RUTLAND REGIONAL PLAN

JUNE
2026-2034

PRE-APPLICATION DRAFT 9/2/25

RUTLAND REGIONAL PLANNING COMMISSION

2026 RUTLAND REGIONAL PLAN:
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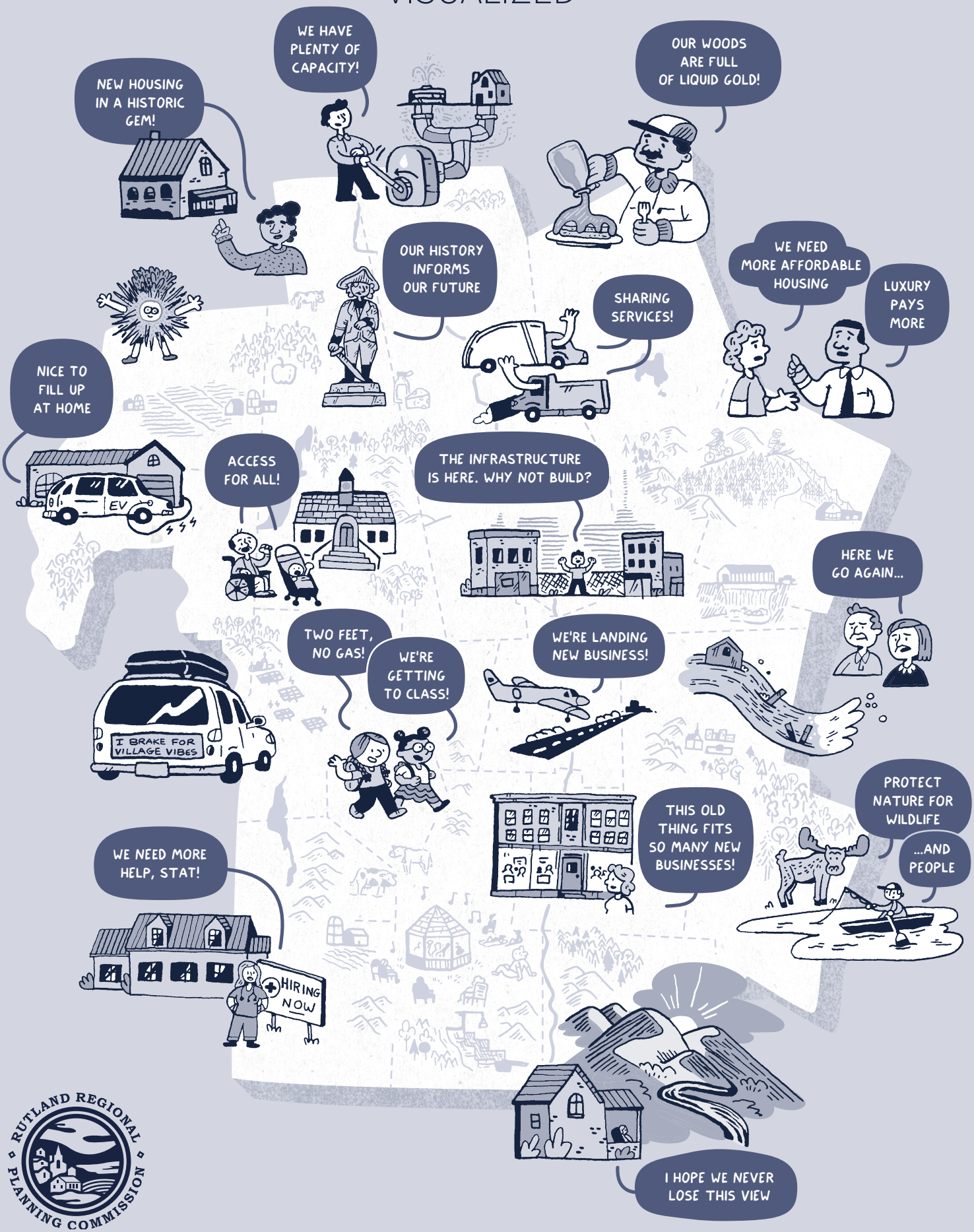

RUTLAND REGIONAL PLANNING COMMISSION

VERMONT
LAND USE REVIEW BOARD
Application #:
RP-09
Exhibit #: 002
Date Received: 09/17/2025

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Land Use

Goal

Plan development to maintain historic settlement patterns of compact downtown and village centers separated by rural countryside.

Healthy, Equitable, Resilient Communities

Compact, Walkable, and Well-Serviced Centers: Sprawling development consumes land inefficiently, increases infrastructure costs, and limits transportation options. A healthy community focuses growth in compact, walkable centers that use land efficiently, reduce reliance on cars, and make the most of existing infrastructure.

Protection of Rural Lands: Fragmentation of forests, farmland, and scenic areas threatens local economies, ecosystems, and rural identity. Concentrating development in established centers helps preserve open space, support working lands, and protect the natural and cultural features that define the Region's character.

Inclusive Opportunities: Car-dependent, sprawling growth increases living costs and isolates residents. Villages and downtowns with a mix of housing types and business opportunities help ensure that all residents can access opportunity and live in vibrant, connected communities.

Resilient Land Use and Structures: Aging buildings in flood-prone areas face growing risks due to historic development patterns. Resilient communities strengthen building safety, guide growth away from hazards, and foster financial resilience through various, adaptable land uses that support long-term economic and environmental stability.

Current Conditions

Largely Rural: About 77% of the Region is forested. Rural areas typically feature larger lot sizes and generate less municipal tax revenue per acre than downtowns and villages. Rural areas often lack infrastructure like public sewer systems and contain critical natural resources that contribute to the Region's ecological health.

Revitalizing Downtowns and Villages: Historic downtown and village centers benefit from the State Designation Programs, which offer financial, regulatory, and planning incentives for revitalization. These areas tend to have higher development densities, smaller lots, taller buildings, and key infrastructure—like public water and sewer—positioning them well for future growth.

Development Challenges: While downtowns and villages have infrastructure capacity, they often lack available land. In contrast, rural areas have more land but face constraints—such as environmental limitations or costs—that hinder development. These challenges leave only small pockets of available land, increasing the risk of scattered, inefficient growth.

Future Trends

Marginal Growth: Over the next eight years, the Region is expected to remain predominantly rural and forested. Most development will continue to concentrate in downtown and village centers, with limited rural and scattered residential growth on the margins.

Planning Efforts Continue: Municipalities will continue guiding development through town plans and zoning bylaws, with ongoing support from the RRPC to help communities grow thoughtfully.

Regional Future Land Use Map: The Regional Future Land Use Map will remain a tool in shaping regional development. In accordance with Act 181, the map uses new statewide land use categories to guide future land use decisions and show areas eligible for the State Designation Program and location-based Act 250 jurisdiction.

What's Next?

Policies support compact, fiscally responsible development by focusing growth in designated areas while preserving rural character and open space. They promote inclusive decision-making, discourage sprawl, and ensure rural development aligns with community and environmental values. Actions aim to guide smart growth through updated planning tools, public input, and technical support. Municipalities are assisted in identifying growth areas, protecting rural lands, and aligning local plans with regional housing and conservation goals.

Economic Development

Goal

Create a strong and diverse economy that provides satisfying and rewarding jobs while maintaining high environmental standards and expanding economic opportunities in areas with high unemployment or low per capita incomes.

Healthy, Equitable, Resilient Communities

Cultivating Healthy Communities Start with Good Jobs: Healthy economic development fosters industries with fair wages, benefits, safe conditions, and supportive workplace cultures in the Region. This economic development strategy prioritizes growth in sectors that best support the health of local workers and their families.

Equitable Employment Opportunities Start with Employers: Equitable development focuses on industries that recruit employees from underserved populations, reduce employment barriers, and offer career growth. This strategy targets sectors that provide pathways out of poverty.

Resilient Communities Start with Essential Industries: Resilient development supports industries that maintain good jobs even during economic downturns. This strategy prioritizes industries that thrive regardless of national or global conditions, helping economically marginalized communities with fewer resources, who are often more vulnerable.

Current Conditions

Existing Challenges with Income and an Aging Workforce: The Region has a median household income of $64,778, below the state median of $78,024, and a poverty rate of 11.8%, higher than Vermont's 10.3%. As of January 2025, unemployment is steady at 3.8%, compared to a 2.6% statewide rate during the same period. However, the Region faces challenges, including a declining population and worker shortages, especially in trades, as many skilled workers near retirement.

Education to Employment Pathways Available in Key Industries: Local training and education programs have expanded to build a skilled workforce, with institutions like Stafford Technical Center offering career-focused education in healthcare, manufacturing, and construction. These programs provide hands-on learning and direct pathways to employment, helping to fill critical job gaps. Additional support from programs like the Education to Employment Bridge initiative and Vermont Adult Learning helps historically marginalized students and adults access technical training and livable wage careers.

Large and Small Employers Sustain the Economy: The Region's economy relies on healthcare, tourism, retail, manufacturing, and small businesses. Major employers like Rutland Regional Medical Center, GE Aerospace, and Killington Resort provide vital jobs, while the manufacturing sector represents around 12% of the Region's workforce. Downtown and village center retail businesses double as cultural hubs, and small businesses employ a majority of the local workforce across nearly 2,756 enterprises in the Region. Programs like the Business Incentive Assistance Program and StartUp Rutland are driving new ventures and tech-based growth, further diversifying the economy. Tourism-based recreation, including Killington/Pico Resort, continues to show resilience despite environmental challenges.

Future Trends

The Economic Future of the Region Depends on a Diverse Workforce: The Region has the chance to support an economy that attracts newcomers and retains local talent. Strategies must focus on expanding affordable housing, improving wages, and ensuring access to childcare and transportation. Equity planning must also support local businesses, women, and BIPOC owned businesses, and inclusive workforce development that aligns with local needs and industries.

The Economic Future of the Region Depends on Smart Growth: The Region's economic development strategy should focus on strengthening business retention, advancing entrepreneurship, enhancing broadband and EV infrastructure, and preserving the Region's quality of life through smart growth that supports recreation, education, and rural character. Infrastructure upgrades in designated enterprise areas, including around the Rutland Southern Vermont Regional Airport, will be essential to attract new businesses and prevent losses.

What's Next

Policies establish a way to support a strong and diverse economy across the Region. They emphasize smart growth and workforce sustainability. This includes focusing future development in downtown and village centers while prioritizing densification in already developed areas to limit rural sprawl and reduce the demand for new public services. A key policy is to attract new workers and retain younger residents by strengthening the local workforce pipeline. This includes developing a coordinated, trade-focused workforce development system tailored to the Region. Actions aim to assist municipalities in researching, developing, and implementing steps for a Region that supports a robust, sustainable economy, retains local talent, and creates growth opportunities for regional employers.

Cultural Resources

Goal

Identify, protect, and preserve significant historic, archaeological, scenic, and cultural resources.

Healthy, Equitable, Resilient Communities

Addressing Social Isolation Through Culture: Social isolation is a big problem across the country and in the Region. The Surgeon General says it can be as harmful as smoking 15 cigarettes a day. It is important to have lively cultural activities and community spaces, especially in downtown and village centers. These places help people connect, reduce feelings of isolation, and improve mental health.

Equitable Representation of All Cultures and Histories: An equitable community ensures that everyone's cultural and historical stories are heard. Cultural programs should show and support all parts of the community, sharing everything from long-held traditions to the achievements of groups that have not had a voice before.

A Historic Future: A strong community takes steps to protect its beautiful scenic assets and historic sites. It needs to have plans to keep these cultural resources safe from damage and the effects of changing weather patterns. Also, long-term funding and volunteer plans are necessary to keep things running smoothly.

Current Conditions

Abundant Assets: The Region has many cultural resources, including historic downtown and village centers, traditional buildings, local festivals, and important art and heritage sites. Unfortunately, many of these resources lack sufficient funding, are poorly documented, or lack the means to be preserved or updated. Local volunteer-run historical societies and cultural organizations often face challenges with limited staffing and funding. Local cultural institutions also struggle because of staffing shortages and limited volunteers, making it difficult to track and promote these resources.

Challenges in Balancing Preservation and Development: While downtown and village centers have unique cultural and historic features, new development can sometimes change their character if not done carefully. When maintenance costs rise or projects fail to balance preservation with modern needs, the risk of losing cultural landmarks grows. Losing character threatens one of the Region's strongest assets, its identity.

Evolving Cultural Engagement: Community engagement shows a growing desire to blend traditional cultural resources with modern expressions. New initiatives, like digital storytelling and creative public art projects, enhance long-standing traditions and create a vibrant cultural landscape that attracts people of all ages.

Future Trends

Innovative Preservation and Interpretation: In the coming years, more efforts will likely be made to digitize cultural assets, such as creating user-friendly online collections and using augmented reality at historical sites. These innovations can help more people access these resources and ensure local cultural stories are both preserved and shared widely.

Adaptive Reuse and Community-Driven Initiatives: Future planning will focus on creating multifunctional spaces where historic buildings can host cultural events, art exhibits, and serve as community gathering spots. These places will act as living centers of heritage that evolve with community needs, rather than remaining underutilized old structures.

Enhanced Community Collaboration and Funding: A key future trend is to develop more partnerships linking local governments, cultural organizations, and community groups. This will help secure ongoing funding, simplify preservation efforts, and strengthen local volunteer networks. Building these relationships will be essential to ensure that cultural resources keep thriving, especially during difficult economic and environmental times.

What's Next

Policies support the preservation and vitality of the Region's historic, archaeological, scenic, and cultural resources by encouraging adaptive reuse, equitable access, resilient preservation planning, and inclusive cultural programming. They promote scenic resource mapping, the celebration of diverse histories, investment in community gathering spaces, and the integration of arts and heritage into local planning. Actions focus on assisting towns with historic preservation and scenic view protections in town plans, expanding partnerships with cultural organizations, promoting access to state and federal funding, supporting volunteer and nonprofit capacity, and leveraging tools like GIS and digital archives to document and share the Region's cultural assets.

Transportation

Goal

Establish a regional transportation system that incorporates public transit options and paths for pedestrians and bicyclists, ensuring the system is safe, convenient, economical, energy-efficient, and respectful of the natural environment.

Healthy, Equitable, Resilient Communities

Streets That Prioritize Users Based On Land Use: Historically, street design has favored high-speed automobile traffic, resulting in an inequitable distribution of the burdens of car-based transportation systems. This results in worse health outcomes from increased exposure to traffic, noise pollution, and air pollution, and makes people less likely to walk or bike in their local neighborhoods.

Concentrating Development in Areas Suitable For Growth: Concentrating housing, shopping, and job opportunities within compact areas is the most important component for making walking, biking, and public transit convenient and time efficient. Dense mixed-use centers allow people to live where they do not need a private automobile to fulfill daily needs and can get physical activity as part of daily travel.

Well-Maintained Infrastructure and Resilience Improvements: Transportation systems are vulnerable to disruption in natural disasters, most notable for the Region, flooding events. Maintaining culverts, bridges, ditches, and other infrastructure while improving outdated infrastructure is key to being ready to withstand major weather events.

Current Conditions

Diverse Regional Transportation System: Transportation infrastructure provides a strong backbone for the Region. The Region features a commercial airport, extensive rail lines, well-served public transit routes, and connections to surrounding areas via two major US highways. Compared to other regions in Vermont, the Rutland Region hosts a robust mix of infrastructure that meets personal and commercial traffic needs.

Maintain Existing Infrastructure: With rising maintenance costs, rather than building new, the Region's primary focus is on maintaining existing infrastructure, and strategically retrofitting existing roadways to better suit their land use context. 'Context-sensitive road design' means prioritizing different modes of transportation based on the surrounding level of development.

Good Potential: The Region can support more walking and biking, but inconsistent infrastructure fails to meet modern safety standards. Many compact development clusters in the Region are well suited for public transit service, extensive sidewalk networks, and increased development of biking infrastructure. However, there are many gaps in bike networks, and the condition of sidewalks varies, with 40% of sidewalks in the Region in poor condition.

Future Trends

Encourage Infrastructure and Private Development in Development Centers and Growth Areas: The simplest way to help the fiscal health of a community is by pursuing a self-reinforcing feedback loop of concentrated infrastructure investment and development.

Clear Context-Sensitive Road Design Standards: The Rutland Regional Plan, along with other ongoing initiatives with the Vermont Agency of Transportation, moves towards a way of concretely identifying what design elements are appropriate based on current and future land use.

Public Transit Fiscal Challenges: With state budgeting focused on affordability and an uncertain federal future, public transit must optimize and economize its operations while further enhancing its rider base through marketing.

What's Next?

Policies support safe, efficient, and energy-conscious regional transportation by promoting context-sensitive Complete Streets, roadway safety improvements, strategic bridge and highway upgrades, and resilient infrastructure planning. They prioritize electric vehicle infrastructure along high-traffic corridors, improved public transit connectivity, enhanced passenger and freight rail service, and better access to airports and transit hubs. Actions focus on advancing key state highway and safety projects, optimizing public transit routes and active transportation networks, improving public transit coordination and marketing, and supporting communities with technical assistance, capital planning, and data-informed investment in sustainable mobility systems.

Housing

Goal

Ensure the availability of safe and affordable housing for all residents.

Healthy, Equitable, Resilient Communities

Physical Risks to a Healthy and Resilient Housing Stock: About 40 homes are lost each year to disrepair or damage. An estimated 22,450 units face health risks due to pre-1978 construction, and 2,083 structures are in high flood risk areas. Every resident should have access to a safe and stable home that can withstand environmental risks.

Financial Instability in the Housing Market: One-third of households struggle with unaffordable housing costs, 14% are at high risk of losing their homes, and 682 people are unhoused. The median home price increased 54% between 2019 and 2024. Everyone should have access to an affordable home in a predictable, balanced market.

Stark Inequities: While many are affected by the housing crisis, renters, low-income households, single-income families, and Black residents are disproportionately impacted. The housing market often favors wealth over basic needs, as seen by the presence of hundreds of homeless individuals alongside thousands of vacant seasonal homes.

Current Conditions

Supply and Demand Imbalances Drive Prices: For decades, housing demand has exceeded supply, causing prices to rise. From 1990 to 2020, only 90 units were added each year. Projections show the region needs 295 new units annually from 2025 to 2040 to meet demand. The greatest need is for smaller one- and two-bedroom units, due to especially low availability and increasing demand. Limited incomes and high construction costs remain key barriers to building more homes.

Diverse Housing Needs: The Region's housing needs vary greatly by household type, location, and life stage. Some people want to own homes, while others need to rent. Some prefer rural areas, others villages. Some require small apartments, while others want larger homes. People experiencing homelessness need more rental units, supportive services, and housing. Seniors often struggle with fixed incomes, making it difficult to stay in their homes or find suitable downsizing options. Meanwhile, employers face increasing workforce shortages because prospective workers cannot find adequate housing. With over 17,000 Vermonters expected to retire each year through 2032, the demand for workforce housing is expected to grow.

Unaffordable Housing: Rising housing costs are putting strain on households across the Region. About one-third of all households are cost-burdened, meaning they struggle to afford basic needs after paying for housing. Roughly 14% spend more than half their income on housing, putting them at high risk of eviction or homelessness. Renters are especially vulnerable, earning about half the income of homeowners and being twice as likely to face housing instability.

Future Trends

Monitor Housing Demand: A 2023 regional assessment indicated that the Region needs between 37 and 554 units annually from 2023 to 2040. The extensive range means the Region needs to monitor and plan for housing supply to meet, not exceed, demand, and utilize regional demographic indicators to do so.

Low Affordable Housing Growth: Rising development costs are creating financing gaps, making it difficult to complete below-market (affordable) housing projects nationwide. Federal funding for affordable housing decreased significantly between 2021 and 2023, and future changes remain uncertain. Developers will continue relying on state and federal subsidies for affordable housing projects. The lack of funding means much housing growth is expected to be unaffordable for the average resident.

Emerging Opportunities and Success Stories: Act 250 and local regulatory reforms are expected to contribute to increased housing supply and improved affordability. Housing funds and home-sharing options will be marketed more effectively. New financial tools, such as project-based TIF, will be employed. Vacant housing and office units will be inventoried and repurposed to meet the demand for housing. Building homes in factories will help address affordability, quality, and workforce challenges.

What's Next?

Policies promote safe, affordable housing growth by expanding various housing types, concentrating development in downtowns and villages, and prioritizing low- to moderate-income households. They encourage utilizing vacant units, removing regulatory barriers, avoiding flood-prone areas, and maintaining year-round homes. Actions aim to boost supply by monitoring housing growth, updating zoning laws, identifying development and funding opportunities, and supporting local planning through data tools, technical assistance, and regional collaboration.

Community Facilities and Public Utilities

Goal

Plan for, finance, and provide an efficient system of diverse public facilities and services, including fire and police protection, healthcare services, educational and vocational opportunities, public drinking water supply and wastewater treatment, solid waste disposal, childcare, and non-commercial recreational opportunities.

Healthy, Equitable, Resilient Communities

Community Well-Being and Quality of Life: Public facilities, utilities, and services are essential to individual and community health. Parks, trails, and community centers provide opportunities for connection, strengthen social bonds, and improve overall quality of life.

Equity and Accessibility in Rural Areas: Equitable access to services is especially important in rural communities that face challenges such as aging populations and lower incomes. Strategic planning is key to ensuring that services are not only accessible but also affordable, thereby fostering inclusion and resilience.

Sustainability and Financial Resilience: Long-term success depends on financially resilient infrastructure. Energy-efficient upgrades, diverse funding sources, and strategic capital planning enable towns to meet current needs while ensuring that essential services remain reliable and cost-effective. Regional coordination and shared services also support long-term sustainability, especially in towns with limited staff and resources.

Current Conditions

Strained Municipal Services: Municipal facilities, utilities, and services are the backbone of daily life and economic development in the Rutland Region. Aging buildings, rising operational costs, limited tax revenue, and volunteer shortages challenge small towns' ability to meet growing demands. Strategic investment, long-term planning, and stronger local governance are essential to ensure these systems remain functional, efficient, and responsive to community needs.

Service Gaps and Workforce Shortages: The Region faces workforce shortages and service gaps in key sectors. There is a critical lack of childcare workers, limiting access for families. Essential trades, such as healthcare and mental health services, are understaffed despite high demand. Mental health and substance use treatment services are stretched thin, while provider shortages hinder healthcare access. Education facilities also face maintenance challenges. These issues highlight the need for investments in staffing and infrastructure to support regional growth.

Infrastructure and Economic Constraints: The Region faces significant challenges in infrastructure development, particularly in energy, telecommunications, healthcare, and public safety, which hinder economic growth and community well-being. Aging public drinking water and wastewater systems, vulnerable energy grids, and limited cellular access create barriers for businesses and residents. Local and regional funding constraints complicate efforts, as towns often have limited tax bases and grant funding to support infrastructure improvements.

Future Trends

Shared Services and Capital Planning: Municipalities can address aging infrastructure and resource limitations through strategic capital planning and shared services. Capital improvement plans help prioritize essential upgrades, focusing on areas with the greatest need while controlling costs. Shared services, such as combining resources for key staff positions, provide cost-effective solutions, enabling towns to enhance their facilities and services while promoting economic growth.

Context-Sensitive Infrastructure: The Region must prioritize infrastructure investments in key growth areas, like downtowns and village centers, to enhance accessibility, modernize aging systems, and ensure long-term sustainability. Focusing on critical facilities such as drinking water, wastewater, energy, and telecommunications, towns can align their infrastructure with regional growth to drive economic development and leverage state and federal funding.

Workforce and Economic Development: The Region can address workforce shortages by fostering partnerships between schools, employers, and institutions like VTSU-Castleton and Stafford Technical Center to align education with regional labor needs. Additionally, leveraging the Region's outdoor recreation assets can drive economic growth, create jobs, and position the Region as a top tourist destination.

What's Next?

Policies support efficient and sustainable growth by aligning public facilities and utilities with future development needs and the Region's land use goals. They prioritize cost-effective upgrades, shared services, and expanded access to essential infrastructure, including public water and wastewater, energy, broadband, and solid waste management, while also expanding access to childcare, education, healthcare, and workforce capacity in critical sectors. Actions aim to strengthen regional infrastructure, services, and workforce by supporting municipalities with data-driven tools, targeted assistance, and collaboration across local, regional, and state partners.

Enhanced Energy

Goal

Use energy efficiently, develop renewable energy resources, and reduce greenhouse gas (GHG) emissions.

Healthy, Equitable, Resilient Communities

Access to Clean Energy Solutions: The vision for a healthy, equitable, and resilient Region includes ensuring that all residents have access to clean energy solutions, such as heat pumps, electric vehicles, and renewable energy.

Energy Resilience: Energy resilience is a key outcome of this Enhanced Energy Plan. It will be supported by energy efficiency, weatherization, passive solar use, and energy storage systems. In the future, homes and critical facilities will rely on these systems during outages, ensuring safety and affordability.

Current Conditions

State of Energy in the Region: The Region is currently using more energy than necessary due to inefficient technologies and reliance on fossil fuels. This contributes to increased GHG emissions and energy costs.

Thermal Sector Energy Analysis: The Thermal Sector, which includes energy used for heating, cooling, and water heating, is the Region's largest energy consumer, with heating oil as the dominant fuel source. Residents who rely on heating oil face high energy costs and price volatility, especially during the winter months. The number of heat pumps installed in the Region exceeds the state average; however, home weatherization efforts have fallen short of targets, limiting potential energy savings and GHG emission reductions.

Transportation Sector Energy Analysis: Gasoline is the primary fuel source in the Transportation Sector, which includes energy for passenger vehicles. This sector is the largest contributor to GHG emissions despite accounting for only a third of the Region's energy use. Increasing the adoption of electric vehicles and public transit use are key strategies for reducing emissions and lowering energy costs. Although EVs offer efficiency and cost benefits, they remain underused due to barriers like limited charging access and long charging times.

Electric Sector Energy Analysis: The Electric Sector includes electricity use beyond the Thermal and Transportation sectors, as well as renewable generation. This sector accounts for the smallest share of energy use in the Region and produces the fewest GHG emissions. The Region's sole electric utility, Green Mountain Power, supplies 100% carbon-free power, and the Region has met its 2035 renewable energy target through solar generation.

Future Trends

Future of Energy in the Region: This Plan sets targets aligned with Vermont's energy and climate goals to cut energy use and GHG emissions and increase renewable energy generation by 2025, 2035, and 2050, as required by the State for enhanced energy planning certification. The Plan focuses on cost-effective, sustainable energy transitions to lower GHG emissions, improve health outcomes, and boost resilience.

Thermal Sector Trends and Targets: The pathways to achieve the Region's Thermal Sector targets include increasing weatherization efforts and adopting high-efficiency technologies, such as heat pumps. As of 2023, the Region has met 10% of its 2050 residential thermal target.

Transportation Sector Trends and Targets: The pathways to achieve the Region's Transportation Sector targets include increasing electric vehicle usage, reducing dependence on fossil fuels, and promoting shared and public transit. Downtowns and Village Centers should expand options for walking, biking, and public transit, while rural areas should focus on efficient vehicles and switching fuels. As of 2023, the Region has met 1% of its registered passenger EV target.

Electric Sector Trends and Targets: The pathways to achieve the Region's Electric Sector targets include electrifying the Thermal and Transportation Sectors with more energy-efficient technologies and increasing renewable generation to meet the growing electricity demand. The Region will prioritize solar, hydro, and geothermal energy for renewable sources, avoiding biomass and large-scale wind projects. As of 2023, the Region has met 73% of its renewable energy generation target.

What's Next?

Policies promote fuel switching, energy conservation, investments in infrastructure to reduce energy consumption, and the siting of renewable energy sources that align with orderly development in the Region, complemented by enhanced energy planning at the municipal level. They encourage weatherization, high-efficiency technologies, and renewable energy projects utilizing solar, hydro, and geothermal energy sources. Progress will be measured by the increased adoption of local enhanced energy plans and the achievement of regional energy targets.

Working Landscape

Goal

Encourage and strengthen agricultural and forestry industries.

Healthy, Equitable, Resilient Communities

Health and Food Access: A vibrant working landscape supports public health by increasing access to fresh, nutritious, and locally grown food. Local food systems reduce food insecurity and improve health outcomes while lowering environmental impacts. Programs like the Farmacy project demonstrate how local food can serve as preventative medicine, especially for underserved populations.

Equity in Agriculture and Forestry: Equitable access to local food depends on affordability, availability, and cultural relevance. Systemic barriers limit participation in agriculture and forestry for historically marginalized groups. Removing these barriers strengthens the Region's economy and food system. Removing these barriers not only fosters inclusivity but also strengthens the Region's economy, food system, and environmental stewardship.

Climate Resilience and Economic Stability: Local food systems and well-managed forests enhance resilience to climate change, support biodiversity, and provide economic opportunities in rural areas through value-added production, agritourism, and sustainable forestry. Forests also provide critical ecosystem services such as carbon sequestration, water filtration, and flood mitigation. As climate impacts intensify, these systems will play an increasingly vital role in supporting self-reliant and adaptable communities.

Current Conditions

Agricultural Industry: The Region's agricultural landscape is becoming more diverse, with growth in vegetable farms, orchards, livestock, and organic operations. While dairy farms have decreased in number, milk production remains steady due to consolidation. Despite this growth, challenges persist, including low wages for farm workers and an aging farmer population. Expanding markets and enhancing infrastructure are vital to supporting the Region's diverse range of farm products and ensuring long-term sustainability. Direct-to-consumer sales, agritourism, and CSA programs are growing, but food hubs and processing facilities are still limited. Investments in infrastructure and marketing are needed to help small and mid-sized farms thrive.

Forestry Industry: Forests cover 73.5% of the Region and provide ecosystem services, wildlife habitats, and raw materials for the wood products industry. Although logging employment is low, the wood manufacturing sector remains active. Forests are generally healthy but face growing threats from invasive species, climate change, and declining public support for logging.

Future Trends

Agricultural Industry: Smaller, diverse farms will keep growing, driven by consumer demand for organic and locally produced food. Initiatives like the Vermont Food Security Roadmap and New England Feeding New England aim to source 30% of their food locally by 2030. Regenerative practices such as no-till farming, cover cropping, diverse crop rotations, and crop-livestock integration will boost climate resilience and support local environmental health. Expanding food hubs and meat processing facilities is crucial to meet increasing demand and help local producers. The Vermont Farmers Food Center serves as a model for regional food infrastructure. Financial incentives, remediation support, and technical assistance will be needed to help underserved communities, new farmers, and small-scale producers access and use these facilities. Expanding equitable access to local food, especially for low-income, disabled, and BIPOC residents, will be a top priority.

Forestry Industry: Sustainable forest management, climate adaptation, and enrollment in the Current Use Program will be key to maintaining forest health. The Region must also prepare for shifts in tree species due to climate change. Emerging wood products offer new opportunities to enter forestry markets. Attracting younger workers and investing in innovation, mechanization, and workforce development will be critical to further growth in the forest industry.

What's Next

Policies support the viability of agricultural and forest operations. They encourage measures to protect both industries from development. Other priorities include promoting local food production, establishing local food hubs, processing, and local food marketing. Actions aim to specifically assist municipalities in stemming parcelization from development, and for the RRPC to work with partners to support the Vermont Farmers Food Center and the Smokey House Center.

Natural Resources

Goal

Maintain and improve the quality of air, water, wildlife, forests, and other land resources while promoting the wise and efficient use of these natural resources and appropriate extraction of earth and mineral resources. This approach helps ensure the area is properly restored and its aesthetic quality preserved.

Healthy, Equitable, Resilient Communities

Environmental and Community Health: Clean air, water, and ecosystems are essential to public health and quality of life. Natural resources support both mental and physical well-being, reduce disaster risks, and provide critical ecosystem services, such as flood control and air purification. Healthy communities are inextricably linked to high-quality natural resources. These benefits also reduce long-term public costs by lowering healthcare burdens and infrastructure damage.

Equity and Natural Resources: Ensuring equitable access to clean air, water, and land remains essential to building a just and resilient Region. Equitable natural resources promote the Region's well-being and growth. Equity requires the elimination of pollutants, with a focus on those most impacted. This includes addressing the barriers faced by rural residents who rely on private wells and communities disproportionately exposed to pollution.

Climate Resilience: Forests, wetlands, and floodplains help manage stormwater, reduce heat, and buffer communities from extreme weather. Strategic conservation and restoration efforts strengthen both ecological and community resilience.

Current Conditions

Strong Natural Resource Base: The Region is rich in natural resources, including forests, clean water, wildlife, and various earth and mineral resources. These assets support recreation, tourism, agriculture, and industry, while also sustaining biodiversity and ecosystem health. The best indicator of the health of natural resources in the Region is the wide diversity of plant and animal life and abundance of healthy natural areas.

Emerging Threats: Pollution, invasive species, climate change, and land fragmentation threaten the Region's natural systems. PFAS contamination, microplastics, and nutrient runoff are growing concerns that require expanded monitoring and proactive management. These threats also pose risks to key economic sectors, including tourism, agriculture, and outdoor recreation.

Conservation and Stewardship: State and local agencies, nonprofits, and landowners are actively conserving forests, wetlands, and wildlife corridors. Programs such as the Clean Water Service Provider and the Vermont Conservation Design guide regional efforts to protect high-priority natural areas. Initiatives such as the Community Resilience and Biodiversity Protection Act and Staying Connected Initiative are expanding the Region's conservation toolkit.

Future Trends

More Conservation: Maintaining and conserving key areas in the Region is essential to the health of our natural resources. The Region is well-positioned to meet Vermont's conservation goals, protecting 30% of land by 2030 and 50% by 2050.

Air and Water Quality: Smog, transported air pollution, and climate-driven flooding and drought will challenge air and water quality. Expanded monitoring, cleaner energy, and nature-based solutions will be essential to protect public health and ecosystems. Efforts must also ensure that vulnerable populations are not disproportionately affected by declining air and water quality.

Earth and Mineral Resources: Demand for marble, slate, and construction materials remains strong. Balancing extraction with environmental protection and community well-being will be critical. These industries also contribute to the Region's economic base and require thoughtful planning to avoid long-term environmental costs.

What's Next

Policies promote the protection of air, wetlands, surface and groundwater quality, as well as the restoration of impaired surface waters. Other priorities include protecting forest blocks and wildlife corridors. Actions aim to assist municipalities in maintaining the quality of surface water and groundwater, as well as reducing parcelization of forests.

Climate Resilience

Goal

Enhance the ability of communities to prepare for, respond to, and recover from climate-related impacts, including flooding.

Healthy, Equitable, Resilient Communities

Climate Influences Wellness: The rising frequency and severity of extreme weather worsen health issues. A healthy community mitigates this by offering hazard-specific solutions, such as accessible cooling sites during heat waves.

Inherent Inequities: The impacts of climate change disproportionately burden socially and economically marginalized populations. An equitable community proactively includes these individuals in decision-making processes to ensure fair access to resources and reduce long-term harm.

Mitigate, Adapt, Thrive: A resilient community limits harm by managing heat-trapping emissions (mitigation) and making risk-informed lifestyle adjustments (adaptation). Resiliency often entails strategies that yield multiple benefits, helping to improve public welfare.

Current Conditions

Shifts in Long-Term Weather Patterns: Vermont is experiencing hotter and wetter conditions, accompanied by increased variability in temperature and precipitation extremes. Towns are not consistent in restricting development outside flood hazard areas, and outdated maps and models misrepresent high-risk zones. Flooding and fluvial (riverine) erosion are the most common hazards in the Region, causing over $61.9 million in damages since 2011.

Cascading Effects: The impacts of climate change are clear across all domains. Built infrastructure often struggles to handle increased water flows, while natural environments, such as forests, face threats from floods, droughts, and invasive species. Industries such as syrup production and winter sports are becoming less economically viable. Additionally, rising temperatures are likely to cause more health problems for people.

Vulnerability and Resilience: The Region ranks among the top five counties in Vermont for natural hazard risks, expected annual losses, and social vulnerability levels. Current efforts to enhance community resilience are the products of isolated local initiatives that would benefit from stronger regional coordination. Examples include floodplain restoration projects in Clarendon, adaptive maple management in Danby, and hot weather planning in Wallingford.

Future Trends

State Goals and Policies: Vermont's Global Warming Solutions Act requires limiting heat-trapping emissions. Adaptation measures should also be integrated into local planning processes to minimize harm. RRPC will assist towns in achieving these goals to support community economic development.

Strategic Investments and Planning: Critical infrastructure investments are high priority, but financial and technical capacity challenges necessitate creative solutions. Working with the natural environment is the most effective form of flood mitigation, and the Region should explore these opportunities through watershed analyses and management planning. Diversifying outdoor recreation options can turn losses into gains as warmer weather trends continue.

Communicate, Coordinate, Collaborate: As local capacities decline, it will become crucial for towns to share resources, knowledge, and manpower to ensure effective emergency management and response. The RRPC is working with the Rutland Regional Disaster Cooperative to realize this vision by enhancing communication, coordination, and collaboration with diverse community partners. Cultivating social bonds and trust within the Region's communities is essential for creating more robust mutual support networks.

What's Next?

Policies support proactive mitigation investments aimed at reducing risk and increasing resilience. They promote working with the environment instead of against it by utilizing natural flood mitigation services, limiting growth in high-flood-risk areas, and encouraging flood-conscious development in existing growth areas. Other priorities include planning for hot weather, community collaboration, and regional capacity building. The proposed Actions involve developing and implementing plans, studies, and agreements that empower towns to better prepare for, respond to, and recover from disasters.

INTRODUCTION

INTRODUCTION

LAND USE

ECONOMIC DEVELOPMENT

CULTURAL RESOURCES

TRANSPORTATION

HOUSING

COMMUNITY FACILITIES AND PUBLIC UTILITIES

ENHANCED ENERGY

WORKING LANDSCAPE

NATURAL RESOURCES

CLIMATE RESILIENCE

NEIGHBORING PLANS

PLAN IMPLEMENTATION

RUTLAND REGIONAL PLANNING COMMISSION

The Rutland Regional Planning Commission (RRPC) is a political subdivision of Vermont established in 1968 by the 27 municipalities in the Rutland Region (the Region), which includes all of Rutland County except for Pittsfield, as shown in Figure *1.1. Governed by a Board made up of locally appointed commissioners from each community, the RRPC engages in various fields that affect the public both directly and indirectly, including land use, transportation, housing, economic development, environmental quality, and energy. With no county government in Vermont, the RRPC serves as a connection between the Region's municipalities and the State. On a local level, it bolsters the capabilities of its municipal members by providing valuable, cost-effective planning assistance. On a regional scale, it aligns community plans into a cohesive regional plan.

The Rutland Regional Plan (the Plan) is a collaborative guide to shaping a healthy, equitable, and resilient Region. This vision establishes the framework and direction for the Plan's Goals, Policies, and Actions to achieve community economic development.

ABOUT THE REGION

Geography

From craggy mountains to lush valleys and serene lakes, the Region boasts a rich topography sculpted by millennia of natural forces. Situated at the southern tip of Lake Champlain, the Region is a major connection point between the vast mountainous landscapes of Northern New England and Upstate New York. To the south, Bennington County continues the geographic patterns of the Region, with tall peaks and deep valleys, as does New York State's Washington County to the west. To the north lie the rolling hills and fertile agricultural soils of Addison County. To the east, the Region is bounded by Windsor County, which features alpine terrain that slowly gives way to low-lying areas along the Connecticut River.

HIGHEST PEAK

Killington Peak

4,242 ft

LARGEST LAKE

Lake Bomoseen

2,400 acres

Physiographic Regions

A physiographic region is an area of land defined by its unique geology, topography, and the native plants and animals that inhabit it. As shown in Figure 1.2, the Region includes five distinct physiographic regions: the Southern Green Mountains, Vermont Valley, Taconic Mountains, Champlain Valley,

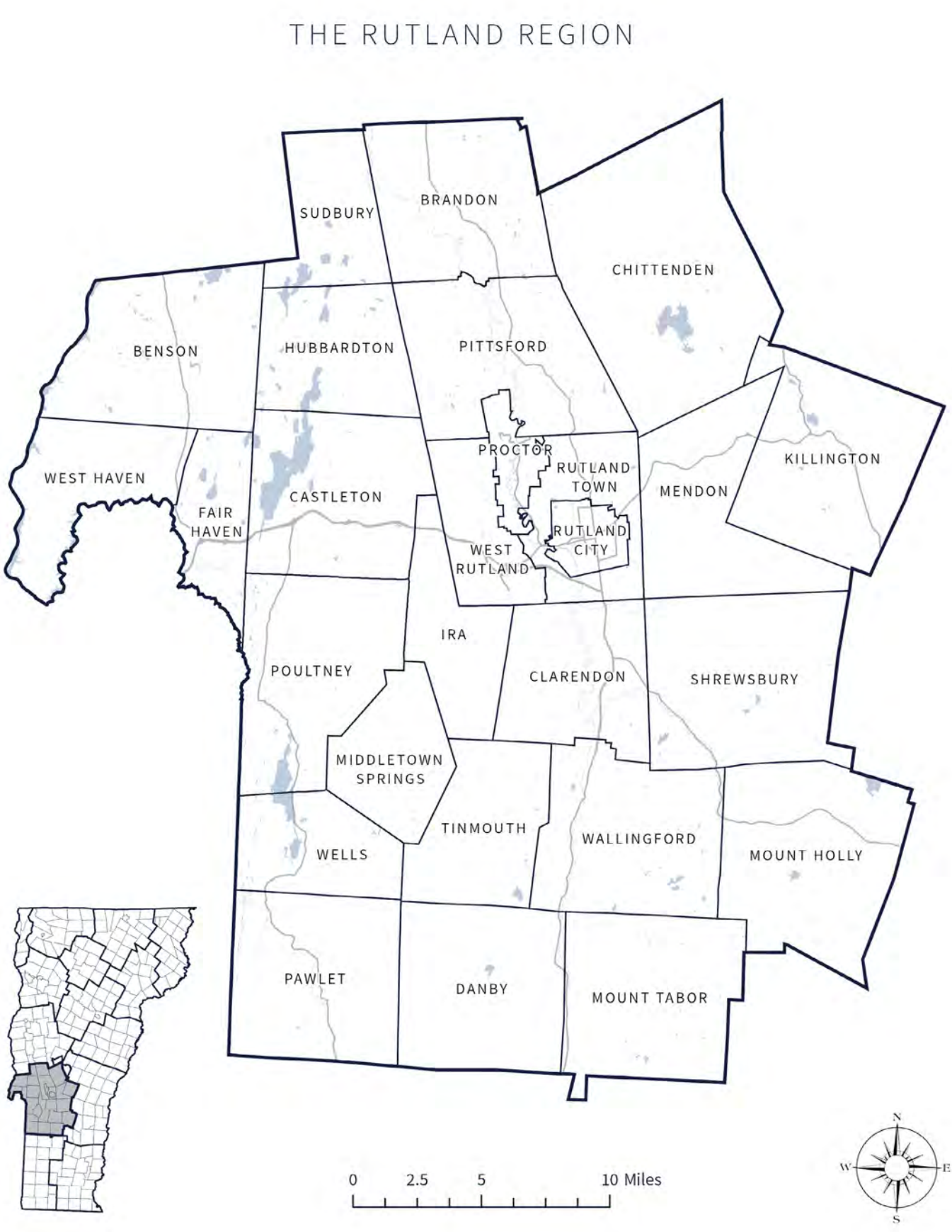


Figure 1.1

Rutland County is made up of 28 towns in southwestern Vermont. The RRPC has responsibilty for 27 of these towns-a jurisdiction referred to as the Rutland Region.

and Northern Green Mountains. Understanding these land areas, including their assets and constraints, offers insights into past, current, and future development patterns.

Tectonic forces and glaciation sculpted the Southern Green Mountains, which form the Region's eastern border. They feature steep slopes exceeding 20%, several peaks above 3,500 feet elevation (including Shrewsbury, Pico, and Killington peaks), rocky terrain, poorly drained soils, and short growing seasons. The area hosts the Green Mountain National Forest, State Forests and Parks, and other conserved lands.

Moving west, the Vermont Valley runs north-south through the center of the Region, nestled between the Green and Taconic Mountains. The Valley features gentle slopes, deep and well-drained soils that support agriculture and settlements, as well as wetlands and the floodplains of Otter Creek, which are crucial for water management and biodiversity.

The Taconic Mountains, formed from an ancient seabed, run north-south through much of the Region, dividing the Vermont and Champlain Valleys. They feature steep slopes interspersed with upland plateaus and valleys, poorly drained soils, deposits of slate, limestone, and marble, and several waterways and lakes.

Retreating glaciers carved the Champlain Valley, which Lake Champlain's waters further shaped. Its fertile soils mark the Region's northwestern edge. This valley features gentle slopes, offering opportunities for agriculture, settlements, and trade along its waterways.

A small extension of the Northern Green Mountains reaches into the Region's northeast corner in the Town of Chittenden. This area features steep, forested slopes, rocky soils, and elevations up to 3,000 feet. Shaped by tectonic shifts and glaciers, the Northern Green Mountains support northern hardwood and spruce fir forests with a limited amount of agriculture.

Development Patterns

The Region's story begins long before the formation of its 27 modern municipalities. Archaeological evidence shows that indigenous peoples inhabited this area for at least 12,500 years. Tribes such as the Mohican and Abenaki lived, hunted, and built vibrant communities that were deeply connected to the land's physiographic features, which influenced their cultures and ways of life.

Colonial settlers arrived and subjected indigenous communities to numerous challenges, such as forced displacements, diseases, and episodes of ethnocidal violence. These atrocities are significant events that shaped the present landscape and the memories of its inhabitants.

Over the subsequent periods, while the 27 municipalities of the Region took unique development paths, natural features consistently influenced how each community grew. These features guided infrastructure choices, such as roads, shaping the settlements and growth of these municipalities over time. Figure 1.3 shows the Region's population growth from 1790 to 2020. The following information highlights the main factors that

Figure 1.2

The Rutland Region includes five distinct physiographic regions. Understanding these land areas offers insights into past, current, and future development patterns.

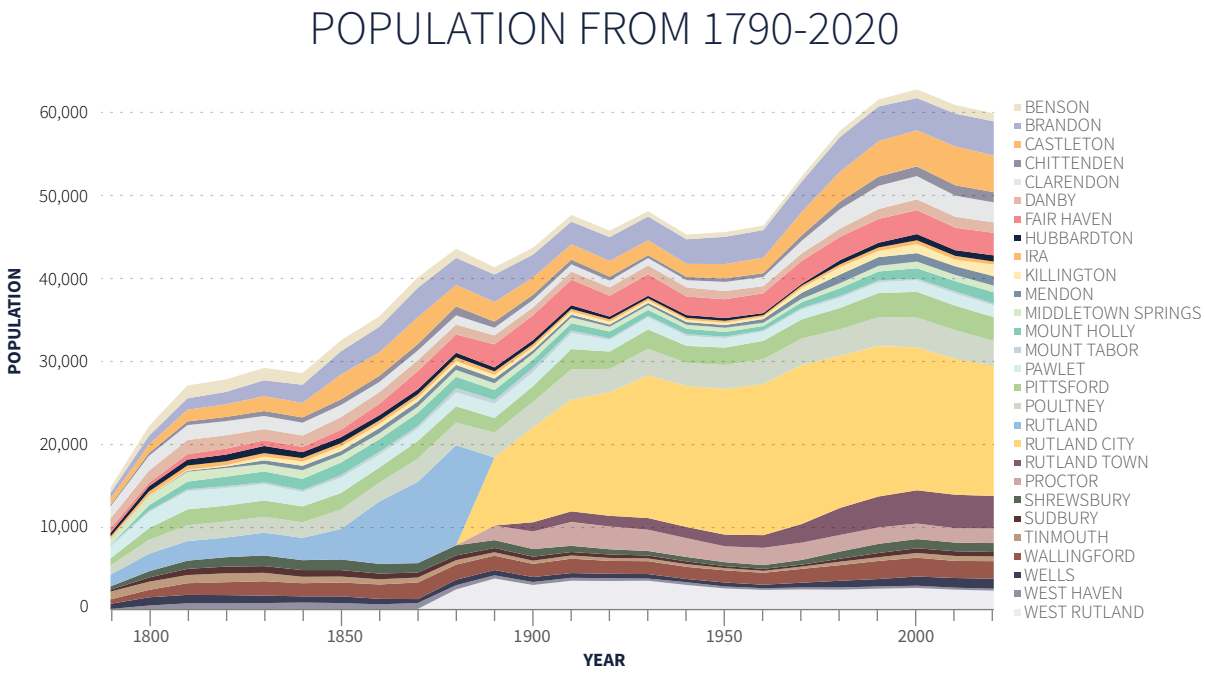


Figure 1.3

Between 1790 and 1850, agriculture drove population growth, with railroads boosting regional expansion through the 19th century. By the mid-20th century, automobiles spurred further growth.

have driven growth during this period.

From 1790 to 1850, farmers and limited industrial developers primarily occupied the low-lying areas, especially along waterways. They utilized the Crown Point Highway, an early British military road that traversed Shrewsbury, Clarendon, Rutland Town, Rutland City, Proctor, Pittsford, and Brandon, to guide initial settlement of the Region. Lake Champlain served as a transportation route for communities like West Haven and Benson, enabling farmers to access broader markets for their goods.

The arrival of the first rail line in 1849 and its subsequent expansions connected the Region to growing 19th-century transportation networks. Railroads encouraged uneven agricultural development; municipalities with rail access thrived, while those dependent on waterways and canals declined. The railroads made harvesting the Region's natural resources—such as timber, marble, slate, and other minerals—much more profitable, generating economic wealth evident in the architecture of municipalities like Danby, Fair Haven, Proctor, and Brandon. The railroads also benefited industrial enterprises, including the Wallingford Old Stone Forge, which evolved into the True Temper Corporation. This industrial growth attracted laborers seeking work, leading to population increases. New housing construction concentrated along railway lines, with Rutland City emerging as the urban center of the Region, at the heart of the new network.

In the mid-20th century, transportation technology shifted dramatically, redefining how people moved around the Region and

Rutland City emerged as the urban center of the Region in the early 1900s.

altering which land was deemed valuable and suitable for development. Automobiles enabled people to live farther away from the town and village centers where they had previously settled. This shift inflated land values around these traditional centers, often surrounding working farms and timberland. As people expanded into the surrounding rural countryside, they reduced forest and agricultural land, frequently subdividing it into smaller parcels in a process known as "parcelization." Municipalities like Rutland Town and Clarendon experienced substantial growth during this period. To counteract this trend, Vermont established the "Current Use" program in 1978. The program aimed to maintain productive forest and agricultural land, slow development, and promote equity in property taxation. By 2020, approximately 33% of the Region's land area was enrolled 26% as forest and 7% as agricultural parcels.

Additionally, automobile access fueled the growth of the new recreation economy. The appeal of mountain recreation and scenic views drove increased growth in the Southern Green Mountain towns during this period. Killington, featuring both Killington and Pico Resorts, and Mendon experienced large-scale resort development. Recreational development also bloomed in the lakes region of the Taconic Mountains, particularly around Lake Bomoseen and Lake St. Catherine.

In the late 1990s and early 2000s, residents increasingly viewed unplanned automobile-dependent sprawl outside existing centers as a threat to the State's rural character and tourist economy. In 1999, the State launched a "Designated Center" program to encourage development within historic centers, particularly those with public drinking water and wastewater infrastructure. This program enables municipalities to designate priority districts for development and receive incentives. Over the past two decades, the program has expanded and strengthened. As of 2025, there are 24 Village Center and three Downtown designations in the Region. In 2026, the designation framework will change to two categories: "Centers" and "Neighborhoods." The Land Use Chapter (Chapter 2, page 37) offers more information about the new State Designation Program.

Population Trends

Population trends help planners answer questions about the types and numbers of people expected to reside in an area in the future. Planners rely on this information to assess future demand for resources and services.

Planners rely on population trends to assess future demand for resources and services.

Over the decades, the Region experienced periods of boom and bust, stabilizing at about 60,000 people in the 1980s. As of the 2020 Census, the Region's population is 60,068. Although the Region has slightly shrunk in the past two decades, most of this population loss is concentrated in Rutland City. Eleven municipalities grew from 2010 to 2020; the rest experienced only minor decreases, as shown in Figure 1.4. Projections from Woods & Poole predict essentially no change in the regional population through 2060.

Figure 1.5 presents migration data from tax documents available through the US Internal Revenue Service. From 2012 to 2021, 736 people left Rutland County. Notably, in 2017, 2020, and 2021, Rutland County experienced a net increase in migration. Most people migrated to and from Rutland County within Vermont or the Northeast. Approximately 550 people moved to Rutland County from the South, Midwest, and West each year, with the South providing most of these migrants.

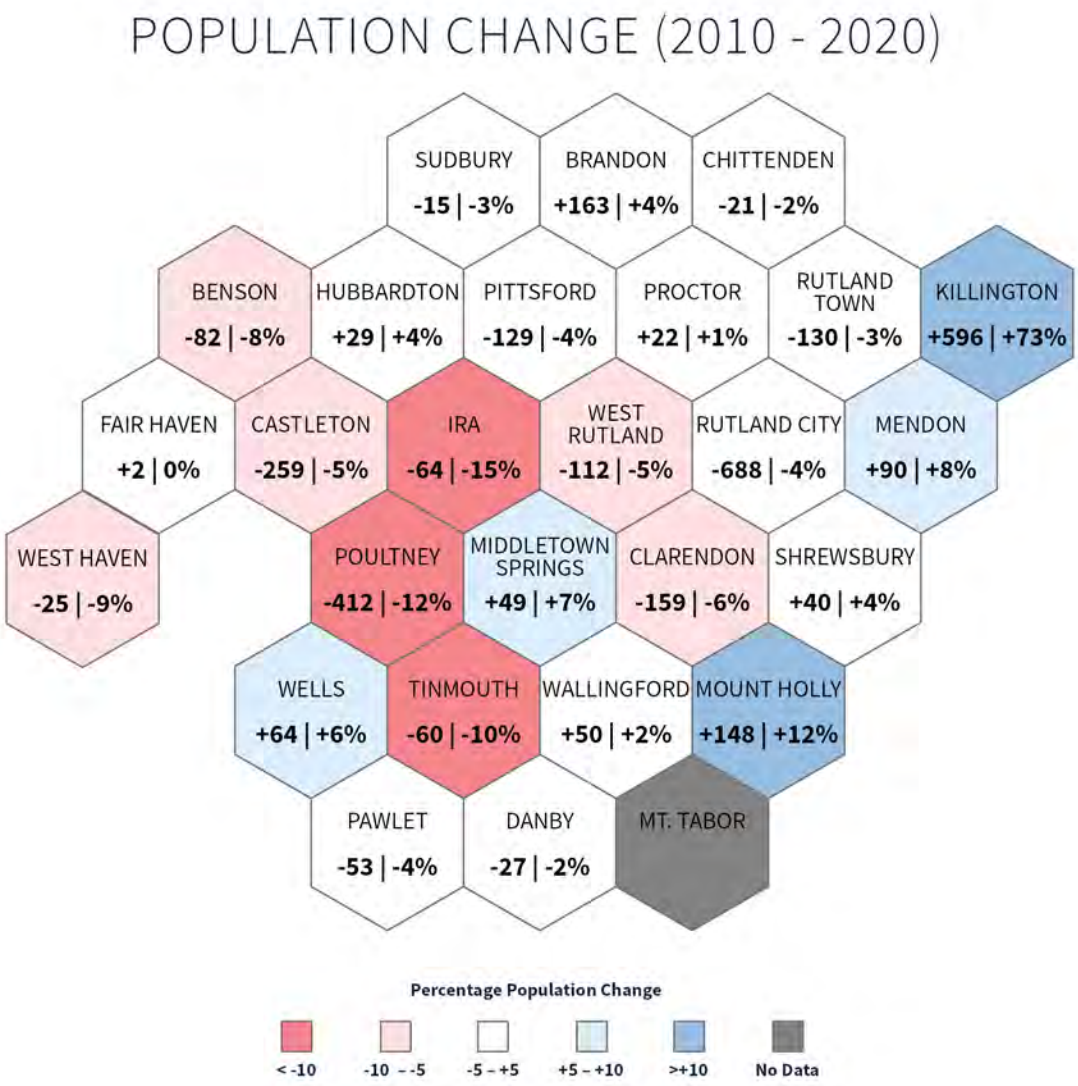


Figure 1.4

Eleven municipalities grew from 2010 to 2020; the rest experienced only minor decreases.

Between 2012 and 2021, on average, households that left Rutland County had a gross income $9,146 lower, or 17% lower, than households that did not move, suggesting that lower-income households are relocating to more affordable areas. While households moving into Rutland County between 2012 and 2019 also had an average gross income lower than households in the Region, this trend experienced a sharp pivot in 2020 and 2021, when the average gross income of households moving in was $9,000 higher than that of households in the Region. This trend may result from two factors: higher-income seasonal residents in towns like Killington transitioning to full-time remote work in Rutland County, or long-time residents relocating to more affordable locations, such as the South, with higher-income individuals replacing them.

The Region is also aging. As of 2020, the median age was 48, with the largest share of the population between 50 and 69 years old, as shown in Figure 1.6. Only three towns in the Region have a median age lower than the State median of 44: Castleton, Fair Haven, and Proctor. Castleton has the lowest median age at 40.4, while Sudbury has the oldest at 54.5. Projections from Woods & Poole predict a slight increase in the Region's total population aged 65 years and over, and a slight decrease in the total population aged 0 to 64, through 2060.

As of 2020, 51% of the Region's population is female, and 49% is male. While 91% of the population identifies as white, the demographic is gradually becoming more diverse. The number of households identifying as BIPOC (Black, Indigenous, or Person of Color) increased from just over 2% in 2010 to nearly 7% in 2020. This shift resulted from increased migration from BIPOC groups and a decline in the Region's white population. Projections from Woods & Poole predict similar trends

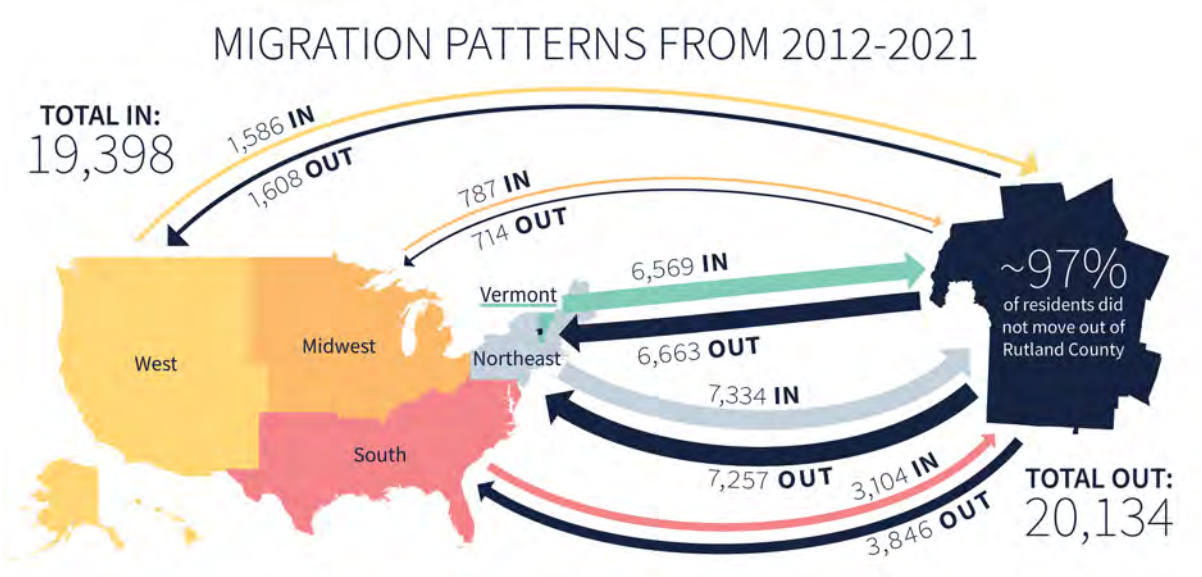


Figure 1.5

From 2012 to 2021, the Region's population remained stable, with slightly fewer people moving into the Region than those moving out. Most residents moved in or out of the Region within Vermont or the Northeast.

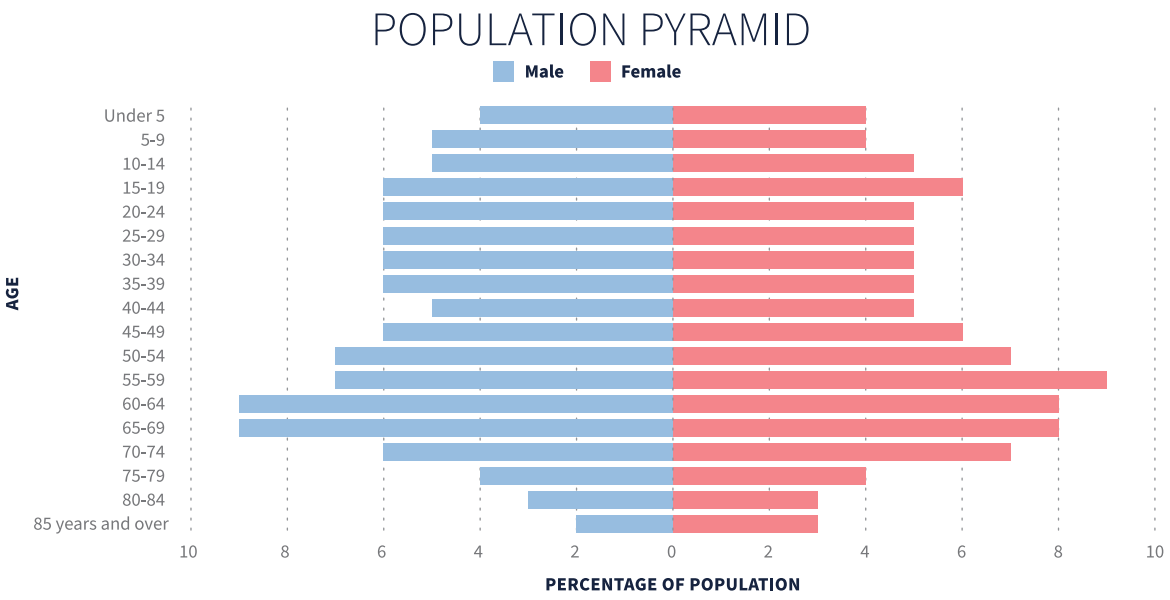


Figure 1.6

The largest portion of the Region's population is aged between 50 and 69 years — 32% of men and 31% of women.

through 2060. Approximately fifteen percent (15%) of the Region's population has a federally recognized disability, defined as a wide range of conditions, including physical, mental, and sensory impairments.

Socioeconomic Trends

Socioeconomic factors create obstacles or empower a region's potential for growth and development. They are closely related to population changes. The following diverse and broad-based socioeconomic trends highlight what sets the Rutland Region apart from the rest of Vermont.

In the planning process, socioeconomic trends are relevant to understanding drivers of change, how to guide change, and when it is time to act.

Over the last two decades, the Region has experienced gradual but steady changes in socioeconomic conditions. Employment opportunities have shifted, educational attainment has increased, and a widening wage gap has emerged. While large employers remain strong and efforts to improve quality of life are ongoing, inequalities persist, particularly for women and people of color.

Innovation and Equity Indicators focus on measuring the health of the Region's economy and employment levels. More information on the health of the Region's economy is provided in the Economic Development Chapter (Chapter 3, page 79).

Fostering new businesses cultivates a culture of entrepreneurship and drives economic growth. By monitoring the number of business establishments over time, the Region ensures that workers across the economy benefit from its growth. Between 2010

IN 2024

GOODS PRODUCING SECTORS

4,465
employed

465
establishments

SERVICE PROVIDING SECTORS

17,171
employed

2,112
establishments

GOVERNMENT SECTORS

3,676
employed

130
establishments

68 **MINORITY-OWNED** establishments

232 **WOMEN-OWNED** establishments

and 2024, the Region experienced a 14% increase in business establishments. The Professional/Business and Information sectors added the highest number of new establishments, while the Trade/Transportation/Utilities and Government sectors experienced the most significant losses. The Region's business growth rate significantly lags behind the state's 36% increase during the same period.

Rising employment, like growth in new businesses, indicates increased economic activity. By monitoring employment changes by sector alongside new business trends, the Region can identify where the most significant shifts are occurring.

Between 2010 and 2024, the Vermont Department of Labor reported an overall job loss of 8% in the Region. The Information, Financial Activities, Trade/Transportation/Utilities, Manufacturing, and Government sectors experienced the highest job losses, while the Professional/Business and Construction sectors gained the most jobs.

In 2024, about 25,300 people worked in the Region—slightly up from 2021 but still below the pre-pandemic level of 26,734 in 2019. Approximately 85% of these workers found jobs in the private sector, while only 15% were employed by the government (7.5% federal, 25% state, 67.5% local). The eight largest employers in the Region account for 26% of the total workforce in Rutland County. The nearly 2,000 small businesses employ the remaining 74%, with 1,500 having fewer than 5 employees. According to the Regional Chamber of Commerce, the top three employers in the Region are Rutland Regional Medical Center (±1,600 employees), GE Aviation (±1,100 employees), and Killington Resort (±800 employees).

Monitoring wage growth across sectors is crucial for the Region, which seeks to provide quality jobs that pay well and enable workers to live here. Between 2010 and 2022, the annual average wage across all sectors in the Region rose. The Professional/Business, Financial Activities, and Leisure/Hospitality sectors experienced the highest pay increases. In contrast, the Manufacturing, Natural Resources/Mining, and Federal Government sectors experienced the smallest wage growth.

In 2024, the Region's employers paid an annual average wage of $58,731, with $59,014 in the private sector and $57,062 in the government sector. The state's average annual wage was $64,483, compared to the national average of $63,795. The Professional/Business sector reported the highest average wage of $83,297, while the Leisure/Hospitality sector reported the lowest at $29,736.

2021 - 2023

$64,778

MEDIAN INCOME HOUSEHOLD

$87,595

AVERAGE INCOME HOUSEHOLD

You can measure income equality by comparing the ratio of median household income to average household income. When households with high and low incomes have a symmetrical income distribution, their average and median incomes are equal, resulting in a ratio of 1.0. If low-income households experience faster income growth, the ratio decreases. Conversely, a higher ratio suggests that high-income households are pulling away from the average.

As shown in Figure 1.7, the ratio of median household income to average household income in the Region is 1.35 in 2023, thereby signaling that high-income households continue to experience income growth faster than low-income households.

Equity in the form of reasonable wages, opportunities, and job stability should exist across different populations. In the Region, inequities persist, especially for women and people of color. In 2023, full-time, year-round workers in Rutland County earned on average $8,500 more per year if they were men compared to women. Additionally, earnings differ between races in the Region. On average, Asian and White residents earned higher incomes than other groups in 2023. However, because Rutland County was 94% White in 2023, data on other racial groups carries high uncertainty.

Education Indicators focus on how residents in the Region access economic success.

Education prepares individuals for both the workforce and adult life. Education takes many forms, both in and out of the classroom. Vermont's K-12 system has adopted educational proficiency standards, creating a consistent set of learning goals for all students. These standards describe the knowledge and skills the state education system expects students to master to succeed in college and the workplace. The

A MEASURE OF INCOME EQUALITY

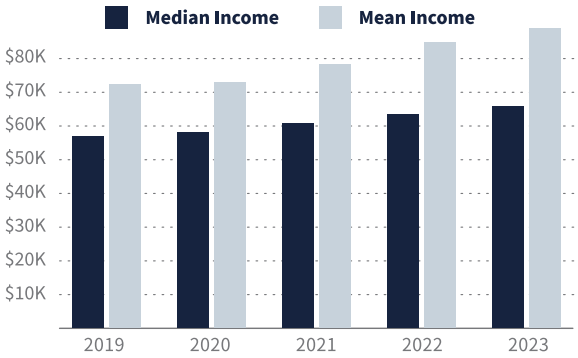


Figure 1.7

One way to measure income equality is the ratio of median to average household income.

Region has 31 public schools serving 7,500 Pre-K to grade 12 students as of 2023. These public schools have an average math proficiency score of 25% (compared to Vermont's 33%) and an average reading proficiency score of 36% (compared to Vermont's 48%). These scores have declined since the 2020 pandemic, placing the Region in the bottom 50% of Vermont public schools.

The Stafford Technical Center (STC) in Rutland City enhances career and technical education in the Region. The STC program, which high school students typically attend during their junior and senior years, culminates in a 'work-based learning' experience with a local employer. In 2025, more than 92 students graduated from Stafford's high school program. In addition to youth programming, STC offers more than 300 adult technical education classes each semester.

Higher education significantly influences employment and income levels. Specifically, individuals who obtain postgraduate degrees (such as master's, PhD, and professional degrees) earn approximately $22,000 more than those who only hold a bachelor's degree, according to US Census data from 2023.

In 2023, 13.4% of residents aged 25 and older in Rutland County held a postgraduate degree, up from 11.4% in 2019. Additionally, 34% of residents had a bachelor's degree or higher, an increase from 31% in 2019. Figure 1.8 compares postsecondary education attainment from 2019 to 2023 by gender and race for residents aged 25 and older.

In 2023, workers with a bachelor's degree or higher faced an unemployment rate of only 2%. In contrast, those with a high school diploma experienced a 3% unemployment rate, while individuals with less than a high school diploma encountered an 8% unemployment rate. Moreover, residents with bachelor's degrees or higher were less likely to experience poverty, with only 4.6% living in poverty in 2023. This is significantly lower than the 15% poverty rate for those with a high school diploma and the 36% for individuals with less than a high school diploma.

Higher education does not provide equal income benefits for men and women. In 2023, men with a postgraduate degree earned a median of $89,828, while women with the same degree earned $63,350. This means a woman earns $0.71 for every $1.00 a man earns.

2023 MEDIAN EARNINGS FOR RESIDENTS

$74,580

POSTGRADUATE DEGREE

vs

$52,530

BACHELOR'S DEGREE

Quality of Life Indicators show how stable and socially cohesive a community is and how easily residents access essential facilities and services. Housing, transportation, health care, food, childcare, public safety, and internet/mobile telecommunications services are key community assets that enhance the Region's quality and sense of place. More

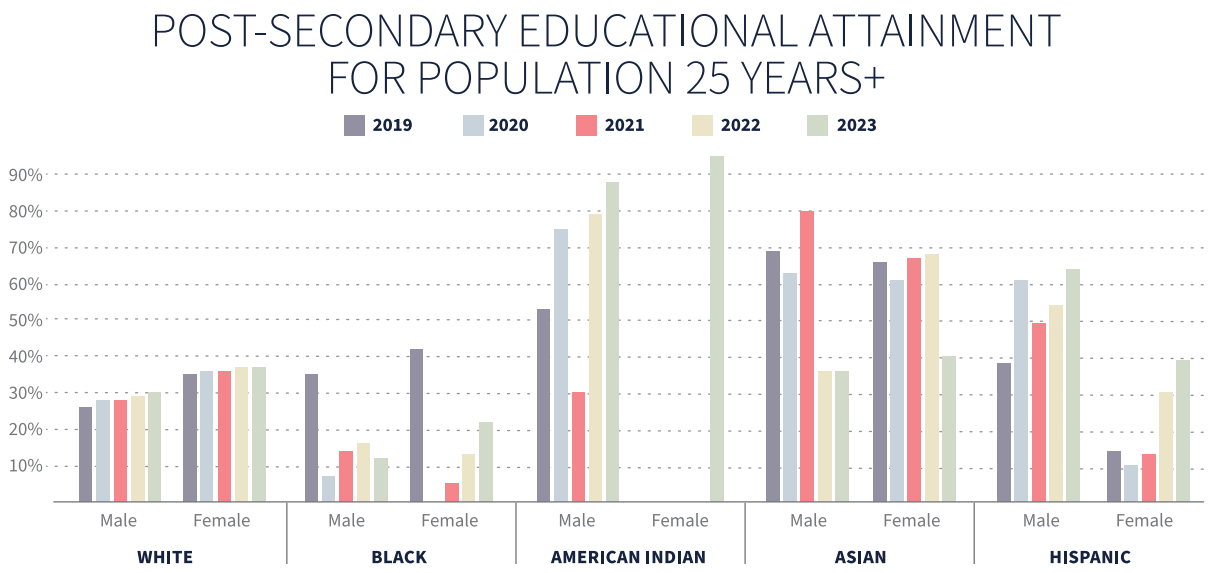


Figure 1.8

Postsecondary education can enhance social mobility and contribute to a more skilled and productive workforce, driving economic growth.

information on these key community assets is provided in the Transportation Chapter (Chapter 5, page 129), Housing Chapter (Chapter 6, page 179), and Community Facilities and Public Utilities Chapter (Chapter 7, page 199).

Assessing the essential cost of living helps us understand the circumstances in which people live. Families in the Region face two significant expenses: housing and transportation. Since 2019, the median price for a primary home in the Region has risen sharply due to limited housing supplies. Data available through the Vermont Housing Finance Authority shows that the median price for a primary home reached $262,750 in 2024, a 68% increase from 2019 when the median home price was $156,500. During the same period, the state median primary home price rose by 57%.

The Housing and Transportation Index combines housing and transportation costs, setting the affordability benchmark at no more than 45% of household income. In 2025, regional households dedicate an average of 53% of their income to housing and transportation, with 27% allocated to housing costs and 26% to transportation costs.

Poverty causes significant social and economic consequences in the Region, including homelessness, crime, and food insecurity. These challenges must be understood to ensure everyone benefits from economic growth. The Region's poverty rate stands at 11.8%, exceeding the state rate of 10.3%. Eleven municipalities in the Region report poverty levels higher than the state average and income levels below it. These differences can be drastic between towns of similar size. For instance, Pawlet, with a population of 1,424, has an average wage of $50,751 and a poverty level of 14.3%. In contrast, Chittenden, with a population of 1,237, has an average wage of $90,313 and a poverty level of 3.9%.

Housing Cost Burden

Housing is considered affordable when it costs no more than 30% of household income. As shown in Figure 1.9, 18% of the Region's households were cost burdened (i.e., paying 30-49% of income on housing), and 15% were severely cost burdened (i.e., paying 50% or more) in 2023. More information on the availability of safe and affordable housing is provided in the Housing Chapter (Chapter 6, page 179).

