Montague

Description	No. of Establishments (2022)	Total Wages	Average Monthly Employment	No. of Establishments (2012)	Total Wages	Average Monthly Employment
Total, All Industries	308	\$132,626,101	2,671	236	\$108,261,916	2,819
Manufacturing	14	\$50,107,531	792	16	\$42,639,617	835
Educational Services	10	\$28,987,952	548	8	\$19,563,929	461
Health Care and Social Assistance	148	\$11,478,692	332	21	\$15,788,765	471
Public Administration	10	\$9,913,436	188	10	\$6,778,033	157
Agriculture, Forestry, Fishing and Hunting⁵⁴	7	\$6,427,791	178	4	\$2,381,161	58
Retail Trade	20	\$4,281,100	159	19	\$3,618,914	181
Accommodation and Food Services	15	\$2,460,204	111	15	\$1,546,464	108
Construction	15	\$4,153,621	70	12	\$1,937,157	54
Finance and Insurance	5	\$2,403,585	44	4	\$1,567,568	35
Other Services, Except Public Administration	18	\$979,761	44	87	\$2,514,207	164
Transportation and Warehousing⁵⁵	6	\$2,184,345	39			
Professional and Technical Services	10	\$1,393,011	32	12	\$999,840	33
Administrative and Waste Services	8	\$1,260,833	29	10	\$3,718,362	142

⁵⁴ Often major employer listings do not include self-employed or non-employer establishments. According to the 2017 Montague Open Space and Recreation Plan, there were 20 farms currently in operation in the town.

⁵⁵ 2022 data includes two NAICS categories not included in 2012, 'Information' and 'Transportation and Warehousing'

ECONOMIC DEVELOPMENT & CULTURAL AND HISTORIC RESOURCES TECHNICAL REPORT

Description	No. of Establishments (2022)	Total Wages	Average Monthly Employment	No. of Establishments (2012)	Total Wages	Average Monthly Employment
Real Estate and Rental and Leasing	6	\$640,753	24	4	\$328,687	9
Wholesale Trade	7	\$2,519,826	22	5	\$1,185,668	24
Information ⁵⁷	4	\$772,450	22			

Source: Massachusetts Department of Economic Research⁵⁶

Manufacturing

Manufacturing is the largest economic sector in Montague in terms of both total wages and average monthly employment. Table 16 shows that manufacturing is followed closely by Educational Services and Health Care and Social Assistance. Health Care and Social Assistance establishments make up almost half of all business establishments within Montague. While the top three economic sectors Montague are the same as in Franklin County as a whole, Educational Services by contrast is the largest economic sector in the county, followed by Health Care and Social Assistance, with Manufacturing coming in third.

Health Care and Social Assistance⁵⁷

Even with the closing of the Farren Care Center in 2021 and a significant drop in the numbers of employees over the past ten years, health care services remains one of the top sectors of employment in Montague. Health care services has the third highest number of monthly employees, and includes the greatest number of employer establishments in the town. Although this sector has a high number of employees and establishments, there is no longer any major employer as there once was with the Farren Center.

Agriculture, Forestry, Fishing and Hunting

Over the last decade, the Agriculture, Forestry, Fishing and Hunting employment category experienced the largest increase in average monthly employment at 207% between 2012 and 2022.

Montague has somewhere around 3,000 acres in agricultural use. Farms in Montague produce a variety of products, including vegetables, berries, flowers, dairy, maple syrup, honey, pork, lamb, herbs, wool, and wood products, illustrating the diversity of the agricultural sector in Montague. Montague’s farms are an important element of both the town’s and the region’s agricultural economy and infrastructure, supporting many types of agricultural support businesses. Several of Montague’s farms are part of larger agricultural operations with home

⁵⁶ <https://lmi.dua.eol.mass.gov/lmi/EmploymentAndWages#>

⁵⁷ This category includes subcategories ranging from physicians, mental health specialists, dentists to individual and family services, and community food and housing services. For more information, see the North American Industry Classification System (<https://www.census.gov/naics/>).

farms or land in neighboring towns. The health of Montague’s farm businesses is critical to the viability of the agricultural sector in Franklin County as a whole.

Agriculture is too closely tied to the landscape of Montague and surrounding towns to be valued on the basis of economics alone. Fresh food, preservation of significant historical landscapes, scenery, and rural character are just a few of the contributions that active agricultural businesses provide to Montague. Like many communities in Franklin County, the number of farms in Montague has grown, though the size tends to be smaller.⁵⁸

Educational Services

Educational services in Montague include the Gill-Montague Regional School District (covering the towns of Gill and Montague, and students in grades 7 – 12 from Erving). The District includes five schools, four of which are located in Montague, while the fifth is located in Gill. Montague is also home to the public Franklin County Regional Vocational Technical School, a four-year public high school that serves much of Franklin County. The Technical School employs approximately 40 staff and teachers and in 2024 had over 620 students. The number of student population of Franklin Tech has grown by about 100 over the past ten years and is projected to keep growing.

Largest Employers in Montague (over 50 employees)

Education accounts for three of the top employers in town. Table A17 contains a list of the town’s largest employers. Large manufacturers and Montague’s largest farm account for the other largest employers.

Table A17. Montague's Largest Employers

Company Name	Address	Number of Employees	NAICS Code	NAICS Category
Franklin County Tech School	Industrial Blvd	100-249	6111	Elementary and Secondary Schools
Gill-Montague Regional School District	Crocker Ave	100-249	6111	Elementary and Secondary Schools
Judd Wire Inc.	Turnpike Rd	100-249	4238	Machinery, Equipment, and Supplies Merchant Wholesalers
Lightlife Foods Inc.	Industrial Blvd	100-249	4244	Grocery and Related Product Merchant Wholesalers

⁵⁸ 2022 and 2012 Census of Agriculture, USDA, National Agricultural Statistics Services.

Company Name	Address	Number of Employees	NAICS Code	NAICS Category
BPOE Elks Lodge	Elk Ave	50-99	8134	Civic and Social Organizations
Hillside Plastics Inc.	Millers Falls Rd	50-99	3261	Plastics Product Manufacturing
Red Fire Farm	Meadow Rd	50-99	1151	Support Activities for Crop Production
Sheffield Elementary School	Crocker Ave	50-99	6111	Elementary and Secondary Schools

Commercial and Industrial/Manufacturing

Commercial Areas

Turners Falls is home to over half the town’s population, and includes one of the two business districts in the town. While there is commercial development scattered throughout Turners Falls, downtown Turners Falls includes a large number of businesses and a cultural district and the Canal District, as well as beautiful views of the Connecticut River. Millers Falls village center is a small commercial center with several dozen businesses including a convenience store and a pub, along with a newer craft brewery/pub, a handful of restaurants and several artist studios. Downtown Turners Falls and Millers Falls continue to have turnover in storefronts, but incremental progress has been made in renovating and filling them over the last five years. A 2019 report, *Millers on the Move! Strategic Priorities for Millers Falls Village Center*, explored the economic development potential of Millers Falls. Montague Center has a handful of commercial establishments, among them a general store and an old mill filled with a complex of stores and restaurants that are a major tourist destination. Montague City and Lake Pleasant have little to no commercial development in them.

Starting a Business

In 2023, 30 business licenses were approved in Montague. These ranged in type from a local bookstore, to a construction company, to a hair salon. According to information from the Town Clerk’s page on the Town website, anyone looking to start a business must file a certificate. Business certificates are valid for a period of four years from the original date and they must be renewed every four years for as long as the business is being conducted. The fee for a business certificate is \$25. Business owners report that Montague is a very business-friendly community and that it is relatively easy to start a business in town. Town officials have also been told by business developers that Montague is one of the easiest towns to work with and very responsive to their needs.

Educational attainment for a resident population is an important consideration for many businesses when assessing whether to move to a new location or to stay in their current location. Montague holds a diverse workforce pool thanks to the range of educational options in the town and region. Over 50% of residents also have at least a 2-year college degree, a factor in consumer-spending power.

Commercial and Industrial Districts

Due to its location along the Connecticut and Millers Rivers, manufacturing and the industrial economy have long been the economic heartbeat of the town. Manufacturing is allowed in the ID and HI Districts by-right and GB District by special permit, constituting approximately 955 acres, or 5% of town. Although not all of the industrial parcels have been built out, most has.

Commercial uses are permitted in the Zoning Districts RB, NB, CB, GB, ID, and HI, although large commercial facilities such as hotels or warehouses are only allowed in some of these districts by special permit. Areas that allow business thus cover most Turners Falls, as well as all of the other village centers and much of Route 47. Large commercial development such as indoor recreation facilities—a wish expressed by the public in the feedback gathered for this plan—can always be considered for areas thought of as industrial.

To foster economic development within the town, Montague established the Economic Development and Industrial Corporation (EDIC) in 1984. The EDIC developed its first plan at its founding in 1984, and has updated it three times (1999, 2015, and most recently in 2022). The EDIC has the power and duty to undertake and carry out economic projects covered by the plan in areas currently zoned to allow industrial use. Two projects in particular have seen great success: The Great Falls Discovery Center/Canalside Rail Trail and the Airport Industrial Park. The most recent plan identifies five project priorities for further development or redevelopment: Airport Industrial Park, Sandy Lane Industrial Area, Turners Falls Canal District, Great Falls Discovery Center, and the Farren Care Center Area. These project areas fall within areas currently zoned industrial.⁵⁹

Airport Industrial Park

The Airport Industrial Park was constructed in the 1960s and expanded in the 1990s. There are 15 firms that employ approximately 500 employees at the Park. The Park includes over 620,000 square feet of industrial development on 97 acres of land. Currently, there are only seven acres of municipal land left to develop on a few small parcels, leaving no room for any new large tenants. According to the most recent EDIC Plan, at least five businesses have expanded within the park over the past seven years. The park's infrastructure is in need of upgrades, as the

⁵⁹ More detailed information is available through the Montague EDIC Economic Development Plan: https://www.montague-ma.gov/files/MEDIC_ECON_DEV_PLAN_2022_FINAL.pdf

electric grid is at capacity, water pressure is low, and the sewer is in need of significant repairs and replacement.

Sandy Lane Industrial Park

The Sandy Lane Industrial Park is a repurposed municipal landfill on 163 acres. It includes a combination of light manufacturing, municipal uses, solar development, a public transit maintenance facility, and open space. The park is home to Judd Wire, Inc., a high-technology wire manufacturer, and one of the largest employers in town. There are approximately 15-18 developable acres at the end of Sandy Lane, which is currently the only opportunity for large scale development in Montague currently zoned as industrial. However, there are limitations to this site that need to be resolved in order to unlock the potential of the parcel. Namely, there are currently no utilities connected to the developable site and the town's Transfer Station would need to be relocated for access to the site.

Turner Falls Canal District

The Turners Falls Canal District includes two areas with standing or demolished mill complexes along the Turners Falls Power Canal. Three of the five mill sites are vacant and blighted. There is a lack of access to the mill sites because the Power Canal and Connecticut River act as barriers. The Town is working with MassDOT on the 5th Street and White bridges to improve access. While there is substantial work that needs to be done to make this area viable for future development, there remains significant potential for economic investment in the Canal District. The Town envisions a mixed-use district that reuses these former industrial properties in a way that integrates downtown with the Connecticut River. With major public and private investments underway in the core of the district, current blight will make way for riverfront access as a pathway to revitalization in the north end of the district.⁶⁰

Great Falls Discovery Center Area

The Great Falls Discovery Center Area was developed in the early 2000s. Much of the land was transferred to DCR in 2004, although the EDIC still retains four parcels in the area. This area is located next to the Canalside Rail Trail, and is a popular cultural and tourist destination.⁶¹

Former Farren Care Center Area

The Farren Care Center was a 630,000 square foot hospital/nursing home, located on 7.3 acres in the Village of Montague City. The Center was formerly the largest employer in Montague. It closed in 2021, relocating all patients and employees to a site in Holyoke. This closure and relocation had a significant impact on the town's economy. The buildings were demolished in 2023. The Town anticipates receiving the property from its current owner, Trinity Health New England, now that site work is completed. Montague has been working with a consultant on a

⁶⁰ For more details about the Canal District Redevelopment, go to town website: <https://montague-ma.gov/p/1485/Canal-District-Redevelopment>.

⁶¹ For more information, see The Great Falls Discovery Center (<https://greatfallsdiscoverycenter.org/>)

Montague City Village Center Study, which includes the former Farren Care Center property.⁶² The study examines the feasibility and market analysis of several redevelopment scenarios of varying density. All of the scenarios include a the construction of a community center and the use of the historical architectural block structure of Turners Falls.

Manufacturing Suitability Analysis

The Land Use Technical Report in this plan conducts a suitability analysis of parcels in Montague that may have potential as future manufacturing sites based on a number of characteristics, such as lot size, absence of environmental constraints, and presence of sewer and water. That analysis showed that there are potentially 20 parcels that may be suitable for future manufacturing, most of which have additional site complications. The analysis shows that there is limited land available for large-scale manufacturing in town, so careful community conversation is needed to understand the town’s priorities and come to consensus about where to build.

Tax Structure

Montague has a lower residential tax rate than similar communities in Franklin and Worcester Counties, relying more heavily on commercial, industrial and personal (CIP) tax levy (Table A18 and Figure A19). The residential rate was median among its immediate surrounding municipalities and the commercial rate was the highest. This high commercial tax rate creates a potential burden on small businesses and economic development competitiveness for the town. Conversely, as employment sectors like manufacturing continue to decline in town, the tax burden will likely have to shift to residents, unless other businesses can be attracted to the town.

Table A18. Tax Rates in Nearby Towns with Similar Development Patterns⁶³

Municipality	County	Residential and Open Space Tax Rate	Commercial, Industrial, and Personal (CIP) Tax Rate	R/O % of Total Levy	CIP as % of Total Levy
Athol	WORCESTER	14.04	14.04	87.41	12.59
Deerfield	FRANKLIN	14.97	14.97	75.44	24.56
Greenfield	FRANKLIN	19.65	19.65	75.64	24.36
Leominster	WORCESTER	15.54	15.54	81.76	18.24

⁶² More information on the Study is available on the town webpage <https://www.montague-ma.gov/p/1531/Montague-City-Village-Center-Study>

⁶³ Local Fire District taxes are excluded from these rates. When included, the overall tax rate is higher.

Montague	FRANKLIN	15.65	23.78	57.73	42.27
Orange	FRANKLIN	17.96	17.96	80.87	19.13

Source: Massachusetts Department of Revenue⁶⁴

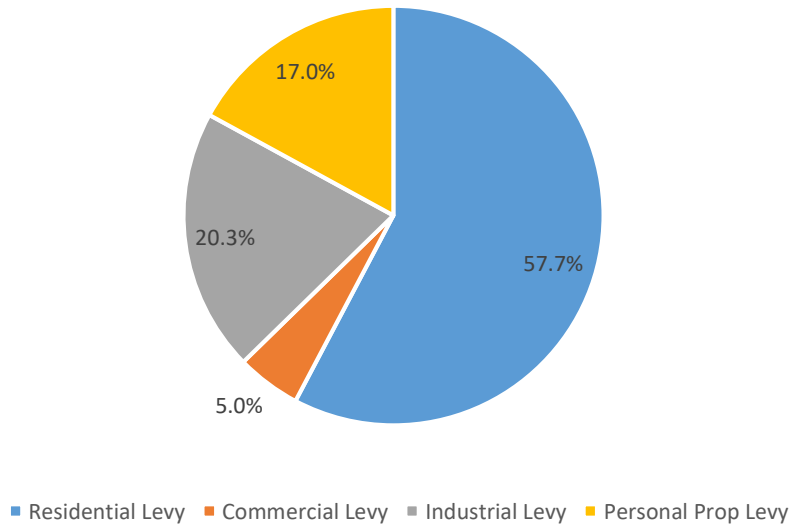


Figure A19. Proportion of Tax Levy from Residential and CIP, FY 2023

Source: Massachusetts Department of Revenue

Historic Preservation and Cultural Resources

Arts and Culture

Montague has a vibrant arts and culture scene that helps drive economic development. This scene particularly present in downtown Turners Falls, which has a mix of restaurants, shops, and entertainment. Two major attractions in Turners Falls are the Shea Theater, a 330-seat performing arts center that presents regional, national, and international artists as well as community theater, dance and all forms of music; and the Great Falls Discovery Center, a DCR-owned museum exhibiting the natural, cultural, and industrial history of the Connecticut River watershed that attracts over 20,000 visitors per year.

⁶⁴ https://dls.gateway.dor.state.ma.us/reports/rdPage.aspx?rdReport=Community_Comparison_Report

Both the Shea Theater and the Discovery Center are encompassed by the Turners Fall Cultural District, which extends along Avenue A from the Great Falls Discovery Center on 1st Street to the Carnegie Library on 7th Street. Established in 2017, the Cultural District helps to organize and promote cultural events throughout the village.

Recreation

Montague is rich in outdoor recreation assets both town-wide and within each of the villages. This diversity of activities attracts residents and visitors to the area and positively impacts the local businesses. In particular, there are several unique outdoor recreation facilities located in the Turners Falls Cultural District, including Unity Park, the Turners Falls Fishway, the Skatepark, and the Canalside Rail Trail. Other recreational resources and activities in Montague include visiting the fish hatchery, scuba-diving, boating and paddling, hiking, fishing, and nature viewing. The creation of a white-water rafting experience and improved recreation facilities anticipated under the final FirstLight Licensing Agreement would further strengthen Montague’s ability to harness outdoor recreation tourism as an economic driver for the town.

River Culture

River Culture is a great success story in the Town of Montague.⁶⁵ RiverCulture is a partnership between the arts and business community that was formed to enhance the creative economy. Originally founded as “Turners Falls RiverCulture” in 2006 through a Mass Cultural Council Adams Grant, the program officially became RiverCulture in 2018 when it transformed into a steering committee-led municipal program and expanded its mission to all five villages of Montague. The program has focused its efforts on hosting and promoting cultural events, spearheading cooperative marketing efforts, providing information about art and recreation in Montague, coordinating activities in the Turners Falls Cultural District, and participating in the Town’s economic development initiatives. Funded through business sponsors, grants, and in-kind donations, RiverCulture is a vital resource and promoter of economic development in Montague.

Although Montague does not have a local business organization like a Chamber of Commerce or a Business Improvement District, RiverCulture acts as the de facto business development and

Cultural Districts

Cultural Districts are established within a city or town in areas with a density of cultural facilities, activities, and assets. The goals of Cultural Districts are to attract artists and cultural enterprises, foster cultural development, encourage business and job development, establish the district as a tourist destination, preserve and reuse historic buildings, and enhance property values.

⁶⁵ River Culture: <https://www.riverculture.org/>

promotion organization. However, RiverCulture is different in that its work is more focused on cultural-related economic development.

Historic Preservation

Public input gathered for this plan made clear that the preservation and redevelopment of historic buildings in Montague is important to the community. The layout and character of the villages in Montague are a reflection of the town's history and the Town has embraced historic preservation in past projects and development. As part of this effort, Montague has taken advantage of a number of state programs and tools to make the restoration and reuse of historic buildings an advantageous option for economic development.

At Annual Town Meeting in May 2022, Montague passed a demolition delay bylaw. This is a strong tool that allows for a pause in the demolition process to consider alternatives. Montague's demolition delay bylaw gives the Montague Historical Commission the authorization to place a one-year delay on the demolition of buildings that are determined to be preferably preserved in accordance with the bylaw.

The National Register of Historic Places is the official list of the country's historic buildings, districts, sites, structures, and objects worthy of preservation. The program was established as part of the National Historic Preservation Act of 1966 and is overseen by the National Park Service. Listing on the National Register of Historic Places is an important economic development tool because it qualifies a place for grant and tax incentive programs used to preserve and/or reuse income-producing and publically-owned historic buildings. In many cases, the availability of financial assistance through grants and/or tax incentives make the rehabilitation and reuse of properties ultimately possible. The designation does not guarantee that the listed property will be preserved, and the designation in itself places no constraint on what a private property owner may do with their property when using private funding.

There are three National Register Historic Districts in Montague: Montague Center, Turners Falls, and Millers Falls. Montague Center was designated in 2001 and includes the Alvah Stone Mill. The Montague Center District is bounded by Center, Main, North, School and Union Streets. Montague Center developed in the early 18th century as a crossroads village around a green within an agricultural landscape and, by the middle of that century, transitioned into a hub of commercial activity for central Franklin County with water-powered mills in the vicinity. At its peak, there were eight mills in Montague Center in 1794. The demands for greater power and improved transportation to support industrial expansion led to the decline of industry and population in Montague Center and a shift to Turners Falls and Millers Falls, which were better equipped to supply the needs of businesses competing in the expanding and evolving New England industrial economy.

The Turners Falls Historic District was designated in 1982. It is roughly bounded by L, Ninth, Seventh and J Streets, the Connecticut River, Avenue A and First Street. It included 268 historic

resources. The combination of industrial, residential, and commercial structures and the distinctive sense of time and place is retained today. The plan for Turners Falls was for mill sites on the water to power machinery from the new power canal and dam system. The rest of the village was built between 1866 and 1868, laid out in a horizontal grid pattern with the main avenues labeled alphabetically and the cross streets numerically.

The Millers Falls Village Historic District was designated in 2021. It includes Bridge Street, Church Street, Crescent Street, East Main Street and West Main Street. It was developed at approximately the same time as Turners Falls but on a smaller scale. It embodies the distinctive characteristics of the Industrial Period in Montague and the Connecticut River Valley through its architecture, integrity of location, and setting as a source for local tool and paper industrial mills. The village's historic district developed and thrived as a residential and commercial community alongside the mills.

The inclusion in a National Register Historic District means that buildings are also listed on the Massachusetts State Historic Register. These listings enable qualified property owners (public entities and private property owners of income-producing properties) to participate in state and federal grant and tax incentive programs. The Massachusetts Historical Commission administers grant and tax incentive programs to encourage the preservation of historic buildings and structures.

Additionally, Montague has used the Massachusetts Abandoned Housing Initiative Receivership Fund to revive buildings in Millers Falls. The Massachusetts Abandoned Housing Initiative Receivership Fund provides financial assistance to receiverships aimed at revitalizing distressed neighborhoods, promoting home ownership, and combating the negative impacts of residential property blight. The properties in Millers Falls that have taken advantage of this program were abandoned, under-utilized, and were no longer on the Town's tax rolls. By taking a proactive approach the Town has been able to encourage the redevelopment and restoration of key buildings in Millers Falls.

Montague is within the Mohawk Trail (Route 2) Scenic Byway and the Connecticut River Scenic Byway areas. The Mohawk Trail Scenic Byway is Route 2 and the Connecticut River Scenic Byway is Route 47 and Route 63. The National Scenic Byway Program is a federal transportation program that recognizes and celebrates scenic roads throughout the country for their outstanding scenic, historic, cultural, natural, recreational, or archeological qualities. The program is a grass-roots collaborative effort established to help recognize, preserve and enhance selected roads throughout the United States. The program offers an opportunity for tourism-related economic development initiatives. The program funds improvements such as byway facilities, safety improvements, and interpretive information. In the past, tourism related economic development projects have been implemented in Montague with Scenic Byway funding. After a pause in the program, funding was reinstated in 2019.

The Nolumbeka Project is a welcoming and inclusive non-tribal organization committed to honoring the Connecticut River Valley and Northeastern tribes. The project hosts presenters sharing their cultures and histories at gatherings and educational programs. The Nolumbeka Project provides an opportunity to expand the history of Montague and enrich the offerings to visitors and residents.

OPPORTUNITIES & CHALLENGES

Workforce and Business Development

Like many communities in Franklin County and Massachusetts, Montague has both an aging population and an aging workforce. This has made it more difficult for employers in the area to find workers even as any job gains are realized. Filling workforce needs has been particularly problematic in high-skilled positions, like manufacturing. The lack of housing options in Montague and Franklin County is also a barrier to employers recruiting skilled workers.

Although Montague retains a strong business core, centered around the industrial park as well as in the downtowns of Turners Falls and Millers Falls, there is currently no local business association or local promoter. The Montague Economic Development and Industrial Corporation promotes economic development in the industrial-zoned areas, but not outside its jurisdiction. River Culture promotes culture and entertainment-related development and programs, but it is also limited in capacity.

Montague is fortunate in that it has several regional entities focused on workforce and business development. These include MassHire, the Franklin County Community Development Corporation (FCCDC), Greenfield Community College, and the Franklin County Technical School. While not Town-affiliated, these organizations are resources that new and current residents and potential business owners can tap into.

Current Montague employers report difficulty in finding enough employees. Encouraging new residents, particularly through increasing and diversifying housing supply and strengthening and promoting the schools, would allow more early-career workers to move into town and current residents to age in place. In order to encourage business development and advocate for current businesses, a central position, possibly through a private entity like the Franklin County Chamber of Commerce, could coordinate business promotion and development. A position like this would focus on businesses and business development throughout the town and in all sectors.

Manufacturing and Large-Commercial Space

Montague has a strong industrial and manufacturing tradition. In fact, even as manufacturing has declined over the past decade throughout the region (including in Montague), it remains the industry with the highest number of employees and the greatest amount of total wages. However, employment in manufacturing has decreased by 5% over the past 10 years, much of this decrease likely due to manufacturing spaces being replaced by low-labor businesses (i.e. more warehouses). This trend is only likely to continue. Further, many industrial park businesses are no longer owned locally. Non-local business owners may have less incentive to remain in town if they are looking to expand and are unable to do so due to lack of space, lack of a talent pool, and poor infrastructure.

At the same time, demand for industrial land remains high, presenting challenges and opportunities. The available land zoned industrial is nearly built out, so prospective companies have few options for building new or expanding any current development. The suitability analysis conducted in the Land Use Chapter show that around 20 parcels remain as potential manufacturing sites in town, most with major limitations. There is still an opportunity for increased industrial-based employers, when available land, viable infrastructure, and zoning can align with the need.

Aging Infrastructure

Infrastructure throughout town, including in the industrial and commercial sections of town, is aging and is in need of investment in repairs, replacement, and in some areas, further buildout. There is low water pressure in the industrial park, and electrical upgrades are needed. Eversource is currently working on upgrades. Deteriorating roads and bridges also present an economic development impediment. This is particularly evident around the Canal District in Turners Falls, where a bridge replacements are planned. Further business development and redevelopment of the Canal District is limited until this work is substantially completed.

To encourage economic development, Montague will need to continue to invest in its infrastructure, including water and sewer, bridge and road repairs, and broadband and ensure that these upgrades are resilient to future impacts from climate change. Funding for infrastructure improvements can be found through state and federal programs like the Community Development Block Grant Program, the Massworks Infrastructure Program, and the EPA Brownfields Program, among others. The Town needs to continue to conduct feasibility studies and develop conceptual plans for these infrastructure improvements to be ready to apply for construction funding when available.

Arts & Culture Economy

There is currently a vibrant local economy around arts and culture in Montague. This is especially notable through RiverCulture and the Turners Falls Cultural District. This is a vital and

growing element of the Montague economy, as the numerous events, programs, and locations attract both local and non-local tourists. There are other opportunities as well, such as through increasing and promoting access to the Connecticut River, that will support economic development within the town. An untapped resource for cultural events is the Turners Falls Airport, which could be used to host large events and provide a source of revenue for the airport.

Continuing to support and expand arts and cultural places, programs, and events in Montague provides a more complete economic development ecosystem, ultimately supporting the Town's vision of a climate that supports both business, community growth, and sense of place. Current arts and cultural offerings are resources for residents, but also can be marketed to attract visitors from the region and beyond to experience heritage tourism while boosting the town's economy and making it less reliant on traditional economic drivers such as manufacturing. Cultural events and programs should continue to be strategically placed throughout the town's different villages and timed to enhance foot traffic and support local business cycles.

Historic Preservation

Montague has taken advantage of tools and opportunities that qualify historic buildings for participation in funding and tax incentive programs to encourage rehabilitation and reuse. The inclusion in a National Register Historic District and the Massachusetts State Historic Register qualifies property owners (public entities and private property owners of income-producing properties) to participate in state and federal grant and tax incentive programs including Massachusetts Historic Rehabilitation Tax Credit program, Federal Historic Rehabilitation Tax Credits, and the Massachusetts Preservation Projects Fund Grant.

There may be additional historic structures that would benefit from planning and inclusion in programs that would ultimately serve as a qualifier for funding and financial incentives. The completion of a municipal Historic Preservation Plan is a community planning effort to identify, assess, and plan for the preservation of important historical and cultural resources. The completion of the Historic Preservation Plan would provide the town with the opportunity to look closely at the historic resources to ensure that all appropriate tools and planning are being undertaken. The plan would also closely assess the existing National Register Historic Districts and the status of the existing inventory forms to identify if additional nominations or assessments are needed to take advantage of all available programs and resources. The Massachusetts Historical Commission Survey and Planning Grant Program provides funding to identify and plan for the protection of the significant historic buildings, structures, archaeological sites, and landscapes.

The continued support of historic preservation through planning and documentation will ensure that all financial opportunities and tools for rehabilitation and restoration are available to property owners. Historic preservation also goes beyond the built environment. Honoring

the town's original inhabitants and immigrant traditions strengthens community cohesion, creates a sense of place, and can attract visitors from the region and beyond.

Turners Falls Airport

Montague is unique in that it has a municipally owned airport. Because of the complicated nature of federal regulations and funding restrictions, the Turners Falls Airport must remain open as a municipal entity. Therefore, the long-term financial sustainability of the facility needs to be a priority. The airport has leveraged its proximity to the Franklin County Technical School to host an intern/co-op student position to provide additional staff capacity to benefit airport operations. A new program with the Franklin County Technical School will be launched in the next few years that will enhance the aviation industry for the region. The School will offer an aviation mechanics program at the airport, funded by a \$4.2 million state grant. It was reported that this program will seek certification from the Federal Aviation Administration (FAA) to be an approved Aviation Maintenance Technical School. Currently, there only seven certified programs in New England.

In an effort to become self-sustaining, the airport could also use its property for cultural events and activities as an opportunity for revenue. The Federal Aviation Administration (FAA) does allow the temporary closure of airports for non-aeronautical purposes upon approval by the FAA.

Supporting the long-term economic sustainability of the Turners Falls Airport, while returning the benefits of its presence to the community is the over-arching goal of this community facility. It has the potential to be an economic driver for the town, particularly as it looks to innovate beyond its traditional mission with programs like the partnership with the Technical School and as a space to harness the strength of the cultural sector of the town.

Eco-Tourism

Montague already fosters a small eco-tourism economy, attracting non-residents to unique ecosystems like the Montague Plains, fishing spots, birding hotspots, renowned parks, trails, Turners Falls Fishway, the Bitzer Hatchery, a scuba-diving hotspot, and more. The farmers market and farm-based festivals create food-based tourism. Potential improved river access provided by the final relicensing agreement for the Turners Falls Hydroelectric Project may dramatically increase use of the river. The Town can market these existing assets and support the new endeavors.

COMMUNITY FACILITIES & SERVICES TECHNICAL REPORT

INTRODUCTION

Community facilities and services are vital components to the overall functioning of a municipality. Public buildings such as town halls, libraries, and schools are critical to the civic function and identity of a town. Police, fire, and public works services provide for a safe, clean, and healthy environment for all who live, work, and play in town. Community facilities and services include outdoor public spaces such as community parks, playgrounds, athletic fields, and courts. The Community Facilities and Services element of *Five Villages: One Future* focuses on existing facilities owned by the Town and services provided by the Town and needed investments and programmatic changes.

For the Town of Montague to meet the needs of the community in the present and future, it is important that the Town be actively engaged in capital planning, asset management, and implementation of needed projects. Prioritizing short- and long-term investment allows the Town to continue to provide the services and public spaces community members expect. Climate change is anticipated to increase the need for improvements to infrastructure such as the stormwater system, wastewater management system, roads, and building facilities, and place an increasing burden on municipal services such as emergency services, affordable housing development, public health programs, and infrastructure maintenance.

This element builds on previous planning and studies the Town of Montague has conducted including:

- [2018 Community Development Strategy](#)
- [2018 Energy Infrastructure Assessment Report](#)
- [2018 Montague Municipal Vulnerability Preparedness Plan](#)
- [2019 Stormwater Pollution Prevention Plan](#)
- [2020 Turners Falls Livability Plan Update](#)
- [2020 Town of Montague Hazard Mitigation Plan](#)
- [2022 Turners Falls Parking Study](#)
- [2022 Montague Composting Feasibility Report](#)

COMMUNITY FACILITIES & SERVICES TECHNICAL REPORT

- [2022 Franklin County Water and Wastewater Systems Update](#)
- [2023 Combined Sewer Overflow Long-Term Control Plan Update](#)
- [2024 National Pollutant Discharge Elimination permit](#)
- [2024-2028 Age-Friendly Franklin County and North Quabbin Regional Action Plan](#)
- [FY2024 Capital Improvements Plan](#)

From the public feedback gathered for this plan, it is clear that Montague residents are proud of many of the community facilities and services that the Town provides—particularly the libraries, parks, and playgrounds. Residents feel that they contribute to the strong sense of community and sense of place in town. However, they acknowledge that many facilities in town are getting older and will need upgrades, renovations, or major construction. Three topics emerged as a common need for the future: a place to go swimming in the summer, an indoor community center/gathering place for all ages, and the need for increased ADA accessibility around town. Because of the many large capital projects that will be needed over the next few decades, continued integration and coordination between Town administration, school districts, and water districts will be essential. Continued communication with the public due to the scale of these projects will also be critical for their successful implementation.

INVENTORY & EXISTING CONDITIONS

The Town of Montague and public districts in Montague collectively own over twenty properties, some of which are leased to the school district or private entities (Table 19 and Map A11). The school districts and fire/water districts also own and operate a number of public facilities. The Town’s inventory of buildings is subject to change as properties are acquired and sold to facilitate redevelopment.

Table A19. Public Facilities Ownership in Montague

Owner	Building	Address
Building Town owned and operated	Town Hall	1 Avenue A
	Unity Park Field House	56 1 st Street
	Carnegie Library (Turners Falls)	201 Avenue A
	Millers Falls Library	23 Bridge Street
	Montague Center Library/Old Town Hall	17 Center Street
	DPW Facility	128 Turners Falls Road
	Public Safety Complex	180 Turnpike Road

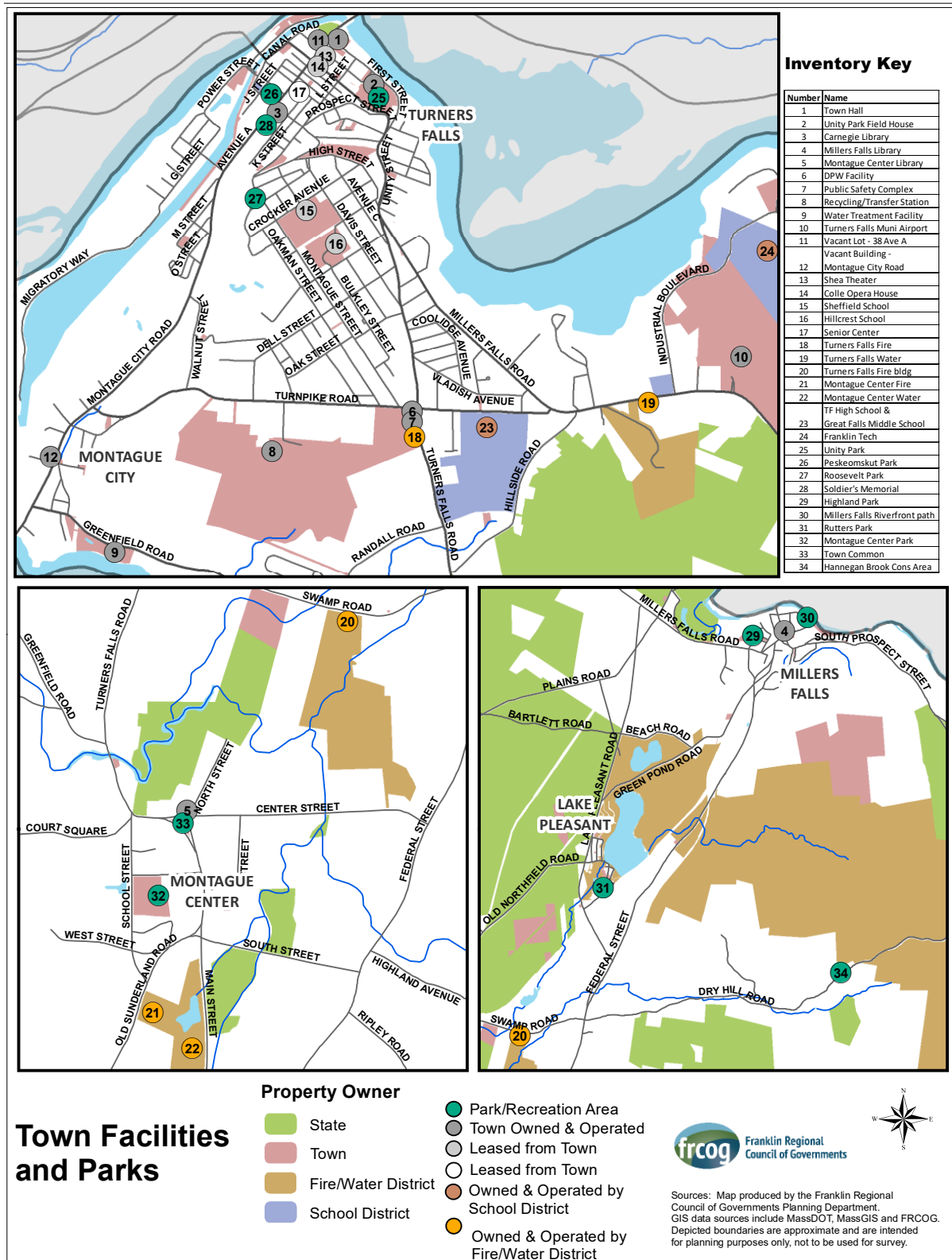
COMMUNITY FACILITIES & SERVICES TECHNICAL REPORT

	Recycling/Transfer Station	11 Sandy Lane
	Water Pollution Control Facility	34 Greenfield Road
	Turners Falls Muni Airport	10 Aviation Way
	Vacant lot	38 Avenue A
	Vacant building	356 Montague City Road
Building leased from Town	Colle Opera House	85 Avenue A
	Shea Theater	71 Avenue A
	Hillcrest Elementary School	30 Griswold Street
	Sheffield Elementary School	43 Crocker Avenue
Building leased to Town	Gill-Montague Senior Center	62 5 th Street
Building owned and operated by Fire/Water District	Turners Falls Fire District	226 Millers Falls Road
	Turners Falls Water District	226 Millers Falls Road
	Montague Center Fire District	28 Old Sunderland Road
Building owned and operated by School District	Turners Falls High School	222 Turnpike Road
	Great Falls Middle School	224 Turnpike Road
	Franklin County Technical School	82 Industrial Boulevard

Source: Town of Montague

Montague offers the range of public services needed for a community of its size, including police, fire, EMS, public works, water and sewer, and recycling and bulk waste. Due to the historical organization of Montague into villages, many facilities and services have multiple branches or districts. The following section provides descriptions of any potential issues, and/or large capital programming that will be required for the major municipal facilities and services in town.