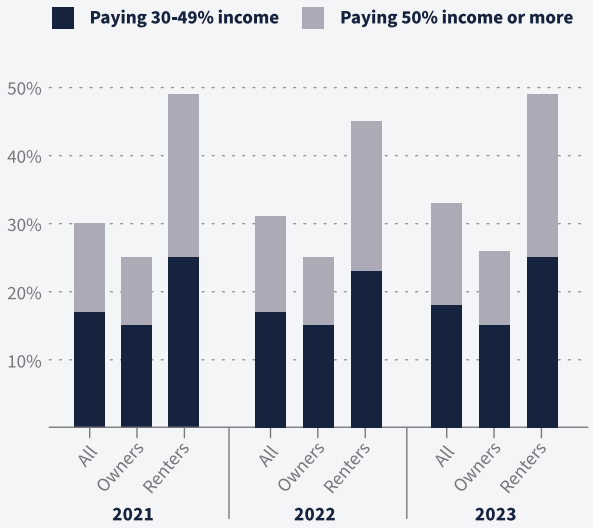


Figure 1.9
Housing cost burdens stay consistent across 2021, 2022, and 2023, with renters in the Region more likely than homeowners to face cost burdens.

Rutland County's violent crime rates fall below national levels but often exceed state averages. The county's property crime rates are lower than national and state figures. Although accidental death rates are high compared to Vermont and the US, vehicle crash fatalities are significantly lower in Rutland County relative to both. The county spends more per person on public safety than the state and the nation, and it ranks better on proximity to emergency facilities than Vermont overall.

A prosperous community relies on a healthy population. The County Health Rankings evaluate various factors that affect how long and well individuals live and their capacity to enhance those conditions. Currently, Rutland County ranks 10th out of 14 counties in Vermont, placing it in the lower middle for Health Outcomes and at the bottom for Health Factors. Nevertheless, according to the National Health Foundation's 2022 rankings, Vermont is the third healthiest state in the nation.

As part of this Plan's public engagement strategy (see Engagement Report, Appendix A1.2, page 417), the RRPC asked residents to describe what makes the Rutland Region a great place. The feedback received is presented in Figure 1.10.

PLAN PURPOSE AND DESIGN

Planning guides how communities grow and develop. The Rutland Regional Plan (the Plan) is a comprehensive 8-year (2026-2034) strategy to coordinate and promote efficient community economic development in the Region, balancing economic growth with social, cultural, and environmental priorities.

WHAT MAKES THE REGION GREAT

Figure 1.10

The strengths and assets that make the Region a great place to live, work, and play.

It shapes the pattern, design, and function of communities to meet future needs effectively. The Plan's region-wide perspective provides a broader understanding of the trends and complex dynamics driving these planning and investment decisions. At its core, the Plan analyzes current land use and identifies areas appropriate for future growth and conservation.

STRUCTURE OF THE PLAN

Chapter 117 of Title 24 in the Vermont Statutes Annotated, known as the Vermont Planning and Development Act, mandates that regional plans must include specific elements or sections related to land use, economic development, historic and scenic resources, transportation, housing, community facilities and public utilities, energy,

The RRPC designed this Plan in accordance with the following core principles, which are rooted in the RRPC's

Declaration of Inclusion and Title VI Plan

FLEXIBLE, to best meet the unique needs of the 27 different municipalities in the Region.

LOCALLY LED, to increase the probability of success and better ensure some communities are not favored over others.

EQUITABLE AND SUSTAINABLE, to demonstrate that embracing diversity, equity, and climate resilience is key to achieving our community economic development goals.

OUTCOME-DRIVEN, to ensure goals and policies have identified actions and measures to gauge progress.

working lands, natural resources, flood resiliency, and implementation measures. At the core of this planning effort is an analysis of current land use and the identification of areas designated for future growth and conservation. Consequently, the various chapters of the Plan are intended to coordinate with the Land Use Chapter and with one another.

This Plan addresses all required elements and defines what it means to be a healthy, equitable, and resilient community. Each chapter describes the Region's current conditions, future trends, and needs. The chapters also present clear and concise regional policy statements, outline realistic actions for the RRPC, and provide measurable indicators to monitor progress toward achieving the Plan's goals. The final chapters detail how this Plan aligns with those of our neighbors and present the strategy for Plan implementation.

The RRPC discusses the themes of health, equity, and resilience in this Plan because they are important to achieving our community economic development goals.

Healthy Community

A healthy community fosters access to healthy built, social, economic, and natural environments, enabling individuals to achieve their full potential, regardless of race, ethnicity, gender, income, age, abilities, or other socially defined circumstances. According to Vermont Healthy Communities, research highlights that clinical care impacts approximately 20% of people's health. An additional 30% is linked to diet and exercise, 10% to physical environments such as housing, air quality and transit, and the remaining 40% linked to social and economic factors like education, employment, and income. Figure 1.11 illustrates these social drivers of health.

In 2021, the Vermont Health Equity Assessment revealed that communities identified their top five factors for a healthy community: 1) good schools, 2) low crime and safe neighborhoods, 3) affordable and safe housing, 4) parks and recreation, and 5) a clean environment. Unfortunately, not everyone has equitable access to the same resources that promote a healthy

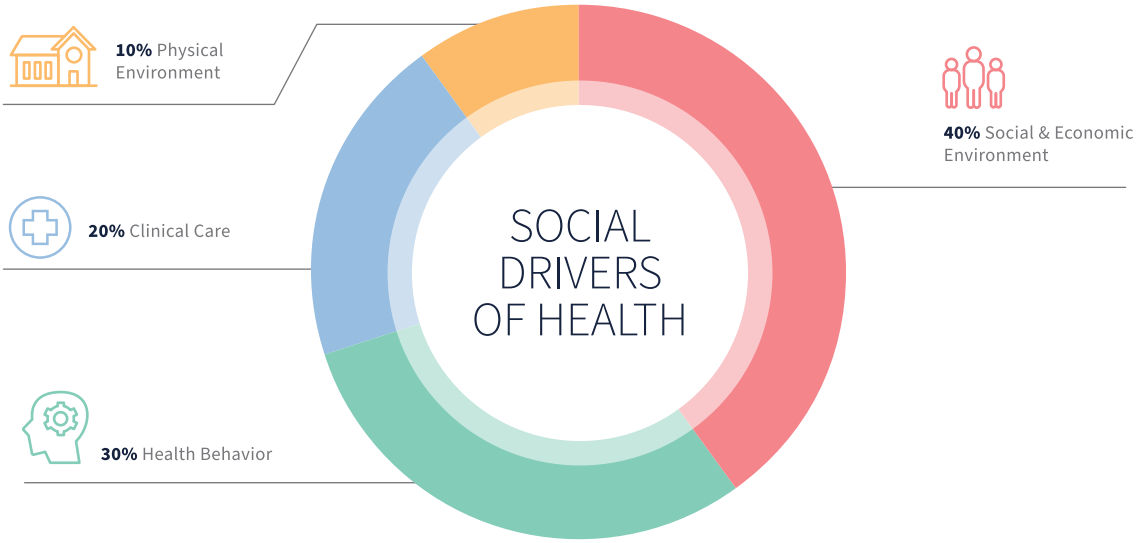


Figure 1.11

Social drivers of health are the non-medical factors that influence a person's health and well-being. The conditions in which you are born, live, work, and age can significantly impact your quality of life.

community. Health equity examines the social drivers of health and identifies disparities and actions to support better health outcomes. As the RRPC developed health equity-driven policies and actions for the Region in this Plan, it considered the unique needs arising from our one-of-a-kind location. Despite being the second most populated county in the state, Rutland remains a rural community. While living in a rural area offers various advantages, many rural Americans face significant health disparities, including higher risks for disease and disability, higher mortality rates, lower life expectancies, and higher rates of chronic pain.

Rural health equity explicitly addresses the health inequities that people in rural communities experience, emphasizing the need to reduce these disparities. During this Plan update, the RRPC identified factors such as geographic isolation, lower socioeconomic status, higher health risk behaviors, limited access to healthcare specialists and subspecialists, and fewer job opportunities. By understanding the challenges faced in rural communities, the RRPC can plan more effectively to meet needs that improve our rural Region's overall health and well-being. For example, addressing transportation gaps allows for better access to quality jobs and nutritious food, leading to better health outcomes.

Equitable Community

Equity ensures just and fair inclusion in society, enabling everyone to participate, prosper, and reach their full potential. While equality provides the same resources to everyone, equity ensures people receive the resources they need to lead whole, healthy lives based on unique circumstances. Different groups—defined by race, ethnicity, gender, immigration status, sexual orientation, or socioeconomic status—may need other

types or amounts of resources and support to thrive. While equity and equality strive to foster fairness and justice, achieving equality may require treating someone differently to ensure fairness.

Wheelchair ramps are a familiar example of this, and we see them daily. These ramps allow access for individuals in wheelchairs who cannot use the stairs. Most of us recognize the importance of physical access and the laws supporting the Americans with Disabilities Act (ADA). This recognition makes discussing equity in access clearer and more straightforward. However, equity related to race, ethnicity, gender identity, sexual orientation, and socioeconomic or housing status can be more complex and harder to discuss.

Therefore, planners must place equity at the center of all community decisions today. Equity is a core planning value with multiple dimensions: distributional, procedural, and structural. Distributional equity ensures that resources, community burdens, and benefits are distributed fairly among all groups. Procedural equity guarantees that public

Photo credits (bottom and right): Mike DiMeola

decision-making processes remain transparent, accessible, fair, and inclusive. Structural equity occurs when government institutions and systems actively implement processes, practices, and policies that operationalize equity within their functions and decisions.

To initiate an equitable process for updating this Plan, the RRPC conducted an equity analysis. This analysis enabled the RRPC to identify past, present, and potential disparities. The RRPC found a history of inequities in healthcare access, neighborhood and built environments, educational opportunities, economic stability, and social and community contexts. The complete equity analysis is available in Appendix A1.1, page 416. The findings from the equity analysis shaped the RRPC's assessment of equity impacts while updating the Plan. The RRPC considered:

1) Past institutional practices and policies that may have created or perpetuated inequities across groups.
2) The impact of proposed regional policies and whether they would ensure a fair distribution of benefits and burdens.
3) The public planning process, focusing on whether it actively engaged and included all affected groups in an accessible and welcoming manner to guarantee that underserved populations had a seat at the table. The Engagement Report in Appendix A1.2, page 417 summarizes the community engagement methods implemented across three phases between December 2023 and June 2025.

Resilient Community

A resilient community can withstand, respond to, and adapt to challenges, whether natural disasters, economic disruptions, social shifts, political instability. Resilient communities think long-term, reorganize when needed, and emerge stronger after adversity.

PLAN AMENDMENT

The Plan expires eight years after its effective date unless the RRPC readopts or extends it following a public hearing and vote by the RRPC Commissioners. However, due to the nature and pace of change, the RRPC must continuously monitor and re-evaluate the Plan throughout its eight-year lifespan. As member towns in the Region update their local plans and as new data or trends emerge, the RRPC needs to incorporate this new information into our planning process and the Plan.

LAND USE

INTRODUCTION

LAND USE

ECONOMIC DEVELOPMENT

CULTURAL RESOURCES

TRANSPORTATION

HOUSING

COMMUNITY FACILITIES AND PUBLIC UTILITIES

ENHANCED ENERGY

WORKING LANDSCAPE

NATURAL RESOURCES

CLIMATE RESILIENCE

NEIGHBORING PLANS

PLAN IMPLEMENTATION

INTRODUCTION

The Rutland Region (the Region) seeks to maintain the historic settlement pattern of compact downtown and village centers surrounded by rural countryside. The Land Use Chapter describes current land use, informed by research and public engagement (see Engagement Report, Appendix A1.2, page 417), and guides future land use decisions based on designated land use areas, as shown on a Future Land Use Map. The chapter concludes by presenting regional policies and RRPC-specific actions designed to achieve the land use goals.

HEALTHY, EQUITABLE, AND RESILIENT COMMUNITIES

A healthy, equitable, and resilient community adheres to Smart Growth principles as defined in state law (24 V.S.A. §2791(13)). Smart Growth makes it easier for people to get housing, jobs, and services while offering multiple transportation options. It uses public utilities efficiently, saving money and helping to protect the environment, historic places, parks, and farms. Smart Growth helps solve local budget issues by generating revenue for the town without incurring high costs. It ensures that everyone has fair access to essential resources, such as jobs and clean water, and prevents any group from suffering unfairly due to pollution. With careful planning, Smart Growth strikes a balance between protecting our land and promoting development to meet the needs of our community. In the Region, Smart Growth means encouraging development in downtowns and villages, where people can find stores, services, and jobs close together. This reduces the need for long trips and helps protect green spaces.

A healthy community recognizes the benefits and burdens that come with concentrating development in one particular area. Living in downtowns, villages, and major corridors carries inequitable burdens—such as traffic congestion, noise, and air pollution—while these issues have a lesser impact in rural areas. However, rural residents face their own burdens, including limited access to public transportation and essential services, which are benefits more readily available in walkable centers. Concentrating growth in established walkable centers helps balance these trade-offs, promoting healthier, more connected, and more equitable communities.

An equitable community provides opportunities for all community members to participate meaningfully in land use decision-making. This Regional Plan calls for the RRPC to set indicators of progress for tracking public participation and provide tools to assist municipalities with reducing barriers to participation for all community members. Public participation tools and resources are available on the RRPC website, including templates, outreach strategies, and translation services. An equitable community acknowledges that past land use policies have often

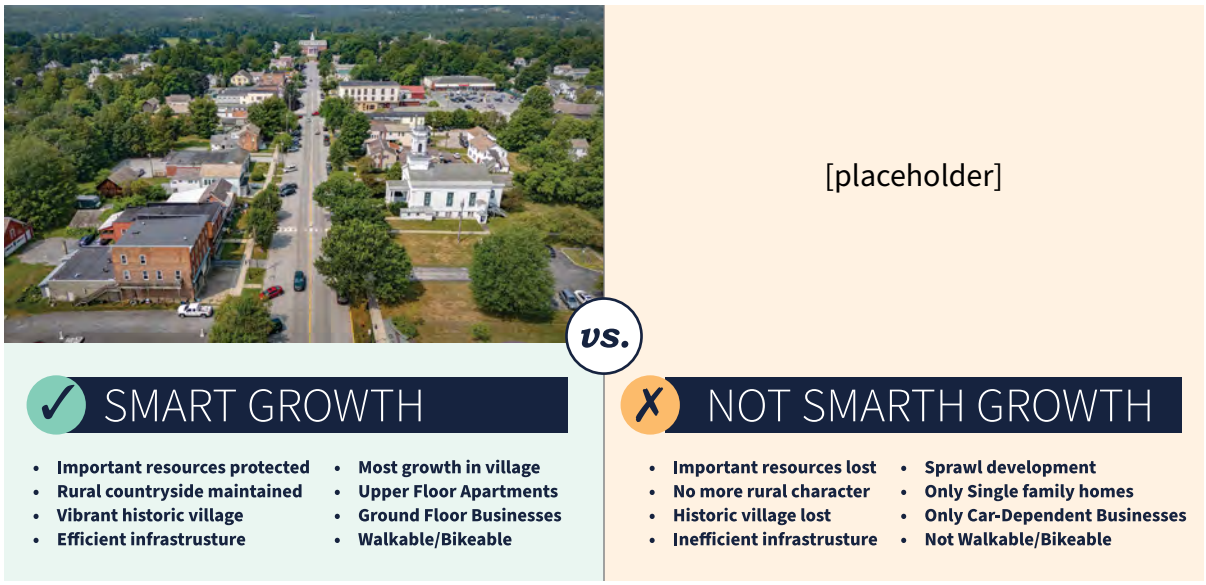


Figure 2.1

The region must choose: grow compact and walkable—or sprawl into the countryside.

placed incompatible or high-risk land uses near marginalized communities, contributing to housing segregation by race and income. Restrictive covenants once barred Black residents from owning property in many neighborhoods—a legacy still reflected today in lower rates of Black homeownership. Some low-income residents live in manufactured housing in floodways or other hazardous locations. For example, 88.5% of lots in the Forest Dale Mobile Home Park are in "areas of high flood risk". This term is defined in the Climate Resilience Chapter (Chapter 11, page 333) and includes both federally and state-mapped flood-prone areas.

A resilient community adapts to change and recovers from disruptive and often unexpected events such as flooding. Resilience also includes taking steps to mitigate risks associated with older, deteriorating buildings. Thousands of buildings are at risk due to their age, as many are over a century old and located in flood-prone areas due to historic settlement patterns along rivers. These aging structures face structural issues and flood risks, complicating maintenance efforts.

A resilient community also possesses financial strength, allowing it to navigate the changing economic landscape for specific land uses. The Region has evolved from its roots in dairy and sheep farming to embrace diverse agricultural markets, along with conservation and energy-related land uses. It has shifted from an industrial and extraction economy to various land uses, enhancing financial resilience.

CURRENT CONDITIONS

The following section outlines the land use patterns that shape the Region. Though mostly rural—only 2.25% of land is developed—land use choices carry major impacts. The State Designation Program promotes

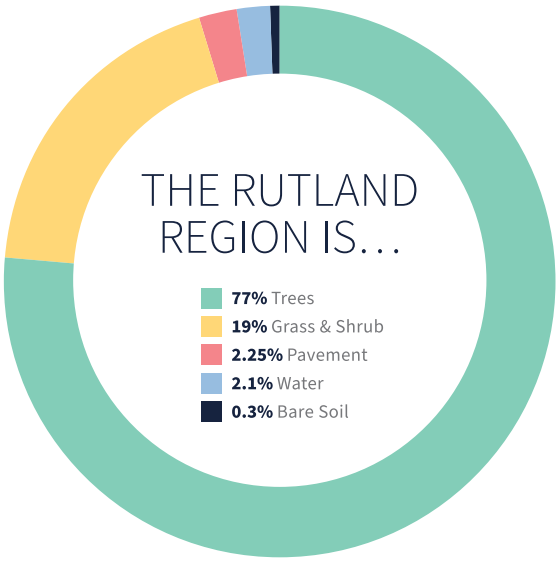


Figure 2.2

The Region is predominantly forested, with development covering only a small fraction of the landscape.

reinvestment in villages and downtowns, focusing growth where infrastructure already exists. Grand list data reveals how various land uses impact local tax revenue. Building heights and lot sizes vary sharply between village and non-village areas. Key constraints—limited infrastructure, flood risk, and conserved land—restrict where growth can occur. A patchwork of local regulations influences development to varying degrees, while statewide Act 250 jurisdiction has regionwide implications.

Land Cover

The Rutland Region is rural. In 2022, UVM's aerial data revealed that only 2.25% of the Region is covered in buildings and pavement, equivalent to the size of the Town of Ira.[3] Roughly 84% of the Region's developed area (buildings and pavement) is devoted to moving and storing vehicles, whether on roads, driveways, or parking lots. The remainder of the developed area (16%) consists of buildings.

The Region's land cover has remained unchanged in recent years. From 2016 to 2022, over 99% of the Region's land exhibited no change in land cover, indicating stable development patterns during this period.[3] Of the 591,936 acres in the Region in 2022, 454,430 acres (77%) are forested, which is close to the state average of 78% and significantly higher than the national average of 34%. UVM also maps agricultural land use, which covers approximately 60,000 acres of the Region. This includes open pasture, hay, and croplands.

State Designation Program

The Vermont State Designation Program directs development to downtowns, villages, and other designated areas. The Program offers financial incentives, including tax credits for building improvements and flood mitigation, as well as access to grants

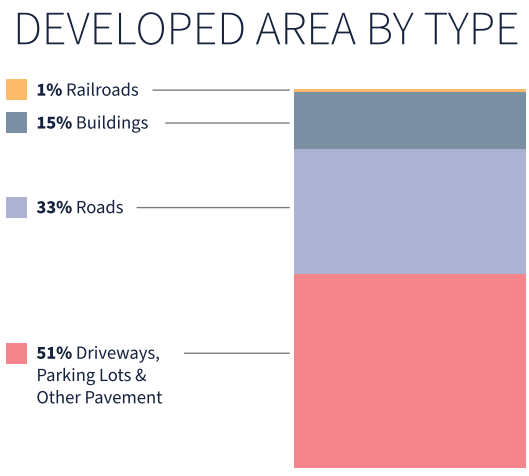


Figure 2.3

Most developed land is devoted to paving—not buildings—highlighting opportunities for more efficient land use.

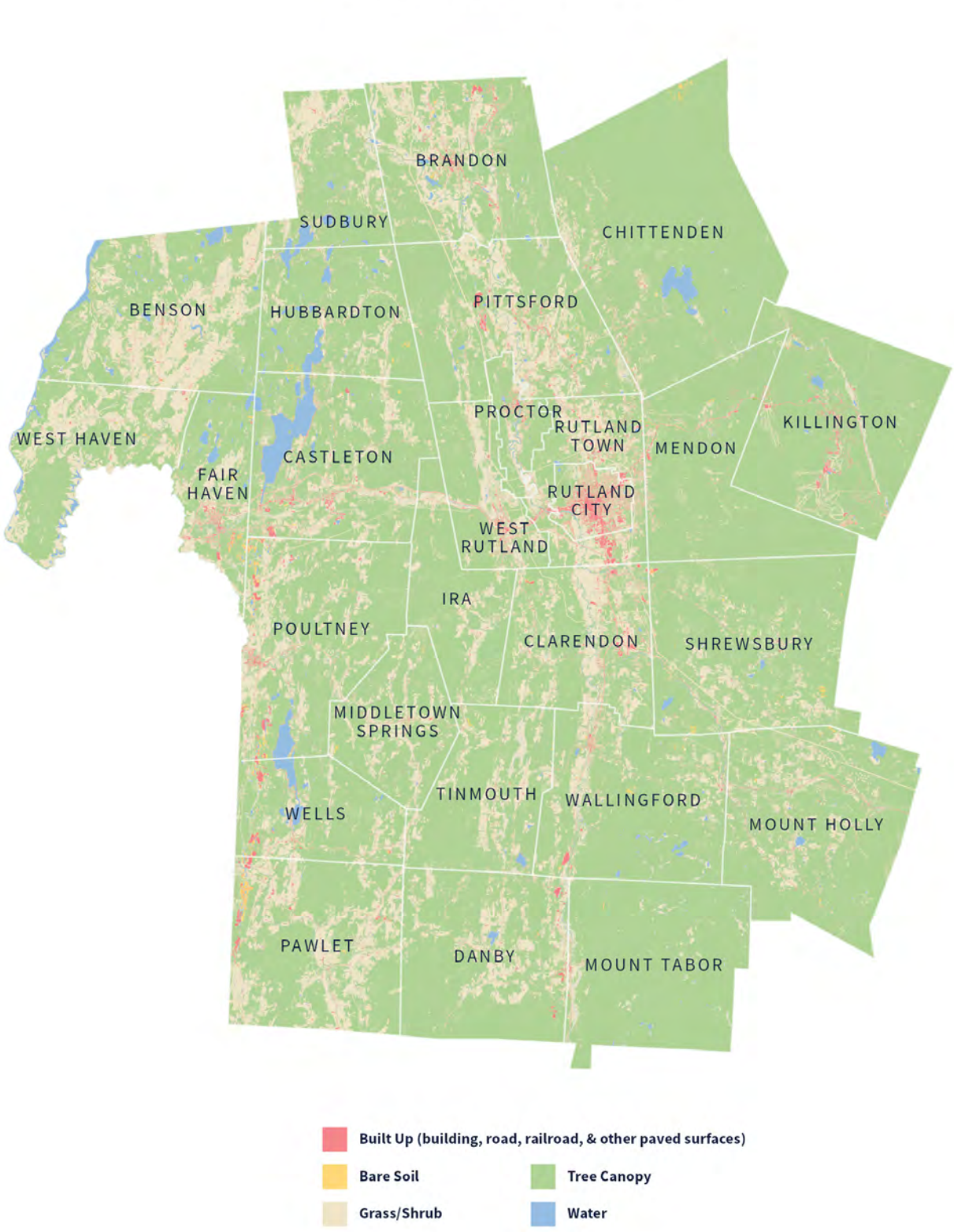


Figure 2.4

Development is concentrated in village centers and downtowns, with Rutland City standing out as the region's most intensively developed area.

and loans for infrastructure and revitalization. It also provides regulatory relief, including streamlined permitting for housing and reduced Act 250 and wastewater review fees. These incentives make it easier to invest in compact, walkable centers, fostering sustainable growth while preserving the Region's historic and rural character.

In 2025, the Region is enrolled in three types of state designations. Village Centers aim to revitalize small to medium historic centers, and Downtowns focus on medium to large centers. Both designations aim to redevelop by improving underutilized buildings in areas that are largely built out. Less than 1% of the region is designated as a Village Center or Downtown. This strategic small percentage of land enrolled can lead to concentrated, impactful redevelopment in key areas. It also protects our historic and cultural identity through investing in older buildings. Neighborhood Development Areas (NDA) support housing development near Village Centers or Downtowns. This program supports the development and redevelopment of new housing.

STATE DESIGNATIONS IN THE RUTLAND REGION

25
VILLAGE CENTERS

3
DOWNTOWN

1
NEIGHBORHOOD DEVELOPMENT AREA

22 OUT OF 27
TOWNS ARE ENROLLED

In 2026, the designation framework will change to two categories: "Centers" and "Neighborhoods." Village Centers and Downtowns will merge into "Centers," which will have three levels with varying benefits and requirements. A "Center" represents the mixed-use core of a town, tailored to the community's scale—whether it is Downtown Rutland or the smaller Ira Village Center, both will be classified as "Centers. "Neighborhoods" will encompass the areas surrounding these Centers. Neighborhoods will have similar housing-related benefits to the older NDA program. The Future Land Use Map in this Regional Plan shows the areas eligible for these designations. "Centers" correspond to the Village Center Future Land Use Area (FLUA) and Downtown FLUA, while "Neighborhoods" match the Village Area FLUA and Planned Growth Area FLUA. Areas already enrolled in the original framework will retain their benefits in the new system.

The State Designation Program channels growth into walkable centers, driving reinvestment in a small portion of land for an outsized impact. As the system shifts to "Centers" and "Neighborhoods," more buildings and land will access benefits, being poised for targeted redevelopment and new housing.

Grand List

In land use planning, municipalities face the dual challenge of financing essential services and infrastructure improvements

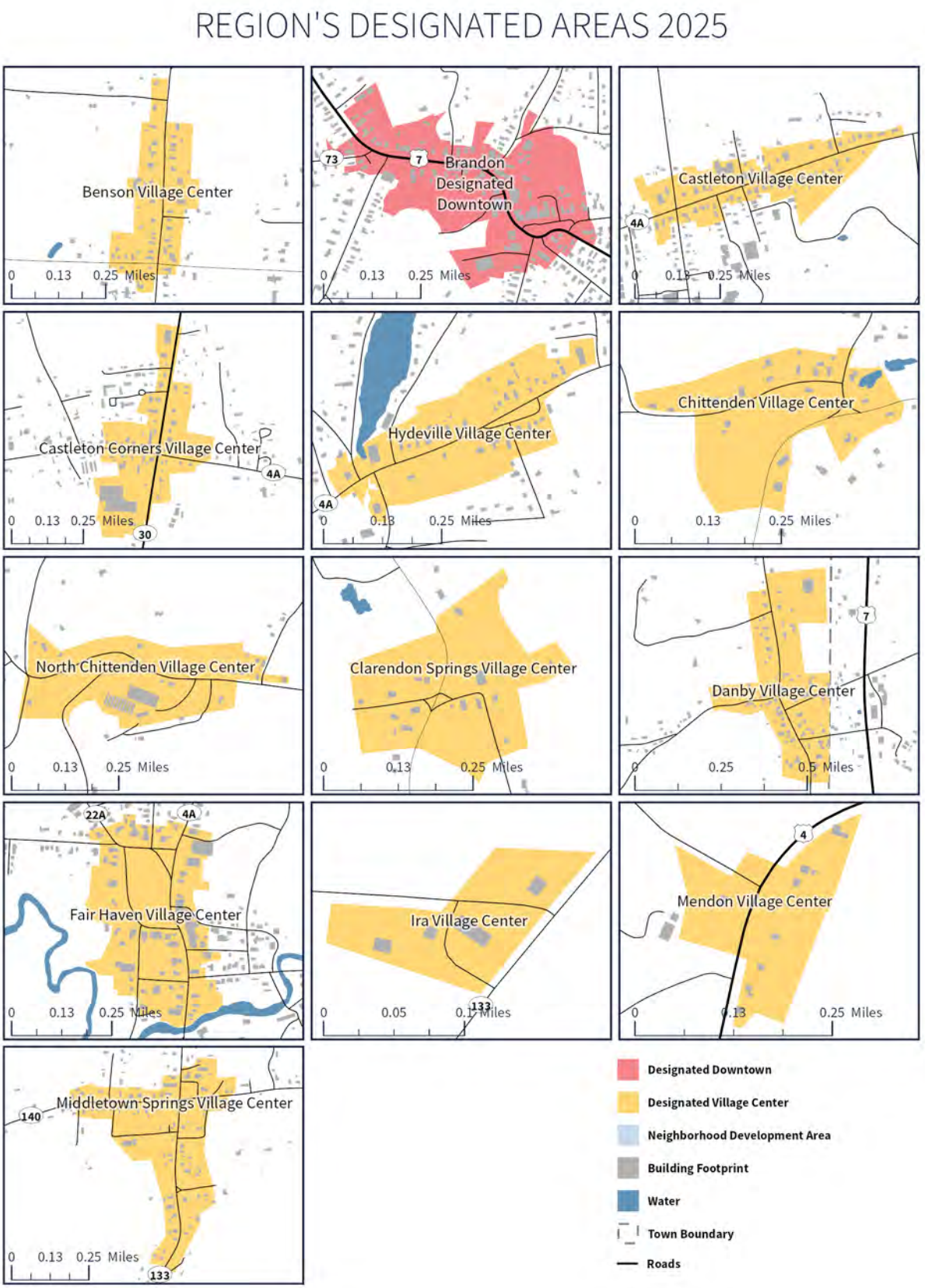


Figure 2.5 (1of 2)

Village centers and downtowns across the region vary in size and function—from small civic hubs to Rutland City's mixed-use core.

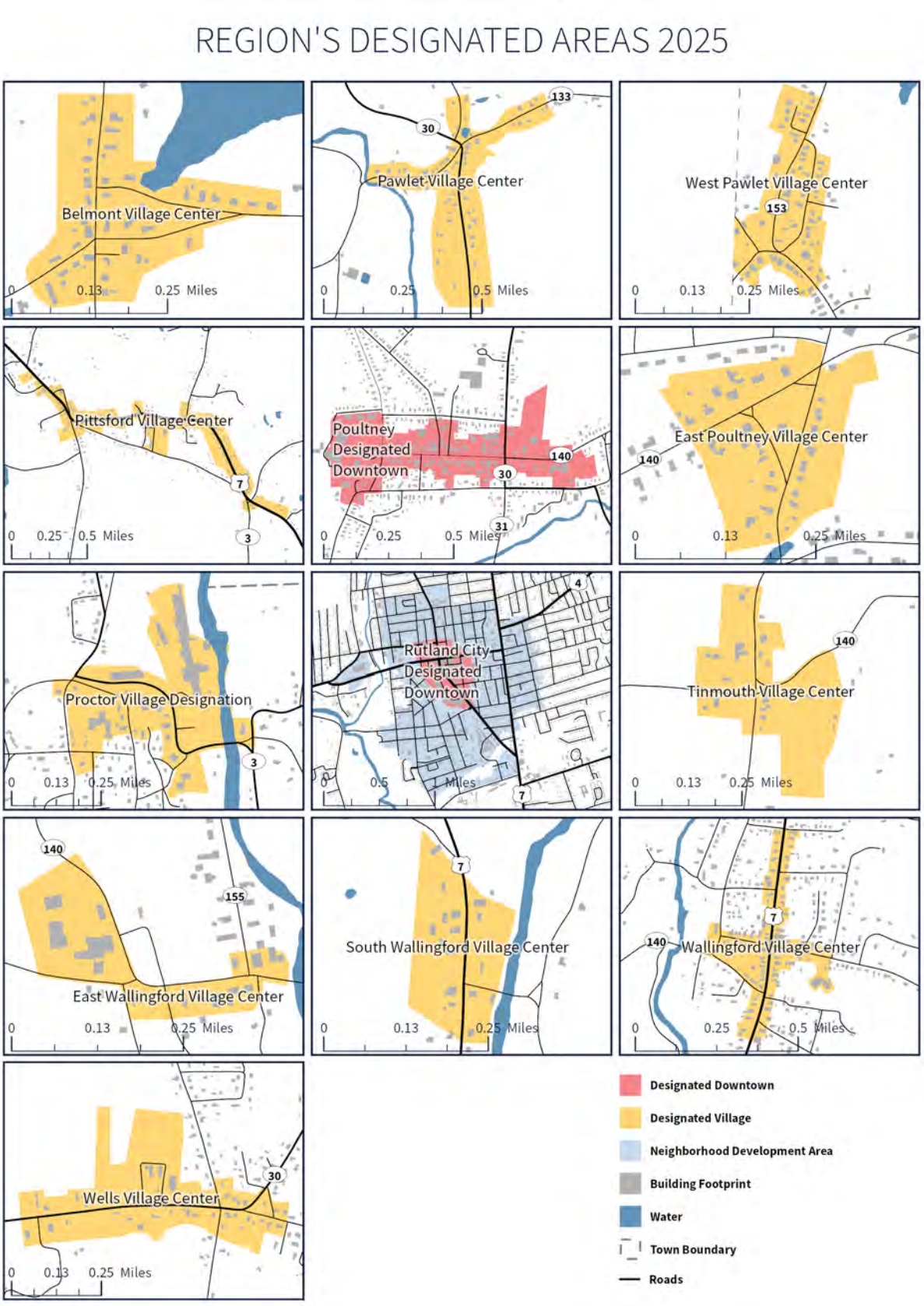


Figure 2.5 (2 of 2)

Village centers and downtowns across the region vary in size and function—from small civic hubs to Rutland City's mixed-use core.

without resorting to higher taxes. At the same time, residents may struggle with affordability as rising property taxes and land values make it increasingly difficult to remain in the Region. These challenges, driven by demographic shifts, growing service demands, and an imbalanced tax base, underscore the need for innovative land use policies that promote fiscal sustainability and housing affordability.

Property assessments are divided into full value and land value. *Full value* includes both land and any improvements, such as buildings. *Land value* reflects only the land itself, excluding structures. From 2022 to 2023, the Region's median full value per acre rose by 2%, while the median land value increased by 3%. Designated Downtowns, Village Centers, and areas served by public wastewater treatment systems tend to have higher values—both full and land—compared to surrounding areas. Figure 2.6 provides a regional summary of the full and land value statistics for 2023.

2023 REGIONAL PROPERTY VALUE SUMMARY

Total Assessed Value of All Parcels	$7.67 Bil.
Median Full Value Per Acre	$149,482
In Designated Downtowns and Village Centers	$392,477
In Areas Served by Public Sewer	$400,000
Median Land Value	$27,867
In Designated Downtowns and Village Centers	$64,000
In Areas Served by Public Sewer	$96,690

Figure 2.6

Property values are significantly higher in designated centers and sewer-served areas, reflecting concentrated investment and development.

New development can either alleviate or exacerbate revenue problems for municipalities, with Smart Growth proving to be a financially sound choice. While the initial financial viability of extending services may be acceptable, maintaining these services can lead to increased costs over the long term. Municipalities can mitigate this effect by implementing impact fees, which require new developments to contribute fairly to the costs of capital projects, including service extension and maintenance.

The Region must prioritize mixed-use buildings over big-box stores for fiscal sustainability. On Merchants Row and Strongs Avenue, the Rutland Shopping Plaza occupies one side of the street, while a series of mixed-use buildings lines the other. The median mixed-use building on the other side of the street, on a per-acre basis, generated nearly three times more property tax revenue for the city in 2023 than the shopping plaza.

Fiscal challenges demand land use strategies that do more with less. Compact, mixed-use development yields more substantial tax returns and lower long-term costs compared to spread-out growth. As land values rise and budgets tighten, municipalities must lean into Smart Growth, impact fees, and strategic redevelopment to sustain services.

Land Use Types by Local Tax Category

To determine market value, municipal tax assessors identify a property's "Highest and Best Use" based on its physical, financial, and

LONG-TERM MUNICIPAL COSTS OF DEVELOPMENT PATTERNS

COMPACT DEVELOPMENT

Year 1	Year 10	Year 20
Generates strong tax revenue relative to the limited infrastructure required.	Routine maintenance is financially manageable due to efficient service delivery and higher revenue per acre.	Infrastructure remains in good condition with minimal replacement needs, thanks to consistent upkeep.
Produces limited tax revenue while requiring extensive infrastructure (roads, water, sewer, utilities)	Maintenance costs strain the municipal budget; communities may face pressure to raise taxes or defer upkeep.	Significant infrastructure replacement is needed due to deferred maintenance.

LOW DENSITY DEVELOPMENT

Figure 2.7

Low-density development strains municipal budgets over time, whereas compact growth supports sustainable infrastructure funding.

legal feasibility under current conditions. The property categories that generate the most tax revenue per acre are Commercial ($289,394 per acre median) and Residential ($188,123 per acre median).[4] Residential properties with four or more dwelling units generate more than double the tax revenue per acre compared to the average residential property, with a median of $537,667 per acre.[4] Therefore, municipalities should consider allowing and encouraging increased residential density to address local budgetary concerns.

Higher intensity residential and commercial uses are situated in areas that possess the necessary community facilities to support them, typically found in the Region's downtowns and villages. In contrast, lower intensity uses are generally located in the rural countryside. Development in rural areas fits the character of the Region, while developments in downtowns and villages often showcase historically significant architectural styles. Over the past fifty years, pasture and agricultural lands have gradually transitioned into forests, while traditional compact settlement patterns and distinctions between rural and village areas have blurred as development has expanded outward.

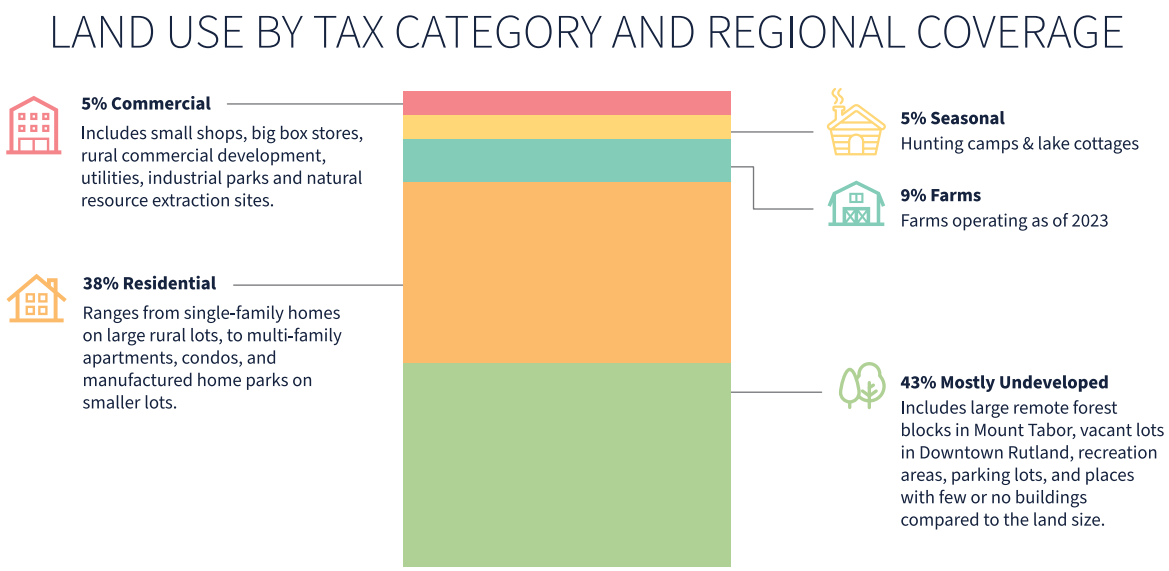


Figure 2.8

The region's tax base reflects a mix of residential, commercial, seasonal, farming, and undeveloped lands.

Building and Lot Conditions

The Vermont Enhanced 911 Board maintains a spatial database of all buildings in the Region. Of these, 92% are either single-family homes, accessory buildings, multi-family homes, manufactured homes, seasonal camps, or commercial buildings.[6] The remaining 8% span 102 categories, including barns, churches, and schools.[6] Buildings appear throughout the Region but cluster most densely in downtowns, villages, and Rutland City. Designated Village Centers and Downtowns account for 4% of all buildings, occupying only 0.31% of the land.[6]

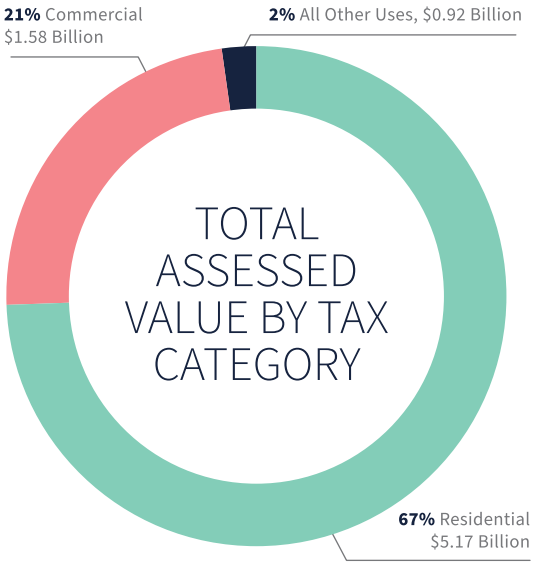


Figure 2.9

Residential and commercial properties shape the region's fiscal landscape.

Taller buildings increase usable space without consuming more land. This extra space can provide more housing units, generate additional tax revenue, and support nearby businesses by expanding the local customer base. Raising height limits in zoning can boost tax revenue and density. However, taller buildings may conflict with scenic views or local character and require local review and approval.

Compact centers require smaller lots to support higher density, whereas rural areas benefit from larger lots to preserve open space and protect wildlife corridors. In 2023, the median lot size was 1 acre, meaning that half

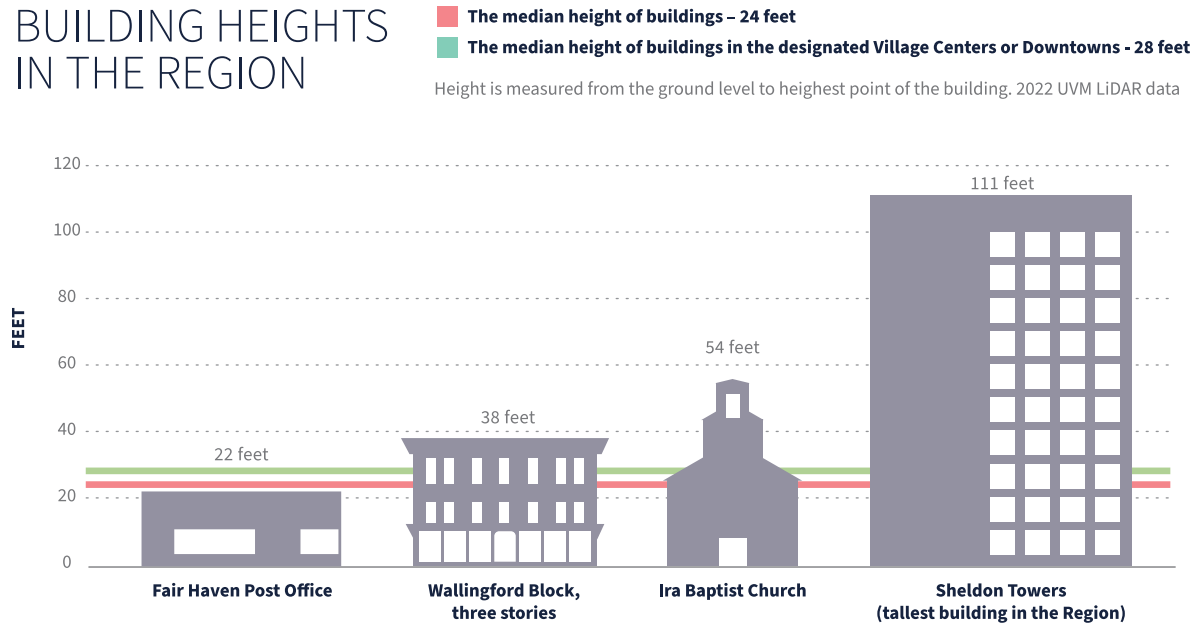


Figure 2.10

Heights vary regionally, reflecting community character—from small civic buildings to mixed-use blocks, rural churches, and Rutland's sole skyscraper.

of all parcels measured one acre or less.[4] In designated Village Centers and Downtowns, that median drops to 0.4 acres, 60% smaller than the regional median.[4] Most of these centers predate modern zoning and feature lot sizes not currently allowed under current zoning. Adjusting zoning to match existing conditions in Village Centers and Downtowns will support higher density, preserve traditional lot patterns, and unlock new development opportunities. Conversely, maintaining or increasing minimum lot sizes in rural zones will help protect natural resources, maintain wildlife corridors, and preserve open land. The distribution of parcel sizes regionwide remained largely stagnant from 2005 to 2021, with minimal annual change. The Natural Resources Chapter (Chapter 10, page 297) discusses parcelization and its impacts on ecosystem health.

Development Constraints

Wastewater infrastructure significantly influences development potential in the Region, with access to drinking water playing a secondary role. Proper sanitary sewage treatment safeguards lakes, rivers, and groundwater, but strict state regulations and widespread reliance on septic systems limit where new growth can occur. Only 2% of regional land is served by public wastewater treatment facilities—yet that service area accommodates 38% of buildings (17,039 structures).[4,6,7] Extending public wastewater collection

A **development constraint** is a factor that limits or prevents the development of a piece of land.

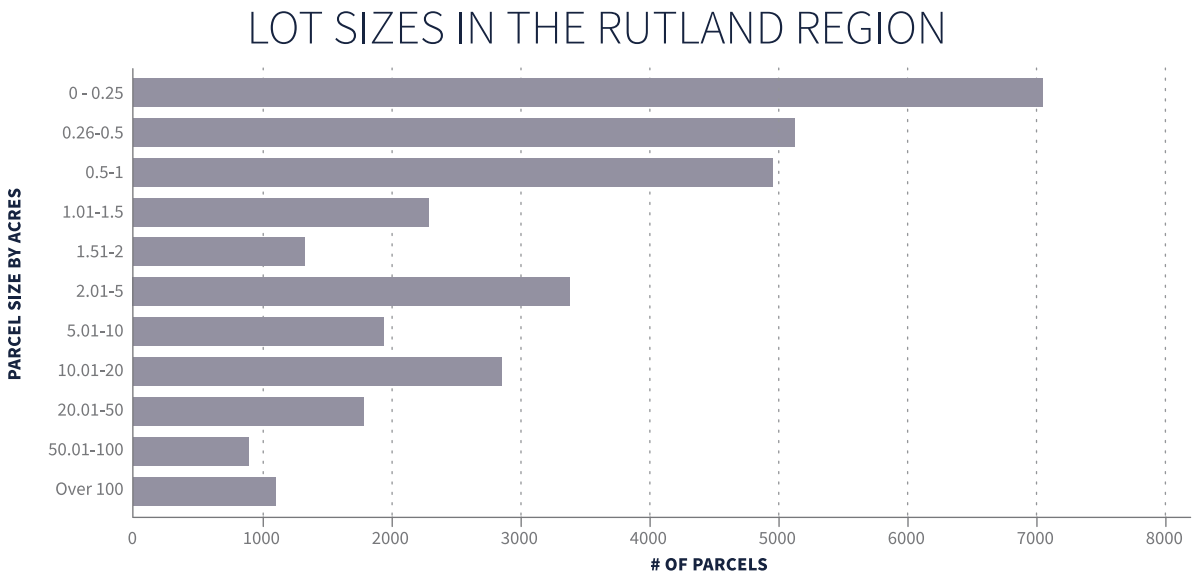


Figure 2.11

The region's parcel sizes range from compact village lots to large rural parcels.

systems or installing advanced onsite treatment carries high engineering complexity and capital costs, while wells and small-scale water systems tap abundant groundwater and surface water more affordably.

Outside existing public wastewater service areas, development depends on soil suitability: Vermont classifies soils into five categories for septic viability, with Classes I–III deemed adequate. 66% of unserved land meets those criteria—10% in Class I ("Well Suited")—while 34% falls into marginal or unsuitable categories. Villages without public wastewater treatment face density limits imposed by larger onsite septic setbacks and environmental constraints. The Region needs to prioritize wastewater system upgrades—expanding service where feasible, promoting innovative onsite technologies, and streamlining permitting—without compromising environmental quality. More information about public utility infrastructure is provided in the Community Facilities and Public Utilities Chapter (Chapter 7, page 199).

Future development must avoid "areas of high flood risk" to protect lives, property, and infrastructure. Where avoidance is infeasible, local regulations must require designs that mitigate or eliminate the impacts of flood and fluvial-erosion. These provisions are most critical in villages, downtowns, major road corridors, or anywhere else where development pressure is high. The Climate Resilience Chapter (Chapter 11, page 333) identifies areas of high flood risk—federally and state-mapped floodplain and floodway zones—that cover 10% of the Region's land. Within these zones lie 7% of the Region's buildings (3,236 structures), including 1,023 single-family homes and 133 multifamily buildings.

Conservation and contamination also define where and how development can proceed in the Region. Protecting ecologically vital lands is essential to sustaining healthy ecosystems and achieving long-term state land conservation goals. Meanwhile,

existing pollution—especially on brownfields and properties with Underground Storage Tanks—poses serious constraints, often making redevelopment expensive, complex, and heavily regulated. The Vermont Conservation Design Program, first released in 2016 and updated in 2024, identifies lands critical to the state's ecological integrity. It classifies 75% of the Region as "highest priority" for conservation. These areas include large forest blocks and wildlife corridors vital for species movement, along with steep slopes, ridges, water bodies, wetlands, vernal pools, aquatic habitats, flood mitigation zones, and habitats for rare or endangered species. The Natural Resources Chapter (Chapter 10, page 297) details these conservation priorities and outlines state goals to conserve 30% of land by 2030 and 50% by 2050. Simultaneously, contamination hampers development. Brownfield sites—properties with confirmed or suspected contamination—require costly and technically demanding remediation before they can be used. The Economic Development Chapter (Chapter 3, page 79) provides a more in-depth discussion of brownfield sites and redevelopment challenges. Sites with Underground Storage Tanks also face strict regulatory oversight due to risks to groundwater, further narrowing land use options.

Development in the Region is shaped by limits—wastewater treatment access, flood risk, ecological value, and contamination. With just 2% of land served by public wastewater systems yet hosting 38% of buildings, infrastructure defines where growth can happen. As we plan for the future, smart investments in wastewater infrastructure, flood-safe design, conservation, and brownfield remediation are essential to unlocking opportunities without compromising environmental or public health.

Land Use Regulation

Most towns in the Region regulate development through zoning and subdivision bylaws, alongside flood hazard and river corridor regulations, to protect public health, safety, and general welfare. These tools help guide where and how growth occurs, supporting long-term community goals. Zoning regulations establish the types of land uses allowed in different parts of town—such as residential, commercial, or industrial—and often include standards for building height, setbacks, and lot size. Subdivision regulations govern the division of land into lots, ensuring that access, infrastructure, and environmental protections are in place. Flood hazard and river corridor regulations limit development in high-risk areas to reduce damage from flooding. Some municipalities have adopted unified development bylaws, which combine zoning, subdivision, flood hazard, and river corridor regulations into a single, comprehensive document, simplifying the permitting process and improving clarity for applicants. The Region has a patchwork of development oversight across the Region, as shown in Figure 2.12.

Act 250 is Vermont's statewide land use law that applies a set of 11 environmental and planning criteria to larger development projects. Traditionally, it has governed projects exceeding 10 acres in towns with zoning and subdivision regulations, as well as

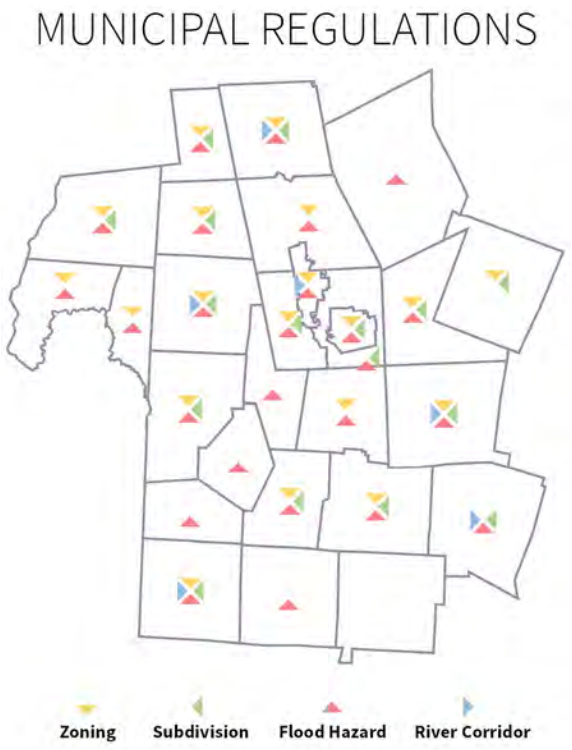


Figure 2.12

Towns differ in their adoption of zoning, subdivision, flood hazard, and river corridor regulations.

projects exceeding 1 acre in towns without them, or in towns that opt into the law. In 2024, the legislature passed Act 181, which significantly reforms Act 250 by creating long-term exemptions for downtowns and villages to encourage compact, smart growth development in locations that are already planned and serviced for growth, while strengthening protections in ecologically sensitive areas. This transition involves shifting Act 250 jurisdiction from being based solely on the scale of development to being more focused on its location. These changes are designed to align permitting with local planning capacity, reduce regulatory barriers to housing in developed areas, and maintain oversight where natural resources are most vulnerable to development impacts.

Local and state regulations shape where and how the Region grows. Zoning, subdivision, and flood hazard bylaws guide development, while Act 181 refocuses Act 250 on *where* projects occur, not just their size. The result is smarter permitting in planned growth areas and stronger protections where significant local resources are most at risk.

Land Use Planning

Land use planning, whether for development or conservation, emphasizes encouraging or discouraging specific activities in designated locations. A municipality can promote desired land uses in a specific area by providing financial support through subsidies, managing projects on public lands, or waiving fees for certain activities. Municipalities can also showcase state or non-profit programs that offer funding or resources for development or conservation. Collaborating directly with landowners on projects can be another effective strategy. By developing and updating a Town Plan, municipalities can establish a timeline of actions to implement strategies like these.

These planning efforts are particularly important in the Rutland Region, where the Current Conditions reflect a largely rural landscape—only 2.25% of land is developed—yet land use decisions have outsized impacts. Factors such as building height and lot size vary widely between village and rural areas, while limited infrastructure, flood risk, and conserved lands constrain where growth can happen. State programs that encourage reinvestment in downtown and village centers help focus development where infrastructure

already exists; however, regulatory layers, such as local zoning and statewide Act 250 jurisdiction, also play a significant role in shaping regional land use patterns. Grand list data further reveals how different land uses contribute to local tax revenue, reinforcing the need for thoughtful planning that aligns local actions with broader regional goals.

FUTURE TRENDS

As stated previously, over 99% of the Region's land showed no change in land cover from 2016 to 2022, indicating stable development patterns throughout this period. Due to ongoing rural residential growth trends across New England, this Plan anticipates that the Region's land cover change will be slightly higher over the next eight years compared to 2016–2022, with about 97–99% of the Region's lands expected to experience no land cover change. Economic factors may limit overall land cover change, aside from rural residential growth, as the Housing Chapter (Chapter 6, page 179) notes that low-density residential growth is increasingly common in rural New England despite increasing price pressures.

One of Vermont's land use planning goals is to prevent strip development, defined as low-density development along major roads that is disconnected from nearby communities. Strip development fragments the landscape, weakens village and downtown centers, and increases car dependence. Preventing it supports walkability, protects rural character, and strengthens existing hubs. Sprawl, defined as the outward spread of low-density growth, is constrained by the Region's steep slopes and narrow valley, instead guiding development into corridors. In Rutland City, development stops where slopes rise. Clustering growth in compact, walkable areas remains the goal. But in built-out villages, it is not easy. The Region must plan carefully, identifying where higher-density growth is suitable, protecting farmland, and avoiding scattered or linear expansion.

To counter sprawl, the Plan recommends pursuing taller

ACT 181 TRANSITIONS ACT 250 INTO LOCATION-BASED "TIERS"

TIER 1A JURISDICTION

Exempts all subdivisions, developments, or changes to previously permitted projects within designated Tier 1A areas from Act 250 review. These areas apply directly to the LURB and must meet strict qualifications related to planning, zoning, infrastructure, and natural resource protection.

TIER 1B JURISDICTION

Offers Act 250 exemptions for housing projects with 50 or fewer units on 10 acres or less. These areas are identified through regional future land use maps in the Future Trends section of the regional plan, using a standardized statewide methodology.

TIERS 2 AND 3

Expand Act 250 jurisdiction in undeveloped or ecologically sensitive locations. For both tiers starting July 1, 2026, jurisdiction expands to longer road construction projects to prevent fragmentation of forest and habitat in these areas. Beginning December 31, 2026, new triggers will apply to projects in newly defined Tier 3 areas that contain critical natural resources.

buildings to reduce land consumption, especially in and around Rutland City. Sheldon Towers, built in 1972, remains the Region's tallest building. It stands 10 stories high, with 74 dwelling units on 1.5 acres—about 49 units per acre. This level of density is currently only compatible in Rutland City. More modest multi-story development, however, can fit into the Region's villages. An example is the 24-unit, three-story residential complex under construction in West Rutland (2024–2025). It demonstrates how villages can support compact, walkable housing without compromising character. Taller, multi-family, and mixed-use buildings—when scaled appropriately—are as critical to land use planning as they are to meeting housing needs. The Current Conditions section notes that Smart Growth can ease municipal budget pressures, whereas scattered, low-density growth often exacerbates them. The Plan calls on municipalities to take a more active role in identifying and supporting taller buildings, balancing local character, housing demand, and fiscal responsibility.

Figure 2.13

Traditional neighborhoods offer connected streets linking homes, schools, shops, and workplaces—while suburban sprawl isolates these uses, forcing reliance on main roads despite close proximity.

Future Land Use Map

The following section introduces the Regional Future Land Use Map. This map serves as a guide for future land use decisions, playing a role in Act 250 development reviews. Act 181 of 2024 mandates that all Regional Plans feature a Future Land Use Map that corresponds with the Future Land Use Areas (FLUA) specified in 24 V.S.A. § 4348a(a)(12)(A-J). The law defines ten specific FLUA categories. The Vermont Association of Planning and Development Agencies (VAPDA), which encompasses all RPCs, has developed a mapping method to apply this state law throughout Vermont consistently.

This map includes and, in some cases, expands the areas enrolled in the state designation program and those eligible for Act 250 exemptions. The Downtown, Village Center, Planned Growth Area, and Village Area FLUA will receive state designation upon the approval of this Regional Plan. The Downtown and Village Center FLUA will achieve a "Center" state designation, while the Planned Growth Area and Village Area FLUA will obtain a "Neighborhood" state designation. The 'Future Land Use Map Insets' provided in

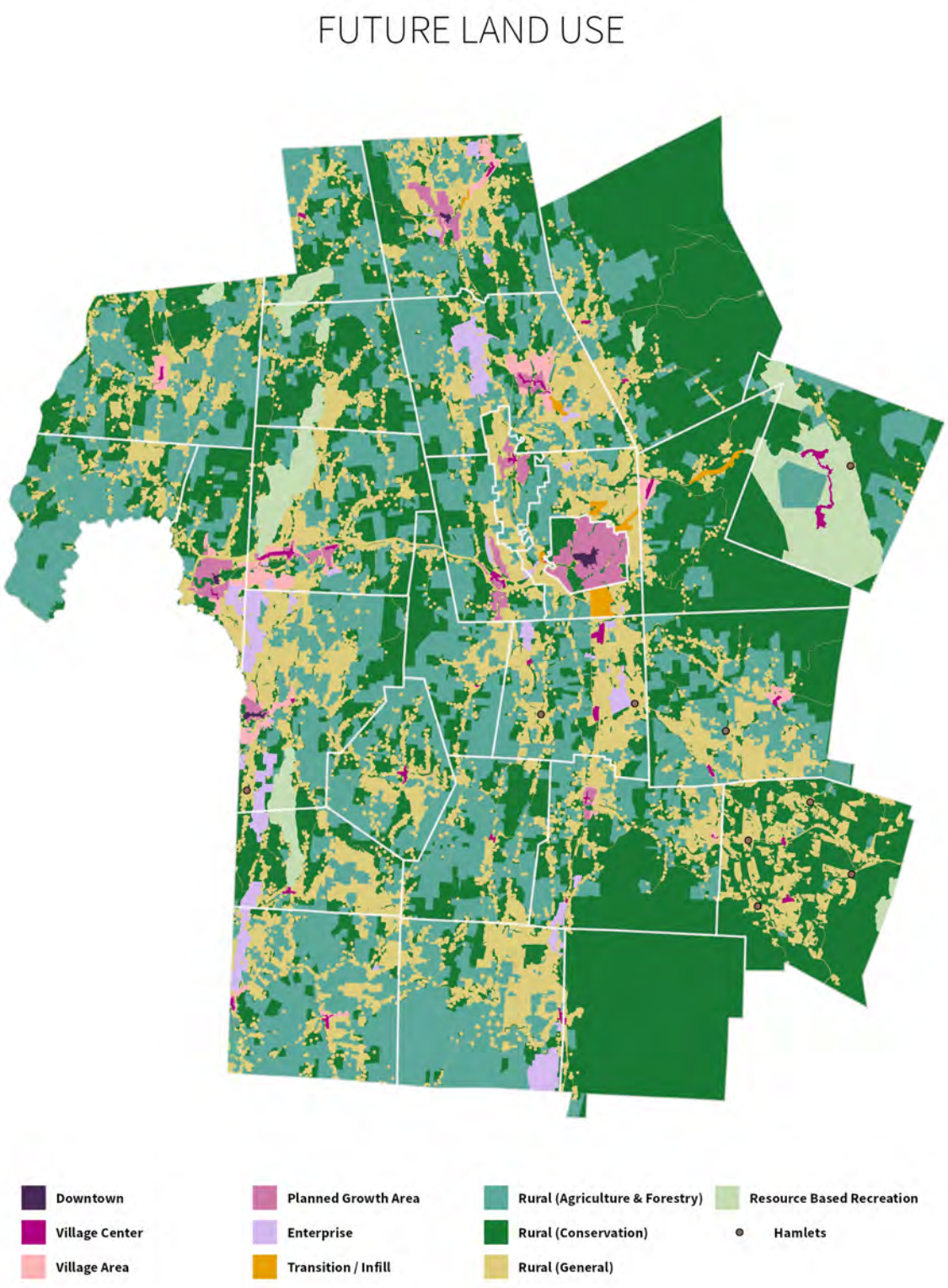


Figure 2.14

This map sets the framework for where future development and preservation efforts will focus region-wide.

Figure 2.15 This map contrasts Rutland's 1942 development with recent growth expanding outward into surrounding areas.

Appendix A2.1, page 418, show each downtown, village center, planned growth area, and village area at greater detail.

The remainder of the Future Trends section outlines the prospective location, amount, intensity, and character of land uses for each future land use category. Protected natural resources may be included in any FLUA and must undergo field verification during the development review process, consistent with municipal and state requirements. Recommendations for each FLUA, indicated by "should," guide developers, planners, and businesses. In contrast, the Regional Plan Act 250 conformance requirements are marked by "shall". The intent is to guide land use through non-binding recommendations, except where requirements are needed to preserve traditional settlement patterns or ensure fair distribution of environmental benefits and burdens. The intent is also to allow compatible, rural

development; however, concentrate region-wide, cumulative development efforts in the Region's downtowns and villages. This map does not change municipal town plans or zoning bylaws; however, it offers guidance for future updates. When a proposed development has a "substantial regional impact" and local and regional plans conflict, the Regional Plan takes precedence. More information on "Substantial Regional Impact", including the definition of the term, is discussed later in this chapter and the Plan Implementation Chapter (Chapter 13, page 373).

Downtown Center

The Downtown Center FLUA is a state-designated Downtown under Vermont's original state designation framework. There are four Downtown Centers. Future land uses here are intended to include mixed-use structures, commercial spaces, multi-family residential buildings, and community facilities. Community-serving facilities are strongly encouraged. Existing designated Downtowns have been expanded to include adjacent commercial, civic, or mixed-use buildings or areas. As the Region's most walkable and infrastructure-rich locations, Downtown Centers should be prioritized for public transportation and green spaces for all residents, especially historically underserved populations.

Municipalities should eliminate all dimensional zoning barriers to high-density development in the Downtown FLUA, unless local assessments determine that such standards conflict with the area's historic character. At a minimum, local zoning regulations should accommodate existing lot sizes and building conditions to avoid limiting reinvestment or reuse. Developers should pursue high-density, mixed-use projects that utilize existing lot configurations and building footprints and prioritize adaptive reuse of historic structures whenever feasible.

This FLUA includes many historic buildings that reflect the architectural evolution of the Region's highest-density mixed-use centers. Historic architectural details, elements,

FUTURE LAND USE MAPPING ORDER (VAPDA METHODOLOGY)

Areas qualifying for multiple land use categories were mapped according to the following priority (highest to lowest).

1) Downtown Centers
2) Village Centers
3) Planned Growth Areas
4) Village Areas
5) Transition / Infill Areas
6) Enterprise Areas
7) Resource-based Recreation Areas
8) Rural (Agriculture & Forestry)
9) Rural (Conservation)
10) Rural (General)
11) Hamlets

Act 181 of 2024 updated a statewide land use planning goal (24 V.S.A. § 4302(c)(1)(a)) to specify that Downtown Center FLUA, Village Center FLUA, Planned Growth Area FLUA, and Village Area FLUA should be planned to accommodate most of the housing needed to meet the targets outlined in the Housing Chapter (Chapter 6, page 179), including being areas of 'intensive residential development' in the municipality.

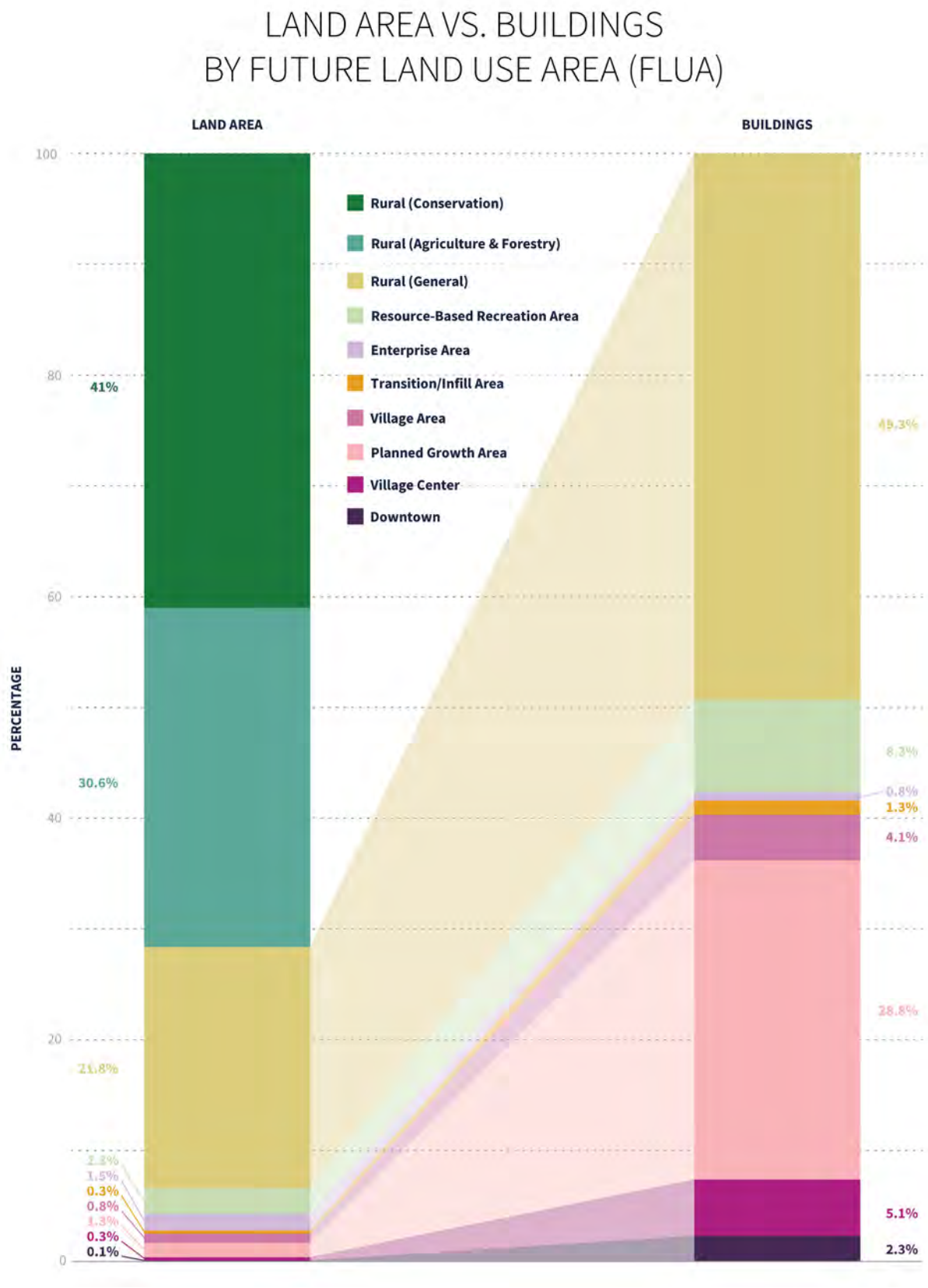


Figure 2.16

Some future land use areas contain a large share of buildings on relatively limited land—highlighting where development exists.

Figure 2.17

Downtown Brandon demonstrates compact, walkable, and mixed-use development anchored by civic landmarks and active storefronts.

and buildings deemed locally significant should be preserved whenever possible. Municipalities should identify and prioritize the preservation of locally significant historic buildings, sites, and streetscapes that contribute to the unique character and identity of their Downtowns. Municipalities should allow the preservation and repurposing of historical structures to meet modern mixed-use development needs, such as converting upper floors of commercial buildings into housing while retaining commercial uses on the ground floors. Repurposing maintains the area's historic character and maximizes the utility of existing buildings. Repurposing historic buildings should include strategies to reduce environmental health hazards. Refer to the Cultural Resources Chapter (Chapter 4, page 101) for additional information on historic structures and repurposing buildings. However, demolition may be necessary depending on the building's quality and the economics of rehabilitation.

Municipalities should plan for continuous pedestrian networks in Downtown FLUA. Strategic investment in sidewalk and bicycle infrastructure should be prioritized to ensure that additional neighborhoods and outlying areas can safely and conveniently access the Downtown Center. Within the Downtown FLUA, municipalities should maintain and enhance transportation infrastructure that supports walkability, pedestrian safety, and multimodal access, including well-marked crosswalks, traffic calming measures, and adequate street lighting. If a public sidewalk or shared-use path exists within the parcel boundary, or 500 feet of any boundary of the parcel located in the Downtown FLUA, a proposed development or subdivision shall include internal pedestrian routes that directly connect to that sidewalk or path, provided that such connection can be made entirely on-site or across adjacent parcels with existing pedestrian infrastructure.

The Downtown FLUA has a high density of pavement, which makes it prone to the Urban Heat Island Effect. This phenomenon occurs when paved surfaces absorb and release more heat than natural landscapes, resulting in

higher temperatures compared to rural areas. The Climate Resilience Chapter (Chapter 11, page 333) provides a detailed discussion of the Urban Heat Island Effect. Municipalities should plant street trees and increase the tree canopy in Downtown FLUAs, prioritizing areas where heat exposure is disproportionately high due to a lack of vegetation and limited access to cooling resources.

Developing vacant greenspace in the Downtown FLUA can unintentionally remove the limited areas that provide cooling against the Urban Heat Island Effect and absorb stormwater. However, it may encourage development in rural areas, leading to low-density strip development. To tackle these challenges, development on vacant greenspace within the Downtown FLUA should focus on high-density, mixed-use projects rather than single-family homes. Even a two-story, mixed-use building with commercial space on the ground floor and residential units above can better meet the Region's needs in the Downtown FLUA. Development in the Downtown FLUA with a building footprint, parking, and other paving of 100,000 square feet shall incorporate one public cooling and gathering amenity—such as shaded benches, shaded seating area with picnic tables, or a publicly accessible pocket park —to mitigate the Urban Heat Island Effect, which is most prominent in this FLUA.

Village Centers

The Village Center FLUA is a traditional mixed-use civic and economic center for a community. Future land uses here are intended to include mixed-use structures, commercial spaces, residential buildings, and community facilities. Community-serving

Downtown Center FLUA

Downtown Brandon lies just south of the Region's northern border on US Route 7. It features a 19th-century village center, anchored by the Smith Block, which was built in 1889. The building recently converted its upper floor into twelve apartments.

Downtown Rutland stands at the Region's center. It includes hundreds of 19th- and 20th-century buildings and a major commercial area at the intersection of US Routes 7 and 4.

Downtown Fair Haven, located five minutes west of Castleton, centers on a large village green and features two- to four-story mixed-use buildings from the late 19th and early 20th centuries.

Downtown Poultney, located south of Fair Haven, includes buildings from various eras. A marble-faced bank now houses the Poultney Public Library.

facilities are strongly encouraged. The Region is home to 33 Village Center FLUAs, which vary widely in scale, density, infrastructure, and character. Existing designated Village Centers have been expanded to include adjacent commercial, civic, or mixed-use buildings or areas. In some cases, boundaries are extended to adjacent, vacant, suitable land to accommodate additional housing growth, per the VAPDA methodology.

Land area, density, and character vary in the Village Center FLUA—some Village Centers rival Downtown Center FLUAs in size. One is Middletown Springs Village Center, featuring a historic green, and over 100 buildings dating back to the late 1700s, including the town office, town garage, a church, post office, general store, school, and historical society buildings.[12] Smaller Village Center FLUAs consist of a few buildings that serve as key historical, civic, or economic hubs for surrounding low-density areas. The West Haven Village Center FLUA is the smallest and includes a church built in 1831 (now the Historical Society building), the West Haven Firehouse, and the Town Garage. [12] Municipal zoning regulations should, at minimum, allow existing lot sizes and building conditions to avoid limiting reinvestment or reuse. Developers should pursue mixed-use projects that utilize existing lot configurations, building footprints, and prioritize the adaptive reuse of historic structures whenever feasible.