COMMUNITY FACILITIES & SERVICES TECHNICAL REPORT



Map A11. Montague Community Facilities and Town Parks.

Town Hall

Montague's Town Hall is located in Turners Falls and houses all of the Town's municipal departments with the exception of the Police, Fire, Public Works, Parks & Recreation, and Sewer Departments. Having been built in the late 1800s by the Turners Falls Power and Electric Company, the age of the Town Hall building presents challenges to accessibility, maintenance, and energy retrofitting. An elevator has been installed, but ADA accessibility issues remain. Town Hall will need to undergo continual maintenance and upgrades to meet modern standards and demands. The Town Hall is slated to have roof-mounted solar installed.

Unlike many traditional New England town halls, the Montague Town Hall lacks a meeting space suitable for committee meetings over 20 people and large community meetings. As a result, the hall at the Great Falls Discovery Center, across the street from Town Hall, is often used for meetings with an expected larger crowd. Annual and Special Town Meetings are typically held at Turners Falls High School.

Town Hall Annex

The Town Hall Annex was vacated in 2019 when the Department of Public Works moved to their new location on Turnpike Road. The Annex is currently used for voting, storage, and meetings of up to 20 people. A feasibility study for the reuse of this facility was completed at the end of 2022. The Town outlined its need for more office, meeting, and storage space and this study looked into scenarios and costs, concluding that converting the space to a 70-person occupancy meeting room along with ADA accessible bathrooms and additional storage space would cost approximately \$550,000.⁶⁶ The Town anticipates continuing to use the building for storage and meetings, creating more office space in the medium term, and creating a large meeting room in the long term. Renovating the Town Hall Annex is anticipated to meet the Town government's evolving needs and is a cost-saving alternative to constructing a new Town Hall.

Department of Public Works (DPW) Facility

The current DPW facility, located in Turners Falls, was completed and opened in November of 2020. It is located adjacent to the Montague Public Safety Complex. The department is responsible for maintenance, repair, and construction of Town-owned infrastructure (sewer, stormwater), public buildings, parks, streetscapes, and 103 miles of roadway. No capital improvements are anticipated in the near future for this new facility, aside from installation of roof-mounted solar.

Police Station

⁶⁶ FY 2024 Capital Improvement Plan

COMMUNITY FACILITIES & SERVICES TECHNICAL REPORT

The Montague Police Department is located within the Montague Public Safety Complex along with the Turners Falls Fire Department. The complex is located in Turners Falls. The Montague Police Department provides 24/7 service to all five villages in Montague. The facility was completed in 2008, making it one of the newer municipal facilities in Town. The building is not in need of any major capital improvements and is ADA compliant.

Fire Stations

Montague has two separate fire districts. Fire districts are independent governmental entities and are not a department of the Town of Montague. They are typically governed by a volunteer board of commissioners or trustees and responsible for setting their annual budget and tax rate independently from the Town.

Turners Falls: The Turners Falls Fire District was first organized in 1873 and is located in the Montague Public Safety Complex in Turners Falls at 226 Millers Falls Road. The Turners Falls Fire Department covers the villages of Turners Falls, Millers Falls, and Montague City. The Fire Department currently has 12 full time staff and 10 call force members.

Montague Center: The Montague Center Fire District was incorporated in 1941 and covers the villages of Montague Center and Lake Pleasant. The Montague Center Fire Department provides fire protection, inspections, hazmat, and light rescue services. It provides emergency response under a dual-response program with a private paramedic ambulance service. The District headquarters and the Fire Department are located in Montague Center. The current facility was completed in 2004 and is not in need of any major capital improvements.

Libraries

The Montague Public Library System is made up of three branches, located in Turners Falls, Millers Falls, and Montague Center. All three libraries have maintenance, improvement, and/or accessibility projects in the Town's capital planning budget.

Carnegie Library

The library system's main branch, the Carnegie Library is located on the edge of downtown Turners Falls on Avenue A. The branch is open Monday through Saturday. The Carnegie Library building was built in 1906 with a donation from famed industrialist/philanthropist Andrew Carnegie. The building was added to the National Register of Historic Places in 1982, making it an important historical asset for the town. However, its age and design limit its potential as a main branch. The building is small, limiting the number and types of programs offered to the community. There is also very minimal onsite parking and the layout of the site constrains any potential expansion opportunities. In its current state, the building is not fully ADA accessible and could not become so without major renovations.

Millers Falls Library

The Millers Falls Library is located in a small one-story storefront on Bridge Street in the center of Millers Falls. The building dates back to around 1900. The library has limited hours, opening only twice a week, but provides unique services to the village and serves as its only non-commercial community center. This branch is the only one of Montague's libraries which is fully ADA compliant.

Montague Center Library

The Montague Center Library is located on the village green in Montague Center. The building that houses the library was built in 1858 as Montague's Town Hall and is now referred to as the Old Town Hall. The library is open three days a week. The top floor of the building is a large community room that can be used as a gym and is rented out for private events. However, it is currently not ADA accessible.

Montague residents feel very strongly that it is important to keep all three libraries open, as they are a pillar of village life and identity. Over the past five years, the Town has completed or secured funding for many capital improvements and long-deferred maintenance projects for the Montague Center and Millers Falls libraries. The Town has begun exploring the feasibility of potentially building a new main branch library and is presently engaged in a community-involved process to identify a new site. Consensus from public outreach is for the new library to remain in downtown Turners Falls so as to help maintain walkability to the library and keep downtown Turners Falls the civic center of town. A feasibility study is scheduled for Fiscal Year 2025. Public outreach has also showed that there is a demand to expand the hours and programming offered at the other two branch libraries in Millers Falls and Montague Center.

Gill-Montague Regional School District Schools

The Gill-Montague Regional School District operates four schools in Montague and one school in Gill. The District's enrollment has declined by 17% in the past 10 years, although the enrollment rate has begun slowly increasing since 2020 (Figure A20).

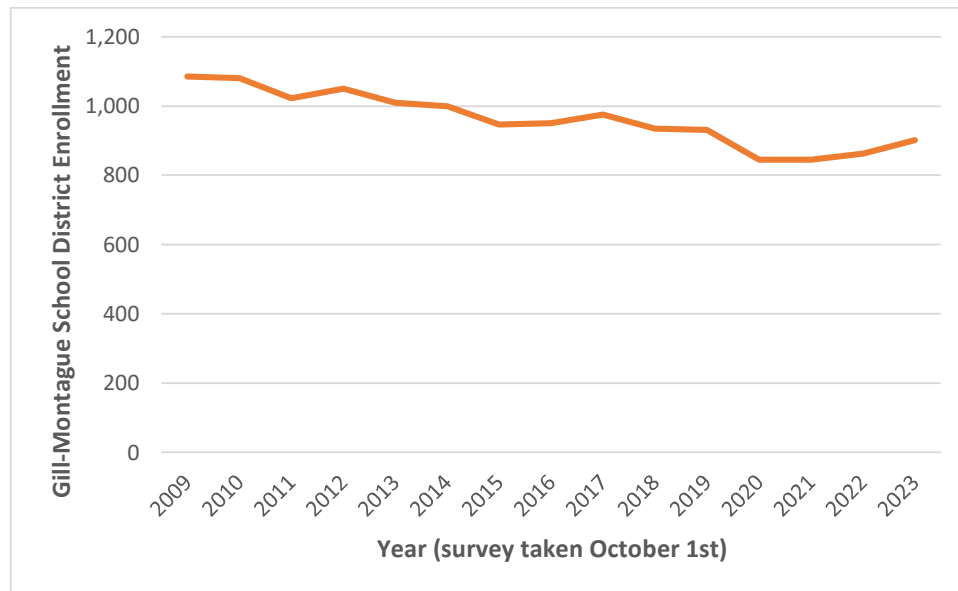


Figure A20. Gill-Montague Regional School District Enrollment, October 2009 – October 2023
 Source: Massachusetts Department of Elementary and Secondary Education

Hillcrest Elementary (Pre-K – 1st Grade): Serves Montague

Sheffield Elementary (2nd – 5th Grade): Serves Montague

The Hillcrest Elementary and Sheffield Elementary Schools are located adjacent to each other in Turners Falls. Both Hillcrest and Sheffield were built in the 1980s and are in need of major updates, constituting a large portion of the capital-planning budget. Currently, the A/C system at Hillcrest Elementary is insufficient for cooling the entire school building because the electrical panel does not have enough amperage, posing a heat hazard for students and staff during hot weather. Additional issues with the property have been identified in the town’s Hazard Mitigation Plan.

The District applied for a Massachusetts School Building Authority’s (MSBA) grant in 2024 to conduct a feasibility study to explore the potential scenarios of renovation, reconstruction, and/or consolidation of the elementary schools. This grant was denied, but the town will apply again in 2025.

Great Falls Middle School (6th – 8th Grade): Serves students from Montague & Gill

Turners Falls High School (9th – 12th Grade): Serves students from Montague & Gill

The Great Falls Middle School and Turners Falls High School share a single building located in Turners Falls. Both schools serve students from all of Montague as well as Gill and Erving. The Turners Falls High School also houses an indoor swimming pool, which has limited public hours. The building is not in need of any major capital improvements.

Franklin County Technical School (9th – 12th Grade & Adult Education): Serves students from Bernardston, Buckland, Colrain, Conway, Deerfield, Erving, Gill, Greenfield, Heath, Leyden, Montague, New Salem, Northfield, Orange, Rowe, Shelburne, Sunderland, Warwick, Wendell, and Whately. Students are accepted from other towns on a tuition basis. All students are admitted through an application process.

The Franklin County Technical School building has no major capital projects scheduled, but given the age of the building and the increased enrollment demand, the school district is in the process of planning for construction projects under a 2024 Massachusetts School Building Authority's (MSBA) award for a feasibility study.

Airport

The Turners Falls Municipal Airport opened in 1940 and is one of only two municipal airports in Franklin County, the other located in Orange. The Airport's single runway is 3,200 feet in length and 75 feet in width and can accommodate small single-engine and multi-engine planes and small jets. According to the Federal Aviation Administration, there are currently 34 aircraft based at the airport. The airport is located next to the Airport Industrial Park. Recreational flying is the primary function of the airport. A large portion of the airport's revenue comes from families flying in to visit/drop off children attending local private schools and colleges in the area. There are also aeronautical educational/training services provided at the airport through Pioneer Aviation.

The 2019 Turners Falls Municipal Airport Master Plan Update outlines a need to expand airside facilities and construct additional hangars. The potential for expansion of airside facilities remains hindered by the location of the administration building, and the Airport's ability to construct an additional hangars remains limited by availability of space.

A new program with the Franklin County Technical School will be launched in the next few years that will enhance the aviation industry for the region. The School will offer an aviation mechanics program at the Airport. It was reported that this program will seek certification from the Federal Aviation Administration (FAA) to be an approved Aviation Maintenance Technical School. Currently, there only seven certified programs in New England.

The land around the airport provides important habitat for grassland birds and is used for recreational purposes by birders, hikers, mountain bikers, and model plane enthusiasts. There has been exploration into extending the airport runway to accommodate larger aircrafts but the presence of environmentally sensitive land and potential archeologically significant sites has slowed this process.

Cemeteries

There are currently eight Town-owned cemeteries in Montague under the purview of the Cemetery Commission. These include Burnham Cemetery, Chestnut Hill Cemetery, Dry Hill

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Cemetery, East Mineral Cemetery, Fairway Cemetery, Highland Cemetery, Old South Cemetery, and Town Cemetery. A specific section of Highland Cemetery is reserved for natural burials. There are seven additional privately owned cemeteries in Montague.

Recreation Resources

Montague is currently home to nine parks, three pocket parks/common areas, six recreational areas with trails, and one canoe access point (Table A20). These recreation areas are under the jurisdiction of a mix of owners, including the Town, the Turners Falls Fire District, FirstLight, and the Commonwealth. The three public schools under the jurisdiction of the Gill-Montague Regional School District located in town also offer playgrounds and/or athletic fields open to the public after school hours.

The Turners Falls Skate Park, opened in 2016, is Montague’s most recent major park development. Unity Park and Rutter’s Park have had recent upgrades. Montague Center Park is scheduled to be updated in 2024. Highland Park, in Millers Falls, has not been updated in several years, but is on the Parks & Recreation Department’s schedule for improvements. Unity Park is a popular regional destination, having the distinction of being repeatedly voted the favorite park in Franklin County and having won accessibility awards for its ADA design.

Table A20. Recreation Resources in Montague

Name	Owner	Location	Description
Unity Park	FirstLight	Turners Falls First Street and Northern terminus of the Canalside Trail	Amenities: playsets, a picnic area, a walking path and exercise stations, a splash park, a skate park, a volleyball court, baseball fields, a basketball court, and a community garden The park has a Fieldhouse that is houses the Parks & Recreation Department.
Spinner Park	Town of Montague	Turners Falls Avenue A	Downtown pocket park with statue
Peskeomskut Park	Town of Montague	Turners Falls Avenue A	Amenities: a band shell for outdoor performances, shady benches and a playground for young children
Roosevelt Park	Town of Montague	Turners Falls Corners of Montague Street, Stevens Streets, and Roosevelt Street	Undeveloped park with large trees

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Soldier's Memorial	Town of Montague	Turners Falls Avenue A just south of the Carnegie Library	Veterans Memorial pocket park
Hillcrest Community Park	Gill-Montague Regional School District	Turners Falls Griswold Street	School playground
Highland Park	Town of Montague	Millers Falls Lyman Street off Millers Falls Road	Amenities: softball field, soccer field, playground area, picnic area, park shed, and parking area with a basketball hoop The Town uses the field for softball and soccer programs.
Millers Falls Riverfront Path	Town of Montague	Millers Falls Off Newton Street	Walking path along the Millers River
Rutter's Park	Town of Montague	Lake Pleasant Montague Road and Broadway	Amenities: playsets and swings.
Norma's Park	Rocky River Realty Co./Eversource	Lake Pleasant Lake Pleasant Road	Amenities: playground with picnic tables, swing set, and climbing structure The Town of Montague currently leases the ballfield adjacent to Norma's Park from Eversource.
Montague Center Park	Town of Montague	Montague Center Corner of School and Center Street	Amenities: large ballfield and open space, playground, and picnic area
Town Common	Town of Montague	Montague Center Main Street, North Street, and Center Street	Undeveloped park Social gatherings are often held here.
Hannegan Brook Conservation Area/Dry Hill Trail System	Turners Falls Fire District	East of Lake Pleasant Dry Hill Road	Forest with trail network, including the Hannegan Brook Loop Trail, Dry Hill Summit Loop, and the Dry Hill Public Trail System The trail network reaches south to Sunderland via the Robert Frost Trail and northwest to Wendell State Forest.

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Montague Plains Wildlife Management Area	MassWildlife	Montague Center and Lake Pleasant Lake Pleasant Road, Millers Falls Road, Plains Road	Unique forest habitat with unpaved roads for hiking, bike riding, and hunting
Sawmill River/North Street Wildlife Management Area	MassWildlife	Montague Center End of North Street	Hiking trails and fishing access to the Sawmill River
Montague State Forest & Robert Frost Trail	DCR	Montague Center Ripley Road, Dry Hill Connector, East Chestnut Hill Road	Forest with trail network, including the Robert Frost Trail
Great Falls Discovery Center	DCR	Turners falls Avenue A	Visitor’s Center with rotating exhibits, programs, and events
Canalside Rail Trail	DCR	Montague City and Turners Falls Unity Park, Greenfield Road, Depot Street, 11 th Street, Canal Street, First Street	3.7-mile bike trail, also suitable for walking and picnicking
Cabot Woods	FirstLight	Turners Falls End of G Street and 15 th Street	Unmarked trails and paved shared use roadway Access point to the Rock Dam.
Poplar Street Canoe Access	FirstLight	Turners Falls Poplar Street	Canoe put-in

Senior Center

The Gill-Montague Senior Center is located in downtown Turners Falls. It serves older residents of both Montague and Gill by providing social, health, educational, and recreation activities throughout the week. Public outreach conducted for this comprehensive plan shows that there is interest in a new and/or expanded senior center. The current building was built in the late 1800s and only has 1,628 square feet of finished floor space. The small space limits the amount of programming that can be offered – particularly for health events and social services. The space constraints also limit the ability to hire an assistant or to have small meetings while other programs are occurring. Given the aging population in Montague and across Franklin County, investing resources in maintaining and expanding senior services is important going forward.

Public Water

There are currently two water districts in Montague located in Turners Falls and Montague Center that combined serve roughly 90% of the town's population. The remaining 10% of households are serviced by private wells.

Turners Falls Water District/Department

The Turners Falls Water District/Department's main source of water consists of two artesian wells located at the Tolan Farm well field. These gravel-packed wells pump 1.2 to 2 million gallons of water per day to the filter plant. The treated, filtered water is then discharged into the gravity fed distribution system. The District serves approximately 7,057 customers in the Villages of Turners Falls, Millers Falls, Montague City, and Lake Pleasant.

There are over 57 miles of underground mains and pipe within the Turners Falls Water District. The storage facilities located on Wills Hill in Turners Falls have a total storage capacity of 6.3 million gallons.

Montague Center Water District/Department

There are two public wellfields located in the village of Montague Center owned and operated by the Montague Center Water District. A single shallow well serves households in Montague Center village center. The District provides an average annual daily amount of 42,425 gallons to approximately 450 customers.

The Turners Falls and Montague Center wells are hydrologically connected. During drought or times of high demand, pumping the Tolan Farm wells drains the Montague Center well. There is a valve connecting the two systems that allows the Turners Falls Water Department to supply Montague Center when necessary.

Backup Water Supplies

Lake Pleasant and Green Pond are emergency backup surface water supplies for the Turners Falls Water Department. The Lake Pleasant Reservoir was the Town's main source of water until 1965. Lake Pleasant and much of the surrounding land is owned by the Turners Falls Fire District. It covers 53 acres and has a storage capacity of approximately 150 million gallons. It is connected to Green Pond, a 15-acre reservoir that holds approximately 40 million gallons. The Hannegan Brook Well located near Lake Pleasant has the capacity to provide 1.44 million gallons/day to meet future demands. There is also an interconnection to Greenfield's water system via the General Pierce Bridge.

Sewer System

Montague has an aging sewer system that is in need of accelerated repairs and upgrades. All of the densely developed areas of town are served by the sewer system, including the five village

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centers and the Airport Industrial Park on Millers Falls Road. Sewer service is also available at the former landfill site on Turnpike Road. Residences not hooked up to sewer are on private, individual septic systems. The Clean Water Facility provides wastewater collection and treatment services to Turners Falls, Montague City, Montague Center, Lake Pleasant, and the Riverside neighborhood of Gill. Millers Falls is serviced by the Erving Waste Water Facility.

Portions of the collection system are over 100 years old and the Clean Water Facility was constructed in the 1960s. The Town sewer collection system is maintained by the Public Works Department, while the treatment facility and eight pump stations are managed by the Clean Water Facility. The Town operates under a NPDES permit issued in 2023 that regulates the Town's collection and treatment.

The treatment facility on Greenfield Road has a capacity of 1.83 million gallons per day of flow. There is excess capacity in the system given that it was originally designed to accommodate the needs of the large mill buildings, which are now no longer operational. The average daily flow to the Clean Water Facility is 0.85 million gallons per day (MGD), 46% of the total capacity. This means the facility has an additional 0.98 MGD capacity for future growth.

Treated effluent is discharged to the Connecticut River; sludge is shipped out of town for disposal. There are eight pump stations (PS) located within Montague. The pump stations convey raw sewage to the Water Pollution Control Facility on Greenfield Road in Montague City. They are identified as the 1st Street PS, Poplar Street PS, Tech School PS, J Street PS and G Street PS, Denton Street PS, Lake Pleasant PS, and Montague Center PS. The Montague Center PS is the largest capacity sewage-collection station in the Town and is slated for rehabilitation under the Capital Improvement Plan. The eight facilities were constructed between 1962 and 1982.

The Town has recently been investing in expanded staff capacity to maintain the sewer collection lines. It has also identified a program of sewer line replacement and manhole repairs in its Long Term Control Plan. Inflow and infiltration (I/I) is a constant and costly challenge that the Town continues to face with an aging system—particularly in the Millers Falls area. Because of I/I, Montague pays considerable fees to the Town of Erving for the costs of treating clean water that enters the system through I/I. The high amount of I/I can overload the downstream collection system and pump station capacity.

Montague's Combined Sewer Overflow (CSO) outfalls are located in two locations along the Connecticut River: the permitted CSO on Greenfield Road and the permitted CSO on I Street. As of a 2005 assessment, roughly 90% of the town's wastewater collection system was separated from the stormwater system. Since then, the Town has completed one additional sewer separation project on approximately 300 linear feet of combined sewer along Crocker Avenue. Given the increasing rains and other severe weather events that have been seen in recent years, it is going to be important to address the remaining sections of the Town's combined

system to mitigate an increase in overflows in the future. The Town has begun planning for this large capital investment.

Stormwater

Stormwater drainage in town varies from an interconnected stormwater system in the villages to individual cross culverts in the less densely developed areas. FRCOG staff inventoried and assessed all municipally owned culvert inlets and outlets in 2021. That report showed that at that time, 73% of the town's culverts were rated in Good condition. Of the 1,672 culverts identified in town, 19% were in Fair or Poor condition requiring maintenance for continued function. Another 9% were given a rating of Critical and needed immediate maintenance or replacement. The Town still needs to map the entire stormwater management system and prioritize improvements to high-risk outfalls located along the steep, sandy banks of Turners Falls. The village has seen at least three major bank failures in the past 10 years that have threatened roadways and private properties.

Recycling/Transfer Station

The Recycling & Transfer Station is located at 11 Sandy Lane in Montague. The station is open two mornings a week. Public outreach for this comprehensive plan showed that the limited hours are a challenge for many community members. The Town contracts with a private company for trash and recycling pick-up for up to three-family residences. The transfer station also offers a leaf dump service for residents in which the materials are composted.

Public Parking

Currently, all public parking in town is free to use with no set time limits except for one small section on 2nd Street in Turners Falls that is designated as 15-minute short-term parking. The only publicly maintained off-street lots are located in Turners Falls. New winter parking ban regulations went into effect in December of 2022 to benefit downtown residences and to align with zoning changes that encourage infill development.

The *2022 Turners Falls Parking Study* found that there is a sufficient amount of parking in downtown Turners Falls, but recommends a series of changes as to how parking and loading is directed. The downtown parking lots in Turners Falls are in need of resurfacing.

Montague Community Television (MCTV)

MCTV is the public access television provider for Montague, Gill, and Erving. MCTV provides the local community with access to local government meetings by recording them and airing them on their local channel as well as posting them online. MCTV also provides other local programming and public service announcements.

OPPORTUNITIES & CHALLENGES

School Enrollment and School Buildings

The trend of declining enrollment in the Gill-Montague Regional School District is a major challenge for future planning of school facility maintenance and management. According to UMass Donahue Institute Year 2022 Long-Term Population Projections, the 5 – 19 age group in Montague is expected to decline by 50% between 2020 and 2050. However, the arrival of immigrant families appears to have slowed enrollment decline in recent years and it is hard to predict how additional future unknowns could also alter those trends. Given the current trend of declining enrollment across the region, the Towns of Montague, along with Gill, Bernardston, Leyden, Northfield, and Warwick formed the Six Town Regionalization Planning Board (STRPB) in order to study the feasibility of establishing a new regional school district by combining the Gill-Montague Regional School District and the Pioneer Valley Regional School District.

The aging school buildings are also a serious issue that needs to be addressed in order to retain and attract families with school-aged children as well as the employees to work at the schools. The Town and Gill-Montague Regional School District are planning to study the feasibility of creating a single elementary school building by adding an addition or fully rebuilding the Sheffield School. If the school building consolidation process were to move forward, this would create an opportunity to explore the potential re-use of the Hillcrest Elementary building or parcel, in part or in whole. The parcel is currently zoned Recreational-Educational (RE) and would need to be rezoned for any housing or commercial development.

The Town is actively engaging with the related issues of declining enrollment and need for upgrades to the existing, older school buildings. This is a key issue to address given the important role schools play in attracting and retaining residents, as well as the employment opportunities they offer. Closely studying the cost-benefit of investing in upgrades to a single elementary school and of regionalization of school districts is an important step the Town can take toward fiscal responsibility and keeping Montague an attractive place to live.

Senior Center

The Gill-Montague Senior Center is located in Turners Falls and has an active and thriving membership and robust programming. The Senior Center is currently housed in an older, historic building. The building has space constraints and limited parking. The limited space available prevents additional, needed programming for older adults in town. During outreach, many older adults expressed a desire for a new space that would allow more services to be provided.

Given the aging population in Montague and across Franklin County, investing resources in maintaining and expanding senior services is important going forward.

Municipal Building Maintenance, Energy Transition, and Resilience

The Town of Montague occupies and maintains buildings with wide ranging ages and maintenance needs. The six-year capital planning cycle allows the Town to prioritize those needs and plan ahead for funding challenges. As the Town plans capital projects for buildings, it can incorporate energy efficiency and climate resilience goals. In 2010, Montague became a Green Community. To date, \$488,000 in Green Communities grant funds have allowed the Town to complete energy conservation and energy efficiency measures in nearly all municipally owned buildings (See the *Climate & Energy Technical Report* for more detail). The Town also recently invested in seven new solar-ready roofs on Town buildings.

If the Town opts into the second iteration of the Green Communities program and becomes a designated Climate Leader, it will be expected to set a goal of achieving net zero municipal energy by 2050. The 2018 *Energy Infrastructure Assessment Report* for Montague is a roadmap by which the Energy Committee guides the Town toward priority retrofit opportunities. Currently, the Sheffield School, Montague Water Pollution Control Facility, Police Department, Hillcrest School, Town Hall, and Carnegie Library are responsible for approximately 80 – 90% of total municipal energy use and should be the focus of energy retrofit capital planning. The report also identifies some organizational suggestions that may help improve inter-departmental awareness of clean energy progress, initiatives, and/or practices. Capital planning must also be looking at the impact of climate change on municipal facilities and infrastructure, such as the potential impact of flooding on buildings.

Performing necessary maintenance to municipal buildings is an opportunity to invest in energy efficiency and climate readiness. Investing in energy efficiency upgrades to existing public buildings will help to expand their lifespan and reduce the Town's energy expenses. Investing in these types of upgrades will also help the community achieve its climate resiliency goals and be better positioned to withstand potential climate related emergencies in the future.

ADA Accessible and Age-Friendly Recreation

Montague has already been a leader in providing accessible recreation for users with a range of abilities. Unity Park received a Stavros Paul Winske Award in 2015 for its accessible features. In 2018, the Town renovated Rutter Park to be fully ADA compliant and will be doing the same at the Montague Center playground in 2024. However, with an aging population, it is important that not only do future upgrades increase ADA accessibility, but that they also be designed as for Montague's aging population. This can include ensuring that there are smooth sidewalks and well-designed benches and shade in parks along walking routes and multi-use paths, and good lighting. For older residents who live in housing without adequate cooling, cool outdoor spaces are all the more important because older adults are more susceptible to dangerous health impacts from higher temperatures. More accessible hiking trails, of which there are few in Montague, would also help older residents stay active and healthy as they age.

The Montague community has expressed the desire for increased accessibility for both residents with disabilities and for an aging population that wants to continue to be active and spend time outdoors. The Town has been working to make a variety of outdoor recreation spaces accessible to all. Greater accessibility can be achieved by continuing to update and implement the *2018 ADA Self-Evaluation and Transition Plan*, following the guidance of the *Age-Friendly Franklin County and North Quabbin Regional Action Plan 2024 – 2028*, and ensuring all new public development fully meets or exceeds ADA accessibility standards. Placing an emphasis on inter-generational facilities and services will help strike a balance between planning for the growing older adult population while at the same time continuing to be an attractive community for young people and families.

Access to Swimming

Montague has no sanctioned outdoor public swimming areas. While gathering public feedback for this comprehensive plan, there was a strong sentiment that access to outdoor swimming is important to the community. It is also a climate equity issue as warming summers have made it more important that there be nearby places for residents to go to cool off, as not all residents have air conditioning nor the ability to travel to other towns to cool off from high temperatures. When respondents to the 2016 Montague Open Space and Recreation Survey requested the development of an outdoor swimming facility, the Montague Recreation Commission established a subcommittee that evaluated the potential of all water bodies in town for outdoor swimming opportunities. There was consensus that Lake Pleasant or Green Pond would be an ideal public swimming area, but swimming will not be permitted there as long as the ponds are designated as backup public drinking water supplies. Indoor swimming is currently available at the Turners Falls High School Pool, but the hours are very limited. There is also a splash pad at Unity Park in Turners Falls, however, it is only intended to be used by young children and is not appropriate for older age groups. With no consensus on whether, where, and how to create a safe outdoor swimming facility in Montague, residents continue to swim in undesignated locations and to rely on swimming facilities in other towns.

Safe public outdoor swimming access is needed in Montague, especially as summer temperatures rise with climate change. Providing public swimming opportunities will strengthen the community's climate resiliency and will encourage physical activity, even on high temperature days. Continuing to explore alternative options for meeting the need is important for climate equity.

Community Gathering

A common theme that emerged from outreach was the need for places for residents to gather, either in each of the villages or in a central location. Residents were vocal about their sense of community and wished for a community center that would accommodate a place for youth, teens, and older adults, particularly in the winter when there are few options.

With several sites in town primed for redevelopment, such as the former Farren Care property, there are opportunities for the creation of possible community gathering spaces, such as outdoor recreation areas, community gardens, seating areas, and indoor community spaces. Public outreach showed a strong desire for community gathering locations for all age groups in all of the town's villages via pavilions, rooms in libraries, or other small-scale gathering places.

Sewer and Stormwater

Montague's aspiration is to mitigate CSO events, reduce inflow and infiltration, and maintain NPDES compliance. The Town intends to pursue opportunities to separate sewer and stormwater, especially as streets are reconstructed, but to also repair or reline aging pipe that are not part of the combined system. This work will need to balance modernization needs while keeping sewer user rates affordable and sustaining the sewer enterprise budget. Fully separating the combined sewer has to be a long-term goal with short-term milestones, as it is expected to exceed \$25 million in costs.

In its current state, the combined sewer system is prone to overflows during periods of heavy precipitation. Working to separate the sewer and stormwater systems will improve the health of the Connecticut River, save the Town money in the long run, and create additional capacity in its sewer treatment system. This project will have a large price tag and will have to be conducted incrementally.

Proposed Bio-solids Composting Facility

The Town conducted a feasibility study for a new municipal bio-solid composting facility or alternatives to be located at the Transfer Station on Sandy Lane. Costs for a composting facility project are estimated to be \$3.1 million. The feasibility study is also exploring the option of a sludge dryer. This would cost less and greatly reduce trucking costs. Recent innovations in technology have made these systems more affordable to operate.

A bio-solids composting facility would be an opportunity for the Town to mitigate the increasing costs of solid waste disposal and help the Town in reaching their climate resiliency goals. It could potentially assist neighboring municipalities who feel the fiscal strain of disposal of bio-solids, while also generating potentially significant revenue for the Town. This project has a high initial cost and will need to be programmed into the budget, but has many long-term benefits.

Transparency and Coordination for Climate Resilience

There is an opportunity to bolster the implementation of the comprehensive plan and routine community services by examining the current way in which the various Town departments, boards, and committees coordinate with each other toward climate resiliency and other goals. There are currently over 70 Town staff working with around 28 different volunteer boards and committees. Climate change is a cross-cutting issue that will necessitate increased coordination so that decisions being made are building effective change together.

Public outreach for *Five Villages: One Future* indicated that the community would like to see more transparency from Town officials on how they are working toward climate resiliency. Moreover, members of the community who are typically the least involved in Town government are also, due to lived circumstances that increase social vulnerability, the most likely to experience the effects of climate change. Through the MVP 2.0 Process, the Core Team of staff and residents are taking a close look at factors that lead to social vulnerability in Montague and are working with priority community populations to identify what climate resilience means to them. The findings of this process can inform future municipal work and the relationships developed with the community liaisons can bring government operations and planning closer to serving the needs of the whole community.

Comprehensive planning and climate change resilience planning are both cross-sectional, inter-departmental challenges that require enhanced coordination between municipal departments. Town committees confirmed this need during the community engagement and public outreach process. The Town could explore an explicit initiative to facilitate more coordination and collaboration between the various parts of Town government. The community has also expressed a need for increased transparency from the Town government and further engagement of priority populations, particularly around climate change.

Climate Impacts to Local Government Finances and Demand on Services

The 2022 *Massachusetts Climate Change Assessment* has identified the three most urgent impacts from climate change on the governance sector:

Reduction in state and municipal revenues

Municipalities are expected to experience an annual property tax revenue loss from inland flooding risks, reduced income tax revenue if people are unable to work, and reduced sales and income tax revenue if industry production is reduced. Property tax revenue losses may disproportionately affect municipalities with a higher proportion of population in Environmental Justice block groups because of the systematic barriers to building back from disasters in those areas.

Increase in the cost of responding to climate migration

The lower level of exposure to some acute climate hazards may make an inland town like Montague more attractive to climate migrants, creating work for the Town in accommodating an influx of residents.