Village Center FLUA contains many historic buildings. For example, the Ira Village Center FLUA features a church (built in 1810), a Town Hall (built in 1800), and a one-room schoolhouse. Historic architectural details, elements, and buildings deemed locally significant should be preserved whenever possible. Municipalities should ensure that their

Figure 2.18

Middletown Springs' village center highlights the civic and historic core of a rural community, where civic assets and a general store support daily life.

regulations allow for the preservation and adaptive reuse of these structures to meet modern mixed-use development needs, such as converting the upper floors of commercial buildings into housing. Repurposing historic buildings should include strategies to reduce environmental health hazards. However, demolition may be necessary depending on the building's quality and the economics of rehabilitation.

Municipalities should prioritize expanding or establishing sidewalks and crosswalks within Village Centers to ensure safe, convenient pedestrian access to key destinations. Some Village Centers have established sidewalk networks, while others do not. If a public sidewalk or shared-use path exists within the parcel boundary, or 500 feet of any boundary of the parcel located in the Village Center FLUA, a proposed development or subdivision shall include internal pedestrian routes that directly connect to that sidewalk or path, provided that such connection can be made entirely on-site or across adjacent parcels with existing pedestrian infrastructure.

Most of the Village Center FLUA are already enrolled in the state designation program. In many cases, the RRPC provided technical assistance to the town in preparing an application. The most recent state-designated Village Center is the Sudbury Village Center FLUA, which has served as the town's social hub for years, featuring a 1807 church, a town hall, a clerk's office, and residences. [12] This area is expected to be the final Village Center enrolled under the current state designation framework, with the village center being designated on April 28, 2025.

Village Centers often sit on or near main roads in their municipalities or regions. Mendon Village Center is situated along US Route 4 and features the Town Office, a Park-and-Ride facility, the Town Garage, a coffee shop, and several other retail establishments. [12] Wallingford Village Center, located on US Route 7, features historic structures that reflect the town's transition from milling to industrial activity. The Wells Village Center, a mid-19th century milling and commercial hub, sits directly on VT Route 30, just south of Lake St. Catherine.[12] Benson Village Center, a historical agricultural hub, is located on Old Stage Rd and is adjacent to VT Route 22A.[12] This closeness to main roads makes Village Centers ideal locations for future residential, commercial, and mixed-use development, scaled appropriately given the varying densities and character found in each Village Center FLUA.

8 OUT OF THE 29
VILLAGE CENTERS

are partially or entirely served by public wastewater and/or water systems. More intensive and denser residential development should occur in these Village Centers compared to the other 21 Village Centers without public wastewater or water, particularly in underutilized systems and where both public utilities are available.

Some Village Centers were born from a single historical land use activity. For example, Clarendon Springs Village Center is based around a 19th-century mineral springs resort.

Towns with multiple centers should prioritize higher density in areas with public wastewater and/or water utilities.[12] For example, East Poultney Village Center, located about 1.5 miles east of Downtown Poultney, lacks wastewater and water services and exhibits a much lower existing density compared to Downtown Poultney. In contrast,

New Village Centers

These centers will join the state designation program upon Plan approval. Each new Village Center is outlined going from north to south.

Forest Dale Village Center in Brandon is a 19th-century industrial hub near the Region's northern border with Addison County. It was home to the Forestdale Furnace and the birthplace of the first American DC electric motor.

West Haven Village Center is the smallest addition, with details mentioned earlier. It is the town center for the Region's second smallest town by population.

South Fair Haven Village Center lies just south of the Downtown, separated by a steep hill. It features the Fair Haven Rescue Squad, auto repair shops, historic residences, and an 1876 school now used by a fraternal organization.

Center Rutland Village Center, bordering the west side of Rutland City, features the Rutland Town Office, a professional building, and historic structures from its past as a milling and marble-sawing center.

Killington Village Center, along Killington Road, includes businesses, residences, lodges, a single historic cottage (circa 1870), and the mid-20th-century Killington Mountain School. The Killington Forward Initiative uses planning, capital investment, and zoning to promote a pedestrian-oriented layout, similar to Vermont's New Town Center designation under 24 V.S.A. § 2793b.

Clarendon gains two Village Centers. North Clarendon Village Center, a former milling and roadside hub, now hosts a school, post office, firehouse, and commercial uses. Clarendon Village Center includes the Town Clerk's Office, 19th-century homes, and a church rebuilt after the 1881 windstorm.

Shrewsbury also adds two designations. North Shrewsbury Village Center has the Town Office, a store, and residences from the mid-to-late 1800s. Cuttingsville Village Center is a historic milling site that became a commercial center with the arrival of the Rutland–Burlington rail line.

Mount Holly Village Center is slightly larger but less dense than the town's denser, currently designated Village Center: Belmont Village Center. It includes a post office, town office, town garage, elementary school, garden center, firehouse, and nearby homes.

municipalities with multiple centers that share similar wastewater and water characteristics should plan for high density in both centers. For instance, both of Castleton's Village Centers are served by both public wastewater and water utilities. As a result, both areas are locally planned for high-density development and should continue to be.

DID YOU KNOW?

Some Village Centers were born from a single historical land use activity. For example, Clarendon Springs Village Center is based around a 19th-century mineral springs resort.

Planned Growth Areas

The Planned Growth Area FLUA encompasses neighborhoods and commercial areas surrounding Downtown and Village Center FLUAs. Future land uses here are intended to include residential buildings, commercial buildings, and community facilities. The Region comprises 10 Planned Growth Areas in Brandon, Castleton, Fair Haven, Pittsford, Poultney, Proctor, Rutland City, Wallingford, and West Rutland. This FLUA mostly covers Rutland City, as the Region's sole city.

Planned Growth Areas are ready for higher-density development. They have access to public water and/or wastewater treatment systems and are usually equipped with sidewalks or other pedestrian infrastructure. The Planned Growth Area excludes "areas of high flood risk", unless an urban development context surrounds existing development. In the Planned Growth Area FLUA, the municipality has zoning and subdivision regulations that allow for high-density development.

In the Planned Growth Area FLUA, developers should prioritize high-density, mixed-use

Figure 2.19

Planned Growth Areas like this Rutland City neighborhood already support higher residential density and feature infrastructure that enables future compact development.

projects, particularly those that offer affordable housing and provide walkable access to jobs and services for a diverse range of households. Development in the Planned Growth Area FLUA should utilize existing lot configurations, building footprints, and prioritize adaptive reuse of historic structures whenever feasible.

Municipalities should ensure continuous pedestrian networks in this FLUA. If a public sidewalk or shared-use path exists within the parcel boundary, or 500 feet of any boundary of the parcel located in the Planned Growth Area FLUA, a proposed development or subdivision shall include internal pedestrian routes that directly connect to that sidewalk or path, provided that such connection can be made entirely on-site or across adjacent parcels with existing pedestrian infrastructure.

Village Areas

The Village Area FLUA comprises additional neighborhoods and commercial areas surrounding Downtown and Village Center FLUAs. Future land uses are intended to include residential, commercial, and community facilities. Eleven towns host Village Area FLUAs: Benson, Brandon, Castleton, Fair Haven, Mendon, Pawlet, Pittsford, Poultney, Rutland City, Wallingford, and West Rutland. To qualify, a municipality must adopt zoning and subdivision regulations, and part of the municipality must have municipal water or wastewater services. Also, the Village Area FLUA excludes "areas of high flood risk" unless they are vacant lots surrounded by urban development and infrastructure, or the municipality regulates these areas to the degree outlined in 24 V.S.A. § 4348a(12)(A)(C)(iii).

Figure LU-22

Village Areas like this neighborhood in Poultney feature residential development with modest infrastructure—offering opportunities for context-sensitive growth that reinforces traditional settlement patterns.

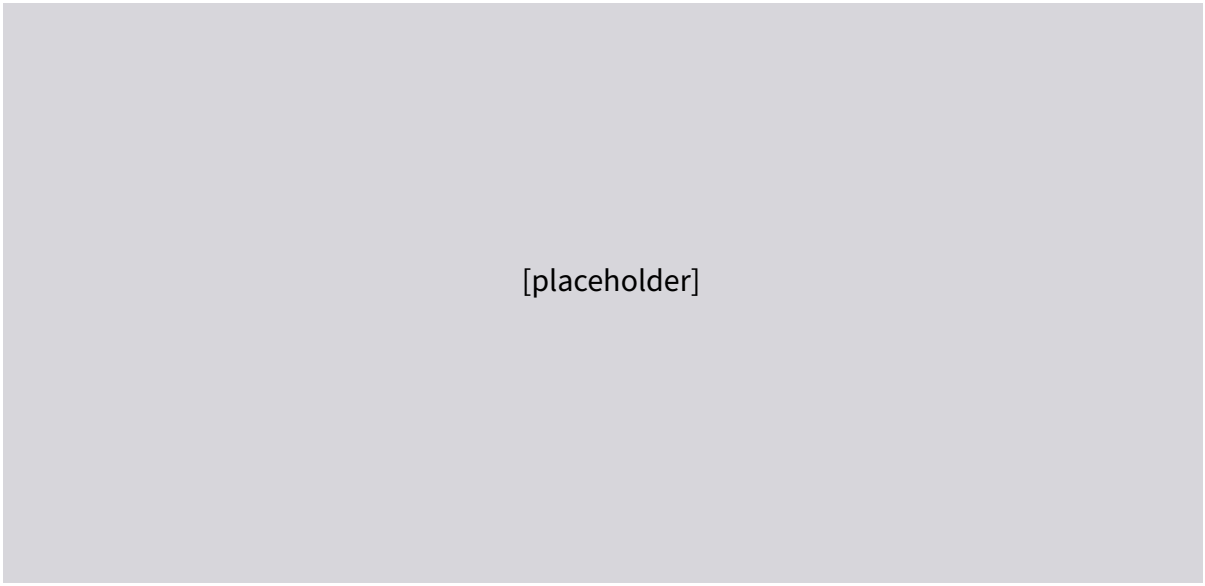


Figure 2.21

Transition/infill areas like this commercial corridor in Rutland Town have auto-oriented development along major roadways, highlighting existing economic activity and the potential for more coordinated, pedestrian-friendly infill over time.

The Village Area FLUA contains opportunities for new and infill development, particularly on the outer edge of the village away from flood risks. Future development should reinforce and prioritize the existing neighborhood scale while planning for higher density in specific areas. Developers are encouraged to pursue mixed-use projects that more efficiently meet the Region's needs.

Municipalities should plan for continuous pedestrian networks in the Village Area FLUA. If a public sidewalk or shared-use path exists within the parcel boundary, or 500 feet of any boundary of the parcel located in the Planned Growth Area FLUA, a proposed development or subdivision shall include internal pedestrian routes that directly connect to that sidewalk or path, provided that such connection can be made entirely on-site or across adjacent parcels with existing pedestrian infrastructure.

Transition/Infill Areas

Transition/Infill Area FLUAs identify additional areas served by public water or wastewater services, which are often underutilized due to their location. These areas are designed to accommodate a range of land uses, including residential, commercial, and community facilities. The primary location of the Region's Transition/Infill FLUA is in Rutland Town, surrounding Rutland City on US Route 7 and US Route 4. Additionally, other Transition/Infill FLUAs are found in Pittsford on US Route 7, Mendon on US Route 4, and Brandon on Forest Dale Road.

The Transition/Infill Area FLUA is configured in a linear manner, which presents challenges in preventing strip development. According to 24 V.S.A. § 4348a(12)(A)(D), "new commercial linear strip development is not allowed to prevent negative impacts on the economic vitality of commercial areas in

adjacent or nearby planned growth or village areas." Municipalities should guide development in Transition/Infill Areas to occur through infill or redevelopment of vacant or underutilized lots. Developers should focus on compact, context-sensitive infill or redevelopment projects in Transition/Infill Areas, avoiding any form of new linear strip commercial development that undermines nearby Village or Planned Growth Areas.

If a public sidewalk or shared-use path exists within the parcel boundary, or 500 feet of any boundary of the parcel located in the Transition/Infill FLUA, a proposed development or subdivision shall include internal pedestrian routes that directly connect to that sidewalk or path, provided that such connection can be made entirely on-site or across adjacent parcels with existing pedestrian infrastructure.

Enterprise Areas

The Enterprise Area FLUA encompasses industrial parks, natural resource extraction sites, Rutland Southern Vermont Regional Airport, and other commercial uses that require large land areas. Future land uses will include, but are not limited to, commercial buildings, industrial buildings, transportation facilities, utility facilities, and accommodation services. The goal is to maintain the existing use in these areas in the future.

In Enterprise Area FLUA, industrial or commercial development and uses are encouraged, provided that the scale and intensity do not unduly adversely impact the surrounding area. No new use, change of use, or expansion of use for the extraction and processing of mineral and earth resources fully or partially within an Enterprise Area FLUA shall result in worsening off-site impacts that contribute to existing environmental burdens, as

Figure 2.22

Enterprise Areas like this one in Wallingford accommodate industrial operations supported by infrastructure like roads.

defined in 3 V.S.A. § 6002, for residents who are demonstrably affected. This includes, for example, extending operations or facility boundaries closer to residential or civic areas when residents have already identified the existing use as generating harmful impacts such as air pollution, vibration, or traffic. More information on the appropriate extraction of earth resources can be found in the Natural Resources Chapter (Chapter 10, page 297).

Municipalities should coordinate transportation in Enterprise Areas to support freight mobility and mitigate the impacts of heavy vehicles on local roads. Developers should ensure safe site access. Bus stops connecting high-employment Enterprise Areas to Downtown and Village Center FLUA are encouraged, allowing workers to access employment without needing a car. No land use or development shall interfere with the Rutland Southern Vermont Regional Airport's flight clearance. As the Region's only commercial airport, it plays a critical role in driving economic growth.

Resource-Based Recreation Areas

The Resource-Based Recreation Area FLUA contains regionally significant recreational assets, accompanied by associated infrastructure, jobs, and housing. This FLUA is most prominent in Killington and along the Region's developed lakeshores, including Lake Bomoseen, Lake St. Catherine, and Lake Hortonia. Future land uses are intended to include residential buildings, community facilities, and retail and commercial businesses that cater to the needs of both the local community and tourists. Trails, open spaces, and other non-commercial activities that result in human enjoyment of the Resource-Based Recreation Area are strongly encouraged. Multi-family residential developments and housing for the ski resort workforce should be strategically located for pedestrian or transit access, wherever possible.

Public access to outdoor recreation is a key environmental benefit as defined in 3

[placeholder]

Figure 2.23

Resource-Based Recreation Areas like along Lake Hortonia in Sudbury & Hubbardton, combine large natural assets with supporting infrastructure and development.

V.S.A. § 6002. Development in the Resource-Based Recreation FLUA shall not reduce public access to lakes, trails, or scenic viewpoints. Public facilities—such as boat launches and trailheads—should be preserved or expanded wherever feasible.

This FLUA encompasses some of the Region's highest-valued lands. The median land value of parcels within this FLUA is exponentially higher than the regionwide median, a result of the value of these natural recreation assets. Resource-Based Recreation Areas contain both public and private recreation assets. Maintaining or improving the value of these recreational resources and facilities is critical not only for their recreational value but also for generating tax revenue for municipalities, which benefits broader public interests. Municipalities should encourage a range of housing types—including smaller units and shared housing—so that local workers and low- to moderate-income residents can also benefit from the environmental and economic advantages of these high-value landscapes.

Careful siting of development in the Resource-Based Recreation Area FLUA is necessary to preserve both scenic beauty and environmental quality. Development near ridgelines in the Resource-Based Recreation Area should be designed to avoid obstructing scenic views from state roads, Class 1 roads, hiking trails, and other locally designated vantage points. The Cultural Resources Chapter (Chapter 4, Page 101) discusses the importance of protecting ridgelines as scenic resources. For lakeshores, structures should be sited to minimize erosion, sedimentation, and other environmental disturbances to the nearby water body. A natural vegetation buffer between the structure and shoreline is encouraged to protect water quality and prevent erosion. Whether a ridgeline or lakeshore, site disturbance should be minimized through clustering buildings and preserving as many existing trees and natural vegetation as possible. Developers should limit clearing to the smallest feasible footprint, including parking areas and building footprints. Development in the Resource-Based Recreation Area FLUA should not occur on slopes exceeding 25% to minimize erosion and public safety risks.

Growth Areas

Local capital planning programs and public investment strategies should promote renovation of existing buildings and infill within Growth FLUA. All new development should connect to public water and/or wastewater service if such systems exist with available capacity for the entire development. In the Growth FLUA (excluding Enterprise Area FLUA), future subdivisions resulting in open space are strongly encouraged to consider designating open space as a public park or green space, to provide equitable access to "environmental benefits" as defined in state

The term 'Growth FLUA' shall include all of the following FLUA:
Downtown; Village Center; Planned Growth Area; Village Area; Enterprise; Transition/Infill; Resource-Based Recreation

law. Community-serving facilities—including grocery stores, early childhood centers, transit hubs, or cultural gathering places—are encouraged in Downtown Center, Village Center, Planned Growth Area, Village Area, and Transition/Infill FLUAs to improve access to services that enhance public well-being and reduce travel burdens.

In the Growth FLUA, a proposed development or subdivision, or a series of affiliated or planned developments or subdivisions shall hold one or more community outreach meetings to investigate and propose solutions to reasonable community concerns if any of the following applies: (i) the development will have a building footprint, parking, and other paving of 50,000 square feet; or (ii) the development involves the extraction of mineral or earth resources.

The term 'Rural FLUA' shall include all of the following FLUAs
Rural Agriculture & Forestry; Rural Conservation; Rural General; and Hamlet.

Rural Areas

The remaining 94% of the Region is designated as a 'Rural FLUA'. Intended future land uses encompass any land use of a rural character, including, but not limited to, agricultural, forestry, conservation, residential, recreational, or commercial uses, such as cottage industries, country stores, and similar commercial uses. The 'Rural FLUA' is divided into three FLUA: Agriculture & Forestry, Conservation, and General.

The Rural Agriculture & Forestry FLUA is designated the highest level of support for agricultural and forestry uses. Most of these parcels are enrolled in the Vermont Current Use Program, which reduces property taxes on agricultural and forest lands, provided they are used for those purposes and not developed. This FLUA consists of agricultural fields, actively managed forest blocks, and no

[placeholder]

Figure 2.24

Rural areas are a mix of rural development and natural resources that provide environmental benefits to the larger community

structures. While the Regional Plan does not prohibit development in these two FLUAs, various regulatory, financial, and technical factors make development challenging, if not infeasible. For example, a monetary penalty occurs for unenrollment from the Current Use program. The Rural Agriculture & Forestry FLUA supports critical environmental benefits, including the preservation of productive agricultural soils and actively managed forest blocks that contribute to carbon sequestration, wildlife habitat, and water quality protection.

The Rural Conservation FLUA is designated for the highest level of support for conservation uses. Examples of conservation uses include habitat restoration, environmental research, and forest management activities. This FLUA mostly consists of fields, forests, and other significant natural resources identified by the Vermont Agency of Natural Resources, excluding structures. While the Regional Plan does not prohibit development in this Rural FLUA, various regulatory, financial, and technical factors make development challenging, if not infeasible. For example, developing in a wetland is prohibited by statewide regulations. The Rural Conservation FLUA includes significant natural resources, including large wetland blocks, which provide essential environmental benefits such as flood mitigation.

NINE HAMLETS

4
IN MOUNT HOLLY
Bowlsville
Tarbellville
Hortonville
Healdville

2
IN CLARENDON
Chippenhook
East Clarendon

1
IN KILLINGTON
Sherburne

1
IN POULTNEY
South Poultney

1
IN SHREWSBURY
Shrewsbury

The Rural General FLUA receives the strongest support for rural, low-density development. The Rural General FLUA has fewer regulatory, financial, technical, and natural resource constraints compared to the other two Rural FLUAs. All rural E911 buildings and a 300-foot buffer are included in the Rural General FLUA to depict existing rural, low-density development. For example, soils suitable for septic systems (Class I–III) are more common in the Rural (General) FLUA, compared to the other two Rural FLUA. Preservation and adaptive reuse of rural structures are strongly encouraged to maximize the use of the built environment without compromising rural character.

There are nine Hamlet FLUAs in the Region. Hamlet FLUAs are points on the Future Land Use Map that recognize historic settlement clusters where no significant growth is currently planned. These locations were reviewed for possible designation as Village Center FLUAs but were not mapped as such due to limited mixed-use development or minimal overall development.

The Rural FLUA encompasses most of the lands that provide environmental benefits as defined under state law, including protection of water quality, preservation of wildlife habitat, and maintenance of recreational resources. Future development within the Rural FLUA should safeguard these environmental benefits and avoid imposing environmental burdens as defined in 3 V.S.A. Chapter 72.

Except along paved roads or within a one-mile radius of Village Centers, overall development density should remain no greater than one principal structure per three acres to maintain rural character. Maintaining low development densities supports the preservation of vital environmental benefits, including wildlife habitat and water resources. However, lot sizes should ideally be smaller in subdivisions to preserve a larger portion of the remaining lot as undeveloped while still meeting density goals. The use of planned unit developments or conservation subdivision design schemes in the Rural FLUA is strongly encouraged to cluster development, thereby minimizing site disturbance, protecting natural vegetation, and reducing environmental burdens such as runoff and habitat fragmentation.

Developers in the Rural FLUA should avoid areas where agriculture or forestry potential is moderate or high. They should refrain from obstructing views of ridgelines from state roads, class 1 roads, or locally designated vantage points. Development should blend projects into the natural landscape by using neutral colors, non-reflective roofing materials, and limiting exterior lighting. Developers should also minimize site disturbance by clustering buildings and limiting clearing to the smallest feasible footprint for the development, including parking areas and building footprints. New roads and driveways should follow the natural contours of the land to reduce disruption, ensuring that parking areas, building footprints, and overall pavement remain as minimal as feasible. These development practices are important for mitigating environmental burdens, including soil erosion, habitat fragmentation, and aesthetic impacts. Development in the Rural FLUA should not occur on slopes exceeding 25% to minimize erosion and public safety risks.

In the Rural FLUA, a proposed development or subdivision, or a series of affiliated or planned developments or subdivisions shall hold one or more community outreach meetings to investigate and propose solutions to reasonable community concerns if any of the following applies: (i) the development will have a building footprint, parking, and other paving of 20,000 square feet; or (ii) the development involves the extraction of mineral or earth resources.

The following section details how these land use categories influence regional development under Act 250. Specifically, they define when proposed development is considered to have a “substantial regional impact”, triggering the Regional Plan’s authority.

Act 250 – Developments of Substantial Regional Impact

The District Environmental Commission

DEVELOPMENT

The construction, reconstruction, conversion, structural alteration, relocation or enlargement of any building or other structure, or any mining, excavation or landfill, and any change in the use of any building or other structure, or land, or extension of use of land, or the division of a parcel into two or more parcels.

reviews and issues Act 250 permits for large residential, commercial, and industrial developments, as well as all public facilities. Certain exemptions apply depending on the location, scale, and type of land use. Permit decisions are based on the applicant's demonstration that the proposed project will not seriously impact any of the 10 criteria outlined in Act 250, including conformance with the municipal and regional plan.

State statute requires that the RRPC define in this Plan what kinds of development would constitute a "substantial regional impact". This is the threshold for precedence of this Plan as the primary planning document to consider in Act 250 proceedings if a 'conflict' exists between the Town Plan and the Regional Plan. A conflict occurs when one plan allows for the project, but the other does not. When town and regional plans do not conflict, a project will be reviewed for its conformance with both plans. Meeting the "substantial regional impact" threshold means that the nature of the development is likely to have a regional scope. For instance, a commercial complex located in one town will result in increased employment opportunities for the area, thus stimulating the demand for housing in neighboring towns. Another example is a resort that draws tourists from outside the region, which may then impact existing highways beyond the town's border, where the resort is located.

If a development proposal meets any of the criteria listed below—and therefore may have benefits or negative impacts beyond the borders of the host municipality—the Plan will take effect.

Conclusion

The strategies for each future land use area described above point to a clear need for thoughtful planning and coordinated investment. To respond proactively, the following section outlines the Region's policies and actions for advancing smart growth principles. These policy recommendations are grounded in data, community input, and State priorities. Progress will be measured through a set of indicators designed to track implementation and ensure accountability as the Region works to meet its land use planning goals.

Substantial Regional Impact Criteria

A development, or series of affiliated or planned developments, that either in totality or cumulatively:

1) Will contribute to a reduction in the peak hour level of service (LOS) on a state highway, or a town highway of 5,000 Annual Average Daily Traffic from D to E or from E to F.
2) Will contribute 5% or more traffic volume to the peak hour LOS D on a regionally significant local or state highway in or immediately adjacent to Planned Growth Future Land Use Areas or LOS C on regionally significant local or state highways in Rural Future Land Use Areas.
3) Will necessitate capital improvements, such as widening or signalization of Class 2 local highway or any state highways, expansion of public wastewater treatment or water supply systems, additional fire apparatus, or expansion of schools.
4) Will necessitate capital grid improvements such as extension, upgrading, or enlargement of electrical transmission lines.
5) Will generate new direct employment equal to or greater than 1% of the Region's existing employment level.
6) Is located in areas of special flood hazard, necessary wildlife habitats or significant natural communities, Class I wetlands, areas identified with threatened or endangered species, source protection areas, or in two or more municipalities.
7) Impairs the continued function of regionally significant facilities, including Rutland Southern Vermont Regional Airport, Rutland Regional Medical Center, Vermont State University at Castleton, any bridge, dam, school, or airport, any state or national recreational facility, or any recreation facility in the Resource-Based Recreation Future Land Use Area.
8) Will entail residential construction where the total proposed housing units exceed 5% of the total housing count of the host town.
9) Will entail commercial or industrial construction within a single or multiple buildings, of 10,000 square feet or more of gross floor area outside of a Planned Growth Future Land Use Area or 20,000 square feet or more of gross floor area inside such area.
10) Will construct public, private, or nonprofit facilities or utilities meant to serve multiple towns within one mile of a municipal boundary.
11) Affects the existing or potential capacity to provide essential or required public services by one or more municipalities adjacent to the municipality where the proposed development is located, due to direct and indirect impacts.

Any one or combination of the above criteria shall characterize a development proposal having a substantial regional impact.

What's Next? // LAND USE

Goals

1) Plan development to maintain historic settlement patterns of compact downtown and village centers separated by rural countryside.

Policies

1) Development should be undertaken in accordance with smart growth principles as defined in 24 V.S.A. 2791(13).
2) Development should occur in a fiscally responsible manner, meaning that the cumulative municipal costs for the development should not exceed the projected municipal tax revenue generated by the development.
3) Land use planning and decision-making should include opportunities for meaningful participation.
4) Proposed developments with a combined building footprint, parking, and other paving totaling 25,000 square feet or more in the Rural FLUAs, or 50,000 square feet or more in the Growth FLUAs, or any development involving the extraction of mineral or earth resources, **shall** hold one or more community outreach meetings to investigate and propose solutions to reasonable community concerns about the proposal.
5) Intensive residential developments are encouraged in the Downtown, Village Center, Planned Growth Area, Village Area, and Transition/Infill Area FLUAs.
6) Community-serving facilities, like grocery stores, child care centers, transit hubs, or cultural gathering places, are encouraged in Downtown, Village Center, Planned Growth Area, Village Area, and Transition/Infill FLUAs to improve access to services that enhance public well-being and reduce travel burdens.
7) In the Downtown, Village Center, Planned Growth Area, Village Area, and Transition/Infill FLUAs, if a public sidewalk or shared-use path exists within the parcel boundary, or 500 feet of any boundary of the parcel located in the FLUA, proposed development or subdivision **shall** include internal pedestrian routes that directly connect to that sidewalk or path, provided that such connection can be made entirely on-site or across adjacent parcels with existing pedestrian infrastructure.

Policies continued

8) Proposed development in the Downtown FLUA with a building footprint, parking, and other paving of 100,000 square feet **shall** incorporate one public cooling and gathering amenity, such as a shaded seating area or a publicly accessible pocket park.

9) No new use, change of use, or expansion of use for extraction and processing of mineral and earth resources fully or partially within an Enterprise Area FLUA or Rural FLUAs **shall** result in worsening off-site impacts that contribute to existing environmental burdens, as defined in 3 V.S.A. § 6002, for residents who will be demonstrably affected.

10) Industrial and commercial uses are encouraged in the Enterprise Area FLUA, provided that the scale and intensity do not unduly adversely impact the surrounding area.

11) No land use or development **shall** interfere with the Rutland Southern Vermont Regional Airport's flight clearance.

12) Development in the Resource-Based Recreation FLUA **shall** not reduce public access to lakes, trails, or scenic viewsheds.

13) Development in the Rural and Resource-Based Recreation FLUAs should use neutral colors, non-reflective roofing materials, and limited exterior lighting to blend projects into the natural landscape.

14) Development in the Rural and Resource-Based Recreation FLUAs should limit clearing to the smallest feasible footprint, including parking areas and building footprints.

15) Development in the Rural and Resource-Based Recreation FLUAs should not occur on slopes exceeding 25%.

Actions

1) Identify areas for new development or redevelopment in Growth FLUAs, by municipality, by 2034. In doing so, identify prospective land use types, intensities, densities, and on-site development constraints, and utilize public input throughout the process.

2) Assist with municipal planning and bylaw updates, and advancing "Steps" for state designations that result in increasing both residential and commercial development in Growth FLUAs, while also encouraging municipalities to apply for municipal planning grants for these efforts.

Actions continued

3) Assist with municipal planning and bylaw updates that result in maintaining the Region's rural character and protecting locally and regionally significant natural resources, while also encouraging municipalities to apply for municipal planning grants for these efforts.
4) Prepare a Fiscal Smart Growth Land Use Planning Guide by 2030, outlining land use planning strategies to increase municipal revenues and reduce property owner tax burden.
5) Assist three municipalities of varying population sizes to implement the Fiscal Smart Growth Land Use Planning Guide by 2034.
6) Update the RRPC's Town Plan Toolkit annually to ensure it is current with changing state law.
7) Host a land use planning public forum annually, where the RRPC identifies a land use planning issue, and gathers public input on realistic actions that the RRPC and municipalities can take to address the issue.
8) Hold a feedback session annually, where the RRPC proposes a solution to a land use planning challenge faced by the Region, and gathers public input on whether this solution is appropriate in their municipality.
9) Assist with municipal planning and bylaw updates that help meet the Region's Housing and Natural Resource Conservation Targets, while also encouraging municipalities to apply for municipal planning grants for these efforts.
10) Develop three village or downtown master plans by 2032 in municipalities that express interest.
11) Offer two trainings annually for municipal officials on integrating smart growth strategies into land use regulations.
12) Update the Act 250 and Section 248 Review Criteria for the RRPC Board of Commissioners to include more public engagement and municipal coordination.

Indicators of Progress

1) Land Cover Change from 2022 to 2030 based on UVM's Aerial LiDAR Data
2) Building Permits Issued in Growth FLUAs from 2026 to 2034
3) Town Plan Updates Informed by Meaningful Participation, as Defined in 3 V.S.A. § 6002

Photo: Mike DiMeola

ECONOMIC DEVELOPMENT

INTRODUCTION

LAND USE

ECONOMIC DEVELOPMENT

CULTURAL RESOURCES

TRANSPORTATION

HOUSING

COMMUNITY FACILITIES AND PUBLIC UTILITIES

ENHANCED ENERGY

WORKING LANDSCAPE

NATURAL RESOURCES

CLIMATE RESILIENCE

NEIGHBORING PLANS

PLAN IMPLEMENTATION

INTRODUCTION

The Rutland Region (the Region) seeks to create a strong and diverse economy that provides satisfying and rewarding jobs while maintaining high environmental standards and expanding economic opportunities in areas with high unemployment or low per capita incomes. The Economic Development Chapter describes the current conditions, informed by research and public engagement (see Engagement Report, Appendix A1.2, page 417), as well as trends shaping the future of economic development in the Region. The chapter concludes by presenting regional policies and RRPC-specific actions designed to achieve the economic development goals.

HEALTHY, EQUITABLE, RESILIENT COMMUNITIES

Healthy communities provide everyone with access to the goods and services necessary for a safe, active, and nourished life. Healthy economic development focuses on expanding sectors that provide family-sustaining wages, comprehensive benefits, safe working conditions, and supportive workplace cultures. According to a report by the Robert Wood Johnson Foundation, factors such as good wages and income are directly linked to healthier outcomes due to access to better living conditions, healthcare, and protection from chronic stress. This economic development strategy prioritizes growth in industries that best support the health and overall well-being of local workers and their families.

Equitable communities allow everyone to succeed, regardless of their background and abilities. Equitable economic development encourages employers that recruit employees from underserved populations, minimize barriers to employment, and provide opportunities for skills and career advancement. In the Region, poverty rates exceed the state average, highlighting notable socioeconomic disparities. Pay and income inequities still exist between genders. As of 2023, 12.8% of women in the Region live below the poverty line, exceeding both the state average of 10.2% and the overall national average of 11.5%[1]. These statistics underscore the need to prioritize interventions to address the economic challenges faced by residents throughout the Region. This economic development strategy prioritizes a workforce system that provides pathways out of poverty accessible to all individuals.

Resilient communities can adapt to changing conditions and quickly bounce back from disasters and shocks. Historically marginalized communities, especially those at poverty levels, can be even more vulnerable to disasters due to a lack of resources and/or access to information. Resilient economic development invests in sectors that continue to provide good jobs even during economic downturns or unexpected events. This economic development strategy prioritizes growth in industries that thrive regardless of the national or global economy.

The RRPC's vision for a healthy, equitable, and resilient community accounts for existing inequities. Rural communities, which make up a large portion of the Region, can experience more challenges than urban communities when it comes to economic stability, a social driver of health. According to the Center on Rural Innovation's Rural Aperture Project, rural communities have experienced slower employment growth since 1970. Primary industries such as agriculture, manufacturing, and mining, which are most often associated with rural economies, decreased in their share of the total employment in rural counties. These national trends mirror those observed for the Region. Loss of industry jobs coupled with decreasing populations can exacerbate the challenge of stabilizing the economies in rural parts of the Region.

CURRENT CONDITIONS

Economic Landscape of the Region

From its mountain peaks to its downtown streets, the Region has a complex economic landscape based upon key indicators. The Region's economic landscape can be assessed through the Region's gross domestic product (GDP), number of business establishments, total employment, and average wages. GDP is the total monetary value of all final goods and services produced over a specific period, typically a year. It is a key indicator of economic health used to measure the size and performance of an economy. GDP includes output from both public and private sectors and is calculated using data on consumption, investment, government spending, and net exports. Tracking GDP over time helps planners understand growth trends, compare regional performance, and forecast future economic conditions. These foundational indicators offer a comprehensive view of the Region's economic health, employer presence, and workforce stability. These indicators also align with key goals presented as part of the West Central Vermont Comprehensive Economic Development Strategy (CEDS), which include growing a resilient economy, investing in workforce development, and increasing equitable access to opportunity.

The Region's gross domestic product (GDP) trends align with regional economic health. A stable GDP provides the basis for economic forecasting and planning, as reflected in the CEDS. In 2023, the GDP reached $3.495 billion, according to Bureau of Economic Analysis estimates. [2] This figure includes public- and private-sector output, with the most significant contributions coming from specific areas of the goods-producing and service-providing sectors. As of the fourth quarter of 2024, the Region recorded 2,756 covered business establishments employing 25,933 workers. The average weekly wage in the Region was $1,165, which is about 77% of the national average. [1] Looking at the latest data, the median household income is $64,778, well below the Vermont median of $78,024 and the national median of $78,538. [3] The gender wage gap also persists, with men earning an average of $58,328 and women earning

$49,846. The Economic Policy Institute estimates that a single adult in the Region needs to earn at least $17.88 per hour to meet basic needs in 2025, while a family with two adults and one child needs each adult to earn more than $20.12 per hour.[4] In contrast, Vermont's current minimum wage is $14.01 per hour, highlighting the continued need for workforce development programs that lead to livable wages. These figures reveal the dual reality that the Region offers employers an affordable labor force, yet workers continue to face lower-than-average earnings and rising costs of living. These patterns reinforce the CEDS priority to invest in workforce development initiatives such as equitable access to technical education and the recruitment of new workers.

Regional Employers

While GDP and other economic metrics provide a broad view of the Region's performance, the true drivers of the local economy are its employers and the workforce they sustain, whose decisions, needs, and challenges shape the Region's growth, resilience, and opportunities for residents. The service providing sector employs the highest percentage of the Region's workforce, with transportation accounting for 24% and education and health 21% of employees. With over 1,700 employees as of 2024, Rutland Regional Medical Center, established in 1896, plays a crucial role in providing essential healthcare services. [6] Retail trade is also a major industry, employing around 13% of the Region's workforce. The Vermont Country Store, which has operated since 1946, employs over 500 employees, many in Clarendon, and is a notable employer in this sector.[7] Manufacturing represents around 12% of the workforce, with GE Aerospace, established in 1951, specializing in jet engine components and serving as one of the leading employers in the industry.[8] Tourism-based commercial recreation remains a vital part of the economy, with Killington/Pico Ski Resort, the largest ski resort in the east, drawing more than a million visitors annually and supporting over 500 local employees[9]. Tourism in the Region has experienced a modest recovery between 2022 and 2023, aligning with broader statewide trends. Vermont's overall visitor spending increased from $3.9 billion in 2022 to $4.0 billion in 2023, despite a slight decrease in visitor volume from 15.9 million to 15.8million. Although the July 2023 floods caused significant damage to local infrastructure, including lodges and trails in Killington, the Region's tourism sector showed resilience overall and contributed to the Region's economic growth.

Additional long-established economic contributors include Green Mountain Power, founded in 1929, which plays a crucial role in energy production[10] and Casella Waste Systems, a key player in the waste management sector since 1975.[11] Vermont State University, residing in the former Castleton College, also contributes to the local economy through higher education services.[12]

Not to be overlooked, small businesses are integral to the economic vitality and cultural richness of the Region. They support community connection and preserve the Region's unique character while supporting multiple sectors of the Region's GDP.

Several small businesses bolster the service-providing sector of the Region's economy. In Brandon, the Neshobe River Winery and Foley Brothers Brewing enhance agritourism and local entrepreneurship. At the same time, Killington's Base Camp supplies gear for outdoor recreation while the town of Poultney features Laureate Fine Books, Stone Valley Arts, and Hermit Hill Books, attracting patrons seeking art and good reads. The City of Rutland's Speakeasy Cafe and Phoenix Books serve as familiar spots for locals and interesting stops for tourists. Producers like Stone's Throw, Boardman Hill Farm, Evening Song Farm, and Alchemy Gardens contribute to the Region's goods producing sector, while small manufacturers like Hubbardton Forge in Castleton further diversify the regional economy through locally owned and operated business models.[14] Additionally, several non-profit businesses such as The Carving Studio & Sculpture Center in West Rutland, the Brandon Artists Guild, and Stone Valley Arts in Poultney, attract locals and tourists, contributing to the uniqueness and diversity of the Region's economy.

Figure 3.1

The Town of Poultney has many well established retail storefronts.

Regional Income

Wages and income are critical indicators of the Region's economic vitality because they reflect both the quality of local employment and residents' ability to meet basic needs. Higher wages generally indicate a stronger labor market, greater economic productivity, and increased consumer spending, which support regional growth. Conversely, stagnated wages and income disparities can signal structural challenges, such as underemployment, limited upward mobility, or inequitable access to opportunity.

As of 2023, the median household income in the Region was $64,778, which is lower than the Vermont state median of $78,024 and the national median of $78,538.[19] The mean household income for the Region was $87,595, indicating a relatively wide income distribution.,[20] Gender-based disparities are also evident, with males in the Region earning a median income of $58,328 compared to $49,846 for females as of 2023.

As of 2025, the living wage in the Region varies by household composition. A single adult working full-time (40 hours per week,52 weeks per year) needs to earn approximately $17.88 per hour to meet basic needs without relying on public assistance[1]. For a household with two working adults and one child, each adult would need to earn about $20.12 per hour[1]. Considering the state minimum wage is $14.01 in 2025, individuals and families earning at this rate are unlikely to meet basic needs without additional support.

The Region had a poverty rate of 11.8%, which is slightly higher than Vermont's state

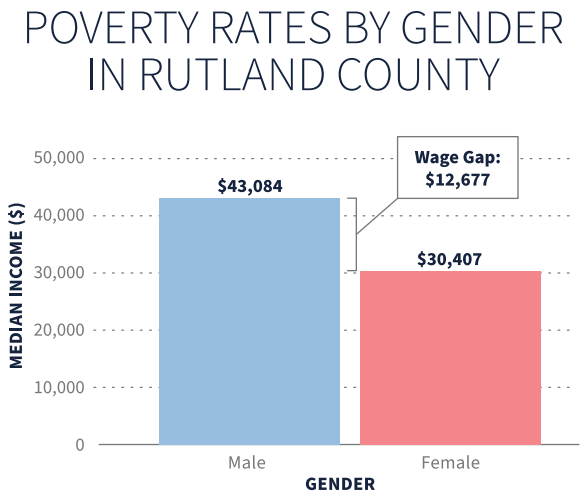


Figure 3.2

Comparison of poverty rates among men and women in the Region, highlights gender disparities in economic well-being.

average of 10.3% in 2023, but below the national average of 12.4%.[36] This translates to approximately 7,068 residents living below the federal poverty line. Women between the ages of 25–34 and 45–54 experience the highest poverty levels, followed by men aged 35–44.[37] Additionally, children are significantly affected by poverty, with an estimated 1,248 individuals under age 18 living in poverty in 2023.[38]

While the majority of individuals in poverty in the Region are White, racial disparities remain evident. Individuals identifying as Two or More Races and Asian also experience high poverty rates relative to their population size.[37] These patterns reveal the complex nature of poverty in the Region and point to the need for comprehensive, equity-focused interventions that address income, opportunity, and access to basic services.

Regional Workforce

Employment remains one of the most direct pathways out of poverty, and a critical part of this solution is rooted in the strength of the Region's workforce. The Region holds the third-largest labor force in Vermont, with approximately 25,300 workers as of 2024. The unemployment rate sits at 3.8%, aligning closely with the statewide average.[23] Despite what appear to be strong numbers, the Region faces workforce challenges due to population loss, retirements, housing shortages, and business relocations.[3],[19]

Last year, the Region saw job losses of 19,330 compared to job gains of 17,149, for a net decrease of 2,181 jobs.[5] Meanwhile, the regional GDP has increased steadily from $2.69 billion in 2020 to $3.495 billion in 2023.[4] However, demographics indicate challenges: 22% of the population is over age 65, with projections showing that figure rising to 31% by 2030.[19] The Vermont Department of Labor projects 171,500 retirements statewide between 2022 and 2032, or roughly 17,150 annually, which will exacerbate labor shortages in key sectors such as healthcare, manufacturing, construction, education, and skilled trades.[3] Additionally, with the average age of construction workers in the state being 47, there is a need for training and skilled younger workers in this field to meet regional needs.

The Region's housing crisis, as discussed in the Housing Chapter (Chapter 6, page 179), exacerbates existing workforce gaps. A shortage of available, affordable housing—driven by aging stock and a lack of construction labor—is making it difficult to attract and retain employees.[20] Employers like Casella Waste have reported candidates declining job offers due to housing constraints. Some, like Killington/Pico Ski Resorts and Naylor &

Breen, have resorted to providing employee housing to meet workforce needs.[32] [33]

Despite these hurdles, opportunities for workforce revitalization are emerging across the Region. Refugee resettlement and immigration offer promising solutions. Many New Americans arrive with relevant trade skills but may require English instruction, licensing support, and cultural orientation.[34] Vermont Adult Learning and the US Committee for Refugees and Immigrants are among organizations that help newcomers integrate into the local workforce and fill gaps in critical sectors like clean energy.[35]

Additionally, regional economic development strategies are prioritizing workforce retention, infrastructure upgrades, and climate-resilient industries to attract new residents and remote workers.[21] [22]

Educational attainment in the Region reveals both strengths and challenges. As of 2023,93.7% of residents aged 25 and older had earned at least a high school diploma, close to Vermont's statewide average of 94.5%[19]. However, only 34% of the Region's residents had obtained a bachelor's degree or higher, compared to 42.6% statewide and 35% nationally. This educational gap has significant economic implications: in Vermont, individuals with only a high school diploma earn a median annual income of approximately $36,000, while those with a bachelor's degree earn closer to $59,000—a difference of over 60% in earning potential.

Evolving educational approaches in the Region's K-12 system have failed to adequately prepare students for local job opportunities. A shift away from liberal arts-focused models toward employer-educator partnerships is needed to develop in-demand, career-ready skills. Expanding access to higher education could play a critical role in improving long-term economic outcomes for the Region's residents.[19]Recent data from the Vermont Student Assistance Corporation (VSAC) shows that 66.0% of high school seniors in the Class of 2024 planned to enroll in postsecondary education immediately after graduation, lower than the statewide rate of 72.2%.[22] Additionally,52.8% of these students are first-generation college students, compared to 39.7% across Vermont.[22] These figures highlight the need for continued investment in educational access and support programs, especially for first-generation students.

Institutions like Vermont State University (formerly Castleton College) play a critical role in supporting the Region's educational advancement and workforce development.[12] Its presence contributes to the training and retention of skilled workers. Programs

EDUCATIONAL ATTAINMENT IN THE RUTLAND REGION

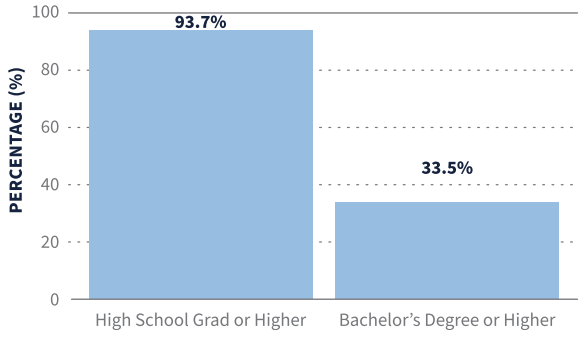
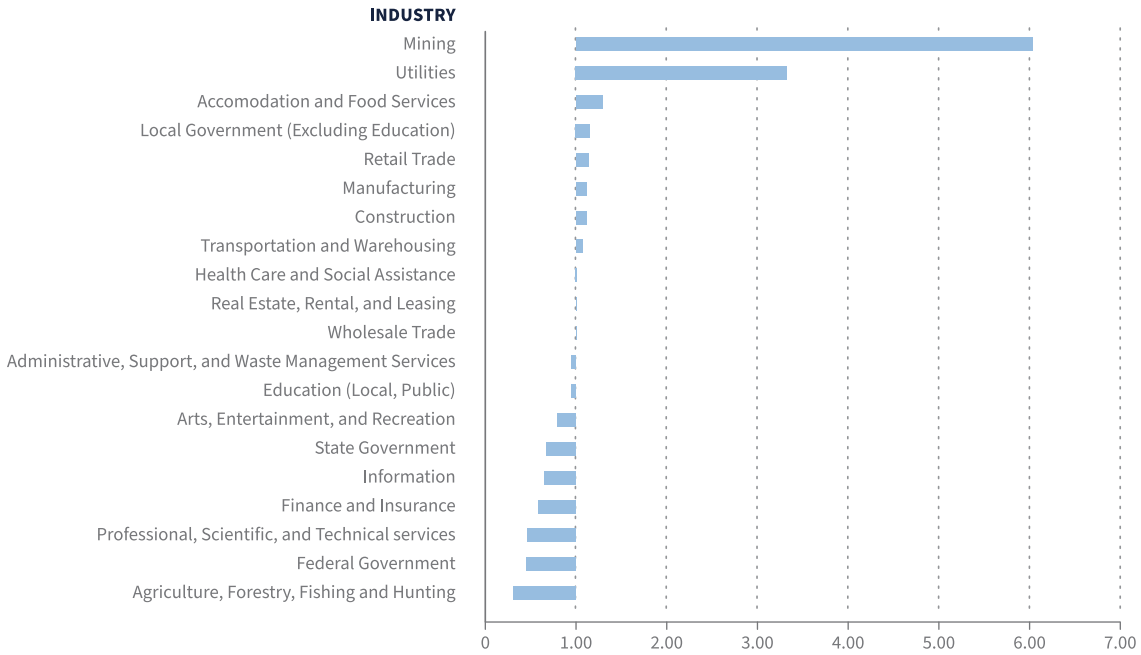


Figure 3.3

Bar chart showing the percentage of residents by highest level of education attainment, from less than high school to graduate school degrees.

CONCENTRATIONS OF EMPLOYMENT IN THE RUTLAND REGION COMPARED TO VERMONT AS A WHOLE, 2023



EMPLOYMENT BY INDUSTRY IN THE RUTLAND REGION, 2023

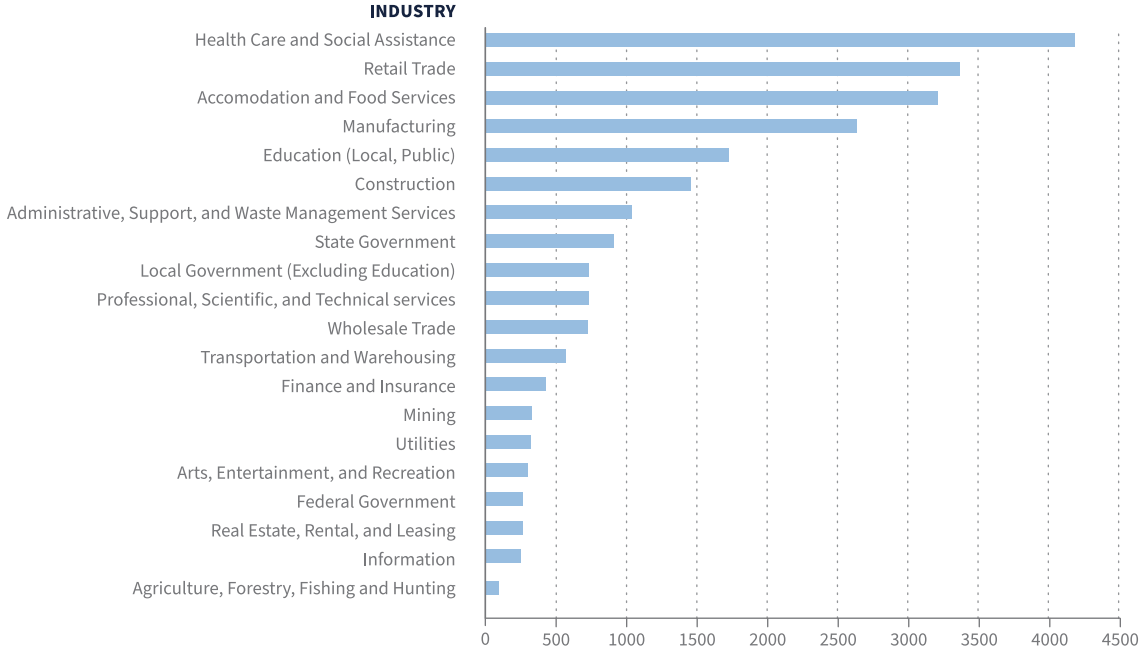
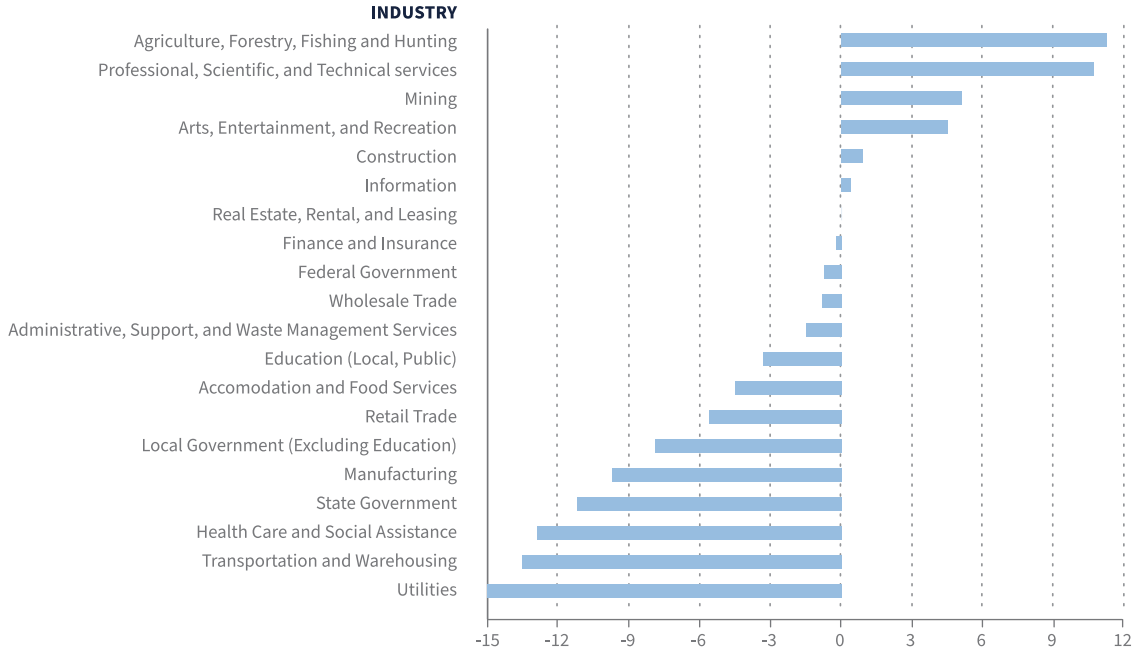


Figure 3.4 (1 of 2)

A breakdown of the Region's economic base and workforce distribution; employment by each industry sector.

REGIONAL EMPLOYMENT GROWTH RATE, 2018-2023



AVERAGE WAGE BY INDUSTRY IN THE RUTLAND REGION, 2023

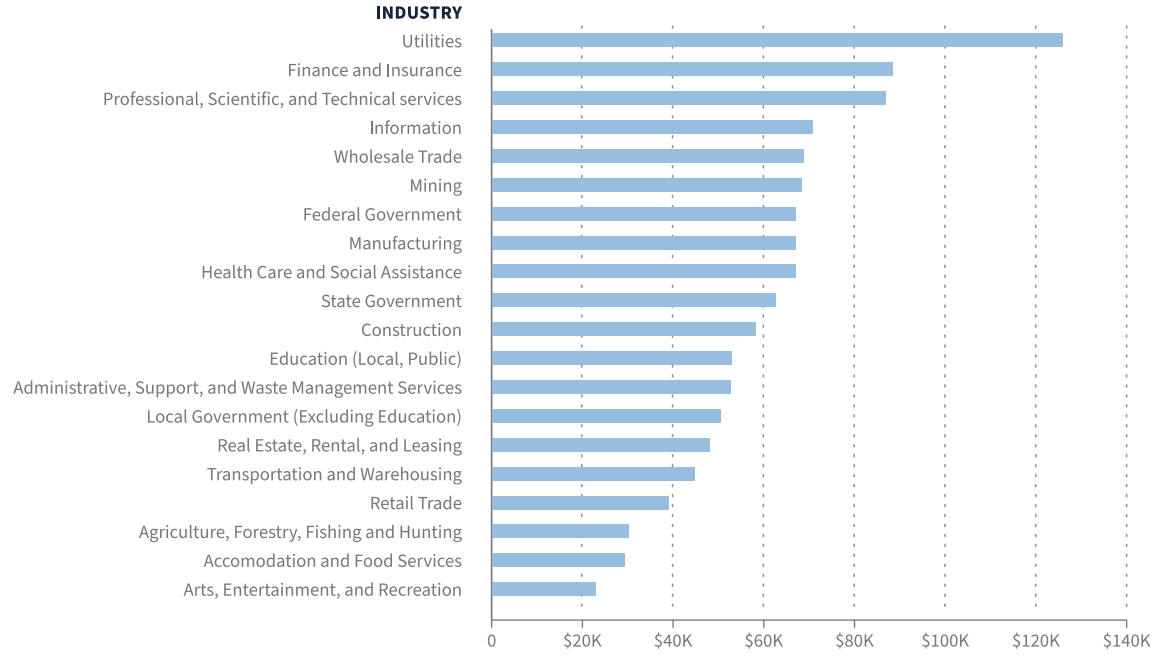


Figure 3.4 (2 of 2)

A breakdown of the Region's economic base and workforce distribution; employment by each industry sector.

offered at Vermont State and partnerships with small businesses help cultivate a new generation of professionals ready to adapt to shifting industry needs. Stafford Technical Center (STC) is a valuable educational resource for high school students within the Region. With fourteen programs across multiple career sectors, STC provides an opportunity for students to get the training and certifications needed to obtain gainful employment immediately following high school. For students interested in higher education, STC provides robust college preparation. Considering current employment, income, and education conditions when planning for the sustainability of local jobs and businesses ensures that the Region continues to be a vibrant place to live, work, and learn in both urban and rural communities.

The Downtown and Village Economy

As a mostly rural area, the economy of the Region is highly concentrated within a few commercial and industrial districts, mainly found in the Region's villages, as seen in the Land Use Chapter (Chapter 2, page 37). Jobs and businesses fall along major transport routes, and cluster most densely at the Region's center in Rutland City. In 2020, 52% of jobs in the Region were in Rutland City, despite only 26% of the Region's population living there.[1,2,3] Once Killington, Rutland Town, Castleton, and Clarendon are added, over 75% of the Region's jobs are accounted for.[1] These downtowns and village centers are invaluable to the Region.

The success of these village centers comes from their careful development. Each is supported by robust public utilities and multimodal transportation options, enabling commerce and production as well as denser and more affordable housing. Each has a commercial district at its center, with larger economic drivers placed just outside the center of town. Industrial districts, healthcare facilities, and downtown mixed-use space are convenient to access, but they are not so centralized that they overwhelm the community's character. In addition to providing most of the Region's goods and services, these commercial centers also function as artistic and cultural gathering spaces. Each has a unique character, and each contributes to creating a sense of regional identity.

Figure 3.5, Centers of Commerce and Production in the Region, illustrates the concentrations of jobs and businesses along the intersecting corridors of US Route 7 and US Route 4, downtown centers, in the Region. The greater Rutland City area – at the center of this intersection – is the economic heart of the Region. The challenges of the Region are the challenges of Rutland City – creating sustainable future development depends on the growth of this key part of the Region.

The City of Rutland is well supported by its geography and development patterns to be a rising star in the 21st century. Unlike most parts of Vermont, Rutland is connected to the north, south, east, and west by both rail lines and roadways. This transportation network is a legacy of the marble boom, which enabled the manufacturing industry to take hold in the Region and has supported the growth of a robust freight industry.[4] These roads and

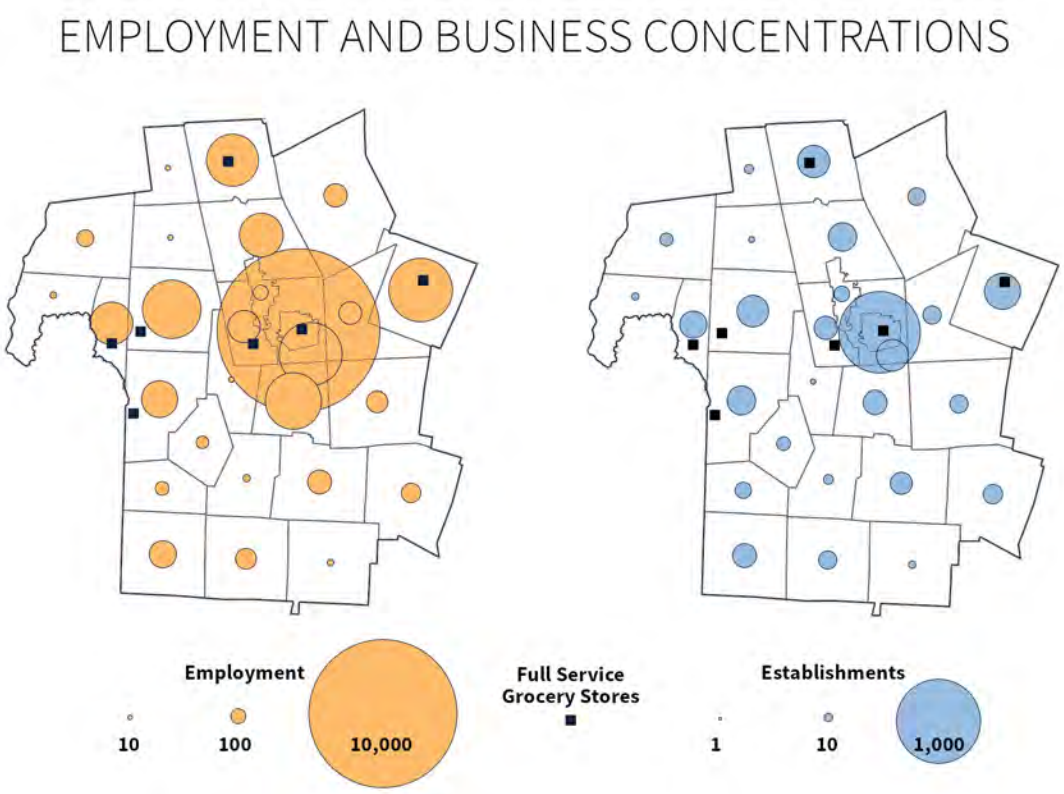


Figure 3.5

Map showing key commercial districts and areas of high employment and business density across the Region.

railroads are also backed up by the presence of Rutland-Southern Vermont Regional Airport nearby in Clarendon, the largest airport in Southern Vermont, which provides essential commercial air service to Boston, supports general aviation and cargo operations, and serves as a key transportation hub for regional tourism and local residents.[1]

Dense development accessible via multimodal transportation systems has made the greater Rutland area a natural fit for GE Aerospace, Rutland Regional Medical Center, Casella Waste Systems, and Green Mountain Power. These organizations are some of the Region's largest employers, and their contribution to the local economy is essential, as all of them provide goods and services to people outside of the Region, bringing wealth into the local economy. The same is true for other large businesses located along US Route 7 and US Route 4 corridors in surrounding towns. Killington/Pico Ski Resorts, Carris Reels, OMYA, and Naylor & Breen are all located on major roadways within developed centers in Killington, Pittsford, and Brandon.

The Rural Economy

Tucked away beyond the highways and village centers are some of the Region's most significant economic assets. Small to mid-sized businesses, country stores, and long-standing farms are examples of businesses that have played an essential role in supporting the regional economy. The Region's rural areas have historically provided and continue

to provide economic stability to the entire community. Rural production has driven the Region since its settlement in the late 18th century. [5]A desire to work with the land first brought people into the area, and the twin industries of agriculture and stone quarrying quickly became the core of the regional economy. While both peaked in the mid-19th century, they remain important components of the local economy today.[6,7]

Agriculture, which includes farming and forestry, is essential to life and culture in the Region, but the ability to provide large numbers of high-paying jobs is often overstated. From the wool and dairy booms of the 18th century, conditions for farmers have grown increasingly difficult, leading to a decline in production and a need for adaptation to meet the demands of the current market. Numbers for agriculture, forestry, fishing, and hunting were even lower, accounting for a mere .4% of the Region's economy in 2023.[1]

The continued success of agriculture in the Region is also supported by the growth of food hubs such as the Vermont Farmers Food Center (VFFC). [8]Although located within Rutland City, VFFC has created a centralized distribution system for local food, while also providing shared-use facilities for food processing. The integration of resource-sharing mechanisms such as these will be key for supporting local farming in the future. More information about the agricultural and forestry industries is provided in the Working Landscape Chapter (Chapter 9, page 271).

The Western New England Marble Valley runs between the Taconic and Green Mountains, creating a valuable supply of marble along the US Route 7 corridor from Brandon to Bennington.[9]At one time, the Vermont Marble Company was considered the largest US corporation in the world.[6]The market for large, quarried marble declined in the 20thcentury, but the local marble industry did not. Adapting to changing demands, operations shifted to focus on crushed marble, and the Region remains the center of marble production in Vermont today. While part of the Region's identity, mining's contribution to the regional economy remains modest, accounting for only 2% of both the Region's employees and employers. See Working Landscape Chapter (Chapter 9, page 271) for more information on this sector of the regional economy.

The rural economy of the Region defines the landscape and provides vital resources for the people who live here. Largely, however, it is not a source of job growth. To build the future economy of the Region, business and workforce development must focus on new industries within our urban centers.

Comprehensive Economic Development Strategy (CEDS)

Looking ahead, the West Central Vermont Comprehensive Economic Development Strategy (CEDS) provides a strategy-driven framework for the Region's economic future. The Region is part of the West Central Vermont Economic Development District (the District), which is an area in the middle of the state composed of 91 municipalities located in Addison, Chittenden, Rutland, Orange, and Washington counties. The four largest municipalities in the State (Burlington, South

Burlington, Colchester, and Rutland City) and the state's capital (Montpelier) are located within the District.

Developed through a collaborative process involving municipalities, businesses, and community organizations, the CEDS outlines a vision for achieving six overarching goals focused on attracting and expanding the workforce, equity, business development and job creation, workforce development and employee retention, infrastructure and resilience, and quality of life. Formally adopted by the RRPC and submitted to the Economic Development Agency in 2023, the CEDS serves as a critical guidepost for future development by identifying specific challenges such as an aging workforce, limited housing, and infrastructure vulnerabilities, while promoting targeted investments in clean energy, broadband, education, and inclusive economic opportunity. By aligning local priorities with state and federal funding opportunities, the CEDS strengthens the Region's capacity to foster sustainable, equitable growth and adapt to future challenges in a dynamic economic landscape.[6] These goals support a strong and diverse regional economy and will help establish the first of its kind economic development district in the Region. This marks a critical step towards unlocking federal economic development funding and benefits, which will be essential to creating a healthy, equitable, and resilient future for the Region.

FUTURE TRENDS

While current economic conditions in the Region reflect both opportunities and challenges, there is a clear need to look ahead. The CEDS can guide future trends for economic growth. This CEDS framework offers a roadmap to attract new workers, support business development and job creation, build a workforce pipeline that fosters employee retention, and bolster the infrastructure needed for a resilient economy. While the CEDS identifies both equity and quality of life as individual goals, a different approach is necessary. By considering each goal through an equity lens and promoting quality of life for all residents, the Region can ensure future development aligns with evolving community needs.

Figure 3.6 [Location, Type, and Scale of Desired Economic Development] shows the most promising areas of business and job growth in the Region, and where future expansion should be prioritized. The locations on this matrix correspond to the locations on Figure 2.14 [Future Land Use Map].

Attract New Workers and Expand the Workforce

For the Region, future workforce trends illuminate the critical need to attract working-age residents and engage socially marginalized communities to maintain economic productivity.

Regional workforce shortages are particularly acute in healthcare, education, and the skilled trades.[6] The report emphasizes equitable recruitment strategies and inclusive onboarding practices to expand the workforce and support population growth.[6] Looking ahead, CEDS forecasts

DESIRED ECONOMIC DEVELOPMENT BY LAND USE AREA

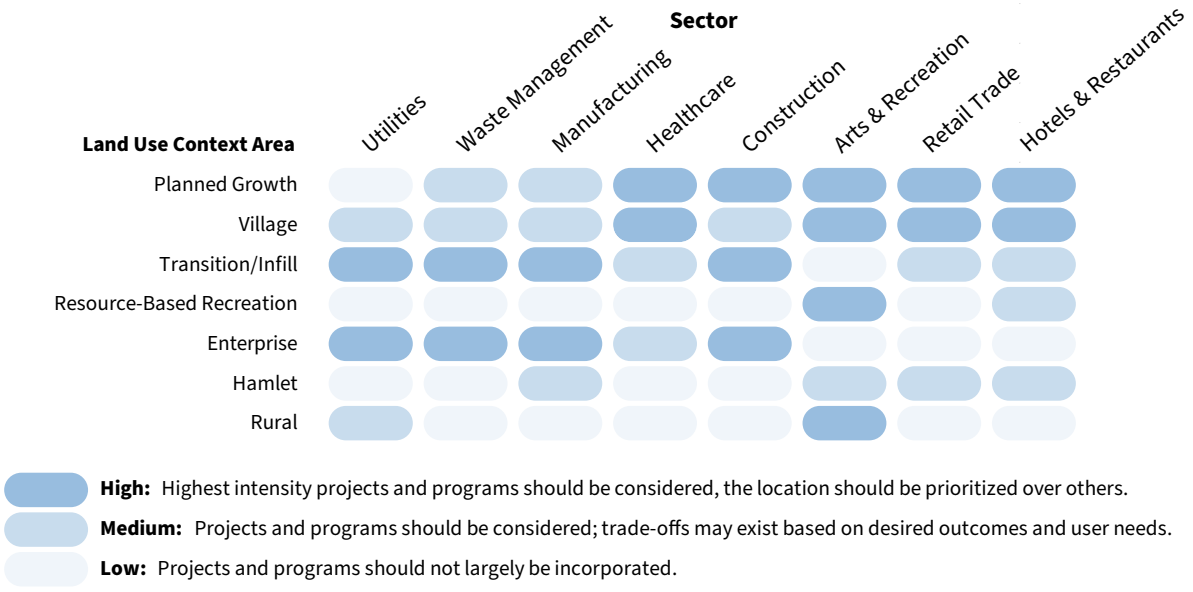


Figure 3.6

Land use contexts reflect categories in 2.14 [Future Land Use Map].

that the combination of declining birth rates and increased retirements could shrink the regional labor force by over 10% by 2040 without new in-migration.[6]

With a vision for collaboration and innovation, the Chamber & Economic Development of the Rutland Region (CEDRR) works to build a strong regional economy by connecting people and resources that support economic growth. Initiatives such as the Real Rutland campaign promote the Region as a desirable place to live, work, and raise a family. By continuing to market the Region's appeal to potential newcomers, CEDRR can replenish the population and workforce needed to support a thriving economy. In the years to come, Real Rutland will continue to grow its relocation network, marketing campaigns, and concierge services for prospective residents, especially remote workers and returning Vermonters. By amplifying the area's affordability, natural beauty, and community spirit, CEDRR will play a pivotal role in reversing outmigration trends and driving population growth necessary to sustain future labor demands.

New Americans will play a vital role in strengthening Vermont's workforce, especially in the Region, as their share of the labor force, currently 5.8%, is expected to grow in the coming years due to resettlement and immigration rates.[1] With many in the core working-age range and holding advanced degrees[23], they will help offset an aging population and fill critical skill gaps across sectors like healthcare, manufacturing, and education. In addition to contributing as employees, many will become entrepreneurs, boosting economic diversity.[4] Continued support from the State Refugee

Office and partners like the US Committee for Refugees and Immigrants (USCRI) will be essential to ensure their successful integration and long-term regional resilience.[5]

Retaining high school graduates as skilled workers will be essential to strengthening the Region's workforce and ensuring they have access to training that leads to livable wages. Equitable access to education that connects students directly to quality employment opportunities will play a key role in this effort. Stafford Technical Center (STC) will remain a vital hub for career and technical education, particularly through the continued expansion of initiatives like the federally funded Education to Employment Bridge program, which provides historically marginalized students with pathways to in-demand careers and local employers. To support this pipeline, schools across the Region must develop inclusive, career-aligned learning pathways. For example, Otter Valley Union Middle and High School will continue to scale its comprehensive technical training program across all grade levels through a mix of public and private investment.[24] Additionally, schools will increasingly depend on Work-Based Learning Coordinators to link students with internships and apprenticeships that match regional workforce demands.[25] [26] [27] [28]

According to the Vermont Department of Disabilities, Aging, and Independent Living (DAIL), the population of residents aged 65 and older in the Region is expected to increase from 8,279 in 2020 to 11,295 by 2030, reflecting a growth of about 3,016 individuals.[1] Given that this age group is the fastest-growing demographic statewide, returnships and similar workforce programs that support community members with decades of transferable experience are needed to provide structured pathways for adults re-entering the workforce. Implementing creative solutions like these will enhance quality of life while also recognizing the value and experience of the aging population and addressing ongoing workforce shortages.[5]

The CEDS identifies systemic barriers in access to quality education, employment, and transportation among historically underrepresented groups.[6] It recommends equity-centered planning and inclusive policy design as foundational to long-term economic resilience.[6] For the Region, future equity planning must account for increasing disparities in internet access, transportation access for rural residents, and English language support for New American populations.

Business Development and Job Creation

A business development strategy that will support regional growth emphasizes support for entrepreneurship and small businesses, particularly through expanded access to capital, technical assistance, and streamlined regulatory processes.[6] In the coming years, in response to community feedback (see Engagement Report, Appendix A1.2, page 417), there will be a need for more small businesses and local manufacturing jobs that align with the Region's values and contribute to regional resilience. To meet this demand, targeted investments will need to focus on sectors such as advanced manufacturing, health sciences, and renewable energy.[6]

Economic growth in the Region will likely hinge on the expansion of distributed manufacturing systems and clean technologies. By 2035, the Region is expected to experience a sharp increase in demand for clean-tech products and services, fueled by ongoing federal investments in climate adaptation and infrastructure modernization.

Future development strategies will prioritize fostering a thriving small-scale manufacturing ecosystem. Through support from Rutland's own MINT, companies like HD Medical, which produces high-quality medical products in the Region, will serve as models for sustainable manufacturing and job creation.[1] Another example, New England Woodcraft—a Brandon-based company specializing in handcrafted furniture—will help anchor the advanced manufacturing sector.[2] These businesses demonstrate how small manufacturers can contribute to a diversified, innovation-focused economy while providing high-quality jobs.

To support these trends, programs such as StartUpRutland and community workspaces like The HUB and The MINT will continue to expand their role in fostering early-stage businesses, tech start-ups, creatives, and makers through an equitable and inclusive approach. StartUp Rutland provides mentorship, strategic guidance, and connections to capital for local entrepreneurs. The HUB functions as a dynamic coworking and innovation space that hosts workshops, business development programs, and networking events tailored to both new and established entrepreneurs, including a growing number of women-led initiatives. The MINT, Rutland's makerspace, offers access to equipment, training, and collaborative opportunities for artists, inventors, and small-scale manufacturers. Together, these hubs serve as vital platforms for professional development, mentorship, and resource sharing, helping to ensure that the Region's entrepreneurial ecosystem remains vibrant, inclusive, and sustainable.

Workforce Development and Employee Retention

Planning for a strong workforce calls for alignment of education and training systems with employer needs and growing sectors.[6] Retaining skilled workers is dependent on factors such as offering opportunities for professional development, competitive wages, and advancement pathways to reduce attrition and retain local talent.[6] Future trends for the Region suggest that careers in healthcare,

Figure 3.7

The MINT Makerspace provides critical resources to support local makers and start-ups.

construction, and digital infrastructure will experience the highest growth, requiring the rapid scaling of apprenticeship, re-skilling, and credentialing programs to meet demand.

In upcoming years, the Region's Workforce Investment Board (RRWIB) will play a central role in advancing workforce development by aligning education, training, and employment services with the needs of local industries. Through the federally funded Workforce Opportunity for Rural Communities (WORC) Initiative grant's Education to Employment Bridge (Bridge) program, the board will support expanding partnerships with schools, employers, and training centers such as Stafford Technical Center and Vermont Adult Learning to ensure that career pathways are inclusive, responsive, and aligned with regional economic goals. Organizations such as VermontReSource, MINT, and Vermont Works for Women will also partner with the Bridge program to provide critical resources to support equitable training opportunities and pathways to jobs with livable wages.

The Vermont Department of Labor (VDOL) will also strengthen its support of the Region's workforce ecosystem by enhancing its Job Centers and expanding access to up-skilling and re-skilling opportunities. Through initiatives such as Vermont Career Advancement and the Workforce Innovation and Opportunity Act (WIOA) programs, VDOL will help individuals access customized training that leads to employment in high-demand fields.[3] Future strategies will also emphasize employee retention through employer engagement, wage incentives, and wraparound services such as childcare assistance and transportation support. VDOL will work closely with RRWIB and local employers to track workforce trends and ensure that programming remains relevant and future-focused.[4] These collaborative efforts will be essential to retaining talent and ensuring the long-term competitiveness of the Region's workforce.

Infrastructure and Resilience

In the coming years, the Region will prioritize equitable infrastructure development to ensure long-term economic resilience and growth. Future investments will focus on expanding access to essential utilities, especially water and sewer systems, to support sustainable land use and community well-being. As development pressure increases across rural and village centers, equitable land use planning will be critical to balancing growth with environmental preservation and public service capacity. Local and regional planners should work collaboratively to ensure that infrastructure improvements are aligned with housing, transportation, and economic needs across all towns.

The Region will also recognize the urgent need to bolster industrial infrastructure, such as sewer, water, and industrial park space, in its Enterprise Areas, including around the Rutland Southern Vermont Regional Airport. The airport's surrounding industrial park will require significant upgrades, including access to municipal water, to attract and retain businesses. Past business losses, such as the relocation of Sugar Bob's Finest Kind to another region due to inadequate

commercial space, underscore the need for immediate action as described in greater detail in the Community Facilities and Public Utilities Chapter (Chapter 7, page 199).[1] In the years ahead, local and regional stakeholders will expand designated enterprise areas and invest in developing new hangar space to accommodate aviation-related and light industrial businesses. These investments will position the Region to better leverage one of its most underutilized assets—the airport—into a hub for freight movement, aerospace, and business innovation.

The Brownfields Reuse Program, administered by the RRPC, will play a key role in supporting future economic development across the Region by transforming underutilized and potentially contaminated properties into productive assets. By funding environmental site assessments and guiding property owners through remediation planning, the program removes major barriers to redevelopment. Revitalized brownfield sites—such as the former Berwick Hotel—will attract private investment, stimulate job creation, and increase the local tax base, all while improving environmental and public health outcomes.

Additionally, the Region will capitalize on its geographic and logistical advantages by enhancing access to freight rail infrastructure. The OMYA rail line from Pittsford to New York will become a cornerstone of future freight and industrial strategy, particularly as the Region emerges as a prime candidate for a new transload facility.[2] By establishing a transload hub, the Region will be able to shift freight more efficiently between truck and rail, reducing costs and emissions while supporting regional manufacturers, distributors, and workforce. These infrastructure enhancements will not only prevent future business loss but also drive forward-thinking development that is inclusive, sustainable, and resilient.

Economic development is a team sport, and each of us has a role to play in creating the future we want. While businesses will implement some of the strategies in this chapter, many parts of this Plan will be implemented by the public sector and supported by the goals, policies, and indicators outlined in the Plan Implementation Chapter (Chapter 13, page 373).

Conclusion

The Region's economic future depends on its ability to retain local talent, attract new residents, and support a diverse and resilient business ecosystem. As this chapter illustrates, the Region's economy is shaped by a mix of small businesses, essential industries, and educational institutions that together form the backbone for local opportunity. Yet, persistent challenges remain, including workforce shortages, income disparities, and aging infrastructure that will require coordinated, forward-looking strategies. By investing in workforce development, modern infrastructure, and entrepreneurial systems, the Region can build a more sustainable and opportunity-rich economy. The following actions, indicators, and policies provide a roadmap for achieving this vision.

Killington
46
Killington
20
DANGER

What's Next? // ECONOMIC DEVELOPMENT

Goals

1. Create a strong and diverse economy that provides satisfying and rewarding jobs while maintaining high environmental standards and expanding economic opportunities in areas with high unemployment or low per capita incomes.

Policies

1) Regional Workforce Development Initiatives should prioritize the creation of training pathways for high-demand jobs in collaboration with regional employers, focusing on sectors like trades and healthcare.
2) Workforce strategies should prioritize retaining local youth by aligning training, education, and career pathways with regional economic needs.
3) Regional industrial infrastructure—including water, wastewater, broadband, and commercial space—is encouraged in Growth FLUAs, particularly in business parks within the Enterprise FLUA.
4) Brownfields redevelopment investments should prioritize adaptive reuse for housing, job creation, and business development within Growth FLUAs.
5) Entrepreneurship and innovation should be strengthened by investing in small business incubators, maker spaces, and co-working hubs that promote equitable access to capital, mentorship, and professional development.
6) Regional and state workforce partners should work together to attract and retain recent high school graduates and working-age residents.
7) Economic development planning and decision-making should include opportunities for meaningful participation.

Actions

1) Recruit more remote workers through the Real Rutland Program by 2034.
2) Create more inclusive recruitment strategies to provide employment opportunities for communities that have been historically marginalized.

Actions continued

3) Develop a coordinated workforce development system that connects educators, employers, and workforce developers to align training with workforce needs and accelerate its delivery by 2027.
4) Leverage the Education to Employment Bridge Program to expand the capacity of local makerspaces, such as The MINT and REclaimED, to teach technical skills and the design process by 2034.
5) Add projects to the Brownfields Reuse Program that support priority housing, workforce, and business development projects, especially in Growth FLUAs.
6) Expand the Brownfields Reuse Program by securing additional assessment as well as cleanup funding.
7) Develop a robust public engagement process for the Brownfields Reuse Program that builds on the new RRPC Brownfields Committee.
8) Implement pathways to sole proprietorship and independent contracting through the Education to Employment Bridge Program to support local business development, address workforce shortages, and bolster economic resilience by 2027.
9) Advocate for and assist with expanding public utilities and commercial space at the Rutland Regional Airport Park.
10) Conduct feasibility and scoping studies to expand commercial and industrial space in Growth and Enterprise FLUAs.
11) Assist with developing the Regional Priority Project List and advocate for projects that expand housing, workforce, and businesses.

Indicators of Progress

1) Regional GDP
2) Percent of 19-25 Year Olds Participating in the Workforce
3) Regional Median Household Income
4) Percent of Education to Employment Bridge Program Participants that Obtain Employment within Six Months of Training Completion

CULTURAL RESOURCES

INTRODUCTION

LAND USE

ECONOMIC DEVELOPMENT

CULTURAL RESOURCES

TRANSPORTATION

HOUSING

COMMUNITY FACILITIES AND PUBLIC UTILITIES

ENHANCED ENERGY

WORKING LANDSCAPE

NATURAL RESOURCES

CLIMATE RESILIENCE

NEIGHBORING PLANS

PLAN IMPLEMENTATION

INTRODUCTION

The Rutland Region (the Region) seeks to identify, protect, and preserve significant historic, archaeological, scenic, and cultural resources. The Cultural Resources Chapter describes the current conditions, informed by research and public engagement (see Engagement Report, Appendix A1.2, page 417), as well as trends shaping the future of these resources in the Region. The chapter concludes by presenting regional policies and RRPC-specific actions designed to achieve the goals of identifying, protecting, and preserving these resources.

HEALTHY, EQUITABLE, RESILIENT COMMUNITIES

A healthy, equitable, and resilient community leverages its cultural resources to connect people, foster pride, and build a strong sense of place. Residents and visitors find ample opportunities to engage with neighbors, express themselves, and participate in shared experiences. Cultural programming is varied, accessible, and affordable; diverse histories are celebrated, and cherished heritage sites are preserved for future generations. Social isolation is actively combated through vibrant public spaces and community traditions.

A healthy cultural landscape directly supports community well-being. It enhances quality of life, nurtures evolving community identities, and provides the foundation for belonging. It offers powerful tools to combat social isolation, defined by the Surgeon General as infrequent social interaction and few social ties, which plagues communities nationwide, including the Region. Investing in cultural infrastructure, such as "third places" (community hubs beyond home and work), and accessible programming, like free concerts, encourages people to connect, building stronger social bonds.

An equitable approach ensures cultural resources benefit all community members. It requires celebrating the diverse heritage of everyone who has shaped the Region, including Indigenous people, immigrant communities, and historically marginalized groups. Equity also demands addressing systemic barriers. Funding disparities often leave landmarks in lower-income areas without resources for upkeep, lacking the volunteer and fundraising capacity of wealthier towns. Physical accessibility is another barrier, especially for an aging population; investments are needed to ensure that everyone can participate. An equitable Region ensures all stories are told and all people can access their shared heritage.

A resilient cultural landscape can withstand and adapt to evolving challenges. The Region's heritage faces significant threats. Environmental changes, such as more frequent extreme weather, endanger historic structures, often built near waterways, which increase deterioration and repair costs.. Demographic shifts, including an aging population and migration, can shrink the volunteer base and workforce needed for

"It's not a hierarchy of needs; you need all of it to have towns that are thriving"

– Susan Evans McClure, Executive Director, Vermont Arts Council

preservation. Economic pressures, such as rising costs, lead to deferred maintenance, which risks the long-term viability and economic potential of cultural assets. Resilience requires adapting management strategies, incorporating sustainable practices, securing funding, and ensuring historic assets can meet changing community needs while preserving their integrity.

CURRENT CONDITIONS

Understanding where the Region stands today is essential to charting an effective course for preserving and enhancing its cultural resources. This section offers a snapshot of the Region's historic, archaeological, scenic, and cultural assets. It examines their role in defining identity, shaping local economies, and supporting communities. It also outlines persistent challenges, including underinvestment, lack of capacity, and barriers to equitable access.

Historic structures are testaments to the challenges and triumphs of individuals, groups, and industries from past eras. Artifacts

Social Isolation and Third Places

The Surgeon General defines social isolation as "having few social relationships, social roles, group memberships, and infrequent social interaction." Its impact on health is profound, increasing the risk of early death to levels comparable to well-known physical health risks.

Social isolation has the same impact on mortality as smoking 15 cigarettes a day.

One effective way to combat social isolation is the creation of third places.[14] These spaces, including cafes, bars, libraries, community centers, and parks, encourage connection and social interaction at little or no cost to users. Acting as hubs for interaction, they foster a sense of belonging, strengthen social bonds, and reduce feelings of loneliness. But not all towns have third places. Efforts to create them are growing. For example, in Sudbury, events held by the community organization Sud Hub drew attendees with mock-ups of new uses for the town-owned buildings, including a pop-up café, pumpkin bowling, and a chili cook-off. Locals shared ideas on reviving the town's historic social center, focusing on creating third places.

left by the Indigenous Abenaki and Mohican who first thrived here form the foundation of the Region's heritage, further built upon by generations of immigrants and locals alike. Its scenery, from craggy mountains to lush valleys and serene lakes, is integral to its sense of place. From deep in the hills and hollows to Main Streets, vibrant arts and culture reflect the spirit of the Region's residents and communities. Although these assets are often uncatalogued and scattered, they collectively represent the Region's culture and identity. These resources drive both economic and community development. They compel visitors to explore and engage, attract newcomers who will help shape its future, and offer residents meaningful reasons to stay rooted in the Region.

Historical

The historical resources of the Region encompass not only the hard infrastructure of physical buildings and sites but also the soft infrastructure, including events, stories, and texts that define its identity. This section outlines the current state of these resources, identifies who is stewarding them, and highlights where efforts are succeeding or falling short. A prime example is the Hubbardton Battlefield State Historic Site, a storied Revolutionary War site that hosts annual reenactments, illustrating how these assets can intertwine to create a powerful and enduring link to the collective history. Recognizing the significance of historic preservation has become a fundamental aspect of contemporary life in Vermont. However, despite this recognition, the broad scale and limited capacity for preservation initiatives, paired with a lack of funding, have led to a persistent trend of deferred maintenance across many historic structures.

A lack of development and significant statewide preservation legislation, Act 250, has largely maintained the historic settlement patterns in the Region over the last fifty years. This has created an imperfect substitute for comprehensive preservation efforts across the Region. Much of the area has successfully retained its historic character, including its

IN THE RUTLAND REGION

ROADSIDE HISTORICAL MARKERS

48
National Register of Historic Places

40
Buildings

21
Districts

13
Structures

4
Sites

STATE REGISTER OF HISTORIC PLACES

48
Districts

These designations offer no protections. Still, they are a factor for development review board considerations.

architecture, settlement patterns, and transportation infrastructure, such as the iconic covered bridges for which Vermont is known. These elements significantly contribute to the Region's brand image and stimulate economic activity by attracting tourists and new residents. For further information about functional historic infrastructure, refer to the Transportation Chapter (Chapter 5, page 129).

HOMES CONSTRUCTED 1939 OR EARLIER

31%
RUTLAND

25%
STATEWIDE

12%
NATIONWIDE[15]

Like other parts of Vermont, the towns of the Region are home to numerous buildings that exhibit historic significance due to their design, setting, location, materials, craftsmanship, associations, age, and overall character. Structural disrepair of historic architecture poses the most visible and expensive preservation challenge for the Region. High maintenance costs, limited access to skilled trades, and the complexity of retrofitting older buildings for energy efficiency often leave property owners without the resources or expertise to maintain them.

Organizational, municipal, and state government efforts are being made to support property owners through grant funding, tax credits, and technical assistance. Two primary entities focused on this mission are the Vermont Division for Historic Preservation (created in 1968) and the Preservation Trust of Vermont (founded in 1980).

Despite its successes, the Vermont Division for Historic Preservation is currently understaffed relative to the scale of its responsibilities. Additionally, federal and state regulations mandate a reactive approach that prioritizes projects proposed by local advocates, community groups, and state or federal agencies. This reactive strategy exacerbates inequities in communities that lack the capacity or resources to initiate such efforts.

The Preservation Trust of Vermont, committed to fostering community through the preservation of historic structures, emphasizes the importance of preserving these assets not merely for their own sake but to further the broader objective of economic vibrancy. Their regional and state-level work has provided them with direct insights into the deficiencies in municipal and community capacities, as well as the overall lack of essential project management skills required for practical preservation work.

Accompanying these two organizations in their mission is the Vermont Agency of Commerce and Community Development's Downtown and Village Center Tax Credits Program, through which, in the Region alone, hundreds of thousands of dollars in state tax credits have been awarded to building owners since FY23. A notable example of such a project is the Wallingford Block building at 15 South Main Street, which has received $174,000 in tax credits for façade improvements and the addition of an elevator. This building, centrally

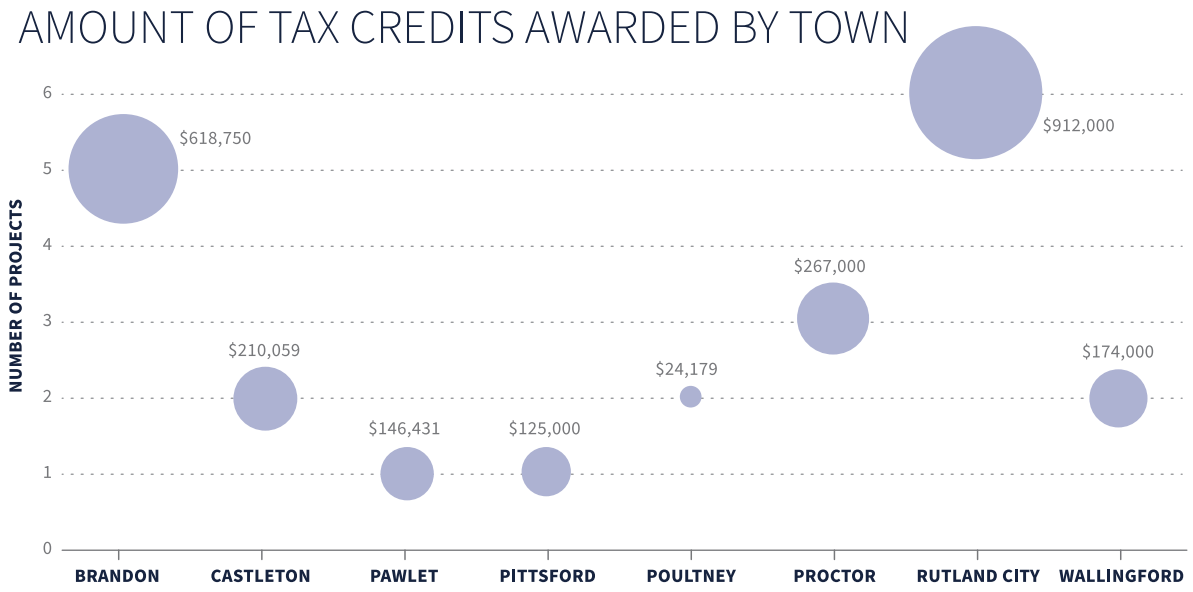


Figure 4.1

This chart plots both the number and size of tax credit allocations by county.

located in the Wallingford Village Center, was previously mostly empty and deteriorating, but now houses six local businesses.

Despite significant efforts, preservation remains a costly and complex endeavor. Projects often succumb to the allure of new development in the name of progress, especially when long-term maintenance has not been prioritized. Consider the case of the building at 37 North Main Street, at the junction of US Routes 7 and 4 in Rutland City. Over its lifetime, it was home to two Vermont governors and Royal's Hearthside, the first Black-owned restaurant in the state. After several years of standing vacant, the dilapidated historic building was demolished in 2023 to make way for a 3-unit commercial building with a drive-thru for a national chain.

Advocates urge developers to engage with preservationists early on to explore alternative, sometimes less costly and more environmentally friendly options for repurposing historic buildings instead of constructing new ones. The cost of erasing history affects us both culturally and economically, as these unique buildings contribute significantly to the Region's sense of place, attracting people to visit, to move, and live here. For more information on the costs of repurposing historic buildings into housing, see the Housing Chapter (Chapter 6, page 179).

Even in loss, there can be silver linings. The new construction at 37 North Main Street in Rutland City made several efforts to blend with the traditional style of the Rutland City neighborhood, including matching the setbacks of other historic properties on the street and drawing design inspiration from typical Vermont barns.

The last comprehensive inventory of historic buildings in the Region, conducted in 1984, has proven an invaluable resource for preservation efforts. This inventory culminated in a 500-page booklet titled "Historic

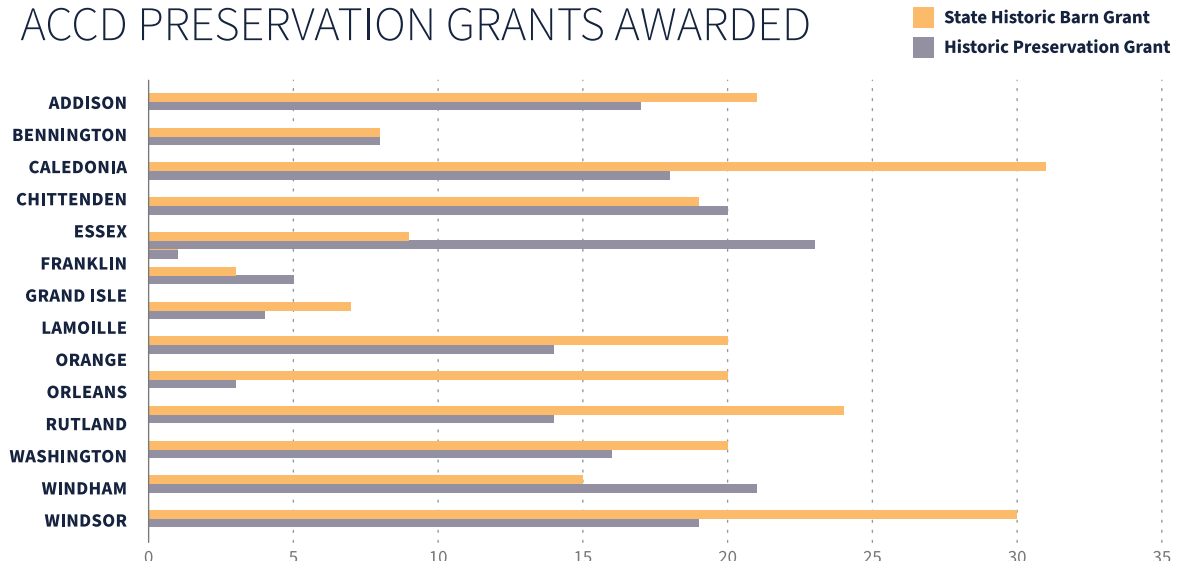


Figure 4.2

This chart shows Rutland County has received a roughly average number of preservation grants from ACCD when compared to the rest of the state.

Architecture of Rutland County," published in 1988[10]. Featuring pictures, maps, and written context that document thousands of historic buildings, this project remains the definitive reference for preservationists in the Region. Its thoroughness ensures continued usefulness to this day.

One notable gap in preservation tools is the absence of a digitized version of the National Register of Historic Districts boundaries.

"Place matters and people will choose place. People won't choose Rutland if it looks like everywhere else but is colder and more expensive."

– Ben Doyle, Historic Preservation Trust of Vermont

Efforts are currently underway to address this shortcoming. Many towns use these boundaries as starting points when developing their own local historic overlay districts. Improving awareness of these district boundaries would significantly aid preservation efforts for municipally or non-profit-owned buildings within the districts by enabling them to access federal investment tax credits and grants from the National Park Service.

At the local level, the Region's 25 Historical Societies serve as stewards of local heritage. These organizations, mostly volunteer-run, are responsible for researching, documenting, and preserving the cultural and historical fabric of their communities. While many of these societies are led by older generations, one unexpected benefit of the COVID era has been a notable improvement in their technical capabilities. This shift has enhanced communication and accelerated efforts to digitize collections.

HISTORICAL SOCIETIES AND MUSEUMS

● Society ▲ Museum ★ Society and Museum

Benson	▲	Pawlet	★
Brandon	▲	Pittsford	★
Castleton	★	Poultney	★
Chittenden	●	Proctor	
Clarendon	●	Rutland City	★
Danby	★	Rutland Town	
Fair Haven	●	Shrewsbury	★
Hubbardton	●	Sudbury	
Ira		Tinmouth	●
Killington	★	Wallingford	★
Mendon		Wells	
Middletown Springs	★	West Haven	
Mount Holly	▲	West Rutland	●
Mt. Tabor			

Figure 4.3

This graphic shows which towns in the Region have historical societies and related museums.

Encouragingly, young newcomers to the Region have expressed interest in helping these institutions embrace new technologies and methods to preserve the history and culture that initially drew them to the area. For example, the Middletown Springs Historical Society boasts its largest board ever, featuring three young members. However, this trend is not universal. Many societies continue to struggle with an aging volunteer base and difficulty in recruiting the next generation of stewards.

Additionally, the challenge of fundraising complicates matters, leading some societies to struggle with maintaining operational sustainability. A recent attempt to preserve Mendon's 1888 Town Shop, previously known as the Old Town Hall and Adi's Woodworking Shop of Mendon, faced significant hurdles due to a lack of commitment and difficulties securing funds. Such failed preservation efforts highlight the daunting obstacles that smaller communities face in building a critical mass for preservation initiatives.

One particularly pressing need among local societies is the creation and maintenance of inventories for historical assets, a time-consuming and labor-intensive process. Without a robust volunteer base, many societies struggle to undertake this foundational work. Still, some have found creative ways to engage their communities and bolster support. Events like the Strawberry and Maple Festivals in Middletown Springs not only generate funds but also help recruit volunteers and build public interest in local history, laying the groundwork for more sustainable preservation over time.

Achieving equity in historic preservation also requires addressing funding disparities that leave many lesser-known landmark sites, particularly in lower-income areas, without the essential resources for their upkeep. These sites often lack the volunteer support and fundraising capabilities that wealthier towns possess. Additionally, physical access to these spaces presents a systemic barrier, especially for an aging population with increasing mobility and transportation needs. Investments in infrastructure, such as the Castleton Free Library's 2024 addition of wheelchair access[7], play a significant role in correcting these imbalances. An equitable Region ensures access to shared history and enables everyone to experience and benefit from all that the Region has to offer.

Archaeological

Beneath the surface of the Region lies a deep and multifaceted history still being uncovered. The Region's approximately 1,000 identified archaeological sites offer rare glimpses into cultures and communities, some of which predate written records. These sites provide invaluable insight into the lives, environments, and technologies of the Region's earliest inhabitants.

Complete and comprehensive inventories guide planning and protection efforts. Artifact collections from sites across the Region are curated at the Vermont Archaeology Heritage Center in Barre and are available to researchers by appointment. Additionally, the Vermont Division for Historic Preservation conducts regular public outreach through presentations and workshops focused on the state's archaeological history.

Preserving and studying these resources expands understanding of the past and strengthens local identity, heritage tourism, and educational opportunities. However, the Region must navigate a complex set of challenges, chief among them: incomplete inventories, limited public awareness, and inconsistent regulatory protection.

Despite the high number of known sites, detailed information and access to most of these sites are restricted to safeguard their integrity, with only a select few available under the supervision of the State Archaeologist. Publicly accessible sites, such as the Forestdale Ironworks in Brandon, demonstrate how archaeology can support community identity, education, and tourism. There is a need for greater public education in the Region regarding these archaeological resources to enhance appreciation and advocacy for their preservation. Interpretive signage, educational programming, and storytelling can help build public support, attract funding, and inspire stronger preservation.

Several regulatory mechanisms govern the preservation of archaeological sites in the Region. Specifically, Section 106 of the National Historic Preservation Act mandates archaeological reviews for all projects receiving federal funding, ensuring that the potential impacts on archaeological sites are considered during the planning process. Similarly, Act 250 and Section 248 require archaeological assessments for large construction projects and energy generation/transmission initiatives, adding an extra layer of protection. Additionally, archaeological assessments are compulsory for any developments on state-owned land. While these regulations help identify and protect archaeological sites, there are gaps in coverage for projects that do not trigger regulatory reviews.

Many projects, especially smaller, privately funded developments, fall outside the scope of these protections. Some municipalities, such as Shelburne in Chittenden County, have attempted to create zoning bylaws to safeguard these resources. Still, results have been mixed at best, often hindered by vague regulatory

1,000

IDENTIFIED ARCHAEOLOGICAL SITES

in the Rutland Region

language and limitations in funding and enforcement. The primary challenges in archaeological conservation include the need for continued comprehensive site inventories, enhanced public education, and stronger regulatory protections.

> **"...an unknown site is the best-protected site of all."**
>
> *– Laura Trieschmann, Vermont State Historic Preservation Officer*

The balance between preservation and public education can be best achieved by maintaining the confidentiality of most archaeological sites to protect them, while strategically using a handful of publicly accessible, well-interpreted sites to serve as educational touchpoints for the broader community. Incorporating the preservation of known and intact archaeological sites into municipal planning documents can significantly enhance regional development strategies. This approach safeguards these sites and boosts local heritage tourism and educational opportunities. Sites like Forestdale Ironworks in Brandon and interpretive centers such as Chimney Point and Mount Independence exemplify how archaeology can be both protected and publicly celebrated.

The study of archaeology in the Region offers unique opportunities to deepen understanding of its past. To preserve and promote this heritage, the Region must address existing gaps while expanding opportunities for public engagement and education. This will necessitate concerted efforts from local governments, state agencies like the Vermont Division for Historic Preservation, and community members to protect these invaluable resources for future generations.

Scenic Resources

The landscapes of the Region are as culturally significant as its buildings or stories. They shape how its residents and visitors experience and identify with place. This section explores how scenic assets, from forested ridgelines to village greens, are essential to tourism, local pride, and smart planning, while identifying current threats and preservation strategies.

Public engagement feedback during the development of this Plan highlighted the importance of preserving the Region's landscapes for recreation and tourism. The area boasts expansive forest blocks in the Southern Green Mountains, panoramic vistas of serene glacial lakes such as Bomoseen from VT Route 30, and the iconic image of a vibrant red barn amid the valley's rolling farmlands.

More than just aesthetic elements of the environment, recreation, and working lands, these scenes form the foundation of the Region's visual identity and appeal, supporting tourism, attracting new residents, and providing communities with the stunning backdrop they cherish in their daily lives. Some towns, such as West Rutland, Mendon, and Killington, have identified scenic resources and implemented zoning overlays to protect their picturesque views. These vistas are currently safeguarded through strong

Figure 4.4

Photo of Forestdale Ironworks, provided by user Magicpiano under a Creative Commons License

local land use policies, which preserve the Region's character and rural charm.

Clearly defining what constitutes a scenic resource is essential for effective management. These areas typically possess significant appeal and are key to the Region's environmental and economic health. Despite the public's desire to preserve scenic resources, standardized processes for identifying, assessing, and cataloging them within municipal planning efforts are often lacking, relying in many cases solely on Act 250.

A proposed development seeking an Act 250 permit must pass the Quechee test, a test to evaluate scenic resource impacts. One part of this test is not violating a written "community standard" in the Town Plan intended to preserve the aesthetics or scenic natural beauty of the area. A written community standard must be specific to an identified scenic resource (or area) and provide project mitigation through siting, screening, or design standards to be used during Act 250 proceedings.

Technological advancements, particularly Geographic Information Systems (GIS), can help define and monitor scenic resources for preservation purposes and significantly improve the ability to visualize and monitor these landscapes. These tools can help analyze the potential impacts of new developments, such as large-scale industrial sites, including factories and renewable energy projects like solar farms, which present challenges due to their visual and environmental footprints.

Current community economic development efforts focus on preventing the fragmentation of these valuable landscapes. Land use strategies in this Plan aim to maintain open farmland and encourage denser village and downtown centers, promote ecological continuity, limit medium-density development sprawl, and support land conservation goals. The Vermont '30-30 / 50-50' initiatives [11], aiming to protect 30% of the land in the state by 2030 and 50% by 2050, illustrate ambitious policies and statutes set to safeguard these resources for future generations. Refer to the Natural Resources Chapter (Chapter 10, page 297) to learn more about these initiatives.

Cultural

Culture in the Region is an active and evolving expression of its inhabitants and their collective values. It is deeply intertwined with both the Region's history and

the natural landscape that defines everyday life. Whether rooted in immigrant heritage, artistic tradition, or everyday community rituals, culture defines the Region's identity, contributing to well-being, economic vitality, and intergenerational connection. It includes local crafts, sports, performing arts, community events, and the creative economy. This section outlines the breadth and depth of the Region's cultural assets and offers insight into how to ensure they remain inclusive and relevant.

Creative Economy *– The economic activities derived from human creativity, encompassing arts, culture, design, and innovation.*

The Region's connection to its natural environment shapes much of its culture. Popular activities, such as the Bomoseen Ice Fishing Derby and the tradition of gathering at a neighbor's sugar shack to boil sap for maple syrup, are integral to the Region's lifestyle. These traditions link the community to its land, offering spaces for social interaction while celebrating the natural beauty of Vermont.

The Region's history of marble and slate quarrying also continues to resonate today through institutions like the West Rutland Carving Studio & Sculpture Center, which showcases the talent of local artisans and preserves the legacy of the Region's industrial past. Moreover, the development of the ski industry, particularly at Killington, has transformed the Region's cultural landscape. This sector not only drives tourism but has also redefined the Region's identity, attracting a diverse range of visitors and residents and influencing the arts, entertainment, and social fabric.

A variety of longstanding institutions and popular events mark the Region's cultural life. The Vermont State Fair, which has been held at the Rutland Fairgrounds since 1856, serves as a major regional gathering, providing a sense of continuity and pride. The Paramount Theater in Rutland City, recognized by the Vermont Arts Council for its engaging programming that appeals to local audiences, especially the older demographic that largely constitutes the Region's cultural scene consumers. These collective anchors create a shared cultural experience that binds the broader community of the Region together, offering spaces for shared experiences.

Despite having many affordable and family-friendly cultural assets, such as the Rutland Youth Theater, various dance academies, and arts centers, the Region encounters challenges in attracting cultural touring acts that appeal to younger adults. The prominence of bingo nights across the Region highlights the tendency of programming to cater primarily to older populations, which diminishes the Region's attractiveness to younger demographics. This limitation reduces its competitiveness as a statewide cultural hub and further impedes the development of new and innovative cultural events aimed at engaging a broader audience. For further details on tourism, cultural appeal, and aging demographics, please refer to the Economic Development Chapter (Chapter 3, page 79).

In recent years, the establishment of the Rutland County Pride organization and its well-attended annual Pride Festival have significantly contributed to programming that resonates with younger individuals

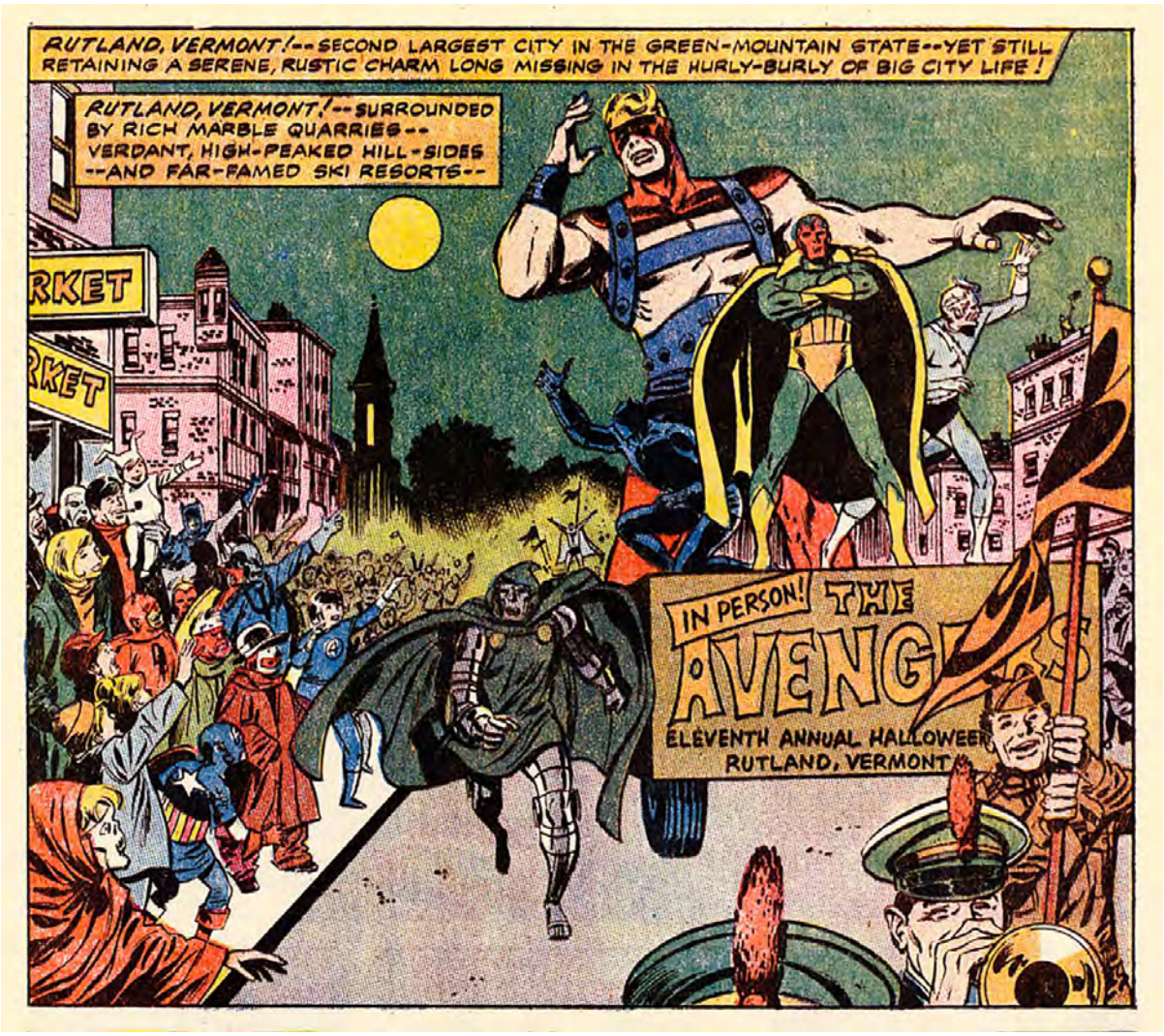


Figure 4.5

Rutland Halloween Parade | Avengers #83 (Marvel Comics, Dec. 1970)

and historically marginalized groups in the Region. Come Alive Outside, an outdoor engagement nonprofit, has also played a leadership role in efforts to make outdoor experiences more accessible and inclusive through innovative programming.

Even with these rich options to gather at, many residents are facing an isolation epidemic. The Surgeon General has highlighted the historically high rates of loneliness and isolation throughout the country, a situation worsened by COVID-19[1]. The Region is no exception to this trend. The 2024 Rutland Regional Medical Center's Community Needs Assessment emphasizes the necessity to "decrease isolation"[2].

Cultivating culture within downtown and village centers is a powerful strategy to address this crisis. Representative Becca Balint has introduced H.R.10448, the Combating Loneliness Act (CLA)[3]. This bill would facilitate investments in physical infrastructure that promote social connection, such as "third places"-community spaces beyond

the home (the first place) and work (the second place). It would also provide mental health care for healthcare workers, youth, and the broader community. Businesses that act as "third places" in the private sector serve communities through secondary social effects. Pubs, coffee and tea shops, and game stores, such as Goblin Games in Fair Haven, provide necessary spaces for people to gather and socialize.

Fortunately, the Region's village centers and downtowns have experience developing, events, initiatives, and traditions that also aid in targeting these objectives of reducing isolation, from the free Summer Concert Series in Rutland, Castleton, Fair Haven, and other towns that are affordable for everyone, to celebrating cultural diversity through programs like the Downtown Rutland Sculpture Trail[4]. Additionally, community efforts, such as rebranding the Town of Poultney[5], foster a shared sense of identity and streamline further work in community economic development. These types of initiatives are recognized nationally for their effectiveness in encouraging people to leave their homes, engage with their neighbors, and create shared experiences that build community ties and drive economic activity[6]. Healthy communities provide opportunities for residents and visitors to express themselves, connect with others, and grow socially, emotionally, and creatively.

Libraries, town halls, granges, community organizations, and centers across the Region are shining examples of cultural hubs. They offer programming for all ages and serve as cornerstones of a vibrant community life. From decades-long traditions like Game Suppers in Danby, Ira, and Tinmouth to the annual Castleton Lions Club Auction, and the Wells Carnival as well as new initiatives

Figure 4.6

The Wilson Castle is a unique historic structure and innovative business model.

like the Kids Yoga Camp in West Haven and Pierce's Store Blueberry Festival in Shrewsbury, the work of these institutions to provide diverse events maintains and expands the Region's cultural offerings. However, the sustainability of these efforts depends on adequate financial and volunteer support.

Many of these cultural hubs and institutions' histories are intertwined with the Region's connections to various ethnic groups. The Rutland Italian American Club and the Welsh American Genealogical Society are notable examples that showcase the enduring influence of skilled stoneworkers and quarry laborers from Italy and Wales, who emigrated to the Region during the industry's boom at the turn of the 20th century. These organizations work to preserve and celebrate deep-rooted histories that continue to shape the Region's cultural identity. Modern traditions, such as the Italian American Club's Bocce League and the Welsh American Genealogical Society's efforts to preserve the Poultney Welsh Church, the last of its kind in Vermont, are a testament to this vibrant heritage and the importance of these organizations.

Creating a more equitable Region begins with welcoming and celebrating all members of communities, both past and present. Events such as the Downtown Street Party (formerly known as Street Party + Sidewalk Sales, originally named Downtown Rutland's Annual Sidewalk Sales and Ethnic Festival), a cherished annual event disrupted by COVID, serve as valuable platforms for recognizing the Region's diverse heritage in an approachable and affordable manner. Similar initiatives are still necessary to ensure that the stories of those who built the Region, including immigrant communities and historically marginalized groups, are acknowledged and shared.

Historically, the Region was home to the Mohican and Abenaki Peoples. While these groups do not have an organized presence within the Region today, all state-recognized Abenaki tribes have, historically, lived and engaged with various organizations and municipalities across Vermont. New community events, like Stone Valley Arts' Celebrating Abenaki Art, Heritage, and Culture Art Show in 2023, are actively bringing lesser-known histories into the spotlight. These events offer broader access to the stories that have shaped the Region and encourage a welcoming community where individuals from diverse backgrounds are valued and respected.

Just as physical spaces help combat isolation and foster economic development, newsletters and online social networking platforms contribute to a collective understanding of community happenings, forming connections that strengthen economic and social relationships. Despite the decline of local news, community newsletters like the *middleTOWN NEWSletter* have remained strong in the Region. Fourteen of the Region's towns still host a local newspaper or newsletter, informing readers with municipal updates, notices, community calendars, and stories that reinforce the community's shared identity. Community Facebook groups and Front Porch Forum have increasingly become the preferred platforms for citizens and municipalities to share timely information.

FUTURE TRENDS

The previous section reviewed the current challenges facing the cultural resources of the Region, including disparities in historic preservation efforts and the cultural stagnation associated with an aging population. It also highlighted the Region's cultural strengths, such as its diverse heritage and traditions connected to its natural environment. In this section, we look ahead. The Region must adapt and strengthen its cultural resources to meet both current and emerging challenges. This section discusses how emerging pressures, such as housing needs, environmental changes, generational shifts, and evolving values, will influence the future of the Region's historical, archaeological, scenic, and cultural resources.

Historical

Historic preservation is entering a new era, where evolving community needs collide with urgent housing, economic, demographic, and climate pressures. This section outlines emerging practices and frameworks to support adaptive reuse, engage new generations, and ensure historical resources continue to serve the Region.

The strategy regarding these shared historical resources will determine the viability of assets, allowing them to continue serving as tangible links to the past, fostering community connection, and driving economic activity for both locals and visitors alike. More coordination is needed among planners, municipalities, developers, property owners, and communities to identify and prioritize structures for preservation, reuse, or demolition to make way for new builds.

Many towns and historic structures, such as the Forest Dale Ironworks State Historic Site in Brandon[8], were strategically constructed over 200 years ago along waterways to leverage the water flow for various industrial processes. However, more frequent extreme weather events, shifting temperatures, and other environmental changes now pose significant risks to many irreplaceable assets that are foundational to the Region's identity. These environmental factors can hasten the deterioration of historic buildings and infrastructure, increase the frequency and cost of repairs, and threaten the preservation of the Region's heritage.

Existing processes for determining which historic assets merit preservation must be bolstered, recognizing how to utilize adaptive reuse to maintain their relevance, and how to leverage history as an economic driver. Long-term issues, such as high construction and maintenance costs and labor shortages, also require attention, given the urgent need to add thousands of housing units to address the statewide housing shortage.

In Rutland City alone, many historic buildings that could be repurposed for much-needed housing remain vacant due to the high costs of fire suppression requirements, accessibility issues, and a lack of available income. Work is being done on Center Street through the Tax Increment Financing (TIF) District to install new sprinkler systems and wastewater main connections for existing

structures, allowing the conversion of currently vacant upper floors into apartments. Continued use of tax credit programs, grant opportunities, and technical assistance will be essential.

There are innovative actions municipalities can implement today to better prepare for the difficult decisions ahead. Brandon is the only community in the Region that is a Certified Local Government (CLG), a program from the Department of Historic Preservation that can offer a framework for identifying and evaluating historic assets while balancing their preservation with the need for development and reuse. Certification provides communities access to matching preservation grants and formalizes their role in state and federal project reviews, among other benefits.

Much of this work will likely fall on volunteer groups. Preserving history requires dedicated stewards. The volunteer base essential for developing, maintaining, and promoting these resources is aging, and fewer young people are entering these roles. Consequently, downtown organizations, historical societies, and preservationist groups must innovate engagement strategies, fundraising methods, and business models. To remain relevant, these groups must demonstrate the economic and cultural value of historic preservation and inspire a new generation of funders, patrons, and volunteers.

Wilson Castle in Proctor exemplifies this principle. The 19th-century castle, often in disrepair throughout its history, has found renewed purpose by serving as a backdrop for paranormal tours, overnight stays, and investigative shows. This transformation from a potential historical ruin to an exciting venue for metaphysical experiences has attracted a new generation of visitors and raised the structure's online profile, benefiting the Region. Stories of these reproducible successes, trainings, and assistance of groups of all sizes across the Region can inspire new cohorts of volunteers and entrepreneurs to adopt innovative measures for preservation.

As values change, so too do the periods considered historic. The 1950s, once overlooked, are now regarded as a pivotal decade and increasingly attract the attention of local historians and institutions. This shift toward the recent past underscores the evolving nature of what is deemed valuable heritage. The changing perspectives not only pertain to the subject matter but also encompass media; this includes the significant role of social media, prompting the need for new digital preservation methods.

Unrecorded stories and lesser-known aspects of history are at risk of being lost forever. Recognizing the importance of these narratives, there is an increasing emphasis on capturing the living memories of the community and highlighting the untold stories of historically marginalized populations. Likewise, the Vermont Folklife Center's focus on oral history, including projects that document experiences such as the COVID-19 pandemic, illustrates how personal stories can connect communities to their past. These efforts are beneficial in making historical accounts both informative and relatable, ensuring their continued relevance amid the fast-paced changes of modern life.

Thriving local historical societies today are those that have tuned themselves to the wants and needs of their communities. These societies are embracing a trend of focusing on history from the perspective of personal and living memory, which resonates more with the public and encourages greater community involvement. They are discovering innovative ways to capture and narrate these stories, showcasing history as a vibrant and integral component of community life rather than a static relic of the past.

The Vermont Historical Society is leading the charge in leveraging technology to preserve history, currently working on a digital statewide historical collection through the Vermont State Digital Platform. This initiative aims to enhance public access to historical resources, fostering a broader appreciation and understanding of Vermont's past. Ensuring ongoing training for staff and volunteers on new digital tools will be essential for the historical societies of the Region to remain relevant and agile in their efforts to collect, archive, and promote regional history.

Archaeological

The future of archaeology in the Region hinges on both technological innovation and stronger cultural stewardship. Emerging tools, deeper partnerships with Indigenous groups, and public education efforts offer a path forward to protect and elevate the unseen stories that lie beneath.

Looking ahead, the Region faces the seemingly conflicting challenges of increasing public awareness and conserving its archaeological resources. Effectively educating the public about the significance of these sites and how archaeologists interpret them can significantly boost interest, support for archaeological conservation, and adherence to best practices when artifacts are unintentionally uncovered.

When people understand the value of these sites and how archaeologists interpret and protect them, they are more likely to support conservation efforts and follow best practices when artifacts are discovered. Future efforts should focus on educational initiatives that emphasize both the importance of these sites and strategies for their preservation.

Immersive technologies, such as augmented reality, could enable the public to interact with artifacts without risking damage. Technological advancements, like remote sensing, can also play a role in efficiently identifying and mapping new sites. Meanwhile, digital archiving could provide global access to site data, enhancing knowledge-sharing and conservation practices. The 3D scans of artifacts and traditional, handcrafted cultural objects by the Nulhegan Band of the Coosuk Abenaki Nation are an example.[16]

The continued popularity of less advanced methods, such as amateur metal detection, remains illegal and poses a significant risk of damaging archaeological sites. Artifacts can lose their historical value if not properly documented by a professional archaeologist.

Strengthening regulatory frameworks and fostering community partnerships will be essential to successfully integrate

archaeological conservation into broader land-use planning and development processes. Efforts to enhance the archaeological landscape of the Region should include robust programming focused on best practices for on-site management. This programming should actively involve Indigenous peoples, such as the Stockbridge-Munsee Band of the Mohicans and the Vermont State-Recognized Abenaki tribes, in developing these processes. Furthermore, local historical societies should be encouraged to document sites in non-destructive ways while collaborating with various groups to ensure that the archaeological narrative encompasses Indigenous histories and perspectives.

Scenic Resources

Scenic landscapes will continue to shape how the Region is perceived, lived in, and protected. This section outlines the need for clear planning frameworks and tools to sustain the visual and ecological legacy amid mounting pressures from development interests and climate impacts.

As the Region plans its future, it is crucial to identify, protect, and preserve its scenic resources. These views are the backbone of the Region's aesthetic appeal, drawing appreciation from locals and tourists while also supporting biodiversity and bolstering resilient local economies through sustainable land use practices. However, developing renewable energy installations such as solar farms presents challenges in balancing environmental preservation with renewable energy goals. Wealthy individuals, often with a limited understanding of the community and a desire for scenic views from the ridgeline, may seek to site their housing projects along otherwise unbroken mountain

Figure 4.7

Hikers enjoying the scenic resources of the Rutland Region from the Deer Leap trail. Photo courtesy of CEDRR

ranges. Such developments can fragment landscapes and alter scenic vistas, necessitating careful integration into the natural environment. For rural development siting recommendations, refer to the Land Use Chapter (Chapter 2, page 37). Once these glimpses of untouched beauty are lost, it may take decades—if ever—to recover them. Along with the views, a diminished sense of place is also lost.

These views require thoughtful and structured approaches to identification and protection.

Preserving the charming historic aesthetic of scenic downtowns and villages is achievable, as demonstrated by a recent effort from the town of Middletown Springs, with assistance from the Preservation Trust of Vermont. Before designing a new town office, which now sits across from the historic town green, a consulting architect was brought in to survey the architecture of the surrounding structures, taking into account the holistic aesthetic of the village center. This survey informed the design of the new town office, ensuring that the scenic cohesion across the village, old and new, remained unbroken.

A cohesive approach that blends modern techniques with traditional conservation methods will be essential in the future. Recent work in Killington, utilizing viewshed analysis, provides insight into how modern Geographic Information System (GIS) tools can help define the sometimes-intangible sights recognized as belonging to the Region. Further development of these tools and methodologies for identification and regulation through town planning and zoning will ensure that Rutland's scenic landscapes continue to define the Region, attract visitors, and provide current and future generations with shared assets that anchor collective regional identity.

Cultural

As traditions evolve and demographics shift, the cultural life of communities must innovate to remain inclusive and dynamic. This section outlines how public spaces, events, digital tools, and creative expression will shape future cultural infrastructure and identity.

As the role of downtown and village centers in modern American life continues to evolve, historic development patterns have provided these areas with a lifeline as people increasingly seek public spaces for social and economic activity. With streets lined by historic buildings, a few public gathering spots, and enhanced pedestrian safety features, a community can transform remnants of the past into the vibrant New England towns that many aspire to call home. No community exemplifies this better than Rutland City, also known as the Marble City. The City's long-standing initiatives to integrate public art through murals and sculptures yield significant results. Recent efforts to improve pedestrian safety, such as transforming

Center Street and upgrading crosswalk treatments on Merchants Row in the downtown core, send a clear message: this is a safe and engaging place for leisure activities. New initiatives, like the Downtown Rutland Innovation District Placemaking Plan from the Center on Rural Innovation, demonstrate that city leadership intends to stay the course with this successful strategy.

The introduction of quirky public events in the Region, such as the Benson Burdock Festival and the Whoopie Pie Festival in Rutland City, suggests that while the Region values its traditions, it doesn't shy away from embracing new ideas and customs. Recognizing the urgent need for a comprehensive guide to the Region's culture, history, and recreation assets, the RRPC has launched the Rutland Region Asset Mapping Project (RAMP). This project aims to create a free website that will inventory and map these assets in the short term and eventually unify the Region's events onto a single calendar, making cultural resources more accessible for residents and visitors. Projects like this have long been sought after by larger regional employers, such as Casella Waste Management, as a tool to attract new employees more effectively.

Efforts to forge a municipal identity through branding and promotion are not new, but as towns seek to attract potential residents and tourists, new methods and strategies are being adopted. No town in the Region exemplifies this better than Killington, which has aligned its municipal branding guidelines with the logo and brand identity of its well-known ski and mountain bike resort. This alignment signifies a commitment to creating a cohesive vision for the future of the resort and the town, which is home to the largest ski resort on the East Coast.

Placemaking

Placemaking is an intentional approach to planning, designing, and managing public spaces that focuses on a community's unique characteristics and needs. In the Region, public gathering places are a powerful tool to enhance cultural identity, promote social cohesion, and foster a sense of belonging among residents and visitors alike. To learn more about the benefits of social cohesion, see the Climate Resilience Chapter (Chapter 11, page 333).

Figure 4.8

A mural of local pollinators installed in Poultney was part of a Better Places grant that matched crowdfunding with State funds.

Conclusion

The cultural resources of the Region are a dynamic reflection of its people, history, and landscape, offering both a foundation of identity and a path toward future vitality. The following section outlines policies and actions to preserve and strengthen the Region's cultural resources amid evolving challenges such as demographic shifts, climate change, housing pressures, and generational turnover. These strategies are grounded in local priorities, regional planning goals, and best practices in historic preservation, placemaking, and community development. Implementation will require collaboration among municipalities, institutions, and cultural stewards to ensure that cultural assets remain visible, valued, and accessible to all. Progress will be measured through indicators that reflect both preservation outcomes and community participation.

Photo Credit: Killington Resort & US Ski & Snowboard

Photo Credit: Mike DiMeola

What's Next? // CULTURAL RESOURCES

Goals

1) Identify, protect, and preserve significant historic, archaeological, scenic, and cultural resources.

Policies

1) Historic buildings should be maintained, preserved, and restored, especially in Growth FLUAs.
2) Cultural resources planning and decision-making should include opportunities for meaningful participation, particularly for Indigenous stakeholders.
3) Archaeological sites should be responsibly identified, documented, and protected during development and land use planning activities.
4) Historical societies should be supported as the stewards of local heritage.
5) The Creative Economy should be recognized and supported by encouraging arts and cultural initiatives that foster community identity, enhance civic engagement, and contribute to community economic development.
6) Investments in Third Places and public gathering spaces are encouraged in Growth FLUAs.
7) Scenic features and resources **shall** be identified and preserved to protect the visual and cultural character.
8) Projects and resources that promote a regional identity and highlight regional assets for residents and visitors should be prioritized.
9) Cultural resource planning and decision-making should include opportunities for meaningful participation.

Actions

1) Digitize the National Register Historic District boundaries by 2027.
2) Develop resources to assist municipalities in becoming a Certified Local Government (CLG) by 2028.

Actions continued

3) Better maintain and preserve historic buildings by advocating for and assisting with the creation of information packets for property owners within state-designated Centers and Neighborhoods that include details on tax credits and other funding opportunities by 2029.
4) Identify national and state-registered historic districts, sites, and structures on base maps for local hazard mitigation planning projects.
5) Repurpose the 1984 Historic Architecture of Rutland County inventory into a digital-first format by 2029.
6) Identify archaeological sites at higher risk of loss due to extreme weather events during the local hazard mitigation planning process.
7) Develop a process to ensure that tribes, preservationists, and other stakeholders are notified about development activities that could impact archaeological sites by 2030.
8) Advocate for and help to platform under-documented and untold stories of the Region by 2029.
9) Promote and support Village Trust Initiatives and other novel business models that leverage historic assets to advance historic preservation efforts by 2032.
10) Advocate for and assist with expanding arts programming.
11) Add a section to the RRPC Town Plan Toolkit that provides guidance for municipalities with cultural resource chapters and encourages others to adopt them, including strategies for identifying, protecting, and preserving cultural assets.
12) Expand the Real Rutland Map to include a regional community calendar by 2029.
13) Assist with promoting the heritage of everyone who has called the Region home by 2028.
14) Assist with developing municipal and regional public art projects that foster a sense of place by 2031.
15) Identify underutilized buildings that could be transformed into Third Places and connect property owners with funding sources like tax credits or grants.
16) Develop a methodology to identify and preserve scenic features and resources by 2030.
17) Build RRPC staff capacity to perform viewshed analysis with ArcGIS Online by 2030.
18) Inventory and incorporate viewshed analysis into municipal planning, bylaw, and overlay districts by 2030.

Indicators of Progress

1) Number of Regional Historic Tax Credit Applications and Awards
2) Number of Certified Local Governments (CLG)
3) Number of Municipal Plans with Dedicated Cultural Resources and Events Section
4) Number of Municipalities with Scenic Resources Protections

STOP

TRANSPORTATION

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PLAN IMPLEMENTATION

INTRODUCTION

The Rutland Region (the Region) seeks to establish a regional transportation system that incorporates public transit options and paths for pedestrians and bicyclists, ensuring the system is safe, convenient, economical, energy-efficient, and respectful of the natural environment. The Transportation Chapter describes the current conditions, informed by research and public engagement (see Engagement Report, Appendix A1.2, page 417), as well as trends shaping the future of the transportation system in the Region. The chapter concludes by presenting regional policies and RRPC-specific actions designed to achieve the transportation goals.

HEALTHY, EQUITABLE, RESILIENT COMMUNITIES

A healthy, equitable, and resilient region depends on a transportation system that supports access, safety, and sustainability for all users, regardless of age, ability, or income. Beyond simply moving people and goods, transportation plays a central role in shaping public health outcomes, reducing social isolation, and ensuring communities can adapt to both immediate challenges and long-term changes. This section explores how well-designed transportation systems contribute to individual and community well-being, address historical inequities, and strengthen the Region's ability to withstand and recover from climate-related disruptions.

Transportation systems support these outcomes through safe roadways, convenient bus routes, comfortable walking and biking routes, and on-demand medical transportation. They support healthy communities by creating accessible transportation options that reduce barriers to essential services for health and wellness. This means not only reliable access to traditional medical services, but also to recreational opportunities, community events, and healthy food options that are essential to living a healthy lifestyle. Additionally, healthy transportation systems create an environment where physical activity is a natural part of daily life, allowing individuals to walk, bike, or move freely within their neighborhoods. Whether commuting by bike to work in Rutland City, walking to a Kamuda's Market in Pittsford, or simply enjoying a stroll through Middletown Springs Village Center, accessible and safe routes empower residents to stay active and connected.

Recently, transportation investments have prioritized private vehicle infrastructure and rural expansion, resulting in an unequal distribution of burdens. Residents in downtowns, villages, or along highways suffer from increased through-traffic, leading to decreased air quality, higher noise levels, longer pedestrian travel times, and greater risk of traffic-related injuries. In contrast, access to various goods and services benefits these areas but comes at the cost of car ownership for rural residents. For some, this is seen as the price of admission, though lower-income individuals face a significantly

heavier burden. Addressing these inequities requires development in targeted growth areas and rethinking streets to prioritize local access. Concentrating development in historical centers provides safe, walkable access to jobs, affordable housing, services, and cultural amenities without reliance on cars. By emphasizing compact, multimodal, and people-centered development, the Region can foster a just, sustainable, and connected future for all residents.

A resilient transportation system needs ongoing infrastructure maintenance and improvement to adapt to challenges and recover quickly from disruptions. Climate change increases extreme weather events, and flooding raises risks to private and municipal infrastructure. Restoring natural floodplains, upsizing outdated culverts, and enhancing stormwater management help build resilient communities. Resilience also involves reducing excess pavement to mitigate urban heat and removing hazardous roadside trees affected by the Emerald Ash Borer. By planning for future risks and implementing infrastructure improvements, communities foster a safer, more adaptable environment for immediate crises and long-term changes.

CURRENT CONDITIONS

Historical Context

Transportation networks serve as critical links that allow us to participate in society. Without effective transportation, people become limited and feel trapped in their immediate surroundings, unable to access food, friends and family, employment, medical care, and other essential needs for healthy and fulfilling lives. Historically, people developed and lived in locations well-connected to transportation, such as the Champlain Canal and the Rutland Railway. This connectivity resulted in development patterns that featured compact downtowns and Village areas, surrounded by rural working landscapes. During the 20th century, the rise of the automobile contributed to the decline of trolley and train services, prompting a fundamental reevaluation of regional transportation priorities and systems. This shift led to new land use patterns known as sprawl, characterized by the rapid development of previously undeveloped areas in low-density patterns that rely on private automobiles for all types of trips.[1] These development patterns not only extended into previously undeveloped areas but also replaced traditional, walkable neighborhoods with auto-oriented development and infrastructure. (Figure 5.1)

Midcentury planners and civic leaders intended to route the interstate system through the Region, but Massachusetts intervened, ensuring that Interstate 89 ran on the eastern side of the state instead.[2] They envisioned US Route 4, west of US Route 7, as the first link in a grand new modern network of expressways. However, decades of proposed interstate highways and bypasses never materialized. (Figure 5.2) Instead, the Region invested in upgrading existing roads, many of which were designed for slow-moving carriage traffic and passed directly through the heart of communities. As a result, roads

KENDALL AV.
NICHOLS
BURNHAM AV.
BELLEVUE AV.
AIKEN PL.
WOODSTOCK AV.
N. MAIN
EAST
LINCOLN AV.
GRANT AV.
TERRILL
WEST
MANSFIELD PL.
COURT SQ.
S. MAIN
E CENTER
CENTER

like US Route 4 and US Route 7 now serve a dual and somewhat conflicting purpose: providing access for local traffic while also acting as high-speed routes for travelers and freight. This dual purpose creates safety challenges, particularly on US Route 4 east of Rutland City, where high-speed design, sprawling development, and winter weather have contributed to nine fatal crashes in the past five years.[3]

Recent decades have seen a resurgence in investment in alternative (non-car-based) modes of transportation, exemplified by the restoration of limited train service, increased public transit access, and the development of improved active transportation infrastructure, such as the Delaware and Hudson Rail Trail. Overall, the Region's transportation network has a strong foundation, featuring well-defined walkable centers separated by rural countryside and connected by highways and public transit routes. The Region is also well-connected to the broader world for personal travel and freight, boasting an airport, an extensive rail network, and two major US highways.

However, the design of regional roadways, which form the core of the transportation network, remains inconsistent, primarily prioritizing high-speed vehicle traffic with little regard for surrounding land uses and development density. As the Region plans for the future, the main focus of infrastructure development should be the targeted retrofitting of existing streets and roadways to better align with their context and meet modern safety standards. The development of new infrastructure should be strategic, improving safety and creating economic opportunities without imposing significant long-term maintenance burdens.

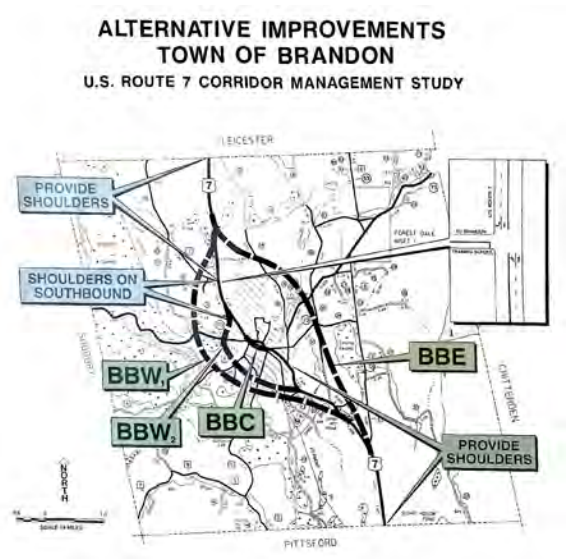


Figure 5.2

Plans analyzing potential routes for a highway bypass around Brandon that was never constructed.

Regional Transportation Systems

Today, private automobile travel constitutes the vast majority of regional trips, and for many rural areas, it represents the only reliable transportation option. Road networks comprise the bulk of the Region's transportation infrastructure, and

Figure 5.1

This map shows the intersections of Woodstock Ave and West Street with South Main Street in Rutland City. Building footprints from 1916 are overlaid over current satellite imagery. This demonstrates how street design influences development, as this has changed from a local main street to a Federal highway that prioritizes through traffic. Street centered buildings are torn down and replaced with uses that retreat from the road with front facing parking lots.

maintaining these roadways accounts for a significant portion of state and town budgets. Additionally, infrastructure that offers alternatives to private vehicle travel, such as sidewalks, bike paths, and public transit routes, complements automotive transportation systems and provides residents in areas targeted for growth with freedom of choice. (Figure 5.3) This freedom allows residents to choose the mode of transportation that works best for them, while also providing essential transportation for those who cannot drive or lack access to a vehicle.

Complete Streets

'Complete Streets' is a transportation policy approach adopted as State Law that involves considering the needs of all potential users, including motorists, cyclists, pedestrians, and public transit vehicles/riders when constructing, reconstructing, or re-paving a road or street. In the Region, implementing Complete Streets through context-sensitive design offers an opportunity to improve safety, encourage economic development, and better align roadways with surrounding land use. This section explores the Region's strategies for adapting overbuilt or outdated streetscapes to better serve communities and support long-term growth.

A 'Complete Street' varies with context and can be seen as 'Context Sensitive Design'. In growth-targeted areas with childcare, businesses, and housing, suitable features include sidewalks, bike lanes, bus shelters, and traffic calming measures to maintain low vehicle speeds. On rural highways focused on vehicle access, Complete Streets may provide wide shoulders (around 5 feet or more) for cyclists and pedestrians, enhancing safety for automobiles and freight. While safety is vital, context-sensitive design can support broader economic development and revitalization goals. Streets define and frame private property, transforming high-speed highways into attractive places for people. In growth areas, Complete Streets can raise property values and encourage business while supporting renovation and redevelopment.

Streets define and frame private property, transforming high-speed highways into attractive places for people.

Many roadways in growth areas are 'overbuilt' and exceed modern design standards. Studies link wider roads to higher speeds and crash rates. Recommended lane widths are 10 feet for local streets, 11 feet for major routes, and 12 feet for interstate highways.[4] Overly wide streets encourage speeding, reduce public safety[5], and increase maintenance costs due to excess paved surface. This limits green space stormwater absorption, placing added pressure on stormwater systems.[6] Poultney Village and Fair Haven exemplify communities with wide downtown streets due to historical Trolley tracks. While this presents a challenge for current users, it provides an opportunity for future improvements. It is far easier to retrofit existing road

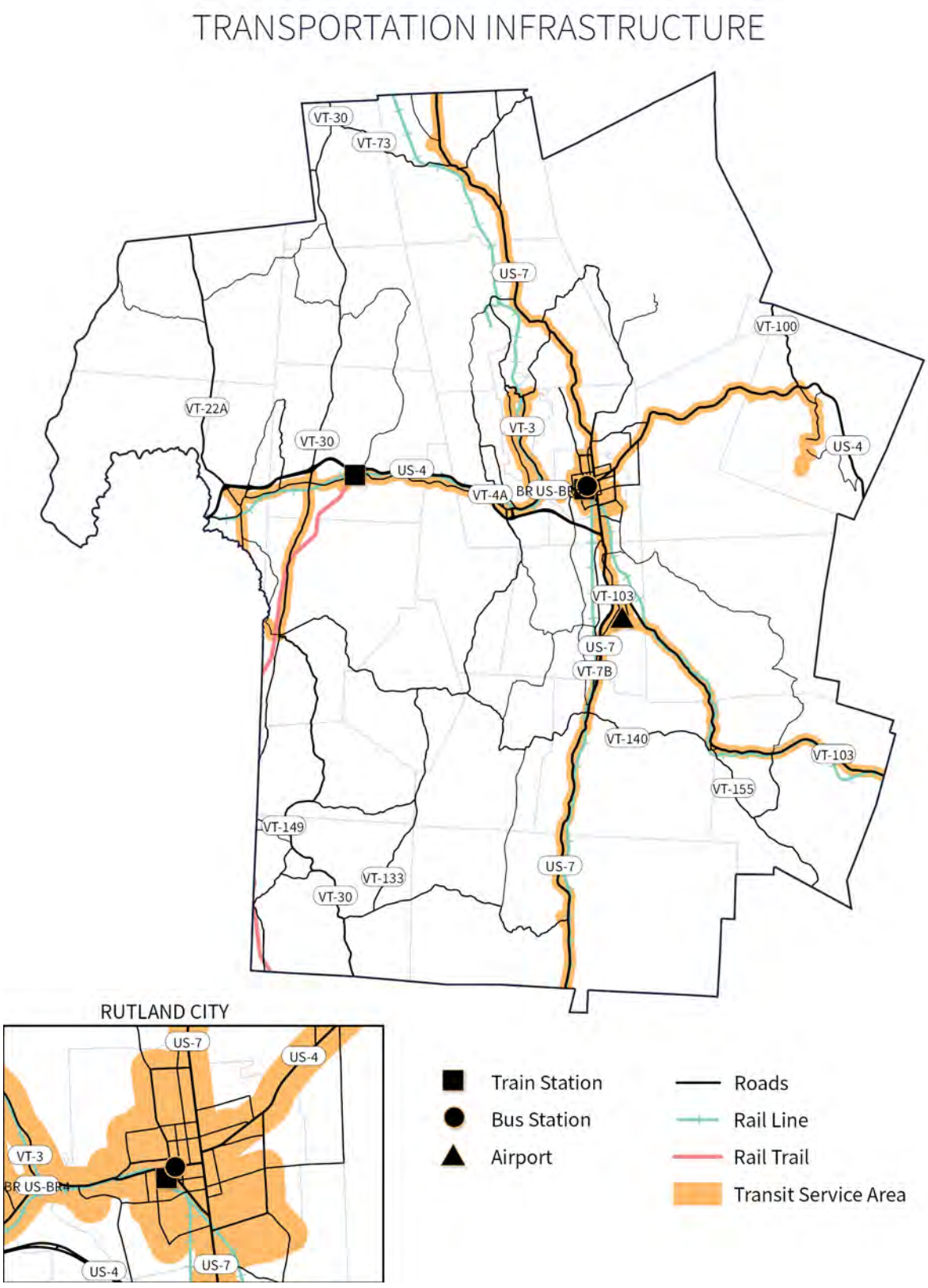


Figure 5.3

This map shows the major transportation infrastucture of the the Rutland Region.

Figure 5.4

A mid-block pedestrian crossing in West Rutland. A new island and flashing pedestrian lights were installed as part of a repaving project, increasing crossing safety.

space than to widen existing space through land acquisition. The Region has pursued two main strategies to retrofit existing roads and streets when they are out of step with their context, with varying degrees of success.

The first approach pursues road marking changes in existing paving projects, incorporating bike lanes and narrower travel lanes cost-effectively. A notable success is the reconfiguration of traffic lanes on North Main St and Woodstock Ave, reducing the average crash rate on these corridors to one-fifth of the previous five years, entirely through new lane markings. The repaving of Business Route 4 in West Rutland also exemplifies the implementation of bicycle facilities and safer crosswalks as part of regular repaving. The development of a 24-unit affordable housing complex, Marble Village Apartments, along this road in West Rutland highlights the positive feedback loop created when street design aligns with existing land use patterns in growth-targeted areas, paving the way for future development. (Figure 5.4) Though limitations exist, corridors like Business Route 4 in Rutland Town and US Route 4 in Rutland Town, Mendon, and Killington offer opportunities for reconfiguration due to the width of the existing pavement. Conversely, this approach is less effective in areas with constrained right-of-way where land acquisition is not feasible or economical.

The second approach narrows vehicle travel space to calm traffic and enhance pedestrian safety. Though costly and time-consuming initially, these projects can offer long-term benefits in the right land-use context. Center Street in downtown Brandon exemplifies how street reconstruction can support broader economic development and revitalization strategies. Commenting on Downtown Brandon's success post construction, Bernie Carr, Executive Director of the Brandon Area Chamber of Commerce, told Vermont Business Magazine in 2025, "I'm looking around and seeing people scurry

Figure 5.5

A curb extension installed at Wallingford's four corners intersection in the Village Center. Curb extensions slow vehicle speeds, improving pedestrian safety and helping compliance with posted speed limits.

here and there, and the parking spaces are full, and I'm like, 'We're finally here!'" Wallingford's four corners (Figure 5.5) and Rutland City's Strongs Avenue projects also showcase designs that lower vehicle speeds and increase pedestrian safety. However, challenges exist; in 2024 and 2025, two context-sensitive roadway projects in Downtown Fair Haven and Pawlet's Village were abandoned due to local concerns and opposition to the proposed designs. This highlights the need for engaging local communities and property owners in planning. A key strategy for this is through 'Quick Build' projects.

Quick Build Projects are an intermediate step between planning and construction, utilizing semi-permanent materials like traffic paint and street posts to demonstrate the benefits of potential projects. They also facilitate data collection to verify if changes meet specific planning goals. For example, the RRPC helped design and monitor a Quick Build crosswalk improvement on Merchant's Row in Rutland City in 2023. (Figure 5.6) Data showed average vehicle speeds dropped from 27 to 17 MPH, and drivers exceeding the speed limit dropped from 29% to 1%, achieving Rutland City's goal of calming traffic and enhancing walkability. (Figure *T-42) Another success was on Center Street, where narrowed lanes, reduced parking, and outdoor dining space faced skepticism from local business owners when initially proposed. The Quick Build project allowed stakeholders to see the direct impact, particularly with how removing parking allowed for utilizing that space for more economically productive use. The Mad Rose, a local cocktail bar, was able to create outdoor seating for 16 customers, expanding the footprint of the business by removing only a single parking space that served only one vehicle, and as few as one person. Overall, these changes have shifted the character of Center Street from a mere transportation corridor designed primarily to

Figure 5.6

A quick build project in Downtown Rutland that installed curb extensions and a pedestrian median island.

facilitate pedestrian access and vehicle movement to an attractive destination that draws people in and supports economic development, while creating political will for a full reconstruction project planned for 2026.

Complete Streets improvements, whether through low-cost lane reconfigurations or full street reconstructions, are powerful tools for enhancing safety, encouraging revitalization, and aligning infrastructure with community needs. The Region has implemented a number of these projects in the past 8 years; however, challenges with building political will and community support for large-scale Public Works projects remain. Successful implementation depends not only on sound design but also on early community engagement and tools like Quick Build projects, which allow residents to experience and evaluate proposed changes. By continuing to prioritize flexible, context-sensitive solutions, the Region can create roadways that are safer, more welcoming, and better suited to future growth.

Roadways

The roadway system forms the core of the Region's transportation network. Whether public or private, roads connect nearly every property in the Region to one another and to key infrastructure, including the Rutland and Castleton Amtrak stations and the Rutland Airport. While primarily used by private automobiles, roadways also serve public transit vehicles, farm equipment, cyclists, and pedestrians. This section examines the structure, condition, and function of the Region's road network, as well as key challenges related to safety, climate resilience, and long-term maintenance.