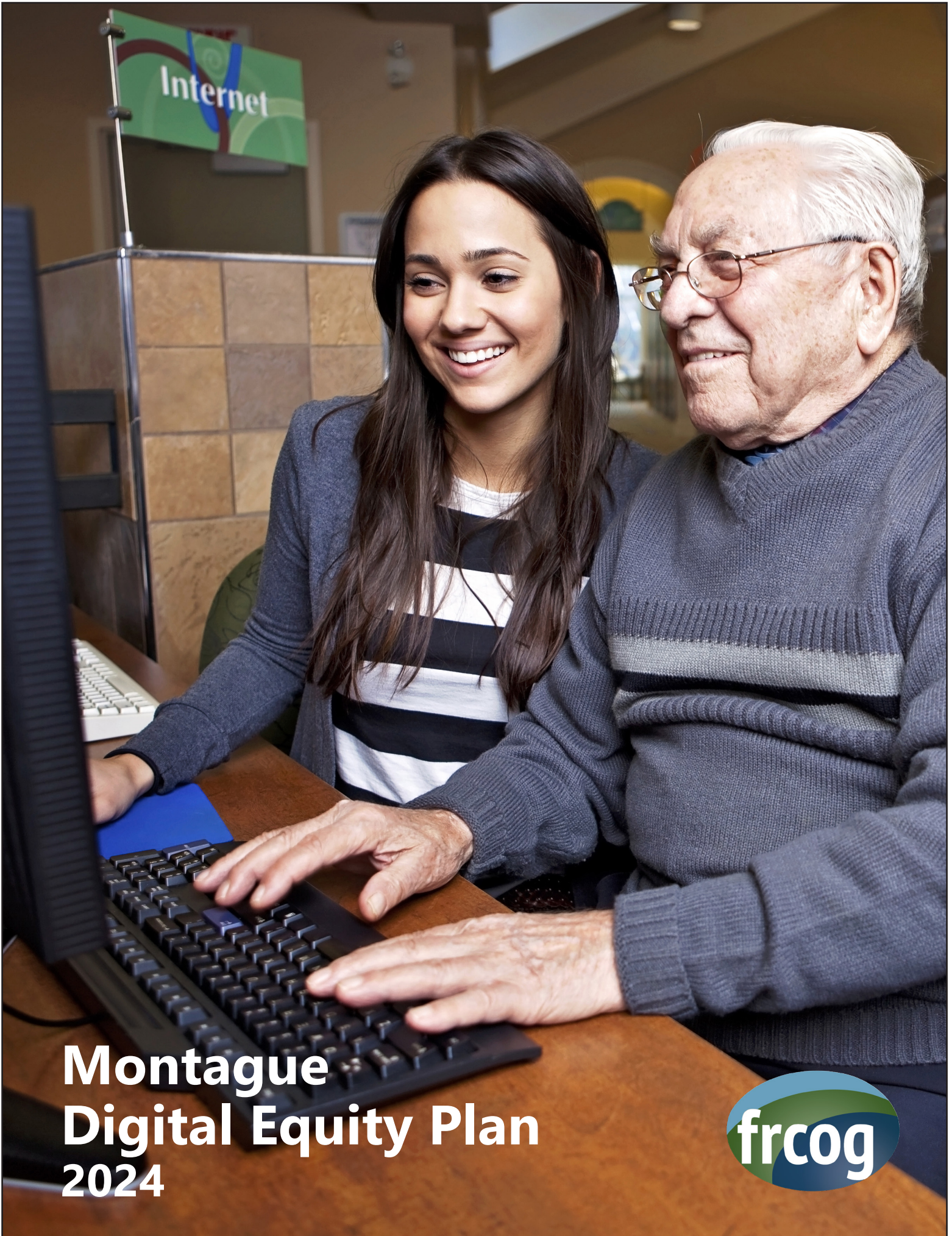
Increase in demand for state and municipal government services

Climate change is a threat multiplier, increasing things like the capital, equipment, or operating costs of emergency response provision or road maintenance. The state assessment also identifies an increased need for municipal policy review and climate change adaptation coordination in response to changing conditions and uncertainty associated with climate change. A report from Ohio estimates that municipal spending

on adaptation and recovery, such as A/C installation, electrical costs, cooling centers, road repair, drinking water treatment, storm recovery, power line repairs/replacements, stormwater management, and elevating roads, will need to increase 26% to 82% by midcentury in order to adapt the challenges of the worsening climate crisis.⁶⁷

The Town of Montague can anticipate pressures on its budget and demand for services as a result of climate change impacts such as a reduction in state and municipal revenues, increased cost of responding to climate migration, and increase in demand for municipal government services. Planning for climate resilience now will help reduce the financial impacts to the municipal budget and stress on municipal services farther down the line.

⁶⁷ Power a Clean Future Ohio, Ohio Environmental Council, and Scioto Analysis. *The Bill is Coming Due: Calculating the Financial Cost of Climate Change to Ohio's Local Governments*, 2022: <https://www.poweracleanfuture.org/oh-municipal-costs-of-climate-change>



**Montague
Digital Equity Plan
2024**



Montague Digital Equity Plan

2024

Prepared by:



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INTRODUCTION

Background

While many Montague residents were able to access the internet at home, work, school and throughout the community, the COVID-19 pandemic exposed the digital divide that continues to exist within the city. As school and work shifted to online and work-at-home models, the awareness and consequences of this long-time disparity became evident. Along with heat, electricity and water, affordable and available broadband is now a necessity for all residents. It is vital for students to learn and thrive, businesses to remain nimble and competitive, for seniors to take advantage of telehealth options and increase their ability to age-in-place, and a host of other applications. Along with broadband adoption, many residents need devices, technical support and technology training to fully access internet services, educational resources, employment opportunities, and the social aspects of the digital world. While there has been significant investment over the past decade, Montague is not yet meeting the 21st century expectations of a robust and thriving community as residents continue to face a disparity in reliable access, affordability, and digital literacy.

The Montague Digital Equity Plan will help guide municipal decision-making and investments related to increasing access, adoption and usage of the internet for the populations most impacted by the COVID-19 pandemic. This plan will help prepare the city to submit grant proposals to state and federal programs to support digital equity activities.

Eliminating the Digital Divide through Digital Equity

The National Digital Inclusion Alliance defines the **digital divide** as the gap between individuals and households who have access to connected devices with reliable and affordable high-speed internet, along with the skills to use them, and

Digital Equity Plans should focus on “**covered populations**.” These are defined by the Digital Equity Act Sec. 60302(8), National Telecommunications and Information Agency (NTIA) as groups within a populations who have a higher likelihood to experience digital inequity.

Covered Populations:

- Individuals who live in low-income households
- Aging individuals (60 and above)
- Individuals who are incarcerated
- Veterans
- Individuals with disabilities
- Individuals with a language barrier
- Individuals who are members of a racial or ethnic minority group

those who do not; they define **digital equity** as a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy. Digital equity is necessary for civic and cultural participation, employment, lifelong learning, and access to essential services.

There are three broad components of digital equity: **Affordable Connection** (whether the internet connection is fast, reliable and affordable); **Adequate Device** (whether an individual or household has the necessary and needed digital device, such as a desktop, laptop, or tablet); and **Digital Literacy** (whether residents know how to properly and successfully use technology for their needs, and whether they are receiving quality information and can assess their privacy risks).

Overview of Planning Process

Digital Equity Steering Advisory Group

The Montague Digital Equity Plan is part of the Montague Comprehensive Plan update.¹ The planning process consisted of working closely with the Comprehensive Plan Steering Advisory Group to provide oversight and input into the development of the Plan. The Advisory Group met a total of four times over the course of the planning process.

Community Outreach and Engagement

Robust community outreach and engagement provides insights into both the needs of Montague residents and the available digital equity assets. The consultant pursued multiple avenues of outreach and engagement to better understand the current conditions relating to digital equity. There were two focus groups, including one with older adults and one with digital equity providers, as well a community meeting on December 6, 2023 with ten attendees. In addition, staff met individually with key stakeholders to gather further information,

including the Director of IT for the Gill/Montague School District, the Montague Library Director, and the Senior Digital Equity/Montague Mass in Motion Coordinator, as well as the Town Planner and Town Administrator, to gather insights on specific issues of digital equity, current projects, and ideas for future projects.

Digital Equity Survey

The Massachusetts Broadband Institute (MBI) created a statewide Digital Equity Survey to gather information about needs, barriers, and opportunities from Massachusetts residents. The survey was available online and in print, provided in 9 languages (English, Spanish, Portuguese, Chinese, Haitian Creole, Vietnamese, Russian, Arabic, and Khmer). Copies of the survey were brought to the Senior Center, the three public library locations, and the Brick House (the Community Resource Center). The online survey was promoted on the Town’s website, the Franklin Regional Council of Governments’ website & social media, and sent out via the Franklin County Resource Network. There were 55 responses from Montague residents.



Connection

**Fast
Affordable**



Adequate Device

**Router
Personal Computer /Laptop**



Literacy

**Use of Technology
Ensuring functioning equipment
Evaluating quality of information and privacy risks**

Adapted from the Massachusetts Broadband Institute

¹ <https://montagueplans.org/>

VISION AND GOALS

The Vision and the Goals for the Montague Digital Equity Plan were developed through Steering Advisory Group meetings and feedback during the Community Meeting, focus groups, and interviews. The Vision and Goals articulate the values that drive the work and the means by which the town will pursue digital equity for all residents.

Vision

Our vision is for all residents in Montague to be able to access affordable, high-speed internet, with the appropriate devices. Affordable access, which includes cost, speed, devices, and knowledge, is not a privilege for those who can afford it, but a right for our residents.

The Montague Digital Equity Plan will lay the groundwork for economically sustainable long-term investments for Montague to reach digital equity for all its residents. With this plan, the Town will be well-positioned to compete for broadband funds that may become available through federal, state, and private sector broadband infrastructure and digital equity funding opportunities.

Goals

Goal 1: Framework for Promoting and Supporting Digital Equity

Develop and maintain a framework to continue promoting and supporting digital equity for all residents of Montague. The framework will include identifying a team of digital equity champions, pursuing funding, and continuing and expanding partnerships with digital equity providers.

Goal 2: Affordable Connectivity

Support residents' access to the internet connectivity they need and can afford.

Goal 3: Digital Literacy and Safety

Ensure every resident in Montague has the opportunity to learn the skills needed to effectively and safely use digital technology.

Goal 4: Digital Navigation

Ensure access for people who need more support to navigate digital systems.

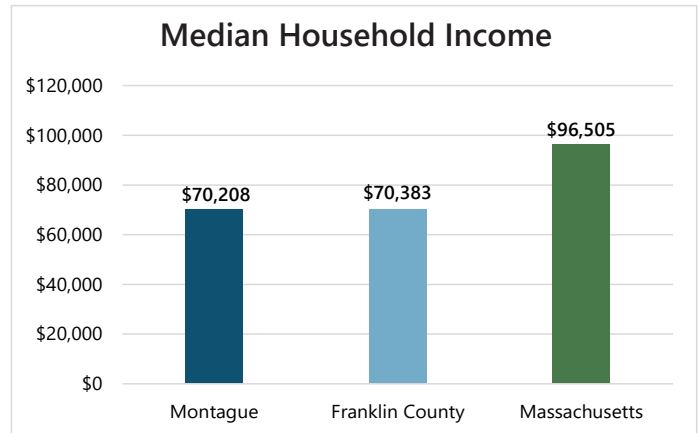
EXISTING CONDITIONS²

Demographics

The Town of Montague is located along the Connecticut River in the upper Pioneer Valley and is the second largest municipality in Franklin County. A rural community, Montague has a population of 8,527 with 3,753 households.³ The Town is comprised of 5 villages (Montague Center, Montague City, Lake Pleasant, Millers Falls, and Turners Falls). The Village of Turners Falls is home to over half the town’s population, and includes the business district.

While in many respects, Montague shares many similarities with Franklin County, the population in Montague differs from the State. For example, the percentage of the population who are People of Color is much lower in both Montague than the State. The population in Montague who speak a language besides English at home is also significantly less than the State. Further, Montague and Franklin County have higher percentages of civilian veterans than the State. Conversely, the percentage of residents in Montague with a disability is higher than the State. While Massachusetts has an aging population, Montague has a greater percentage

of households with residents who are 65 or older, and a smaller percentage of households with children. All municipalities within Franklin County, except Greenfield, are considered Rural by standards set out by the Massachusetts Broadband Institute.⁴ These demographic characteristics should guide the focus of digital equity in Montague.



Source: U.S. Census Bureau, 2022 American Community Survey (ACS) 5-Year Estimates

A common measure of income for an area is the median household income.⁵ The median household income for Montague is \$70,208.

Town/Region	Civilian Veterans	Population with a Disability	Speak a Language Besides English at Home	People of Color	Households with Children	Households with 65+ years of age
Montague	7.6%	17.4%	6.5%	9.0%	25%	34%
Franklin County	7.5%	16.8%	6.54%	11.1%	23%	39%
Massachusetts	4.7%	11.9%	24.54%	31.1%	28%	32%

Source: U.S. Census Bureau, 2022 American Community Survey (ACS) 5-Year Estimates

² See Appendix for full list of sources.

³ A household consists of all the people who occupy a housing unit. A household can include a family, an individual living alone, or unrelated people who share a housing unit.

⁴ This Plan uses the MBI definition of Rural, based on the Massachusetts State Office of Rural Health definition, which considers a municipality to be rural if it meets one of the following criteria: Meets at least one of three federal rural definitions at the sub-county level (Census Bureau, Office of Management and Budget, or Rural-Urban Commuting Area Codes), and/or has a population less than 10,000 people and a population density below 500 people per square mile, and/or has an acute care hospital in the town that meets the state hospital licensure definition of a small rural hospital, or is a certified Critical Access Hospital.

⁵ For this purpose, this includes the income in households that have families, people living alone as well as unrelated people living together. The median is the middle statistic in a data set, which makes the measurement relatively unaffected by extreme numbers (either the very wealthy or very poor) from influencing the overall figure.

This figure is consistent with median household income in Franklin County, while both are significantly lower than the median household income of the State. The poverty rate, while still significant at over 9%, is lower than the State (almost 10%), and much lower than the County (12%). Perhaps more telling of the affordability issues, is the fact that 38% of households have a median income of \$50,000 or less.⁶

In Montague, four Block Groups are considered to have Environmental Justice (EJ) population, based on income where the annual median household income is 65% or less than that of the state. In Montague, EJ locations are in Turners Falls and Montague City. The median household income is significantly lower in these sections, and minority population is significantly higher.

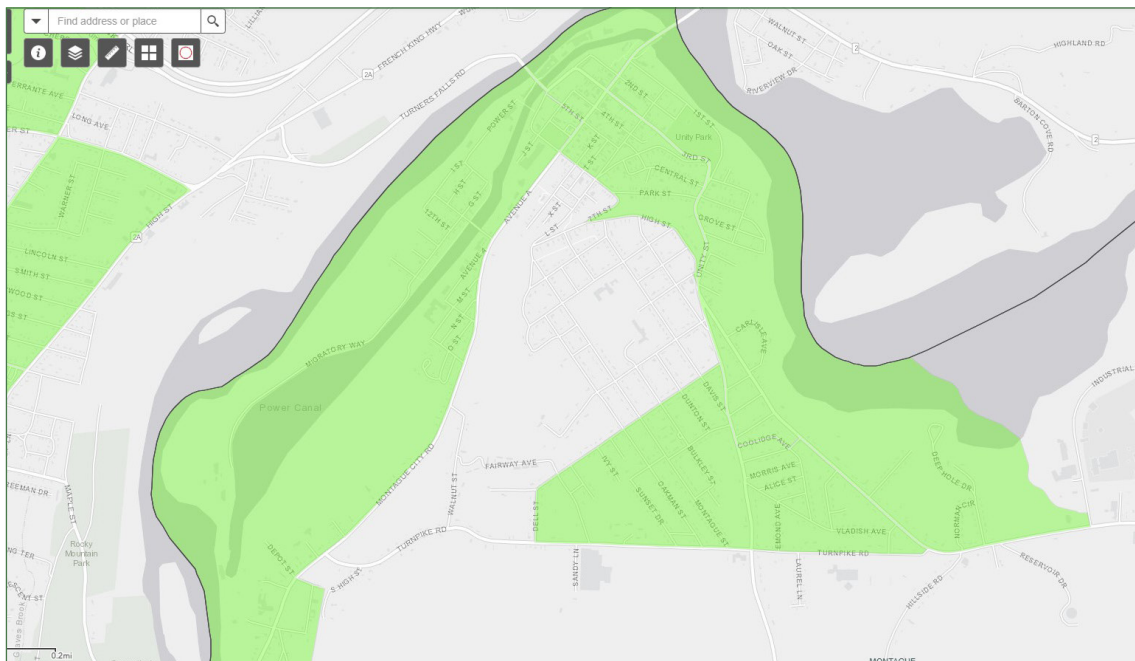
Looking at housing cost burden in Montague suggest the impact of affordability for residents. A household is defined as cost-burdened if they are spending more than 30% of their income on housing.⁷ In Montague, 30% of households are considered cost-burdened, while in Millers

Region	Unemployment Rate	Labor Force Participation Rate	Percent working from Home
Montague	4.30%	67%	12.4%
Franklin County	5.7%	63.1%	13.7%
Massachusetts	5.3%	67.1%	14.6%

Source: U.S. Census Bureau, 2022 American Community Survey (ACS) 5-Year Estimates

Falls and Turners Falls the percentages are significantly higher (36% and 40% respectively).⁸

Inability to connect to high-speed internet, lack of access to digital devices, and lack of digital literacy, negatively impacts the economic vitality of a municipality. The labor force participation rate in Montague is fairly strong, while the percentage of employees working from home is less than both the County and the State. This suggests there could be untapped labor potential with improved broadband service and availability, allowing more employees to work from home.



Montague Environmental Justice Block Groups.

Source: <https://www.mass.gov/info-details/massgis-data-2020-environmental-justice-populations>

⁶ Data source: U.S. Census Bureau, 2022 ACS 5-Year Estimates

⁷ National Low Income Housing Coalition (<https://nlihc.org/>)

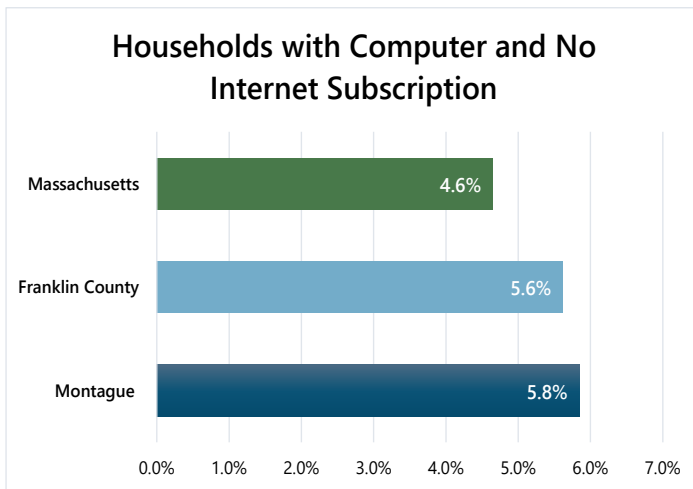
⁸ Data Source: U.S. Census Bureau, 2022 American Community Survey (ACS) 5-Year Estimates

Digital Equity

The main factors in determining digital equity include: **Affordable Connection** (ability to connect to broadband service), **Access to Devices** (i.e. computers or tablets), and **Digital Literacy** (ability to navigate the internet safely and effectively). Each of these three components contributes to overall digital equity. While Montague has taken strides to ensure digital equity, the data suggests there is still work to do.

Reliable and Affordable Connection

Having a reliable broadband internet connection is necessary for many vital activities, from filling out medical forms to interviewing for a new job to talking with grandchildren. While Massachusetts has increased internet and broadband access, a percentage of households do not have an internet subscription. In Montague, the percentage of households with a computer but no internet subscription remains slightly higher than the state.



Source: U.S. Census Bureau, 2022 American Community Survey (ACS) 5-Year Estimates

FCC’s National Broadband Map indicates 100% of Montague households are “served”, meaning they can connect to and utilize internet at speeds of at least 100/20 Mbps (the federal fixed broadband speed benchmark).⁹ However, we can infer that this is not accurate based on community meetings, focus groups, feedback from residents, and speed test data.

	Tests	% of Total Tests
Speeds < 25 x 3 Mbps	21	2%
Speeds < 50 x 10 Mbps	68	7%
Speeds < 100 x 20 Mbps	231	23%
Speeds at least 25 x 3 Mbps	887	90%
Speeds at least 50 x 10 Mbps	719	73%
Speeds at least 100 x 20 Mbps	455	46%
Speeds at least 100 x 100 Mbps	3	0%
Total Tests: 988; Unique ID Tests: 202		

Speed Tests in Montague (collected by Mass Broadband Institute February 2022)

Interviews with residents and town staff suggest that while overall internet connection is generally good, there are issues with speed, and sections of the town where a connection can be slow or prone to drops. According to data available from the FCC, the Town of Montague has 100% broadband coverage throughout the Town⁹, yet based on survey data and information from focus groups, it is unlikely that this is accurate. Although there were only 55 survey responses, approximately 31% noted that their home internet is not good enough to meet their household needs. Feedback from participants in the Community Meeting and Focus Groups, there is not 100% broadband coverage in town.

While actual internet speeds can be difficult to measure due to various factors (time of day, how many users are currently on-line, how close a user is to a router, etc.), speed-test data can provide a baseline understanding of how well a community is reaching advertised broadband speeds. The data for Montague suggests that most residents are not experiencing broadband speeds under the current definition, as only 46% of the speed tests showed at least 100/20 Mbps. One limitation with the data is that it does

⁹ FCC Broadband Data Collection (<https://www.fcc.gov/BroadbandData>)

not differentiate between types of internet or different service providers. This is important information to ascertain as there are issues both with receiving advertised speeds by the coax providers (especially at certain times of day, such as when school is let out or during prime time), and sections of the town where the internet service drops daily, particularly in older apartment complexes, where old wiring and thick walls prevent optimal cable and wireless service (as noted above).

The FCC does allow a Challenge process to ensure accuracy.¹⁰ As part of the upcoming Broadband Equity, Access, and Deployment (BEAD) Program, Massachusetts will be coordinating a challenge process to help better ensure the accuracy of the coverage data.¹¹ This will allow municipalities, like Montague, to better understand where there is limited or poor broadband connection within town.

Comcast/Xfinity (a cable provider) is the only major wireline broadband service provider in Montague. T-Mobile is also a fixed wireless option for residents, although it only covers approximately 17% of the total broadband service locations (BSLs). LeverettNet, a fiber internet service provider also covers broadband service locations (less than 0.5% of all BSLs).

Comcast provides asymmetric internet, meaning download and upload speeds are different. They provide various plans based on price and maximum speed. The most basic plan is currently called Connect and has 150 Mbps download speed and 10 Mbps upload speed.¹² According to Comcast's website, the typical speed is 175/114 Mbps. The fastest plan available in Montague is the Gigabit x10 plan, with 2,000/50 Mbps, with the advertised typical speed as 2087/206 Mbps.

Not only is having a broadband connection required for digital equity, but at least as important is internet affordability. Affordability remains a constant threat to digital equity, particularly in for the covered populations as described above. As a recent study showed, even as broadband connection becomes more available in rural communities, the costs of service often remain insurmountable. Broadband costs can be difficult to comprehensively measure due to various factors, including levels of speed, teaser rates and discounts, and bundling options. However, nationwide, one study found that the median cost of high-speed internet was \$74.99 per month.¹³ Further, around half of households were paying between \$60 and \$90 per month. According to the FCC's most recent 2024 Section 706 Report, the national medium price for 100/20 Mbps is \$101.

Locally, based on 29 responses to the MBI Statewide Digital Equity Survey, the average monthly cost for internet service was \$91 in Montague, with a range of \$9.95-\$275. It is unclear from the survey results whether the higher pricing indicated in the responses (two indicated monthly pricing over \$200 and 11 other responders indicated costs of \$100 or more) was for internet only, or a bundled service. Based on the rate sheet for Montague provided by Comcast, costs range from the basic offering of \$68/month (called Connect) to a premium offering for \$300/month (Gigabit x10).

During conversations with residents, cost was often noted as a barrier to connection. Although a limited sample size (31 responses to this question on the Statewide Survey), 48% of households said it was *Somewhat Hard* or *Very Hard* to pay for internet.

There are few programs available to assist with broadband affordability. One program is

¹⁰ To learn more about the FCC map and how to file challenges, see: <https://help.bdc.fcc.gov/hc/en-us/sections/10467243210651-Consumers-Individuals>

¹¹ The BEAD Challenge Process is scheduled to begin in June 2024. More information on the Massachusetts BEAD Challenge is available on the MBI website (<https://broadband.masstech.org/bead-challenge-process>)

¹² Max speeds are listed in the following review from CNET (<https://www.cnet.com/home/internet/xfinity-internet-review/>)

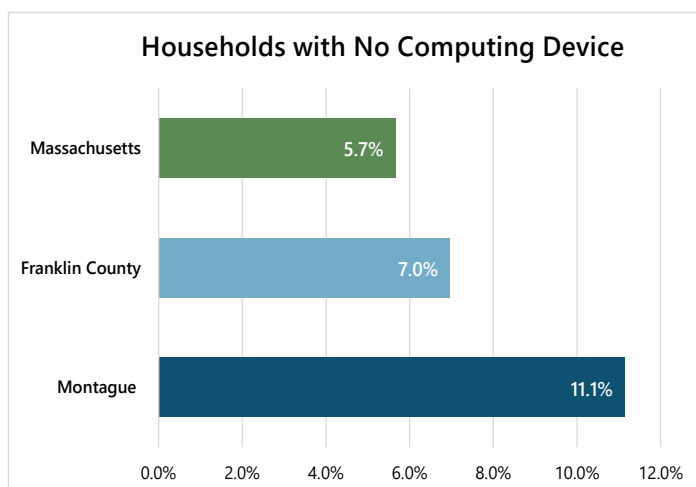
¹³ "As Broadband Deserts Recede, Cost of Service Still a Question" (<https://www.govtech.com/network/as-broadband-deserts-recede-cost-of-service-still-a-question>)

the Affordable Connectivity Program (ACP), a benefit program run by the FCC. The goal of the ACP is to help make broadband affordable for all households. The ACP provides a discount of up to \$30 per month for internet services of eligible households. The FCC collects data on which households are eligible and how many are enrolled in the program. As of January 2024, 314 households were claimed subscribers to ACP, although over 1,200 households were considered eligible.¹⁴

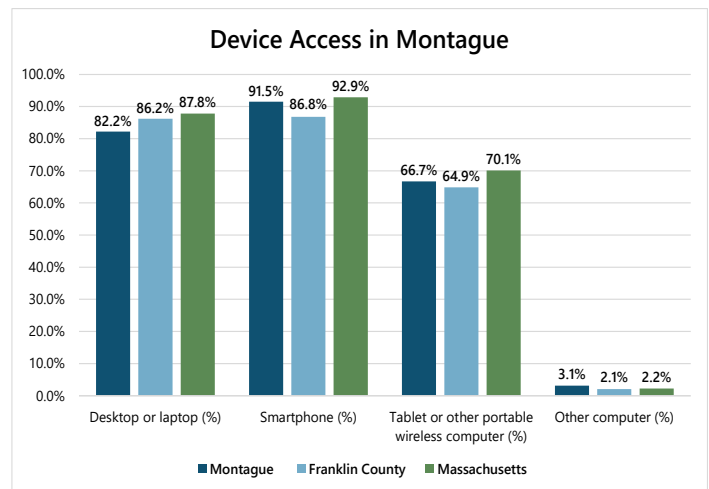
As of early 2024, the federal government had not renewed the funding for the ACP. Although there is currently a bi-partisan bill to renew funding, the Program stopped accepting new applications and enrollments on February 7, 2024, and is expected to completely run out of funds by April 2024. Based on interviews, survey results, and the prospect of over 300 households losing ACP funding, broadband affordability will likely only grow as an issue for Montague households.

Device Access

Almost 90% of households in Montague have a smartphone. However, only 83% of households have a desktop or laptop. Not having a reliable desktop or laptop computer can negatively impact a household, preventing the ability to work remotely, or access government services, and educational material.



Source: U.S. Census Bureau, 2022 American Community Survey (ACS) 5-Year Estimates



Source: U.S. Census Bureau, 2022 American Community Survey (ACS) 5-Year Estimates

Digital Literacy

Digital literacy is more difficult to quantify than either broadband connection or access to devices. While there are different needs for both level of internet speed needed and type of device needed, the range of digital literacy is vast—from knowing how to turn on a computer to learning how to code. Digital literacy needs are often age-dependent as well as language dependent.

When asked in the survey to rank the difficulty of using the internet for various tasks (i.e. job search, healthcare or telehealth services, etc.) most respondents indicated *Easy*. However, 35% said it was *Not Easy* to use the internet for Transportation Information, and 45% said it was *Not Easy* or *Hard* to use the internet to Search of Apply for Benefits for You or Your Family.

In response to COVID-19, classroom technology use has become more extensive in the Gill-Montague School District. According to the IT Director, the pandemic was “an eye-opener” when it came to digital needs and access. The district is currently a one-to-one district, with each student having access to a device (i.e. a laptop). Students in 7-12 grades are able to bring their laptops home. Staff noted that they have run into issues of access, particularly with internet connection and device access at home.

¹⁴ ACP Enrollment & Claims Tracker (<https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/>)

Within the current curriculum, the school district works to integrate technology training into the classroom. The school currently has a web portal where all academic information for students is available for parents, allowing them to be fully engaged in their children's academic life. One of the biggest issues centered on technology lies with both students' and their families' lack of awareness of potential online issues (anything from cyberbullying to fraud and scams), suggesting the need for further and continuous training for both students and their families.

Overall, staff noted four main areas of concern and need for further investment:

- Making sure each household with a student in school has an accessible device at home (so a student would not have to bring the device back and forth from school).
- Expand digital literacy for both students and parents. This might include training on online privacy, awareness of scams, or less nefarious issues, like how to access educational content.
- While broadband connectivity is much better, there are still problem spots, which became more obvious during the pandemic.
- Digital safety and cyber security is as important for parents as it is for students.

Cybersecurity

Cybersecurity is recognized as a continuing and growing issue. Based on the survey, 42% of responders were *Somewhat Concerned* about internet security while 45% were *Very Concerned*. Within the Montague schools, internet security is a very big concern with respect to student users, but also for parents, who need to have the tools and education to practice effective cybersecurity.

Digital Assets¹²

Although there are areas of digital inequity in Montague, the town and surrounding region provide numerous assets that promote and implement digital equity.

Three public libraries make up the Montague Public Library system (Carnegie Public Library in Turners Falls, Millers Falls Library, and Montague Center Library). All the Montague libraries provide computers and laptops for onsite use. The library provides 30-minute one-on-one computer and internet troubleshooting sessions. Previously, the libraries offered digital literacy classes, but found that the people who didn't have a grasp of basic digital literacy needed one-on-one attention (rather than a group or class teaching model) for the help to be effective.

Each location has three mobile hotspots available to checkout, although they are often in high demand.¹³ All three branches have public Wi-Fi available. The Town also provides access to public Wi-Fi within the immediate vicinity of Town Hall and at Unity Park, both of which are located in Turners Falls.

The Brick House Community Resource Center provides programs for both youth and families in Montague. The Brick House offers public Wi-Fi onsite and has four computers and five Chromebooks for people to use onsite to fill out job applications, anything related to Brick House programming, or school work.

DIGITAL ASSETS: SENIOR CENTER

Funded by a grant from the Massachusetts Executive Office of Elder Affairs and the FRCOG Mass in Motion program, the **Gill-Montague Senior Center** developed two programs in the winter of 2024.

The Tech Drop-in program was held once weekly for residents to bring in their laptops, phones or tablets with technical questions (issues that cannot be resolved will be referred to Staples for discounted assistance). The second program is a six-week class for senior residents to learn computer basics. Residents have expressed strong interest in both of these programs.

¹² See Appendix for list of local and regional assets

¹³ A hotspot is a physical location where people can access the Internet, typically using Wi-Fi, to connect their mobile devices, such as smartphones and tablets, to the Internet. A mobile hotspot is a hotspot that is not tied to a physical location, and the user can move it to different locations.

Digital Equity Assets and Services in Montague and Franklin County

Assets and Strengths

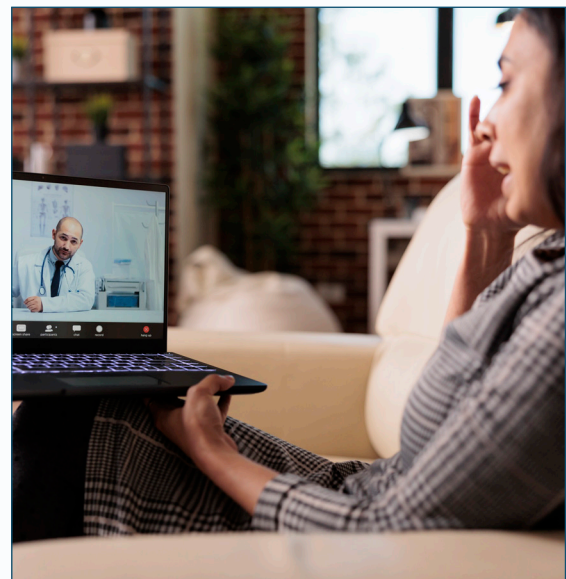
- Local services like hotspots to borrow from the library and free Wi-Fi within all three libraries and a limited number of other public areas
- Local services like the new Tech Drop-In program and computer training class at the Senior Center
- Regional networks and support services like the [Franklin County Resource Network](#), administered by [Community Action Pioneer Valley](#)
- Regional services through the [413Cares.org/Digital Equity](#) (working with the [Alliance for Digital Equity](#))
- Digital literacy programs for seniors, including the [Cyber Senior Program](#) via [Greenfield Community College](#)



- Availability of broadband in most communities in Franklin County through the MBI [Last Mile program](#)
- MBI, as the State Broadband Office, will work with state agencies and department to optimize funding sources and coordinate across the state (for example, working closely with local governments and agencies on implementing digital equity solutions, and deployment of the BEAD Challenge process.
- Coordination through organizations like CWMARS

Need and Challenges

- Staff and programs are heavily grant dependent. Lack staff and resources to provide services or other programs
- One-time funding
- Reliance on volunteers
- Difference in bandwidth quality
- Gaps in cell service due to varied geography
- Reliance on federal and state funding due to the COVID pandemic to purchase devices and provide digital equity services
- Reliance on external funding sources
- Need for staff/capacity
- Need for an asset map so people know where to go for services (ex. [Seattle-King County Digital Equity Asset Map](#))
- Having an individual or organization to coordinate between organizations



RECOMMENDATIONS AND ACTION PLAN

This section provides a plan of action for the Town of Montague to work towards addressing the digital divide in the town, and achieving their digital equity goals.

These strategies were developed by the Advisory Group and town staff, with strong input from the community. The Recommendations and Action Plan includes the following:

- Strategy
- Lead organization
- Supporting partners
- Potential funding sources
- Targeted timeframe for completion of a given strategy, defined as
 - "Short-term" (less than 2 years)
 - "Medium-term" (2–5 years)
 - "Long-term" (more than 5 years).

Goal 1: Framework for Promoting and Supporting Digital Equity

Develop and maintain a framework to continue promoting and supporting digital equity for all Montague residents.

Strategy	Lead Organization	Supporting Partners	Potential Funding Sources	Implementation Target
Support and enhance current digital equity partnerships with the Alliance for Digital Equity, Senior Tech (through the Senior Center), and the FRCOG..	Town of Montague	<ul style="list-style-type: none"> • FRCOG • Alliance for Digital Equity • Clinical & Support Options (CSO) • Gill-Montague School District • Franklin County Tech School 	Municipal Digital Equity Implementation GrantProgram; AARP Community Challenge grants, Massachusetts Councils on Aging (MCOA) Service Incentive Grant, Point 32Health Foundation	Short-Term
Promote and support local and regional organizations providing digital equity.	Town of Montague	<ul style="list-style-type: none"> • Library • Senior Center • LifePath • The Brick House 	Various current and upcoming MBI grant funds, like BEAD Challenge funding; Executive Office of Elder Affairs grants, or funding through the Massachusetts Libraries	Short-Long Term
Work with other Franklin County towns (especially those who have completed Digital Equity Plans) to promote and implement digital equity regionally.	Town of Montague (Town Planner; Town Administrator)	<ul style="list-style-type: none"> • Other Franklin County towns • FRCOG • Alliance for Digital Equity • Other digital equity partners 	District Local Technical Assistance; Efficiency & Regionalization Grant Program	Short-Long Term

Goal 2: Affordable Connectivity

Support residents' access to the internet and device connectivity they need and can afford.

Strategy	Lead Organization	Supporting Partners	Potential Funding Sources	Implementation Target
Promote and support BEAD Challenge Program.	Town of Montague (Town Planner)	<ul style="list-style-type: none"> • FRCOG • MBI • Alliance for Digital Equity 	None	Short-Medium Term
Expand Library Mobile Hotspot Program.	Montague Public Library	Town of Montague	<ul style="list-style-type: none"> • Municipal Digital Equity Implementation Program • Grant funding from Massachusetts Libraries • Town budget for long-term maintenance 	Short Term
Enhance/implement public Wifi, install hotspots or small cells in high-traffic areas (Avenue A, Peskeompskut Park, Unity Park, etc.). Work with businesses, government entities, and ISPs to determine best approach, considering pricing, internet speeds, and location.	Town of Montague (Town Planner)	Alliance for Digital Equity	<ul style="list-style-type: none"> • Community Space Public WiFi Program • Municipal Digital Equity Implementation Program 	Short-Medium Term
Negotiate lower internet subscription rates with local ISPs or investigate the possibility of direct subsidies.	Town of Montague (Cable Advisory Committee)	Town of Montague (Town Administrator)	Town budget	Long Term

Strategy	Lead Organization	Supporting Partners	Potential Funding Sources	Implementation Target
<p>Create and disseminate outreach materials for internet subsidy programs and low-cost internet plans. Materials should be available in English, Spanish, and other languages as necessary.</p>	<p>Town of Montague (Town Planner)</p>	<p>FRCOG</p>	<ul style="list-style-type: none"> • MBI Digital Equity Implementation Program • Town budget • District Local Technical Assistance 	<p>Short Term</p>
<p>Investigate public housing eligibility for the Apartment Wi-Fi program with guidance from MAPC and/or MBI. Montague Housing Authority is eligible to apply.</p>	<p>Montague Housing Authority</p>	<p>Town of Montague</p>	<p>Apartment Wi-Fi and Residential Retrofit Programs</p>	<p>Short-Medium Term</p>
<p>Explore and promote options for affordable, quality data plans for mobile phones and more robust and reliable cell service.</p>	<p>Town of Montague (Cable Advisory Committee)</p>	<p>Alliance for Digital Equity</p>	<p>Town budget</p>	<p>Medium - Term</p>

Goal 3: Digital Literacy

Ensure every resident in Montague has the opportunity to learn the skills needed to effectively use digital technology, including safety.