The Region's two federal highways form the backbone of the regional roadway network—US Route 4 and US Route 7. US Route 4 is a major east-west corridor cutting through the spine of the Green Mountains and serving as a key artery connecting Killington Resort to broader interstate networks. US Route 7 is the main north-south corridor through western Vermont. Vermont State highways such as Routes 22A and 103 form the remainder of the core system, with VT Route 22A connecting Fair Haven, Benson, and West Haven to New York and supporting freight movement, while VT Route 103 provides a key east-west connection for Clarendon, Shrewsbury, and Mount Holly.

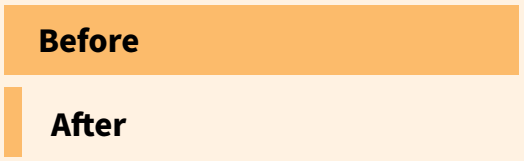
Design and roadway characteristics

AVERAGE VEHICLE SPEEDS DROPPED FROM

27 TO 17 MPH

DRIVERS EXCEEDING THE SPEED LIMIT DROPPED FROM

29% TO 1%



Whether public or private, roads connect nearly every property in the Region to one another

vary considerably across and within these corridors. For example, US Route 7 transitions from a 50 MPH highway with wide shoulders in rural areas, to 25–30 MPH main streets in towns like Brandon, Pittsford, and Wallingford, to a 35 MPH urban boulevard in Rutland City. It also includes a 55 MPH limited-access segment in Clarendon and a 50 MPH narrow section with little to no shoulder in Wallingford and Danby. These variations reflect a mix of Complete Street investments and uneven infrastructure upgrades over time.

Ownership and maintenance responsibilities also shape roadway design and safety. The State typically maintains Major US and State highways, but segments may be designated as "Class 1 Town Highways," granting municipalities design control along with increased maintenance responsibilities. State plow trucks require a minimum width of 28 feet, encouraging higher speeds and limiting context-sensitive design in growth areas. Today, there are seven Class 1 Town Highways in the Region, located in Rutland City, West Rutland, Poultney, Fair Haven, Castleton, Proctor, and Brandon. The rest of the roadway system includes Class 2 and Class 3 Town Highways (major and minor town roads), and Class 4 Town Highways, which are often unmaintained and primarily serve recreational access. (Figure 5.7)

Roadway safety remains a persistent concern in the Region. Since 2020, rising public concern has followed an increase in fatal crashes. In 2022, there were nine fatalities, and in 2023, although total crashes decreased, fatalities rose to ten—the highest in a decade. All occurred on State Highways, with over half on US Route 4 east of US Route 7. This corridor—unlike the modern, multilane US Route 4 west of US Route 7—features numerous access points, limited shoulders, and two-lane segments that saw more than double the crash rate (42 per mile) compared to the western portion (17 per mile) over the last decade. While design improvements in modern infrastructure have reduced crash rates, persistent annual fatalities indicate that transportation safety remains a critical concern.

Beyond safety, climate vulnerability is a growing issue. Many regional roadways run alongside or over waterways, increasing

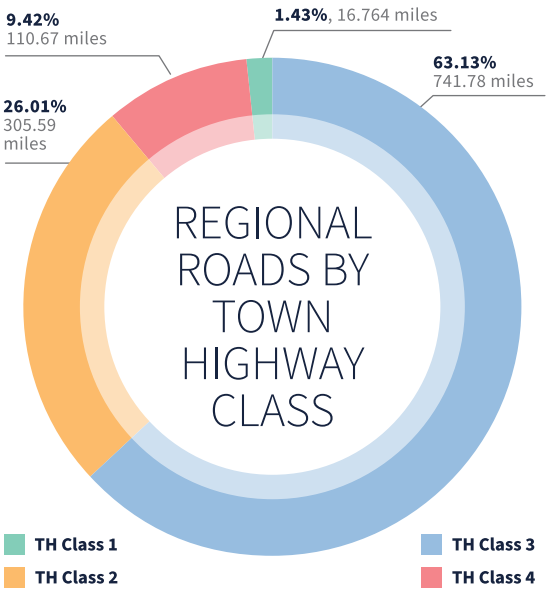


Figure 5.7

Percentage of the Region's locally owned roads by Town Highway Classification.

REGIONAL HIGH CRASH LOCATIONS

South Main Street/ US Route 7 South in Rutland Town, characterized by high-speed traffic, frequent driveways, and significant through movement.

VT Route 22A through Benson and West Haven, which suffers from poor lighting and inadequate shoulders.

US Route 4 in Fair Haven and near the Killington Road intersection.

susceptibility to erosion and flood damage. During Tropical Storm Irene, entire sections of US Route 4 washed out in Mendon, isolating a quarter of the town's population. US Route 4 and VT Route 4A through West Rutland, Ira, and Castleton are especially vulnerable due to mountainous terrain and the absence of nearby alternate routes. These segments have been identified as high-risk by the Vermont Agency of Transportation's Resiliency Planning Tool.

Roadway condition is another key concern. As of 2023, just 14% of Regional Arterials were rated in poor or worse condition[7], suggesting generally good pavement across major corridors. However, conditions vary more widely on town-maintained roads, depending heavily on local budgets and priorities. An engagement survey (see Engagement Report, Appendix A1.2, page 417) found that "poor infrastructure and/or lack of maintenance" was the top transportation concern, cited by over 350 respondents. Commenting on maintenance issues, West Rutland Town Manager Mary Ann Goulette said: "The bottom line is, the dollars don't cover what they used to cover. We are using some less expensive techniques, such as crack and chip sealing, but we still can't afford to get behind in maintaining our infrastructure." Maintenance needs differ by road type. Paved roads require costly resurfacing and benefit from preventative maintenance like crack sealing. Gravel roads—more common in low-traffic areas—require regular grading and are historically more cost-effective when traffic is below 200 vehicles per day.[8] However, climate change has led to more frequent freeze-thaw cycles, increasing grading needs and associated costs. (Figure 5.8)

An important factor influencing road maintenance is compliance with the Municipal Roads General Permit (MRGP), a requirement under the Vermont Clean Water Act[9] aimed at reducing stormwater erosion and

"The bottom line is, the dollars don't cover what they used to cover. We are using some less expensive techniques such as crack and chip sealing, but we still can't afford to get behind in maintaining our infrastructure."

– Mary Ann Goulette, West Rutland Town Manager

runoff from municipal roads into water resources (e.g., rivers, streams, ponds, wetlands). MRGP mandates the implementation of stormwater Best Management Practices on hydrologically connected road segments. Approximately 66% of the Region's roads fall under MRGP, though this ranges from 34% in Mount Tabor to 100% in Ira. About 70% of communities in the Region are on track with required upgrades, which have helped improve drainage and resilience. For more details, see the Climate Resilience Chapter (Chapter 11, page 333).

The Region's road network is extensive and generally in good condition; however, persistent safety issues, growing climate risks, and varied local maintenance capacity present ongoing challenges. Federal and state highways serve as vital corridors but often lack modern safety features, especially in high-crash areas like US Route 4 east of US Route 7. However, the 'road diet' of Woodstock Ave and North Main Street and reconstruction of Center Street in Brandon have proved major successes in improving safety, and there are more major roadway safety projects on VT Route 22A and US Route 7 currently being developed by the Vermont Agency of Transportation. As towns work to meet MRGP standards and address aging infrastructure, continued investment, preventative maintenance, and context-sensitive design will be essential to ensuring a resilient and safe roadway system for all users.

Bridge Structures and Culverts

Bridges and culverts are essential components of the Region's transportation network, supporting daily travel, emergency response, and freight movement. While most structures are in good condition, aging infrastructure, limited inspections of town-maintained culverts, and increased flood risks highlight the need for continued monitoring and investment. This section outlines the current status, risks, and priorities for maintaining and

Figure 5.8

A gravel road in Tinmouth that has experienced repeated freeze and thaw cycles, creating maintenance challenges.

improving bridge and culvert infrastructure across the Region.

Well-maintained bridge and culvert structures are critical to the roadway network's function. When they fail, local travel times and emergency response times can significantly increase. Bridges and large culverts are categorized as long (spans over 20 feet) and short (spans under 20 feet). The Agency of Transportation inspects large structures every two years and short ones on the State Highway System every five years. Towns are responsible for inspecting short structures on municipal roads. (Figure 5.9)

Bridges (long structures) deemed to be in poor condition pose a serious concern for the Region's ability to maintain a safe and efficient transportation system. Among the eight bridges classified as poor in the Region, five are included in either the State Transportation Program or the Town Highway Bridge Program, and plans for repair or replacement are underway. However, the remaining three bridges and large culverts lack active improvement projects. The most critical of these structures is the large culvert located on VT Route 22A at the US Route 4 interchange in Fair Haven (structure 0004). A failure of this culvert would disrupt the operation of 22A, a vital route for both passenger and freight traffic. The next most critical structure is the bridge over Otter Creek on Creek Road in Wallingford (structure 00059), where failure would greatly affect local residents due to the absence of a nearby alternative route, impacting emergency response times significantly. Lastly, there is a bridge over River Road in Killington (structure 00032) that is less critical since a parallel bridge on US Route 4 is located just 100 feet away, meaning its removal would not significantly affect travel or emergency response times. The Vermont Agency of Transportation, utilizing its 'Transportation Resiliency Planning Tool', has pinpointed nine bridges in the Region that are at high risk of failure during flooding events. The most critical ones for the regional network include the bridges on US Route 7 over the Cold River, US Route 4 over Mendon Brook, VT Route 140 over Bully Brook, and Danby's South Main Street over Mill Brook.

Undersized or clogged culverts inhibit drainage and can

BRIDGE & CULVERT CONDITIONS

367

BRIDGES IN THE REGION

62 YEARS

AVERAGE BRIDGE AGE

2%

ARE RATED POOR

OVER 12,000

CULVERTS IN THE REGION

16%

RATED POOR OR WORSE

Note: The condition of short town-owned bridges may not reflect their current condition as they are not inspected regularly.

Figure 5.9

VTrans bridge inspectors assess the condition of the Creek Road Bridge in Wallingford.

fail during storm surges. Culverts on hydrologically connected roads fall under MRGP, which ensures proper sizing. (Figure 5.10) Compliance with MRPG has helped reduce the number of undersized culverts. However, even properly sized culverts need regular cleaning to prevent clogging and flow reduction. RRPC conducts routine culvert inspections, recorded in the VTCulverts database and provided to towns in print. Although not affecting transportation, culverts and bridges can block aquatic organisms, leading to habitat segmentation – see the Natural Resources Chapter (Chapter 10, page 297) for wildlife impacts. Current Vermont Better Roads and State Bridge standards promote free passage, so the issue should decrease as undersized or poor condition culverts and bridges are replaced.

Bridges and culverts are vital to the Region's transportation network, ensuring safe and efficient travel for residents, emergency services, and freight movement. Most are in good condition, but one bridge and one large culvert require urgent attention, and others may be vulnerable to major flooding. Many culverts are in poor condition or undersized, but regular inspections through the RRPC's culvert inventory program and state funding for replacements help prioritize and address these issues, providing towns with the data they need to conduct capital planning.

Figure 5.10

A right-sized concrete arch culvert with wing walls.

Continued inspection, investment, and adherence to updated standards will be essential for maintaining the Region's transportation reliability and mitigating flood risks.

Active Transportation Networks

Active transportation—encompassing walking, biking, and the use of small personal mobility devices—plays a vital role in supporting a connected, healthy, and energy-efficient transportation system in the Region. With strong relevance in areas targeted for growth, active transportation infrastructure includes sidewalks, bike lanes, shared-use paths, and trails that link people to jobs, schools, services, and recreation. This section provides an overview of existing infrastructure, usage patterns, safety considerations, and opportunities for enhancing walkable and bikeable communities throughout the Region.

Active Transportation infrastructure is made up of a combination of sidewalks, shared-use paths, on-street bike lanes, and even trails. Traditionally thought of as human-powered transportation, primarily through walking and biking, active transportation also includes small-scale motorized devices, like wheelchairs and electric bikes. In addition to dedicated infrastructure, cyclists are allowed to travel all roads (apart from limited-access highways) in vehicle lanes. Pedestrians are allowed to travel along the shoulders of non-limited access roads, although these facilities are usually designed primarily for automobiles. Active Transportation is highly energy efficient, walking and biking are entirely 'human-powered', and electric scooters and e-bikes require only small amounts of energy. It is also very convenient within areas targeted for growth, due to the clustering of lots of potential trips, like commuting and shopping in compact areas.

Active transportation forms a core part of regional transportation networks, allowing freedom of mobility for those who lack easy access to private vehicles. Poultney Village exemplifies this approach, with an extensive sidewalk network and low-traffic streets connecting residents to schools, businesses, and recreation. (Figure 5.11) While transportation systems designed for cars offer significant freedom and independence to users who are able-bodied and can afford to drive, this is not the case for many in the Region. 7% of all households in the Region lack any access to a private vehicle, while another 37% have access to only a single vehicle.[10] Given that the average household size is just over two people, this means that close to half the Region likely does not have on-demand access to private vehicles.[11] Walkable and bikeable communities particularly benefit children and older adults. Physical activity is linked to improved learning outcomes[12], and many schools in the Region—such as those in Middletown Springs and Wells—are well-situated in areas targeted for growth. For older adults, walkability and bikeability are key factors in reducing social isolation, which is strongly correlated with health risks like heart disease, depression, and cognitive decline.[13]

Most of the Region's pedestrian networks are made up of sidewalks. Rutland City has

Figure 5.11

Poultney Walk to School Day. Poultney Village is compact and walkable with an elementary school, well suited to support walking and rolling to school.

the largest, with over 300,000 linear feet—about the distance from Rutland to Burlington measured in a direct path. Meanwhile, Middletown Springs has the smallest, with just over 1000 feet connecting the four corners to the Elementary School. Some form of sidewalk infrastructure is present in 14 communities out of 27 in the Region. Altogether, the Region's sidewalks stretch far enough that, if laid out end to end, you could walk from Downtown Rutland to Canada.

In 2023 and 2024, the RRPC conducted a full condition assessment and inventory of regional sidewalk networks in all 12 of the 27 towns with sidewalk networks. Overall, sidewalk conditions are decent in the 12 communities assessed, with 59% of sidewalks rated 'good' or better. However, the overall picture obscures individual variance between communities. (Figure 5.12). The Fair Haven sidewalk network is a significant outlier in the Region, with only 14% of sidewalk segments rated as 'good' or better. A major barrier to maintaining sidewalks is the lack of financial and staff capacity. Roadways are prioritized as the most heavily used transportation asset, leaving little time or money for preventative maintenance, which can save money and extend sidewalk lifespan.

In the past decade, there have been 135

crashes involving pedestrians in the Region. Of these, 66% (90) of all crashes occurred in Rutland City. After Rutland City, the communities with the next most crashes involving pedestrians are Brandon and Rutland Town, with 10 each, followed by Fair Haven and Killington with six each. The single corridor that registered the most pedestrian crashes (24%) in the Region is US Route 7 through Rutland City and Rutland Town. Outside of US Route 7, most crashes in Rutland City occurred on Woodstock Avenue (US Route 4) and downtown or are within walking distance of the downtown core. There have been nine pedestrian fatalities in the Region in the last decade, with seven involving non-impairment of the pedestrian. Of these crashes, five of them occurred on rural roads with no dedicated sidewalk facility, and two occurred in Rutland City and Town along US Route 4 and US Route 7. This indicates that overall sidewalk networks in areas targeted for growth are fairly safe, with the largest safety concerns occurring on rural roads where existing land use context and population density make sidewalks an uneconomical option. However, crash statistics alone do not capture the full picture. Close calls, unreported incidents, and areas perceived as unsafe (where people avoid walking altogether) are difficult to quantify.

DID YOU KNOW?

If you were to lay out all the Region's sidewalks end to end, you could walk from Downtown Rutland to Canada.

Close calls and incidents that do not get reported don't make official statistics, and areas that are so unsafe that they lead people to avoid them or avoid walking altogether are difficult to measure.

Shared-use paths, typically asphalt or gravel paths measuring between 8 and 12 feet wide, support a wide variety of uses, including transportation and recreation. The largest and most significant shared-use path in the Region is the D&H Rail Trail between Poultney and Castleton, which connects two State Designated Centers on an approximately 9.5-mile continuous path. The D&H Rail Trail can serve both as a recreational area and a transportation route, connecting jobs, shopping, and trail services by a safe and convenient path. (Figure 5.13) There is also a section of the D&H Rail Trail that travels through Granville in New York, then south through Pawlet, and then out of the Region into Rupert. Rutland City has three shared-use paths, and currently there are several more planned for Killington, Rutland Town, and West Rutland.

Although shared-use paths make up most of the dedicated infrastructure for cyclists, several roadways have installed dedicated bike lanes in recent years. Brandon, West Rutland, Rutland City, and Rutland Town all currently have bike lanes, with planned projects to install more in Castleton. Bike lanes

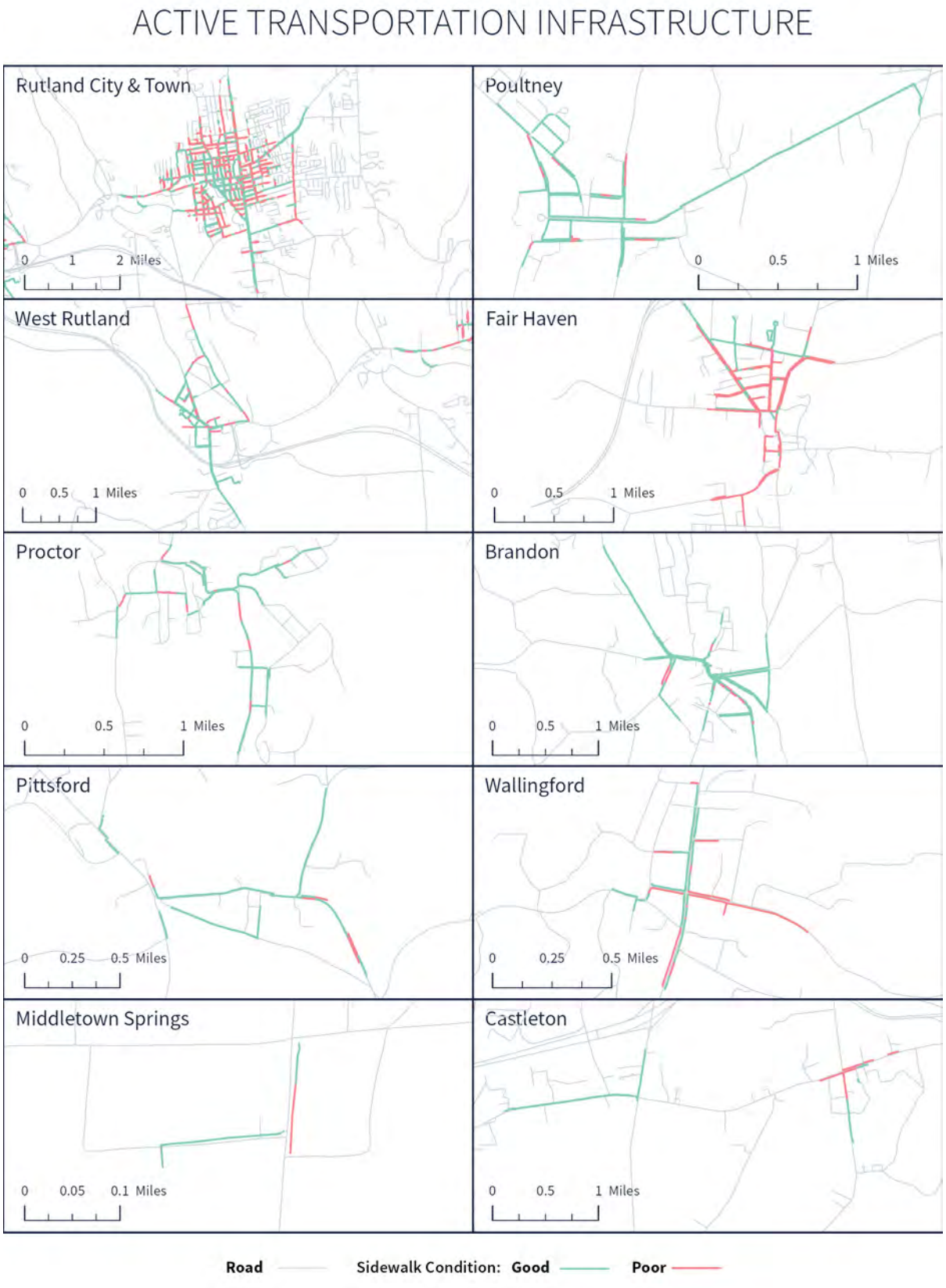


Figure 5.12

This map series shows the Rutland Region's various sidewalk networks and their current condition.

are typically installed to separate vehicle and bicycle traffic in a way that is economical, since they can be installed as part of planned repaving projects when extra width is present.

In the past decade, there have been 40 crashes involving bicycles in the Region. Of these, 62.5% (25) of all crashes occurred in Rutland City. After Rutland City, the community with the next most crashes is Killington with three crashes, followed by Brandon and West Rutland with two crashes. All other communities with a crash involving a bicycle in this period recorded only a single accident. The only fatal accident involving a bicyclist occurred on VT Route 30 in Pawlet, on a stretch of road that lacked adequate shoulders. This is very similar to Vermont's Washington County, which has a similar population to Rutland County. However, compared to pedestrian crash rates, bicycle crash rates are even more difficult to use to determine the safety of the overall network. Typically, if someone does not feel safe or comfortable biking or walking somewhere, they will choose another travel option.

Ultimately, Active Transportation offers a convenient, energy-efficient, and cost-effective way to travel in growth areas, provided people feel safe and comfortable choosing their preferred mode.[14] Sidewalks form the largest and most maintenance-intensive parts of these networks, and are overall fairly safe, though safety issues exist, primarily along US Route 4 and US Route 7 in Rutland City and Town. Bike networks are more fragmented, combining on-street bike lanes, shared-use paths, and varying road

Figure 5.13 Cyclists enjoy a ride on the Delaware and Hudson (D&H) Rail Trail.

conditions—from high-stress routes for experienced cyclists to separate off-street paths suitable for cyclists of all abilities. Nonetheless, while there is a need to continue to provide modern, safe infrastructure for active transportation, the Region's existing mixed-use centers provide a concentration of land uses that are well suited for active transportation trips that are time and cost-competitive with driving.

Public Electric Vehicle Charging Infrastructure

Expanding the use of electric vehicles (EVs) is a central strategy in Vermont's efforts to reduce greenhouse gas emissions and improve energy efficiency. In a region where most travel occurs by private vehicle, transitioning from gas-powered to electric cars presents a major opportunity to lower transportation-related emissions and operating costs. This section outlines current EV adoption trends in the Region, the benefits of electric vehicles, and the critical need for expanded charging infrastructure—particularly fast chargers—to support continued growth.

The State of Vermont aims to increase electric vehicle adoption to reduce greenhouse gas emissions. Electric vehicles are about 68% more energy efficient than gas-powered ones in Vermont, as detailed in the Enhanced Energy Chapter (Chapter 8, page 239). Given the dominance of private vehicle travel, electrification offers one of the most impactful ways to improve energy efficiency. Additionally, electric vehicles have lower operating and maintenance costs, providing economic savings that benefit the local economy. Currently, electric vehicles represent just under 2% of registered vehicles in 2023, a notable increase since 2019, and this trend is expected to grow, as noted in the Enhanced Energy Chapter (Chapter 8, page 239). Establishing a reliable charging network equivalent to gas stations is crucial to encourage electric vehicle purchases and alleviate concerns about inconvenient charging.

Electric vehicle chargers are categorized into three different levels based on the charging time. Level one chargers offer approximately 3-5 miles of range per hour and can connect directly to most wall outlets. These are typically used only when no other dedicated infrastructure is available. Level two chargers provide about 20-30 miles of range per hour but require dedicated infrastructure. They are usually best installed at

Figure 5.14

Fast chargers installed in Rutland City's Downtown.

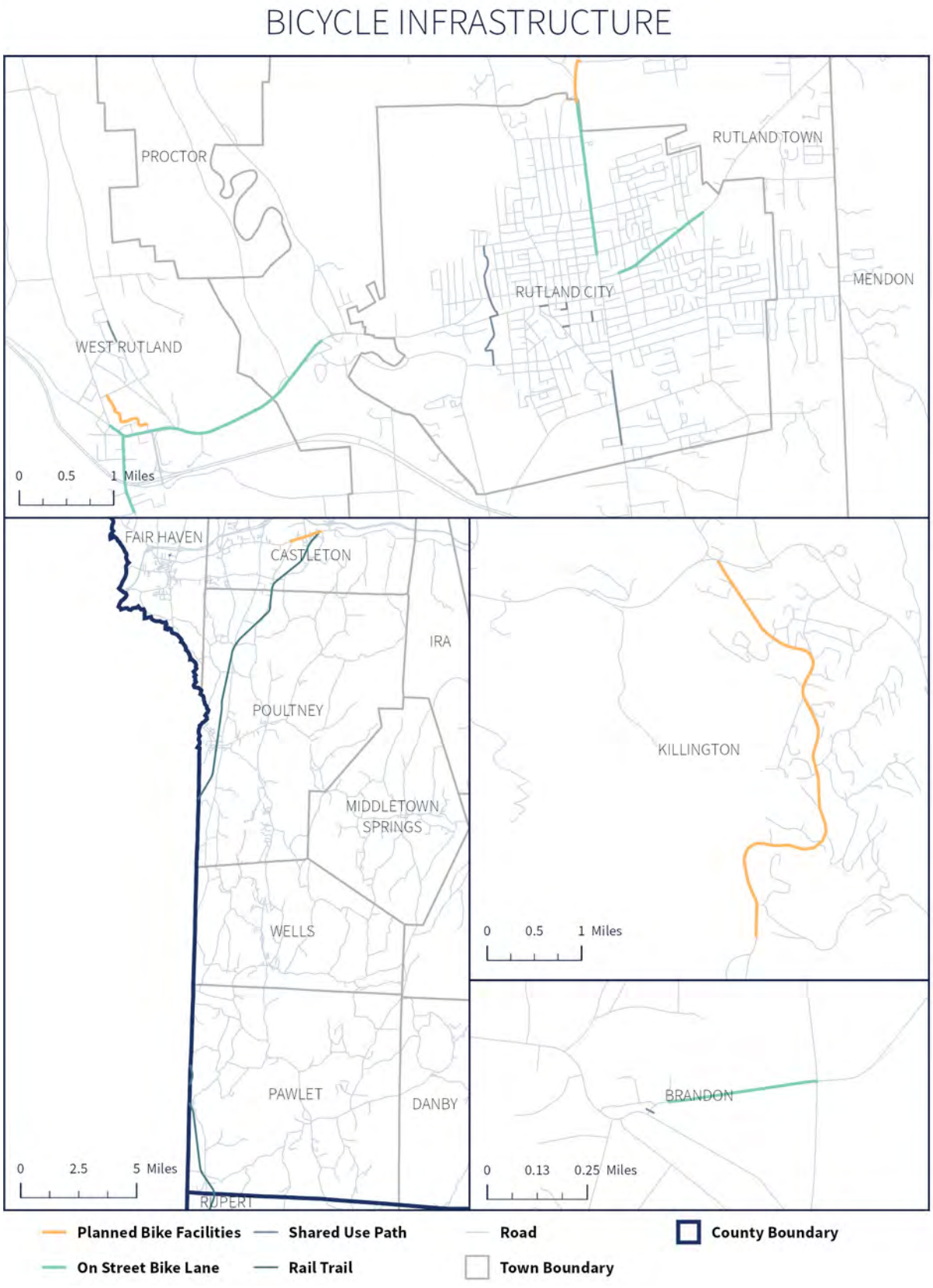


Figure 5.15

This map series shows the Rutland Region's various dedicated bicycle infrastructure.

homes, multifamily properties, workplaces, or other locations where users would park for at least several hours. Level three chargers, also known as fast chargers, generally deliver an 80% charge in 20-40 minutes.[15] (Figure 5.14) These are typically ideal for highway corridors where drivers often travel longer distances, in employment areas, and at businesses where customers will visit for a short time.

Gas stations for combustion engine vehicles are well distributed, but Level 3 fast chargers are less consistent, with only 18 available. (Figure 5.16) Half are in Rutland City and Rutland Town, which have 15 gas stations, each with at least four pumps. Significant gaps are along US Route 7, an EV corridor eligible for federal funding for installation. Even so, the Region is comparatively well-served relative to other rural areas nationally.

Public Transit Systems

Public transit in the Region is a critical service that connects residents to jobs, healthcare, and essential services, especially for those without access to a private vehicle. Primarily operated by the Marble Valley Regional Transit District (The Bus), the system includes fixed routes, regional and intercity connections, and special transit services for older adults and individuals with disabilities. While the Region has one of the highest transit ridership levels in Vermont outside of Chittenden County, challenges remain around route efficiency, accessibility, and public awareness. This section provides an overview of the Region's current transit system performance, service models, and areas for improvement.

The Bus served over 350,000 passenger trips in State Fiscal Year 2024 on its regular public transit routes. The Region has a mix of

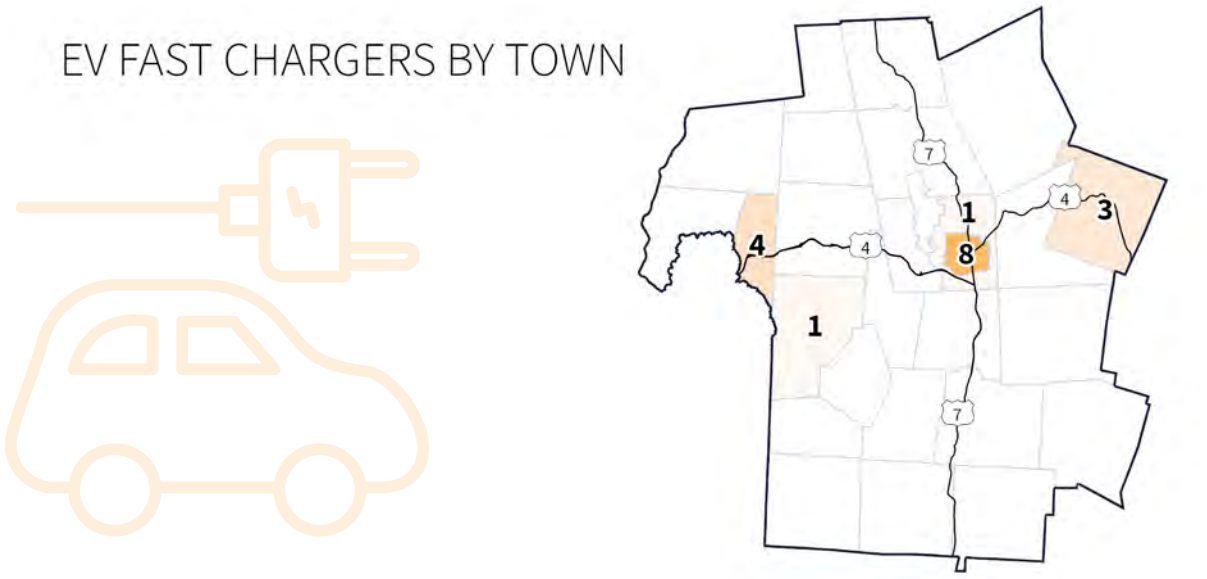


Figure 5.16

Number of Fast Chargers per Town

fixed-route public transit (buses that operate on a set schedule with a pre-determined route), on-demand special public transit (smaller vehicles that provide door-to-door service for eligible clients), and intercity bus services operated by private transit providers with subsidies from the Vermont Agency of Transportation. The Region is the single largest generator of public transit ridership outside of Chittenden County, with 14% of all transit trips in Vermont originating from the Region. This is more trips than the next three most populous counties combined, despite their total population of almost 170,000.[16] Overall, the Region's public transit systems operate efficiently, especially compared to other routes in the State, but a focus on coverage over frequent service reduces the convenience of the system for the average rider.

The Rutland Regional Transit Center in downtown Rutland City is the hub of the Region's bus network and marks the origin and terminus of all fixed public transit route services. The Transit Center is located on the first floor of a parking deck, which is owned by the State of Vermont and leased by The Bus, with the rest leased by the City. The Transit Center also features a sheltered waiting area, but it has only been open intermittently over the previous few years due to concerns about safety and it being used as a de facto shelter for those who lack adequate shelter, trying to get out of the cold. The Transit Center serves as the center for the Region's 'hub and spoke' system, with all the Region's public transit routes beginning and ending there. This system model functions primarily to bring people in and

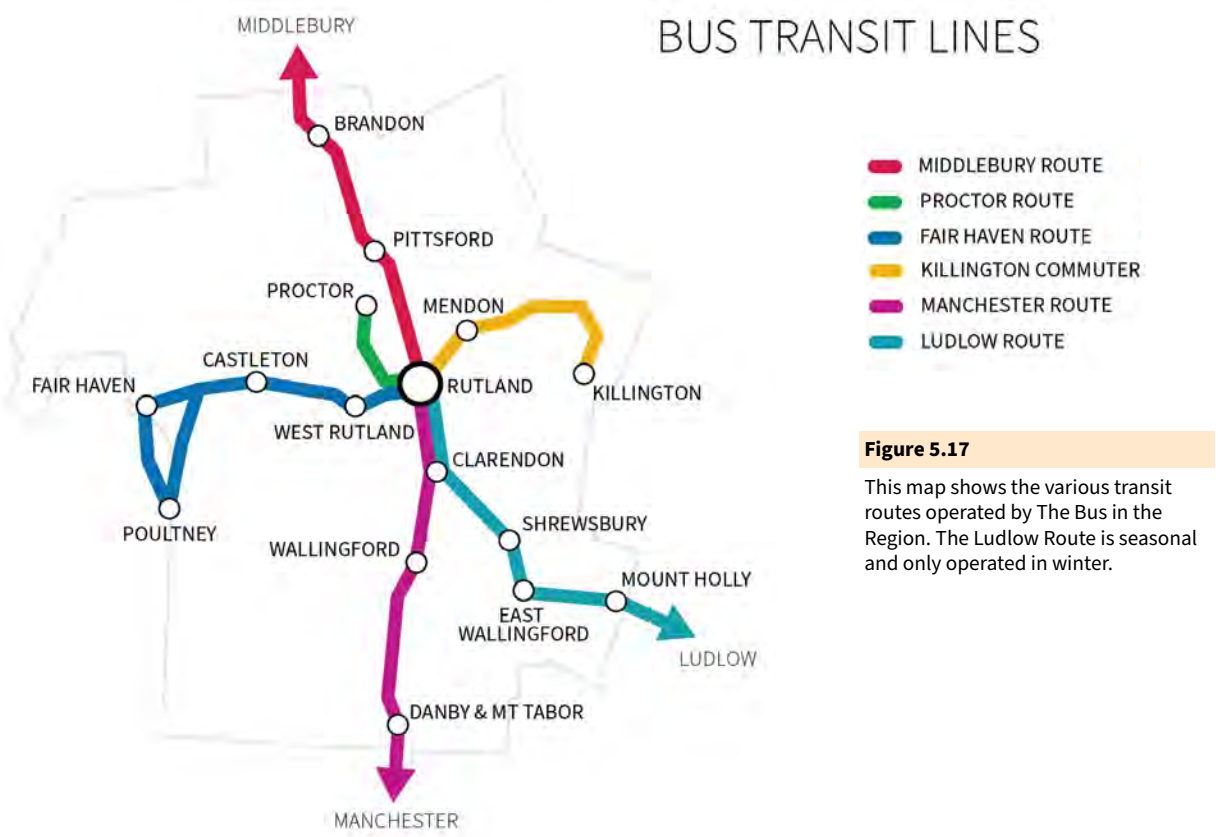


Figure 5.17

This map shows the various transit routes operated by The Bus in the Region. The Ludlow Route is seasonal and only operated in winter.

out of Downtown Rutland during typical 9-5 business hours. During the COVID Pandemic, fares were suspended, and currently, there are no plans to reimplement them.

Every regional community over 2,000 residents has fixed-route public transit service. (Figure 5.17) The Vermont Agency of Transportation sets two cost-per-passenger thresholds—'successful' and 'acceptable'—to ensure financial efficiency. Overall, fixed public transit routes operated by The Bus are performing well within the Agency of Transportation's performance metrics. The Bus meets these metrics, being one of only three providers with no routes below 'acceptable' in State Fiscal Year 2023. Rutland City's four fixed routes efficiently connect residential areas to commercial and medical hubs, all operating within the 'successful' threshold at $7.50 per passenger or less. (Figure 5.19)

However, the hub and spoke model makes the system quite inconvenient for those who are not starting or ending their trip Downtown, forcing riders to make a transfer and take a very indirect route. This is further compounded by one-way loops that maximize coverage but reduce efficiency—traveling from the Granger and South St. bus stop to Green Mountain Shopping Center takes 26 minutes by bus, nearly as long as walking (27 minutes). Compared to driving or biking, Rutland City's routes are generally not time competitive and, as shown above, may not even be time competitive with walking in some cases when a transfer is required. However, this one-way loop model is largely designed to serve the needs of disabled riders, who make up over 15% of the City's population. As a result, these routes typically serve transit-dependent riders rather than serving as a general mobility option for those who have access to other options, making it difficult to substantially grow ridership from current levels.

The Bus offers three regional routes (Proctor, Fair Haven, Killington Commuter) and three inter-regional routes (Manchester, Middlebury, Ludlow; the latter only in winter).

Figure 5.18

Transit Bus operating on the South Route in Downtown Rutland.

These routes, serving rural clusters, prioritize access with lower performance thresholds set by the Vermont Agency of Transportation. All operate at or below the 'successful' threshold except the Middlebury and Proctor Routes, which underperform. The Proctor Route costs about $32 and the Middlebury Route about $38 per passenger, significantly higher than the worst-performing City Fixed route at about $7 per passenger. While deemed "acceptable," these routes demand substantial financial support from The Bus.

Special Transit Services offer point-to-point transit services for various priority populations, primarily older adults and individuals with disabilities. The Bus manages multiple programs that fall under the broader umbrella of Special Transit Services. The Medicaid Transportation program provides rides to medical appointments for Medicaid recipients. Medical and wellness-related rides not covered by Medicaid are available through the Older Adults & Persons with Disabilities Program, which serves individuals over 60 or those with disabilities. Finally, the Rides to Recovery and Job Access Program offers transportation to jobs, job interviews, or drug recovery treatment.

The Region has the highest disability rates in Vermont, creating significant demand for ride services, especially for the Older Adults and Persons with Disabilities Program, which has surpassed its budget in recent years. While this program promotes health and wellness by including access to healthy food and socialization, traditional medical appointments consume most of the budget. In FY24, medical trips made up 70% of all rides, limiting resources for grocery shopping and wellness services. A major cost driver is the need for long trips to Dartmouth and UVM Medical Center, which provide medical professionals and facilities absent in the Region. With no immediate changes

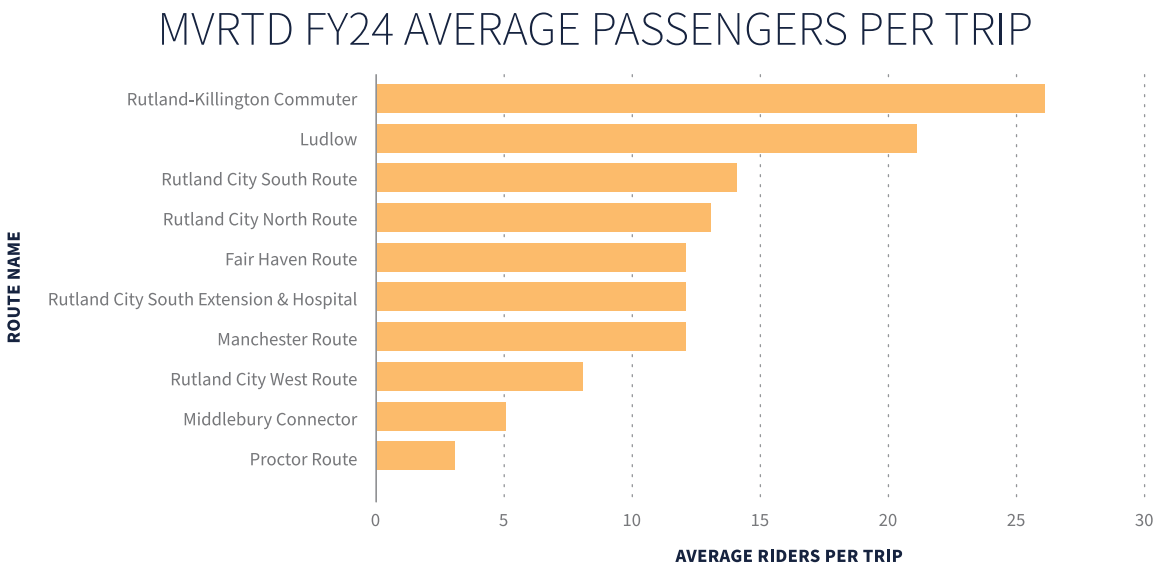


Figure 5.19

This graphs shows off the average number of passengers on each trip of The Bus on it's various routes. Each route has different level of frequency, so this per trip metric provides a much clearer picture of route performance than raw passenger numbers overall.

expected, enhancing efficiency in the current program is crucial to better meet the needs.

While the Region needs to examine existing routes and programs for efficiency, engagement survey responses (see Engagement Report, Appendix A1.2, page 417) indicate that a lack of information about the public transit system is the biggest barrier for those unfamiliar with its services. The top factor for increasing ridership was "better information about on bus routes, schedules, and how to ride." This poses a major challenge but also an opportunity for community outreach and marketing to boost ridership, instead of merely increasing service levels. Despite service gaps and high-cost routes, the public transit system remains economical and efficient, balancing cost, frequency, and coverage. It offers broad access, although rural areas still face impractical fixed routes.

Rail Systems

Rail has long been a backbone of transportation in the Region and, despite reduced use compared to its historic peak, remains a critical part of the regional transportation system. Today, rail supports both freight and passenger movement, contributes to economic activity—particularly through the mining industry—and offers a more energy-efficient travel alternative. This section outlines the current role, strengths, and challenges facing the Region's rail infrastructure.

Once the Region's primary transportation network, rail remains vital despite reduced activity. Rutland City is one of only two four-way rail junctions in the state, with three

Figure 5.20

This map shows the location of rail lines and passenger Rail Service in Vermont.

distinct rail lines radiating outward —two state-owned and one privately operated by the Pittsford and Clarendon Railroad.[17] Vermont Rail System maintains and operates all three with Vermont Agency of Transportation support. The D&H Rail Trail, though currently a multi-use path, remains a state-owned rail corridor and could be reactivated. Together, these lines provide essential infrastructure for freight rail, passenger rail, and seasonal tourist services. (Figure 5.20)

AMTRACK IS

46%

MORE ENERGY EFFICIENT

than traveling by car

Passenger rail service is available in the Region through the Amtrak Ethan Allen Express service, which runs daily between New York City and Burlington, Vermont, with ADA-compliant stations in Rutland City and Castleton.[18] Transfers can be made in New York City to the larger Northeast Corridor, which provides frequent service south to Washington, D.C., and north to Boston. This service provides crucial access to those who lack a personal vehicle, but also provides a more energy-efficient option for those who do, as Amtrak is 46% more energy efficient than traveling by car.[19] Ridership declined during the COVID-19 pandemic but has since shown steady recovery. (see Figure 5.21) The Vermont Translines 7 bus, a private intercity bus that stops in Rutland City, also functions as an Amtrak Thruway Route. It travels part of the Ethan Allen Express corridor and connects to Albany, which has much more frequent train service to New York City. The Translines 7 bus allows for combined train/bus round trips, offering more flexibility than the current rail timetables allow.[20] Current timetables prioritize connecting Burlington and other Vermont communities to New York City and are inconvenient for travel

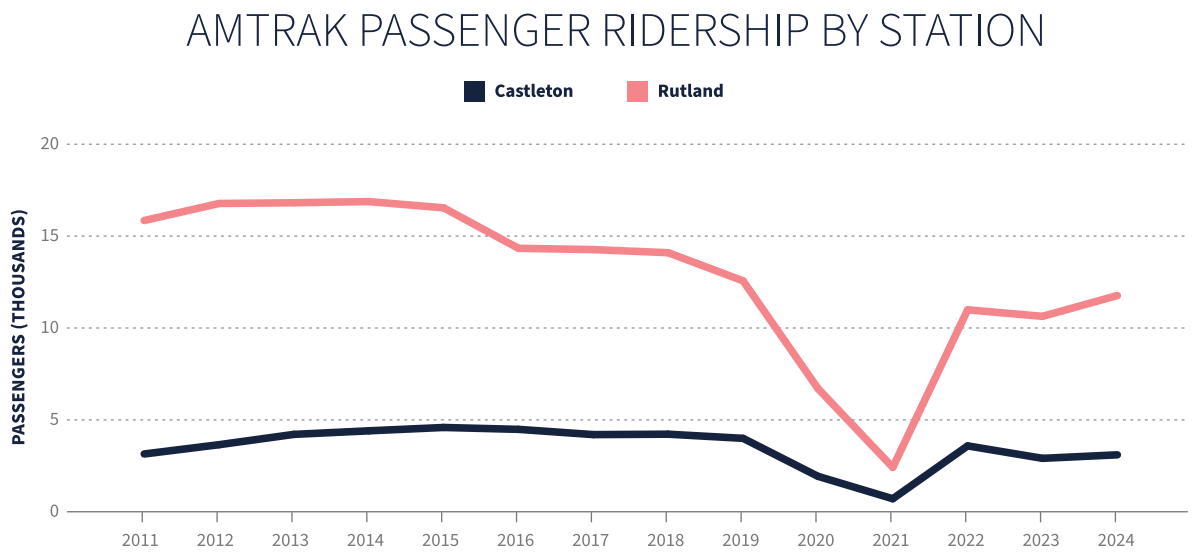


Figure 5.21

Amtrak ridership over the past 14 years at the Castleton and Rutland stations.

within Vermont, requiring overnight stays when traveling by train from Rutland or Castleton. Both Stations are ADA compliant but lack paths that are fully accessible connecting the Stations to the Designated Downtown and Village Center, respectively.

The Region's rail corridors play an important part in larger freight networks, handling goods that are typically high weight and low value, such as animal feed or mining products. The Region is the single most important exporter of goods by rail in the State, as 90% of Vermont's rail freight exports are made up of mining products,[21] more than half of which come from the Region. See the Economic Development Chapter (Chapter 3, page 79) for more on the mining industry. The Vermont Marble Corporation, now owned by OMYA, helps build sections of the Region's rail infrastructure and, to this day, is a major rail freight shipper. Due to the age of the Region's rail network, it was not constructed with clearances to allow for 'Double Stacking', a more recent freight rail practice that involves stacking two freight containers on top of each other. This practice doubles the capacity of each rail car, thereby significantly increasing cost efficiency for rail shipping. Major barriers to double-stacked freight traveling on the Region's rail network are low clearance bridges located in Proctor and Rutland Town.[22]

Although the regional rail network mostly operates independently of other infrastructure, there are numerous locations where the rail network and road network intersect. Although some of these crossings are grade-separated through bridges or underpasses, many are located at-grade, creating potential accident points. Overall, there are 74 at-grade road-rail crossings in the Region, with only 23 of them featuring the highest level of safety feature, crossing gates.[23] The Agency of Transportation has set a long-term goal to provide these safety features for all at-grade crossings on passenger rail routes. Currently, 70% of these Amtrak crossings have these safety features. While providing full safety features for every crossing may not be necessary due to low traffic volumes, there are some key crossings of Federal or State highways with heavy traffic that lack gate protection, such as the crossing of US Route 4 in Rutland Town, the crossing of VT Route 3 in Proctor, and the crossings of VT Route 103 in Shrewsbury.

The Region's rail system is a vital asset, providing opportunities for energy-efficient passenger and freight trips. The Region has a level of rail service that is rare for rural America, with 100% of the Region within 25 miles of an Amtrak Station, as compared with only 57% of Americans as a whole living within 25 miles of an Amtrak Station.[24] The existing freight network is heavily utilized by mining industries and provides a cost-efficient method of getting high-weight products to market. However, the convenience of the current passenger rail service is limited by current timetables, and the cost of shipping by freight is increased compared to railways that have adequate clearance for double stacking. While there have been no major incidents, the lack of proper gates at several heavily trafficked railroad crossings remains a safety concern, although progress has been made, including the installation of gates and a pedestrian path at the busy Rutland City West Street crossing.

Air Service

The Rutland-Southern Vermont Regional Airport is a key multimodal asset for the Region, supporting both commercial and general aviation. As the largest State-owned airport outside Chittenden County with regular commercial service, it plays a unique role in connecting the Region to national travel networks and supporting freight and private aviation. This section outlines the airport's current capacity, funding structure, and potential for future growth.

The Rutland-Southern Vermont Regional Airport, located in Clarendon (see Figure 1), is a unique asset for the Region. It is the largest State-owned airport and the only airport outside of Chittenden County that has regular commercial air service, with three daily round-trip flights to Logan International Airport in Boston provided by Cape Air.[25] However, the airport serves far more uses than just commercial flights, including freight, private jets, and local hobbyist flights. Currently, there are 27 planes based at the airport, but only 17 of these planes can be stored in the existing hangars. Although there is no new hangar development planned at present, the airport has sufficient open space to allow for the development of new hangar facilities to accommodate current locally based aircraft.

Continued operation of the Airport heavily relies on Federal and State subsidies and will likely do so for decades. Current passenger service is part of the Federal Aviation Administration's "Essential Air Service Program", which funds airlines to serve airports like Rutland's that lack demand for profitable routes. This subsidy is capped at three round trips daily and is unlikely to increase. Additional subsidies go to the Vermont Agency of Transportation through the "Primary Airport Entitlement Program", which provides capital funding based on 'enplanements' (passengers traveling to or from the airport). If Rutland reaches 8,000 annual enplanements, it unlocks $600,000 in capital funding per year; at 10,000 yearly enplanements, it unlocks $1,000,000. Currently, the airport is below this threshold, with only 5,228 enplanements in 2023, but it could potentially meet it if passenger volumes rise. It is important to note that maintaining these subsidies relies on the airport having adequate airspace clearance, so future utility development should not interfere. Refer to Section 248 Criteria in the Enhanced Energy Chapter (Chapter 8, page 239) for more details.

While the airport's continued operation depends on federal and state subsidies, its strategic value to the Region remains significant. As the largest State Airport, and only one with passenger service it is an asset not present in any other areas of Vermont outside Chittenden County. With available land for future hangar expansion and the potential to increase enplanements under existing service levels, the airport remains a critical piece of the Region's transportation infrastructure. Ongoing coordination with state agencies and careful planning around surrounding land uses will be essential to maintaining and maximizing its benefits.

FUTURE TRENDS

The preceding sections outlined the current state of the Region's multimodal transportation network, emphasizing both its strengths—such as walkable centers and diverse infrastructure—and its ongoing challenges, including safety risks, inconsistent maintenance, and vulnerabilities to climate impacts. As the Region looks ahead, broader demographic shifts, economic changes, and environmental pressures are expected to significantly influence transportation needs and infrastructure priorities. Understanding these future trends is essential to ensuring the Region's transportation systems remain safe, resilient, and aligned with community values.

Roadways

The Region's approach to highway and road improvements has shifted away from large-scale bypasses and new highway construction toward more sustainable, cost-effective strategies focused on safety, resilience, and multimodal access. As construction costs rise and climate mandates grow more urgent, investments now prioritize upgrades to existing corridors, particularly in growth centers and high-risk areas.

Although the Region once pushed for new bypasses and limited access highways, the

Figure 5.22 Aerial photograph of the Rutland Southern Vermont Regional Airport.

prospects are slim. Rising construction costs and state mandates to cut greenhouse gas emissions have shifted Vermont's focus to maintaining and improving existing infrastructure. The Brandon bypass illustrates this shift. For years, Brandon, the RRPC, and the Vermont Agency of Transportation studied rerouting US Route 7 around downtown. The bypass was never built, but downtown saw a full reconstruction with Complete Streets upgrades in 2019, including extended sidewalks, safer crossings, traffic calming, and green stormwater infrastructure. A key resilience improvement accompanied this work: a 100-foot-wide 'super culvert' installed under downtown to handle major storm flows. While other parts of Brandon flooded in 2023, the culvert kept downtown dry.

Currently, a Complete Streets improvement for Pittsford is being developed alongside widened shoulders on US Route 7 in Pittsford and Brandon. VT Route 22A has two major projects planned for shoulder widening through Benson, West Haven, and Orwell. These projects will bring most of the US Route 7 corridor outside developed areas up to modern safety standards. However, a segment in South Wallingford and Danby has inadequate shoulders, with no current project planned. The Region should collaborate with the Vermont Agency of Transportation to ensure this segment receives equitable treatment, like other segments, to improve safety and connectivity for residents. Additionally, with the reconfiguration of North Main St/US Route 7 from four lanes to two, a stranded four-lane segment remains between Field Ave in Rutland City and Post Road in Rutland Town. Future resurfacing projects should address this and create a consistent two-lane roadway.

US Route 4 east of US Route 7 needs safety improvements, as the planned freeway was never built, and crash rates far exceed those on the western section. In 2024, a Town of Mendon scoping study recommended

Regional Transportation Coordination

The RRPC Transportation Advisory Committee (TAC) coordinates regional transportation planning, assists with transportation-related public engagement, and advocates to the Vermont Agency of Transportation. Each town may appoint a representative to participate in discussions and decision-making. The TAC identifies infrastructure priorities through the Vermont Project Prioritization & Selection Process and keeps communities informed on transportation policy and planning updates. It is the primary forum for towns to voice concerns and influence state transportation decisions. The RRPC also helps run the Rutland Airport Committee, which brings together people from the Vermont Agency of Transportation, local government, and local business interests to help identify airport improvements and strategies for enhancing this unique regional asset.

removing excess climbing lanes that encourage high speeds. These lanes should be eliminated corridor-wide. Context-sensitive design should be implemented to slow traffic in Mendon Village and near Killington's development clusters surrounding intersections with Killington Road and VT Route 100. Floodplain resilience projects along US Route 4 and VT Route 4A are also needed, though many require work beyond the right-of-way.

Many Vermont State Highways, such as VT Routes 30, 103, 100, and 133, have inadequate shoulder space. While widening to provide adequate shoulders should be a long-term goal, it is not an immediate priority due to lower traffic volumes, environmental and right-of-way constraints, and high costs. Smaller-scale improvements, like better signage and guardrails, should be pursued at high-crash locations along these corridors. Additionally, Village Centers along these routes, such as Middletown Springs,

Figure 5.23

An example of how narrowing lane width as part of a future repaving project on US-4 in Mendon can improve safety at minimal cost.

Figure 5.24 [caption TBD]

Figure 5.25
[placeholder]

Pawlet, and Wells, should adopt Complete Streets design features that calm traffic, such as reduced widths and turning radii. Towns should focus on small-scale improvements on town-owned roads outside built-up areas, emphasizing maintenance of the existing network. In built-up areas, the focus should be on creating Complete Streets that ensure a safe, low-speed environment for all users, including narrowing overly wide roads and adding curb extensions to calm traffic. (Figure 5.26) See 'Complete Streets Implementation Table' in Appendix A5.1, page 421 for specific details on appropriate design features based on land use context.

By focusing on Complete Streets upgrades, shoulder widening, and context-sensitive design, the Region can improve safety and resilience while aligning with statewide goals for greenhouse gas reduction and smart growth. Continued collaboration with the Vermont Agency of Transportation and targeted local investments will be essential to ensure that all communities benefit

Towns should focus on small-scale improvements on town-owned roads outside built-up areas, emphasizing maintenance of the existing network.

COMPLETE STREETS GENERAL MODAL CONSIDERATIONS

Land Use Context	Motorist	Freight	Transit	Bicyclist	Pedestrian
PLANNED GROWTH AREA	•	•	•••	•••	•••
VILLAGE AREA	••	•	•••	•••	•••
TRANSITION/INFILL	••	••	•••	•••	••
RESOURCED BASE RECREATION AREA	••	••	••	••	••
ENTERPRISE AREA	•••	•••	••	•	•
HAMLET AREA	••	••	••	••	••
RURAL AREA	•••	•••	•	•	•

Figure 5.26

This table provides guidance on what transportation modes should be prioritized based on the future land use category that the streets and roads travel through. A complete accounting of what prioritizing certain modes looks like in terms of actually roadway design can be found in Appendix X.

equitably from modern, efficient, and safer transportation infrastructure.

Bridge Structures and Culverts

Most regional bridges are in good condition, but the Region should work with the Vermont Agency of Transportation to plan for refurbishing or replacing poor-condition bridges like the Creek Road Bridge in Wallingford. Since the Vermont Agency of Transportation does not inspect town-owned short structures, towns should adopt five-year inspection cycles and plan to replace those in poor condition. Communities need to understand their liabilities. Long-term capital planning should be pursued. By setting aside money each year, having a good understanding of asset conditions, and proactive planning, towns can help avoid unexpected or rushed capital projects. See the Community Facilities and Public Utilities Chapter (Chapter 7, page 199) for details.

Culverts should continue to be upgraded in accordance with Better Roads standards, and proper maintenance should be undertaken to ensure their continued functioning. Local communities should also establish clear policies regarding the ownership and maintenance of driveway culverts, as responsibility for these can straddle the line between public and private. Resilience improvements identified in the Transportation Resiliency Planning Tool should be implemented around bridge structures identified as high risk by the Vermont Agency of Transportation. The Region should also continue supporting routine culvert inventories and ensure towns have access to updated data for capital planning.

Active Transportation Networks

Figure 5.27

Update caption

Sidewalks and bicycle infrastructure are essential components of a safe, accessible, and multimodal transportation system. While many growth-targeted areas in the Region have established sidewalk networks, inconsistent maintenance and gaps in bike and pedestrian connectivity limit their effectiveness. This section outlines strategies for improving infrastructure condition, prioritizing safety, and supporting walking and biking as viable transportation options.

Most growth-targeted areas in the Region have well-developed sidewalk networks but face issues with insufficient maintenance. Towns should implement capital and preventive maintenance to keep sidewalks in good condition. The RRPC has conducted inventories to identify issues and support planning. Short-term fixes can yield long-term savings and extend sidewalk lifespan. Only Poultney Village and Rutland City currently allocate annual funds for sidewalk maintenance; other towns like Fair Haven and Brandon should consider similar strategies. Maintenance should focus on high-traffic routes and Downtown and Village Centers when possible. Ideally, sidewalks should be on both sides of a street, but this is not always cost-effective. In residential areas, it may be worth removing sidewalks if maintenance is too demanding. A well-kept sidewalk on one side of the road is more beneficial than a poorly maintained one on both sides. For guidelines on sidewalk placement, see the 'Complete Streets Implementation Table' based on land use context.

While a well-maintained and connected sidewalk network is the most important concern for pedestrian facilities, the safety of crossings is an important component of a safe network, as these are the locations where pedestrian-vehicle accidents are most

Only Poultney Village and Rutland City currently allocate annual funds for sidewalk maintenance

likely to occur. Pedestrian crossing distances should be narrowed through curb extensions and refuge islands, with 20 feet of exposed roadway crossing being optimal but not always feasible depending on context. Pedestrian crossing signs should be located at all crossings. Crossings across roads with higher traffic (typically State Highways and Class 1 and Class 2 Town Highways) should either feature push button crossings when a traffic light is present or a Rectangular Rapid Flashing Beacon if it is an unsignalized crossing.

Bicycle infrastructure will differ between communities based on road space and right-of-way. On-street bike lanes next to travel lanes serve as either interim or permanent solutions on moderate traffic roads, but should ideally be replaced with protected/buffered bike lanes or separate shared-use paths. Business Route 4 in Rutland Town and West Rutland is well-suited for shared-use paths due to the ample paved space. By reconfiguring the roadway from four lanes to two with a center turn lane, existing bike lanes can be converted to shared-use paths, separated by a greenbelt, ensuring a safe connection between Rutland City, Rutland Town, and West Rutland. On low-speed residential streets, bike lanes are typically unnecessary. Refer to the 'Complete Streets Implementation Table' for guidelines on sidewalk placement based on land use context. To encourage cycling as a transportation option, a safe, low-stress network connecting destinations is essential.

Maintaining and upgrading pedestrian and bicycle infrastructure is a cost-effective way to promote safe, active transportation. By prioritizing high-traffic areas, improving crossings, and building out a low-stress biking network, communities can better support everyday mobility needs. Strategic investments—guided by land use context and Complete Streets principles—can make walking and biking safer, more comfortable, and more appealing throughout the Region.

Public Electric Vehicle Charging Infrastructure

Figure 5.28

A sidewalk in Rutland City which does not meet American's with Disabilities Act standards for accessibility.

Figure 5.29

Placeholder: Rutland City Bike Route Sign Photo/Sharrow

Given the designation of US Route 7 as a federal electric vehicle corridor, this corridor should take precedence for the build-out of level three chargers. The location of these chargers should be within Village Centers or Downtowns whenever possible. Fair Haven and Rutland City both provide excellent examples of this. The highest priority area of level three chargers along this corridor is the 29-mile section running through Wallingford, Danby, and Mount Tabor, since currently there are no chargers between the Rutland Southern Vermont Regional Airport and Manchester. Wallingford and Danby Village Centers are ideal locations. North of Rutland City, there are no level three chargers between Rutland City and Middlebury. Pittsford Village and Brandon Downtown Centers should be targeted for these facilities. Outside of US Route 7, US Route 4 is the next highest priority corridor. Level three chargers should be targeted for Castleton, West Rutland, and Mendon Village Centers. Long term, level three chargers should be targeted for Village Centers along State Highway routes, namely Wells, Poultney, Pawlet, Mount Holly, and Proctor.

Public Transit Systems

Public transit plays a critical role in connecting residents across the Region to employment, services, and opportunities. While the Marble Valley Regional Transit District (The Bus) provides a strong foundation of service, there are clear opportunities to expand, optimize, and modernize the system to better meet current and future needs. This section identifies near-term priorities for route adjustments, service innovations, and system-wide improvements that could enhance accessibility and efficiency.

While The Bus's current routes offer solid regional coverage, there are opportunities to expand service further while enhancing and optimizing existing routes. With the consolidation of the South Extension and Hospital Route in Rutland City, The Bus should prioritize providing extended hours to serve those working jobs outside of the standard 9-5 framework, such as hospital workers. A 2023 study from consulting firm VIA found that offering evening service through 'microtransit' would operate more efficiently than any other microtransit area studied in the State. This is due largely to Rutland City's dense land use, which concentrates enough people in a service area to achieve an economy of scale. Microtransit is an 'on-demand' transit service that provides door-to-door service. Pursuing a microtransit pilot would allow

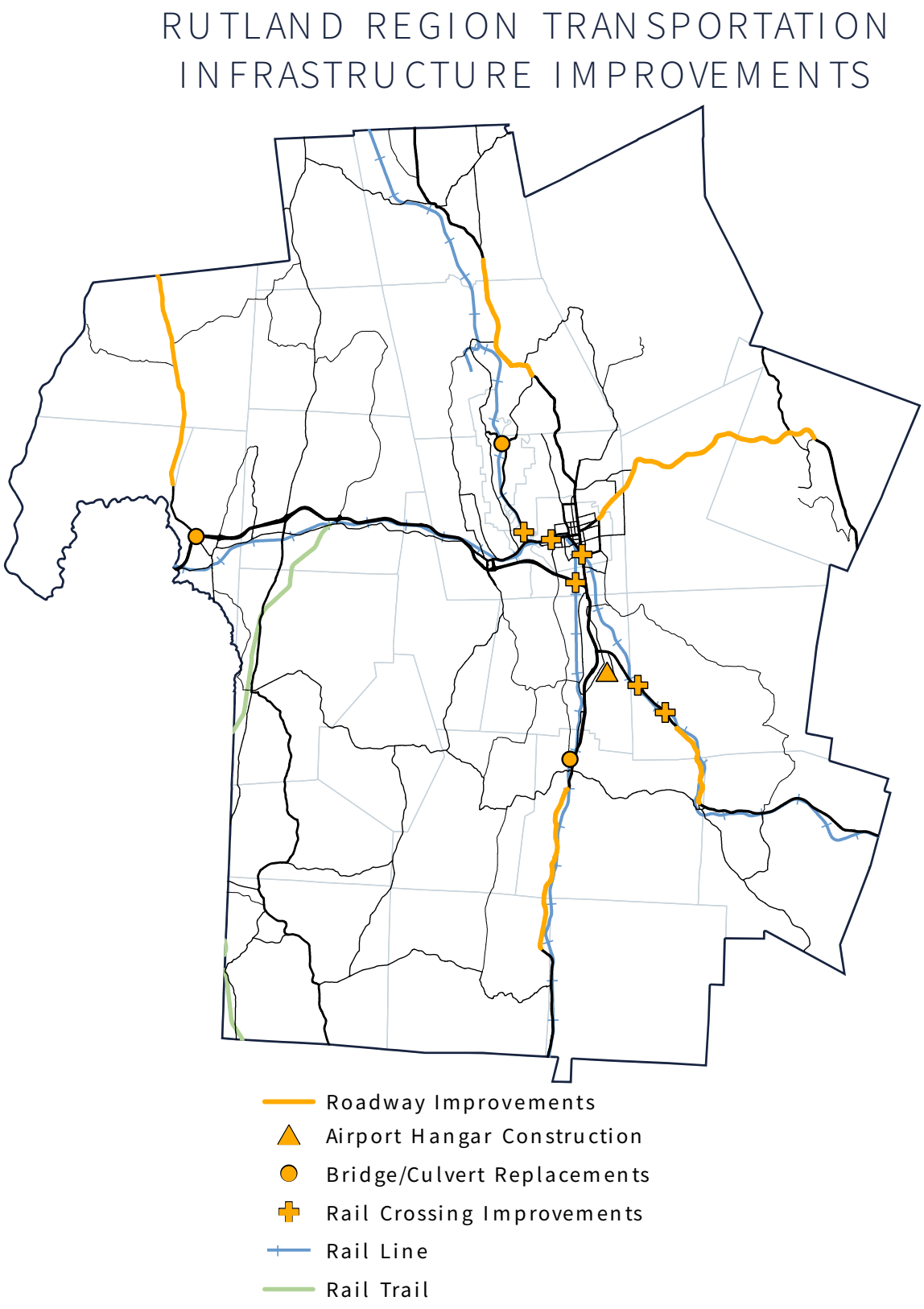


Figure 5.30

This map shows the major prospective transportation improvement projects prioritized by the Regional Plan.

The Bus to gauge demand and determine if such a system would work in practice.

Outside of Rutland City, there is a need to evaluate regional routes further, starting with those currently performing the worst in terms of average daily ridership and cost per passenger. The Proctor Route, the worst-performing transit route in the Region, should be evaluated to determine if the current level of service is needed. The next route most in need of deeper study is the Middlebury Connector. Currently, this route operates as part of a larger service connecting the Region to Burlington, the largest City and employment market in the state. However, the lack of seamless transfer with the link to the Burlington route reduces its effectiveness at connecting the Region to Burlington. Providing a seamless transfer on this route should be examined to determine if it would help improve ridership and passenger experience.

In addition to improving existing routes, a significant barrier to greater transit ridership, as noted in the Regional Plan Survey, is better information about bus routes, stops, and schedules. This indicates that an easy and simple way to improve access to transit is to increase awareness of existing transit through marketing and partnerships with community-based organizations, including the Chamber of Economic Development of the Rutland Region and large employers such as G.E. Aviation, Casella, and Killington Resort. Another way to improve the accessibility of the existing system is by enhancing the existing signage to provide information about which stop it is and which routes stop there, along with providing route maps and greater details about schedules at high ridership locations. Many stops currently lack any signage, so signage should be provided at all stops along with greater amenities such as benches and transit shelters at high ridership stops.

A 2023 study from consulting firm VIA found that offering evening service through 'microtransit' would operate more efficiently than any other microtransit area studied in the State.

Expanding transit service hours, evaluating underperforming routes, and piloting innovative solutions like microtransit can help ensure that The Bus meets the evolving needs of the Region. Just as important, increasing visibility and improving basic transit infrastructure, such as signage and shelters, can lower barriers to access and build ridership. Together, these strategies can make public transit a more viable, attractive option for more people across the Region.

Rail Systems

Rail continues to play an important role in the Region's transportation network, supporting both passenger and freight mobility. With recent investments and ongoing planning efforts, rail offers a low-emission, energy-efficient alternative to highway travel. As

Figure 5.31

A bus stop in Rutland with a bench.

ridership and freight volumes rebound and expand, targeted improvements to station access, service frequency, and infrastructure are necessary to maximize the system's potential.

The Vermont Agency of Transportation has proposed adding a second Ethan Allen Express train that would travel south from Rutland to Manchester and Bennington, before rejoining the current Ethan Allen Express route in Albany.[26] Although nothing would change for Castleton's service, this has the potential to add additional train service from Rutland to parts south. More significantly, service from Rutland to Burlington and from Rutland to New York City would be doubled, with two northbound trains and two southbound trains. The current schedule makes travel from Rutland to Burlington somewhat unattractive for day trips, since the northbound service arrives in Rutland at around 8 PM and gets into Burlington at around 9:45 PM. In addition, Rutland City has long expressed interest in a commuter rail connection to Burlington. Given recent upgrades to the line, a feasibility study should be conducted to assess this potential. In the short term, the most feasible way to test the potential ridership of such a service

BICYCLE AND PEDESTRIAN ACCESS TO TRAIN STATIONS

Castleton Amtrak Station

As of 2025, Castleton is in Phase 1 of a project that will add a bike connection to the station along Main Street and an ADA-compliant sidewalk connection. Both phases of this project should be prioritized.

Rutland Amtrak Station

Rutland City currently has no ADA-compliant sidewalk connection from Rutland Station to the Downtown. Although providing this is complicated due to the private ownership of the land that connects the two, it should be a priority.

would be through an express bus service.

Though increased service on the Ethan Allen Express is the biggest regional priority for passenger rail, the potential restoration of the old 'Rutland Flyer' route from Rutland to Bellows Falls would provide much more efficient train service from Rutland to Boston than the current routes. While these planning efforts are still in the early stages, they have the potential to restore Rutland City's former status as a major passenger rail hub.

As of 2018, rail freight makes up about 15% of all total freight tonnage that originates and terminates within Vermont. The Vermont Agency of Transportation has set a goal of increasing this share to 27% by 2045[27] and is making investments in both planning and infrastructure to help achieve the goal. Most rail freight in Vermont is delivered to transload facilities, where cargo is then loaded onto trucks for the 'last mile' (the final leg of a freight journey where goods are delivered to their destination). Currently, there is no transload facility in the Region or any of the adjoining communities. A regional transload facility could help reduce the distance freight trucks would have to travel to their destination. To further enhance the economic viability of shipping by rail and improve safety, low clearances that prevent freight double-stacking should be removed, and proper crossing safety features should be prioritized at the highest traffic crossings.

Strengthening the Region's rail system through improved local station access, expanded passenger service, and investment in freight infrastructure supports broader transportation, economic, and environmental goals. As planning progresses, rail can once again become a cornerstone of regional connectivity, linking Rutland more efficiently to surrounding communities and key destinations across the Northeast.

The Vermont Agency of Transportation has set a goal of

INCREASING THIS SHARE TO

27%

by 2045

Air Service

The Rutland Southern Vermont Regional Airport is a key link between the Region and national and international destinations. While its current passenger volumes fall below thresholds for expanded federal funding, the airport continues to serve as a vital transportation asset. This section outlines existing challenges and opportunities related to passenger service, infrastructure needs, and emerging technologies, highlighting how strategic improvements can help the airport better support regional mobility and economic development.

Given that airport funding is directly tied to passenger trips, targeting 8,000 annual trips is a logical goal to unlock increased capital funding. However, passenger trips at the airport have remained largely stagnant and have even decreased slightly, going from 5,656 in 2018 to 5,227 in 2023. With three flights daily, Cape Air provides Rutland Airport with a total of 9,855 available seats,[28] meaning that 8,000

Figure 5.32

need caption

annual trips can be accomplished through increased ticket sales of the existing service. Although there are limited options for the Region to increase passenger trips, one potential barrier to increasing ridership at the airport is poor connections to the surrounding area. The only public transit connection is via the winter seasonal Ludlow Route, which does not coincide with the airport arrival times. The most time-effective connection for someone taking public transit from the Airport to Downtown Rutland requires a 1-hour and 46-minute wait at the airport. Since on-demand rideshare services are not reliable in the Region, visitors wishing to take a taxi must prebook a trip in advance, information that is poorly communicated to those planning a trip.

In the short term, with current hangars at capacity and ten additional aircraft based at the airport, the most immediate need at Rutland Southern Vermont Airport is increased hangar development. Given the harsh winters and weather conditions experienced in Vermont, storing aircraft in hangars is very desirable. The most recent Rutland Southern Vermont Airport Master Plan identified two preferred alternatives for the development of additional hangars at both of the current hangar sites. The main barrier to hangar development is financing; as a state-owned asset, responsibility for financing hangar development will have to come from the State.

Although still in their early stages, electric aircraft have the potential to substantially reduce operating costs for short flights like those that Rutland Southern Vermont Regional Airport serves. The cost of petroleum fuel is typically one of the biggest expenses for these short-haul flights, and electric aircraft have been shown to reduce fuel costs by approximately 75%.[29] This could make transporting freight by electric aircraft more financially efficient, increase the amount of cargo suitable for air delivery, and reduce the cost of passenger trips. As of the time of writing, the technology is not yet advanced enough to warrant specific planning, although this may change before the

next Regional Plan update. Beta Aircraft in South Burlington has already installed electric plane chargers at Rutland Southern Vermont Regional Airport and completed a successful test flight. The implementation of electric aircraft on the existing freight route serving the airport could result in substantial increases in air freight volumes.

Given current trends, it is unlikely that the Rutland Airport will reach the 8,000-plane capacity threshold within the next 8 years, meaning it will likely continue to rely on federal and state subsidies. However, the airport provides connecting service to Logan Airport, a major international hub, making it the most convenient way for the Region to access long-distance air travel. There are also opportunities to improve connectivity between the airport and the surrounding area, especially through public transit, making air travel a more accessible option. Current hangar facilities are insufficient to meet demand, and improvements should be pursued. Lastly, electric aircraft, although still an emerging technology, provide significant potential to decrease costs and increase energy efficiency for plane trips. Given this, preserving the airport and enhancing its facilities will be crucial to allow the Region to continue to enjoy the benefits of the current airport for freight and passenger travel, as well as gain the potential benefits of this emerging technology.