Strategy	Lead Organization	Supporting Partners	Potential Funding Sources	Implementation Target
Support and promote current digital literacy programs, including the Gill-Montague Senior Center Tech Time program.	Town of Montague (Town Planner)	<ul style="list-style-type: none"> Library Senior Center Brick House GMRSD FCTS 	MBI Digital Equity Implementation Program	Short-Term
Digital device (i.e. laptops or tablets) distribution, including extending current distribution program with the Senior Center.	<ul style="list-style-type: none"> Alliance for Digital Equity Montague Senior Center 	<ul style="list-style-type: none"> Town of Montague Public Libraries Gill-Montague Public Schools 	<ul style="list-style-type: none"> Municipal Digital Equity Implementation Program Executive Office of Elder Affairs Grant Funding STEM grants through Massachusetts Department of Elementary and Secondary Education 	Short-Term
Develop digital literacy classes/ workshop program.	Alliance for Digital Equity	<ul style="list-style-type: none"> Town of Montague CSO GCC The Brick House GMRSD Franklin County Technical School 	<ul style="list-style-type: none"> STEM grants through Massachusetts Department of Elementary and Secondary Education Potential EOE grant funding for senior center or councils on aging 	Short-Term
Survey the community to understand the top digital literacy needs and interests (basic computer skills, cybersecurity, public benefic applications, telemedicine, etc.).	<ul style="list-style-type: none"> Town of Montague (Town Planner) FRCOG 	Alliance for Digital Equity	<ul style="list-style-type: none"> District Local Technical Assistance Town funding 	Short-Term

Strategy	Lead Organization	Supporting Partners	Potential Funding Sources	Implementation Target
<p>Organize workshops and training programs (around topics based on the results of the survey) at Public Library, Senior Center, etc.</p>	<p>Town of Montague (Public Library, Senior Center, etc.)</p>	<ul style="list-style-type: none"> • FRCOG • Alliance for Digital Equity • Franklin County Technical School 	<ul style="list-style-type: none"> • MBI Implementation Grant • Other MBI grant funding 	<p>Short-Medium Term</p>
<p>Cybersecurity/digital safety support.</p>	<p>Town of Montague (Town Planner)</p>	<p>Gill-Montague Regional School district</p>	<ul style="list-style-type: none"> • Municipal Local Cyber Security Grant Program • STEM grants through Massachusetts Department of Elementary and Secondary Education 	<p>Short-Term</p>
<p>Include cyber security/safety training for all students in families in the Gill-Montague School District. This could be a similar to “Navigating the Cyber World,” an initiative of the Middlesex District Attorney Office featuring experts from the Cyber Protection Unit, addressing internet safety, online privacy, sexting and cyber bullying for middle school students.</p>	<p>Gill-Montague School District</p>	<p>Potentially Northwestern District Attorney</p>	<ul style="list-style-type: none"> • Municipal Local Cyber Security Grant Program • STEM grants through Massachusetts Department of Elementary and Secondary Education 	<p>Short-Medium Term</p>

Goal 4: Digital Navigation

Ensure access for people who need more support to navigate digital systems.

Strategy	Lead Organization	Supporting Partners	Potential Funding Sources	Implementation Target
Develop and Implement Digital Navigator Program.	<ul style="list-style-type: none"> Alliance for Digital Equity CSO 	<ul style="list-style-type: none"> Town of Montague Senior Center Library LifePath Franklin County Technical School 	<ul style="list-style-type: none"> MBI Digital Equity Implementation Program Efficiency & Regionalization Grant (if regional) 	Short-Term
Secure private spaces for assisted internet access	Senior Center; Library	Town of Montague	Municipal Digital Equity Implementation Program	Short-Medium Term
Evaluate Town website and communications materials to ensure that they are universally accessible and usable on all Internet-enabled devices including cell phones and tablets. Refer to the U.S. Department of Justice Civil Rights Division’s guidance on web accessibility and compliance with the Americans with Disabilities Act (ADA)	Town of Montague (Town Planner)	FRCOG	<ul style="list-style-type: none"> Municipal Digital Equity Implementation Program IT Grant Program 	Short-Term
Collaborate with MCTV and other local media channels to spread awareness of community resources, upcoming events, and training opportunities.	Town of Montague	MCTV	Various grant funding	Short-Long Term

Strategy	Lead Organization	Supporting Partners	Potential Funding Sources	Implementation Target
<p>Assess businesses' needs in terms of digital access and literacy. Provide support and resources when possible.</p>	<p>Town of Montague (Town Planner)</p>	<p>Franklin County Chamber of Commerce and pending downtown Turners Falls Business Coordinator</p>	<ul style="list-style-type: none"> • District Local Technical Assistance • Community Compact IT Grant Program • Local businesses • Franklin County Chamber of Commerce 	<p>Short-Medium Term</p>
<p>Creation of a Municipal or Regional Digital Asset Map</p>	<p>Town of Montague or FRCOG</p>	<ul style="list-style-type: none"> • FRCOG • Alliance for Digital Equity 	<ul style="list-style-type: none"> • Municipal Digital Equity Implementation Grant • District Local Technical Assistance • Efficiency & Regionalization Grant Program 	<p>Short-Term</p>

APPENDIX A: Acknowledgments

The Montague Digital Equity Plan was made possible with support from the Massachusetts Broadband Institute (MBI) and Massachusetts Technology Collaborative (MassTech). This project was funded by MBI at the MassTech Collaborative through the Municipal Digital Equity Planning Program. Funding was provided by Massachusetts American Rescue Plan Act (ARPA) State Fiscal Recovery Funds. The Digital Equity Plan will be incorporated into the Montague Comprehensive Plan.

The contributions of the Comprehensive Plan Steering Advisory Group and project stakeholders join the comments of residents and stakeholders who participated in meetings and surveys throughout the Digital Equity planning process.

Comprehensive Plan Steering Advisory Group

The Advisory Group guided and provided oversight of the process. The group is made up of representatives from various relevant boards, commissions, and interested parties; they are also the Advisory Group for the Montague Comprehensive Plan.

Jen Audley, Finance Committee
Jason Burbank, Capital Improvement Committee
Justin Fermann, Conservation Commission
Elizabeth Irving, Planning Board
Ella Ingraham, Economic Development and Industrial Corporation
David Jensen, Lake Pleasant Village Association liason
Caitlin Kelley, Montague Public Library
Mary King, Gill-Montague Regional School District
Betsy Laczynski
Annie Levine, Great Falls Apple Corps
Paul Lipke, resident
Chelsea Little, Water Pollution Control Facility
Josh Lively, Zoning Board of Appeals/Business Owner
Chris Menegoni, Finance Committee, Business Owner
James Mussoni, Economic Development and Industrial Corporation
Janel Nockelby, Historic Commission
Leigh Rae, resident
Margaux Reckard, Conservation Commission
Ian Tapscott, resident
Francia Wisniewski, Finance Committee
Lilith Wolinsky, Montague City Village Association

Digital Equity Stakeholders

Lynne Feldman, Director of Community Services, LifePath
Caitlin Kelley, Library Director, Montague Public Library
Tina Mahaney, Director of IT and Educational Data Services, Gill-Montague School District
Roberta Potter, Director. Gill-Montague Council on Aging/Senior Center

APPENDIX B: Digital Equity Assets

Organization Name	Municipal, Regional, or Statewide	Website
Alliance for Digital Equity	Regional	https://sites.google.com/view/alliancefordigitalequity/home
Big Brothers Big Sisters Franklin county	Regional	https://bbbs-fc.org/
Black Economic Alliance Foundation	National	https://foundation.blackeconomicalliance.org/
Center for New Americans	Regional	https://cnam.org/
GCET	Municipal	https://www.gcet.net/
City of Greenfield	Municipal	https://greenfield-ma.gov/
Clinical Support Options	Regional	https://www.csoinc.org/
Community Action Pioneer Valley	Regional	https://www.communityaction.us/
Community Compact Cabinet	State	https://www.mass.gov/orgs/community-compact-cabinet
Community Foundation of Western Massachusetts	Regional	https://communityfoundation.org/
CSforMA, Inc.	State	https://www.csforma.org/
Executive Office of Elder Affairs (EOEA)	State	https://www.mass.gov/orgs/executive-office-of-elder-affairs
Community Health Center of Franklin county	Regional	https://www.chcfc.org/
Franklin County Sheriff's Office	Regional	https://www.fcso-ma.us/
Franklin County Technical School	Regional	https://www.fts.us/
Franklin Regional Council of Governments	Regional	https://frcog.org/
Greenfield Council on Aging	Municipal	https://greenfield-ma.gov/departments/council_on_aging_senior_center/index.php
Greenfield Community College	Regional	https://www.gcc.mass.edu/
Greenfield Public Library	Municipal	https://greenfieldpubliclibrary.org/
LifePath	Regional	https://lifepathma.org/
MA Healthy Aging Collaborative	State	https://mahealthyagingcollaborative.org/
MA Association for Community Action	State	https://www.masscap.org/
MA Association for the Blind and Visually Impaired	State	https://www.mabvi.org/
MA Board of Library Commissioners	State	https://mblc.state.ma.us/
MA Business Alliance for Education	State	https://www.mbae.org/
MA Department of Elementary & Secondary Education	State	https://www.doe.mass.edu/
MA Education and Career Opportunities, Inc. (MassEdCO)	State	https://www.massedco.org/
MA League of Community Health Centers (CHC)	State	https://www.massleague.org/
Mass Computer Using Educators (MassCUE)	State	https://www.masscue.org/
New England Cable & Telecommunications Association	State	https://connectingne.com/
Salasin Project	Regional	https://salasinproject.org/
The Literacy Project	Regional	https://www.literacyproject.org/
Three County Continuum of Care (a project of Community Action Pioneer Valley via HUD)	Regional	https://www.threecountycoc.communityaction.us/
T-Mobile	State	https://www.t-mobile.com/
United Way of the Franklin and Hampshire Region	Regional	https://uw-fh.org/
Verizon	National	https://www.verizon.com/
Xfinity/Comcast	National	https://www.xfinity.com/overview

APPENDIX C: Funding Resources

Program	Type of Assistance
<p>State Digital Equity Capacity Grant Program</p> <p>https://www.internetforall.gov/program/digital-equity-act-programs#</p>	<p>A \$1.44 billion formula grant program for states, territories, and tribal governments. Funds an annual grant program for five years in support of digital equity projects and the implementation of digital equity plans:</p> <ol style="list-style-type: none"> 1. Develop, implement, and oversee DE plans + make awards to other entities help develop DE plans. 2. Improve online accessibility & inclusivity of public resources. 3. Implement DE plans and digital inclusion activities. 4. Provide digital literacy and skills education to covered populations. 5. Facilitate adoption of high-speed internet by covered populations. 6. Fund annual grant programs for five years to implement digital equity projects.
<p>State Digital Equity Competitive Grant Program</p> <p>https://www.internetforall.gov/program/digital-equity-act-programs#</p>	<p>A \$1.25 billion competitive grant program to fund annual grant programs for five years to implement digital equity projects. Several types of entities can apply for these funds.</p>
<p>Municipal Digital Equity Implementation Program</p> <p>https://broadband.masstech.org/digital-equity-implementation</p>	<p>Funding to mobilize, start-up, and implement digital equity activities locally to access a one-time grant up to \$100,000 per municipality to execute a project (or projects) defined in their local digital equity plan or related document that MBI deems of sufficient standard. Project implementation will increase access and usage of the internet for the populations most impacted by the COVID-19 pandemic.</p>
<p>Broadband Equity, Access, and Deployment (BEAD) Program</p> <p>https://broadbandusa.ntia.doc.gov/funding-programs/broadband-equity-access-and-deployment-bead-program</p>	<p>Expand high-speed internet access by funding planning, infrastructure deployment and adoption programs. This program builds high-speed Internet infrastructure where needed. It also supports efforts to teach the skills and provide the equipment needed so everyone can use the Internet.</p>
<p>Community Compact Municipal Fiber Program</p> <p>https://www.mass.gov/municipal-fiber-grant-program</p>	<ol style="list-style-type: none"> 1. Implementation of fiber optic networks that connect remote municipal assets to improve municipal operations and/or improve disaster recovery and resiliency. 2. One time capital needs- fiber optic cabling, hardware, software and implementation services. 3. (Centralized management of IT infrastructure, enterprise approach to network monitoring, cybersecurity, records management, and backup and recovery.)
<p>GAP Networks Grant Program</p> <p>https://broadband.masstech.org/gap-networks-grant-program</p>	<p>The \$145 million Gap Networks Grant Program will fund the deployment of broadband infrastructure in areas that currently lack broadband service. The Program aims to expand access and connectivity in unserved and underserved locations throughout the Commonwealth to bridge the digital divide.</p>

Program	Type of Assistance
E-rate: Universal Service Program for Schools and Libraries https://www.fcc.gov/general/e-rate-schools-libraries-usf-program	The schools and libraries universal service support program, commonly known as the E-rate program, helps schools and libraries to obtain affordable broadband.
Lifeline program for Low-income consumers https://www.fcc.gov/lifeline-consumers	<ol style="list-style-type: none"> 1. Discount on phone or broadband service for qualifying low-income consumers. 2. Promote access to Wi-Fi enabled devices and hotspot functionality to close the homework gap Note: A family that qualifies for Lifeline also qualifies to receive EBB
Affordable Connectivity Program (ACP) Outreach Grant https://www.fcc.gov/acp-grants	The ACP Outreach Grant Program provides eligible governmental and non-governmental entities with the funding and resources needed to increase awareness of and participation in the ACP among those eligible households most in need of affordable connectivity.
Community Compact IT Grant Program https://www.mass.gov/community-compact-it-grant-program	<ol style="list-style-type: none"> 1. This is a competitive grant program focused on driving innovation and transformation at the local level via investments in technology. 2. Grant to support implementation of innovative and transformative IT projects by funding one-time capital needs- tech infrastructure and/or purchases of equipment/ software. 3. One-time planning, design, installation, implementation, and initial training
Efficiency and Regionalization (E&R) Grant Program https://www.mass.gov/efficiency-regionalization-grant-program	Provide financial support for governmental entities (planning and implementation activities are eligible).
Telecommunications Industry Registered Apprenticeship Program (TIRAP) https://www.tirap.org/	A competency-based apprenticeship aimed at growing the productivity of the workforce as directly as possible. <ol style="list-style-type: none"> 1. Career development of telecommunications workforce through cash and in-kind support. 2. Funding to design curricula and deliver training to develop qualified applicants for placement in middle- to high-skilled jobs 3. To target veterans, transitioning service members, military spouses, women, people of color, unemployed, underemployed, incumbent workers, and underrepresented populations.
Economic Adjustment Assistance Grant https://www.eda.gov/economic-adjustment-assistance	EAA provides a wide range of technical, planning, and public works and infrastructure assistance in regions experiencing adverse economic changes that may occur suddenly or over time.
Local Planning and Technical Assistance Programs https://www.eda.gov/sites/default/files/filebase/files/programs/eda-programs/FY21-23-Planning-and-LTA-NOFO_FINAL.pdf	Planning and local technical assistance investments to support economic development, foster job creation, and attract private investment in economically distressed areas.

Program	Type of Assistance
<p>Community Development Block Grants (CDBG)</p> <p>https://www.mass.gov/info-details/community-development-block-grant-cdbg#how-to-apply-</p>	<ol style="list-style-type: none"> 1. Conduct broadband needs assessment. 2. Install wiring, fiber optic cables, and permanently affixed equipment. 3. Provide digital literacy classes.
<p>Workforce Innovation and Opportunity Act (WIOA)</p> <p>https://www.dol.gov/agencies/eta/grants/apply</p>	<p>Digital literacy- use of technology to improve teaching, learning, professional development, skill development and abilities, career guidance, supportive services, job search workshop, referral to jobs or training, workers' rights and complaint system information.</p>
<p>English Language Acquisition State Grants</p> <p>https://www2.ed.gov/about/offices/list/oese/oss/technicalassistance/elstar-user-guide-state-support-network.pdf</p>	<p>Enhance instruction for English learners with digital resources</p>
<p>CommCorps YouthWorks Funding</p> <p>https://commcorp.org/program/youthworks/</p>	<p>YouthWorks is a state-funded youth employment program that helps teens and young adults develop the skills and experience needed to find and keep jobs.</p>
<p>Early Intervention Program for Infants and Toddlers with Disabilities</p> <p>https://www2.ed.gov/fund/data/award/idea/index.html</p>	<p>Assist with implementation of statewide systems of coordinated, comprehensive, multidisciplinary, interagency programs and extending early intervention programs.</p>
<p>Determination of Need (DoN)</p> <p>https://www.mass.gov/determination-of-need-don</p>	<p>The goal of DoN and the framework for analysis by the Department of Public Health is to promote population health and increased public health value.</p>
<p>USDA Community Connect Program</p> <p>https://www.rd.usda.gov/community-connect</p>	<p>The purpose of the Community Connect Program is to provide financial assistance in the form of grants to eligible applicants that will provide, on a "community-oriented connectivity" basis, broadband service that fosters economic growth and delivers enhanced educational, health care, and public safety benefits.</p> <p>Rural communities- extend access where broadband service is least likely commercially available</p>
<p>USDA Telecommunications Infrastructure Loans & Loan Guarantees)</p> <p>https://www.rd.usda.gov/programs-services/telecommunications-programs/telecommunications-infrastructure-loans-loan-guarantees</p>	<p>This program provides financing for the construction, maintenance, improvement and expansion of telephone service and broadband in rural areas.</p>
<p>High Cost Program (including Connect America Fund, Rural Digital Opportunity Fund and 5G Fund)</p> <p>https://www.usac.org/high-cost/</p>	<p>The federal universal service high-cost program is designed to ensure that consumers in rural, insular, and high-cost areas have access to modern communications networks capable of providing voice and broadband service, both fixed and mobile, at rates that are reasonably comparable to those in urban areas.</p>

Program	Type of Assistance
<p>USDA Distance Learning & Telemedicine Grants</p> <p>https://www.rd.usda.gov/programs-services/telecommunications-programs/distance-learning-telemedicine-grants</p>	<p>DLT program helps fund distance learning and telemedicine services in rural areas to increase access to education, training, and health care resources that are otherwise limited or unavailable.</p>
<p>YouthWorks Funding</p> <p>https://commcorp.org/program/youthworks/</p>	<p>Youth employment program that supports skills training for youth up to age 25 from households earning less than 200% of the federal poverty rate.</p>
<p>Massachusetts Community Health and Healthy Aging Funds - Determination of Need (DoN)</p> <p>https://mahealthfunds.org/</p>	<p>This program aims to enhance the capacity of multi-sector collaboratives to authentically engage residents and work together to remove barriers to health. Funding can establish training opportunities for local consumers regarding tracking medical records</p>
<p>Residential Internet Retrofit Program</p> <p>https://broadband.masstech.org/retrofit</p>	<p>Initiative to equip public and affordable-housing units across the state with high-speed internet for current and future residents by upgrading in-building telecommunications wiring, equipment, and infrastructure within older housing developments.</p>
<p>Lead for America - America Connection Corps</p> <p>https://www.americanconnectioncorps.org/</p>	<p>The nation's premier AmeriCorps service experience, advancing economic prosperity in rural and emerging communities. 15 American Connection Core Members are being recruited and placed in full-time, year-long fellowships to serve as Massachusetts-based, "boots on the ground" support at local host site organizations to help with expanding broadband awareness and digital adoption.</p>
<p>Connect Humanity</p> <p>https://connecthumanity.fund/</p>	<p>Digital equity connectivity plan</p> <ol style="list-style-type: none"> 1. Community engagement, survey work and mapping, technical design, and financial modeling. 2. Support community connectivity providers to get "investment ready". 3. Grants for enabling solutions- digital skills, relevant content, workforce development. <p>Promote a diverse broadband sector</p> <ol style="list-style-type: none"> 1. Research on financing and operating models for community connectivity providers 2. Fund training to promote skills to build and maintain community broadband
<p>Centri-Tech Foundation Digital Integrators Pilot Program</p> <p>https://www.digitalintegrators.org/</p>	<p>CBOs can use the funding to apply the Community Development Framework for Digital Advancement to local digital equity and inclusion efforts. Organizations can use the tool for program design, implementation, and evaluation.</p>

Program	Type of Assistance
<p>Bank foundations</p> <p>https://www.digitalequity.us/resources/cra-funding-guide-for-digital-equity/</p>	<p>Bank foundations can provide funding for the following digital equity-related programs and services: broadband, hardware/devices, tech support, librarian assistance, digital skills.</p>
<p>Patrick J. McGovern Foundation</p> <p>https://www.mcgovern.org/grants/?exposed_mf_search&exposed_taxonomy_focusarea%5B0%5D=22&exposed_grant_approval_date_sort=date_desc&FZEWGNafiqRBUoy=0dfbn.rMQwW&iwNIhrR=VSj-dZGI9sn5FUH&mb_nJCugrtsAIHc=%5BG3illaOL0vuBdj</p>	<p>This foundation has awarded new grants for innovative data- and AI-driven approaches that support digital transformation of health systems and healthcare across the globe.</p>
<p>Project UP by Comcast</p> <p>https://corporate.comcast.com/impact/project-up</p>	<p>Connectivity & adoption: Connecting people to the internet, technology, and resources needed to succeed in a digital world.</p> <p>Skills & creativity: Creating opportunities and new career pathways in media and technology and opening doors for new voices to be heard and stories to be shared.</p> <p>Entrepreneurism: Equipping entrepreneurs and small business owners with the skills, digital resources, and opportunities they need to thrive.</p>
<p>Tech Goes Home</p> <p>https://www.techgoeshome.org/</p>	<p>Programs for adults, families- Partner with social service org to deliver courses focused on fundamental digital skills. Offered in libraries, community centers, public housing, and other nonprofit org.</p> <p>TGH Connect- partner with cities, libraries, CBOs, schools, health care centers, and faith-based org to disseminate critical info and help community access online resources.</p>

APPENDIX D: MBI Digital Survey Responses

Q5: Do you have internet service in your home?	
Yes	95%
No	5%

Q9: How well does your home internet service work?	
Not good enough	95%
Good enough	5%
I dont know	2%

Q10: Is your home internet service bundled with other services such as telephone?	
Yes	54%
No	46%

Q12: How hard is it for you to pay your internet bill?	
Not at all hard	34%
Not too hard	22%
Somewhat hard	38%
Very Hard	6%

Q13: Have you heard about the Affordable Connectivity Program (ACP)?	
Yes	53%
No	43%
I dont know	4%

Q14: If you do not have internet service in your home, what is the reason?	
Can't afford it	2
Safety	1
Don't understand it	1

Q15: If you do not have internet at home, where do you go to use the internet? ?	
Friend or family	2
Don't access it	1

Q16: Does everyone in your household have access to the computer devices they need?	
Yes	42
No	0
<i>Only 42 responses out of 55</i>	

Q17: Which of the following devices do you use most of the time to connect to the internet?	
Cellphone	76%
Laptop	79%
Desktop	40%
Tablet	38%
Other	2%

Q18: How much would you be able to pay for a laptop or desktop computer?	
More than \$1000	18%
\$500-\$1000	28%
\$250-\$500	18%
\$150-\$250	15%
\$100-\$150	10%
\$50-\$100	10%
\$0-\$50	3%

Q19: Are you able to regularly use the internet for online activities?	
Yes	96%
No	4%

How Hard or Easy is it to Use the Internet for:	Easy	Not Easy	Hard
Searching and applying for a job	76%	21%	3%
Health care or telehealth services	74%	24%	2%
Participating in your local community	71%	21%	7%
General internet searching	92%	6%	2%
Transportation information	68%	27%	5%
Searching and/or applying for benefits or resources for you or your family	62%	31%	8%

Q23: What kind of digital skills support would you be most interested in?	
Do it yourself training module	41%
In person support from friend or instructor	31%
In person classes	15%
Online classes	13%

Q24: How concerned are you about internet safety?	
Not at all concerned	4%
Not very concerned	10%
Somewhat concerned	42%
Very concerned	44%

Q27: How accessible are online government services like benefits portals, RMV services etc.?	
Very Accessible	44%
Somewhat Accessible	42%
Not Very Accessible	6%
Not at All Accessible	8%

Q28: How accessible are online government services like benefits portals, RMV services etc.?	
Very Well	44%
Somewhat Well	42%
Not too Well	6%
Not at All Well	8%

Appendix C: Goals of Past Montague Plans

The following is a comprehensive list of Town of Montague-commissioned plans and studies dated between 1999 and spring 2024.¹ In cases where the plans presented a set of goals, those goals are included. Digital copies of these plans and studies can be found at on the Town of Montague website: <https://montague-ma.gov/> or by contacting the Town.

Regional Plans

➤ [2013 Sustainable Franklin County](#)

Author: *Franklin Regional Council of Governments*

- Housing
 - Improve the energy efficiency of housing
 - Improve the quality of existing housing
 - Locate housing near employment and town centers
- Transportation
 - Increase availability and use of public transit
 - Restore passenger rail service
 - Increase bicycle/pedestrian facilities and promote walking and bicycling
- Economic Development
 - Redevelop vacant or underutilized industrial and commercial buildings or sites
 - Support sustainable economic development in the region
 - Promote and invest in specific business sectors including manufacturing, agriculture and clean energy
- Energy
 - Promote energy conservation and efficiency
 - Increase the quantity of locally-produced clean energy
 - Reduce the use of fossil fuels
- Natural Resources
 - Protect farmland and local food supplies
 - Protect forests
 - Protect drinking water supplies and reduce water usage
- Cultural Resources
 - Foster the growth of arts and culture
 - Support our agricultural heritage
 - Preserve rural and scenic landscapes
 - Revitalize and preserve historic town centers
- Land Use
 - Prioritize redevelopment of vacant or underutilized structures and properties
 - Locate new businesses in town centers or near transit services

¹ For which there are digital copies available.

- Coordinate new development with existing transportation, water and sewer infrastructure
- Infrastructure
 - Protect and expand “green infrastructure” to reduce flooding, purify air and water and decrease energy use for cooling
 - Improve broadband internet access
 - Maintain or upgrade sewer and water infrastructure

➤ [2020 – 2025 Comprehensive Economic Development Strategy Five-Year Plan for Franklin County](#)

Author: *Franklin Regional Council of Governments*

- Implement efforts to sustainably grow the population of Franklin County and to make Franklin County a more welcoming and inclusive place
- Create conditions for entrepreneurs, business owners and their employees to be resilient and succeed
- Cultivate important or emerging clusters that will enhance the quality of life and work opportunities for current and new residents
- Target investment in infrastructure to encourage the creation of sustainable, resilient and vibrant communities, and to reduce barriers to access employment and the movement of goods and services
- Encourage pathways to economic security for individuals, and equitable wealth creation and financial security in the region
- Enact measures and planning efforts to ensure regional resilience to recover quickly from, withstand and avoid economic shocks

➤ [2024 Franklin County Regional Transportation Plan](#)

Author: *Franklin Regional Council of Governments*

- Preserve and improve the existing transportation system, while also maintaining the region’s scenic and natural resources
- Provide residents with transportation alternatives to the singly-occupied vehicle
- Strengthen the local economy and industries
- Improve the region’s livability and resiliency

➤ [2024 Franklin County Age-Friendly Regional Action Plan](#)

Author: *Franklin Regional Council of Governments*

- Improve access in town parks and public facilities for all residents equitably
- Increase knowledge of existing transportation options and decrease barriers to use
- Create accessible older adult housing options with input from older adults throughout the region and increase awareness of current options for all residents

- Reduce isolation for older adults
- Increase awareness and community connections throughout the region by increasing partnerships among existing programs that promote age-friendly businesses, municipalities, and organizations

Town-wide Plans

➤ [1999 Montague Comprehensive Plan](#)

Montague Planning Board

- Preserve and enhance the historic, architectural, and cultural character of our town
- Ensure the quality of our residential neighborhoods and our residential growth
- Improve our climate for quality commerce and industry, including ag/forestry business
- Improve our active and passive recreational opportunities
- Support a safe and harmonious community for all our residents
- Guide appropriate use of regionally significant resources of our town
- Guide appropriate use of our open space and sensitive natural resources
- Support quality educational opportunities for all our residents

➤ **2004 Comprehensive Development Plan**

Montague Open Space and Recreation Planning Committee, Montague Housing Plan Committee, Montague Economic Development Task Force, Montague Planning & Conservation Dept., Franklin Regional Council of Governments

- Maintain and enhance the five villages as centers of population and commercial activity
- Encourage industrial use and development in designated areas
- Maintain and protect connected corridors of forest
- Protect prime farmland along the CT and Sawmill Rivers and support the vitality and growth of agricultural businesses
- Allow limited commercial development on high traffic roads consistent with rural character and scenic values
- Allow limited rural residential development in areas not identified as critical to commercial agriculture, water supply protection or forested habitat

➤ [2008 Municipal Energy Reduction Plan](#)

Montague Energy Committee and Montague Planning & Conservation Department

➤ [2010 Community Needs Survey](#)

Montague Planning & Conservation Department

- Highest priorities in community needs:
 1. Encourage business development
 2. Improve roads and sidewalks
 3. Downtown revitalization in Turners and Millers Falls
 4. Energy Improvements to public buildings
 5. Social service programs
 6. Improve sewer, water, and drainage infrastructure
 7. Airport improvements
- Highest priorities in community projects:
 1. Demolish abandoned buildings
 2. Increase commercial development
 3. Reuse of Montague Center School
 4. Industrial Park Development
 5. New public swimming area
 6. New/renovate main library
 7. Stabilize former Railroad Salvage building
 8. Redevelopment of Strathmore Mill
 9. Landfill remediation and development
 10. Renovate Elementary Schools

➤ **2014 Economic Development and Industrial Corporation Economic Development Plan Revision**, *Montague Economic Development and Industrial Corporation*

➤ **2015 Wildfire Protection Plan**, *Montague Center Fire District, Montague Planning & Conservation Department, Turners Falls Fire District, DCR, MassWildlife*

➤ **2015 Housing Plan**, *Montague Housing Plan Update Advisory Committee, Montague Planning & Conservation Department, and Franklin Regional Council of Governments*

- Preserve affordability of existing units
- Encourage artist housing
- Encourage senior housing
- Encourage greater levels of homeownership in Turners Falls
- Amend zoning to encourage a greater variety of housing types, allowing greater density in additional areas, encourage open space protection alongside housing development, and make it easier to create accessory apartments
- Support modifications to existing homes to allow for aging in place
- Improve the quality of rental housing and promote the rehabilitation of substandard housing
- Continue to participate in the Abandoned Housing Initiative
- Make Town-owned land available for affordable housing creation
- Seek to make new home ownership more affordable

- [2017 Open Space and Recreation Plan](#)
Franklin Regional Council of Governments, Montague Planning & Conservation Department
 - Promote and protect rivers and waterways for improved habitat and recreation opportunities
 - Provide access to high quality parks in each village
 - Develop a comprehensive trail network for walking and cycling that connects the villages to open space
 - Preserve farming as a way of life in Montague
 - Preserve drinking water resources, habitat corridors, and special places
 - Green the villages
 - Get organized for open space and recreation improvements

- [2018 ADA Self-Evaluation and Transition Plan](#)
Franklin Regional Council of Governments

- [2018 Energy Infrastructure Asset Report](#)
UMass Amherst Clean Energy Extension

- [2018 Complete Streets Funding Program Project Prioritization Plan](#)
Franklin Regional Council of Governments

- [2018 Community Development Strategy](#)
Montague Planning & Conservation Department
 - Economic Development
 - Revitalize the Canal District in Turners Falls
 - Support industrial and commercial growth
 - Support revitalization of Turners Falls and Millers Falls village centers
 - Housing
 - Expand Montague's diverse housing stock
 - Transportation
 - Improve the viability of village centers through transportation, streetscape enhancements
 - Improve network connectivity for all modes of transportation
 - Open Space and Recreation
 - Enhance access to parks and recreation in each of Montague's 5 villages
 - Preserve Montagues pristine natural resources and agricultural heritage
 - Town Facilities and Infrastructure
 - Provide functional, code compliant public facilities that allow exceptional service delivery to residents

- Provide drinking water, wastewater and stormwater collection systems adequate to serve the community's current and projected needs and to protect the town's natural resources
 - Community Services and Welfare
 - Continue to ensure a safe, harmonious community for all residents
- **2018 Municipal Vulnerability Preparedness Resiliency Plan**
Montague Planning & Conservation Department, Franklin Regional Council of Governments
- Improve emergency communications capacity
 - Improve Lake Pleasant's wildfire preparedness
 - Support and strengthen neighborhood groups
 - Strengthen Town relationship with vulnerable populations, including seniors, low-income, and non-English speaking residents
 - Improve resiliency of Montague's transportation, energy, and water/wastewater infrastructure
- **2020 Hazard Mitigation Plan**
Montague Hazard Mitigation Committee, Montague Planning & Conservation Department, Franklin Regional Council of Governments
- Establish warming and cooling centers
 - Strengthen the function of Turners Falls High School as a Town and regional shelter
 - Improve the emergency radio system
 - Increase flood resilience of development and road infrastructure
 - Increase flood and fluvial erosion resilience of road infrastructure
 - Build neighborhood resilience hubs
 - Improve Town communication about hazard mitigation and emergency preparedness
 - Increase land protection, particularly in floodplain areas or forested upland areas
 - Improve housing stock
 - Support resilience of natural ecosystems
 - Reduce wildfire risk
 - Reclaim abandoned mill buildings
- **2021 Montague Culvert Assessment**
Franklin Regional Council of Governments
- **2021 Pollinator Action Plan**
Franklin Regional Council of Governments
- **FY2024 6-Year Capital Plan**
Montague Capital Improvements Committee

Village Plans

Turners Falls

- [2013 Downtown Turners Falls Livability Plan](#)
Montague Planning & Conservation Department, Dodson & Flinker
 - Enhanced connectivity for pedestrians and bicyclists
 - Improved appearance and functionality of Avenue A and Third Street streetscape
 - Enhanced recreational opportunities for residents and visitors of all ages and background
 - Expand community events and activities in downtown Turners Falls
 - Improved services and quality of life for all downtown residents
 - Get organized for business development
 - Retain existing businesses and support business development
 - Refine marketing and communications programs
 - Improve gateway treatments and wayfinding signage
 - Expand economic development policies, incentive and regulatory programs
 - Expand public/private development partnerships and financing programs

- [2014 Slum and Blight Inventory for the Turners Falls Historical-Industrial District](#)
Franklin Regional Council of Governments

- [2014 Slum and Blight Inventory for Millers Falls Village Center](#)
Franklin Regional Council of Governments

- [2015 Downtown Turners Falls Tree Inventory](#)
Montague Planning & Conservation Department and Department of Public Works, Franklin Regional Council of Governments

- [2016 Sidewalk Inventory for Turners Falls](#)
Franklin Regional Council of Governments, Turners

- [2017 Powering Forward: A Vision for the Turners Falls Canal District](#)
Town of Montague, UMass Regional Planning Studio
 - Adopt Planned-Unit Development (PUD) as a redevelopment strategy
 - Target non or less historic structures for selective demolition to open up space for circulation, parking, and emergency vehicle access
 - Establish a mixture of uses including recreational, commercial, light industrial, and live-work space
 - Create three gateways to attract visitors to the District
 - Redesign and reconstruct the Strathmore Pedestrian Bridge

- Extend the existing Canalside Rail Trail across the Canal and onto the District for an alternative bicycle/pedestrian
 - Seek federal, state, and local funding to supplement renovation costs
 - Update and replace aging utilities and bridge infrastructure
 - Implement sustainable energy sources, where applicable, within the district
- **2019 Turners Falls Airport Master Plan Update**
Gale Associates, Inc.
- **2020 Turners Falls Livability Plan Community Review**
Montague Planning & Conservation Department
- Emerging focus areas
 - Canal District
 - First and Second Streets (Riverfront)
 - Avenue A Southern Corridor
 - Parking management that maximizes existing space, has reasonable enforceable rules, and has safe, well-maintained lots
- **2021 Rapid Recovery Plan for Turners Falls**
BSC Group, Cambridge Econometrics, and Montague Planning & Conservation Department
- Develop installation plans for multimodal wayfinding and branding signage in downtown turners falls
 - Implement policies and practices to optimize the use and availability of downtown parking
 - Build out town hall annex into a multi-purpose space for media and the arts
 - Connect downtown to the Connecticut River via the Great Falls River Access Area
 - Advance master planning and redevelopment for canal district
 - Implement high-visibility art and placemaking projects
 - Secure a business development coordinator to support business opportunities in Turners Falls
 - Boost the administrative capacity of RiverCulture to support arts/culture programming and creative economy
 - Accelerate downtown streetscape improvements
 - Peskeomskut Park bandshell Improvements
 - Advance infill and redevelopment opportunities for municipally owned property
 - Develop design/zoning guidelines for downtown Turners Falls
- **2023 Canal District Master Plan Study**
Montague Planning & Conservation Department, Dietz & Company Architects, Inc.
- Set the stage for housing development

- Continue focus on revitalizing the downtown district through supportive economic development planning
- Ensure stabilization of remaining buildings and debris
- Remove unstable and unsafe buildings, infrastructure, and construction debris
- Prepare site to ensure smooth execution of new Turners Falls Bridge
- Prepare the site to promote attractiveness for future development
- Provide accessible space for users to interpret various histories of the site
- Reintroduce native vegetation species with minimal maintenance needs
- Provide routes throughout the site that are walkable and accessible for all users
- Implement an interpretive walking path
- Providing space for remembrance and historic interpretation
- Implement an overlook within the old coal plant
- Prepare the coal silo for a high visibility public art project

Millers Falls

- **2014 Slum and Blight Inventory for the Millers Falls Village Center**
Franklin Regional Council of Governments
- **[2019 Millers on the Move! Strategic Priorities for Millers Falls Village Center](#)**
Montague Planning & Conservation Department, FinePoint Associates
 - Make Millers Falls Village Center a more inviting, safe, convenient place where people want to spend more time
 - Promote community building and strengthen capacity of Millers Falls Community Improvement Association
 - Increase opportunities to improve health and expand recreation for Millers Falls residents
 - Improve connection among Millers Falls Village Center establishments and to community recreational assets
 - Attract businesses that meet local needs and/or draw people into Millers Falls Village Center; encourage expansion of eating and entertainment cluster
 - Increase events to bring people into Millers Falls Village Center
 - Activate underutilized property with uses that would be beneficial to Millers Falls Village Center
 - Improve physical appearance of Millers Falls Village Center
 - Create/reinforce a positive unique identity for Millers Falls Village Center; develop a sense of place
 - Increase economic opportunities for Millers Falls businesses and residents

Appendix D: Outreach Presentations and Results

This appendix is a summary of the public outreach and involvement conducted to support the comprehensive plan. This includes the following:

- Survey questions and results
- Visioning Workshop presentation, participant booklet, results summary
- Priorities workshop presentation, results summary
- Focus group notes
- Additional meetings attended to solicit feedback

Five Villages: One Future Montague Comprehensive Plan Survey

Responses collected June - October, 2022

352 fully completed surveys

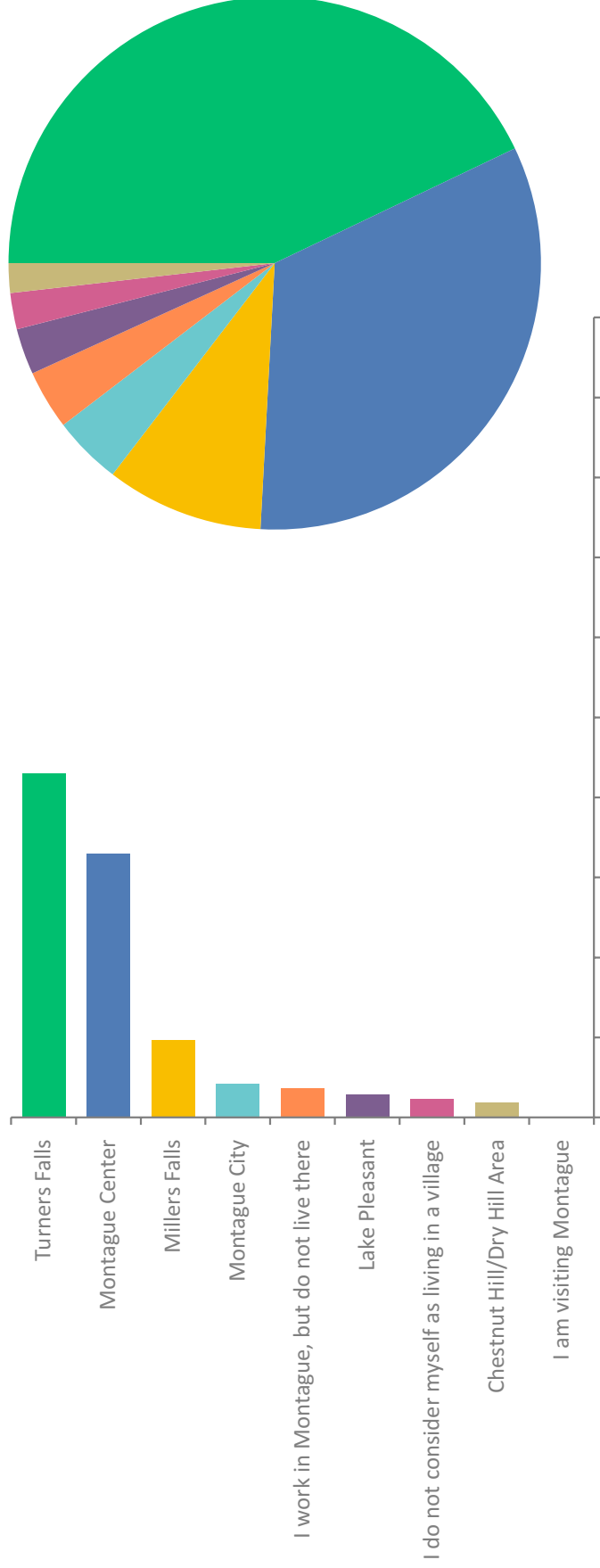
6 in Spanish

346 in English

Demographics of Survey Respondents

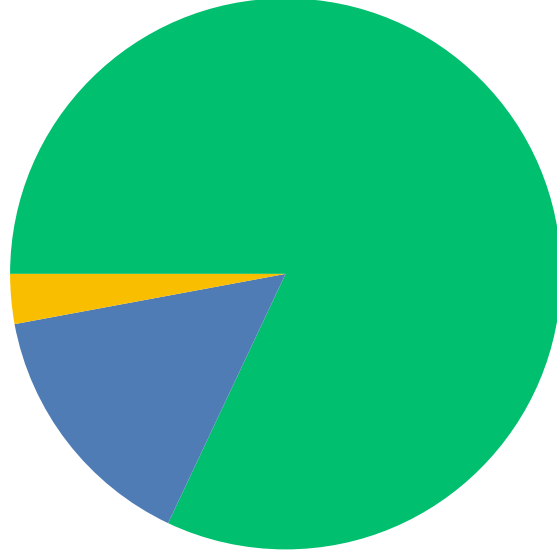
Q1: Where do you live in the Town of Montague? Select one.

Answered: 501 Skipped: 5



Q16: Select the phrase that best describes your housing. Select one.

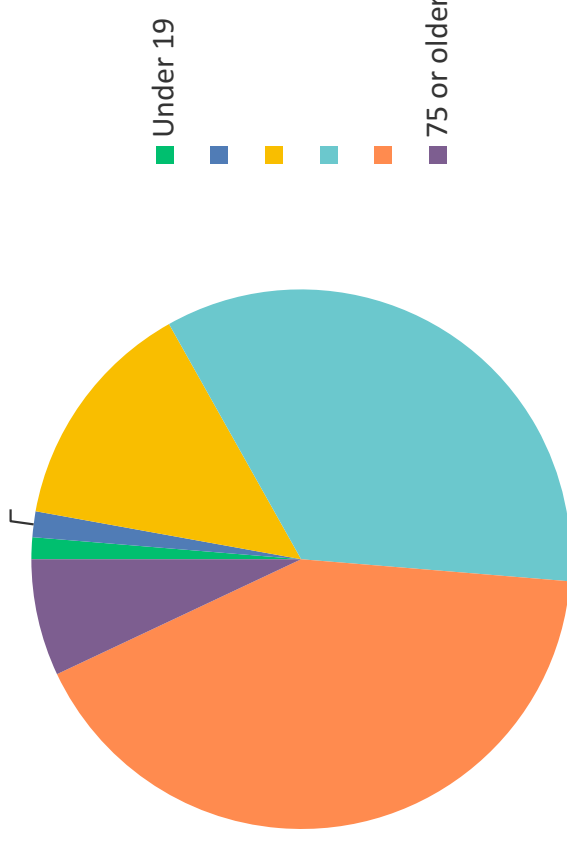
Answered: 378 Skipped: 121



- I own where I live
- I rent where I live
- I do not own my home but I live there for free

Q17: What is your age? Select one.

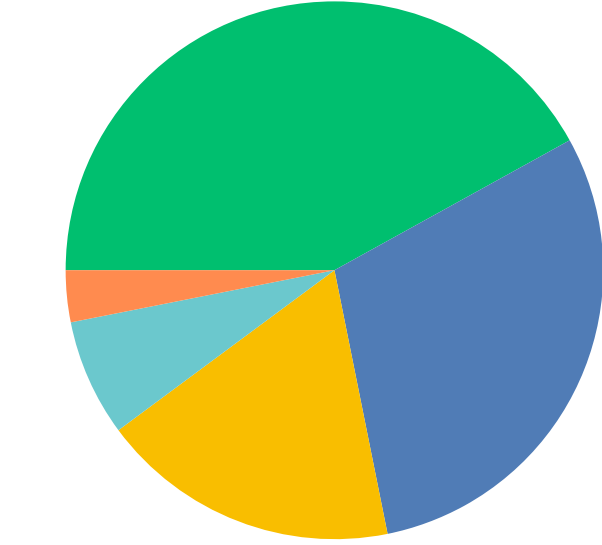
Answered: 386 Skipped: 120



- Under 19
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75 or older

Q18: What is your current living situation?
Select one.

Answered: 355 Skipped: 151



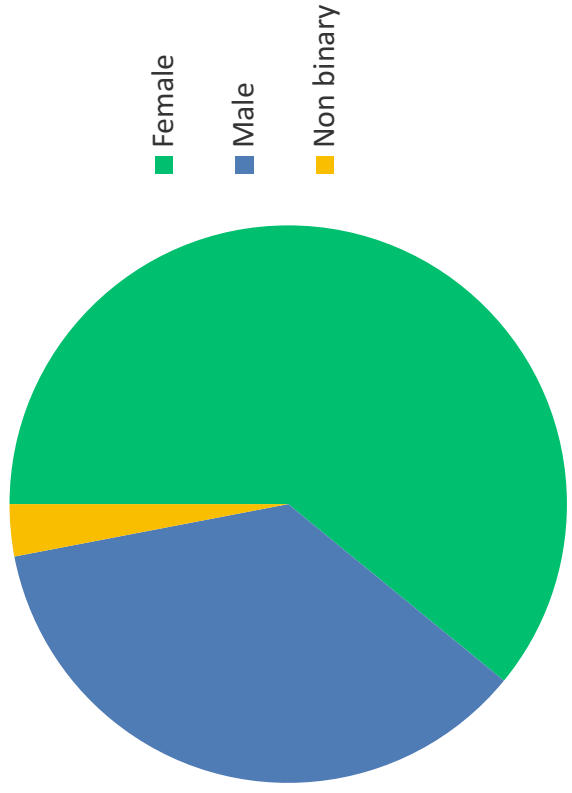
Q19: Where do your children attend school? Open ended.

School	% of respondents with school age children
Hilcrest Elementary	
Elementary out of town	
Middle/high school out of town	
Turners Falls High School	
Sheffield Elementary	
Great Falls Middle School	
Gill Montague Regional School District, unspecified	
Homeschool	
Gill Elementary	
Franklin Technical School	
Preschool in Montague	

- Couple without children
- Couple with school-age children
- Single adult living alone
- Single adult - shared quarters
- Single parent with school-age children

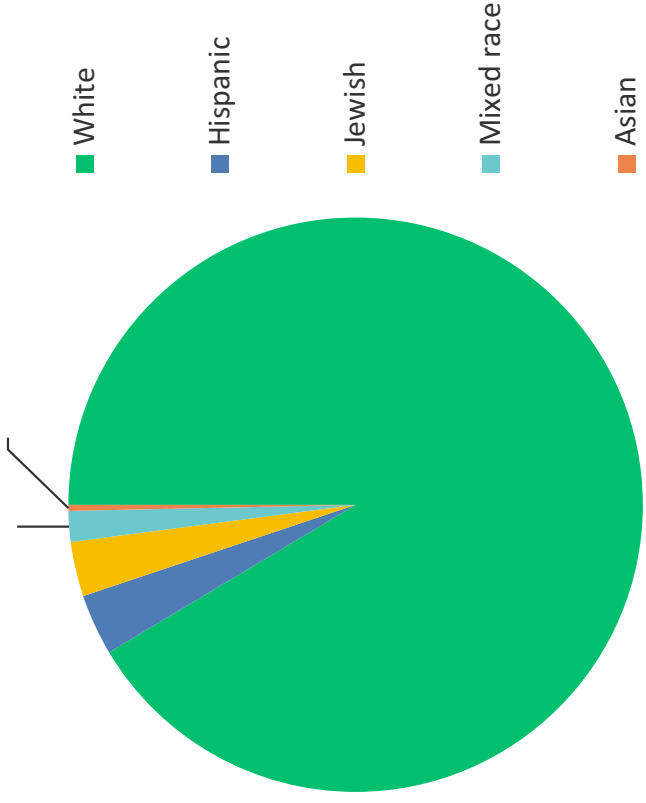
Q20: What is your gender? *Open ended.*

Answered: 334 Skipped: 174



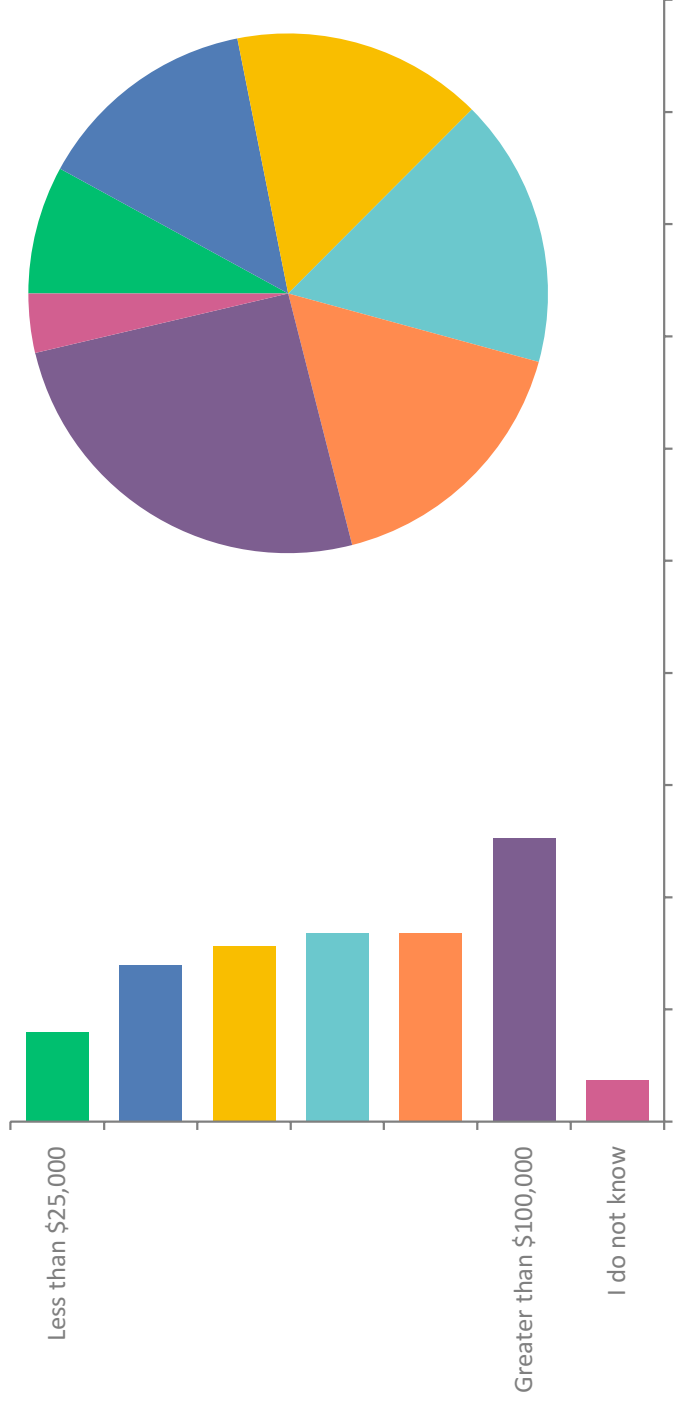
Q21: Which ethnic or racial group do you most closely identify with? *Open ended.*

Answered: 313 Skipped: 186



Q22: What is your approximate annual family income? Select one.

Answered: 346 Skipped: 153



Summary of Demographics of Survey Respondents Relative to Montague Population

Villages:

The majority of respondents are from the villages of Turners Falls and Montague Center. Turners Falls residents are slightly underrepresented, and Millers Falls residents are very underrepresented. (Table 1)

Housing:

Homeowners are overrepresented in the survey, at 82% compared to the actual rate of 61%.

Age:

Three-quarters (77%) of survey respondents were between the ages of 35 and 74, while this group represents 54% of the population. This survey was geared towards adults, so it was not expected to have a representative response rate from children and youth.

Table 1. Villages

Village	% of Responses	% of Current Pop.
Turners Falls		
Montague Center		
Montague City		
Millers Falls		
Lake Pleasant		

*Current population as defined in U.S. Census. The Census only provides statistics for Turners Falls and Millers Falls

Summary of Demographics of Survey Respondents Relative to Montague Population

Gender:

Nearly 2 times as many female-identifying respondents (60%) took the survey as male-identifying (36%) and non-binary (3%) combined.

Race:

91.5% of survey respondents identified as white, closely matching the current population who is 90% white. Latinx respondents represented 4% of survey takers, closely matching the 4.7% of current residents.

Income:

The ratios of other income groups who responded corresponds fairly closely with current population, although the higher income groups are more represented in the survey, and people who earn less than \$25,000 are not well represented. (Table 2)

Table 2. Income

Income bracket	% of Responses	% of Current Pop.*
Less than \$25,000		
\$75,000 or more		

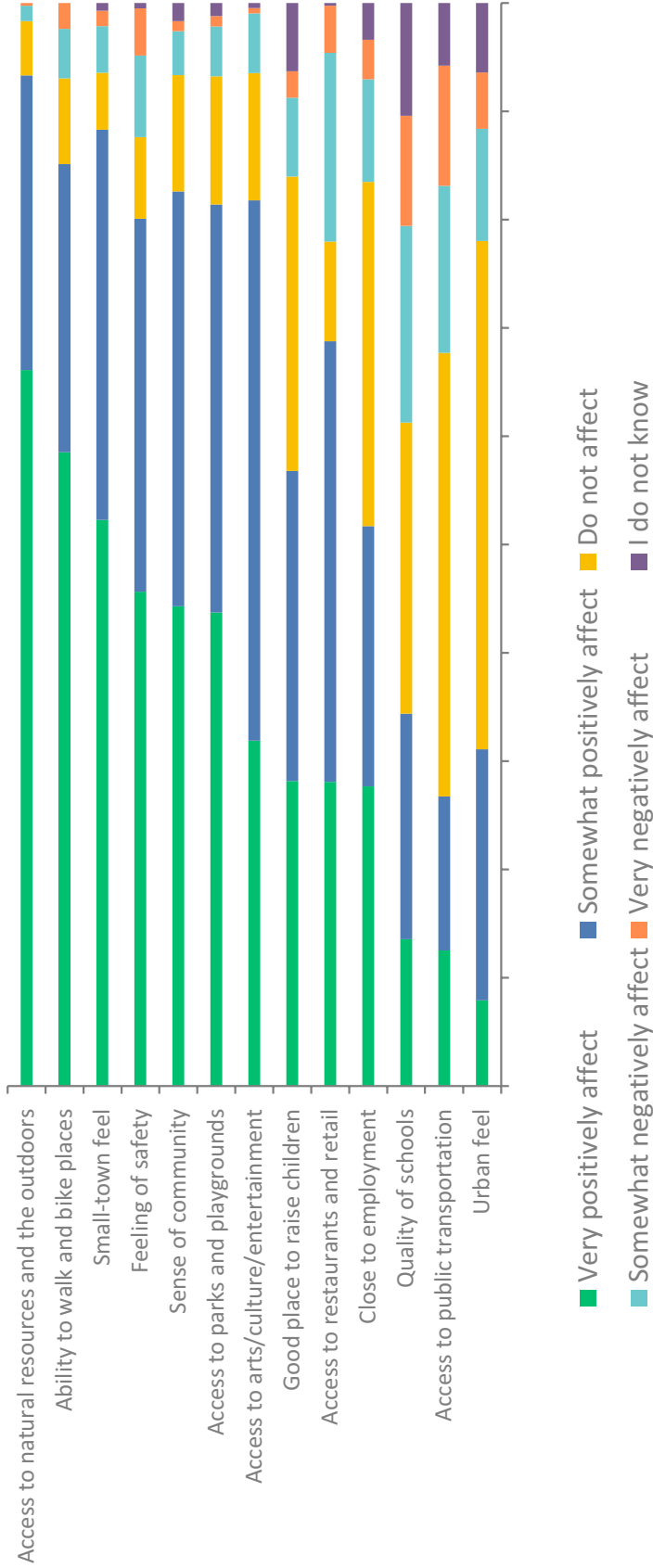
2020 American Community Survey 5 Year Estimates, U.S. Census
*% of the current population in brackets \$39,000 and \$59,000 had to be estimated in order to match the survey question categories.

Quality of Life

Q2: How do the following factors affect your life in the Town of Montague?

Answered: 424 Skipped: 82

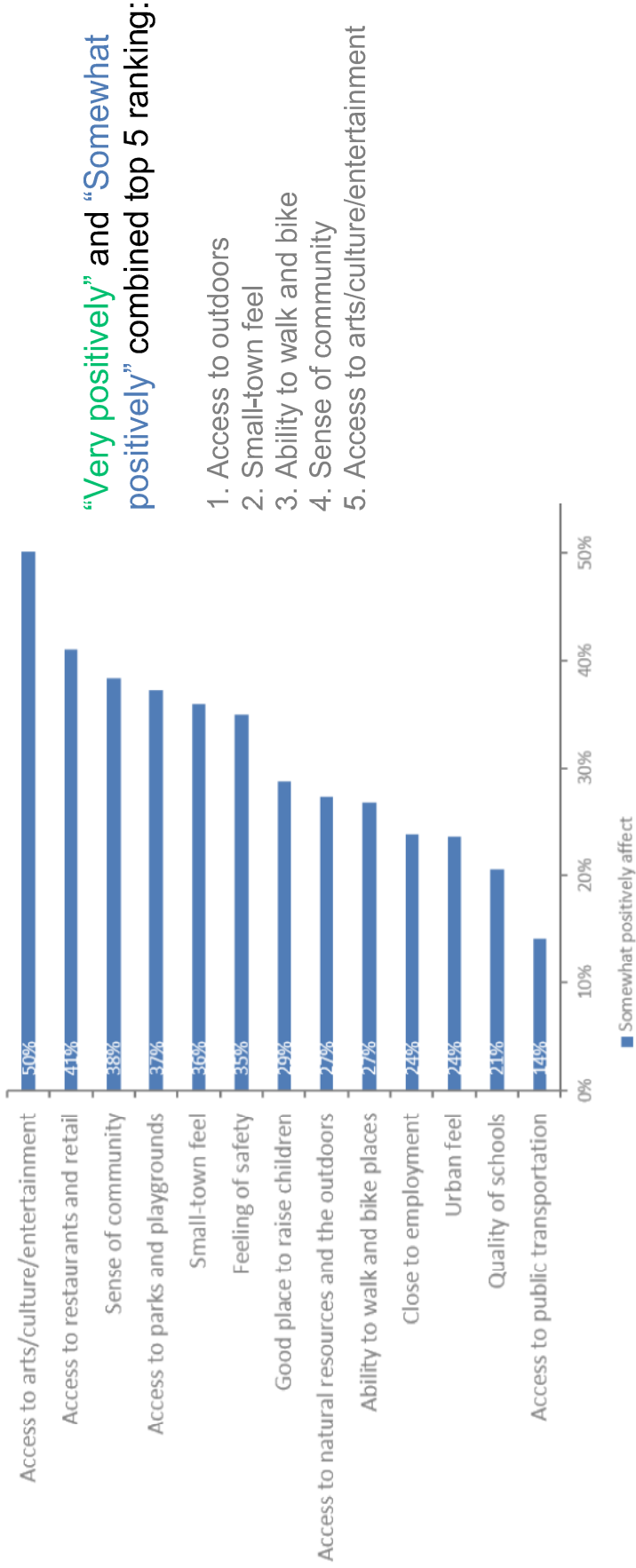
Ranked by those answering “Very positively affect”



Q2: How do the following factors affect your life in the Town of Montague?

Answered: 424 Skipped: 82

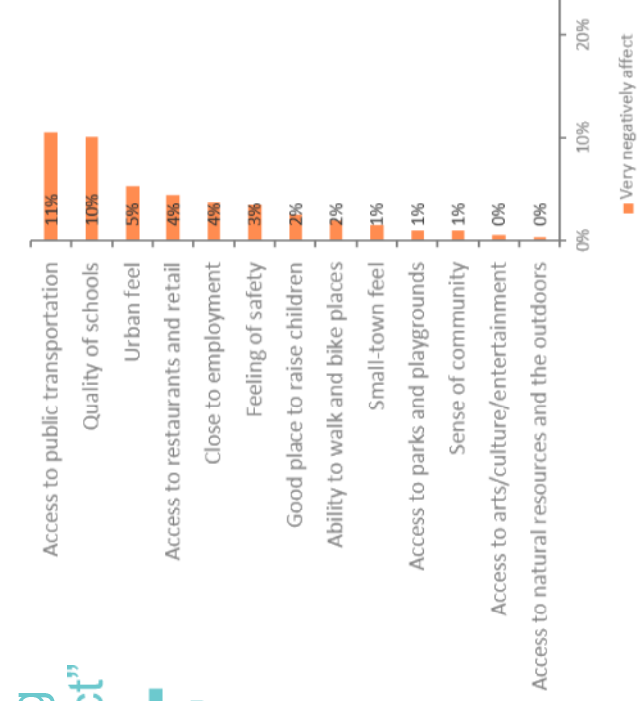
Ranked by those answering “Somewhat positively affect”



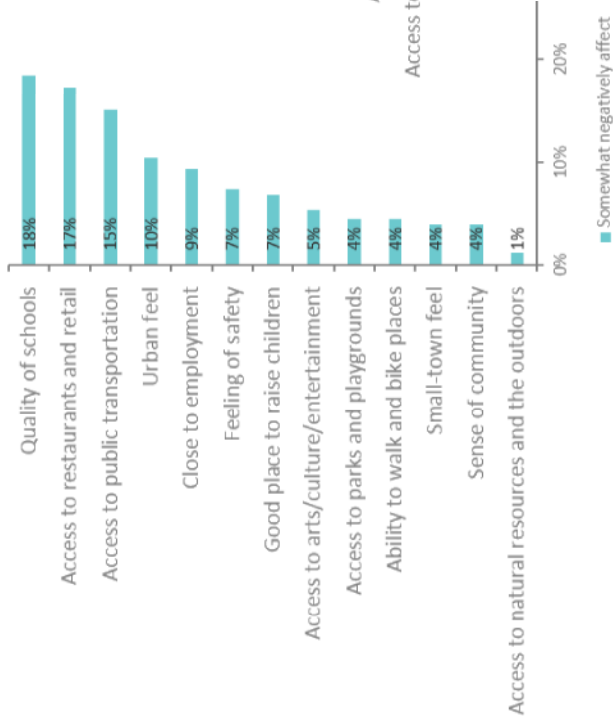
Q2: How do the following factors affect your life in the Town of Montague?

Answered: 424 Skipped: 82

Ranked by those answering “Very negatively affect”



Ranked by those answering “Somewhat negatively affect”



“Somewhat negatively” and “Very negatively” combined top 5 ranking:

1. Quality of schools
2. Access to public transportation
3. Access to restaurants and retail
4. Urban feel
5. Close to employment

Q3: What is the best thing about our town? Open ended.

Answered: 352 Skipped: 154



Q4: What is your biggest concern about our town? *Opened ended.*

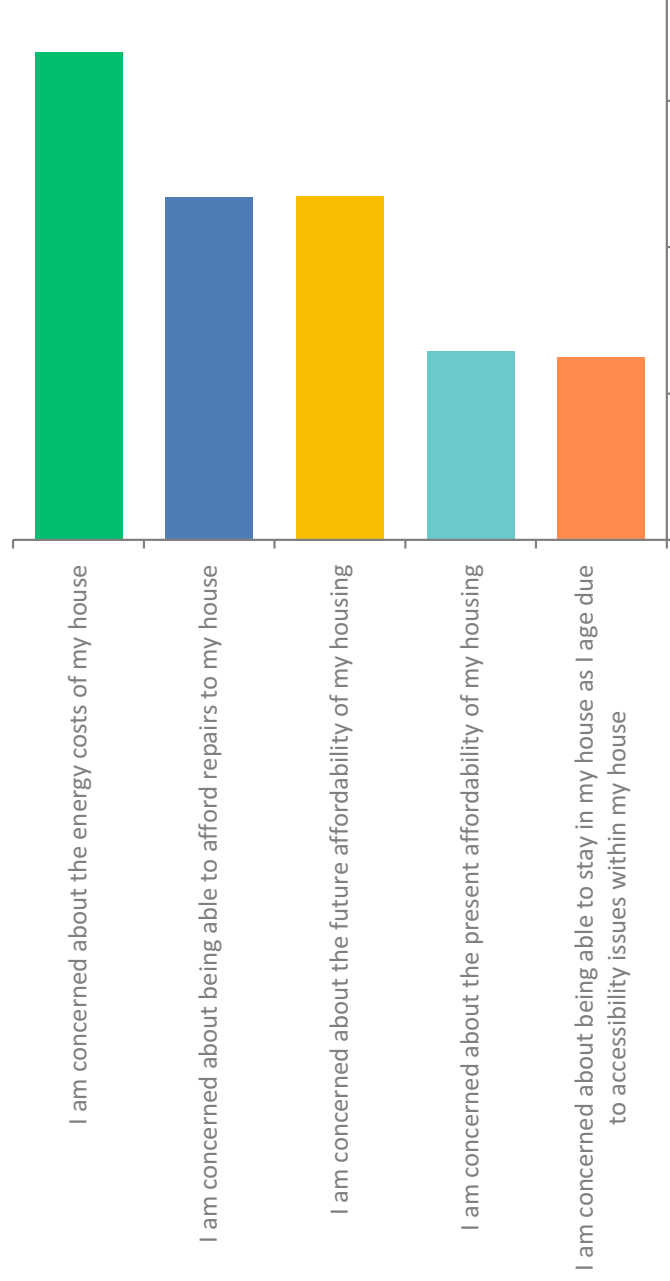
Answered: 354 Skipped: 152



Housing

Q5: Do you agree with the following statements concerning housing in Montague? Select all.

Answered: 353 Skipped: 153

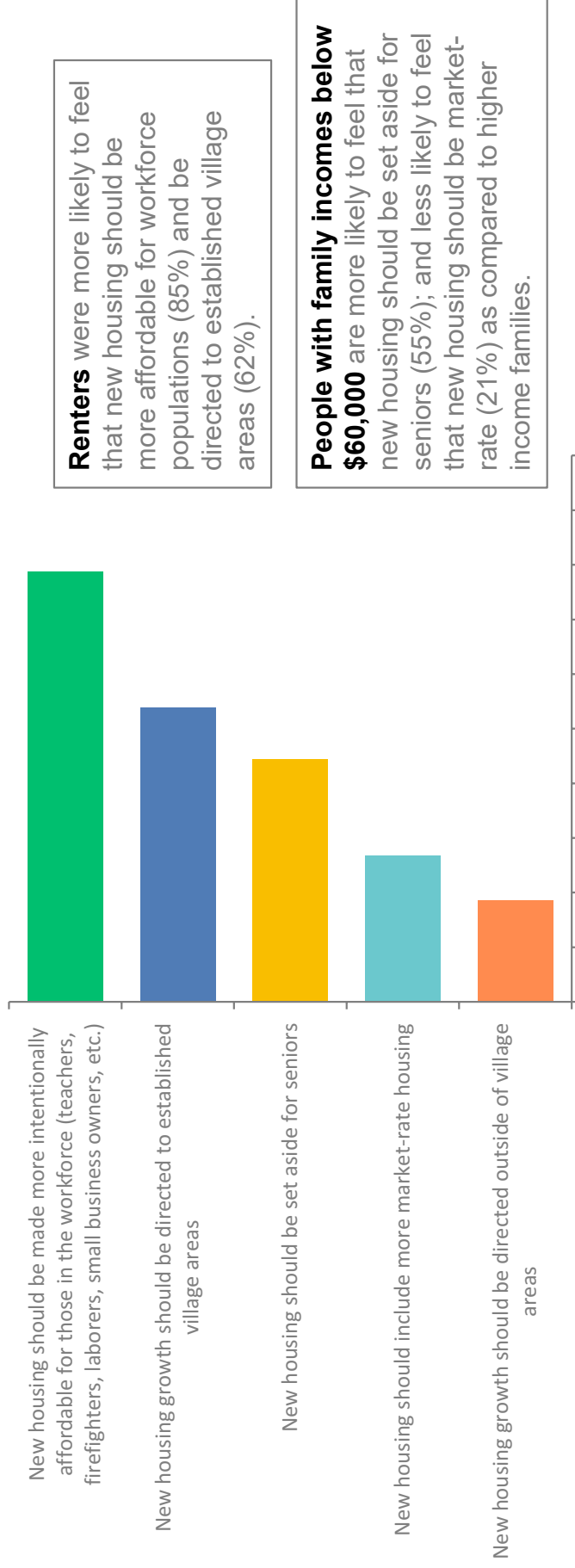


Renters were much more likely to be concerned about the present affordability of their housing (at 56%) and the future affordability of their housing (at 86%).

People with family incomes below \$60,000 were much more concerned about present affordability of their housing (at 40%); and slightly more concerned about the future affordability of their housing (at 56%), being able to afford repairs to their housing (at 54%), and about aging in their home (at 33%).

Q6: How should new housing be prioritized over the next 15 years? Select all that apply.

Answered: 385 Skipped: 114



Transportation

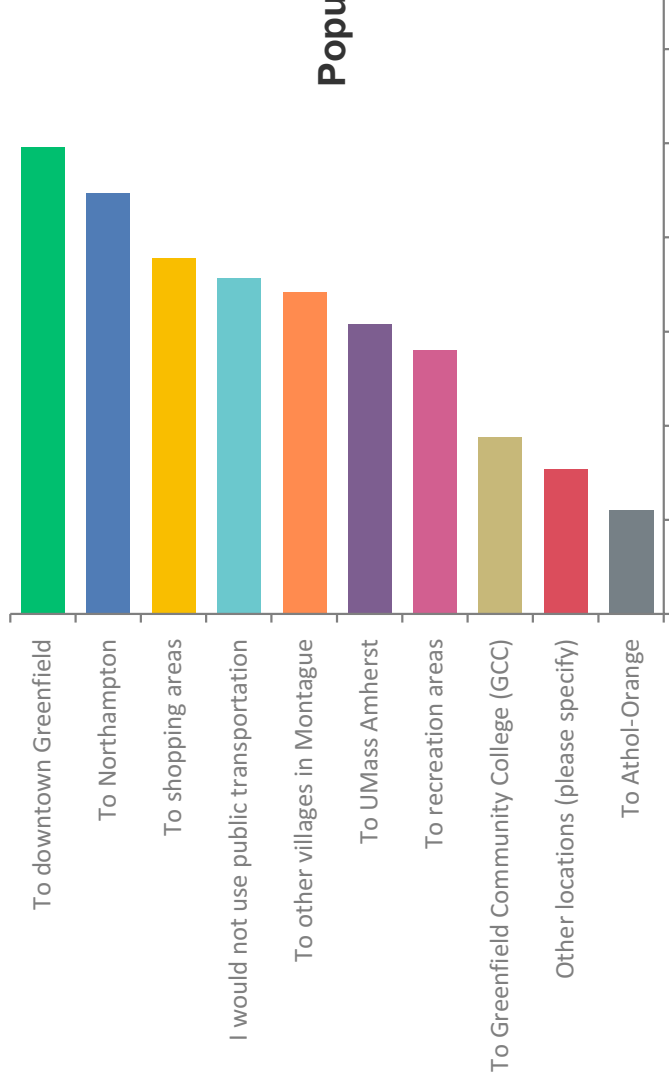
Q7: What could make walking and biking feel safer in town? Select all that apply.