PASSENGER TRIPS

at the airport have decreased slightly, going from

5,656

IN 2018

to

5,227

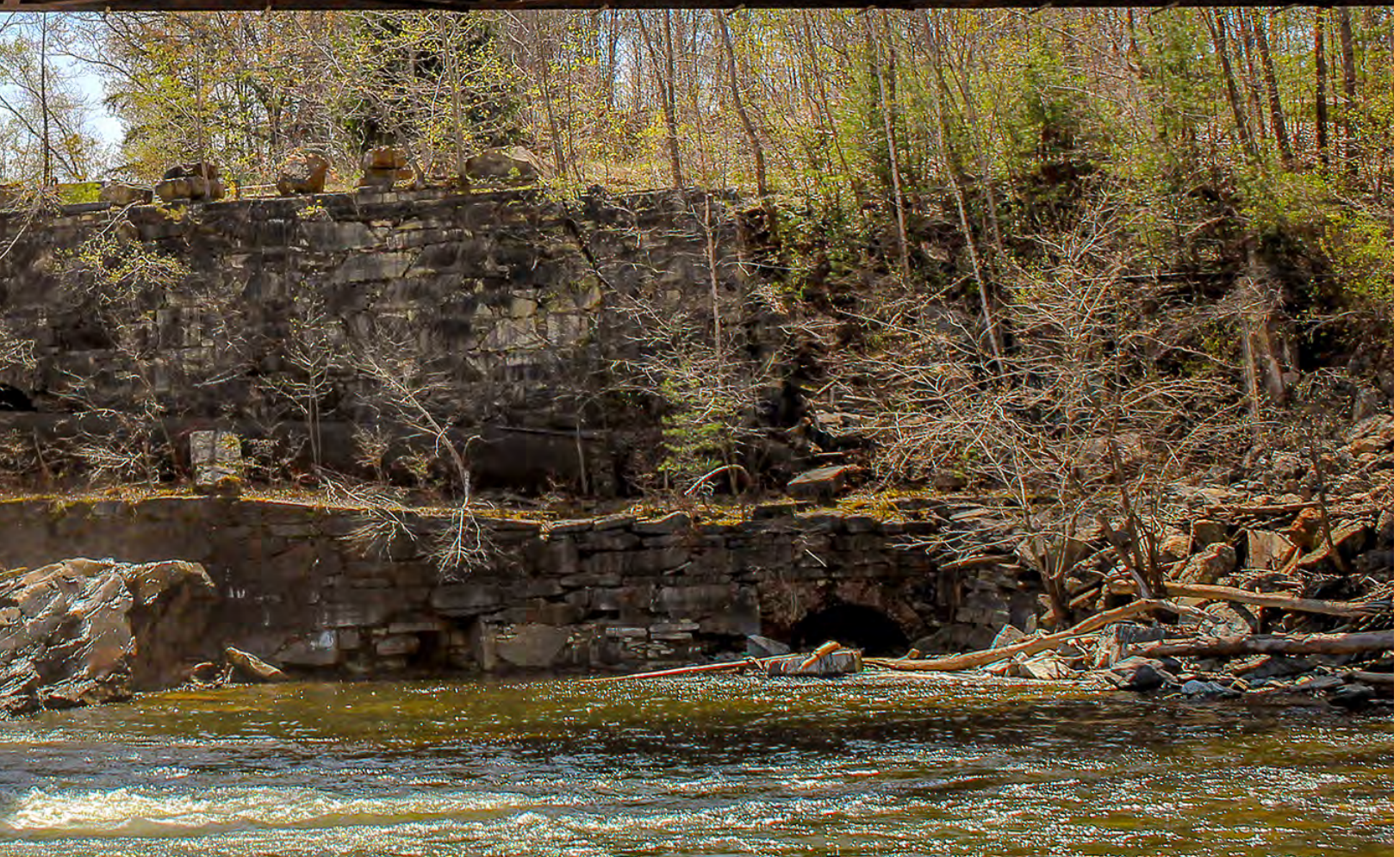
IN 2023

Conclusion

The future-facing strategies described above point to a clear need for thoughtful planning and coordinated investment. To respond proactively, the following section outlines the Region's policies and actions for advancing a safe, equitable, and sustainable transportation system. These policy recommendations are grounded in data, community input, and State and Federal priorities. Progress will be measured through a set of indicators designed to track implementation and ensure accountability as the Region works to meet its transportation system goals.

It is not likely that in the next 8 years the Rutland Airport will increase its passenger traffic to the point where it would qualify for additional Federal Funding and will continue to be subsidized.

AMTRAK
700



What's Next? // TRANSPORTATION

Goals

1) Establish a regional transportation system that incorporates public transit options and paths for pedestrians and bicyclists, ensuring the system is safe, convenient, economical, energy-efficient, and respectful of the natural environment.

Policies

1) Complete Streets infrastructure on municipal and state roads **shall** comply with context-sensitive design, as outlined in the Regional Complete Streets Implementation Matrix.
2) Development along roads with sidewalks or shared-use paths **shall** provide an ADA-compliant sidewalk connection to all structures, unless the use is exclusively auto-oriented, such as a car wash. Additionally, for developments accessed by public or private roads that are 1,500 feet or less in length, a pedestrian path **shall** be constructed along the access road to provide a continuous connection to the existing sidewalk or shared-use path network.
3) Improving the safety at high crash locations should be prioritized.
4) Planning, design, and implementation of major regional roadway projects on US Route 7, US Route 4, and VT Route 22A should be prioritized.
5) Rehabilitation or replacement of all bridge structures in poor condition should be prioritized.
6) Capital planning to ensure long-term maintenance and replacement of transportation assets is encouraged.
7) Resilience of regional transportation systems against increased extreme weather events should be strengthened.
8) Level three electric vehicle chargers should be prioritized along key US and Vermont highway corridors, targeting the highest traffic routes first.
9) Level three electric vehicle chargers **shall** be sited in or within walking distance of Growth FLUAs where feasible.
10) Public transit fixed routes should be cost-effective, efficient, and convenient.

Policies continued

11) All public transit stops **shall** be marked with signs, and amenities shall be provided according to Marble Valley Regional Transit District policy.
12) Information on how to utilize the public transit system should be widely accessible to increase ridership.
13) Amtrak Stations **shall** be connected to the surrounding bike and pedestrian network with safe ADA-compliant sidewalks and bike routes.
14) Rutland Southern Vermont Regional Airport, Rutland Amtrak Station, and Castleton Amtrak Station should be served with convenient public transit.
15) An increase in passenger rail ridership and the percentage of regional freight shipped by rail is encouraged.
16) All rail crossings should be provided with adequate safety measures, and gates shall be installed at all crossings with roads carrying more than 2,000 vehicles per day.
17) Low bridge clearances presenting a barrier for railroad double-stacking should be raised.
18) Transportation planning and decision-making should include opportunities for meaningful participation.

Actions

1) Advocate for the expedited construction of the VT Route 22A projects in West Haven and Benson and the US Route 7 projects in Brandon and Pittsford.
2) Advocate for the reconstruction of US Route 7 in South Wallingford and Danby to provide 5-foot shoulders.
3) Develop a safety plan for US Route 4 in Rutland Town, Mendon, and Killington that can be implemented partially through resurfacing.
4) Advocate for reconfiguring Business Route 4 to a two-lane layout with a center turning lane and shared-use paths from the US Route 4 exit 6 to Simmons Avenue.
5) Assist with identifying gaps in municipal active transportation networks and support financing and development of these projects.
6) Develop a Regional Active Transportation Plan by 2030.
7) Assist with developing municipal transportation asset capital plans.

Actions continued

8) Develop a Regional EV Charging Plan by 2028.

9) Monitor performance of public transit fixed route services, analyze underperforming routes, and provide planning support to improve route performance.

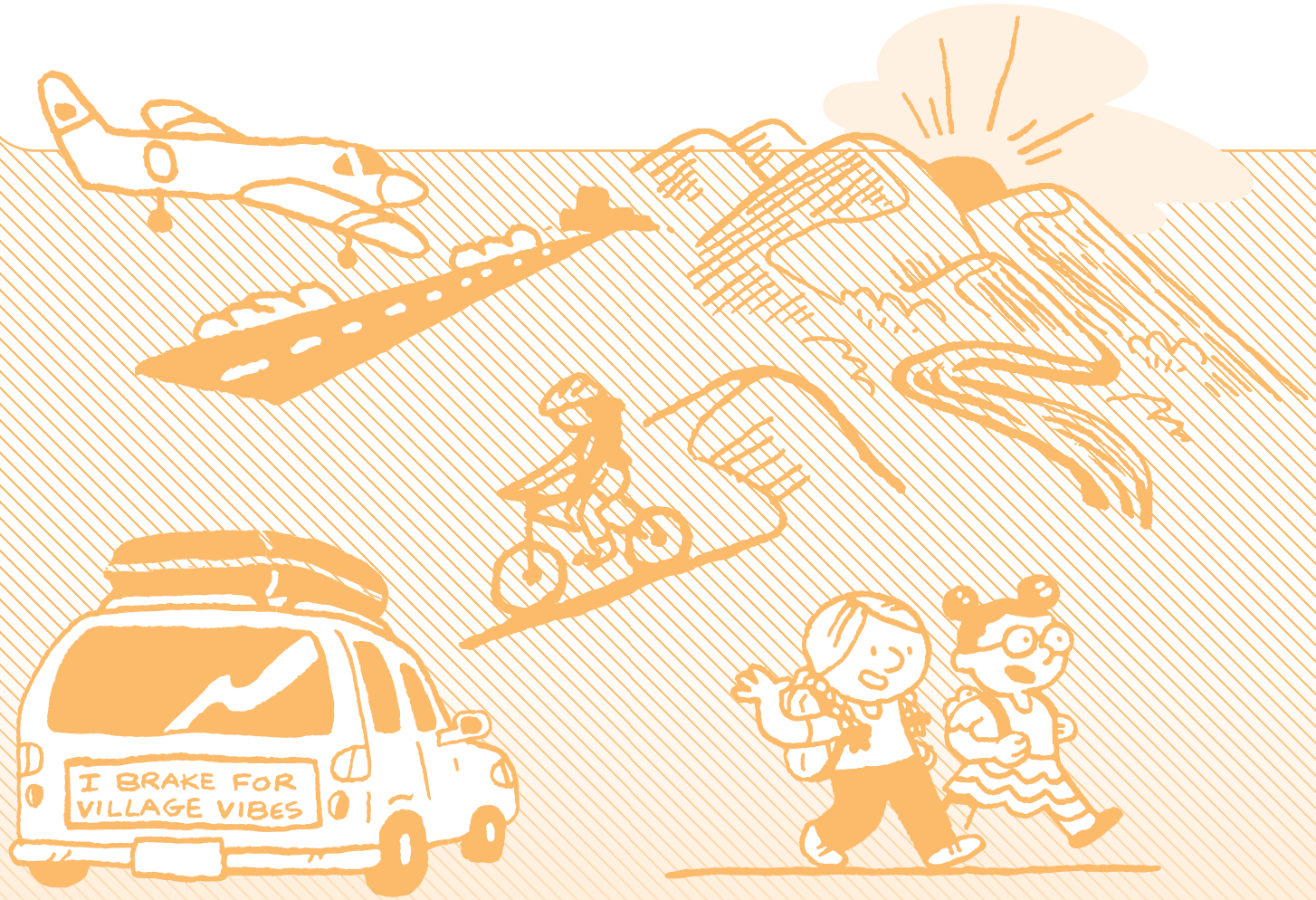
10) Advocate for public transit service that aligns with plane and train arrival and departure times.

11) Advocate for and assist with creating ADA-compliant sidewalks and bike routes between Downtown and the Rutland Amtrak Station.

12) Advocate for the expansion of the Ethan Allen Express to Manchester and Bennington.

13) Assist with municipal planning and bylaw updates to allow industrial uses on parcels adjoining rail lines when appropriate.

14) Advocate for developing hangar capacity at the Rutland Southern Vermont Regional Airport sufficient to house all currently based aircraft.



Indicators of Progress

1) Number of Crashes
2) Number of Culverts Rated in Poor Condition
3) Number of Sidewalk Segments Rated in Fair or Better Condition
4) Annual Marble Valley Regional Transit District Passenger Trips
5) Number of EV Chargers in Growth FLUAs
6) Annual Rutland Amtrak Passenger Trips
7) Percent of Freight Shipping by Rail
8) Annual Rutland Southern Vermont Regional Airport Passenger Trips

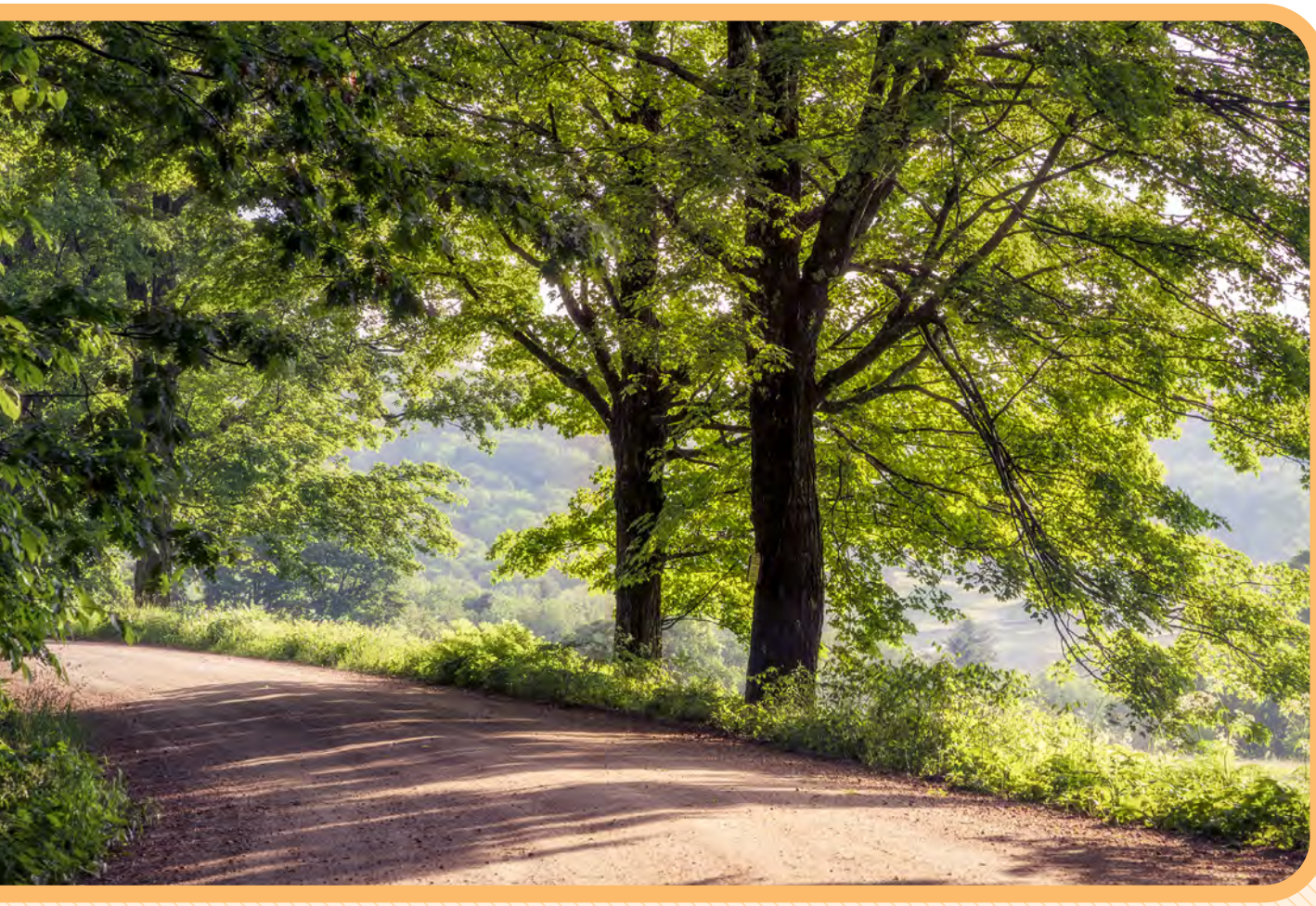


Photo Credit: Mike DiMeola

HOUSING

INTRODUCTION

LAND USE

ECONOMIC DEVELOPMENT

CULTURAL RESOURCES

TRANSPORTATION

HOUSING

COMMUNITY FACILITIES AND PUBLIC UTILITIES

ENHANCED ENERGY

WORKING LANDSCAPE

NATURAL RESOURCES

CLIMATE RESILIENCE

NEIGHBORING PLANS

PLAN IMPLEMENTATION

INTRODUCTION

The Rutland Region (the Region) seeks to ensure the availability of safe and affordable housing for all residents. The Housing Chapter describes the current conditions, informed by research and public engagement (see Engagement Report, Appendix A1.2, page 417), as well as trends shaping the future of housing in the Region. The chapter concludes by presenting regional policies and RRPC-specific actions designed to achieve the housing goals.

HEALTHY, EQUITABLE, RESILIENT COMMUNITIES

A healthy, equitable, and resilient community is one where all residents enjoy a safe, affordable, and stable living place. Renters and homeowners pay their housing costs without struggle. Homes are free from mold, lead, and asbestos, and have working plumbing, heat, electricity, and other essential amenities. Housing is protected from floods, storms, and rising energy costs. Older adults either live in their homes or downsize within their community. Young people can afford to purchase their first homes. Homelessness and housing discrimination are eliminated. Sufficient housing is available for businesses to hire workers outside the Region and fill gaps left by recent retirees. Housing is conveniently located near jobs, services, and various transportation options.

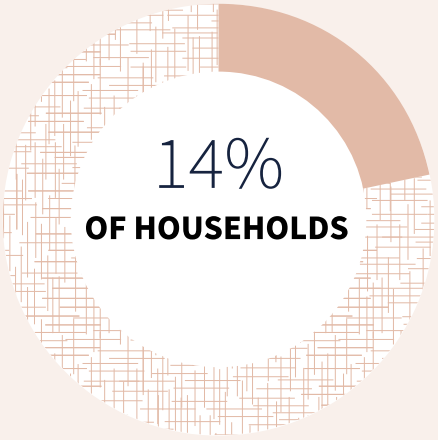
A healthy housing supply addresses physical, financial, and social needs. A physically healthy home is structurally sound, well-maintained, and free from health hazards. A financially healthy home is affordable, energy-efficient, and conveniently located to minimize living costs. A healthy home also fosters mental well-being by offering security, comfort, and opportunities for positive social interactions. The Current Conditions section describes a Region with unhealthy housing, where thousands of homes are unaffordable and at risk of health hazards.

UNAFFORDABLE HOUSING

1 in 3

HOUSEHOLDS

are cost-burdened, spending over 30% of income on housing



are severally cost-burdened, spending 50% or more of income on housing

These households are at highest risk of frequent moves, evictions, foreclosure, and homelessness.

Figure 6.1

High housing costs remain a major barrier to stability, especially for low-income households and renters.

An equitable community ensures that all residents can access housing reasonably, without discrimination. Between 2022 and 2024, the Region accounted for 10.2% of Vermont's housing discrimination complaints, slightly higher than its 9.4% share of the state's population. [1] Walkability is also key, especially for renters, enabling those without cars to reach essential services. In 2022, 7% of the Region's households had no vehicle; this figure rose to 18.7% among renters. [1] Prioritizing opportunities to increase walkability and housing access is a step towards a more equitable distribution of the benefits and burdens for cost-burdened community members with housing needs. Additionally, homelessness—especially among children and older adults—grows, while about 5,900 seasonal homes sit vacant most of the year, highlighting a housing market prioritizing wealth over basic human needs.[5]

A resilient housing supply addresses physical and financial needs, adapting to change and recovering from disruptions. The Region's housing stock is vulnerable; aging homes face worsening quality issues, flood risks, and other challenges, contributing to a projected loss of 40 homes per year.[2] This decline exacerbates the already limited supply of affordable housing. The Region needs to minimize the number of units lost annually. The Region's housing market is financially unstable. Prices and interest rates have surged, while incomes have not kept pace, making it difficult for households, especially people on fixed incomes, to afford housing. The Region must expand its housing supply to stabilize prices and meet demand.

Racial and gender disparities define housing access

74% of white households in Vermont own their homes, compared to only 29% of Black households.[1]

Female-headed family households, which comprise just 14.4% of Vermont families, represent nearly half of those living in poverty. [1]

CURRENT CONDITIONS

This chapter identifies regional housing needs to ensure an adequate supply of code-compliant homes, as required by 24 V.S.A. § 4348a(9). The target is for most households to spend no more than 30% of their income on housing, no more than 15% on transportation, and for the housing supply to grow to meet demand. The assessment estimates the required housing by price, quality, unit size or type, and location, and breaks down targets by municipality. It draws on the 2023 Rutland Regional Housing Needs Assessment, demographic trends, housing conditions and costs, local studies, data gathered under 24 V.S.A. § 4382(c), and the Statewide Housing Needs Assessment.

This section begins by comparing the Region's total housing target with current trends. Then, breaks down that target by unit type (rental, owner-occupied, single-family,

duplex, multi-family, etc.), location, and price. It concludes by discussing current housing needs related to resiliency, homelessness, older adults, and the workforce, which are crucial topics for the Region, based on public engagement and research.

A unit, or housing unit, is a separate living space intended for household occupancy. Examples include single-family homes, apartments, and manufactured homes.

Total Housing Need

Regional data drives this chapter's policies and targets, reflecting current housing conditions, demographic trends, and economic realities in the Region. The Statewide Housing Needs Assessment (SHNA), while considered as required under 24 V.S.A. § 4348a(9), projects household growth rates far above what the Region has historically or recently experienced. Basing the Region's housing targets on those assumptions risks ruling out scenarios aligned with historical trends. The SHNA is evaluated in detail in the 'Statewide Housing Target' Appendix A6.1, page 423, to show how the state projections were considered and why this Plan adopts a different target.

The 2023 Rutland Region Housing Needs Assessment, produced by the Vermont Housing Finance Agency, outlines three housing growth scenarios through 2040: one based on historical regional migration trends (2000-2019), another based on recent migration trends (2020-2022), and a midpoint scenario between the two.[3] Figure 6.2 summarizes the regional housing targets. See Figure 6.4 on page 184 for a breakdown of the regional housing targets by town.

All three scenarios show that the Region currently faces a housing shortage; however, the level of the shortage varies depending on migration patterns and demand. Since 2022, the number of households moving into the Region has slowed significantly from the 2020-2022 rate but remains higher than historical levels. This suggests that the midpoint scenario (5,021 units by 2040) is the most accurate estimate of overall housing needs. Nonetheless, all three scenarios are possible, given the Region's fluctuating demand in recent years.

The Region has a severe housing shortage caused by underbuilding and the ongoing loss of existing homes. Between 2010 and 2020, an average of 167 households moved to the Region each year; however, the Region added an average of 127 new housing units annually. An estimated 40 units per year are lost from the housing stock in the Region due to extensive deterioration, physical damage, or conversion to non-residential use, projected to be 680 units from 2023-2040. [3] The 2025 Vermont Housing Needs Assessment states that constructing 386 units in the Region would be needed to normalize vacancy rates, and 325 units would be required to house people experiencing homelessness.[2]

2023-2040 HOUSING TARGETS

Housing Demand Scenarios

	Total Units	Annual units per year	Total Households	Annual households per year
Historical Housing Demand Scenario: 2000-2019 Regional Housing Demand	624	37	-726	-43
Recent Housing Demand Scenario: 2020-2022 Regional Housing Demand	9,419	554	7,689	452
Mid-Point Scenario: Midpoint Between the Two Scenarios	5,021	295	3,176	187

Figure 6.2

Housing targets for 2023–2040 reflect a range of regional demand scenarios—from historical trends to recent increases, with a midpoint balancing both.

Housing Need by Type

Most units in the Region are owner-occupied, with 88% of these units being single-family detached homes, and most have three or more bedrooms.[4] These large single-family homes present an opportunity to add needed 1–2 bedroom units through multifamily conversions. Except in Rutland City, the housing supply of all municipalities is mainly owner-occupied. Year-round rentals are the second most common, with over half (55%) of rentals in the Region in multifamily buildings with 2-9 units, and most have two or fewer bedrooms[4]. Seasonal units are the third most common in the Region, with Killington accounting for 51% of all seasonal homes and 57% of the short-term rental supply in the Region, as it is a major resort destination.[4,5] Figures 6.3 and 6.7 provide a breakdown of the regional housing supply and housing target by unit type.

In October 2023, 1,584 units —5% of the Region's housing stock—were listed on short-term rental platforms like Airbnb, up from 1,075 units in October 2016.[6] The Region should monitor the short-term rental market's impact on the year-round market and disincentivize the conversion of year-round homes into short-term rentals.

Bringing vacant units back online presents a key opportunity to meet the Region's housing target. In 2022, the Region accounted for 16% of Vermont's vacant units —the highest share of any county.[2] One state program estimate (VHIP) found renovating an existing unit costs an average of $38,400—ten times less than building a new unit, which costs $450,000–$650,000.[7] However, some vacant units cost much more or are beyond repair and must be demolished. Rutland City, Brandon, Fair Haven, Wallingford, and Rutland Town have 64% of the Region's vacant housing units, while Rutland City alone has

HOUSING SUPPLY BY OCCUPANCY TYPE

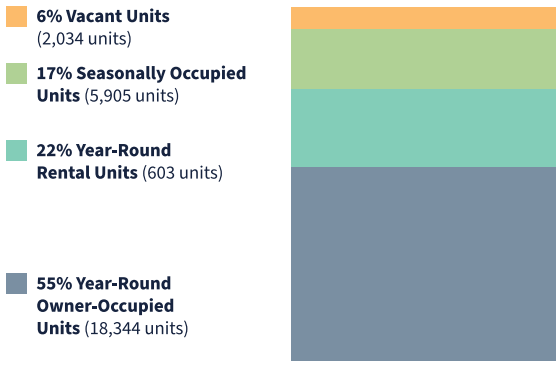


Figure 6.3

Housing supply is primarily owner-occupied, with seasonal and rental units also making up significant shares.

REGIONAL HOUSING TARGETS BY TOWN

Housing Targets By Town	% of Total	2023-2040, Historical Demand Scenario (2000-2019 demand), 2023 Rutland Region Housing Needs Assessment	2023-2040, Recent Demand Scenario (2020-2021 demand), 2023 Rutland Region Housing Needs Assessment	2023-2040 Mid-Point Target, 2023 Rutland Region Housing Needs Assessment
Target	**$ of Total**	**624**	**9,419**	**5,021**
Rutland City	55.00%	342	5,180	2,762
Killington	8.92%	56	840	448
Brandon	6.82%	42	642	343
Castleton	4.48%	29	422	225
Poultney	4.44%	29	418	222
Fair Haven	3.77%	23	354	189
West Rutland	2.84%	18	271	143
Pittsford	2.08%	13	195	103
Rutland Town	1.50%	9	141	74
Mount Holly	1.49%	9	139	74
Wallingford	1.37%	9	136	72
Proctor	1.18%	7	110	58
Pawlet	1.02%	6	95	50
Shrewsbury	0.78%	5	74	39
Danby	0.65%	4	60	33
Benson	0.58%	4	54	29
Clarendon	0.55%	3	51	28
Mendon	0.47%	3	43	23
Wells	0.41%	3	39	20
Middletown Springs	0.31%	2	28	16
Chittenden	0.29%	2	26	15
Tinmouth	0.26%	2	28	15
Hubbardton	0.22%	1	19	11
West Haven	0.18%	1	19	10
Ira	0.18%	1	16	9
Sudbury	0.15%	1	17	9
Mount Tabor	0.03%	0	2	1

Figure 6.4

Rutland City receives the majority of the region's housing target due to its infrastructure, services, and urban capacity.

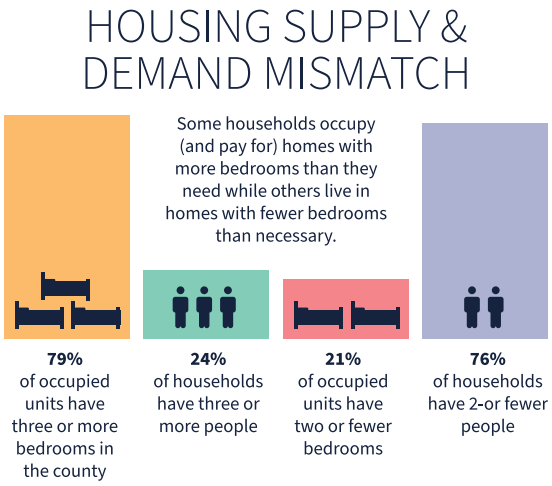


Figure 6.5

A surplus of large homes and a shortage of smaller units reveals a gap between what exists and what households need.

one-third.[4] The Region needs to identify and market these vacant units to developers who can redevelop them to meet housing needs.

Single-family homes for homeownership are the most significant need when looking at the housing target by unit type. However, the Region needs multi-family rentals, manufactured homes, and accessory dwelling units at significantly higher rates than currently exist to increase affordable housing options.

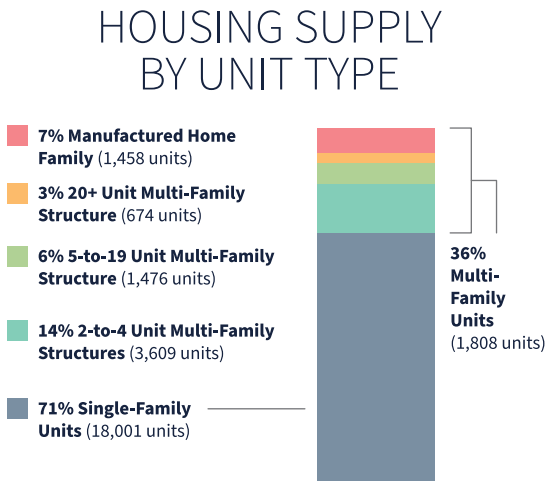


Figure 6.6

With 71% of homes being single-family, there's limited availability of smaller, denser housing types

Multi-family homes in walkable communities provide opportunities for lower-income households to spend no more than 30% of their income on housing, and no more than 15% on transportation.

Manufactured homes are the most affordable path to homeownership, with a median price 38% lower than that of a single-family home in 2023.[8] Accessory Dwelling Units (ADUs) are small, self-contained units subordinate to a single-family home, such as a garage apartment. They are an affordable option given the small size of the unit.

Housing Need by Location

The Region's housing stock is split between rural and downtown or village areas, with about half of all units located on smaller plots, where public drinking water and wastewater treatment utilities allow for higher housing density.[4] This existing infrastructure is a major asset for accommodating affordable and efficient housing growth. Figure 6.8 identifies areas and towns where housing is more prevalent.

For the 2029 housing target, 90% of new housing is planned for areas designated for growth ('Growth FLUA') as shown on the Regional Future Land Use Map. The remaining 10% is allocated to Rural General and Rural Agriculture/Forestry categories. More information on land use categories and the Regional Future Land Use Map is provided in the Land Use Chapter (Chapter 2, page 37). The housing target aligns with the RRPC Future Land Use Map and policies, with all towns assigned a growth target. Towns

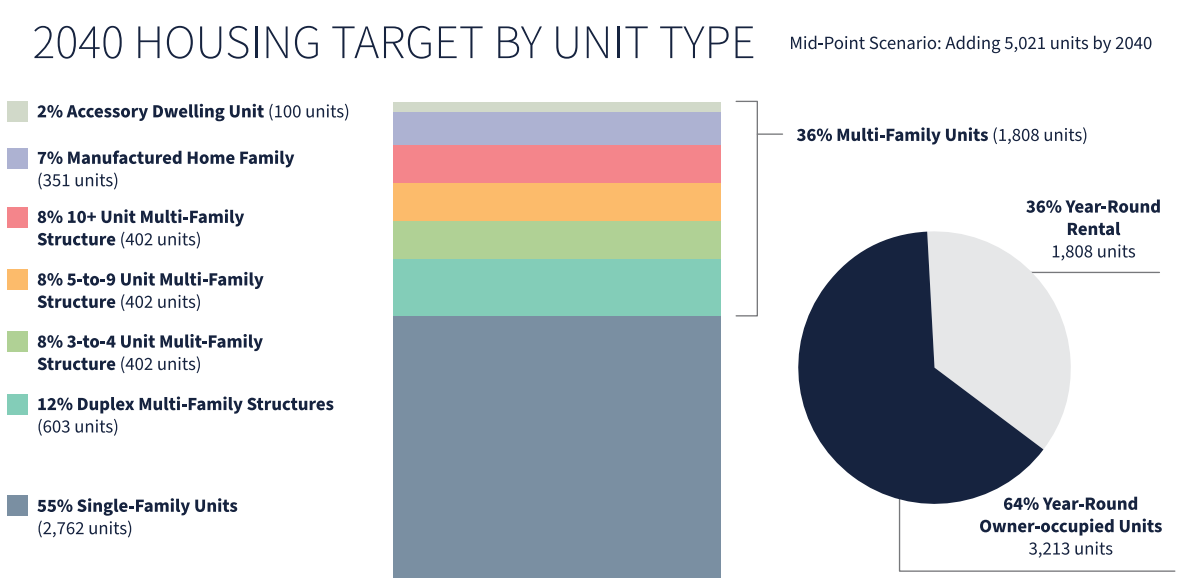


Figure 6.7

The 2040 housing target shifts toward more diverse housing types—supporting affordability, aging in place, and workforce needs.

with more land and infrastructure suited for housing growth received a larger share of the target. Meeting these targets requires land use regulations and infrastructure that allow for and encourage the scale and type of housing needed, particularly in planned growth areas.

The regional housing target is disaggregated based on infrastructure capacity, development potential, regulatory constraints, and community character. Rutland City has the highest housing need of any municipality in the Region. The City's public drinking water and wastewater treatment systems have permitted capacities that can accommodate the entire Region's housing target. The City's zoning allows denser and taller housing than anywhere else in the Region. The City is of a dense character, with the Region's sole 10-story building. Vacant structures and key redevelopment opportunities are more common here than in the

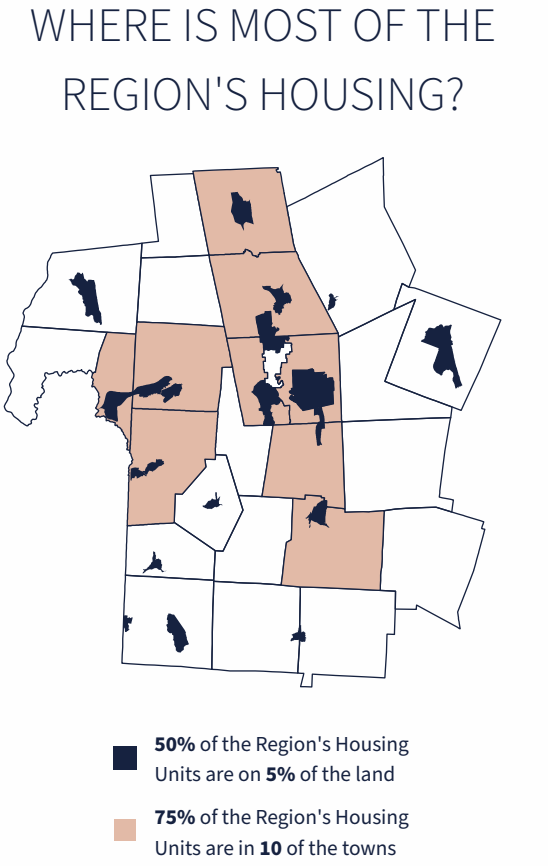


Figure 6.8

Most housing is clustered in a small portion of the region, guiding where infrastructure, services, and future growth efforts should focus.

rest of the Region. As a result, 55% of the Region's housing target (2,761 units by 2040) is planned for Rutland City.

Housing Need by Price

Figure 6.9 shows that rising rental and for-sale prices, combined with stagnant incomes, have made both rental and homeownership increasingly unaffordable across the Region. When housing costs consume a large share of a household's income, it reduces their ability to afford other necessities. Home prices have risen sharply while the housing supply has shrunk, creating an affordability crisis. Local nonprofits, such as Habitat for Humanity, have leveraged available funds to develop affordable, owner-occupied units; however, demand far exceeds supply. Most households in the Region cannot afford the typical home for sale, highlighting the urgent need for expanding affordable housing construction. In 2023, the median home sale price in the Region was $240,000, while the median monthly rent was $965. To meet the Region's housing target for owner-occupied homes, 85% of new units will need to be affordable to lower- and middle-income households (i.e., those earning up to 120% of the Area Median Income (AMI)).

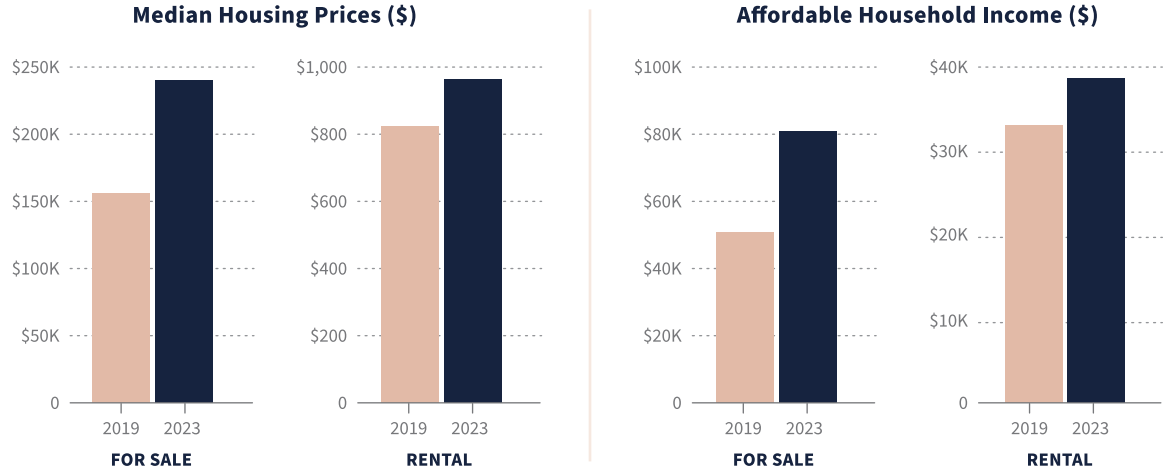
Renters in the Region are more likely to experience housing insecurity than homeowners, with incomes lagging far behind what is needed to afford typical rents. Valuable community partners like the Housing Trust of Rutland County—which manages over 300 affordable units—and the Rutland Housing Authority—which oversees 220 apartments annually—play a crucial role in providing subsidized rental housing across the Region. Many renters would prefer to buy homes, but housing prices are far out of reach, reinforcing the importance of creating affordable homeownership options. Subsidized rental housing is essential for serving low-income renters, but the current supply is far too small to meet their needs. Long waitlists underscore the need to expand these types of units. Achieving the Region's rental housing target will require that 85% of new units be affordable to lower- and middle-income households.

"Rutland NEEDS to do better!!! Both me and my partner work and can not afford these rental prices."

– A response from the Regional Plan Survey

Housing affordability must account for all expenses. Older homes and reliance on conventional heating fuels add unpredictability and strain to household budgets, making weatherization a key strategy. Living far from jobs and services adds transportation expenses, making otherwise "affordable" housing unaffordable overall. Locating homes near services can lower total living costs. Upfront costs, like a down payment, make homeownership unattainable without substantial savings. Rising interest rates further increase the cost of mortgages, reducing what buyers can afford and discouraging existing homeowners from selling. This limits the housing supply and contributes to higher housing costs.

AFFORDABLE HOUSING DATA



Perpetual Affordable Housing Demand vs. Supply in 2021

3,500 Income-Eligible Households	–	1,371 Perpetually Affordable Units	=	2,129 Outstanding Housing Need

Interest Rates

Timeframe	Interest Rate	Monthly Mortgage payment for $240,000 home over 30 year mortgage	Total cost over 30 years
March 2022	0.25%	$692.05	$249,137.48
August 2023	5.25%	$1,325.29	$477,104.00
January 2025	4.25%	$1,180.66	$425,036.07

Figure 6.9

Rising prices, rents, and interest rates have outpaced incomes, deepening the region's affordability gap and widening the shortfall of perpetually affordable homes.

Housing Needs for Resiliency

The Region's housing stock is among the oldest in Vermont, with a third of homes built before 1940, and few new units being constructed to replace those in poor condition. As a result, deteriorated housing remains in use, even when it poses health and safety risks. While this poses challenges, the historic character of these buildings creates opportunities to use preservation and rehabilitation programs that enhance housing quality and preserve community identity.

Many homes are also located in flood-prone areas, further threatening the Region's limited housing supply. An estimated 40 homes are lost each year due to damage or disrepair, and the Region should prioritize both preserving existing homes and directing new development away from high-risk flood zones to reduce future losses.[3]

RESILIENCY DATA TABLE

Units built before 1978	Structure in areas of high flood risk
Higher risk for health hazards	Higher risk for flood-related hazards
22,450 units	2,083 residential structures (single-family and multi-family structures)

Figure 6.10

Aging buildings and flood-prone locations heighten risks in an already strained housing supply.

Housing Needs for Unhoused People

Homelessness in the Region has grown rapidly, driven by a severe shortage of affordable housing. More people are experiencing homelessness for the first time, and for longer periods. Children and older adults are especially vulnerable, facing serious health and developmental risks. Addressing this crisis will require not only building more rental units but also expanding supportive services and preventing vulnerable households from falling into homelessness. About 3,400 households, or 14% of the Region, are at the highest risk of homelessness, spending over 50% of their income on housing costs. [4]

The situation reflects both a regional housing shortage and broader statewide shifts in homelessness. Fortunately, the Region's strong network of nonprofits and service providers offers a solid foundation for expanding housing and support services. The Region should continue to coordinate with these partners to expand shelter capacity, improve access to rental assistance, and support long-term housing stability.

Housing Needs for Older Adults

A growing share of the Region's households is led by seniors, many of whom live on fixed incomes and face housing challenges. Senior renters—especially those living alone—are the most vulnerable and need stable, affordable options. Most older adults own their homes and prefer to age in place, but many will require repairs, accessibility upgrades, or supportive services to do so safely. Others want to downsize but face a shortage of smaller units. Figure 6.8 identifies data relating to senior housing. The Region needs to expand housing choices, promote home modification programs, and restore assisted living capacity to meet the needs of its aging population.

Housing Needs to Meet Workforce Needs

The Vermont Department of Labor projects that from 2022 to 2032, 171,500 workers will retire statewide, or 17,150 workers per year. As the Region's workforce ages and thousands of workers retire each year, the Region must attract and retain new residents to fill jobs and sustain the regional economy; that effort depends on housing. Programs like Real Rutland and state relocation incentives have proven effective in drawing newcomers, but housing availability remains a key factor in long-term retention. Many college graduates leave the state, citing better wages elsewhere, but access to affordable housing could help keep them local, in addition to good-paying jobs. Expanding the

RUTLAND COUNTY UNHOUSED POPULATION OVER TIME

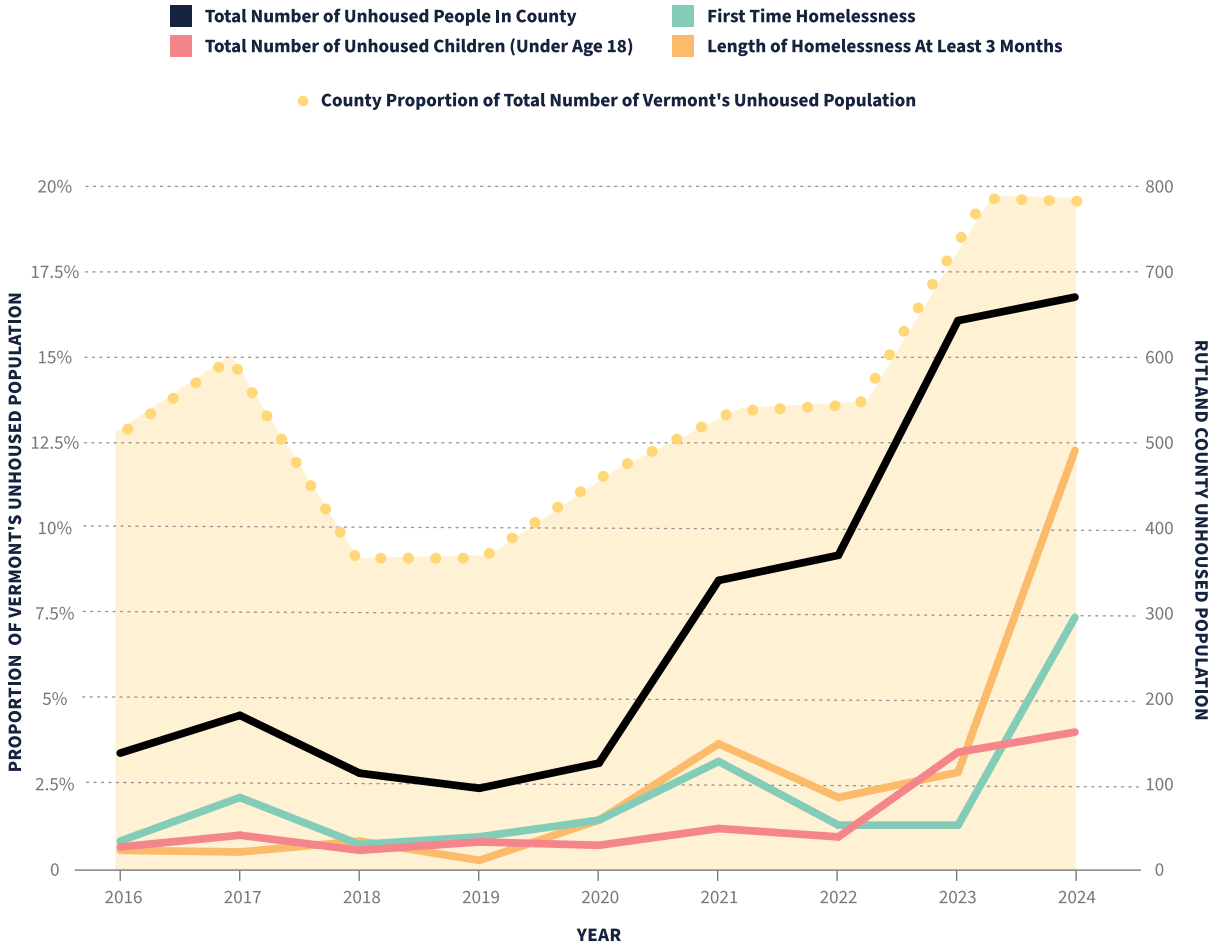


Figure 6.11

The number of unhoused people in the county—including children—is rising steadily, increasing the county's share of Vermont's total unhoused population.

SENIOR HOUSING DATA 2023

Households headed by someone aged 65+	**9,132 households**	**36% of all households**
Median household income of households headed by someone aged 65+	**$46,121**	**$16,520 less than the countywide median**
Renter households headed by someone aged 65+	**1,661 households**	**18% of all households headed by someone aged 65+**
People living alone aged 65+	**4,348 households**	**48% of all households headed by someone aged 65+**

Figure 6.12

Nearly half of senior households live alone, and some face income challenges, highlighting the need for supportive housing options.

supply of smaller units can help young workers settle in the Region while giving retirees the option to downsize, freeing up larger homes for families and supporting both workforce and demographic transitions.

UVM undergrads who left Vermont in 2022 made 18% more than those who stayed.

$56,074

LEAVING VERMONT

VS

$49,497

STAYING IN VERMONT

FUTURE TRENDS

Based on research, the forecast is for a future where regulatory barriers for housing development are reduced, but the growth of affordable housing remains slow. This section outlines opportunities for developers, municipalities, and the RRPC to meet the Region's housing needs, considering current conditions and the forecast further detailed below. These trends inform the Region's housing strategies and guide the RRPC's role in supporting local implementation, coordinating data, and promoting access to funding.

Increasing Housing Supply Elasticity

Recent regulatory changes are signs of increasing housing supply elasticity—a positive trend that could help stabilize prices over time. Housing supply elasticity measures how well the market responds to demand: when supply is elastic, a small price increase leads to a significant rise in new housing construction. In recent decades, the Region's elasticity has sharply declined, meaning that housing supply has barely responded to rising prices and worsening affordability. However, recent state and local policy reforms—such as updates to Act 250 and zoning changes in areas served by public water and wastewater utilities—aim to reverse this trend by making it easier to build homes where growth is planned. These changes could help builders respond more efficiently to rising demand, boosting housing availability and tempering price spikes. Monitoring elasticity over time will be essential to gauge the success of these reforms and ensure the housing market becomes more responsive and resilient. The RRPC should assist with zoning updates and infrastructure planning to enable the construction of the type and scale of housing needed to help stabilize the housing market.

Low Affordable Housing Growth

Developers are generally not developing in the Region due to a lack of profit, as residents typically have lower incomes. Higher costs create financing gaps that make it challenging to complete below-market housing projects nationwide, including in

Vermont. The number of HUD applications for multifamily developments in FY 2023 was half that of FY 2022 and one-third of FY 2021.[10] High costs and a decline in applications have led to predictions of a national drought in affordable housing production. Building material costs increased nationally by 25-75% from 2017 to 2023.[11] In Vermont, multifamily housing construction of primarily one-bedroom apartments rose 60% from 2020 to 2023.[12] Construction costs depend on location, design, project size, materials, and regulations. These challenges may limit the production of affordable housing to middle- and higher-income households. The RRPC should promote available affordable housing funds and share available data on construction costs to support anyone looking to meet the Region's housing needs.

"Priced out" refers to housing costs exceeding a buyer's financial capacity. Since the Great Recession, IRS migration data shows that lower- to middle-income households have left the Region and are being replaced by higher-earning households.[14] This trend accelerated in the 2020s as rural housing demand surged during the COVID-19 pandemic. Key factors influencing future demand include remote workers, climate migration, individuals relocating from lower-cost areas, filling the voids left by retiring workers, and attracting outdoor enthusiasts. Without an increased housing supply, these pressures could push prices even higher and price out residents. The Region must expand its housing supply to prevent further displacement and meet future demand. The RRPC should prioritize regional housing strategies that address displacement risks for lower- to middle-income households, with particular focus on the 14% of residents who spend over 50% of their income on housing costs and are therefore most vulnerable.[5]

No state has enough affordable rental housing for its lowest-income renters, **but Vermont has the most significant shortage in New England.**[13]

How to Meet Housing Needs?

A 2025 Vermont Housing Survey with 577 responses found that faster housing approvals and zoning incentives are the most effective ways to encourage affordable housing for lower-income households.[15] Both solutions focus on regulatory reform. Faster housing approvals aim to streamline the process and make it more predictable for developers. At the same time, zoning incentives can require a certain number of affordable units or allow higher-density housing in exchange for affordability commitments. Municipalities should be more flexible in regulating housing development in exchange for affordability commitments, and the RRPC should provide examples and technical assistance to support these regulatory reforms.

Vacant structures in the Region are another opportunity for affordable housing growth. Some of these vacant homes may need to be demolished due to severe deterioration, but others could be repurposed for affordable housing if developers take appropriate action. Around 40 homes are also expected to

be removed from the housing stock yearly. The RRPC should market programs to help homeowners preserve and renovate their properties. Additionally, with a record-high national office vacancy rate of 16.4% in the second quarter of 2023, converting office spaces into residential units is an increasingly attractive opportunity. [16] Act 181 of 2024 also allows converting office buildings into 29 or fewer housing units without requiring an Act 250 permit amendment until 2028. Towns should evaluate and remove zoning barriers that might limit such conversions. The RRPC or state should establish a system that inventories and incentivizes redevelopment of vacant housing and commercial buildings.

Off-site construction refers to building homes in a factory rather than on-site. There are three main types: manufactured homes, built to national HUD standards with a chassis; modular dwellings, made from factory-built "boxes" joined on-site; and panelized construction, where walls, floors, or ceilings are built off-site and assembled on location. Some companies also make kit homes with pre-assembled parts. Off-site construction methods lower costs, speed up the building process, and reduce the need for skilled labor. A state report highlights the potential to reopen a factory in Fair Haven to increase off-site housing production, noting that bulk purchases can further reduce costs.[17] In 2024, the Vermont State Housing Agency purchased 30 energy-efficient manufactured homes, covering site work, and sold them at near-cost prices of $126,000 to $136,000. Developers, towns, and non-profits should consider bulk buying off-site homes to expand the affordable housing supply. The RRPC should facilitate connections between potential bulk buyers in the Region to enable larger combined orders that reduce costs and support the production of affordable off-site housing. This Plan supports reopening the former Fair Haven manufacturing facility to grow off-site housing production that will benefit the Region and state.

To help local developers with housing projects, the RRPC has created two versions of the Rutland Region Housing Resource Guide. The guide provides information on over 30 housing funds and subsidies to help reduce the cost of construction and ensure affordability. The RRPC should continue to collaborate with state, regional, and local partners to effectively promote these resources. The Region needs more subsidies to meet affordable housing needs for low-to-moderate-income households. Towns should advertise available subsidies and funding programs at their Town Offices or websites so residents can use them to meet local needs.

New financial mechanisms should be utilized to meet housing needs. In June 2025, the Community and Housing Infrastructure Program (CHIP) was enacted. This program enables municipalities and developers to borrow money for critical infrastructure — such as roads, water, wastewater systems, and sidewalks — and repay it using a portion of the increased property tax revenue generated by the new development. CHIP is a smaller-scale, more flexible version of Vermont's Tax Increment Financing program, designed to support housing development in both large and small communities. A frequently cited example during legislative

testimony was a vacant lot in Fair Haven, which generates about $12,821 in annual property taxes. With the support of infrastructure financing, this site could be transformed into a 50-unit housing development projected to generate $417,522 annually. Without CHIP, the infrastructure costs would likely prevent the project from moving forward. With it, Fair Haven and other communities in the Region now have a tool to help unlock new housing opportunities and grow their tax base. Municipalities apply to the Vermont Economic Progress Council (VEPC) for a housing site to be enrolled in CHIP. RRPC should assist municipalities with CHIP applications to unlock housing opportunities.

Home sharing is another way to address housing needs. It allows people to share their homes in exchange for help with household tasks, rent, or both. Each person has a bedroom, while common areas are shared, which helps reduce costs for everyone. Home sharing can be beneficial for older adults with larger homes. A 2017 AARP-VT survey of adults aged 45 and older found that privacy, safety, security, and compatibility were the biggest concerns people had about sharing their homes. While home sharing is not for everyone, it has been a financial necessity for some Vermonters through programs like HomeShare Vermont.[2] Towns are encouraged to include promoting home sharing as a housing option in their next Town Plan update.

According to the Federal Reserve Bank of Boston, post-pandemic migration has been higher in lower-density areas of New England, a trend that did not exist before the pandemic.[19] Towns should envision desirable residential growth in different parts of town, taking into account what is compatible with residential density and character in rural areas. After determining what is appropriate, towns should review how their policies and zoning support or hinder achieving the desired residential growth, and take some of the above actions to incentivize this growth. RRPC should facilitate public engagement to help communities evaluate zoning, identify appropriate areas for growth, and implement policy changes that align with each town's housing goals.

Conclusion

The strategies described above point to a clear need for thoughtful planning and coordinated investment. To respond proactively, the following section outlines the Region's policies and actions for ensuring the availability of safe and affordable housing for all residents. These policy recommendations are grounded in data, community input, and State and Federal priorities. Progress will be measured through a set of indicators designed to track implementation and ensure accountability as the Region works to achieve its housing goals.

VOLVO

What's Next? // HOUSING

Goals

1) Ensure the availability of safe and affordable housing for all residents.

Policies

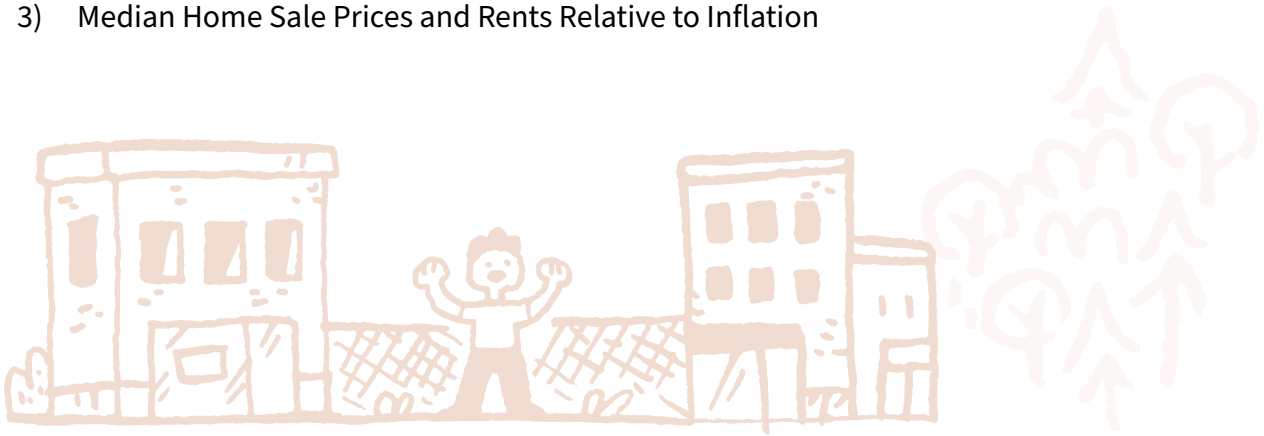
1) Housing supply should increase through a combination of single-family homes, multi-family homes, manufactured homes, and Accessory Dwelling Units to meet the Region's Housing Target.
2) Most housing growth should occur in Rutland City and Growth FLUAs.
3) Most housing growth should be affordable for low- and medium-income households.
4) Homelessness should be reduced by expanding subsidized housing, homeless shelters, wraparound social services, and rental assistance, in collaboration with state, regional, and local partners.
5) Housing growth should utilize vacant residential and commercial buildings, including adaptive reuse of historic buildings that leverage available public housing development funds.
6) New housing **shall** not be located in FEMA-mapped special flood hazard areas and state-mapped river corridors, and current housing in these areas should elevate, floodproof, and adapt to withstand future flooding.
7) Housing growth should meet workforce needs and be located near employment centers.
8) In municipalities with a high volume of seasonal homes and short-term rentals, short-term rental ordinances should be considered.
9) Local-level regulatory barriers to housing development in Growth FLUAs should be removed.
10) Housing planning and decision-making should include opportunities for meaningful participation.

Actions

1) Track progress yearly toward the Region's Housing Target with a virtual dashboard on the RRPC website.
2) Assist with municipal planning and bylaw updates to allow for more housing types and density in Growth FLUAs.
3) Share information with local planning commissions on regulatory strategies that enable housing development by 2032.
4) Update the Regional Housing Resource Guide yearly and include information about available housing funding opportunities.
5) Identify areas within the Growth FLUAs and Rural General FLUA of each municipality suitable for new housing development by 2032.
6) Advocate for a statewide vacant property registry to identify and utilize vacant housing and office units to meet the Region's Housing Target.
7) Assist with developing village master plans, housing needs assessments, and other housing-related feasibility and scoping studies to support strategic housing development.
8) Create an RRPC Sustainable Housing Planning Program to support ongoing and future housing development through technical assistance, data and mapping support, and coordination with municipalities on planning, bylaw, and implementation strategies.

Indicators of Progress

1) Annual New Housing Units Added
2) Percent of Households Spending More than 30% of Median Household Income on Housing
3) Median Home Sale Prices and Rents Relative to Inflation



COMMUNITY FACILITIES AND PUBLIC UTILITIES

INTRODUCTION

LAND USE

ECONOMIC DEVELOPMENT

CULTURAL RESOURCES

TRANSPORTATION

HOUSING

COMMUNITY FACILITIES AND PUBLIC UTILITIES

ENHANCED ENERGY

WORKING LANDSCAPE

NATURAL RESOURCES

CLIMATE RESILIENCE

NEIGHBORING PLANS

PLAN IMPLEMENTATION

INTRODUCTION

The Rutland Region (the Region) seeks to plan for, finance, and provide an efficient system of diverse public facilities and services, including fire and police protection, healthcare services, educational and vocational opportunities, public drinking water supply and wastewater treatment, solid waste disposal, childcare, and non-commercial recreational opportunities. The Community Facilities and Public Utilities Chapter describes the current conditions, informed by research and public engagement (see Engagement Report, Appendix A1.2, page 417), as well as future trends shaping the future of public facilities and utilities, education, childcare, and non-commercial recreation in the Region. The chapter concludes with regional policies and RRPC-specific actions designed to achieve the community facilities and public utilities goals.

HEALTHY, EQUITABLE, AND RESILIENT COMMUNITIES

Healthy, equitable, and resilient public facilities and utilities are essential to community well-being, supporting health, social connection, and economic stability, especially in rural areas of the Region. Long-term sustainability depends on strategic planning and financial resilience to ensure reliable, accessible services for all residents.

Public facilities, utilities, and services strengthen communities by providing essential needs like safe drinking water, sanitation, recreation, and healthcare. In the Region, accessibility and reliability of services support individuals of all ages. Well-maintained public drinking water and wastewater treatment

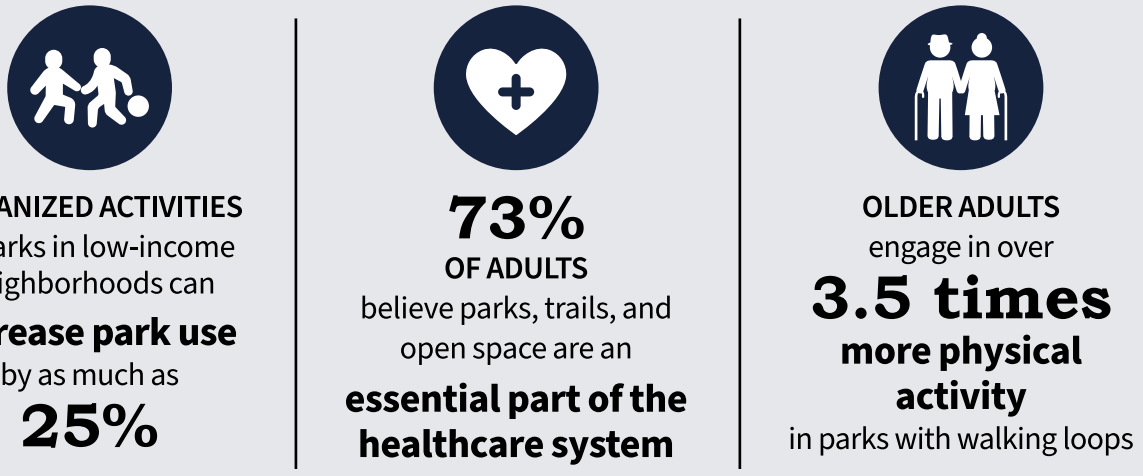


Figure 7.1 Park Rx: Public Health and Wellness Benefits of Parks and Green Spaces

systems promote health and sustainability, while healthcare and recreational facilities enhance well-being and social connections. Utilities and shared spaces improve quality of life—parks, trails, and community centers foster interaction and strengthen social bonds.

Public facilities, including parks, libraries, childcare, education, and safety services, are vital for equitable communities, especially in rural areas. In the Region, unique challenges like an aging population and lower income levels necessitate equitable access to services, ensuring all benefit regardless of location or income. According to the 2024 *Vermont State Health Assessment*, people with disabilities in rural areas face compounding barriers such as cost, transport, discrimination in healthcare, and school settings.[1] Equitable distribution involves not just availability but affordability and accessibility. Public libraries offer low-cost learning and connections, while affordable childcare and education empower families. Equitable public safety services help rural communities feel secure. Tackling these issues requires strategic planning to minimize disparities, ensuring public services are accessible without financial strain.

For long-term sustainability, public facilities and utilities should prioritize economic resilience. Investments must align with community needs and funding. Infrastructure upgrades, like energy-efficient retrofits for town facilities, reduce costs and extend lifespan while enhancing crisis response. Diverse funding sources, including grants and partnerships, can bolster financial resilience. Strategic capital planning helps towns budget for projects over time, lowering taxpayer burdens. Adopting long-term planning enables municipalities to adapt to economic changes while ensuring dependable services and securing economic stability for future generations.

CURRENT CONDITIONS

The Region's public facilities, utilities, and services offer insight into community strengths and challenges. Using data and public engagement, this section reviews public assets in a changing environment. Key strengths include modern facilities, like the new Middletown Springs town office in its Village Center, and infrastructure upgrades in West Rutland, including site preparation and stormwater management systems to support new affordable housing in its Downtown Center. Recreational investments, such as the expansion of Pittsford Town Trails and the Rutland Recreation Center, also greatly contribute to community economic development. However, challenges persist, including high demand for mental health services, limited affordable childcare, and aging infrastructure. Funding limitations, demographic shifts, and some of the oldest utilities in the state present further complications. While the strengths demonstrate progress and innovation, the challenges highlight the need for continued investment and planning. To enhance quality of life and ensure equitable access to jobs and services, the Region needs a strategic vision prioritizing investments tailored to its 27 towns' unique needs.

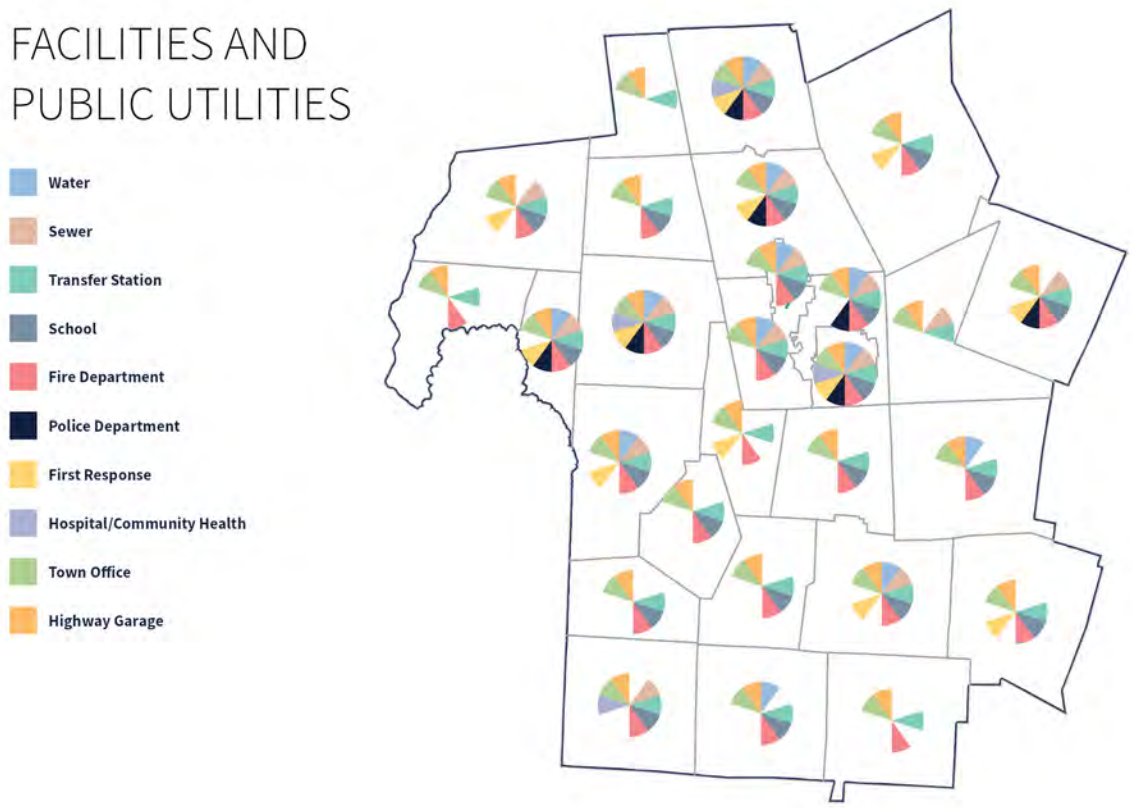


Figure 7.2

Regional Inventory of Public Facilities by Municipality: Water, Wastewater, Municipal Offices, Libraries, Emergency Services, Schools, and Healthcare

Municipal Facilities

Municipal facilities play a critical role in both public services and community economic development in the Region. The location of these facilities is especially important, as it ensures alignment with where people live and work. Town offices, libraries, parks, and recreation facilities shape the built environment and serve as community gathering places. Town highway garages and their associated infrastructure, along with public safety facilities (fire, police, EMS), house the resources needed to keep the Region's residents and visitors safe. However, aging facilities, accessibility challenges, and financial constraints can limit their effectiveness. Strategic investment, regional collaboration, and long-term planning have been and will continue to be essential for maintaining functional and adaptable municipal infrastructure that supports local and regional economies.

Town offices serve as hubs of government operations while often hosting additional community functions. Benson's Town Office doubles as a library and historical society, and the West Rutland and Wallingford Town Halls feature large event spaces. While several towns—including Middletown Springs, Mendon, and Castleton—have recently built new offices, others, such as Rutland City, operate

from 19th-century buildings with high maintenance costs and outdated systems, including mechanical (HVAC), electrical, and telecommunications infrastructure. Each town office is unique and presents specific challenges, ranging from a lack of appropriate meeting space to historic preservation significance. Investing in efficient, multi-use municipal buildings reduces long-term expenses and enhances community services.

Libraries serve as community anchors, offering free public Wi-Fi, educational programs, and gathering spaces. They enhance economic and social vitality; however, many facilities, most of which were built before 1920, require significant maintenance. With over half reporting poor conditions, municipalities must balance their value against the costs of upkeep.

1919

LIBRARY AVERAGE BUILD DATE

Parks and recreational facilities also shape the built environment, serving as community gathering places. These public spaces promote physical and mental health, support youth and family programming, and contribute to economic development. Facilities like the Rutland Recreation Center and Pittsford Town Trails show the value of maintaining and investing in recreational infrastructure. However, many towns face challenges in maintaining old parks and providing indoor recreational spaces, especially during the winter.

Town garages are essential for road maintenance, yet their conditions vary. Newer facilities in Rutland Town and Mount Holly meet modern safety and efficiency standards, while those in Fair Haven, Poultney, and Pawlet require replacement. With construction costs often exceeding $1 million, many towns depend on voter-approved loans, known as bonds, for funding. Similarly, sand and salt sheds, critical for winter road maintenance, have become costly to construct, especially using federal grant funding, leading to abandoned projects in Castleton and Tinmouth.

Public safety facilities face increasing demands. While all towns except Mendon and Sudbury have fire departments, most rely on volunteers, and many operate from outdated buildings. Fire equipment and vehicles, costing upwards of $600,000, strain municipal budgets. Moreover, the New England Fire Rating Bureau rates many of our municipal fire departments in moderate to poor condition, requiring additional public investment. Meanwhile, only seven municipalities—Brandon, Castleton, Fair Haven, Killington, Pittsford, Rutland City, and Rutland Town—have municipal police departments, leaving many towns dependent on limited state and county law enforcement coverage, raising concerns about emergency response times.[1] This distributional equity policing issue is felt the greatest in our rural, more remote communities like Danby, where response times can be as high as 45 minutes. The rising costs of public safety infrastructure, as seen with Rutland Town's new Public Safety Building, highlight the need for careful planning and diverse funding strategies. Emergency Medical Services (EMS) also face rising challenges, including staffing shortages, rising operational costs, and limited funding, especially in rural areas. While many

towns rely on regional or neighboring EMS providers, only a limited number maintain their own EMS or first response crew. Municipalities with their own EMS or first responder squads include Benson, Brandon, Castleton, Chittenden, Fair Haven, Ira, Killington, Mount Holly, Poultney, and Wallingford. These local squads usually work in coordination with regional ambulance services that help bridge response time gaps and provide Advanced Life Support (ALS) intercepts.

The Region's municipal facilities show both progress and active challenges for the Region. Strengths include recent investments in town offices, recreation centers, and garages. However, aging infrastructures, high maintenance costs, and poor access to public safety and EMS services raise significant concerns. Addressing these issues will require continued investment, funding strategies, and regional collaboration to ensure the continued growth and maintenance of municipal services.

Municipal facilities are essential to both community well-being and economic resilience, yet aging infrastructure and funding constraints present current challenges. Strategic planning, leveraging funding sources, and prioritizing investments should ensure these facilities continue to meet the Region's diverse needs while promoting long-term economic stability. However, the efficiency of the current system varies from town to town. Some municipalities deliver services effectively despite limited resources, while others face inefficiencies from outdated infrastructure and/or staffing shortages.

Public Water and Wastewater Utilities

Public drinking water and wastewater treatment utilities are integral to the Region's infrastructure, particularly in downtowns, village centers, and areas designated for planned growth. These utilities are critical to supporting housing, commercial, and industrial development, which are necessary for increasing population, enhancing the grand list, and expanding employment opportunities—key drivers of community economic development. Public water and wastewater utilities are largely located in downtowns and villages, but not always, such as on Plains Road in Pittsford or along the eastern shore of Lake Bomoseen in Castleton. For these cases, utilities support specific land uses like seasonal tourism, lake development, legacy industrial developments, and new residential developments.

Public water systems serve 12 communities in the Region, providing drinking water to approximately 28,415 users.[2] The current systems serve four designated downtowns and eight designated village centers throughout the Region. These systems vary in scale, from Rutland City's large system to smaller ones in Shrewsbury and Danby. In addition, water is sourced from both groundwater and surface water in the Region. Most systems operate at 40% or less of peak demand, allowing for future residential, commercial, and industrial growth, as shown in Figure *FPU-17, which maps system locations.

Public wastewater systems serve 14 communities in the Region, providing wastewater

collection and treatment to 10,802 connections.[3] The systems operate through 22 treatment facilities and 16 collection systems, including the 11-mile Alpine Pipeline from Killington to Rutland. These treatment systems range greatly in capacity from 0.017 million gallons per day in Benson to 8.1 million gallons per day in Rutland City, supporting four designated downtowns and 10 designated village centers. Similar to public drinking water systems, most wastewater systems operate well below full capacity, supporting future residential, commercial, and industrial development.

Many public water and wastewater systems in the Region have undergone substantial upgrades over the past several years; however, several still face deferred maintenance, aging infrastructure, and increasing operational costs. Rutland City's water system, the oldest in the Region, has cast iron pipes over 125 years old, with 28% dating back to the 19th century, leading to frequent water main breaks and costly repairs.[4] Moreover, the West Pawlet wastewater facility operates at only 25% capacity, leading to higher costs for a shrinking user base. These conditions show the need for ongoing maintenance and updates on outdated infrastructure to reduce local costs, especially in municipalities equipped with small wastewater systems.

The management of public water and wastewater systems also varies across the Region. While some systems are municipally owned, others are operated by volunteer-staffed fire districts, creating a governance model that can be difficult to sustain as operational costs rise and regulatory requirements become more complex.