Answered: 303 Skipped: 203



Q8: Where would you take public transportation if it were available? Select all that apply.

Answered: 389 Skipped: 117

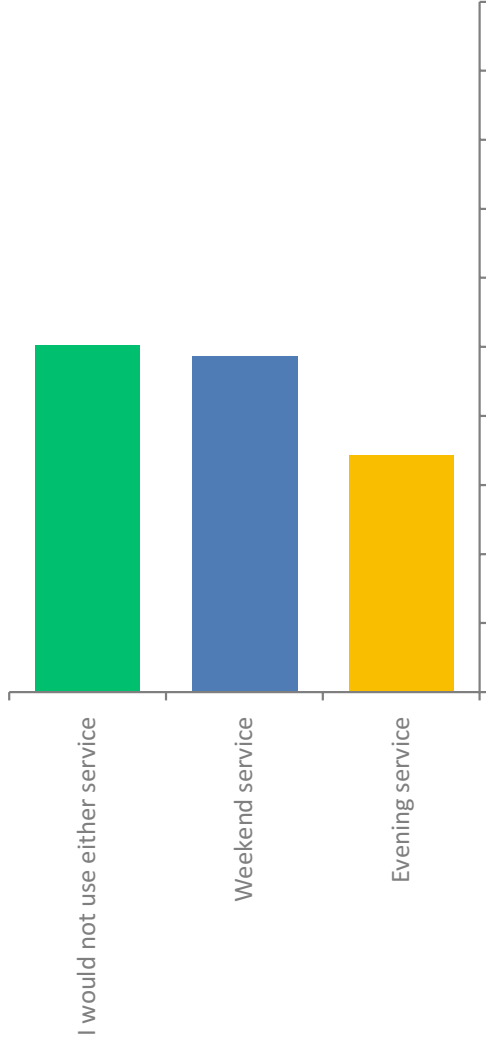


Popular other locations by # of mentions:



Q9: Would you use the following public bus services if they were available? Select all that apply.

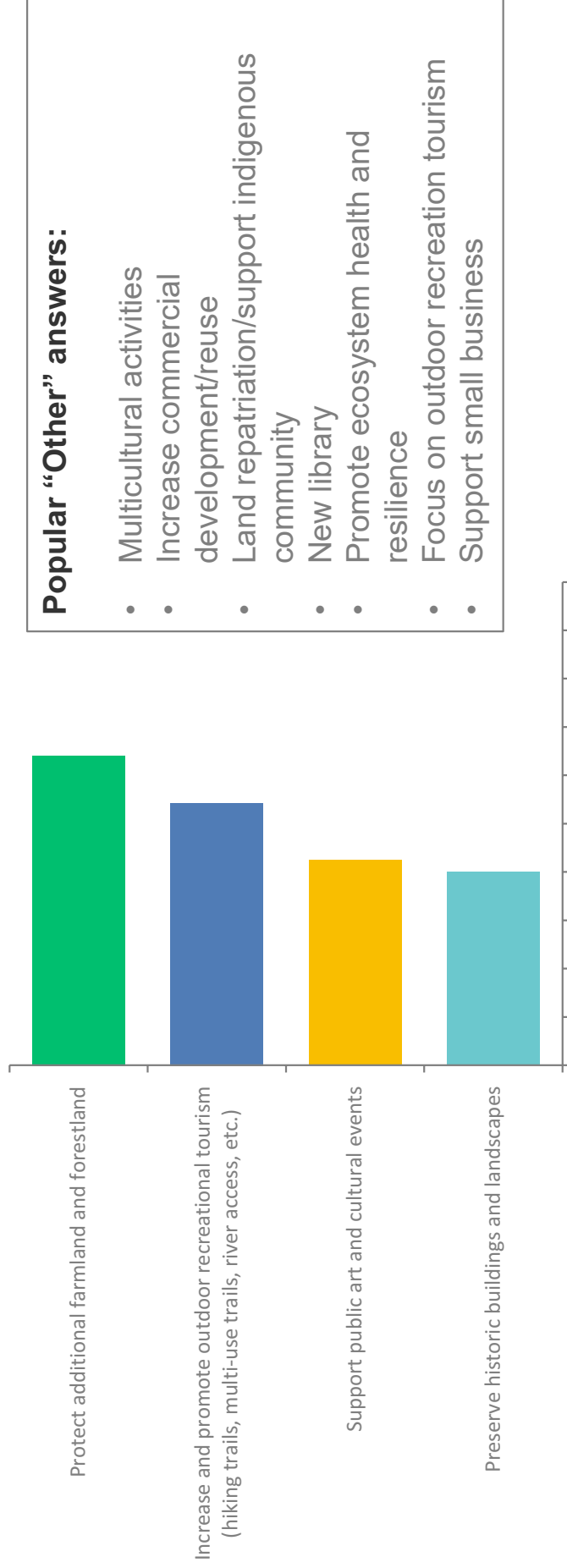
Answered: 367 Skipped: 132



Natural and Cultural Resources

Q10: How should the Town prioritize the following natural and cultural actions? Select top TWO most important.

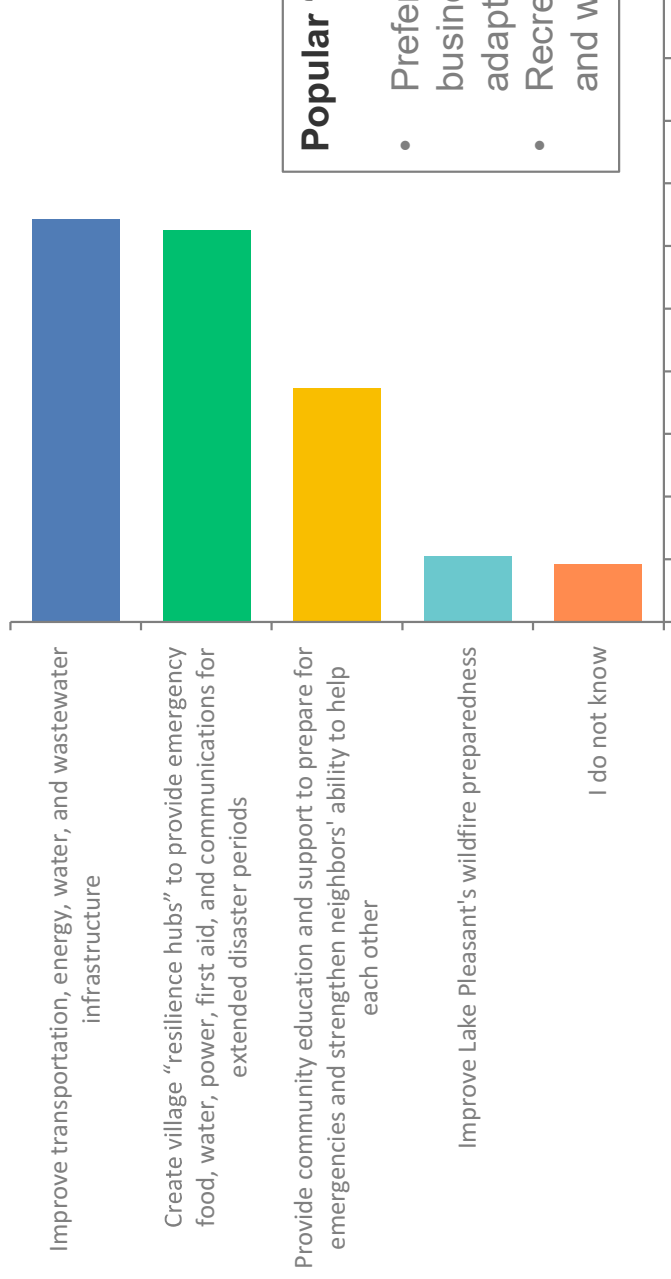
Answered: 398 Skipped: 108



Climate, Energy and Sustainability

Q11: Extreme weather and other environmental disasters are increasing due to climate change. Which of these top priorities should Montague focus on? Select top TWO most important.

Answered: 394 Skipped: 112

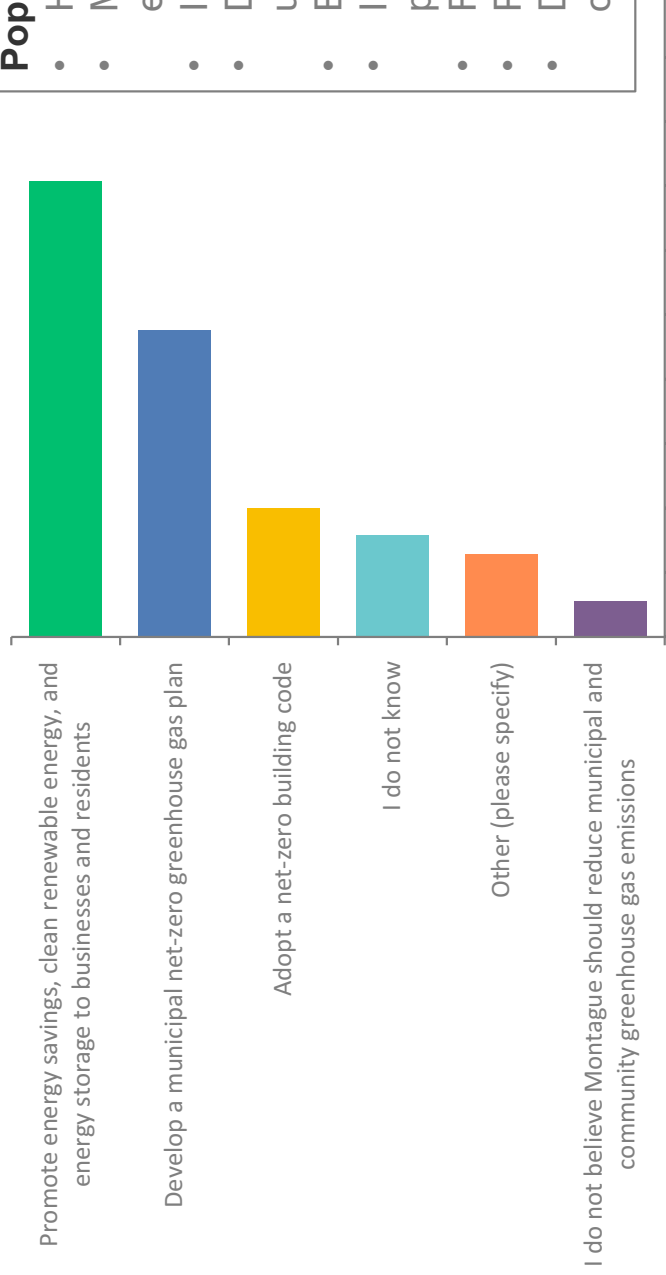


Popular "Other" answers:

- Preference for development and business growth over climate change adaptation
- Recreation center that acts as cooling and warming shelter

Q12: How should Montague reduce its polluting emissions to reduce climate change and protect health? Select top TWO most important.

Answered: 395 Skipped: 111



Popular “Other” answers:

- Help with residential energy transition
- Make sure net zero plan/code is equitable and financially sustainable
- Improve solid waste services
- Develop municipal solar/public energy utilities
- Electrify municipal landscaping tools
- Improve pedestrian, ride-share, and public transportation
- Reduce municipal and private mowing
- Promote solar
- Don't believe climate change is enough of a concern

Other ideas related to the environment, climate, energy, and sustainability (Q10 thru Q12)

- Support net zero building
- Do not need a Montague net-zero plan b/c already moving in that direction
- Town's Greenhouse Gas Emissions are too insignificant to put work into
- Install LED lighting with "dark sky" glare restrictions
- Invest in commercial and business transition/growth
- Sustainable building standards
- Adaptive re-use of historic buildings with preservation parameters
- Put solar on roofs instead of land
- No more solar panels
- Increase tax base
- Lower tax rate for farmers
- Lower tax rate for first responders
- Allow for smaller houses and communal living
- Mix uses so culture, living, work are all together and accessible
- Stop spending public funds on land and building preservation
- Limit short term rentals
- Allow ADUs
- Increase supply of market rate housing in Turners Falls village
- Protect town from predatory holding companies
- Stop gentrification
- Home weatherization assistance
- Incentivize homeowners to reduce carbon footprint
- Create shuttle services to access shopping areas
- More EV charging stations
- Masks on vehicle tailpipes
- Regenerative land management
- Keep forests intact
- Reforest trees when cut
- Community gardens
- Pollinator corridors
- Return trash cans to The Patch
- Reduce water pollution
- Reduce pesticide use
- Reduce risk of climate-related disasters
- Clean up hazardous waste sites vulnerable to climate disasters
- Clean stormwater drains
- Improve areas of flooding
- Decommission FirstLight dam
- Stock emergency provisions on a town-wide scale
- Improve emergency communication channels
- Support skateboarding community
- Boat launch ramp for non-motorized boats
- Create a town swimming area
- Outdoor art

Community Facilities and Services

Q15: What municipal improvements or municipal priorities would you like Montague officials to focus on over the next 15 years?

Answered: 221 Skipped: 278



Top 5

1. Libraries
2. Transportation infrastructure
3. Schools
4. Bike and pedestrian infrastructure
5. Affordable housing

General

Q23: Is there anything not addressed in this survey that you believe to be important in planning for the future of our community?

Answered: 166 Skipped: 340

Common topics covered by open-ended responses were also covered in open-ended responses to earlier questions. Specific ideas related to long-term comprehensive planning will be captured in the written plan.

MONTAGUE 5 VILLAGES: 1 FUTURE COMPREHENSIVE PLAN VISIONING WORKSHOP

● ● ●

MONTAGUE IS HOST TO
8,500 PEOPLE
31 SQUARE MILES OF LAND
13 MILES OF THE CONNECTICUT RIVER
5 VILLAGES

HOW SHOULD WE BE SHAPING OUR 1 FUTURE?



PHOTO FROM MONTAGUE, MA HISTORICAL SOCIETY
MONTAGUEARCHIVE.ORG/INDEX.PHP/VILLAGES_FALL13

WHY COMPREHENSIVE PLANNING?

● ● ●

- Comprehensive planning is an open, public process that identifies a community's vision for its physical and economic development.
- The *Five Villages: One Future* comprehensive plan can prepare our community for how population, employment, housing options, and development patterns may change
- This Plan will incorporate climate resiliency into every element.

COMPREHENSIVE PLANNING PROCESS

1. Steering Advisory Group
2. Conducted a community-wide survey
3. Two visioning workshops
4. Focus Groups
5. Draft chapters will begin to be available this summer for review
6. Opportunities for feedback and input throughout
7. Plan will be completed by June 2024




Photo by Raoul Franz



TODAY'S AGENDA

● ● ●

- 10:30 Introduction
- 10:45 Block A exercise – chapter topic focused
- 12:00 Lunch
- 12:35 Block B exercise – village & population scenario focus
- 1:45 Summary and closing

WHAT WILL THE FUTURE LOOK LIKE?

● ● ●

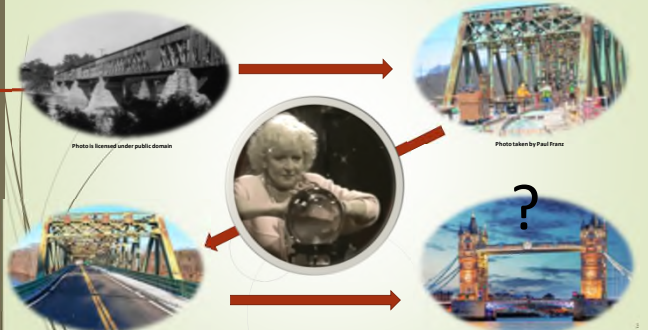
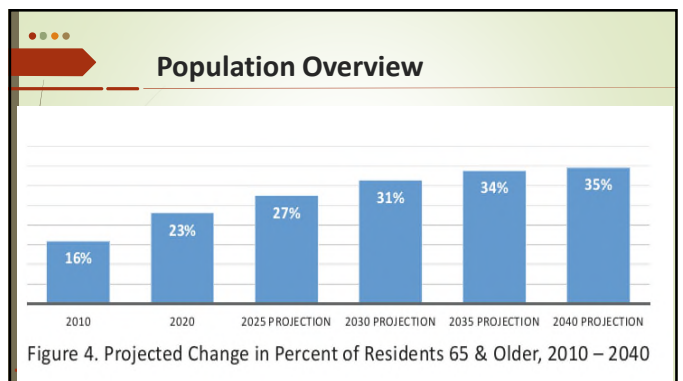


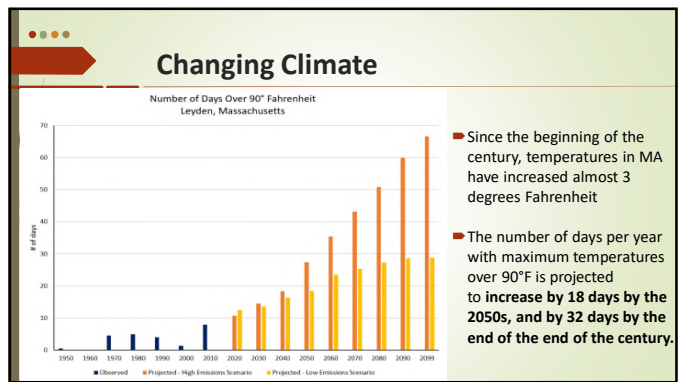
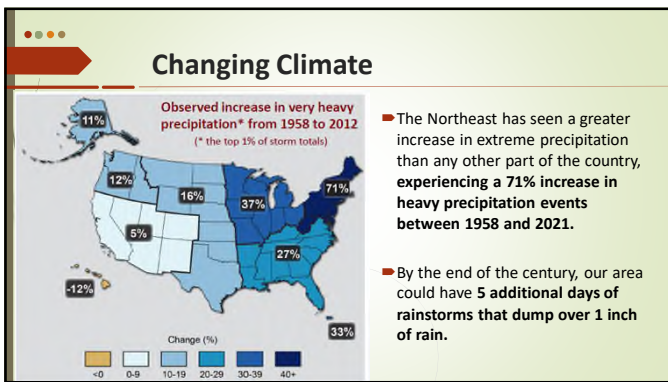
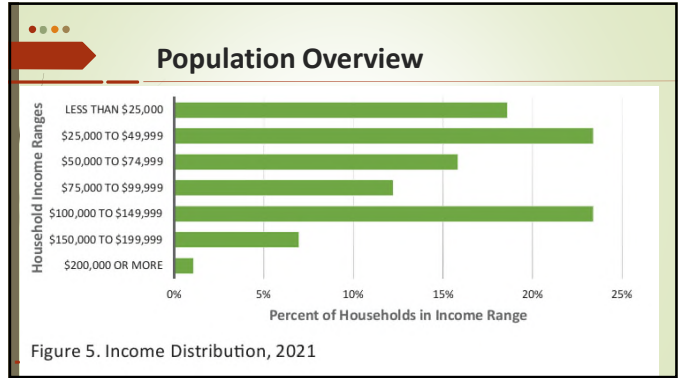
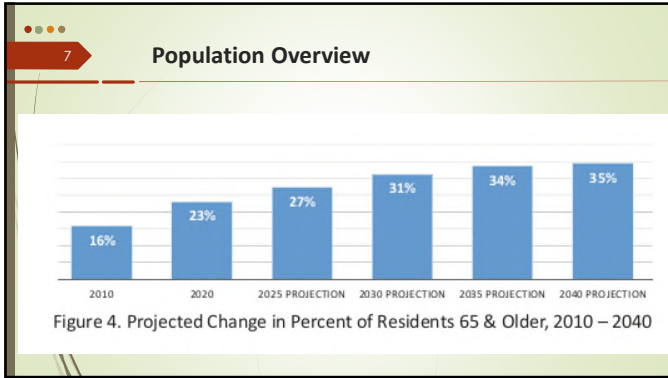
Photo is licensed under public domain

Photo taken by Paul France



Slide 3

A1 Author, 2/1/2023



CHANGING CLIMATE

- In the past 10 years, Montague has already experienced:
 - 3 years of extreme drought (2016, 2020, 2022)
 - Major floods in Millers Falls (2015, 2021) and Turners Falls (2018)
 - A day of excessive heat over 105° F (2018)
 - Excessive rainfall of 8 inches above monthly average (July 2021)

Block A Exercise –Topic Focus

- For your assigned topic, identify the following:
 - Strengths (internal)** 15 minutes
 - Opportunities (external)** 15 minutes
 - Weaknesses (internal)** 15 minutes
 - Vulnerabilities (external)** 15 minutes
 - How can this topic be more **climate resilient**? 15 minutes

Block A - Debrief

- ▶ What strength was most discussed?
- ▶ What weakness was most discussed?
- ▶ What opportunity was most discussed?
- ▶ What vulnerability was most discussed?
- ▶ What is one way your group talked about making Montague more resilient?
- ▶ What was the most unexpected thing said about your topic?

Block B Exercise – Village Focus

- ▶ For your village/geographic area:

▶ **What do you want your area to look like in 15 years? Remember to think about how climate change could impact the future!**

25
minutes

▶ **With the population scenario you have been given, how does this change your vision? Remember to think about how climate change could impact the future!**

20
minutes

Block B - Debrief

- ▶ What are 2 exciting ideas your group talked about?
- ▶ What was 1 challenge or barrier?
- ▶ What the most unexpected thing your group talked about?
- ▶ What was your population scenario?
- ▶ What is 1 important way the scenario changed your vision?

Closing and THANK YOU!

- ▶ How to continue to give feedback:
 - ▶ www.Montagueplans.org
 - ▶ March 9th virtual workshop
- ▶ Next steps
 - ▶ Workshops and focus groups
 - ▶ Draft chapters beginning this June through the next year
 - ▶ Feedback opportunities to review chapters throughout
 - ▶ Public comment on final draft as well



Montague
Five Villages: One Future
Comprehensive Plan

Community Visioning Workshop

Workshop Handbook
February, 2023

Prepared for the
Town of Montague

by the
Franklin Regional Council of Governments



Table of Contents

Workshop overview 1

Planning context 3

Workshop expectations 11

How to stay engaged 14

Workshop Schedule Overview

10:00 – 10:45	Welcoming and Introduction (Interactive posters and surveys)
10:45 – 12:00	Block A and Debrief (Topic Focus)
12:00 – 12:35	Lunch
12:35 – 1:45	Block B and Debrief (Village & Population Scenario Focus)
1:45 – 2:00	Closing

Lunch is provided by El Nopalito Mexican Restaurant & Pizzeria.

Special thanks to the Comprehensive Plan Steering Advisory Group for their support and assistance, MCTV for filming the event, the FRTA for providing rides, Jayden Hosmer for offering childcare services, and Turners Falls High School for hosting.

Welcome to the planning process for the **Montague Five Villages: One Future Comprehensive Plan**

A **comprehensive plan** is a strategic framework that identifies a community’s vision and goals and guides future physical and economic development.

The development of Montague’s comprehensive plan is led by Town of Montague Planning and Conservation staff with assistance from Planning staff at the Franklin Regional Council of Governments (FRCOG).

This planning process began in the spring of 2022 with the convening of a large **steering advisory group** (20-plus members), followed by a **community-wide survey** that was fully completed by over 350 people between June and November.

Updating the Montague Comprehensive Plan will **involve the entire community in a multi-year visioning and planning initiative** focused on preparing Montague for a healthy, strong, and climate-resilient future, while at the same time maintaining its unique character and sense of community.

Over the course of this year, we will be creating this **comprehensive vision and set of goals and objectives** for



Montague's future through a **series of workshops and focus groups**. This information will provide the framework upon which the comprehensive plan and its recommendations will be based.

Please join us on *March 9th* for a virtual workshop via Zoom to hear the summarized results of this workshop and discuss goals and priorities for Montague's future. Registration is required to receive the Zoom link:

<http://tinyurl.com/montaguegoalsworkshop>

And stay tuned to montagueplans.org, montague-ma.gov, and social media for additional opportunities to help plan our town's future.



**Montague is
home to**

8,500 people

31 square miles of land

13 miles of the Connecticut River

5 villages

...and one future.

What will that future look like?

Where should we be in 15 years?

How do we get there?

*How does climate change impact
our future choices?*

Why plan now?

Montague Comprehensive Planning Context

It is anticipated that Montague, like other Franklin County communities, could see significant population change and possibly development pressure over the next few decades. The ***Five Villages: One Future Comprehensive Plan*** can prepare our community for how climate, population, the economy, housing, infrastructure, and land use patterns may change. The following is an overview of current estimates and trends in Montague.

Climate Projections

Impacts from **changing precipitation** will include

- Increased total rainfall.
- More intense downpours.
 - The Northeast has seen a greater increase in extreme precipitation than any other part of the country, experiencing a 71% increase in heavy precipitation events between 1958 and 2012 (Figure 1).
 - By the end of the century, our area could have 5 additional days of rainstorms that dump over 1 inch of rain.
- More frequent and potentially damaging flooding.
- Less snow accumulation.
- More frequent droughts resulting from earlier spring melt and less rain through summer and fall.

Impacts from **increasing temperatures** will include

- Warmer, shorter winters.
- More days where temperatures reach 90°F or more (Figure 2).
 - By the end of the century, our area will have an estimated 32 *additional* days per year with temperatures over 90°F.

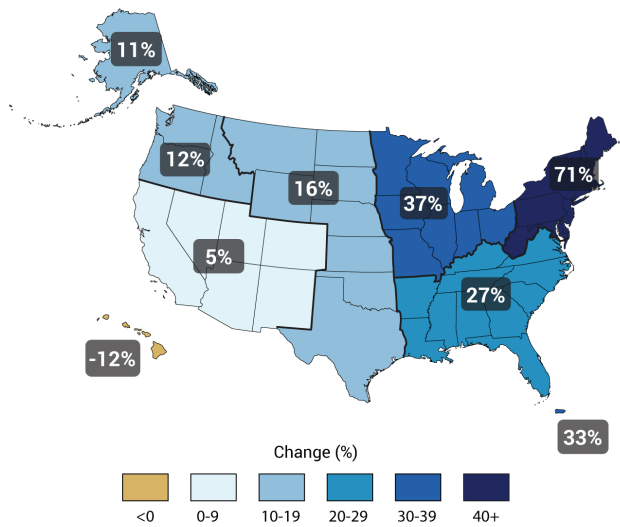


Figure 1. Observed Increase in Very Heavy Precipitation* 1958 to 2012
 *the top 1% of storm totals
 Source: Groisman et al., 2005, update

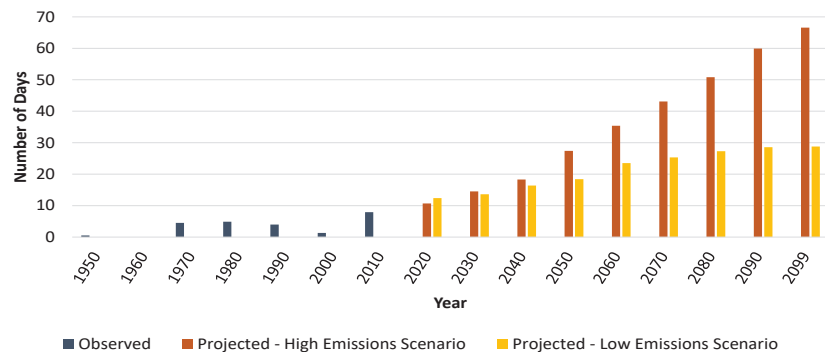


Figure 2. Projected Number of Days over 90° Farenheit, Franklin County
 Source: ResilientMA

- In the past 10 years, Montague has experienced:
 - Three years of extreme drought (2016, 2020, 2022).
 - Major floods in Millers Falls (2015, 2021) and Turners Falls (2018).
 - One day of excessive heat over 105°F (2018).

Montague's climate will become warmer and droughtier, with more frequent heavy rainfall, more intense storms, more frequent flooding, and a general change in weather patterns. Infrastructure, farming, ecosystems, and other things that make Montague what it is will be impacted. What do we need to do to be resilient and prepared for these changes?

Population Trends

- Most recent population growth period occurred in the 1980s and 1990s (Figure 3).
- The Town has experienced a stable population since 2000 (Figure 3).
- The population is projected to continue to be stable through 2040 (Figure 3).
- However, as the last several years have shown, climate, the economy, and other regional or country-wide events can change migration and demographics in unexpected ways.

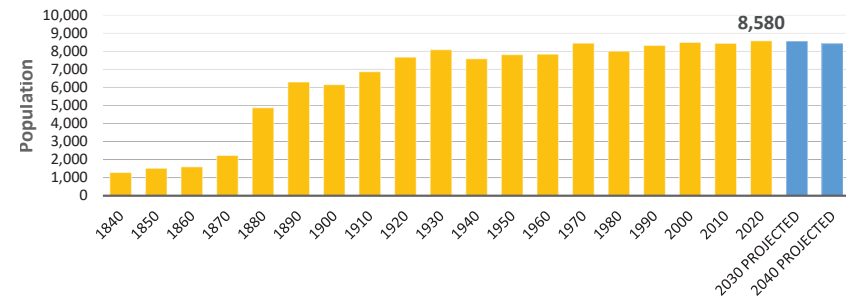


Figure 3. Population Change and Projection 1840 – 2040

How should we be planning for multiple future population scenarios?

- The largest age group in town are 45 to 64 years old at 29% of the population.
- Seniors (65 years old and older) are expected to soon be the

largest age group—projected to grow from 23% to 35% by 2040 (Figure 4).

- Children and young adults (0 – 24 years old) are projected to shrink from 27% to 15% by 2040.

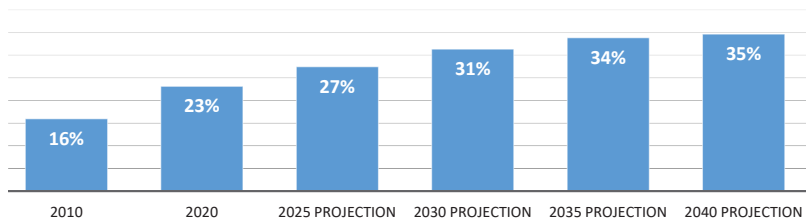


Figure 4. Projected Change in Percent of Residents 65 & Older, 2010 – 2040

Demographic changes have implications for schools, the workforce, physical infrastructure, and municipal services. What are we doing to prepare for potential changes such as fewer school children and more senior residents?

- Montague is more diverse than most Franklin County towns, with 10% of residents identifying as people of color.
- The percentage of foreign-born residents, primarily Spanish speaking, has increased since the 1990s.
- The median household income is currently \$65,925—the 7th lowest in Franklin County. 42% of households earn \$50,000 or less (Figure 5).
- Income and wealth are not evenly distributed throughout town: residents in zip codes 01347 and 01351 (Lake Pleasant and Montague Center) are more likely to earn an additional \$3,300 per month or more than those living in zip codes 01376 and 01349 (Turners Falls, Montague City, and Millers Falls).

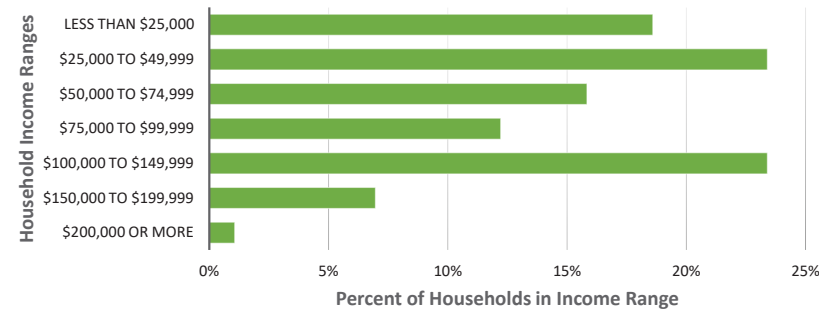


Figure 5. Income Distribution, 2021

Given changing racial and ethnic composition and relatively low incomes for a portion of Montague residents, how are we thinking about the needs of the whole community when it comes to housing, community resources, jobs, climate vulnerability, and more?

Housing Trends

- There are a total of 4,108 housing units in all of Montague.
- An average of 3 to 5 new single family housing units are built each year in town.
- Median single-family home values increased 60%—from \$168,285 to \$275,000—between 2016 and 2021. Home values are rising faster than residents’ incomes, which increased by only 24% over the same period.
- 24% of homeowners are cost burdened by their housing costs.
- 53% of renters are cost burdened by their rent.
- 37% of housing units in Montague are rentals—third highest in Franklin County.
- 9.5% of housing units are subsidized affordable units, 88% of these are located in Turners Falls.

Housing prices are becoming increasingly out of reach for existing Montague residents; over half of renters are cost-burdened by their housing, and many Montague residents are shifting to a fixed income after retirement. How can we more equitably meet the need for housing in Montague?

Employment and Economic Trends

- 14% of residents work within Montague (but outside the home); 13% of residents work from home—more than double the 6% of people who worked from home 10 years earlier.
- The unemployment rate in Montague is 4.9%, which is lower than the state’s rate of 5.4%.
- The town’s key industry sectors are manufacturing (27%), health care and social services (23%), and education (20%). The share of manufacturing jobs has shrunk in the last decade and the share of health care jobs has also shrunk recently with the closing of the Farren Care Center.
- Approximately 2,600 jobs are provided by 294 employers in town. From 2001 to 2021, the number of work establishments grew by 100, but the number of jobs fell by 113. This suggests that smaller businesses and/or self-employment has increased.
- More people are commuting out of Montague for work than are commuting to Montague. Most commuters head to Greenfield, Deerfield, Amherst, and Northampton.

With the job landscape changing, how do we continue to provide jobs in Montague that are accessible and financially viable to Montague residents?

Transportation

- The majority of commuters (70%) drive alone in a vehicle.
- 12% of households in Montague do not have a vehicle.

- Public transit consists of 3 fixed bus routes and the FRTA Access program.
- There are more than 17 miles of sidewalks in Turners Falls in varying conditions.
- There are over 1,600 culverts in town, of which 9% have been identified to be in critical condition.
- Bridges will need to be replaced as they near their lifespan.

How can people travel around Montague more safely? How can we encourage people to drive less? How do we replace aging infrastructure and pay for climate-resilient transportation infrastructure?

Community Facilities and Services

- Montague has a Town Administrator, Assistant Town Administrator, and a Town Planner, plus boards and committees, to help implement the ***Five Villages: One Future Comprehensive Plan’s*** recommendations.
- There is excess capacity in existing water and sewer infrastructure.
- School enrollments have been declining—between 2018 and 2022, there was an average decline of students by 12% across the town’s elementary and middle schools.
- There are many older buildings (mills, schools, churches) that could be repurposed.
- Average Montague homeowner’s tax bill in 2022 was \$3,941, compared to the state average of \$6,724.

Montague has aging municipal facilities, a supply of unused older buildings, and a surplus of water, sewer, and school capacity. How can we improve facilities and make use of current assets to meet our shifting needs?

Environmental Trends and Zoning

- Montague is home to a diversity of natural environments: large and small rivers, large forest blocks, woodland and farmland, uncommon pine barrens and grassland habitat, and suburban and urban settings.
- Montague has a high proportion of Estimated Habitats of Rare and Endangered Species compared to surrounding towns, as mapped by the Massachusetts Natural Heritage and Endangered Species Program.
- Since 2000, new development has mostly occurred in the form of residential development distributed throughout town, and as solar development.
- 60% of land in Montague is protected from development.

How can we balance the use of our land for housing, sustainable development, protection of natural and recreational resources, preservation of the farming economy, and climate resilience?

Unless otherwise noted, data presented here is based on 2021 US Census data from the American Community Survey 5-Year Estimates (2017-2021), UMass Donahue Institute Population Projections (2018), 2020 Census PL 94-171 Redistricting data, and 2019 employment and commuter data from the US Census's OnTheMap program, and the Town of Montague.

Community Visioning Workshop

Expectations

You will be assigned to a topic for Block A and a geographic area for Block B when you sign in for the workshop. Tables will be labeled with their topics/villages. Your table will have a facilitator and a scribe.

The topics are

- Housing
- Transportation
- Economic development and culture
- Community facilities and services
- Open space and environment
- Land use and zoning

Block A | Topics | 50 minutes

Step 1.

For your topic, take **~20 minutes** to answer the following questions as a group. Make notes on your map using a **blue marker** to show strengths and opportunities.

- What are the **strengths** (inside town) of your topic in Montague or the Town's approach to your topic?
- What are the **opportunities** (external to town) for your topic in Montague or the Town's approach to your topic?

As you work, remember to always be thinking about how your ideas affect all parts of the Montague community. Think about who gets included in your ideas and who gets left out. And if there are any actions that can be taken to ensure inclusion and equity.

To help guide you, information on Montague can be found

starting on page 3 of this booklet.

Step 2.

For your topic, take **~20 minutes** to answer the following questions as a group. Make notes on your map using a **red marker** to show weaknesses and vulnerabilities.

- What are the **weaknesses** (inside town) of your topic in Montague or the Town's approach to your topic?
- What are the **vulnerabilities** (external to town) for your topic in Montague or the Town's approach to your topic?

Step 3.

For your chosen topic, take **~15 minutes** to answer the following question as a group. Make notes on your map using a **green marker** to show ways of making Montague more climate resilient in your topic area.

- How can we make your topic more resilient to climate change impacts?

Block B | Villages and population scenarios | 50 minutes

Step 1.

For the first **~25 minutes**, discuss and draw on the map what you want your village to look like in 15 years. Also, how can you accommodate expected climate change impacts for your area 15 years from now?

- Keep in mind what we heard about the six topics from this morning (see page 11).
- It is okay to repeat what you discussed in the morning, but try to make it specific to the geographical area specific to your table.
- Discuss what you imagine as ideal and what you think the barriers to that ideal vision might be.
- Some specific questions you might ask to get discussion going:

- “Is commercial growth needed and if so what type and where should it go?”
- “How do we balance housing in this area—what is needed and where should it go?”
- “Where do I want to be able to walk to or bike to more safely?”
- “What recreation opportunities are missing?”
- “What is most needed to improve livability and accessibility for our elderly and disabled population in this area?”

Step 2.

You have just been given a population scenario for 2035. Imagining this population change is spread evenly across Montague and the five villages, for the next **~20 minutes discuss how this population scenario changes what you think your area will look like in 15 years. Is there anything you would change about your vision to accommodate this scenario?**

THANK YOU FOR YOUR PARTICIPATION IN THE WORKSHOP!!!



Stay engaged with the comprehensive planning process at [Montagueplans.org](https://montagueplans.org)

- After the workshop, a summary of the comments and results will be posted in English and Spanish on the *Review and Comment* page of montagueplans.org.
- There is a link to a form on the *Review and Comment* page you can submit if you have further comment about the workshop and other workshops or plan drafts. Or you can contact us!

Maureen Pollock, Montague Town Planner
planner@montague-ma.gov | (413) 863-3200 x112

Megan Rhodes, FRCOG Planning Coordinator
mrhodes@frcog.org | (413) 774-3167 x132

- Draft chapters will be posted for public comment on the *Review and Comment* page as they are completed over the next year.
- **Register for the next workshop on March 9th at 6 p.m. on Zoom.** Registration is required to receive the Zoom link:

<http://tinyurl.com/montaguegoalsworkshop>



Montague Visioning Workshop, February 4, 2023

Summary Results by Topic

Housing	Count	Transportation	Count	Economic Development & Culture	Count	Community Facilities & Services	Count	Open Space & Environment	Count	Land Use & Zoning	Count
Strengths											
Natural environment resources		Bikepath	2	art based/ non profit (Shea, Disc Ctr)	2	village aspect in each village		protected land		Zoning is local and can be made to apply to specific town circumstances	
Diverse economically		sense of community		large artist population		supermarket in town		recreation		4 cluster desnity	
40R zoning		public bus system		passenger rail bringing welcome growth				planning		new residents/ vision / lots of info	
Great place to live here		plenty of parking		River Culture	2	open space - bike path/playgrounds	2	state resources		possible farmworker housing	
Transitional & supportive housing (Dial Self/teens/ sober/recovery)		briges are improving		Split tax rate	3	Good high school facility (swimming pool, emergency center)	3	ecology/biodiversity	2	small commercial	
Young people want to live here		bridges that are closed are appreciated by immediate neighbors		airport / industrial park	2	Tech School	2	Montague Plains and meadows		sewer/water	
Build housing on land that is not agricultural		sidewalks are great in certain places		River (natural resources and green space)		town entrepreneurs (nova motorcycles)		Park with meeting space in Lake Pleasant		variety of density	
Zoning law allowing accessory dwelling units (2019)		we have a lot of greenways		good access / location		bike path	3	Fishing (cranberry pond, fish hatchery, etc.)		business friendly town hall	
Cannabis money should be used for housing – however, this money may go away.		PVTA bus connection in Sunderland		Food access/culture		senior center	4				
Montague has good revenue sources, more than all/most FC towns. Town can choose to invest in things.		Low fares for buses		size		montague reporter					
		FRTA has helpful staff				social services in town					
		able to get to Boston in 2 hours with one stop				Libraries, skatepark, playgrounds, Discovery Center, Brick House, Shea Thearter are strengths					
						skatepark is a strength					
						Discovery center- new programming is exciting					
Opportunities											
Guidelines for home sales		passenger rail for development		Ties to higher ed		community driven library planning		Increased recreation + access		There is a lot of preserved state land	
Pairing older homeowners with younger folks		more sidewalks		financially accessible housing		excess capacity of water and sewer		extending access (including to river)		7 refugees	
Affordable housing trusts		we need bikepath and greenways connected	3	telecommuting		vacant buildings (mont center library, town annex)		swimming		Mapping geology	
recreational open space		Hoping that the new on demand access program can provide service to more rural villages (i.e. Montague Center and Lake Pleasant), where fixed routes are not practical		leveraging resources for tourism		Lake Pleasant + Green Pond		town communications re open space & rec		Mt. Grace land protection is an asset	
mixed income housing, including near the river		Should we have a train station in Turners Falls?		leveraging opportunity for more involvement with native community		Mixed income housing		collaborations (Red Fire Farm + Mt Grace LT have joined forces)	2		
HRA as a resource for homeowners				prospect for owner cooperative		Combining uses of facilities (library + senior center)		gem in every village			
Funding from short term rentals/cannabis				create artist directory		intergenerational uses of facilities & programs		cultivating relationships between schools +			
town owned properties can be used for affordable home ownership				redevelopment of Farren for anchor for Montague		Bike path could be plowed		Montague Meadows hiking space (move entrance to			
redeveloping exisiting buildings (older homes)				redvelopment of older properties		connect villages with bike routes + rental bikes	5	Every Village needs a "gem" spot that draws people to			
Build on periphery, while keeping the charm of the village center						gathering space in each village (eso in Millers and Lake Pl)		Choose native trees and plants when planting new			

Housing	Count	Transportation	Count	Economic Development & Culture	Count	Community Facilities & Services	Count	Open Space & Environment	Count	Land Use & Zoning	Count
Create village like Greenfield's Solar Village						winter indoor recreation	2	Green spaces need to be closer or more accessible to higher density populations			
Next generation septic systems that compost						older buildings for housing		better access for walkers to all villages			
Many houses need rehab loans – opportunity for homeowners with resources to make it better						Town outdoor pool	4				
CT River is an amazing beautiful resource. The old mills are opportunities for housing, both affordable and not. We need more open space AND housing. Mixed income and rental. River views.						maker space					
Railroad salvage area is opportunity						Electric bike rental					
Town could opt in to lodging tax for short term rentals and boost revenue, use revenue for housing.						Built facility to access river easier					
Town could have a program in which someone buys a house and renovates it. Use CDBG money for rehab.						More houses and buildings could be connected to water and sewer.					
help residents on buyer down payment and rehab buildings and make it affordable.						Utilizing Montague Center Library basketball court and stage					
Could spend money rehabbing what we have – this would make community more resilient to climate, and less strain on environment to use EXISTING housing. Help homeowners make homes more energy efficient. Town office would need to collate the information – homeowners don't						Lake Pleasant wants an indoor community space					
						space					
						Cooling Centers					
Weaknesses											
lack o affordability of rentals and home purchase		transportation to schools (esp in TF, 1.5 mile problem)	4	split tax rate	2	Community centers only in 3 villages		lack of resources		pull of history / lots to learn for new people	
ownership, responsibility, liability concerns		public buses - no public buses to certain areas (e.g. Lake Pleasasnt)	2	internet access		access to public swimming		lack of cohesion re climate change		NIMBY influences bylaws	
affordable rental & buying	4	no connected bike/ped network	2	foot traffic - slow	2	older municipal buildings (libraries, senior center, town hall)	2	invasives		sewer / water	4
not enough lodging		There is a lack of stormwater ordinances in town to protect water	2	poor wayfinding via 91		lack of physical /geographical continuity among villages		equitable engagement/ access		town roads are not enough	
starter homes and starter apts		sidewalks are not accessible and not in key areas	2	lack of gallery space, studios, maker space		lack of facilities for historic preservation		safe road access to walking + biking		complicated bylaws	
Need starter housing. More sober housing and housing for teens – already have some.		No way to safely walk to Greenfield from Turners Falls		population of TF uninterested in street fairs		ADA accessibility for public facilities		cultivating plant + tree animals habitat			
Challenge: how do you know how many houses is enough? Housing Production Plan can help town evaluate how much there is, what is		snow removal on sidewalks (especially in front of homes where people are unable to do it themselves)		Lack of signage on 91	2	growing # of seniors w/o transportation	2	Bringing people with lower income into these conversations			
				Declining school enrollment		parking for library		Transportation to areas that are hard to get to without a better access to neighboring towns with bus services			
						bridges	4				

Housing	Count	Transportation	Count	Economic Development & Culture	Count	Community Facilities & Services	Count	Open Space & Environment	Count	Land Use & Zoning	Count
						Shut down of the Dome/Indoor Action. Was a total Franklin County resource for kids and adults. Shocking that it Shut down. Hasn't been a great way to fill its spot. Such a unique spot. Big warm nice turf field.		Burn out with Department of Public Works			
Vulnerabilities											
Deteriorated housing stock		challenges to connect to Boston using transit	2	decreasing economic base		what facilities does each village need to support 5 village benefits		lack of town communication		2 climate change	
Ripe for investment/gentrification		passenger rail bringing too much development		increase cost of living		school system		safe outdoor swimming		extreme water table actions	
Need lead removal				decaying infrastructure		no medical facilities for aging population		separate water district means inefficient scale of		not-town owned crumbling buildings	
absentee landlords in downtown TF				climate impacts		decentralized form of govt doesn't support collaboration & innovation (ie. Lake Pleasant + water dept)		people opposed to large scale solar			
increasing vacancies?				help for farmers		libraries		Budget demands on skrinking school system			
attractive location for investment in short term rentals and home flipping				warming centers		school district consolidation		DPW Coordination			
Keeping the "Village feeling" in any construction we add.				heat & cooling assistance		funding for heating/cooling bldgs		Climate Cohesion across all city departments			
				large scale alter. Energy		spaces to go for climate control					
				more of a share in First Light (municipal power)		increase in vandalism/graffiti					
				bike share		need more support/services for teens					
				is there an anchor property complex/location? Shrinking base for major industries (healthcare, education)		Housing prices and rental prices are a vulnerability. Not just the housing, but also the relationships that help maintain families who are at risk.					
						No medical services in town now. Huge vulnerability for seniors. No pediatricians. No GP's. Just dentists.					
Resiliency											
Rehab existing buildings with environmental concerns in mind		More EV chargers/electrical infrastructure/ batteries									
		Bike shares / bike parking		Need to have more heating and cooling shelters that residents could use		green building in new facilities		pollinators		multigenerational neighbors	
				How do we help farmers/the ag businesses?		walkability - preserving this aspect		shade/trees		changing climate resilient outdoor rec	
				Heating/cooling assistance		FEMA floodplain update needed		recreation connectivity -			
				Large scale alternative power sources & battery backup		undersized infrastructure means future flooding could get worse		including climate resiliency			
				Bike shares to make tourism less reliant on cars to get around		opportunity for solar on new roofs on town buildings		flooding abatement			
				Montague is a power town (FirstLight!) but they don't get access to any of the power!				increased outdoor rec			
				Municipal power!				climate resilient agricultural practices			
				More of share in First Light power				incorporate climate resiliency into municipal			
								municipal building with solar			

Montague Visioning Workshop, February 4, 2023

Summary Results by Village

Turners Falls	Count	Montague City	Count	Lake Pleasant	Montague Center	Count	All of Montague	Count	Millers Falls	Count
Exciting										
Food (security, food forest, farm market, co-op, urban ag)		Farren property (mixed use, community space, residential)	2	Need community center with store	walking / bike path expansion	2	public art integrated into green spaces			
commerce and events	2	pool		Have recreational opportunities (trails in plains + to other villages)	expanding housing on edge of walkability with closer housing/ mixed income		microgrids			
Protected bike and walking paths	3	access to outdoor rec		Lake pleasant village association	more signs		free store at transfer station			
increase indoor community space (gyms, libraries, senior centers, childrens museum)	2	welcome sign is needed		post office	town park is great opportunity (stage, bathrooms)		better use of waterfront			
more public art				possible east-west rail through town	library		swimming!			
green space	3				variety of businesses /Community centers		more festivals			
elementary schools					access to Sawmill River for recreation	2	promote village block parties - each business responsible not just one entity			
Challenges										
Underdevelopment of existing space (esp housing)		visibility as a village		need better access to bus + bike paths	future community space (library/town hall)		reduce lot size requirements		sewer system and infrastructure	
Riverfront access		deteriorating infrastructure		risk of fire esp. with climate change	parking with solar		more housing in millers falls		Nothing we can do industrially. Commercial spaces are mostly occupied. Village is mostly built out, except for a few lots.	
Water access to river (contamination)		limited town owned property		tree damage from storms an issue	speeding through village	2	encourage diversity and make more welcoming at HS		Village disconnected to the rest of Montague	
Housing (not enough, make it more affordable)		affordable starter homes		keep lake protected	housing that doesn't impact ag land		Equity celebration and welcoming representation		Library and pub are local gathering space. Want more of those opportunities. Need somewhere for youth to go. Plenty of kids on the hill and in the neighborhood. There is one park with no bathroom. Ice skating rink to draw people from other villages?	
voices at the table (collaboration)		rentals that don't allow pets			ADA accessibility in library		Town admin not legislative power		Village has become a food desert. Need a market. Pub General is picking up a bit of the slack. Carroll's was there but it's just cigarettes, scratch tickets, and nips now.	
funding for investment		need a community center			Maintain ALL access bridges		mixed use housing		Topography is a limitation – there are steep slopes that are a barrier in many ways.	
creating spaces where LatinX cultures are					North St. used for parking for the		low income housing			
activities for children					tax base limit?		Need more HIP vendors for farm stands			
Indoor activities in winter	3				Air BnB's as housing stock		Need more youth spaces			
Sidewalk improvement and maintenance (millers falls rd, industrial park, tech school)										
FRTA loop in Turners Falls								x		x
connect Turners Falls to Greenfield via TF road										
Unexpected										
Lack of identity / messaging about Turners Falls		sewer easement to extend bikepath		how population trends change in future with climate change or passenger rail	plan for septic/water technology		tiny house development			
Group for aesthetics of projects					not town-owned land (private)		microfarming opportunities			
consensus around importance of investing in					opportunity for electric bike charging		artist maker spaces			
Maintain character with population increase					crossing streets in Montague Center continues to be dangerous		street lighting districts			

Turners Falls	Count	Montague City	Count	Lake Pleasant	Montague Center	Count	All of Montague	Count	Millers Falls	Count
Scenario Change										
Decline		New welcome to Montague City sign		growth	growth		more youth programming		growth	
How we think about housing / different demographics / affordable housing				we ID'd potential areas for new housing	longing for Millstone II				Growth would mean more collaboration with Erving. Erving doesn't have businesses, so they come to MF. Need a place to buy food!	
				increase need for community center and transportation access	Cluster housing	3			Climate resilience – places to swim nearby. Open up Lake Pleasant to public access swimming. Kids in Millers Falls could bike there.	
Growth									Village could be better connected to Lake Pleasant via Green Pond Road.	
There should be more than 10% growth and is realistic									Potential housing we identified earlier would need another floor – 30 units. Franklin Street and Bridge Street up against RR tracks.	
increases in density elsewhere but schools are					decline					
Need senior housing. Putting senior housing right downtown in Turners Falls might not be appealing for a lot of seniors (thinking of Sunderland's example where there is ample open space)					co-housing					
Need a "five-college" style FRTA route that would run through each of the five villages.					preserving, sharing montague's history					
In the scenario of the construction of the east-west rail, Millers Falls would be a better place for increased housing because the stop would be there. Turners Falls is already pretty built out.					we like Montague Center the way it is. Preserve it. Community Spirit					
The Town would need to do a better job at advertising the schools – otherwise people will continue to opt out and Montague would be left with higher costs of community services for more residents without increased revenue.					opportunities for multigenerational living					

MONTAGUE 5 VILLAGES: 1 FUTURE COMPREHENSIVE PLAN VISIONING WORKSHOP

● ● ●

MONTAGUE IS HOST TO
8,500 PEOPLE
31 SQUARE MILES OF LAND
13 MILES OF THE CONNECTICUT RIVER
5 VILLAGES

HOW SHOULD WE BE SHAPING OUR 1 FUTURE?



PHOTO FROM MONTAGUE MA HISTORICAL SOCIETY
MONTAGUEARCHIVE.ORG/INDEX.PHP/VILLAGES_FALLS

WHY COMPREHENSIVE PLANNING?

● ● ●

- Comprehensive planning is an open, public process that identifies a community's vision for its physical and economic development.
- The *Five Villages: One Future* comprehensive plan can prepare our community for how population, employment, housing options, and development patterns may change
- This Plan will incorporate climate resiliency into every element.

COMPREHENSIVE PLANNING PROCESS

- Steering Advisory Group
- Conducted a community-wide survey
- Two visioning workshops
- Focus Groups
- Draft chapters will begin to be available this summer for review
- Opportunities for feedback and input throughout
- Plan will be completed by June 2024


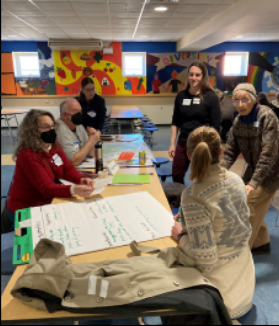


Photo by Raoul Franz

GROUP AGREEMENTS

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- Be fully present** - To the extent that you are able, please limit distractions (i.e., using your phone, looking at other screens, responding to email, etc.). We hope that everyone can show up in the space as fully as possible to the extent that they are able. Please take care of yourself as needed.
- Use "I" statements** - When you are speaking, frame your comments around how you are feeling and thinking. This will help to avoid making assumptions about other people and how they are feeling.



GROUP AGREEMENTS

- Take Space, Make Space** - If you find you've been speaking a lot, consider listening to others. If you often talk a lot, make sure to share information that is geared towards the goal of the meeting and be specific about the information you share so participants are on the same page. Alternatively, if you find you have not spoken up much, consider speaking up/contributing. We want to hear from everybody, your input is valuable/meaningful hear and we want to know what you have to share.
- Share the lesson not the story** - What is said here stays here, what is learned here leaves here. Please share with others what you have learned from today! But, in doing so make sure to keep the details about who said what private unless you have the explicit permission of the individual.
- One mic** - Talking over other participants in meetings can be very disruptive to the flow of the conversation. If someone is talking, it is important to recognize that they have the proverbial mic and to wait for them to finish before you respond or join in.

WHAT WILL THE FUTURE LOOK LIKE?

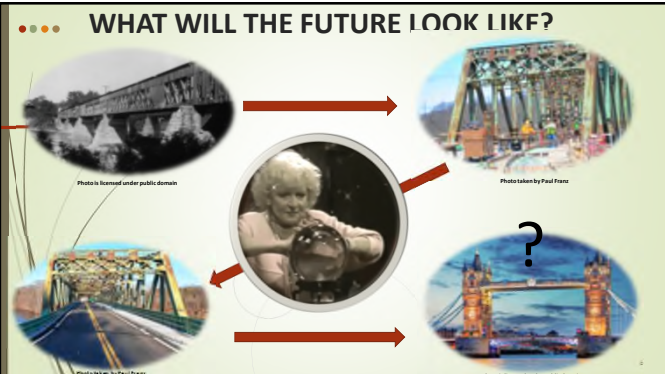


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Slide 3

A1 Author, 2/1/2023




Photo by Paul Franz
Photo by Carol Lotts
Photo by Dan Little

MONTAGUE'S FUTURE

- Climate is already changing
- Population will continue to change:
 - Increasingly older
 - More diverse racially & culturally
 - More diverse economically



VISIONING WORKSHOP

- February 4 workshop summary results can be found here: <https://montagueplans.org/review-comment/>

Strengths

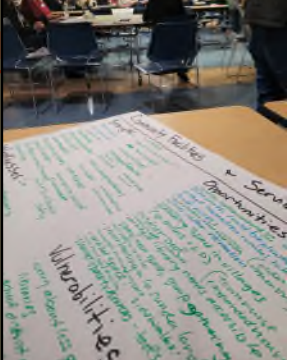
- Close-knit community
- Distinct village character
- Arts & culture
- Attracts young adults
- Centrally located
- Variety of housing densities
- Capacity in sewer & water systems
- Access to passenger rail
- Pedestrian & bike infrastructure
- Reliable bus system
- Diversity of outdoor recreation opportunities
- Rivers
- Farmland
- Protected open space

Opportunities

- Telecommuting to increase population
- Possible east-west passenger rail
- Indoor recreation
- Older, vacant properties for housing or maker spaces
- Passion for libraries and civic spaces
- Montague Center Library (upstairs)
- Many public facilities that need to be updated and could be combined
- Redevelopment of Farren Care Center
- Collaboration with state and regional agencies on land uses
- Room for solar on many town buildings
- Rivers and natural resources


Weaknesses & Vulnerabilities

- Villages are too separated
- Resources not distributed to villages evenly
- Inequitable access for engagement with town politics and affairs
- Lack of activities for youth
- School system
- Not enough affordable housing
- Economic activity has been declining
- No medical providers in town
- No stores for basic goods in town
- Too many vacant buildings
- Poor ADA accessibility
- Gaps in public transit
- No bike/ped connections to villages
- No swimming access
- No place for winter indoor recreation
- Farmers vulnerable to climate change
- Lack of cooling and warming shelters



GUIDING PRINCIPLES

- Five Villages: One Future Comprehensive Plan will have 6 chapters:
 - Climate & Sustainability
 - Housing
 - Transportation
 - Economic Development & Culture
 - Community Facilities & Services
 - Land Use & Zoning
- We have created a **guiding principle** for each chapter based on the outreach we have gathered.
- We need your help with ideas to make these guiding principles a reality!



Closing and THANK YOU!

- ▶ How to continue to give feedback:
 - ▶ www.Montagueplans.org
 - ▶ Maureen Pollock: planner@montague-ma.gov
 - ▶ Megan Rhodes: mrhodes@frcog.org
- ▶ Next steps
 - ▶ Focus groups
 - ▶ Draft chapters with feedback opportunities to review chapters
 - ▶ Public comment on final draft as well

Summary of Virtual Workshop Feedback

Potential Action Items to Implement Guiding Principles

The following lists potential actions that were brainstormed by workshop participants. These actions were suggested to help implement the guiding principles. No judgement was made as to how feasible or realistic the actions may be. The "Count" column indicates if an idea was seconded by others and how many times. A total of 40 participants attended the virtual workshop on 3/9/23.

	Count	Housing	Count	Transportation	Count	Economic Development and Culture
Edible landscaping and native species in all municipal plantings.	1	Yes, create a Village neighbors group.		Roller skating (indoor/outdoor?)		Support local business
Local wi-fi provider like Greenfield has. (I know this doesn't belong in this category..)		Host a ReStore or similar		use other modes of transportation more than driving		My magic wand says: Make A Guest House or a small Hostel a reality
partner with state for air conditioner return & rebate for new units		Renovate existing houses and apartment buildings		school bus transport in Turners Falls	1	mixed use senior housing at Farren with community center
Have DPW practices align with climate sustainability goals	2	Redevelop Farren site to have multi-generational affordable housing, community center, playground and open space		Turners Falls Rd. is not safe for pedestrians	2	brand = playful + farming + creative
Increase tree coverage in public spaces	2	Would love to see more single family units, as well... I would like to own my own home and I love Montague!		provide free safety equipment - lights, vests etc (p.s. there's an organization that does this - I'll try to remember the name)	1	something in the red fire farm stand on 63
Provide more native species in public spaces. The native grasses at Unity Park field house are great example		Be open to building repurposing (old school -> apartments)		shared transport to UMass		mutual aid creative workshops
Are there any buildings suitable for rooftop gardens?		start a village neighbors group	1	ride sharing opportunities	2	What is the CHAMBER of COMMERCE doing?
Grass roots (ha) invasive species management events (kind of like the green river cleanup; big whole-community effort on specific day)	1	tiny houses	1	Less cars more mass transit		Economic development should prioritize locals, not tourists
Install lampshades on street lights to reduce light pollution		Focus on walkable neighborhoods		keep basic public transit services affordable (or free!)		Private Lodging, not AirBnB
Provide more shady nooks.		senior housing at Farren site (in old office building?)		SAFE BIKE PATH TO greendfield	1	Job training/internship programs for high schoolers

Climate and Sustainability	Count	Housing	Count	Transportation	Count	Economic Development and Culture
Encourage more solar development (through tax right-off, for example)	1	support proposals to create affordable homeownership opportunities	1	clear snow from bike path	4	Avoid complexity - Growth is not our friend
Add emphasis to wildlife corridor maintenance to town priorities.		use dense housing with shared open space	1	clear ALL sidewalks	1	have kayaks by parking lot/unofficial dog park
Add native tree guidelines for municipal tree plantings		direct new housing in villages and not on farms	1	promote getting around in ways other than driving a personal vehicle		jobs that work for parents, including single parents
Food forests		building on brownfield, not greenfield sites	1	support new bike shop		Prioritize economic growth that provides services rather than products. More ecological.
Update building codes for energy efficiency innovations		help landlords who want to improve their properties to make them accessible, age-friendly, lead-free, and affordable		get more people to use the services FRTA already offers!		Year round farmer's market
Provide Incentives/support for small-scale farming/gardening		More housing by the Canal (Ave A) accessible to transit/walkable		bus on weekends	1	keep it Simple and Local
Contract study of health of Montague Plains aquifer - this is a critical local environmental resource that may be changing with climate shifts.		Prioritize multi-unit housing (as opposed to single family), esp. in downtown areas and near schools		Bike/Walking paths under powerlines to connect villages?		Highlight existing public art
		Rent control/rent cap	4	More amenities in each village would reduce the need for travel between villages and out of town	1	provide lodging for out of town visitors
Food forests to be planted that handle hotter temperatures, i.e. chestnut trees		ADU (accessory dwelling units)	2	ADA accessibility (ramps and lifts, auto doors) would also be great for parents with young kids in strollers!		make sure economic develop is equitable
Have at least 1 community garden in each village center		Changing Zoning to favour Housing, tiny, and alternative. Building materials		sponsor bike rodeo	1	child care
Have the Town help homeowners and renters provide an energy efficiency rehab program and educational workshop. Reach out to Shelburne Falls about their program.		Keep farmland in tact. Allow property owners to add small buildings. Yes, multi-family homes.	2	SIDE WALK TO GRenfiled and other areas	1	worker coops
Explore renting solar arrays		Afford Co-ownership, including Elder housing.		More Bus Service: Since there are few car-less people, offer RIDES BY DEMAND>		River is an important fishery -- concerned about potential of damaging water levels from potential river rafting

Climate and Sustainability	Count	Housing	Count	Transportation	Count	Economic Development and Culture
Install solar panels over town parking lots which would produce clean power and shade cars to reduce AC needs.		Focus housing in centers rather than building on agricultural land.	6	Bike path to Greenfield	3	Community Center could have space for creative endeavors (a theater, artist workshops/resources etc.).
Adopt a CPA to help fund conservation and historic protection programs.		Refurbish the factory buildings into afford Housing.	1	Walkable communities, reduce need for public transportation	2	Keep the fall festival alive!!!!!!
Promote no-lawn front yards!		Create housing for seniors	4	Bike lines between communities	1	More concerts at Unity Park
Town should avoid using herbicides and pesticides	2	Promote energy savings	1	Loop van - not point to point like FRTA provides, but something that loops through the villages periodically	2	Food, drink along the bike path.
Plant trees along bike paths for long stretches.		Multi-generational co-housing	4	Improve ADA accessibility of sidewalks	2	Food trucks downtown
Encourage sharing economy. No unnecessary new goods.	3	Allow smaller housing options	1	More bike parking	3	extend bike path behind farren to a park with new Senior center and Library
Electric school buses?		Home Energy efficiency property tax rebate - this could introduce inequities, complex issue		More EV chargers	4	Lighting on Rock Paper Scissors sculpture
Provide more maps and signs so people know what's in town	1	Town regulations to protect renters.	1	Clear all sidewalks in winter	1	Seek manufacturing or other uses for Industrial Park by airport
Build a 3 season flex building for events and markets to provide shade and protection from rain, etc.		continue to update bylaws to reflect current best practices (like when we got rid of the definition of family)		Bike/walking paths between villages	6	Create destination activities; hiking in Montague plains, other outdoor recreation
use zoning to mandate putting land in conservation to mitigate huge developments		Creative mechanisms including CLTs, co-housing, etc to support affordable co-ownership.		Better public transit options	3	Leverage the river!
need townwide policy/ culture shift		federal funds to renovate existing buildings for affordable housing		Passenger rail in Montague	4	Create a "brand" for out-of-towners
make all new recreation opportunities senior and disability friendly		Facilitated Group Housing for people with developmental disabilities and autism	1	Loop van - not point-to-point like FRTA provides, but a line that loops through the villages periodically	2	More public art
workshops and information sessions to inform folks about bylaws/grants/state laws to take advantage of		Multi-use development	3	On-demand ride share between residential areas and shopping / entertainment areas		Support passenger rail stop in Montague
Montague City is overrun with bittersweet, an invasive plant. Intentional replanting across from Farren.		More housing for seniors- one level- close to shopping and offices	1	community communication network	2	Utilize vacant buildings (redevelop or remove)
solar bicycle path	1	digital information for folks moving to town about building/buying process		Electric vehicles and electric bikes to share	2	Pop up markets and food trucks in downtown

Climate and Sustainability	Count	Housing	Count	Transportation	Count	Economic Development and Culture
Design parks for multiple age levels.	2	actively pursue state/federal grants that bring financial incentives to Montague		SAFE Bike Lane marking		Farren Care property to become community anchor
Aquaculture		We Need More Places to Build - Not Just in Turners Falls.		Clear all sidewalks in winter	2	Create shared workspace like the coworking facility in Amherst and others.
More public food gardens and fruit trees	2	Renovate for net-zero multi-family affordable housing, consider housing cooperatives		planning to reduce number of trips per vehicle		more things like swanson's classes!
Enhance bike paths between towns	2	Take failing/ dangerous houses into receivership and renovate		Work with other towns!		Incentives for local small business and employers
Add solar on as many large buildings in town as possible and over large parking lots	1	Ensure New Housing Projects are Economically Integrated		citizen-citizen town supported ride share		
Electric vehicle chargers	2	Intergenerational cohousing		Normalize (increase) routes to Amherst where there are more job opportunities.ALSO- Routes direct to Northampton	2	Create a free, larger community gathering space or several around the different villages
Municipal electric vehicles	2	senior co-housing communities	2	More transportation to UMASS/ Colleges. Do a study about the times most needed by students.		Local author readings and art shows in the libraries. Community space to gather that is supported by the Town without a fee.
community gardens/free food forests/etc	2	tiny homes and micro units	3	Develop transit alongside affordable housing and access to workplaces to create effective corridors for affordable lives.	1	excellent way finding throughout the villages
Make all municipal buildings more energy efficient		Single use occupancy apartments. Diversify apartment types for youth and seniors.		Senior bus services to get to medical appointments		Support the Arts through an annual contribution to RiverCulture and the local cultural councils
Protecting and caring for existing trees on town spaces		Encourage infill housing in village centers.	3	walking path to Greenfield!	2	Encourage local energy efficiency, renewable energy, fossil-fuel free businesses
Build a large pavillion for outdoor meeting	1	Allow smaller apartment units, accessory dwellings	3	clear rules posted in all wildlife walking trails esp.between villages explaining hunting seasons and safety for walkers and hunters		Concentrate on inclusiveness of events

Climate and Sustainability	Count	Housing	Count	Transportation	Count	Economic Development and Culture
implement wind/water turbines	2	Adopt opt-in stretch energy code that requires more energy efficient new construction and larger renovations to move us away from fossil fuels	1	digital equity will help access to on-demand transportation		Consider if local / municipal procurement could support localizing production
Solar panels on town bldgs	7	Renovate existing buildings to be energy efficient, affordable, and have solar to bring down energy costs as much as possible.	2	People Must Use FRTA - Need to "Earn" More Transit Funding		Consider incubator / maker spaces as part of vacant building redevelopment
More downtown garden spaces	4	Accessory dwelling units		embrace the density of villages	2	Partner with college to encourage new entrepreneurs in small market
more warming & cooling shelters	3	Require stretch code for new buildings.		Multi-Use Trail in Plains to Connect Villages	1	Space sharing for seasonal businesses.
swimming pool for hot days	4			elementary school busses from downtown Turners Falls to Hillcrest & Sheffield Schools	4	Control taxes to encourage economic stability.
Plant native species	3	Promote energy savings	2	Develop a ride share for neighbors in town	2	education to emphasize closed loop systems of consumption
Expanded public transit	2			Increase public bus trips to Greenfield for shopping, services access	2	all local companies to manufacture, etc with an environmental sustainability lens
Develop a culture of regeneration -- help develop understanding among residents		Allow smaller housing options	3	Electric public buses		Clear Strathmore buildings and create a river park.
Decarbonize buildings -- including deep energy retrofits	2	consider increasing density allowed in zoning	1	Rentable electric bikes	1	community engagement and systems for reuse/recycle
Update and improve the Montague Center playground: updates equipment, perhaps a community garden, native plants and shrubs, park benches etc.		Decarbonize existing affordable housing: move them from fossil fuel heating, stoves, etc to efficient electric heat pumps	2	Re-instate trolley service between villages	3	community murals/sculpture
municipal support for home energy efficiency				Regular passenger rail service to Boston	2	Opportunity (through the demolition of the Farren) create a community center in Montague City
increase options and accessibility for recycling and composting				EV charging in villages other than Turners Falls.	2	Use public building spaces flexibly to reduce costs of multiple spaces.

Climate and Sustainability	Count	Housing	Count	Transportation	Count	Economic Development and Culture
preserve and maintain all current open land for agricultural purposes				Provide better advertisement for on-demand FRTA service.	3	allow space/regulations for commercial/industrial use
make guidelines for municipal tree planting that prioritize native species						Double Down on Funky and Local in Our Downtowns
						Build Downtown Business Networks/Coordination
						Invest in K-12 Education to Attract More Working Age Adults/Families
						Enhance quantity of programming at Shea Theater
						create an event venue in former paper mills
						Focus on localizing the economy, as supply chains will get fragile.
						create a public art master plan!