The Region's public water and wastewater utilities provide essential services to a large portion of the population, even though many systems operate below maximum capacity. This 'reserve' capacity provides a positive, with underused systems, the Region offers the ability to support future residential, commercial, and industrial growth. However, aging infrastructure, delayed maintenance, and rising costs present immediate challenges, especially for small municipalities. While the Region's overall system is functional and providing coverage, its efficiency varies depending on the municipality systems and finances. A continued maintenance and modernization schedule will be key to sustaining reliable and equitable services.

Governance structures vary across the Region, with some systems municipally owned and others operated by a volunteer fire district. These differences affect how efficiently systems are managed today, especially as operational costs and regulatory guidelines continue to change.

Municipal Services

Municipal governments in the Region face an expanding and complex set of responsibilities. The burden on these governments, particularly small rural towns with limited full-time paid staff, is becoming more evident. New state laws, including the 2024 changes to Open Meeting Law and Municipal Ethics requirements, add another layer of responsibility to already overworked municipal staff and volunteers. Despite these increasing demands, many towns still rely heavily on volunteers to fulfill essential functions.

Each town in the Region offers a diverse range of elected and appointed roles, relying heavily on volunteers. Positions range from Assessors to Zoning Administrators and everything in between.

Currently, only 12 of the 27 towns have a full-time town administrator or manager, crucial for overseeing daily operations and efficient service provision. Without dedicated staff, towns face challenges in managing workloads and operations. Many small towns cannot support a full-time position and instead rely on volunteers, such as Selectboard members, to fill the gap.

"Middletown Springs, a town of fewer than 800 residents, appoints over 60 municipal positions each year, including state-mandated roles like health inspector and fire warden. This model is increasingly unsustainable; why can't neighboring communities collaborate to share these essential positions and reduce the burden?"

- Herb Childress, Selectboard Chair

Municipal services also include operating facilities and utilities such as fire and police departments, public works departments, recreation departments, solid waste and recycling transfer stations, and libraries, which require coordination across departments for effective functioning. Town recreation departments, historically volunteer-run, are now hiring paid directors in response to declining volunteer numbers and rising demand for programming in towns like Fair Haven and Castleton.

The complexity of governance, rising volunteer demands, and limited full-time staffing highlight the need for a more sustainable local government model, defined by adequate staffing, shared services, financial stability, and the ability to meet regulatory and operational demands without overburdening local governments and populations. The Region's municipal service systems rely heavily on volunteerism and local engagement, which remains both a strength and a weakness. Many towns operate essential services with limited staff and budgets. The current system faces operational inefficiencies; its long-term sustainability will depend on adaptation and collaboration throughout neighboring communities.

Education

Education in the Region is a cornerstone of community economic development, as broadening access to education and vocational training at every level is vital to meeting the Region's workforce demands and sustaining a skilled and engaged community.

The Region's success relies on a robust educational system that cultivates capable workers, engaged citizens, and lifelong learners. School capacity currently outpaces student enrollment, suggesting that physical access to education is not a limiting factor. However, the cost to taxpayers and the condition of school facilities can impact the overall accessibility and quality of education. Ensuring equitable access to cost-effective, high-quality education remains a regional priority.

The Region hosts 31 public schools across 22 towns, enrolling approximately 7,500 students as of 2023.[5] Overall, enrollment across the Region has seen steady declines over the past two decades, along with increasing per-pupil spending costs. Between 2018 and 2024, the average per-pupil budget rose by 17% ($17,600 to $21,125) while actual costs increased by 20% ($15,038 to $18,761).[6] This growth reflects both the rising cost of delivering education and the Region's investment

Typical Municipal Appointments

Elected or Appointed (Varies by Town):

- Selectboard
- Town Clerk
- Town Treasurer
- Constable
- Lister / Assessor
- Auditor
- Delinquent Tax Collector
- Justice of Peace

Appointed Positions:

- Town Administrator or Manager
- Assistant Town Clerk / Treasurer
- Selectboard Assistant or Administrative Assistant
- Zoning Administrator
- Planning Commission Members
- Development Review Board (DRB) or Zoning Board of Adjustment (ZBA) Members
- Health Officer / Health Inspector *(required by state law)*
- Fire Warden *(required by state law)*
- Emergency Management Coordinator
- Animal Control Officer
- Town Service Officer
- Cemetery Commissioner
- Fence Viewer
- Tree Warden
- Energy Coordinator
- Recreation Committee Members
- Conservation Commission Members
- Solid Waste District Representative
- Town Forest Committee Members
- Town Green or Beautification Committee Members
- Historic Preservation Committee
- Regional Planning Commission
- Communications Union District
- Marble Valley Regional Transit District
- Solid Waste District

The reliance on volunteers has been a feature of local government, but the strain is increasingly evident, especially for small rural towns, as demand rises. Volunteer turnover is an ongoing issue, with many roles held by older residents, as a 2020 Vermont League of Cities and Towns Survey revealed that Selectboard members average over 60 years old.

in supporting quality education services.

There are also 10 independent schools with 414 students as of 2024. These schools are organized into eight supervisory unions, some of which include schools outside of the Region.

Programming quality is vital for positive educational outcomes, but adequate facilities are just as important. For more on educational programming quality and its role in workforce development, see the Economic Development Chapter (Chapter 3, page 79). The 2023 Vermont School Facilities Assessment created a Facility Condition Index (FCI), which provides a theoretical objective indication of a building's overall condition. Based on the current FCI, schools across the Region were estimated to need more than $5,250,000 in immediate building upgrades.[7] One-third of the schools in the Region were rated as "good to fair", with two-thirds rated as "fair to poor", indicating that if deferred, ongoing facility costs are likely to rise.

While these facility needs are significant, they do not currently limit access to education. However, in the coming years, they could impact the student learning environment and long-term sustainability of the education system.

The Region hosts Stafford Technical Center, one of Vermont's largest technical centers, which provides 15 programs for 270 high school students and over 500 adults with 60 certificate courses annually. This corresponds with the high demand for skilled trades, particularly in healthcare, construction, and advanced manufacturing. A major challenge for Stafford is that demand exceeds capacity, leaving many students unable to enroll. This unmet demand highlights the importance of technical education in the Region's current workforce landscape.

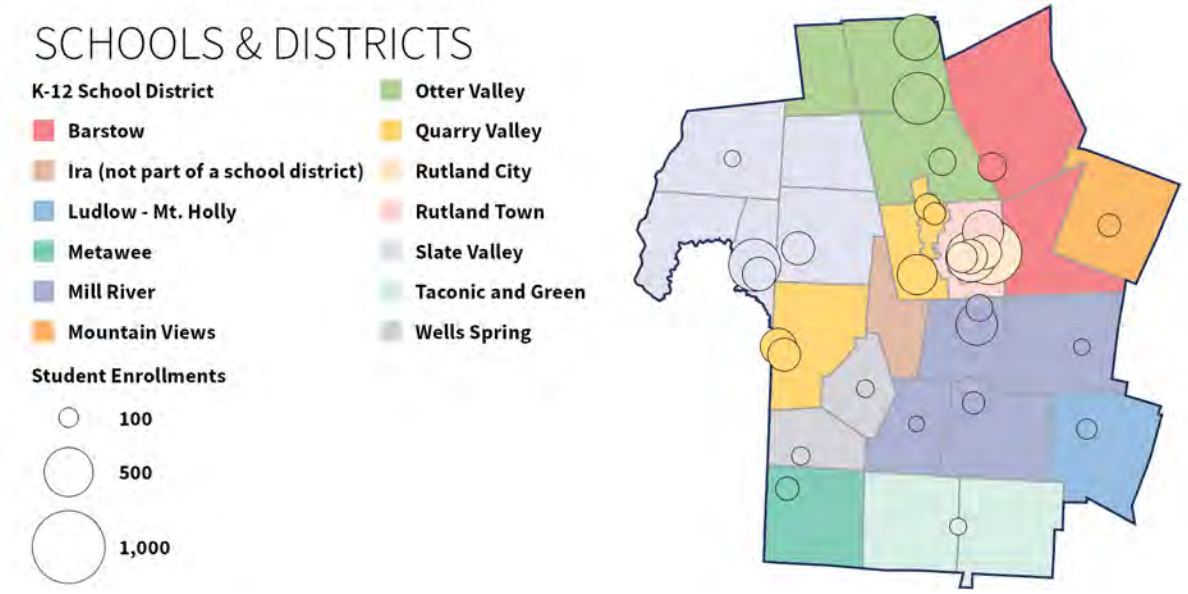


Figure 7.3

K–12 School Districts and School Locations in the Rutland Region: Enrollment Size and Distribution

In addition to Stafford, Vermont Adult Learning also plays a key role in regional workforce development. It offers basic adult education, high school completion, English language programs for New Americans, work readiness programming, and an energy works program to support weatherization and heat-pump installation. Overall, Stafford and Vermont Adult Learning provide the most comprehensive young adult and adult education that focuses on workforce development and technical training in the Region.

Stafford collaborates with local businesses to ensure that the training aligns with labor market needs, providing students with direct pathways to employment.

Higher education in the Region has changed significantly with the closure of Green Mountain College and the College of St. Joseph, limiting local post-secondary options. Vermont State University (VTSU) - Castleton and the Community College of Vermont (CCV) are crucial, serving approximately 2,000 and 1,200 students, respectively. The consolidation of Vermont's State College system challenges VTSU-Castleton. VTSU-Castleton now faces a $20 million funding shortfall and ongoing enrollment issues. However, VTSU-Castleton retains vital assets, including advanced STEM facilities and community event spaces, like the Pavilion. These strengths and strong academic offerings emphasize VTSU-Castleton's essential role in the Region's higher education landscape.

The Region's educational system offers broad physical access to public and vocational education, supported by a mix of public schools, independent schools, and higher education institutions. However, local challenges remain in the form of aging facilities, rising costs, and limited capacity in technical education. These challenges are particularly relevant given the Region's current reliance on education as a key component of workforce development. Local institutions, like Stafford Technical and Vermont Adult Learning, are playing a central role in preparing students and adults for in-demand employment sectors like healthcare, construction, and energy efficiency. Their programs closely align with local labor market needs and provide direct paths to employment to help address workforce shortages across the Region. These factors influence both the efficiency and equity of the current system and will require continued maintenance and attention.

Healthcare

Access to affordable, quality health care is a major issue for rural Vermont communities, particularly in the Region. Disparities among low-income individuals, seniors, those with disabilities, and residents in remote areas hinder health equity. Rising costs, physician shortages, and limited mental health and substance abuse services complicate access. The Rutland Regional Medical Center's Community Health Needs Assessment identifies diverse health needs, particularly for individuals with disabilities, those in poverty or unhoused, seniors over 65, youth under 18, and BIPOC or LGBTQ+ populations.

A major barrier to healthcare in the Region is the rising cost, worsened by Vermont's high healthcare expenses. Although 95% of the population has insurance, 1,750 adults and 145 children remain uninsured.[8] Those with coverage face premiums and out-of-pocket payments between $15,000 and $40,000, putting significant strain on low-income families. These costs hinder access to necessary care for regional residents.

The Region faces a primary care physician shortage, despite Rutland Regional Medical Center, one of the Region's largest employers, having a patient-to-provider ratio of 1,380:1, which is 53.5% higher than the state average of 900:1.[9] This challenge makes it difficult for residents, especially in rural areas, to access timely and affordable care. The Community Health Centers of the Rutland Region provide essential services in Rutland City, Brandon, Castleton, Pawlet, and Shoreham, but demand often exceeds capacity. With an aging population and increasing chronic conditions, the need for primary care will continue to grow.

Mental health services in the Region are limited, with access a concern for residents, especially youth, BIPOC, and LGBTQ+ individuals. The patient-to-provider ratio (280:1) significantly exceeds the state average (180:1). While Rutland Mental Health and Community Health offer various mental health services, demand far exceeds availability, particularly as these facilities are concentrated in Rutland City, amplifying the need for rural health equity.

Substance use disorders, especially opioid addiction, significantly impact public health in the Region. This finding is based on an open-ended question in Survey 1, which asked, "What do you consider to be the greatest weaknesses or threats to our Region?" Over 200 respondents cited substance abuse as the greatest threat, highlighting the depth of concern across the community. Organizations such as Community Care Network, Rutland Regional Medical Center, and Turning Point offer vital services like detoxification, rehabilitation, and recovery support. Substance abuse treatment centers in Rutland City include West Ridge Center, Turning Point, Grace House, and Evergreen. Initiatives like the Community Care Network's Street Outreach Program, launched in late 2023 with Turning Point Center, Rutland County Health

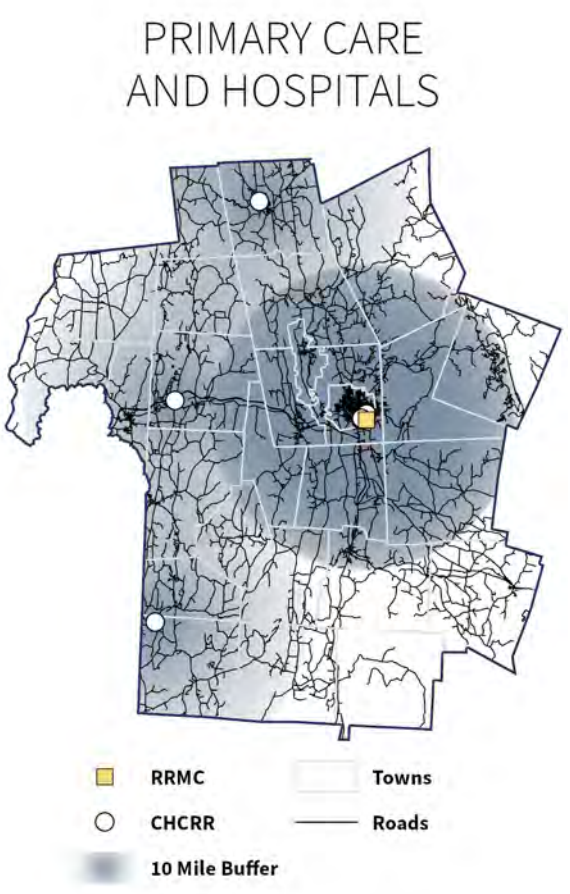


Figure 7.4

Access to Healthcare in the Rutland Region: Community Hospitals and Primary Care Facilities with 10-Mile Service Buffers

Partners, and Rutland City Police-Community Resource Team, significantly aid unhoused and addicted individuals.

As the Region ages, demand for senior care is rising, with 1 in 4 adults over 65. The Southwestern Vermont Council on Aging provides essential services like transportation and case management. The Region has two assisted living facilities, three nursing homes, and 13 residential care homes. Pines Nursing Home and Mountain View in Rutland City offer senior services, from rehabilitation to long-term care. However, growing demand raises concerns about capacity, as many facilities operate near limits. This demand surge, coupled with low Medicaid and Medicare rates, poses a challenge to financial sustainability. Vermont's Medicaid program faces budget constraints, impacting care for low-income or disabled residents.

1/3

OF ADULTS

in Rutland County with disability

The Region has a high disability rate, with 28% of adults impacted, well above the state average, as highlighted in Figure 7.4, underscoring the need for accessible infrastructure and services.[10] Many have mobility, sensory, or cognitive challenges. The Vermont Center for Independent Living provides advocacy and services to support individuals, but affordable housing and transportation remain significant barriers. Furthermore, aging infrastructure, built before the Americans with Disabilities Act (ADA), renders many facilities inaccessible. Retrofitting these can be expensive, yet updating is vital for ADA compliance and inclusivity.

Achieving health equity requires addressing these disparities to ensure all residents can access necessary care. Challenges such as provider shortages, high costs, and demand for substance abuse treatment particularly affect low-income and underserved communities, compounded by transportation issues and lack of service information.

However, the Region also benefits from a strong and well-distributed healthcare system. The Rutland Regional Medical Center serves as a regional hub, offering a wide range of services and acting as one of the Region's largest employers. The Community Health Centers of the Rutland Region provide essential care in multiple towns, including Rutland City, Brandon, Castleton, and Pawlet, ensuring many residents have access to primary care within proximity. With 95% of residents insured and a network of community-based providers, the Region demonstrates strong baseline coverage and service availability. Special programs for mental health, substance abuse, and senior care further strengthen the system.

That said, access and proximity to healthcare vary across the Region. Village Centers, Downtowns, and other Growth Areas are generally better served than Rural Areas, which is especially true for mental health and substance use treatment, services that are stretched beyond capacity. A continued commitment to workforce development, infrastructure accessibility, and affordable access will be essential to improving health throughout the Region.

Childcare

Childcare is essential for the Region's children, families, and workforce, driving community economic development. Quality childcare fosters children's social and academic growth, supports families in high-risk environments, and enables parents to work, thereby strengthening the economy and expanding the tax base. However, high costs create barriers, particularly for low-income families, highlighting the need for equitable access to childcare. Affordable childcare is defined as costing no more than 7% of a family's income. Higher-quality childcare typically includes low staff-to-child ratios, licensed facilities, and trained educators.

As of 2024, there were a total of 93 providers in the Region with a licensed capacity of 2,972, with a vacancy rate of 4.6%.[11] This was a significant reduction from 2023, when 99 providers supported a capacity of 3,216. According to a report from the Federal Reserve Bank of Boston, the Region experienced the largest decline in under-school-age capacity per 100 children from 2012 to 2023, as shown in Figure 7.5, which compares the number of providers to licensed capacity over time.[12]

To support our regional economy, we need affordable, higher-quality childcare. A regional employer noted that with childcare costs over $1,000 monthly and average pay rates of $20-25 per hour, employees find it cheaper not to work. Moreover, 1,775 children under 12 are in poverty, and access to care is a barrier for at least 27% of the Region's kids.[13] These costs indicate that childcare capacity and quality are not the only issues that remain a major barrier for low and moderate-income households.

In the Region, affordability remains a major barrier, with many families spending well over the recommended 7% of income on childcare. A single parent must earn over $61,000 annually to meet the basic needs

NUMBER OF PROVIDERS AND LICENSED CAPACITY

	Number of Providers	Licensed Capacity
Center-based child care and preschool programs	43	1,444
Center-based child care and preschool programs (non-recurring)	1	59
Licensed family child care homes	3	34
Registered child care homes	27	270
After school providers	19	1,165
Total	**93**	**2,972**

Figure 7.5

Licensed Childcare Providers in the Rutland Region: Number and Capacity by Facility Type

of childcare and costs. In comparison, a two-parent household with two children needs nearly $98,000, well above the Region's median income of $62,641.

The current childcare system in the Region also requires increasing qualified staffing levels. However, increasing the number of workers will not be sustainable without a living wage. In 2023, the 660 childcare workers in the Region earned an average of $17.76 hourly, totaling about $36,940 annually.[14] According to the Living Wage Calculator, this is significantly below the estimated Living Wage in the Region of $22.66 hourly, or $47,133 annually.

The Region faces a childcare crisis. Act 76, enacted in 2023, invests $130 million annually from the state's general fund and introduced a 0.44% payroll tax. This public subsidy aims to improve affordability and expand access, including for children with special needs who require one-on-one assistance or specialized equipment. Even with these investments, gaps persist, particularly in workforce compensation, rural access, and infant and toddler care availability. Continued monitoring of access, affordability, and workforce conditions will be essential in understanding how well the childcare system is meeting the Region's needs.

Recreation

The Region offers abundant natural resources and outdoor recreational assets vital for community and economic development. Scenic trails, parks, and waterways enhance the well-being of residents and contribute to local identity. These features boost the recreation economy, supporting rural communities through tourism and business growth. This section focuses on non-commercial, public recreation opportunities; for more on tourism-based commercial recreation, see the Economic Development Chapter (Chapter 3, page 79). Prioritizing equity through accessibility ensures inclusive recreational opportunities for everyone, enhancing community health and showcasing the Region's unique character.

The Region is a prime destination for trail recreation, featuring over 100 miles of mountain biking at Slate Valley Trails, Pine Hill Park, and Killington Mountain Bike Club. These trails attract tens of thousands of visitors yearly, contributing millions to the local economy. Pinehill Partnership's analysis reported over 30,000 visitors in 2020, generating more than $1 million. The Region also offers extensive hiking, including the Long Trail and Appalachian Trail, with Downtown Rutland as a popular rest and resupply location for hikers. In winter, the Vermont Association of Snow Travelers maintains snowmobile trails through clubs like Chittenden Dammers and Mount Holly Snow Flyers. Local trails, such as the Pittsford Town Trails and D&H Rail Trail, promote year-round recreation, bolstering tourism and enhancing life for residents and visitors.

The Region features abundant water resources, including Lake Bomoseen, Lake Hortonia, Lake St. Catherine, and Glen Lake (locally known as the Lakes Region). These lakes and ponds support a thriving fishing, boating, and paddling industry that attracts outdoor enthusiasts. Summer and winter

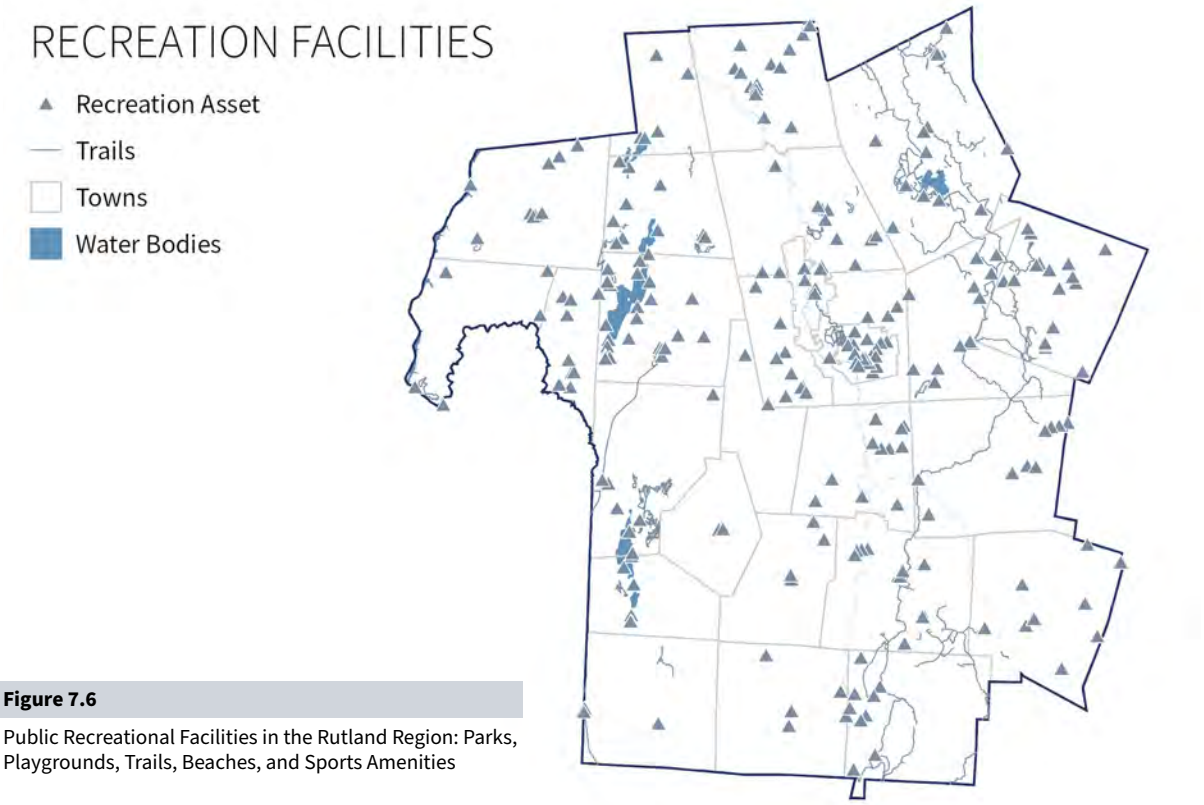


Figure 7.6

Public Recreational Facilities in the Rutland Region: Parks, Playgrounds, Trails, Beaches, and Sports Amenities

fishing derbies significantly boost the economy, drawing hundreds of participants and visitors. Vermont State Parks, like Bomoseen and Lake St. Catherine, welcomed nearly 75,000 visitors in 2023.[15] These recreational assets enhance the local economy and provide scenic destinations for residents and visitors.

In addition to traditional outdoor activities, the Region offers unique and specialized recreational opportunities that set it apart from other areas. One such example is the aerial recreation site in West Rutland, recognized by both the United States Hang Gliding and Paragliding Association (USHPA) and the Vermont Hang Gliding and Paragliding Association (VHPA). This site draws enthusiasts from across the Northeast and reflects the Region's capacity to support diverse and adventurous outdoor experiences beyond the typical trail or water activity.

Hunting and camping are central to the Region's recreation and culture, providing economic benefits and ties to Vermont's outdoor heritage. Deer hunting is a valued tradition contributing to wildlife management and local economies. In 2024, the Region harvested 1,161 deer across all 26 towns, which is down from 2,214 in 2018. Funds from hunting licenses, approximately $31 million statewide in FY25, are vital for wildlife conservation and sustainable land management for future generations.[16]

Vermont's ski industry boosts the economy, with ski areas seeing 4.1 million visits per season. Killington Resort, the largest in the East, attracts approximately 1 million visitors each year and hosts the Killington World Cup, drawing over 25,000 attendees and generating $6 million locally.[17] The Region also features Nordic skiing at the Mountaintop Inn in Chittenden and popular ice skating

on lakes and rinks. These activities support local businesses and tourism, enhancing the Region's economic vitality. However, climate change threatens many of our winter sports and tourism, as discussed in the Climate Resilience Chapter (Chapter 11, page 333).

Indoor recreation is also a growing priority in the Region. Survey data from the Phase 1, "Learn and Assess" engagement process indicated that over 60% of respondents cited a lack of indoor recreation options as a barrier to year-round physical activity. Facilities like the Rutland Recreation Community Center (a repurposed former college) and the Castleton Recreation Department (a repurposed middle school) demonstrate the potential for adaptive reuse of underutilized or shuttered public buildings. These spaces support a wide range of activities from youth sports to older adult fitness classes. Older adults are increasingly active in indoor recreation, particularly in sports like pickleball, which require more indoor courts. Expanding indoor recreation infrastructure can help meet demand, especially during winter months or for those with limited access to outdoor spaces.

Many Region residents enjoy outdoor recreation, with 80% of 2024 Come Alive Outside survey respondents reporting that they regularly use or value access to physical activity areas in the Region. However, barriers such as cost, equipment, lack of leisure time, and accessibility inhibit participation. High costs can include gear, transportation, or access fees, particularly for specialized equipment. Improving accessibility is a priority, with Vermont Adaptive Ski & Sports enhancing access to waterways and trails. New state park plans incorporate ADA modifications, but upgrades are costly—$7 per foot for adaptive trails versus $4 for standard ones. Additional challenges include limited parking, insufficient restrooms, landowner disputes, and potential resource impacts.

The Region offers diverse recreation opportunities, including hiking, biking, skiing, water activities, and indoor sports. Its trails, lakes, parks, and indoor facilities enhance health and support the local economy by attracting visitors. Despite challenges like limited indoor spaces and high costs, the Region is committed to improving recreational assets. The current system of non-commercial recreation is generally effective with substantial participation and a wide range of opportunities, though access and infrastructure gaps remain. By prioritizing accessibility, expanding indoor options, and investing in infrastructure, the Region will remain a vibrant recreation destination, promoting community well-being.

Electric Utilities

The electric utility infrastructure in the Region, primarily owned and operated by Green Mountain Power, is vital for community development and economic growth. The availability, affordability, and reliability of electricity are essential for supporting commercial expansion and housing development. Businesses and industry, particularly those in Enterprise Areas and Planned Growth Areas like Fair Haven, Poultney, Rutland City, Killington, Pittsford, and Brandon, depend on three-phase power to operate effectively and integrate renewable energy sources.

As the Region experiences increasing climate-related disruptions, the electric grid faces resiliency challenges in meeting peak demand, especially during extreme weather conditions. The frequency of storms is increasing, leading to more outages that disrupt daily life, threaten populations with limited backup options, disproportionately affect them, and impact business operations. Over $45 million was spent on storm repairs in 2023, with total repair expenses surpassing $115 million since 2013.[18] Figure 7.7 highlights outage-prone areas. Rural communities face further challenges with prolonged power outages, which can be particularly harmful to businesses and residents lacking backup power. These conditions highlight the vulnerability of the Region's electrical infrastructure, particularly in rural areas where outages tend to last longer and backup systems are less common.

The Region's electric utility system is anchored by Green Mountain Power (GMP), a locally headquartered utility providing regional leadership and innovation in energy. The existing grid supports residential, commercial, and industrial users, with three-phase power available in many designated growth areas. However, service gaps remain in rural locations. The energy system continues to face strain from climate-related events, with storm outages becoming more frequent and costly. While the Region's grid is generally reliable under everyday conditions, its resilience is untested, and the aging infrastructure increases vulnerability. The current system conditions show the importance of understanding where systems perform well and where targeted improvements are needed.

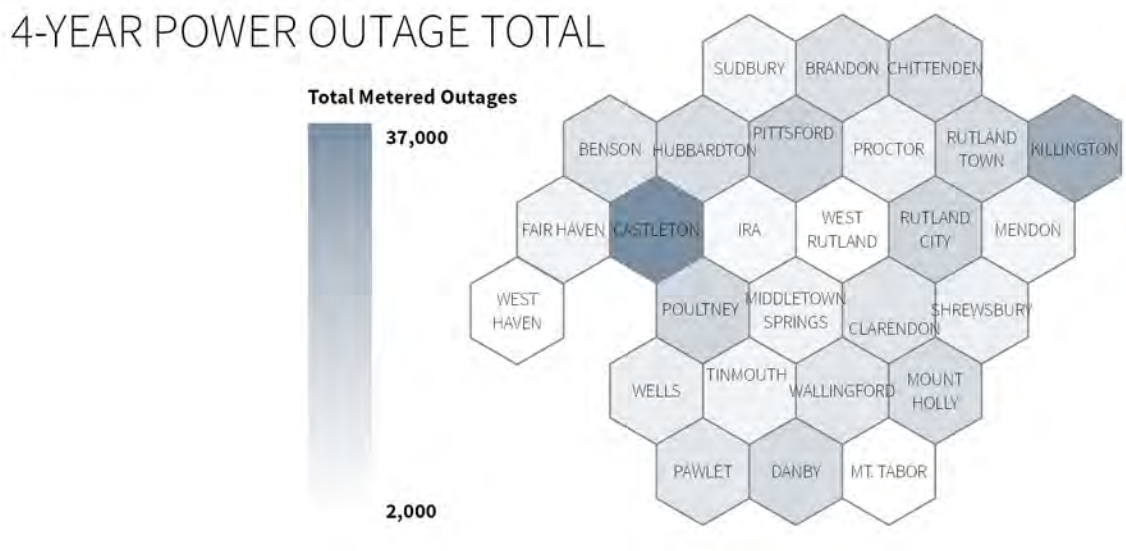


Figure 7.7

Green Mountain Power Outages by Town: Total Reported Meter Outages (2019–2023)

Telecommunications

Access to reliable telecommunications services, including high-speed broadband internet, emergency radio service, and cellular coverage, is crucial for economic development, business operations, and public safety in the Region. The RRPC plays a key role in identifying infrastructure gaps, coordinating with partners, and supporting local and regional efforts to expand access.

The Otter Creek Communications Union District (OCCUD) has enhanced broadband access in the Region. In 2023, OCCUD secured a $9.9 million grant to expand fiber optic internet services. By 2024, more than 28,000 homes and businesses had access to high-speed broadband internet, with participating towns designated as "Gig Towns."[19] This expansion addressed critical and long-standing service gaps, especially in rural areas. According to the Center on Rural Innovation, broadband boosts rural economies by increasing business growth by 213% and self-employment by 10%, resulting in 18% higher per capita income growth.

Cellular coverage in the Region is highly variable, with 32 unevenly distributed network towers creating large "dead zones" in the southern part of the Region. A 2022 Wireless Drive Test identified significant gaps in Benson, Hubbardton, Chittenden, Castleton, Pawlet, Wallingford, and Mount Holly.[20] The mountainous terrain, characterized by narrow valleys and ridges, creates challenges for wireless infrastructure. Effective coverage requires planning to balance service with environmental and scenic considerations, a role the RRPC supports through its land use and infrastructure planning.

Emergency radio service infrastructure, a critical component of public safety, remains uneven across the Region. There have been significant changes to the emergency dispatch system over the last decade, resulting in a statewide consolidation of emergency dispatch services through the State of Vermont. The infrastructure supporting radio

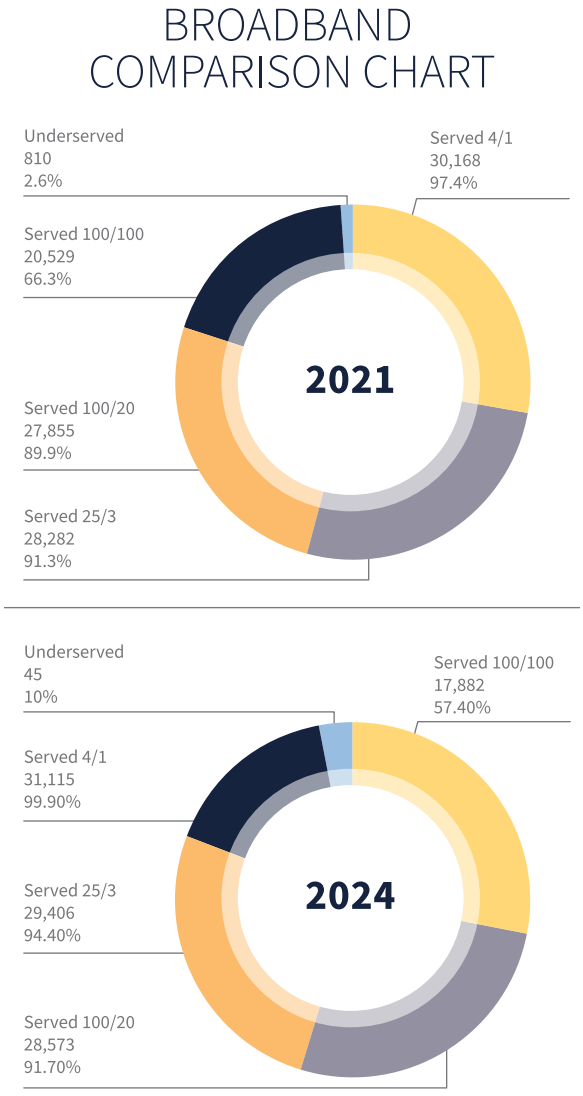


Figure 7.8

Broadband Availability in Rutland County: High-Speed Internet by Speed Tier and Unserved Addresses (2021 vs. 2023)

services is limited by geography in the Region, which can be particularly challenging in mountainous or remote areas. Public Wi-Fi access at municipal buildings and community spaces is limited in rural areas. This gap affects residents without home internet access and can limit digital inclusion.

Through OCCUD's fiber buildout, the Region has made significant progress in expanding broadband access to all towns by 2024. Even with slated projects, cellular coverage remains inconsistent, and public Wi-Fi and emergency radio infrastructure are limited in many areas. As broadband has become widely available to residential and business users, a key strength of the Region, telecommunications access overall remains uneven, which hinders public safety, economic opportunity, and internet equity. The RRPC will continue to play a central role in identifying gaps, supporting local and regional solutions, and advocating for equitable access to telecommunication services.

Solid Waste and Recycling

Effective waste management is crucial for promoting economic growth, sustainability, and environmental health through proper disposal, recycling, and reuse. This approach minimizes environmental impact and energy consumption while preventing injustice by protecting communities disproportionately affected by the harmful effects of improper disposal practices.

In the Region, the Solid Waste Alliance Communities (SWAC) and Rutland County Solid Waste District (RCSWD) play key roles in managing solid waste. They provide collective services difficult for individual towns to offer, overseeing collection agreements, organizing hazardous waste events, and facilitating outreach and education. In addition, the RCSWD and SWAC develop Solid Waste Implementation Plans (SWIP) that focus on waste diversion and reduction. For example, the SWAC reported a disposal rate of 1.74 pounds per person per day with a diversion rate of 39% in 2018, which then improved to 1.22 pounds per person per day with a diversion rate of 59% in 2023, signaling progress towards the SWIP goals.[21]

With all landfills in the Region closed, towns rely on transfer stations and recycling centers. Most have their own, while smaller towns such as Danby, Hubbardton, and Pawlet utilize hauling services or share facilities with neighboring towns. The RCSWD includes 12 municipal transfer stations and one regional site in Rutland City, along with a Material Recovery Facility—one of only two in Vermont. SWAC operates nine municipal stations. The conditions of municipal transfer stations vary, with some needing future upgrades.[22]

On July 1, 2020, Vermont state law banned the disposal of food scraps in the trash or landfills. Haulers like Music Mountain Compost, Casella Resource Solutions, and Wyman Frasier Compost of Vermont serve residential and commercial composting needs in the Region. People also compost in their backyards, with RCSWD offering discounted compost bins for residents.

The Region has made significant progress in solid waste management, with strong collaboration between RCSWD and SWAC. These

SOLID WASTE DISTRICT COMMUNITIES

Rutland County Solid Waste District (RCSWD)

Brandon
Castleton
Clarendon
Danby
Hubbarton
Ira
Killington
Mendon
Mount Holly
Mount Tabor
Pittsford
Poultney
Proctor
Rutland City
Rutland Town
Wallingford
Wells
West Rutland

Solid Waste Alliance Communities (SWAC)

Benson
Chittenden
Fair Haven
Middletown Springs
Pawlet
Rutland Town
Shrewsbury
Sudbury
Tinmouth
West Haven

partnerships have improved waste diversion and expanded access to composting and hazardous waste services. The presence of one of Vermont's only two material recovery facilities in Rutland City is a regional asset, supporting efficient recycling options. While some municipal transfer stations require upgrades and rural towns face logistical challenges, the Region's coordinated approach to waste planning and education has strengthened its capacity to manage material sustainably.

FUTURE TRENDS

The future of public facilities, utilities, and services in the Region envisions a dynamic, inclusive, and interconnected system designed to meet evolving community needs. This vision is grounded in economic and demographic projections, trend reports, public engagement, and insights from local studies and reports. Achieving this vision requires broadening access to educational and vocational opportunities, including alternative education models and robust technical education centers that support critical trades. Expanding outdoor recreational opportunities and addressing gaps in indoor recreation, particularly in rural areas and during winter months, will be important for enhancing quality of life and community well-being. By planning for and implementing efficient shared services, the Region can increase capacity and reduce financial burdens on municipalities, ensuring sustainable operations with fewer resources. Additionally, increasing the availability of safe and affordable childcare for all income levels is vital to support a growing workforce and create equitable opportunities for families. Realizing these future opportunities demands strategic investments, regional collaboration, and innovative approaches that align resources with the vision of a healthy, equitable, and resilient Region.

Municipal Facilities

The future of municipal facilities will focus on creating an equitable and sustainable approach to meet community

Figure 7.9
Castleton Town Office Building: Completed in 2017

needs while addressing resource disparities amid aging infrastructure and funding challenges. As towns experience population shifts and infrastructure aging, improvements will need to focus on strategic locations near jobs and homes, integrate cost-effective energy-efficient measures, and enhance accessibility to improve service delivery and support community economic development. Capital improvement planning is a key tool for addressing municipal infrastructure needs, enabling towns to prioritize essential upgrades without burdening taxpayers.

Towns with established capital improvement plans and strong funding mechanisms can improve strategically without raising taxes. The Town of Rutland, for example, generates over $1.5 million annually through a 1% option tax to offset the general fund, support the police budget, and finance capital improvement projects such as the Public Safety Building.[23] In addition, Middletown Springs illustrates the benefit of braiding local funds with state and federal grant resources to support the conversion of an old church into a new public library. Formal facility assessments offer a potential model for identifying urgent upgrade needs and integrating assessments into capital planning to highlight long-term costs and grant opportunities.

Facility upgrades should incorporate multifunctionality, allowing public facilities to serve various purposes, generate revenue, and enhance community engagement. Town offices and libraries have increasingly adopted this approach by offering diverse programming and event space. Federal grants may add to project costs, and towns like Ira demonstrate that low-risk municipal bonds, such as those for their new sand and salt shed, provide a cost-effective alternative.

The RRPC can support these efforts by offering technical assistance, helping towns identify funding sources, and coordinating regional planning efforts to ensure investments align with long-term goals. Tracking progress through updated CIPs, facility assessments, and regional reporting will help measure success and identify emerging needs.

LOCAL OPTION TAX

RUTLAND TOWN
$1.6 M
in FY24 for
General Budget, Policy Budget, and
Capital Improvement Fund

BRANDON
$285,212
in FY24 for Towns Capital Projects

Public Water and Wastewater Utilities

The future of municipal drinking water and wastewater utilities is crucial for both commercial and residential development. Careful planning is essential in the Region's downtown and village centers to evaluate water and wastewater expansion, identify necessary upgrades, and ensure long-term maintenance. Robust public drinking water and wastewater treatment infrastructure will lower development costs, attract investments, and boost economic vitality, all while ensuring that growth aligns with community needs.

Act 181, the new Act 250 location-based approach to land use, prioritizes areas with access to public water and wastewater systems, making these utilities vital for future development. To support sustainable housing and business expansion, it is crucial to concentrate investments in growth areas designated in this Plan, such as Downtown and Village Centers, Planned Growth Areas, and Village Areas.

Technical assistance and assessment of the Region's 12 public water systems can support future housing and business growth. Many water systems, managed by volunteer fire districts, need a new governance model and enhanced technical assistance for long-term sustainability. With a target as high as 9,000 new housing units by 2040, the Region's public drinking water infrastructure must be upgraded and expanded to meet demand. The Chamber and Economic Development of the Region's public drinking water system expansion at the Airport Industrial Park in Clarendon will help create critical industrial space in Enterprise Areas. Similarly, municipal water system extension in Killington will support up to $3 billion in

[placeholder]

Figure 7.10

Killington Road Reconstruction and Public Water Line Extension: Infrastructure Investment Supporting Future Development through TIF Funding

housing investment, driving regional growth in Resource-Based Recreational Areas.

Moreover, public wastewater systems also require crucial upgrades to meet the rising demand. Many systems, particularly in Rutland City, are among the oldest in the state and face significant upgrade requirements, with costs reaching $100 million. Towns like West Rutland and Proctor are utilizing municipal bonds to implement necessary wastewater system improvements. Smaller systems, such as West Pawlet, need enhancement to reduce user fees and spur future housing growth. Increased technical assistance, like that available through the RRPC's Municipal Technical Assistance Program, will be essential to ensure that wastewater systems can support housing and business growth.

The RRPC will continue to support municipalities by offering technical guidance, facilitating regional coordination, and helping towns access state and federal funding. Progress can be tracked through updated capital improvement plans, utility assessments, and regional infrastructure reporting.

$100M+

COST TO UPGRADE SEWER SYSTEM

in Rutland City

Municipal Services

The future of municipal services in the Region depends on creating a sustainable governance model that addresses the growing challenges of volunteer shortages and limited full-time staffing. A sustainable governance model includes professional or shared staffing, stable funding, and the capacity to meet regulatory requirements while adapting to changing community needs. Small rural communities must invest in municipal capacity-building to ensure efficient, high-quality governance and operations while easing the burden on local officials.

Shared services offer a cost-effective solution to strengthen municipal operations, especially in key positions like town administrators, which are currently lacking in 15 towns. Attempts to recruit and retain part-time administrators have struggled in places like Shrewsbury, but shared positions that result in full-time employment could attract qualified professionals. This model could also apply to many municipal roles, including zoning and floodplain administrators, which are essential for land use and hazard mitigation but often under-supported in smaller towns. A regional governance structure, such as a council of governments, a regional governing or coordinating body that brings together municipal elected officials to collaborate on shared services and agreements, could offer a more coordinated and cost-effective approach to delivering essential municipal services.

Another critical challenge is recruiting and retaining municipal volunteers. Towns rely heavily on volunteers to serve as selectboard members, planning commissioners, and health officers. With an aging volunteer base, towns must re-evaluate governance models and consider solutions such as shared positions, financial incentives,

TOWN MANAGERS

Small Towns: 0-1000 • Have TAM: 0%
Medium Towns: 1000-2000 • Have TAM: 33%
Large Towns: 2000+ • Have TAM: 90%

Town	Population	Town Administrator or Manager (TAM)
Mt. Tabor	210	-
West Haven	239	-
Ira	368	-
Sudbury	545	-
Tinmouth	553	-
Hubbardton	735	-
Middletown Springs	794	-
Benson	974	-
Shrewsbury	1,096	-
Mendon	1,149	TA
Wells	1,214	-
Chittenden	1,237	-
Danby	1,284	-
Mount Holly	1,385	-
Killington	1,407	TM
Pawlet	1,424	-
Proctor	1,763	TM
Wallingford	2,129	TA
West Rutland	2,214	TM
Clarendon	2,412	-
Fair Haven	2,736	TM
Pittsford	2,862	TM
Poultney	3,020	TM
Rutland Town	3,924	TA
Brandon	4,129	TM
Castleton	4,458	TM
Rutland City	15,807	M

Figure 7.11

Town Management Structures by Population Size: Comparison of Towns with Managers or Administrators by Small, Medium, and Large Population Categories

and formal recruitment programs. Partnerships with organizations like the Vermont League of Cities and Towns can help develop strategies to engage the next generation of municipal leaders and ensure the long-term sustainability of local government. The legislature also enables regional planning commissions to establish shared services agreements between municipalities for a variety of shared services, staffing, equipment, and more. The RRPC can play a critical role in facilitating shared service agreements, providing technical assistance, and helping towns access funding and training resources to address these staffing shortages.

Education

The future of education in the Region will hinge not only on the condition of school facilities but also on the right-sizing and strategic distribution of those facilities in response to shifting enrollments and rising costs. In addition to education facility management, the future of education will also prioritize integrating workforce development into school curriculum across a grade spectrum for all schools in the Region, not limited to just Stafford Technical Center. Addressing aging infrastructure and strengthening career pathways are essential steps toward preparing students for success and supporting the Region's long-term vitality.

A 2023 School Facilities Assessment estimates the total replacement cost of all 30 public school buildings in the Region at nearly $380 million.[24] The regional Facility Condition Index (FCI) averages nearly 26%, indicating buildings are "subjected to hard or long-term wear" and are "nearing the end of [their] useful or serviceable life." Over the next decade, nearly $90 million in upgrades will be needed to maintain safe, functional, and modern learning environments. However, the Region must also consider whether all 30 buildings are still needed, given declining enrollment trends. Without careful planning, the Region risks maintaining more space than necessary.

Future planning should include a comprehensive analysis of school size, location, and projected enrollment to determine where consolidation or adaptive reuse may be appropriate. This type of assessment is essential for prioritizing investments and ensuring that limited resources are directed toward the most critical needs. Municipalities are encouraged to coordinate with school districts during town plan updates to assess facility needs, explore consolidation opportunities, and consider adaptive reuse of underused buildings. These efforts should be guided by a sustainable education tax model that balances access with affordability.

If the Region cannot afford all necessary upgrades, difficult decisions will be required. This could include prioritizing schools with the highest need or strategic value, phasing improvements over time, or consolidating facilities to reduce long-term costs. Ongoing legislative efforts, such as Act 73, passed in 2025, aim to transform the state's education system by consolidating school districts, overhauling the funding model with a foundation formula, and strengthening governance to improve equity, quality, and fiscal sustainability.

At the same time, enhancing access to workforce development programming is critical to aligning education with regional economic needs. The 2022 Regional Career Development Inventory and Assessment, developed by a consultant for the Rutland

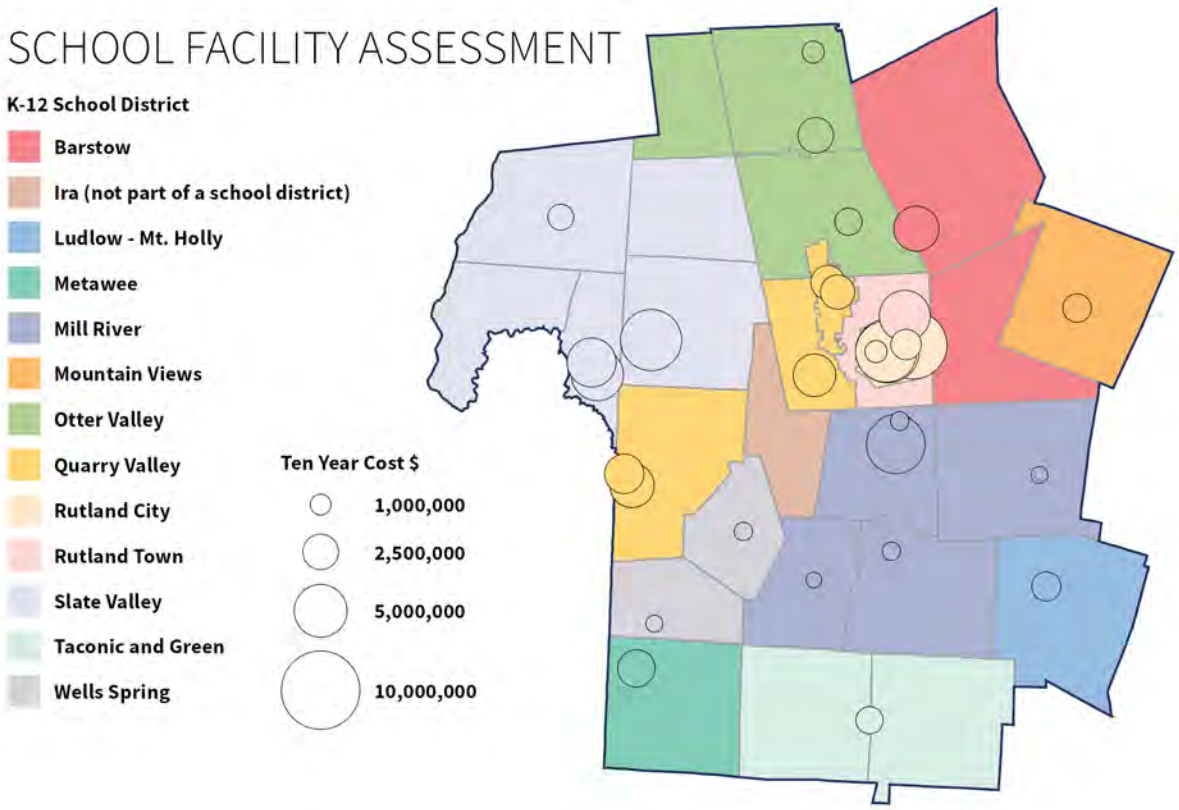


Figure 7.12

2022 School Facility Assessment by District: Projected 10-Year Maintenance Costs ($1M–$10M)

Region Workforce Investment Board, identified inconsistent access to workforce training across schools, largely due to limited staff capacity, competing priorities, and lack of awareness and funding. The assessment recommended that "all schools in Rutland County need a robust career development program created and implemented along a grade-level continuum if they wish to prepare students for successful careers." Achieving this shift in curriculum will require strengthening partnerships with local employers, expanding work-based learning, and improving access to technical education are key strategies for improvement.

The Rutland Region Workforce Investment Board is well-positioned to lead coordination efforts among schools, employers, and training providers. Collaborations with institutions like VTSU-Castleton and CCV should focus on critical sectors, including healthcare, trades, and education, with regional employers, such as Rutland Regional Medical Center, playing an active role. As discussed in the Economic Development Chapter (Chapter 3, page 79), aligning workforce development with regional economic priorities is essential to ensuring long-term sustainability. Additionally, expanding programs like Stafford Technical Center's WORC6 initiative can help bridge gaps for high school seniors, recent dropouts, and new Americans entering the workforce. Vermont Adult Learning will also be a vital partner in strengthening career pathways through partnerships between employers and training providers to help ensure that adult learners are connected to in-demand careers.

To build a resilient and future-ready Region, investment in both educational infrastructure and workforce development needs to be based on pragmatic planning and focus on providing quality, cost-efficient education to support the Region's future workforce. Strengthening these systems now will create long-term benefits for students, employers, and communities across the Region.

Healthcare

The future of healthcare in the Region must reduce barriers to access for all residents, including marginalized groups like low-income individuals, seniors, BIPOC, LGBTQ+, youth, those with disabilities, and the homeless. As health disparities grow, targeted efforts are needed to meet their unique healthcare needs and improve overall health outcomes. These issues will worsen as the population ages and demand for services increases, with a need to increase the healthcare workforce.

Addressing the mental health and substance use treatment needs of disadvantaged populations, especially BIPOC, LGBTQ+, youth, and low-income residents, requires expanding culturally competent providers and outreach programs. Increasing access to treatment centers, especially in rural areas, and boosting funding for mental health services are vital. Opiate addiction significantly affects the Region, increasing homelessness and crime while removing adults from the workforce. Initiatives that establish wrap-around services, comprehensive, coordinated care that includes healthcare, housing, employment, and social support, should also incorporate mental health education,

awareness, and stigma reduction to encourage residents to seek necessary help.

Expanding access for senior care and assisted living is essential as the population of residents 65 years and over is expected to rise from nearly 16,000 in 2024 to 19,000 by 2036.[25] The demand for senior care, including assisted living and rehabilitation services, presents investment opportunities in long-term care infrastructure. This includes raising capacity and improving the financial sustainability of facilities through better Medicaid and Medicare rates. Municipal planning and zoning bylaw updates can help mitigate community opposition, as seen with Castleton's Sand Hill Road Elder Care Facility.

As the Region faces these challenges, emerging solutions focus on expanding access and improving health equity, such as the ongoing growth of community health centers like the Community Health Centers of the Rutland Region, which operates primary care medical offices in Rutland, Brandon, Castleton, Shoreham, and West Pawlet, Vermont. To address demand exceeding capacity, innovative healthcare delivery models like telehealth, mobile units, and community partnerships must be explored. Following recommendations from the 2024 Regional Community Health Needs Assessment, it will be critical to bolster workforce development initiatives that expand the number of providers throughout the Region. These priorities can help reverse trends of poor access and inequity, fostering a healthier, more resilient community.

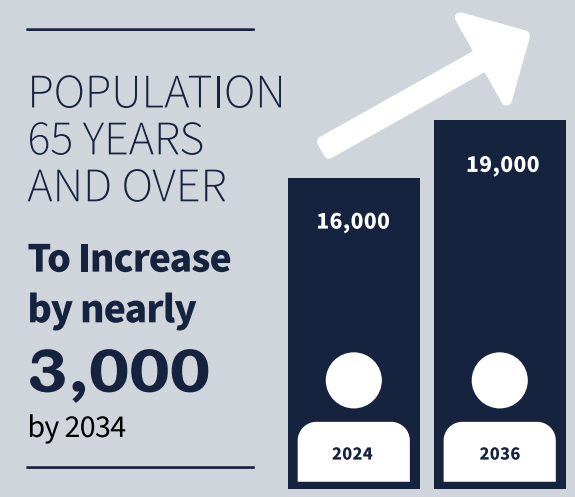


Figure 7.13

Projected population 65+ in 2034

Childcare

The future of childcare in the Region should prioritize affordable, high-quality care to meet the current and future workforce needs. Despite an aging population, the need for childcare is strong, but challenges like low wages for childcare workers and a lack of capacity persist. The need to continue to invest in childcare infrastructure will be essential to support a strong and resilient regional workforce.

To ensure that childcare meets regional workforce demands, additional childcare facilities are needed within and surrounding the Region's Planned Growth Areas to match facilities with areas of employment. The largest of which should occur in Rutland, Killington, Brandon, and Castleton. Let's Grow Kids identifies that to meet the demand, the Region would need to add an additional 436 infant slots, 91 toddler slots, and 271 preschool slots, increasing the total licensed capacity to 3,770. As the population increases, more capacity and childcare workers will be needed.

To meet the increased capacity and to maintain current staff-to-child ratios, an additional 230 childcare workers will be needed. Investments in professional development and competitive wages will be essential for increasing the Region's childcare workforce, reducing staff turnover, and ultimately improving care accessibility and quality. Training the new childcare workforce will require collaboration with local schools, training centers, employers, and childcare centers to meet the current and future demands.

Affordability will continue to be a barrier to accessing childcare. The Child Care Contribution (CCC) payroll tax, implemented under ACT 76, has helped reduce costs for families and expand childcare capacity. However, this investment alone is not expected to fully close the affordability gap. Continued public investments through subsidies from Act 76 will be critical to lowering the barriers for financial assistance and increasing state reimbursements for childcare by 35%.

Addressing the childcare crisis in the Region requires policy changes, employer partnerships, and workforce development. Improving access to affordable childcare, supporting workers' professional growth, and expanding facilities in key employment areas can enhance workforce stability and improve children's development and school readiness.

Recreation

The future of recreation for all users and abilities should focus on improvements that support community health, economic vitality, and social cohesion. Continued

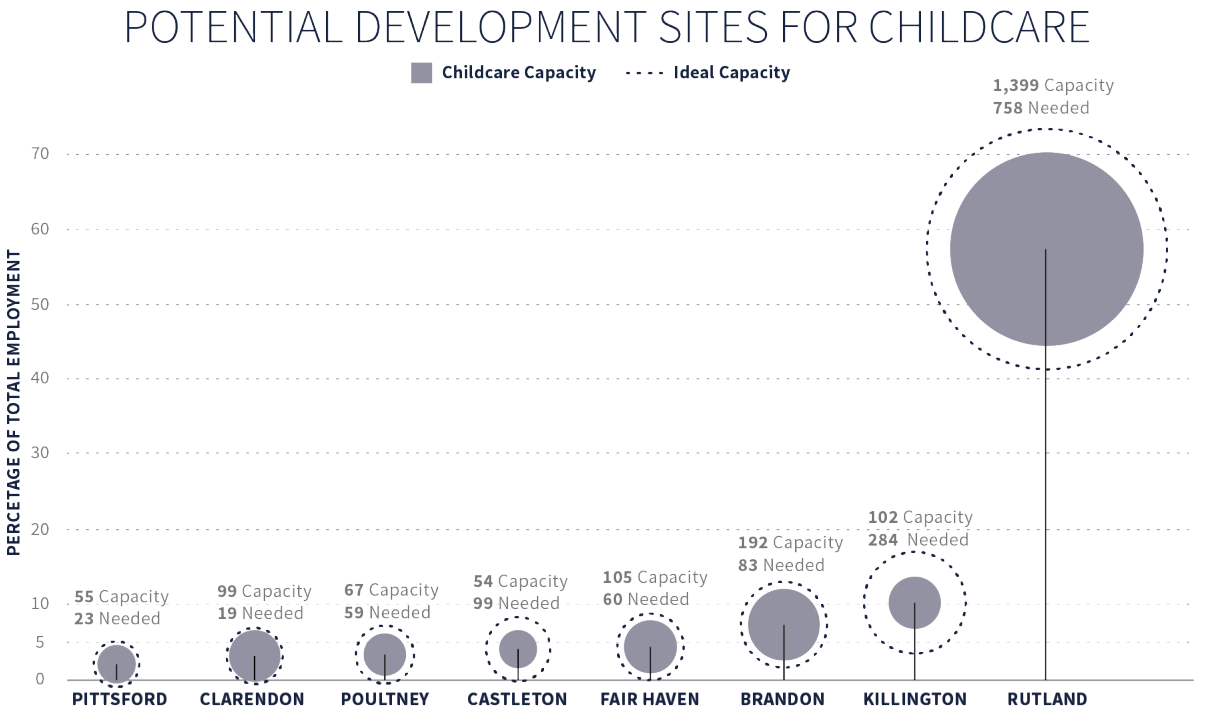


Figure 7.14

Potential Childcare Development Sites: Aligning Employer Density with Childcare Capacity Needs by Town

investment in these resources is essential to expand access and opportunity across the Region.

Programs like Vermont Adaptive Ski & Sports are already assessing trails and waterways for accessibility improvements, but there is still a need for greater investment in adaptive infrastructure. Efforts should focus not just on physical accessibility but also on sensory accommodation, language access, and diverse representation in outreach materials to ensure everyone can benefit from the Region's outdoor recreational opportunities. To address these issues, more information is needed on the accessibility of recreation resources. Efforts like the Rutland Asset Mapping Project (RAMP) aim to provide a comprehensive inventory of all recreation assets in the Region with critical information on accessibility and safety to accommodate all users and abilities.

Poultney's experience illustrates how rural areas can leverage recreation for economic renewal. Following the closure of Green Mountain College, the town enhanced its recreation economy through market analysis and community involvement, which boosted tourism while maintaining its character. Poultney's efforts significantly benefited Slate Valley Trails, a non-profit organization that maintains more than 60 miles of free, public hiking and biking trails in Poultney, Castleton, and Wells.

To maximize the economic and community benefits of recreation, the Region must adopt a coordinated strategy that includes both indoor and outdoor assets. The Region currently lacks unified branding and marketing, which limits visibility and economic potential. Successful models such as Kingdom Trails and the Lamoille Valley Rail Trail demonstrate how coordinated signage,

Figure 7.15

Adaptive Mountain Biking at Killington Bike Park: Rider in Action on Accessible Trail

promotion, and investment in trailside amenities can boost tourism and local spending. This approach should extend beyond trails to include indoor recreation facilities, which are increasingly important for year-round access and serve a growing demand from both youth and older adults.

A Regional Recreation Plan is essential to guide this effort. The plan should integrate branding, accessibility, and infrastructure development while addressing equity and reducing barriers to participation. It should explore adaptive reuse of underutilized public buildings for indoor recreation and strengthen connections between recreation assets and downtowns or village centers.

Collaboration among municipalities, tourism organizations, local businesses, and recreation groups will be critical to implementing this vision. By aligning efforts through a regional plan, the Region can position itself as a recreation destination, supporting economic development, promoting health, and enhancing quality of life. The RRPC can support these efforts by coordinating regional recreation planning, assisting towns with grant applications, and integrating recreation goals into municipal plans to ensure equitable access and infrastructure investment.

Electric Utilities

The future of electric utility infrastructure should focus on strengthening the transmission and distribution grid, especially in rural areas that are vulnerable to higher risks of severe weather impacts from climate change. Improving grid reliability helps rural communities, businesses, and critical facilities thrive despite environmental challenges.

In the Region, three-phase power is limited to areas around existing industrial hubs like Fair Haven, Poultney, Rutland City, Killington, Pittsford, and Brandon. Expanding access to three-phase power in underserved areas is crucial for promoting industrial growth. Underserved areas such as Benson, Pawlet, Tinmouth, Hubbardton, and West Rutland, many of which are identified as planned growth areas in the Regional Future Land Use map, would benefit from expanded access.[26]

To tackle power outages in rural areas, Green Mountain Power (GMP) has launched new microgrid projects as part of its Zero Power Outages Initiative, aimed at building grid resilience in central and southern Vermont, where the impacts of extreme weather pose a greater risk. This initiative includes underground utility lines, strengthening infrastructure against storms, and deploying energy storage solutions, using data to identify the most vulnerable areas. The first phase will improve reliability, reducing outages in both remote and urban locations. Collaboration with GMP is essential to ensure that disproportionately affected towns like Benson, Pawlet, and Tinmouth benefit from these vital resilience improvements.

Updates to the state's energy and climate plans aim to speed up the renewable energy transition, placing additional demands on transmission infrastructure. VELCO, Vermont's electric grid operator, notes in its 2024 Vermont Long-Range Transmission Plan that increased electrification could cause significant capacity issues by 2034, necessitating

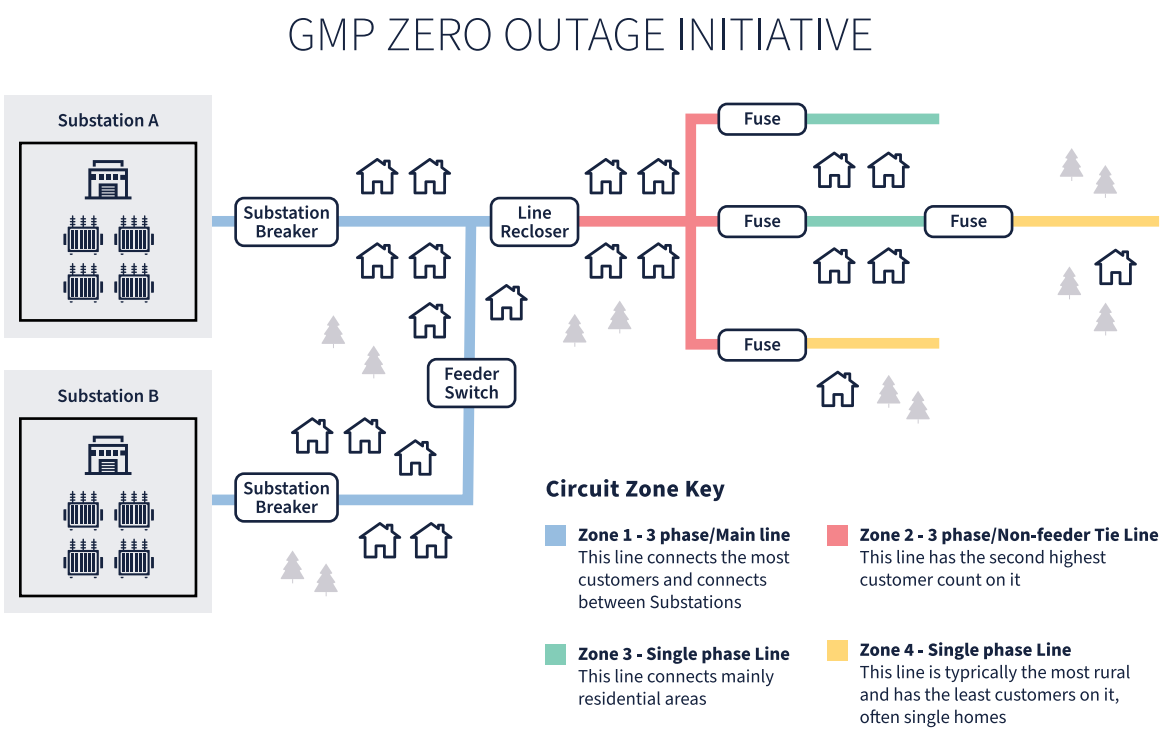


Figure 7.16

Improving Grid Resilience through GMP's Zero Outage Initiative: A Path Toward a More Reliable and Climate-Ready Electric System

major infrastructure upgrades to avoid system failures. Key upgrades for the Region include rebuilding the West Rutland to Middlebury transmission line and the Coolidge–Cold River–North Rutland transmission line, both of which need new transformers for future demands.

Future electric energy infrastructure must be wisely located to protect the environment and minimize impacts on sensitive areas. The Section 248 siting criteria, for construction of electric transmission facilities, electric generation facilities, and certain gas pipelines within Vermont, emphasize that projects should avoid or minimize impacts on floodplains, wetlands, floodways, and habitats for rare species, as well as historic districts, scenic byways, and wildlife habitats. When no viable alternatives exist, mitigation measures must be implemented to minimize disturbances in sensitive areas. More information about Section 248 Criteria is presented in the Enhanced Energy Chapter (Chapter 8, page 239).

Telecommunications

The future of Telecommunications infrastructure is vital for regional economic growth, emergency response, and quality of life. Trends show increasing demand for expanded wireless coverage, high-speed broadband, and improved emergency communication networks in remote areas with limited connectivity. Strategic planning must consider environmental, aesthetic, and community impacts in telecommunications development.

Broadband expansion is well underway in the Otter Creek Communications Union District, with construction complete in many towns. However, some areas still face service gaps due to infrastructure delays or limited last-mile access. Prioritizing public Wi-Fi at town facilities will enhance community access. The Vermont Community Broadband Board (VCBB) is developing a Digital Equity Plan to ensure affordable broadband and necessary tools for all Vermonters.

Cellular coverage expansion in the Region should be prioritized in areas identified in the 2025 Wireless Drive Test. Engaging towns in this initiative, especially regarding the placement of new wireless towers, will be essential to ensure that rural areas have access to reliable communication services. The Region's mountainous terrain, characterized by narrow valleys and prominent ridges, complicates wireless infrastructure development.

Several municipalities, including Mount Tabor, Tinmouth, and parts of Mendon and Sudbury, lack redundancy in emergency radio services. In some cases, systems operating within "closed" networks limit cross-town communication. Improving interoperability and backup systems for emergency communications should be a regional priority, particularly in areas vulnerable to power outages or natural disasters.

Future telecommunications infrastructure in the Region must be carefully located to protect the environment and minimize

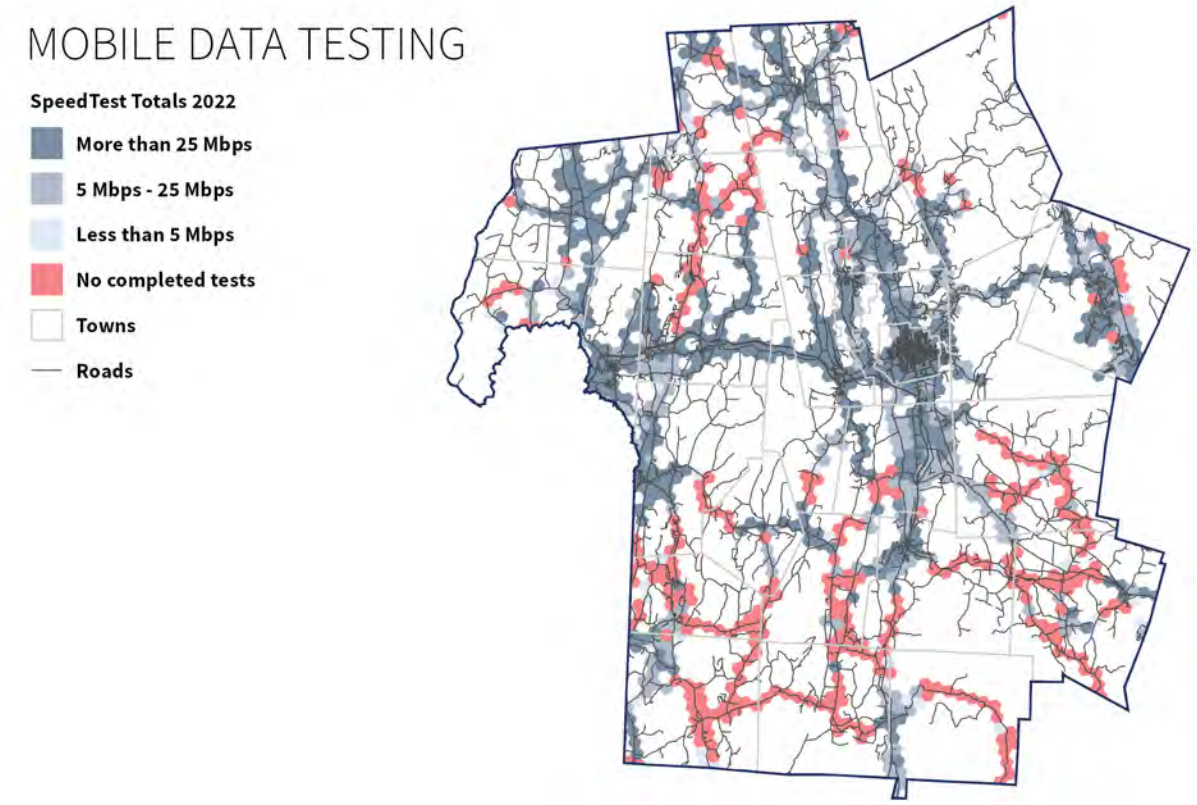


Figure 7.17

2024 Wireless Drive Test Results in Vermont: Areas of Limited Cell Coverage in Rutland County

negative impacts on sensitive areas while fostering future economic and community development.

Solid Waste and Recycling

The future of solid waste management in the Region will depend on the collaborative efforts of the Rutland County Solid Waste District and the Solid Waste Alliance Communities. Both organizations follow their Solid Waste Implementation Plans (SWIPs), aligning with Vermont's Materials Management Plan to promote waste practices that divert waste and engage the public.

As waste management practices evolve, several municipal transfer stations, particularly in towns like Tinmouth, Middletown Springs, and Mount Tabor, have aging or limited infrastructure. These facilities face challenges such as outdated equipment, limited storage, and vulnerability to flooding, which hinder operational efficiency and compliance. According to recent assessments by the Rutland County Solid Waste District and the Solid Waste Alliance, these towns are among those most in need of upgrades. Strategic capital planning, led by towns in coordination with RCSWD and SWAC, should prioritize improvements, secure funding, and ensure these facilities remain resilient, accessible, and effective.

Climate change is increasing the frequency and severity of natural disasters, presenting new challenges for debris

Siting Criteria for Section 248a

The RRPC will use the following criteria to review Certificate of Public Good applications as they pertain to the Public Utility Commission Section 248a approval process. These criteria establish a consistent and transparent review process in accordance with the obligations and authority of the RRPC Board of Commissioners. The criteria are universal and applicable to all telecommunications projects.

1) Telecommunications facilities are prohibited within 1,500 feet of neighboring structures.
2) Telecommunications facilities siting shall include balloon scenic impact tests in all Rural future land use areas designated in the Regional Plan.
3) Telecommunications facilities are prohibited in highest priority forest blocks, directly adjacent to Class I and II wetlands, special flood hazard areas, river corridors, in protected airspace around Rutland Southern Vermont Regional Airport, and areas with critically endangered species, or areas above 2,500 feet.
4) Developers of any proposed telecommunications facility must hold community outreach meetings to investigate and propose solutions to reasonable community concerns.
5) Telecommunications facilities should primarily serve residents in communities that are unserved or underserved, with particular priority given to locations where improved public safety communications or wireless service is needed.
6) In Rural future land use areas designated in the Regional Plan, telecommunications towers that exceed the height of the surrounding tree line should be designed to mimic natural features, blending into the landscape to the greatest extent possible.