<i>Count</i>	Community Facilities and Services	<i>Count</i>	Land Use & Zoning	<i>Count</i>
	support branch libraries which serve individual village needs		make zoning easier to understand	1
	financial support for aging in place improvements	2	allow dense housing to protect adjacent open space	1
1	Free store at transfer station	1	reduced minimum lot size on septic	
	continue to support branch libraries each of which supports the individual character of the village it is in	1	assist homeowners in learning to increase pollinator environments and reduce lawns	2
	Work toward acquisition of golf course for park/dog park/botanical garden connecting upper and lower neighborhoods	1	Preserve Hedges, wetland, buffer zones for birds.	
	MA does not support combined Library and Senior		Multi story low income housing	2
	An improved/new library in Turners would also provide community meeting space.	2	Restrict solar panels to buildings/brownfields (no solar developments on farms/forest)	2
	A new senior center could be combined with a new library.		More business/mixed-use zoning among single-family areas to create walkable business	1
1	Community kitchen in community center for free meals.	2	Wherever a RAIL YARD would be, Montague should be aware of RAIL ROAD rules reg Hazardous freights	
	More public art that is also a functional play structure (for both kids and adults!).	1	Preserve all current agricultural land.	1

Count	Community Facilities and Services	Count	Land Use & Zoning	Count
2	Edible landscaping in all new public plantings.	1	Transparent online public map of zoning areas	1
	Consolidate schools turn schools into low income housing	1	Create and maintain "history trail" or similar cultural experience to increase awareness of town's changes over time	1
	maintaining and modernizing our library facilities	1	Reuse and renovate current buildings for additional housing.	1
	public restrooms (year-round) at Unity Park		Allow YURTS where an owner might want to have one.	
2	Plug in to Connecticut River Paddler's Trail (AMC maintained) - improve the Turners Falls portage		Have someone on town staff to deal with removal of invasive species.	2
	Bike paths to connect between the villages	3	How do we get more businesses in Montague Center?	
	electric bikes to borrow would help make access more equitable		Recommendations are hard to make for people who don't already know the zoning	
2	warming+cooling stations inside libraries.	1	Krushevska low income housing	
	have public restrooms at the Montague Center playground.	2	Community land/housing trusts	
1	increased services and support for people who are struggling with health, mental health, and basic needs, as well as social connections		more trees and plants	2
2	community gathering spaces in village centers!		Create appropriate solar siting plan and guidelines	2
	Montague Center playground improvements needed!		encourage multiple-unit developments	1

Count	Community Facilities and Services	Count	Land Use & Zoning	Count
1	make libraries ADA accessible!	4	Allow tiny houses	3
	Make Turners Falls better -- Miles (3 years old)		Promote cluster development	1
1	Indoor recreation (gym, workout studios)	1	Reduce lot size requirements	2
1	Community gathering space in every village	5	Connect open spaces	2
1	Improve schools	1	Keep forests intact	4
2	More programming & spaces for youth	2	Improve stormwater management	2
	Upgrade accessibility features throughout	1	More pollinator habitat	2
	Create swimming options	4	Map and advertise open space value as natural resource	1
	Community center for winter indoor recreation	3	Still need to figure out the derelict buildings on the power canal.	2
5	Dog park	1	Fund purchase of conservation easements	2
3	Trail maintenance development	1	Local wi-fi provider, like Greenfield's	
3	Larger-scale community garden (20x20 plots for rent by residents)	1	Be vigilant where 5G antennas are placed anywhere in the 5 villages. Know about Cell tower placement: distances to residences.	
3	Reg Trail Maintenance: Are these hiking trails? If yes, YES.		create and protect wildlife corridors and large open space	1
7	Create tiny forest near Discovery Center. Lot is trashed in summer and could be a show case for tiny forest = Natl mo		Link affordable housing and public transit walkable to village centers and shopping...	
5	Focus on climate and health-smart economic development		Make creative land use EASIER (cluster development, etc)	2

Count	Community Facilities and Services	Count	Land Use & Zoning	Count
5	Ice Skating Rink- maybe an outdoor one at Unity Park.	2	re-examine 2 acre minimum zoning/ denser districts	1
1	Swimming Pool!	3	Create Space for New Housing Throughout Town	
	Montague City needs a center and activity. Maybe a new park in Montague City.		promote mixed use, affordable access, cluster development -- support creative recombination	1
1	More beautification of the villages: trees, gardens. Professional gardening of the beds on Avenue A.		Create Cross Village Trail Link through Plains	2
	Make the Cultural Coordinator a full time position		Connect open spaces AND connect access to open spaces with bike paths & public transit..	1
1	Build a large outdoor pavillion as a free community meeting/event space	2	Cohousing	2
2	General store/community center in Lake Pleasant	1	Excited for redesign of the Farren Property!	
	Use public buildings flexibly to reduce costs of single purpose spaces.		Protect agricultural land, while allowing cluster development -- and also allowing mixed-use add-ons to single-family properties (with limits)	2
1	Boat access to CT River		Are zoning requirements for building near water updated for more frequent extreme flooding?	
1	Youth climate corps? Engage youth in upgrading community facilities & outdoor facilities?	1	Build Elderly Housing to Allow Transition Out of Over-Sized Homes, Make Room for Next Family	1
2	Maker spaces	2		

Count	Community Facilities and Services	Count	Land Use & Zoning	Count
1	Encourage landscaping on mall in Turners Falls.			
4	NEW LIBRARY in Turners Falls. (A main community space/library/conference center/museum.) The best spot is next to the Discovery Center.			
1	Canoe access in the Connecticut River			
2	utilize CT river	5		
2	Have you done focus groups w/ specific segments of population? to reach those with needs who aren't here?	1		
1	Walking trails are not clear enough (signage, number of miles).	1		
2	Intentional outreach to people of color.	2		
3	Involve youth in activity planning.	2		
2	The carnegie library needs to meet the needs of small children. (bathroom)			
2	Elementary Schools Need Renovation			
1	Childcare options? Could childcare offerings support both economic development & public engagement? childcare collective?	1		
1	Q: when is CT River considered swimmable? Could that be made clearer with more accessible access points?			

<i>Count</i>	Community Facilities and Services	<i>Count</i>	Land Use & Zoning	<i>Count</i>
	prioritize the needs and input of most vulnerable, least heard citizens in developing and improving facility and services.	3		
2	Create Riverfront Access Below the Dam	1		
	Weekend Public Transportation	2		
2				
1				
3				
4				

Montague Focus Group Notes at Gill-Montague Senior Center

December 5, 2023

Started at 1:05 pm.

Round of intros and welcome by Megan.

Attendance:

Eileen Dowd – Mass in Motion member
Roy Rosenblatt - Mass in Motion member
Colleen Doherty - Mass in Motion member
Rachel Stoler – Mass in Motion member
Roberta Potter – Senior Center Director
Ryan Paxton – Board of Health Director
Caitlin Kelley – Library Director
Maureen Pollock – Montague Planner
Ted Harvey – FRCOG Planner
Megan Rhodes – FRCOG Planner
Jessica Atwood – FRCOG Planner

Guiding questions about your daily routine:

What is the first thing you usually do when you wake up?

Coffee – buy at Green Field Market or the Montague Center store or River Valley Market. **Mostly shop locally.**

Shower – town water/sewer

Dog walk –

Walk – Cabot woods, Migratory Way, and around neighborhood in Turners Falls.

Some walk in light and walk in the dark.

Walking in dark – **feel safe**. Has a specific route to the Patch. But not well lit but have lights on me when I walk. “Make it my duty to say hello to everyone I pass. And about 98% of the time I get a response.

Rewards my sense of safety.” **The Patch has poor street lighting.**

Concern about walking at night – safety in general, **concern about loose dogs on occasion. Don’t feel safe in this neighborhood around the library.**

In terms of visibility? – There are some streets I don’t cross because some people don’t respect the crosswalks. Don’t any more with grandnieces because close call at crosswalks. **Particularly up the hill by Unity Park the crosswalks are unsafe.** Doesn’t limit me, as I take different routes.

Greatest concern is safety and unevenness of sidewalks; little enforcement to clear sidewalks in winter.

-Maureen mentions social media post to remind people to clear sidewalks in winter. Would like to continue to do so.

-Some businesses also don’t clear. Down 11th street, 2 business do not clear regularly.

Walk – walk in farm fields past Montague Bookmill. **Nobody pays attention to crosswalks in Montague Center.** What DPW did with bump-outs did nothing. Cars still speed and don't pay attention to crosswalks. DPW said we can't do speed bumps because of plowing. But not true. See them in Amherst. No lights in Montague Center.

-I cross on smaller streets and people stop for me. **Below 7th Street, there are two crosswalks that are not well lit. After cars go through 7th Street light, the cars are racing and it is dangerous.**

Maureen comments – how to slow down traffic? Recent accident noted.

Discuss different types of traffic calming – speed humps, crosswalk painting design.

-Walking along shoulder can be a problem in winter, forcing Rachel to walk in traffic lane. Thought of educating drivers to remember to share the road.

-Cabot Woods and Migratory Way are real gifts to the town for walking. Migratory Way is always plowed/clear. Great place to walk. Bike path great too but not plowed.

Where do you shop for food?

Generally shop at River Valley Market or Green Field Market.

Trader Joes.

There is no place in downtown to get coffee on Monday & Tuesday mornings. Upper Bend closed. Shady Glen open but don't like the coffee.

Food City – Meets the needs for my household; they respond if you ask for things. Finds prices high and **selection limited,** so I go to Trader Joes or Big Y.

Where do you get when you need a pair of socks or general shopping? Online; Target & Hadley malls. Bootleggers in Greenfield has socks.

How do you get your news?

The Montague Reporter. The Greenfield Recorder.

Online or public radio.

How do find out about what is happening in town? RiverCulture and Discovery Center emails. A new Everything Montague and Everything Greenfield social media account.

A positive plug for River Culture.

How do you access the internet?

Most have Comcast. 1 has Verizon.

Maureen – talks about talking with GCET. Not ready yet. Maybe down the line.

Rachel – Crocker DSL over Verizon phone line.

When you have issues with your internet, who do you ask for help?

Okay with service.

Have multiple devices – ipads, phones, tv, etc.

Smartphone only? One recently did only use cellphone and came to senior center for internet.

Do you feel comfortable using the devices and internet?:

Roberta, Senior Center Director – will have 3 new computers here for public use. Will also have rec'd digital equity for seniors grant that will have weekly drop in help and classes for 12 folks who have never used a computer and will then receive the laptop. Will be easy to fill those spots. Partnering with tech school to be tech instruction and will be doing tech drop-in. I spend almost every day that is doing something online for something that they can't do themselves – vaccines, Social Security, etc. Also helping people use our computers and helping them with their phones. There is a knowledge gap. Will go toward closing that with drop-in.

Colleen (senior center volunteer) – it is when new tech emerges and changes, like updates, will throw people. The digital drop-in will help with that. For laptop and cellphone help. Have referrals to business in town for discount to fix hardware problems. Every changing world of technology creates problem.

Librarian – It is all ages asking for help. Often it is simple things, like filling out a form and attaching it to an email. Can help easily at library. For more complex needs, we have a book a librarian service for ½ of help. But no one has used the service yet. Don't know if there is a need or not, if people are asking family or friends for help.

Maureen – some will help with applications. Will help to my best ability to help applicants.

Health Agent – have similar issues. Try to make things available in the format that is easiest to use. But some cannot be helped.

Librarian – some things still require faxes. Bought a program (e-fax) to offer this situation.

Roberta - For fuel assistance, it is required to apply online. Senior Center can help. But applicant needs to have an email address, which can stop the process. Or they don't know that their email address is. We are having to send people to Community Action to do fuel assistance applications. Big problem. People are more comfortable coming here than to park and make it into the CA office in Greenfield.

Do you feel comfortable doing important things on the internet like banking or doctor visits?

When you went to __, was it easy or hard to drive, park, and/or walk there?

Parking at library?

Librarian – have no dedicated parking lot; only diagonal spaces in front. If parking in food city lot, it is iffy to walk across street and to access ramp is up the hill behind the building.

Senior Center Director will walk to the Senior Center if she doesn't have meetings elsewhere.

Where else do you go?

Rachel – mostly drive because has meetings.

Go ½ mile from home to senior center. Usually drive. But if walks, **sidewalks are a problem. The “boardwalk” is getting rickety and a problem in winter (paved path through High St to 7th St). There are 3 walkways and it is crumbled. Not only students walking on it but mothers with strollers up/down hill in snow to get one kid to Hillcrest. The pathway to the school could use some attention. You have 2 miles away to get a bus ride, so all of downtown Turners takes their kids up to the school. It's an economic issue. People/parents who walk that path do not have a car because they generally can't afford a car. Blatantly unfair.**

Do you meet friends during the day or go to lunch?

Have lunch downtown. Try to park once at library and then walk around.

-meet at Unity Park. **Montague Center playground has no amenities for seniors** – install picnic tables, chess/checkers tables,

Need indoor gathering places, especially during winter.

Maureen - How do you find about bridge closures? You find out when you get there. Word of mouth. Post info on website. Can opt into text alerts.

Librarian – heard at BOS will add lights to notify when can't park during a snow emergency.

Could you have walked there?

Did you see people you knew there?

What do you like about coming to the senior center?

We need a new senior center.

Do you exercise regularly? What kind?

Do you talk to your neighbors? Do you feel you know people on your street?

Librarian – depends on neighborhood. Montague Center knows residents in ½ mile. In Millers Falls, not so much. Millers Falls folks move in and out more frequently. Every branch has its regulars.

-Mont Center library has really become a center for the community. Important to keep and open more hours. There should be more in the neighborhood. Like renovating upstairs of the library. Would be great to have more community events in Mont Center.

Occasionally need wifi connections.

Maureen – town hall has good wifi connection. But not in parking lot behind town hall.

Librarian – have a wifi hot spot that can be borrowed for events (like farmers market). Got a bunch of repeaters during pandemic so that around library can access internet.

Maureen – Peskomset Park wifi needed for food/beer vendors to take credit cards. Librarian notes electrical box that maybe could be used.

Roberta – had talked about getting wifi access in senior housing. So residents don't have to have individual accounts.

Other places? What is wifi like at Unity Park?

-Unity Park is very well used.

-Nothing for elders in park in Montague Center. Focus is only on kids in playground. We have a lot space to do things. But the ballfield is never used and is not maintained. Know that pickleball won't be put in there because of noise issue. But there could be tables if people bring a chess set. Deteriorated building that needs to be torn down.

-Important to have adequate shading for sitting areas.

-I use Unity Park with grandnieces and walk trail.

-Certain areas of town that don't have gathering places, like Montague City. Other planning effort at Farren is also happening. **Lake Pleasant has a lovely park but not a public indoor space** (aside from a private place). Millers Falls has a park but has not been upgraded lately.

Librarian – thinking of moving stuff around in Millers Falls library to create more indoor gathering space.

Do you go out to dinner in town?

Maureen - Vegan pizza pop up at Upper Bend

Some restaurants closing – Watershed, Five eyed Fox, and unclear what is happening at Great Falls Harvest.

Not open everyday of the week.

-Some of our businesses are whimsical with their business hours. Not always consistently open on days of the week or hours, and frequently change them. Frustrating.

What stores do you wish was in town?

-Trader Joes. It is the expensive and selection, and lack of organic.

-Computer repair.

-One side of Farmers Supply has socks and shoes, etc. Could use a general store.

-So many businesses are vintage and used. 2 vintage vinyl record stores. It is interesting. Not just happening in Turners.

-Appreciate the small tailoring (Albitas) work. In 2nd Street bakery location.

-Leather/cobbler no longer in town.

-Carrolls in Millers Falls has expired food. **Hard to get food there in Millers Falls.** Best place to get food is the food pantry in Miller Falls library.

-A couple buildings that are underutilized/vacant. Five eyed fox. Great to have a pop-up restaurant. Something that can be offered that is different. Empty building on Ave A recently purchased by Upper Bend owner.

-Great Falls Harvest changing business. Not a regular restaurant.

Librarian – lot of people use downtown restaurants but don't know what is going on.

What do we like to do on the weekends?

The Shea Theater events. Hiking trails. Black Birch Vineyard.

Have 3 breweries in town.

Dog park in other town. Controversy for dog parks – not everyone likes them.

Go to the movies in Hadley or Amherst or Brattleboro.

Do you wish there was more to do in town? Like what?

What would you change about your daily routine if you could?

Do you expect your daily routine to change in the next few years?

What's your favorite thing to do locally in each season - summer?

Music events. Cultural events and festivals. Sporting events with grandkids at Unity. Farmers Market (small but mighty). Antenna Cloud farm. Lots of music around here. Ride bike. **Need more swimming options.**

How do you feel biking on road?

Between bookmill and police station can be stressful at points, but otherwise ok.

What's your favorite thing to do locally in each season - fall?

Same as summer. **Music. Festivals.**

What's your favorite thing to do locally in each season - winter?

Librarian – library has snow shoes to borrow.

I would like a skating rink.

I would like a billards or ping pong space. Or bowling area.

There was a pinball place on Ave A that was a victim to pandemic.

Why did you move to Montague or why do you still live here?

Is there something that you loved about Montague that is no longer here, and you wish you could bring back?

The Blue Heron at Bookmill. Burrito Rojo.

Wish list?

More options for swimming.

Would like the Shea Theater to book more acts to be busy (like Hawks & Reed).

Small athletic center or gym (so don't have to go to Greenfield). But there is a great yoga studio in the patch.

Do you interact with town services? How well does that work for you?

What do you want the town to look like in the next 10-15 years?

-Old RR Salvage building needs to be redeveloped. Great location for mixed income or mixed commercial. Maureen responds.

Open-ended questions:

-“For me living in the downtown, I would like for parts of it to stay as interesting and quirky as it is.” I would like current sign that says Turners Falls, Town of Montague to also say “welcome”.

Librarian - One of the reasons that I wanted to work here was that there is a warmth. It is special. We should celebrate that and have events to create more community engagement.

Additional Meetings Attended to Solicit Feedback

Montague Planning Board (February 27, 2024 and May 14, 2024)

Montague Historical Commission (April 29, 2024)

Montague Conservation Commission (May 9, 2024)

Millers Falls Improvement Association (May 16, 2024)

Montague Board of Health (May 22, 2024)

Appendix E: Land Use Analysis Method

Method for Housing Infill Analysis

To know the number of residential units permitted in each Zoning District for a given parcel size, the number of units allowed for each residential zoning district was normalized to units per acre using the equation $Units\ per\ acre = Maximum\ units\ allowed\ per\ lot / (Minimum\ lot\ size\ in\ ft^2 * Acres\ per\ ft^2)$. Normalizing is the process of adjusting values measured on different scales to a common scale. For example, AF-4 requires a minimum lot size of 174,240 ft², or 4 acres. Given that AF-4 allows two-family dwellings, the normalized number of units allowed per acre in AF-4 is 1 unit per 2 acres, or 0.5 units per acre. RS-1 allows multi-family dwellings up to 4 units and requires a minimum of 25,000 ft² for those four units, resulting in a normalized 1 unit per 6,250 ft² or approximately 7 units per acre. The units per acre calculation and density rating do not account for various lot restrictions that are possible (such as available frontage, setbacks, or ledge). It is meant to provide a general sense of relative density for planning purposes only

To find land/parcels that are suitable for residential development in in the Town of Montague, datalayers for each zoning district must be created that removes certain environmental and man-made development constraints. Constraints include the following:

1. All permanently protected Open Space (Montague Open Space Plan 2018)
2. 100 year flood plain (FRCOG)
3. 100 ft buffer around wetlands (MassGIS DEP)
4. 200 ft buffer around waterbodies, streams, rivers (MassGIS DEP)
5. Slopes > 12% (FRCOG derived from 2015 LiDAR)
6. Parcels must not have existing structures > 500 sqft (MassGIS)
7. Parcels must be within 500 ft of water and/or sewer line (FRCOG)

There are 10 zoning districts in Montague that allow for residential development: AF, AF-2, AF-4, RS-1, RS-2, RB, NB, GB, CB, and HI. However, GB, CB, and HI set no limit for the number of residential units per parcel, so GB, CB, and HI were not included in the analysis. Zones I and RE do not allow residential development.

The resulting GIS analysis will have a table showing how many units are available to develop parcels in all zones from above that have existing structures as well as parcels in all zones from above that are vacant.

Steps for Vacant Lots:

- a. Open a new ArcMap project and load the following datalayers into your map frame:
 - mont (town boundary Montague)

- perm_prot (all permanently protected parcels merged together)
 - flood_mont (100 year floodzone)
 - wetlands_buff100 (all wetlands in Montague with a 100ft buffer around them)
 - waterbody_buff100 (all ponds/lakes with 100ft buffer)
 - streams_buff200 (all streams/rivers with 200ft buffer)
 - slope_poly (slopes > 12%)
- b. Union and dissolve all datalayers (except "mont") together from step (a.) = ENV_constraints
 - c. Add new layer Montague _parcels
 - d. Add new layer utility_500B (the union and dissolve of a 500 ft buffer on both water and sewer lines for the Town of Montague)
 - e. Select by location- select features from Mont_parcels, Source Layer = utility_500, intersect the source layer feature. Export resulting selection to = Res1a
 - f. Provide a theme definition on Res1a where Units = 0
 - g. Select by location- select features from Res1a, Source Layer = ENV_constraints, have their centroid in the source layer, switch to editing mode for Res1a and delete all selected parcels
 - h. Add zone_mont (zoning datalayer), provide theme definition where zone = CB, GB, and HI, I, and RE (zones excluded from the analysis) select by location from Res1a , source layer = zone_mont, have their centroid in the source layer, switch to editing mode and delete selected parcels.
 - i. Select all parcels under .05 acres from LOT_SIZE and delete
 - j. Manually select and delete parcels from "OWNER" field that don't make sense to develop (Town-owned and occupied [such as parks], utility company land, churches, private clubs, etc.)
 - k. Add field to Res1a "ZONE"
 - l. Provide theme definition where zont_mont = AF and select all parcels from Res1a that have centroids within zone_mont and populate "ZONE" field with "AF" using field calculator. Repeat this step for AF-2, AF-4, RS-1, RS-2, RB, NB (make sure to use zone acronym for specific zone)
 - m. Select all parcels that have nothing populated for "ZONE" and delete (these are parcels where residential zoning is not permitted).
 - n. Add new field to Res1a "AVBL_UNITS", select by attributes, parcels where "ZONE" = AF, only show selected parcels. Perform Field Calculator where "AVBL_UNITS = LOT_SIZE/.76, this will give you the number of units that are available per parcel in the Zoning District "AF". Repeat this step for zones AF-2(1), AF-4(2), RS-1(0.14), RS-2(0.22), RB(0.64), NB(0.06).
 - o. Export Res1a to Residential_Vacant

Steps for Lots With Structures:

- a. Open a new ArcMap project and load the following datalayers into your map frame:

- mont (town boundary Montague)
 - perm_prot (all permanently protected parcels merged together)
 - flood_mont (100 year floodzone)
 - wetlands_buff100 (all wetlands in Montague with a 100ft buffer around them)
 - waterbody_buff100 (all ponds/lakes with 100ft buffer)
 - streams_buff200 (all streams/rivers with 200ft buffer)
 - slope_poly (slopes > 12%)
- b. Union and dissolve all datalayers (except "mont") together from step (a.) = ENV_constraints
 - c. Add new layer Montague _parcels
 - d. Add new layer utility_500B (the union and dissolve of a 500 ft buffer on both water and sewer lines for the Town of Montague)
 - e. Select by location- select features from Mont_parcels, Source Layer = utility_500, intersect the source layer feature. Export resulting selection to = Res2a
 - f. Select by attributes Res2a for "UNITS" = 0 and delete all selected parcels
 - g. Select by location- select features from Res2a, Source Layer = ENV_constraints, have their centroid in the source layer, switch to editing mode for Res2a and delete all selected parcels
 - h. Add zone_mont (zoning datalayer), provide theme definition where zone = CB, GB, and HI, I, and RE (zones excluded from the analysis) select by location from Res1a , source layer = zone_mont, have their centroid in the source layer, switch to editing mode and delete selected parcels.
 - i. Manually select and delete parcels from "OWNER" field that don't make sense to develop (Town-owned and occupied [such as parks], utility company land, churches, private clubs, etc.)
 - j. Add field to Res2a "ZONE"
 - k. Provide theme definition where zont_mont = AF and select all parcels from Res1a that have centroids within zone_mont and populate "ZONE" field with "AF" using field calculator. Repeat this step for AF-2, AF-4, RS-1, RS-2, RB, NB (make sure to use zone acronym for specific zone)
 - l. In editing mode, delete parcels in Res2a that do not have the minimum lot size for the zoning district as follows: AF 0.76, AF-2 1.00, AF-4 2.00, RS-1 0.14, RS-2 0.22, RB 0.64, NB 0.06.
 - m. Add Field to Res2a "SPACE_AVAI" this represents "LOT_SIZE"/0.76 (for zone AF), the resulting number equals the number of units available for that size lot (parcel)
 - n. Add Field to Res2a "ADD_UNITS" this represents "SPACE_AVAI" – "UNITS", the resulting number is equal to the number of additional units that are available to build on the lot/parcel.
 - o. REPEAT steps m. and n. for each zoning district that allows for residential development.
 - p. Delete any records that "ADD_UNITS" < 1

Methodology for Manufacturing Analysis

To find land/parcels that are suitable for manufacturing in in the Town of Montague, a datalayer must be created that removes certain environmental and man-made development constraints. Constraints include the following:

1. All permanently protected Open Space (Montague Open Space Plan 2018)
2. 100 year flood plain (FRCOG)
3. 100 ft buffer around wetlands (MassGIS DEP)
4. 200 ft buffer around waterbodies, streams, rivers (MassGIS DEP)
5. Slopes > 12% (FRCOG derived from 2015 LiDAR)
6. Parcels must not have existing structures > 500 sqft (MassGIS)

The resulting datalayer will then need to be intersected with the Montague parcel layer.

Then two sets of criteria are explored:

- A. ON WATER AND SEWER: Lot size must be => 5 acres (MassGIS 2024) and parcels must be within 500 ft of water and sewer line (FRCOG)
- B. ON WATER ONLY: Lot size must be => 7 acres (MassGIS 2024) and parcels must be within 500 ft of water line (FRCOG)

The newly developed layers will then need to be overlaid with a contours or steepness layer to make at least 5 acres of the lot is flat enough to build.

Steps for Lots on Water and Sewer:

- a. Open a new ArcMap project and load the following datalayers into your map frame:
 - mont (town boundary Montague)
 - perm_prot (all permanently protected parcels merged together)
 - flood_mont (100 year floodzone)
 - wetlands_buff100 (all wetlands in Montague with a 100ft buffer around them)
 - waterbody_buff100 (all ponds/lakes with 100ft buffer)
 - streams_buff200 (all streams/rivers with 200ft buffer)
 - slope_poly (slopes > 12%)
- b. Union and dissolve all datalayers (except "mont") together from step (a.) = ENV_constraints
- c. Add new layer Montague _parcels and provide theme definition where Lot_size => 5
- d. Add new layer utility_500 (the intersection of 500 ft buffer for both water and sewer lines for the Town of Montague)
- e. Select by location- select features from Mont_parcels, Source Layer = utility_500, intersect the source layer feature. Export resulting selection to = Manf_parcels1

- f. Select by location: select features from Manf_parcels1, Source Layer = ENV_constraints, have their centroid in the source layer, switch to editing mode for Manf_parcels1 and delete all selected parcels
- g. Add structures_poly_192 and provide theme definition AREA_SQFT => 500; select by location: select features from Manf_parcels1, source Layer = structures_poly_192; contain the source layer feature. Delete selected parcels from Manf_parcels1.
- h. Open attribute table for Manf_parcels1 and sort by owner, delete parcels that make sense to delete

Steps for Lots on Water and Sewer:

- a. Open a new ArcMap project and load the following datalayers into your map frame:
 - mont (town boundary Montague)
 - perm_prot (all permanently protected parcels merged together)
 - flood_mont (100 year floodzone)
 - wetlands_buff100 (all wetlands in Montague with a 100ft buffer around them)
 - waterbody_buff100 (all ponds/lakes with 100ft buffer)
 - streams_buff200 (all streams/rivers with 200ft buffer)
 - slope_poly (slopes > 12%)
- b. Union and dissolve all datalayers (except "mont") together from step (a.) = ENV_constraints
- c. Add new layer Montague _parcels and provide theme definition where Lot_size => 7
- d. Add new layer utility_500 (the intersection of 500 ft buffer for water lines for the Town of Montague)
- e. Select by location- select features from Mont_parcels, Source Layer = utility_500, intersect the source layer feature. Export resulting selection to = Manf_parcels1
- f. Select by location: select features from Manf_parcels1, Source Layer = ENV_constraints, have their centroid in the source layer, switch to editing mode for Manf_parcels1 and delete all selected parcels
- g. Add structures_poly_192 and provide theme definition AREA_SQFT => 500; select by location: select features from Manf_parcels1, source Layer = structures_poly_192; contain the source layer feature. Delete selected parcels from Manf_parcels1.
- h. Open attribute table for Manf_parcels1 and sort by owner, delete parcels that make sense to delete

Appendix F: Greenhouse Gas Inventory

Appendix to the Greenhouse Gas Emissions Inventory

Residential, Commercial, and Municipal Electricity Use — 2019

Electric use definition: Includes emissions released in the process of generating electricity for all end uses (lighting, appliances, air source heat pumps, transportation). Emissions are based on the electricity ratepayers in the community purchase, use, and claim credit for. Does not include any electricity generated in the municipality.

Data Quality: These data are specific to the municipality and highly accurate.

Emissions Factors: Reported in Mass Energy Insight. Emissions factors for electricity are available through 2018; data for 2018 were used for 2019.

Electricity Use & Emissions				
Sector	Data Source	Total Use (kWh)	Emissions Factor (MTCO _{2e} /KWh)	Total MTCO _{2e}
Residential	2019 Mass Save Data	24,570,176.00	0.000249	6,117.97
Commercial	2019 Mass Save Data	50,812,684.00	0.000249	12,652.36
Municipal	2019 Green Communities Annual Report	1,578,891.00	0.000249	393.14

Residential and Commercial Transportation — 2014

Transportation Emissions Definition: Includes emissions released in the process of burning fuels to operate commercial, municipal, and personal vehicles within Montague. Electricity use for transportation is not included in this category, because it is included in the electricity category. Public transportation data could not be obtained for the purposes of this inventory. UMass Clean Energy Extension is working on coming up with a way to track emissions for public transportation.

Data Quality: Private vehicle fuel use can be calculated based on mileage traveled and mpg for most private vehicles, based on RMV data. The most recent data available are from Q4 2014; MAPC is working on updating these data through 2020. Municipal data is accurate and reported on an annual basis.

Emissions Factors: Reported in Mass Energy Insight.

Considerations: Emissions are calculated based on the miles traveled and fuel economy of vehicles based in Montague, and not on the estimates of emissions generated by vehicles as they move through Montague.

Residential Transportation Emissions, MAPC RVM Data						
Owner Type	Total Vehicles	Mean DVM T ²	Miles Per Gallon, Mean	Total Use— (gallons) ³	Emissions Factor (MTCO ₂ e/gallon)	Total MTCO ₂ e
Noncommercial —Diesel	104	33	18.9638	66,632.47	0.010298	686.18
Noncommercial - Flexfuel	248	32	17.3409	168,671.66	0.009040	1,524.79
Noncommercial —Gasoline	5,738	30	20.6232	3,120,817.66	0.009040	28,212.19
Noncommercial —Gasoline (Hybrid)	137	46	41.5811	55,849.35	0.009040	504.88

² Mean DVMT = Average Daily Vehicle Miles Traveled (DVMT) for vehicles with valid DVMT estimates and valid fuel economy ratings

³ Total use = ((Mean DVMT*365)*Total Vehicles)/Miles Per Gallon, Mean)

Commercial Transportation Emissions, MAPC RVM Data						
Owner Type	Total Vehicles	Mean DVMT	Miles Per Gallon, Mean	Total Use— (gallons)	Emissions Factor (MTCO ₂ e/gallon)	Total MTCO ₂ e
Commercial— Diesel	8	30	13	6,386.86	0.010298	65.77
Commercial - Flexfuel	11	44	17	10,378.76	0.009040	93.82
Commercial - Gasoline	66	25	16	36,832.35	0.009040	332.96
Commercial— Gasoline (Hybrid)	2	57	44	934.40	0.009040	8.45

Municipal Transportation — 2019

Municipal Transportation Emissions					
Data Source	Total Use— Gasoline (gallons)	Emissions Factor (MTCO ₂ e/gallon)	Total Use— Diesel (gallons)	Emissions Factor (MTCO ₂ e/gallon)	Total MTCO ₂ e
2019 Mass Energy Insight	14,142	0.009040	18,608	0.010298	314.81

Residential, Commercial, and Building Heating Fuels — 2019

Definition: Includes emissions released in the process of heating building spaces and hot water using oil, propane, and coal. Electricity use for heating is not included in this category, because it is included in the electricity category.

Data Quality: Data for the municipality are very accurate, as they are collected on an annual basis. Residential heating fuel use is estimated based on the number of households using a specific type of fuel as reported in the American Community Survey, and how much fuel is used based on dwelling type as reported by the EIA. Commercial fuel use is based on an estimate

developed by MAPC.

Type of Housing Units in Montague — American Community Survey 2015-2019					
Type of Unit	1-unit, detached	1-unit, attached	2 to 4 units	5+ Units	Mobile home
Total	2,201	112	1,160	564	60
Percent	54%	3%	28%	14%	1%

Residential Heating Fuels in Montague — American Community Survey 2015-2019								
Type of Fuel	Utility Gas ³	Propane	Electricity ⁴	Fuel Oil	Coal	Wood	Solar Energy	Other Fuel ⁵
# of Homes	796	274	499	1,815	2	225	19	130

Emissions From Household Heating with Fuel Oil					
Housing Type	New England Average Site Consumption of Fuel Oil (gallons) ⁶	Number of Households in Montague ⁷	Annual Fuel Consumption (Gallons/Year)	Emissions Factor	MTCO ₂ e
Single-Family-Detached	674	975.05	657,189.48	0.010201	6703.99

⁴ Separate calculations were not made for homes using electricity to heat their homes, as this usage would be accounted for in total electric use.

⁵ The four homes recorded as using “other fuel” were excluded from the calculations, as there is not a good way to determine the fuel they may be using.

⁶ Average site consumption from the U.S. Energy Information Administration’s survey of household fuel consumption in the Northeast Region, 2009. Massachusetts specific data are not available. See 2015 Residential Energy Consumption Survey (RECS) CE2.2 Fuel Consumption in the Northeast: <https://www.eia.gov/consumption/residential/data/2015/index.php?view=consumption>. The same survey data was applied for propane

⁷ The estimate for the number of households in Montague using heating oil is derived from the tables on the preceding page, where the percentage of the type of household was applied to the total number of homes using heating oil. The same methodology was applied for propane.

Single-Family-Attached	612	49.61	30,365.48	0.010201	309.76
Multi-Family, 2-4 Units	431	513.88	221,485.82	0.010201	2259.38
Multi-Family, 5+ Units	372	249.85	92,946.43	0.010201	948.15
Mobile Homes	278	26.58	7,389.36	0.010201	75.38
Total	-	1,815	1,009,376.57	-	10,296.65

Emissions from Household Heating with Propane

Housing Type	New England Average Site Consumption of Propane (gallons)	Number of Households in Montague	Annual Fuel Consumption (Gallons/Year)	Emissions Factor	MTCO ₂ e
Single-Family-Detached	437	147.19	64,325.93	0.005797	372.90
Single-Family-Attached	437	7.490	3,273.29	0.005797	18.98
Multi-Family, 2-4 Units	392	77.57	30,410.86	0.005797	176.29
Multi-Family, 5+ Units	288	37.71	10,863.16	0.005797	62.97
Mobile Homes	329	4.01	1,320.18	0.005797	7.65
Total	-	274	110,193.41	-	638.79

Emissions from Household Heating with Wood

Housing Type	New England Average Site Consumption	Number of Households in	Annual Fuel Consumption	Emissions Factor ⁹	MTCO ₂ e
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⁹ 1 cord of firewood contains 3.4 MTCO₂e, per Vermont Department of Forests, Parks and Recreation: Division of Forests. See Vermont's Forests: Carbon and Climate Change: <https://legislature.vermont.gov/Documents/2022/WorkGroups/House%20Agriculture/Department%20of%20Forests,%20Parks,%20and%20Recreation/W~Ali%20Kosiba~Forest%20Carbon%20Presentation~1-13-2022.pdf>

	of Wood (Cords) ⁸	Montague	(Cords/Year)		
Single-Family- Detached	3.5	225	787.5	3.4	2,677.50
Total	-	225	787.5	-	2,677.50

⁸ Made the assumption that wood is only heating single family homes, used the median square footage of all SF homes in Greenfield (1,480 square feet), per assessor data, and assumed every 1,000 square feet required 2.5 cords of wood. Square footage of single-family homes in Montague was not publicly available in assessor records; data from neighboring Greenfield was used as an estimate.

Commercial Heating Fuel Use¹⁰				
Subsector	Annual Fuel Oil Use (gal)	Annual Fuel Oil Use (MMBtu)	Emissions Factor	MTCO2e
Commercial & Institutional Buildings	69,231	9,554	0.010201	706.23
Manufacturing Industries & Construction	0	0	0.010201	0
All Building Subsectors:	69,231	9,554	-	706.23

Municipal Building Heating Fuels Emissions			
Data Source	Oil (Gallons)	Emissions Factor	MMTCO2e
2019 Mass Energy Insight	59,674	0.010201	608.73

Natural Gas Use & Emissions				
Sector	Data Source	Total Use (Therms)	Emissions Factor (MTCO2e/Therm)	Total MTCO2e
Residential	2019 Mass Save Data	593,068	0.005319	3,154.53
Commercial	2019 Mass Save Data	1,209,477	0.005319	6,433.21
Municipal	2019 Green Communities Annual Report	37,078.00	0.005319	197.22

¹⁰ The estimate for commercial building heating fuel use is likely underestimated. This inventory relies on MAPC's GhG inventory calculator, which has the total heating fuel use across the state and will provide a municipality with a prorated amount of heating oil consumption based on the type of buildings in the community. See the calculator for a full explanation: <https://www.mapc.org/resource-library/community-ghg-inventory-resources/>