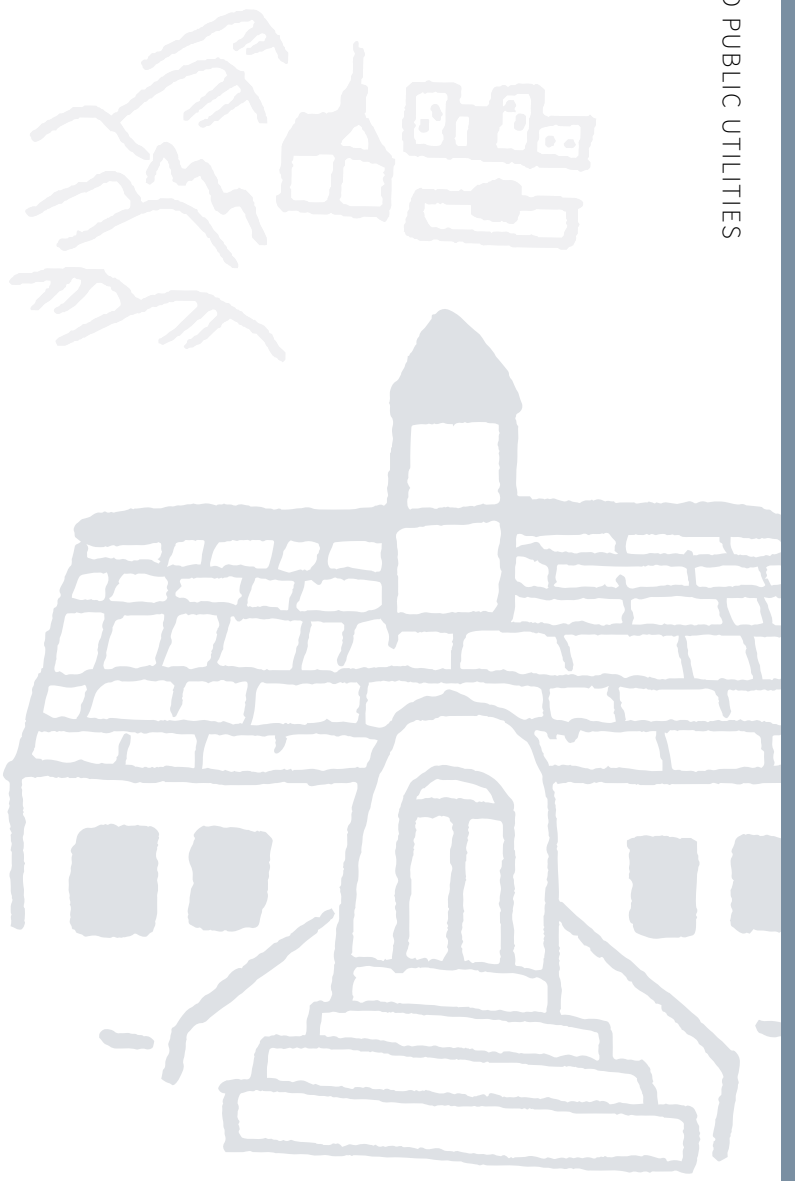
management. Events like the July 2023 floods, with over 6,000 tons of debris waste, underscore the need for coordinated regional planning. In response, solid waste districts must develop Disaster Debris Plans to ensure municipalities can manage debris during and after disasters. These plans must identify key contacts, staging areas, and disposal sites throughout the Region.

Solid waste and recycling efforts should continue to focus on reducing the toxicity and volume of waste generated in a cost-effective and environmentally responsible way, supporting long-term sustainability and public health for the Region.

Conclusion

Addressing the Region's future community facilities, public utilities, and services requires a coordinated, forward-looking approach. Strategic capital planning and shared services can help municipalities manage aging infrastructure and limited resources while improving efficiency and service delivery. Prioritizing context-sensitive infrastructure investments in growth areas like downtowns and village centers will support economic development and long-term sustainability. At the same time, aligning education and training with regional workforce needs, while leveraging the Region's outdoor recreation economy, will position the Region for future growth, resilience, and opportunity.

The following section outlines the Region's policies and actions for advancing an efficient system of diverse community facilities, public utilities, and services. These policy recommendations are grounded in data, community input, and state and federal priorities. Progress will be measured through a set of indicators designed to track implementation and ensure accountability as the Region works to achieve its community facilities and public utilities goals.



What's Next? // COMMUNITY FACILITIES AND PUBLIC UTILITIES

Goals

1) Plan for, finance, and provide an efficient system of diverse public facilities and services, including fire and police protection, healthcare services, educational and vocational opportunities, public drinking water supply and wastewater treatment, solid waste disposal, childcare, and non-commercial recreational opportunities.

Policies

1) The scale and type of local and regional facilities and utilities **shall** support existing and future development, consistent with the FLUAs identified in this Plan.
2) Municipal offices, garages, libraries, and other facilities should be constructed, maintained, or upgraded to reduce costs, improve accessibility, and advance multifunctionality.
3) Water and wastewater utilities should be expanded, upgraded, and maintained in an economically and environmentally sustainable manner to meet future residential and commercial demand in Growth FLUAs.
4) Municipal shared services and resources should be considered to improve quality, close service gaps, and reduce costs, especially in rural communities.
5) School facility construction, consolidation, and renovation should increase efficiency, reduce tax burdens, and improve equitable education.
6) Access to healthcare, mental health services, and recovery treatment should be centered on advancing health equity and removing barriers for healthcare, mental health care, senior care, and recovery treatment.
7) Childcare facility and provider networks should be expanded to meet the current and future workforce and family needs, especially in Growth FLUAs.
8) Outdoor recreational resources, such as trails and parks, should be constructed, maintained, and marketed to serve all user types while balancing economic growth with environmental protection.
9) Energy transmission lines and substations **shall** be constructed to provide resilient and reliable energy in vulnerable areas while avoiding critical natural resources, as required by this Plan's Section 248 review criteria.

Policies continued

10) Telecommunications infrastructure and service areas should be expanded to unserved and underserved permanent residents, and **shall** not impact scenic and natural resources, as required by this Plan's Section 248a review criteria.

11) Solid waste districts and local transfer stations should prioritize reducing the toxicity and volume of waste in a cost-effective and environmentally responsible way.

12) Community facility and public utility planning and decision-making should include opportunities for meaningful participation.

Actions

1) Assist with capital improvement planning, feasibility studies, and municipal plans while also encouraging municipalities to apply for municipal planning grants for these efforts.

2) Use ArcGIS Online to inventory and analyze municipal facility needs, water and wastewater capacity, and redevelopment potential of publicly owned buildings.

3) Assist with developing municipal plans, studies, and projects that address the priorities identified in the ArcGIS Online inventory of municipal facility needs, water and wastewater capacity, and redevelopment potential of publicly owned buildings.

4) Facilitate municipal collaboration and shared services by conducting a biennial municipal shared services assessment to identify emerging municipal needs and assist in the development of shared services, shared staffing, and union municipal districts where feasible.

5) Advocate for regional governance solutions to advance initiatives such as a Council of Governments.

6) Assist with assessing educational facility needs, consolidation opportunities, and adaptive reuse potential during the municipal planning process.

7) Develop a Rutland Region Recreation Plan to guide the equitable expansion and improvement of municipal and state recreation facilities.

8) Secure municipal support for expanding and promoting the Rutland Asset Mapping Project (RAMP).

9) Provide planning, mapping, and grant assistance to develop accessible, multi-use trails across the Region.

Actions continued

10) Assist with developing a branding and marketing strategy for mountain biking and other outdoor recreation sports.
11) Strengthen inter-municipal partnerships to connect recreation facilities with villages and downtowns.
12) Advocate for expanding three-phase power in Growth FLUAs.
13) Advocate for utility grid hardening and resiliency efforts to reduce weather-related power outages.
14) Apply energy transmission siting criteria, review municipal plans, and encourage municipal project review, to ensure Section 248 applications align with this Plan's land use provisions.
15) Advocate for and coordinate municipal involvement in expanding cellular coverage in unserved or underserved areas identified in the 2025 Vermont Mobile Wireless Test.
16) Assist with identifying feasible locations for public Wi-Fi in downtown and village centers during the municipal planning process.
17) Apply telecommunications siting criteria, review municipal plans, and encourage municipal project review, to ensure Section 248a applications align with this Plan's land use provisions.
18) Assist with developing the 2025-2029 Solid Waste Implementation Plan to ensure alignment with municipal and regional plans.
19) Assist with assessing municipal transfer stations and securing funding for upgrades.

Indicators of Progress

1) Number of Users Served by Public Water and Wastewater
2) Number of Childcare Spaces
3) K-12 Enrollment per School District
4) Wireless Cellular Coverage
5) Miles of Adaptive Trails

SUDBURY HONOR ROLL

ENHANCED ENERGY

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CULTURAL RESOURCES

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INTRODUCTION

The Rutland Region (the Region) seeks to use energy efficiently, develop renewable energy resources, and reduce greenhouse gas (GHG) emissions. The Enhanced Energy Chapter describes the current conditions, informed by research and public engagement (see Engagement Report, Appendix A1.2, page 417), as well as trends shaping the future of energy production and consumption in the

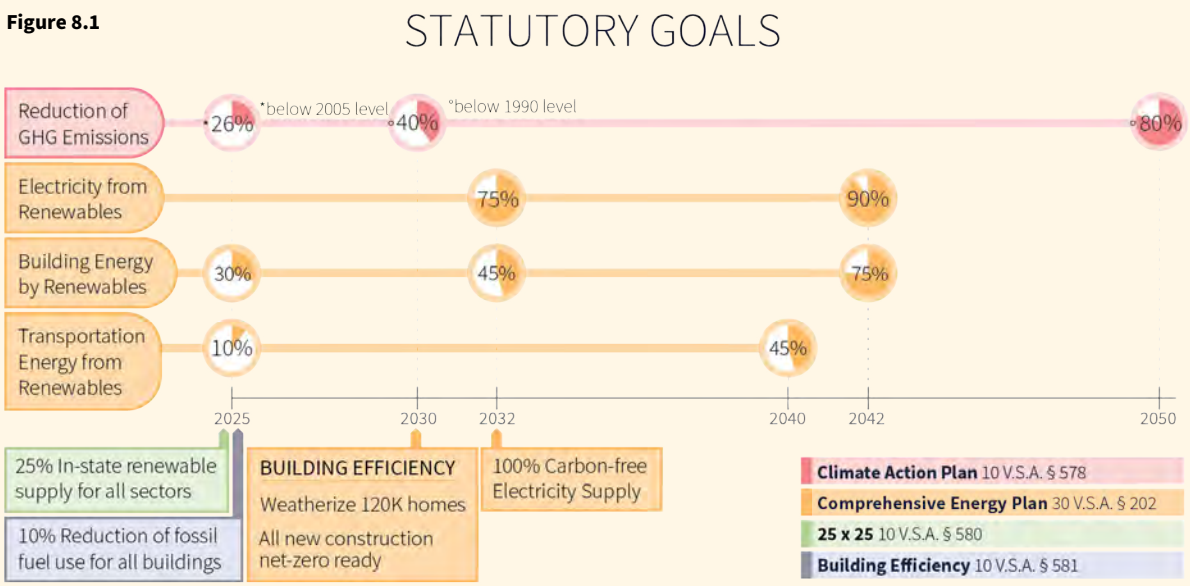
Enhanced Energy Plan Certification

The Enhanced Energy Chapter is integral to the Regional Plan and serves as the RRPC's certified Regional Enhanced Energy Plan. When the Vermont Public Service Department certifies an Enhanced Energy Plan, it grants regions and towns enhanced legal authority to plan and oversee the siting of energy facilities. Once certified, this Plan empowers the RRPC to certify Municipal Enhanced Energy Plans.

The Vermont Climate Action Plan (10 V.S.A. §578), Vermont Comprehensive Energy Plan (30 V.S.A. §202), Vermont 25 X 25 Goal (10 V.S.A. §580), and Vermont Building Efficiency (10 V.S.A. §581) direct Enhanced Energy Planning in Vermont. These regulations aim to reduce fuel use and GHG emissions to safe and economical levels.

The RRPC must follow regulated standards to certify the Regional Enhanced Energy Plan. These certification standards require the RRPC to establish targets for reducing GHG emissions, decreasing energy use, increasing renewable energy consumption, and adopting electric technologies. These targets reflect the Region's share of the statewide goals set by the Public Service Department, utilizing the Low Emissions Analysis Platform (LEAP). The LEAP targets create a pathway for achieving the objectives outlined in the aforementioned legislation.

Figure 8.1



Region. The chapter concludes with regional policies and RRPC-specific actions designed to achieve the enhanced energy goals.

HEALTHY, EQUITABLE, RESILIENT COMMUNITIES

A healthy, equitable, and resilient Region will provide all community members access to the health and economic benefits of heat pumps, electric vehicles, and renewable energy. More people will have the option to reduce their GHG emissions, not just those with high incomes.

The Region uses energy for heating and cooling, transportation, business, and industrial activities. Fuel use has various economic, safety, and environmental benefits and burdens. Currently, most of the Region's energy is generated by burning fossil fuels, which results in significant environmental and public health impacts that outweigh short-term benefits. Burning fuels negatively impacts air quality, resulting in poor air quality, increased GHG emissions, and fatalities. To maintain good air quality and prevent health issues, the Region must limit the amount of fuel burned. More information on the Region's air quality is provided in the Natural Resources Chapter (Chapter 10, page 297). The measures and targets outlined in this Plan will ultimately enhance the health and safety of area residents by reducing air pollution.

The RRPC recognizes inequities in the Region and is crafting this Plan to implement more equitable planning practices. This Plan envisions a Region that mitigates the impacts of inequities, ensuring fair access to healthier technologies and empowering all community members to voice their opinions in planning. Together, we aim to make the Region a great place to live.

Energy resilience refers to the ability to adapt to changes and rapidly recover from disruptions. It includes the Region's capacity to weather power outages and cope with spikes in fuel costs. A resilient regional energy system enhances safety, affordability, environmental protection, and equity. The primary approach to resilience in the Region focuses on using minimal fuel while maintaining a high quality of life. This approach means providing the same or increased energy services with less energy waste. For instance, passive energy-saving methods, such as weatherization, boost the Region's energy resilience without compromising safety and comfort. This strategy also enhances affordability.

In this version of the future, community members in the Region will enjoy weatherized buildings, utilize passive solar energy, implement heat recovery technology, and manage energy storage. Weatherized homes and businesses will buffer against extreme temperatures. Systems will transfer heat from the sun and the ground to buildings. We will store electricity and heat for use during power outages. During outages and peak energy usage, personal vehicles will power homes, while school buses will provide energy for schools and emergency shelters. Additionally,

Equity Impact Analysis

Equity in the Region can be achieved by increasing access to energy efficiency and conservation, and adopting efficient technologies to reduce energy costs. This Plan addresses three distinct types of equity: Distributional, Procedural, and Structural. Refer to the Glossary for Distributional, Procedural, and Structural Equity definitions. This Regional Enhanced Energy Plan will assess the impacts of various types of equity in energy planning within the Region.

Distributional Equity

When considering equity impacts, one must evaluate how a system distributes its benefits and burdens. This is called Distributional Equity. Do the communities facing the costs obtain a comparable share of the benefits? Often, this is not the case with energy systems.

The Region benefits from electricity generated in Canada by Hydro-Québec. This is the largest single source of electricity (67.2%[1]) in the Region. To expand its production, Hydro-Quebec displaced First Nations communities without consulting or compensating them. The Region enjoys the benefits of this electricity generation without shouldering the associated burdens. Therefore, the RRPC encourages the expansion of locally produced renewable electricity generation. This initiative also supports local economic development and energy independence while reducing the environmental and social costs associated with long-distance energy transmission.

Procedural Equity

Community members need fair access and representation in their systems of government and planning. This is called Procedural Equity. Historically, energy planning has engaged the public through a prescribed notice and comment process. While this aims to involve the whole community, it often falls short. The process often excludes individuals with limited time and resources, as well as those who require accommodations to participate.

The RRPC conducted a comprehensive outreach campaign to enhance access for all in the Region and address Procedural Equity related to this Plan. The engagement methods, such as surveys and pop-ups, aimed to "meet people where they are" to gather input from residents in all 27 towns of the Region (see Engagement Report, Appendix A1.2, page 417). The recommendations in this Plan reflect the following key public opinions:

- 85% of the 1,200 respondents to the outreach survey reported that they feel a personal obligation to reduce their GHG emissions.
- Respondents prefer weatherization and heat pump installations, with only half as many respondents choosing new, higher efficiency furnaces and boilers.
- The top three preferred large-scale energy generation technologies are Solar (Rank 2.99), Hydro (Rank 2.47), and Geothermal (Rank 2.39). Wind power (Rank 2.15) is the least desired.
- The greatest local energy concerns are the cost of energy (36% of respondents), climate impact (20% of respondents), and

grid or power concerns (13% of respondents).

Structural Equity

Energy efficiency and renewable generation have historically benefited privileged groups, illustrating structural inequity in a system that favors these groups. From weatherizing homes, installing solar panels, and purchasing electric cars, those who can afford these technologies primarily access energy efficiency and savings.

Access to energy impacts one's ability to succeed and thrive. People require fuel to stay safe and warm, commute to work, and provide basic sustenance. Without access to energy, individuals struggle to maintain their jobs, ensure a healthy home, and participate in enriching activities. For most people in the Region, energy sources include electricity, gasoline, wood, and heating fuels. Many individuals face significant burdens in affording these sources. Energy burden is the proportion of a household's income spent on energy bills. Low-income households, renters, and certain racial and ethnic groups often face disproportionately high energy burdens. High energy burdens are correlated with a greater risk of respiratory diseases, increased stress and economic hardship, and difficulty in moving out of poverty. The Current Conditions, State of Energy in the Region section of this chapter provides additional information on the regional energy burden.

The current energy incentive structure significantly hinders the ability of low-resourced community members to lower their energy burden. Incentives aim to help these individuals benefit from energy efficiency, fuel switching, and renewable generation installations. However, most incentives require reimbursement for measures that have been installed. This requirement forces those who can least afford it to pay upfront costs for energy retrofits. This reflects a challenge in Structural Equity within the Region. Fortunately, several organizations help less advantaged individuals access these energy actions. For instance, NeighborWorks of Western Vermont and BROC Community Action actively support these efforts. The RRPC collaborates with these organizations to tackle Structural Equity issues.

efficient storage will enable people to purchase fuel at the most cost-effective times. Ultimately, all members of the Region will remain safe and secure during crises, price spikes, and energy system malfunctions.

CURRENT CONDITIONS

State of Energy in the Region

The Region relies on low-efficiency technologies, consuming more energy than necessary. This reliance increases GHG emissions, strains the economy, and raises energy burdens. The Region can significantly reduce energy consumption by adopting energy efficiency and conservation measures. Moreover, transitioning to more local renewable electricity can lower costs and pollution while promoting equity.

According to the most recent data from the US Energy Information Administration, Vermonters produced an average of 8.5 metric tons of energy-related GHG emissions per person in 2022.[3] This is lower than the 2023 national average of 13.3 tons per capita. This resulted in approximately 511,000 metric tons of GHG emissions produced by the 60,068 residents of the Region, accounting for approximately 9% of all energy-related GHG emissions in Vermont.[4] However, the Region uses only 7.5% of the total energy in the state. The Region, therefore, produces 1.5% more GHG emissions than the proportion of energy use it should warrant.

Each year, the Region uses about

8,873,880

MILLION Btus (MMBTU) OF ENERGY

to power homes, businesses, and vehicles.

This is approximately

7.5%

OF ALL ENERGY USED IN VERMONT[2]

Energy Use Equivalents

In 2024, the Region used about 22,880 delivery trucks worth of #2 Fuel Oil. This volume would fill four rows worth of delivery trucks stretching the entire length of US Route 7 from Brandon to Danby.

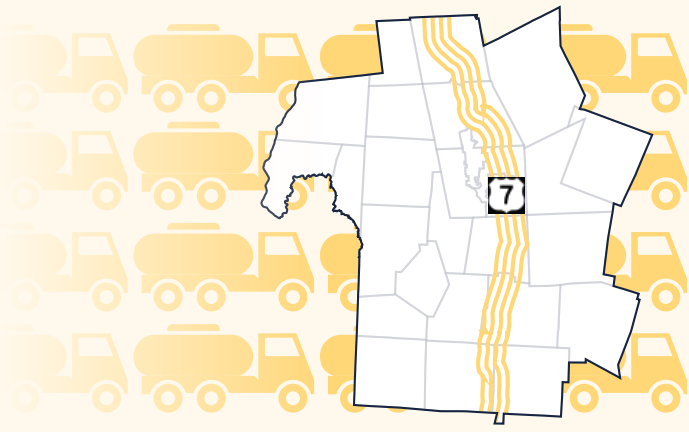


Figure 8.2

ENERGY BURDEN BY TOWN

Benson	$$$$
Brandon	$$$
Castleton	$$$$$
Chittenden	$$
Clarendon	$$$
Danby	$$$
Fair Haven	$$$
Hubbardton	$
Ira	$$$
Killington	$$$
Mendon	$$
Middletown Springs	$$$
Mount Holly	$$$
Mt. Tabor	$$$$ (2019 Report)
Pawlet	$$$$
Pittsford	$$$$
Poultney	$$$
Proctor	$$
Rutland City	$$
Rutland Town	$
Shrewsbury	$$
Sudbury	$$
Tinmouth	$$
Wallingford	$$
Wells	$$
West Haven	$$$$
West Rutland	$$$$

Energy Burden Categories

Highest	$$$$$	≥15.1%
High	$$$$	12.1-15%
Moderate	$$$	10.1-12%
Low	$$	8.1-10%
Lowest	$	≤8%%

Figure 8.3

Rising global temperatures caused by GHG emissions result in significant long-term societal costs. This concept is known as the social cost of carbon. The Environmental Protection Agency (EPA) defines the social cost of carbon as "the long-term damage done by a ton of carbon dioxide (CO2) emissions in a given year".[5] In 2023, the EPA announced an updated estimate of the social cost of carbon. The new estimate asserts that each ton of CO2 emitted into the atmosphere costs society $190.[6] Given the current energy-related GHG emission levels of 511,000 metric tons, the Region is causing approximately $97,000,000 in long-term damage each year. In addition to these social costs, the Region incurs direct economic losses from the impacts of climate change. For more information on local climate change impacts, including severe storm events that have cost the Region over $68.3 million, see the Climate Resilience Chapter (Chapter 11, page 333).

Inefficient energy use and high GHG emissions also create energy burdens in the Region. Energy burden refers to the percentage of household income spent on energy bills. When a larger portion of income goes to energy costs, less remains for other expenses. Energy burdens are assessed for towns and census tracts, reporting the average energy burden for households in a specific area. According to the 2023 Efficiency Vermont Energy Burden Report, residents in the Region spend an average of 10.7% ($6,839) of their annual income on energy. This is considered a moderate energy burden, with a state average of 11%. Seven towns, or 26% of the Region, have a high energy burden. Some towns face energy burdens as high as 15%, and certain census blocks rank among the highest in the state at 29%.[7] In these communities, high energy costs limit access to opportunity and create inequalities in health, housing, and economic stability. A priority of this Plan is to reduce energy burden through energy efficiency and conservation. The Future Trends and Targets section of this chapter provides additional information on efficiency and conservation strategies.

Total energy usage can be divided into three primary sectors: Thermal, Transportation, and Electric. Thermal energy is used for heating and cooling. Transportation energy is used

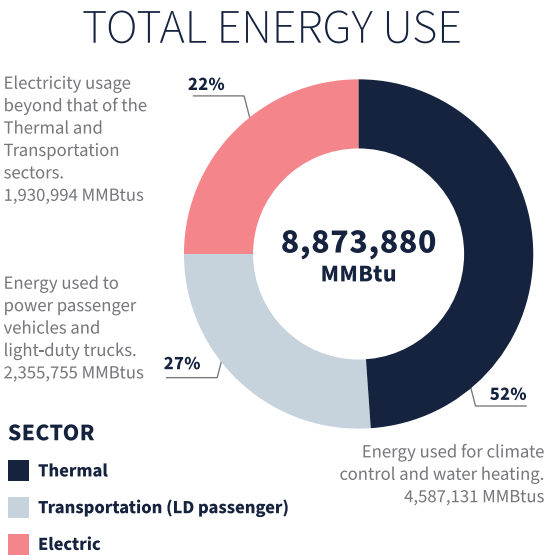


Figure 8.4

The 8,873,880 MMBtus of energy used in the Region in 2023 equals about 64,071,336 gallons of heating fuel oil or 443,694 cords of wood.

for the movement of people and goods. The electric sector encompasses both the use and generation of electricity. Figure 8.4 shows total energy consumption for the Region by sector.

The following provides an in-depth examination of energy use by each sector in the Region. This analysis will provide a baseline for understanding the current regional energy system's strengths, assets, and challenges.

Thermal Sector Energy Analysis

The Thermal Sector is composed of energy used for heating and cooling buildings, as well as water heating. As of 2025, the Region predominantly relies on heating oil for its Thermal Sector needs, with only about 11.5% of residents burning wood to heat their homes and 4.3% using electricity. Using heating oil is inefficient, resulting in higher energy costs, greater energy burdens, and increased emissions. The Thermal Sector accounts for about 43% of regional GHG emissions.

The Region uses about 8,873,880 MMBtus of energy each year to power homes, businesses, and vehicles. Thermal energy, used for heating and cooling homes and businesses and water heating, accounts for around 4,587,131 MMBtus, or 52% of the Region's total annual energy use. The equivalent of 26,555 homes and approximately 2,500 businesses use energy in the Region,[11] with 64% of Thermal energy used for residential heating and cooling. Therefore, the Thermal Sector has the greatest opportunity to increase energy efficiency in the Region.

As of 2023, residents in the Region spend an average of 10.8% ($6,839) of their annual income on energy expenses. Thermal energy costs are about $2,242 per year, representing 3.5% of household income for home heating and cooling. In the Region, 64% of households use fuel oil for heating, with roughly 25,000,000 gallons consumed annually. In comparison, electricity currently accounts for only 4.3% of home heating.

This reliance on fossil fuels is not unique to the Region; statewide, over 50% of Vermont households still use fuel oil or propane for heating. However, the Region's higher-than-average GHG emissions per unit of energy suggest that fuel switching and efficiency upgrades could yield benefits.

A challenge with relying on fossil fuels for heating is price volatility. Prices for heating oil and gas usually spike during the winter heating season. In contrast, electric utility pricing remains more stable over a 12-month

period because the Vermont Public Utility Commission regulates it. This regulation helps prevent seasonal price spikes when fuel is essential for home heating.

Moreover, heating oil is typically only 85% efficient. In comparison, electricity can be between 100% and 500% efficient. Heating efficiency is defined as the amount of heating units provided for each unit of energy consumed. An efficiency of 85% means that for every 100 units of fuel oil burned, 85 units of heating are produced. In contrast, with heat pumps, every 100 units of electricity used generates 100 to 500 heating or cooling units. The Climate Resilience Chapter (Chapter 11, page 333) outlines an increased need for cooling, as average temperatures rise, to mitigate health impacts on groups that experience a disproportionate effect from excessive heat. This is a key reason why heat pumps offer greater resilience and safety, as they can cool and heat with higher efficiency and minimal associated GHG emissions.

According to Efficiency Vermont, 97 heat pumps are installed for every 1,000 residents in Vermont. Efficiency Vermont records indicate that 7,474 heat pumps have been installed in the Region, which amounts to

Emissions Burning

According to the American Community Survey from the US Census Bureau, approximately 11.5% of area residents use wood to heat their homes. Wood burning emits levels of greenhouse gases that are 2.5 times higher than those of natural gas and 30% higher than those of coal.[8] Additionally, wood combustion releases other hazardous air pollutants, including polycyclic aromatic hydrocarbons (PAH), carbon monoxide (CO), nitrogen oxides (NOx), black carbon, methane, benzene, acrolein, and formaldehyde. Research indicates that smoke from wood-burning home heating systems poses a significant threat to public health.[9] Wood stoves certified through the EPA New Source Performance Standard (NSPS) are typically considered clean-burning. However, substantial issues with the testing methods result in no guarantee that new high-efficiency stoves

produce fewer emissions. Lastly, the NSPS solely regulates particulate matter and does not address the other toxic air pollutants listed above.[10]

Due to the adverse air quality impacts of wood combustion, this Plan discourages the establishment of new utility and commercial-scale wood-burning facilities. Residential wood heating is acknowledged as a traditional and culturally significant practice in the Region, but the Plan encourages residents to consider cleaner alternatives where feasible.

about 125 heat pumps per 1,000 residents. This shows that the Region has higher heat pump adoption rates than the state average. This aligns with RRPC public engagement results, demonstrating that heat pumps are popular and effective in meeting Thermal needs within the Region. Despite this progress, challenges to broader adoption remain. Upfront installation costs, limited contractor availability, and the challenges of retrofitting can make fuel switching particularly difficult for lower- and moderate-income households.

In addition to Thermal energy sources, weatherization is always a cost-effective way to save energy and decrease emissions. According to the US Department of Energy, "Weatherization measures such as sealing leaks and improving insulation are typically the lowest cost means of achieving a 20% savings…"[12] The 2018 Rutland Regional Enhanced Energy Plan set a target to weatherize 6,490 homes by 2020. Weatherization data from Efficiency Vermont shows that as of 2022, only 586 homes have been weatherized in the Region. The Region is well below this original target and will need to expand weatherization efforts to achieve cost savings and reduce total emissions.

Despite its inefficiency and high emissions, fuel oil remains the dominant heating source in the Region. Expanding access to weatherization and electric heating technologies will be essential to achieving the Region's energy and equity goals.

Transportation Sector Energy Analysis

The Transportation Sector includes energy used to power vehicles, defined in this Plan as passenger vehicles and light-duty trucks for residential use. As of 2025, the Region's dominant transportation fuel is gasoline. Gas-powered vehicles account for nearly all transportation energy and are responsible for 54% of regional GHG emissions.

The Region uses about 8,873,880 MMBtus of energy each year to power homes, businesses, and vehicles. Transportation energy accounts for around 2,355,755 MMBtus, or 27% of the Region's total annual energy use. The Transportation Sector uses 25% less energy than the Thermal Sector; however, it generates 11% more regional GHG emissions. Therefore, the Transportation Sector has the greatest opportunity to reduce GHG emissions.

Vermonters drive roughly 11,029[13] miles each year using gasoline as their primary fuel. The average driving distance in Vermont is about 14% higher than the 2023 national average of 9,745 miles annually[14]. With approximately 43,000 registered vehicles in the Region, residents drive around 474,000,000 miles per year. Transportation energy costs are about $3,142 per year, representing 4.9% of household income spent on fossil fuels for transportation. The average fuel efficiency of a 2022 light-duty vehicle is 26.4 miles per gallon[15]. The National Renewable Energy Laboratory reports that the average electric vehicle (EV) fuel efficiency is equivalent to 117 miles per gallon[16]. Energy

Action Network estimates the 2024 cost per gallon of fuel for gasoline to be $3.44 and the electric equivalent for Green Mountain Power customers to be $1.20. They further estimate the annual cost savings for EV ownership to be between $1,000 and $4,000 annually, depending on the number of miles driven[17].

Gas-powered vehicles comprise 98.3% of the regional fleet but account for 99.6% of the energy usage. EVs, on the other hand, comprise 1.7% of regional vehicles, while consuming only 0.4% of transportation energy. This demonstrates that gas-powered vehicles consume fuel at a significantly higher rate than EVs.

The US Department of Energy reports that EVs convert about 77% of the electricity consumed into power to move vehicles[18]. In contrast, standard gasoline engines convert only 12% to 30% of the fuel consumed into power for motion. This efficiency in EVs directly leads to operational cost savings. Figure 8.5 compares the operating costs of EVs versus gas-powered vehicles. Electric prices are generally stable, while gasoline and diesel prices can be volatile. Additionally, EVs also have lower maintenance costs. There is very little maintenance required with an EV; no oil or coolant changes are needed, and there is no combustion engine to maintain. This results in direct savings and lower vehicle-related expenses beyond the initial purchase price.

As of 2023, there are about 42,000 gas-powered cars and 825 EVs (roughly 500 all-electric vehicles and 325 plug-in hybrids) in the Region. This means there are 13.75 EVs registered for every 1,000 residents, surpassing the 2022 US average of 8.66 EV registrations per 1,000 people[19]. As noted in the 2018 RRPC Enhanced Energy Plan, there were about 60 all-electric vehicles and 120 plug-in hybrids, totaling 180 EVs. This represents

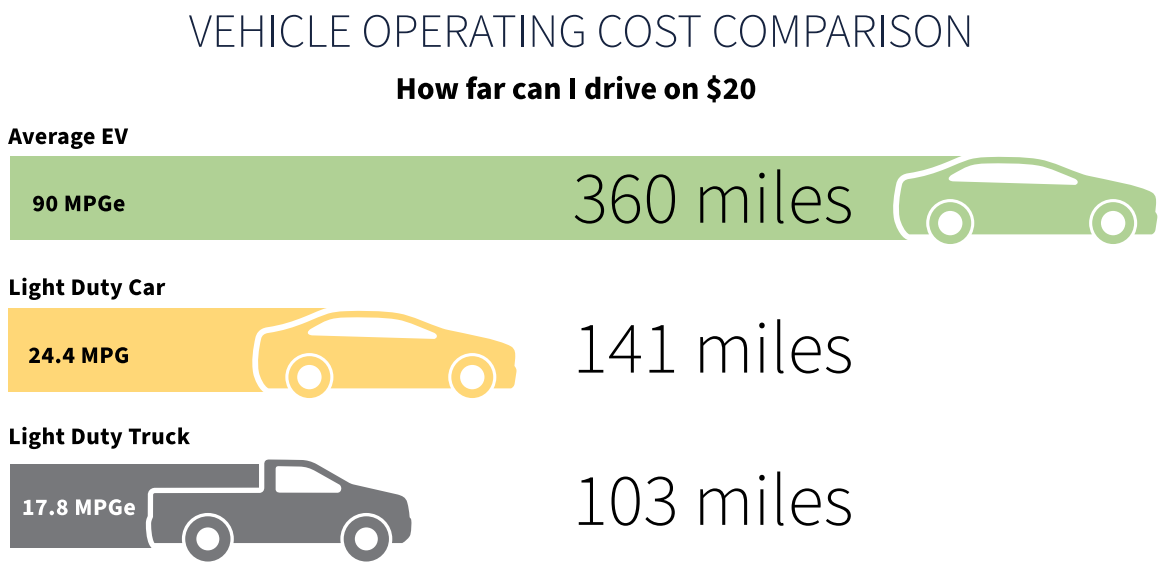


Figure 8.5

On average, EVs convert about 77% of electricity into power to move a vehicle, compared to standard gasoline engines, which typically convert 12% to 30% of fuel into power for motion. This means that for $20, an EV will go significantly farther.

a 458% increase in EV registrations in the Region from 2018 to 2023. While this growth is promising, the Region still lags behind the pace needed to meet 2050 targets. Barriers, including limited charging infrastructure, high upfront costs, and restricted access for renters, continue to slow adoption.

Charging remains a key equity issue. Homeowners typically do not encounter issues in this regard. However, renters face challenges in installing chargers at their homes since they do not own the property. For a renter to own an EV, they must either rely on access to a public charger or obtain their landlord's permission to install a charger. Renters who use public chargers are not eligible for the discounted rates offered by Green Mountain Power ($.015 per kWh in 2025) for home chargers. Instead, they must pay the public charging rates, which range from $0.025 to $0.50 per kWh. This situation creates structural inequity due to the lack of property rights.

Charging an EV can take 6-14 hours from empty to full on a 240V charger, creating a significant lifestyle adjustment for potential users. However, technology is advancing quickly; newer EVs can be charged in as little as 5 minutes with a fast charger[20].

To meet the Region's GHG reduction goals, EV adoption must be paired with investments in charging infrastructure, incentives for low-income households, and education campaigns to address range anxiety and misinformation. Additional strategies include promoting carpooling and expanding access to public transportation. More information about the barriers and challenges related to increasing public transit ridership is provided in the Transportation Chapter (Chapter 5, page 129).

Electric Sector Energy Analysis

The Electric Sector includes electricity usage beyond that of the Thermal and Transportation Sectors, along with renewable energy production. With a consumption of 1,930,994 MMBtus, the Electric Sector currently accounts for the smallest share of energy use in the Region, representing 22% of total energy consumption. As shown in Figure 8.7_1, most of this electricity, around 67.2%, is sourced from large hydroelectric dams in Canada. Approximately 36% of the electricity is used by residential customers, while commercial and industrial customers account for 64%. In the Region, homes typically use about 7,500 kWh per year, resulting in an annual cost of roughly $1,455

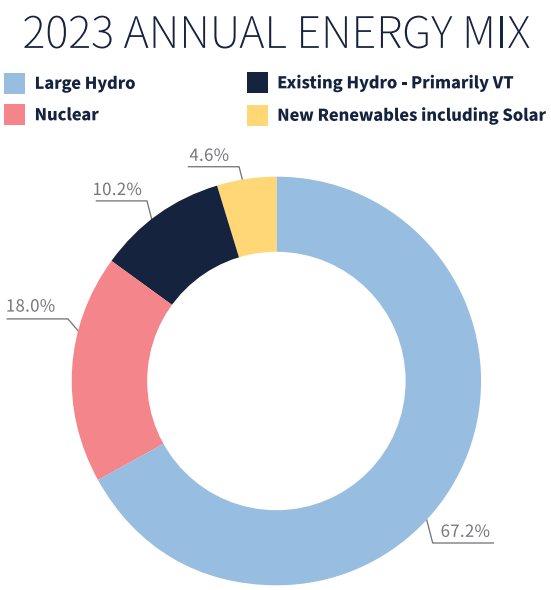


Figure 8.6

Green Mountain Power's annual energy mix is 100% carbon free and 82% renewable.

for residents, which is 2.3% of the average household income.

State averages show that the Electric Sector accounts for 4% of GHG emissions. However, Green Mountain Power, the sole electric utility in the Region, supplies 100% carbon-free power. As a result, the Region has already achieved its goal of 100% carbon-free electricity and is well on its way to achieving its goals for renewable energy production. As of 2025, the Region has 71 MW of installed renewable generation. This produces an average of 115,202 MWh each year, or 393,069 MMBtu. This is approximately 4.4% of the Region's total energy consumption and 18% of its electric consumption.

The use of electricity in the Region boosts community economic development. Vermont's Energy Action Network (EAN) estimated that, in 2023, 71% ($700 million) of all spending on electricity in Vermont was recirculated back into the state economy. In contrast, EAN reported that 75% ($1.7 billion) of all in-state spending on fossil fuels exited the Vermont economy[21].

Despite the environmental and economic benefits of using electricity as an energy source, one of the primary concerns raised by residents during public outreach for this Plan was the reliability of the electric grid to support increased electrification. Historically, the Region has experienced power outages during storm events. In response to this reliability concern, Green Mountain Power launched the 2030 Zero Outage Initiative in 2023. This initiative aims to enhance the resilience of the electrical distribution system by burying lines, storm-hardening equipment, and adding battery storage[22]. A more in-depth description of the electric grid infrastructure can be found in the Community Facilities and Public Utilities Chapter (Chapter 7, page 199).

Electricity is currently the Region's cleanest, most cost-stable, and locally beneficial energy source. As electrification expands across different sectors, ensuring grid resilience and affordability will be essential for

Existing Renewable Generation

The Rutland Region has 71 MW of installed renewable energy generation, composed of 90% solar, 9.7% hydroelectric, and less than 1% wind and biomass. With the addition of a planned 20 MW solar project in Fair Haven, the Region will exceed its 2050 renewable generation target (see Electric Sector Trends and Targets later in this chapter). The five towns in the Region with the most renewable energy generation are Rutland City, Proctor, Rutland Town, Clarendon, and Pittsford. A map of the existing renewable energy generation sites is provided in Appendix A8.1, page 416.

maintaining public trust and access. With this in mind, the Future Trends and Targets section will outline the pathways for reaching the state's energy goals in a healthy, equitable, and resilient way.

FUTURE TRENDS AND TARGETS

Future of Energy in the Region

This Enhanced Energy Plan establishes voluntary targets to reduce total energy use, lower GHG emissions, and increase renewable electricity generation by 2050. The voluntary targets achieve these reductions through energy conservation and gradual fuel switching at natural replacement points, ensuring affordability, equity, and long-term sustainability.

Setting energy targets is a statutory requirement for obtaining Enhanced Energy Plan certification from the Vermont Public Service Department (PSD). The targets are driven by the goals of the following legislation: the Vermont Comprehensive Energy Plan, the Climate Action Plan, the Vermont 25 X 25 Goal, and the Vermont Building Efficiency Act. The PSD divided statewide targets between the 11 Regional Planning Commission territories using modeled data from the Low Emissions Analysis Platform (LEAP). The RRPC then established municipal targets for reducing total energy consumption and GHG emissions in the Region. Municipal targets are provided in Appendix *EEP-7A, page XX. Municipal allocations were calculated based on total energy consumed within each town; greater energy consumption resulted in higher efficiency targets. The methodology for calculating municipal targets is provided in Appendix *EEP-6A, page XX. Figure 8.8 summarizes the regional energy targets and shows the associated GHG emission reductions.

This Plan acknowledges the challenges associated with recommended technology switching. Replacing a building's heating system or purchasing a new car can be expensive.

EXISTING RENEWABLE GENERATION BY TOWN

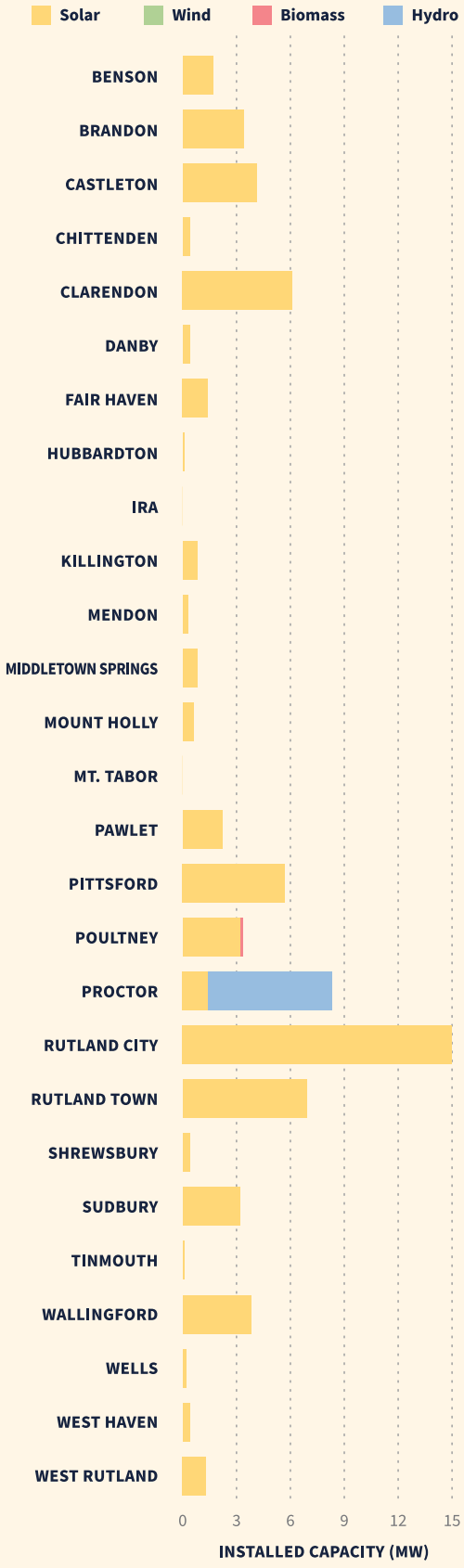


Figure 8.7

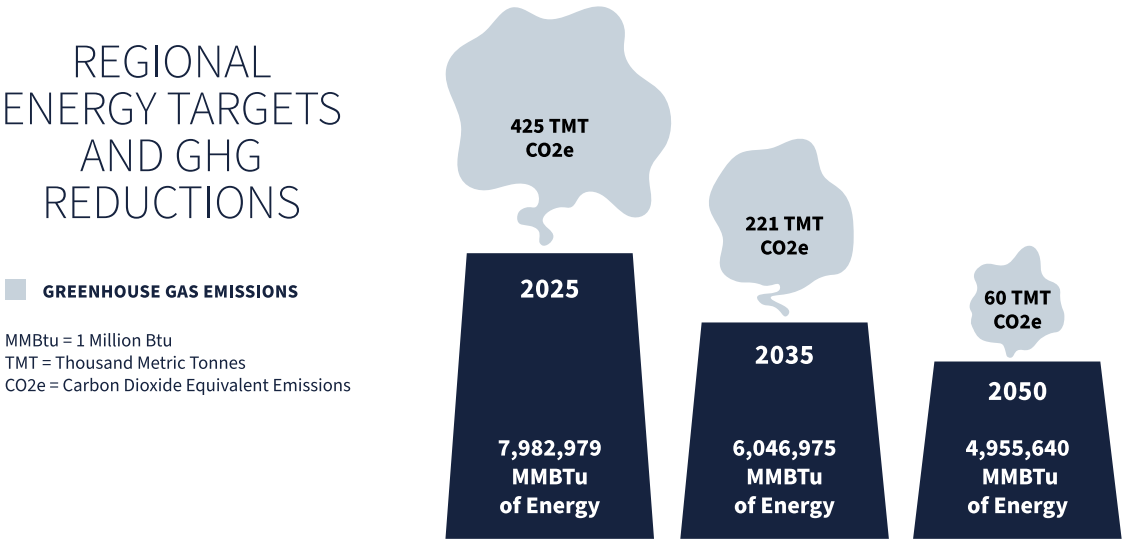


Figure 8.8

To achieve the LEAP long-term goal by 2050, the Region will need to decrease total residential energy consumption roughly 40% from 2025 levels.

These two examples illustrate the high upfront costs related to major infrastructure changes. Historically, such changes have been viable options only for more advantaged community members with enough capital to afford them.

To address these challenges and barriers, this Plan recommends a gradual path of change at key junctions. It encourages switching from fossil fuels to renewable sources when equipment naturally needs replacement. For example, replacing an oil furnace presents an ideal opportunity to transition to a more efficient and sustainable heating system.

Following is an in-depth look at the trends and targets for each sector: Thermal, Transportation, and Electric. By meeting these targets, this Plan aims to improve health outcomes equitably and strengthen resilience.

IMPLEMENTING FUEL SWITCHING

As of 2025, rebates are available for many of the technologies listed in the targets presented in this chapter. These rebates help lower upfront costs and reduce barriers to adoption; however, they are subject to change and are not guaranteed to continue. All recommended technologies consume less energy and have lower operational and/or maintenance costs. They are cost-competitive and often more affordable than fossil fuel alternatives. Therefore, replacing fossil fuel technologies with sustainable options at the end of their useful life is a key approach to achieving regional targets.

Thermal Sector Trends and Targets

The Thermal Sector has the greatest opportunity to improve energy efficiency in the Region. According to the State of Vermont's Leap model, residential thermal energy consumption must be reduced by 53% by 2050. While the model does not include commercial and industrial thermal reduction, it does set targets for commercial heat pump installations. The two main strategies for achieving a 53% reduction in residential thermal energy consumption by 2050 are weatherization and the use of high-efficiency appliances. These strategies require less energy while maintaining the same level of heating and cooling; this Plan does not suggest compromising health and comfort to reduce energy use.

A 53% reduction in residential thermal energy consumption is needed by 2050.

Weatherization is often the most cost-effective strategy for reducing thermal energy, cutting pollution, and saving money. Therefore, this Plan prioritizes weatherization and then the adoption of more energy-efficient appliances. To reduce reliance on all fuels, the Region must weatherize its existing building stock. Figure 8.9 shows the number of residential units that need to be weatherized to meet the Thermal energy targets. Furthermore, new construction must incorporate

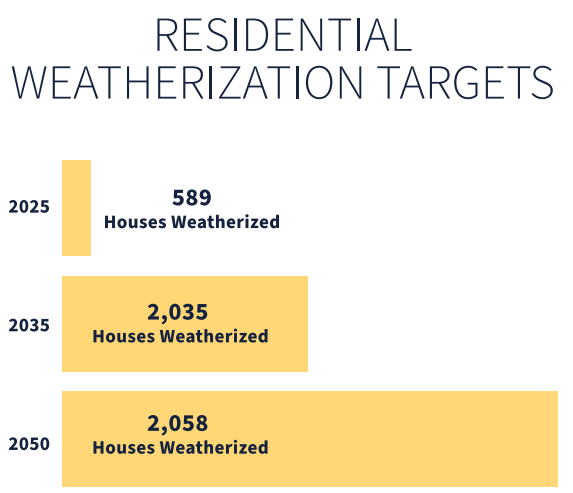


Figure 8.9

To achieve the Thermal Sector targets, the Region will need to weatherize nearly 15,000 homes between 2025 and 2050.

energy efficiency measures. State building standards for energy-efficient construction are essential to ensure new development is both affordable and energy-conscious.

In addition to weatherization, the Region can conserve energy, reduce pollution, and save money by adopting energy-efficient appliances, such as heat pumps, thermal energy networks, and solar hot water collectors. Heat pumps are systems that move heat into or out of a space. They can utilize air, ground, and water or wastewater sources for heat transfer. Heat pumps can both heat and cool spaces and provide hot water. They deliver between 3 and 5 units of heating and cooling for every unit of energy consumed. In comparison, Energy Star-rated high-efficiency oil boilers provide 0.87 units of heating for every unit of energy consumed. Figure 8.10 shows heat pump installation targets for climate control and water heaters between 2025 and 2050.

Thermal Energy Networks (TENs) are highly efficient heating and cooling systems

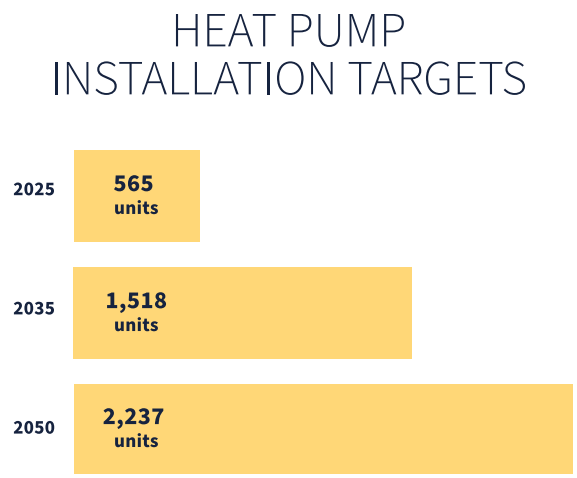


Figure 8.10

To achieve the Thermal Sector targets, the Region will need to install nearly 46,000 more heat pumps between 2025 and 2050.

that interconnect heat pumps to multiple buildings[23]. Typically connected to a ground source heat pump, TENs can also include a combination of heat pumps, solar hot water equipment, and wastewater and refrigeration heat recovery units. These networks consist of water pipes that connect several buildings with common heating and cooling needs. TENs can range from two connected buildings to an entire district. The water circulating through the pipes transfers heat between the connected buildings. Within each building, heat pump technologies use this circulating water to either heat or cool the space. Figure 8.11 illustrates a typical example of a TENs network. Like heat pumps, TENs can deliver 3 to 5 units of heating or cooling for every unit of energy consumed.

The upfront cost to install a TENs network can be high. For small buildings like the Chittenden Town Office, installing a geothermal system in 2024 is estimated to cost around $300,000. The same building could be equipped with air-source heat pumps for about $150,000. While air-source heat pumps are half the price, they only last about 15 years. In comparison, the geothermal system has a lifespan of 25 years for the heat pumps and over 50 years for the in-ground heat pipes. Nevertheless, the initial costs of TENs can be a barrier for many communities. Over time, the lower maintenance and energy costs of geothermal systems may offset the higher upfront expense, especially for buildings with long-term occupancy.

Solar hot water collectors resemble solar photovoltaic panels. They circulate water through them to capture heat from the sun. These systems can produce up to 42 heating units for every unit of electricity they consume. This technology offers a cost-effective and low-emission solution for water heating,

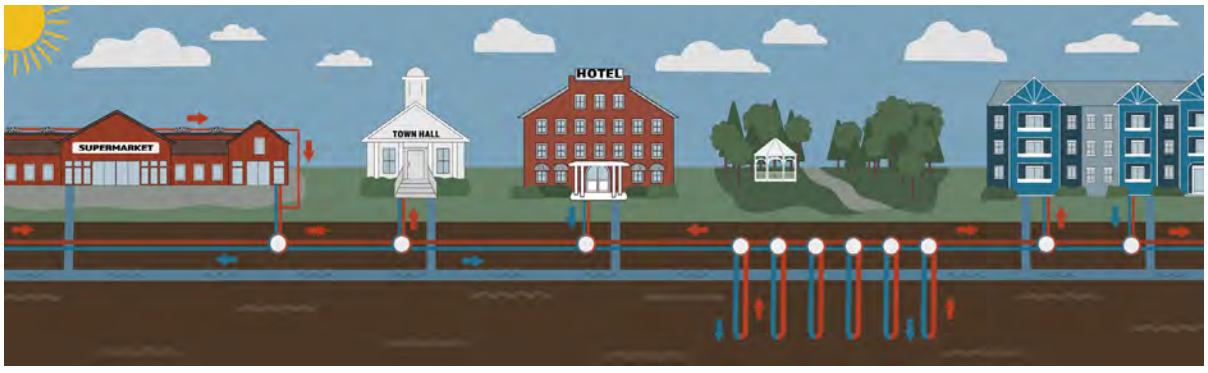


Figure 8.11

The system of underground pipes that circulates water to transfer thermal energy between buildings.

particularly in homes that already use electric systems. According to the US Department of Energy, solar hot water systems can meet up to 80% of a household's hot water needs with no fuel cost, minimal maintenance, and zero emissions.

Increased weatherization, improved building standards, and energy-efficient appliances will lead to a shift towards greater electricity use. As the Region consumes less energy and transitions to electric appliances, it will rely significantly less on fossil fuels. Figure 8.12 outlines the Region's portion of the State goals for reducing fossil fuel usage and increasing the adoption of low-emission fuels for Thermal demand.

Switching technologies can significantly decrease operational costs, as shown in Figure 8.13. This figure illustrates the operating costs of various technologies based on historical energy prices calculated by appliance efficiency. Electric prices remain relatively stable over time, whereas fuel oil prices are volatile with significant spikes and declines. In addition to the lower operational costs of electric technologies, people can budget more easily with stable prices. Electric utilities operate as regulated monopolies, meaning they are the sole providers of energy services in their territories, but the State Public Utility Commission approves the prices they charge. This results in annual price evaluations, so electric prices typically change only once per year. This stability prevents the price spikes that fuel oil typically experiences. From an equity perspective, the most economically disadvantaged community members are less likely to avoid the disastrous impacts of running out of fuel oil when prices peak. This often occurs during times of the greatest need, such as the middle of the heating season or extreme cold weather events. Therefore, adopting electric technologies can not only significantly cut operating costs but also enhance safety and access to heat for the most vulnerable members of the Region.

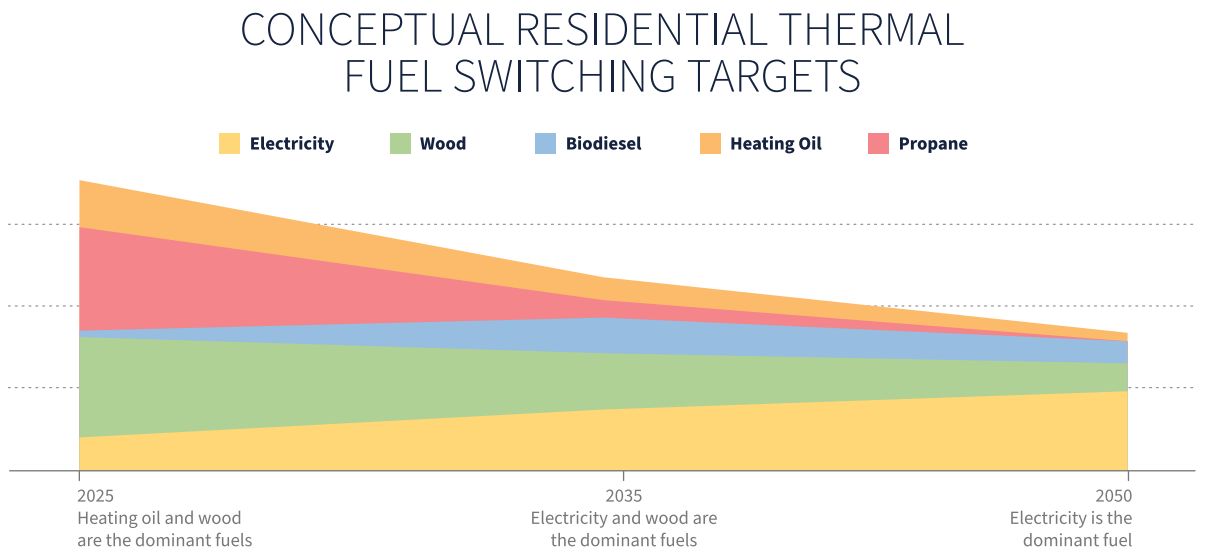


Figure 8.12

The dominant fuel is expected to shift from heating oil and wood to electricity to achieve regional targets in the Thermal Sector by 2050.

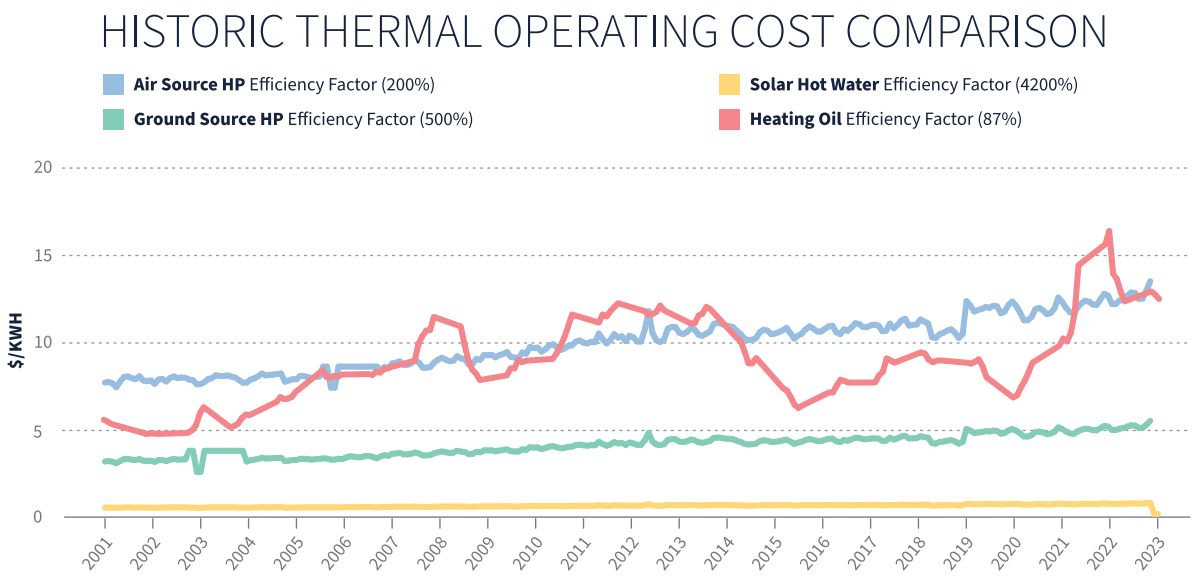


Figure 8.13

Switching from fossil fuels for home heating offers lower and more stable operating costs, as shown by a comparison of operating costs over the past 20 years.

In addition to increasing energy efficiency in the Region, transitioning to greater reliance on electricity will reduce regional GHG emissions. As previously mentioned, Green Mountain Power (GMP) is the sole electric utility in the Region. The electric supply from GMP is 100% carbon-free, and the utility is on track to achieve a 100% renewable power supply by 2030. This transition supports both energy efficiency and emissions reduction goals, making electrification a key strategy for meeting the Region's energy and equity targets.

Transportation Sector Trends and Targets

The Transportation Sector has the greatest opportunity to reduce GHG emissions in the Region. To lower GHG emissions and reduce total energy use, the State has targeted a reduction in total Transportation energy use by roughly 55%, and light-duty transportation (mostly residential use) by 65% by 2050. These reductions will require shifts in how people travel, what vehicles they use, and how transportation systems are supported.

A 55% reduction in the energy used to power vehicles is needed by 2050.

The key strategy to achieve the light-duty target is to increase electricity as the source of transportation fuel from the current 0.4% to 83%. Figure 8.14 shows the trend in vehicle fuel switching from gas to electric, associated with these State targets.

Another strategy to achieve these targets involves reducing vehicle miles traveled by encouraging walking, biking, and using

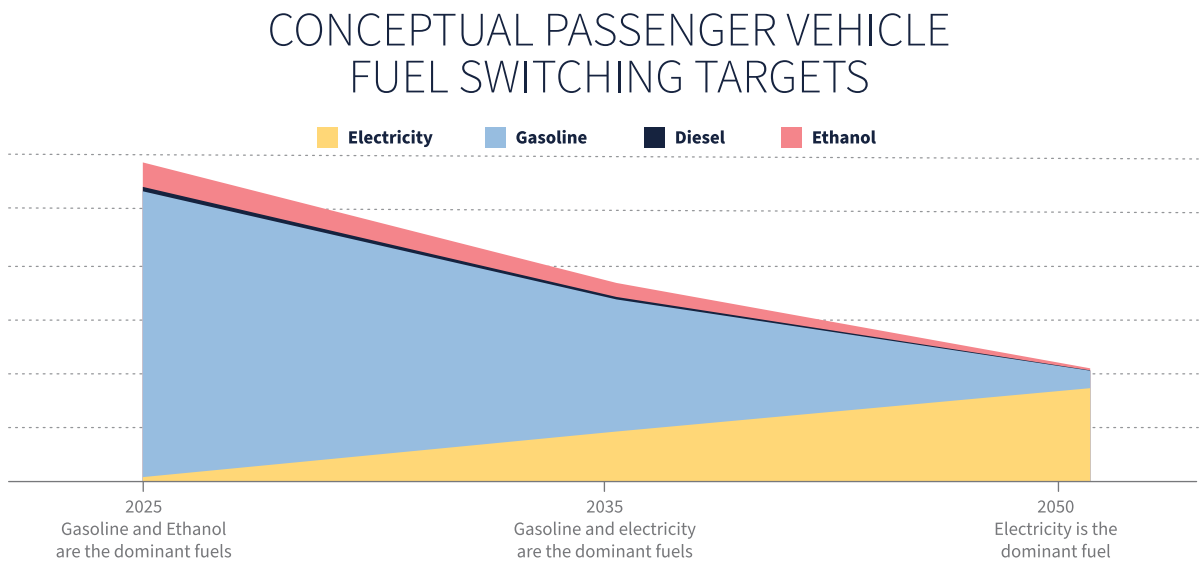


Figure 8.14

The dominant fuel is expected to shift from gasoline and ethanol to electricity to achieve regional targets in the Transportation Sector by 2050.

alternatives such as carpooling and public transit instead of single-occupancy vehicle trips. Local infrastructure, like sidewalks and bike lanes, and regional development patterns influence how convenient or inconvenient walking and biking are. For more information on this mode of active transportation, refer to the Transportation Chapter (Chapter 5, page 129). Personal preferences significantly influence the effectiveness of carpooling and public transit as alternatives to single-occupancy vehicle trips. Consequently, the most scalable and regionally appropriate strategy for reducing energy use and lowering GHG emissions is the widespread adoption of electric and plug-in hybrid vehicles, especially in rural areas where alternatives to personal cars are limited. Figure 8.15 shows the specific targets for increasing EV ownership in the Region.

Accessing car chargers is critical for achieving these targets equitably. Many homeowners can install chargers right at their residences. However, individuals with limited incomes or renters may struggle to access chargers. As EV adoption increases, charging will need to align with peak renewable generation, typically during sunny daytime hours. This presents a challenge, as many people are not home during these hours. This Plan advocates for developing an Electric Vehicle Supply Equipment Master Plan for the Region to address these issues. For details on car charging infrastructure buildout, see the Transportation Chapter (Chapter 5, page 129).

Electric Sector Trends and Targets

Transitioning to electric alternatives will be necessary to achieve the energy targets in the Thermal and Transportation Sectors. This shift will increase electricity demand as fossil fuels are phased out. However, improved efficiency and conservation are expected to offset much of this increase, leading to

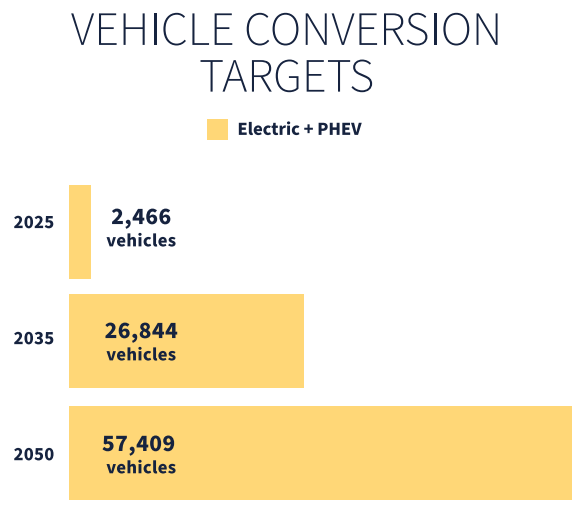


Figure 8.15

To achieve the Transportation Sector targets, the Region will need to adopt nearly 55,000 EVs between 2025 and 2050.

an overall reduction in energy use and GHG emissions in the Region.

Modeling shows that reaching all State energy targets by 2050 will increase electricity demand in the Region to approximately 1.4 times 2023 levels. Along with this rise in electricity consumption, the Region will need to host 86.7 MW of renewable generation. This represents a 2.56 times increase over the 2018 target; however, the Region is already close to meeting it, with 71 MW installed and a 20 MW solar project planned in Fair Haven.

To meet or exceed the Region's renewable generation goals, the appropriate siting of renewable power sources must be encouraged. Green Mountain Power, the sole electric utility in the Region, is working toward a 100% renewable electric power supply by 2030. This effort supports local demand for renewable energy, and this Plan ensures that new generation aligns with community preferences and is appropriately scaled.

The RRPC conducted a comprehensive outreach program to gather opinions from people in the Region about their preferred renewable energy development options for meeting State targets. Survey results reveal that solar is the most preferred option for large-scale energy projects in the Region. Hydroelectric and geothermal closely follow, showing the next highest level of support. Wind receives the least support. These preferences are reflected in the Section 248 siting criteria outlined later in this chapter. Figure 8.16 illustrates projected total electricity consumption and the targeted amount of renewable energy generation the Region will need to achieve the State goals.

To protect residents from the increased

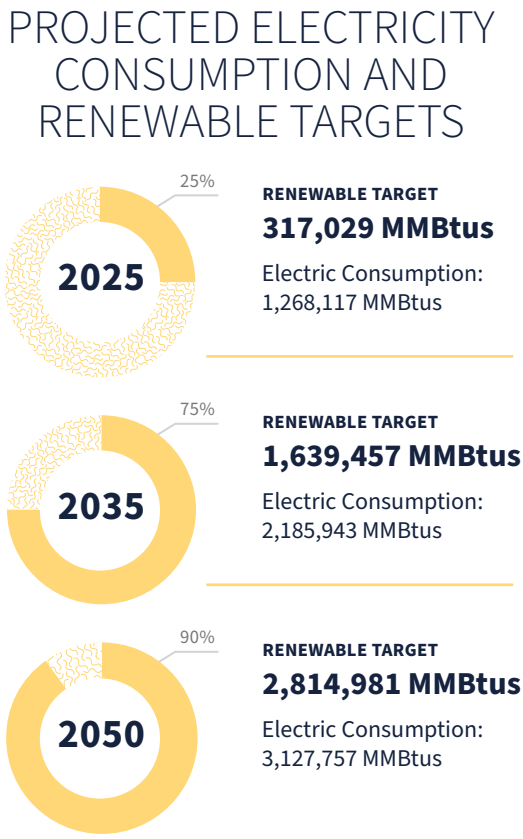


Figure 8.16

In 2023, the Region used 2,198,328 MMBtus of electricity across all sectors (Thermal, Transportation, and Electric). As the Region shifts to alternatives for fueling the Thermal and Transportation Sectors, electricity demand is expected to increase—about 1.4 times higher than in 2023.

health risks of air pollution and GHG emissions, this Plan rejects biomass energy for utility and commercial heat or electric generation. Additionally, utility and commercial-scale wind projects do not align with this Plan because they are not suitable for the orderly development of the Region. However, this Plan endorses the development of residential-scale wind projects. Figure 8.19 shows the totals and types of generation needed to meet renewable energy targets. The Vermont

Electrification of Fleets

There are several vehicle conversion success stories in the Region beyond passenger vehicles. The Town of Brandon has adopted a Green Fleet Policy to help meet the targets of the Brandon Enhanced Energy Plan. Highlights of this policy include achieving the most significant level of greenhouse gas emission reductions when replacing municipal vehicles and using the most environmentally friendly products for vehicle maintenance.

Casella Waste Systems, a key player in the Region's waste management sector, introduced its Mack LR Electric model refuse vehicle in December 2022. This was the first electric refuse truck in Vermont and was recognized by Governor Phil Scott as a milestone in the statewide electrification efforts. The truck is based at Casella's West Rutland facility to serve the Region as part of a pilot program testing the feasibility of electric refuse trucks in rural service areas.

The Marble Valley Regional Transit District (The Bus) operates the public transit system in the Region and is an excellent example of commercial electric vehicle operations. The Bus participated in a pilot study to assess the feasibility of electrifying public transit fleets in Vermont. It replaced two diesel buses with new electric ones. The study concluded that electric buses are a viable alternative, offering significant cost savings. The results showed that electric buses are approximately 3.5 times more fuel-efficient than diesel buses, saving an average of $11,500 (38% savings) annually and cutting GHG emissions by about 35 tons[24]. This shows that public transit can play a key role in achieving targeted GHG emissions reductions while cutting costs and delivering equal or enhanced service.

Figure 8.17

Casella Waste Systems Mack LR Electric model refuse vehicle.

Figure 8.18

Marble Valley Regional Transit District EV Buses

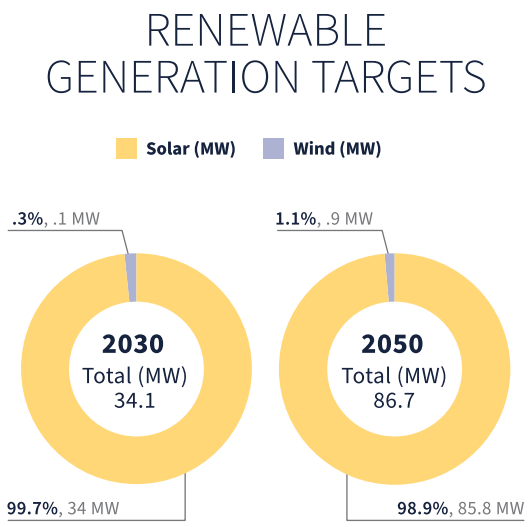


Figure 8.19

The Region has already met the 2025 and 2035 targets with 71 MW of existing renewable generation. If a planned 20 MW solar project in Fair Haven is approved, the Region will exceed the 2050 target. Note: No hydro targets.

Public Service Department provided the data used to calculate these figures.

The Region is very close to meeting the 2050 target for renewable energy generation, as stated in Current Conditions above. However, landowners may be interested in developing additional renewable energy generation. Therefore, this Plan calculates whether there is enough land available to site additional renewables. The Region has sufficient land to install the renewable generation required to meet and exceed all its renewable targets. Figure 8.20 illustrates the land available for renewable energy installations.

Specific to the Electric Sector's electricity use, the Region will need to pursue State goals for efficiency. These expected cumulative electric efficiency targets are presented in Figure 8.21. Efficiency and conservation strategies for the Thermal and Transportation Sectors are covered in their respective section and are not repeated here.

As the Thermal and Transportation Sectors electrify, total electricity consumption in the Region is projected to increase 1.4 times by 2050, requiring an increased use of renewable energy generation. The Region supports solar, hydro, and geothermal energy while

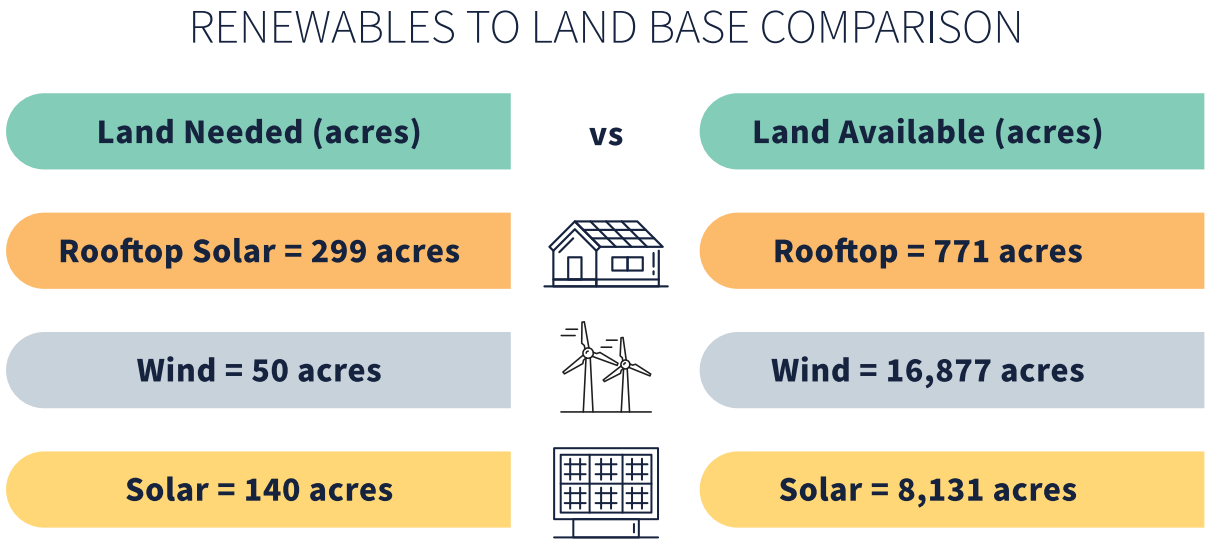


Figure 8.20

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CUMULATIVE ELECTRIC SECTOR EFFICIENCY TARGETS

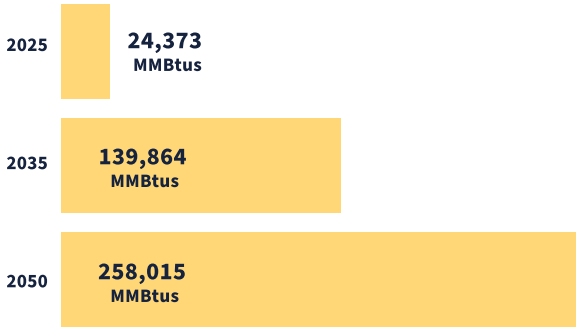


Figure 8.21

Electric efficiency targets aim to achieve the same or better results with less electricity consumption. This translates into cost savings, reduced energy demand, and a smaller environmental footprint.

opposing biomass and large-scale wind projects. Energy efficiency and conservation measures will help offset increased demand and reduce overall energy consumption and GHG emissions.

Conclusion

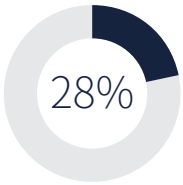
In summary, enhanced energy planning involves a complex web of partners, technologies, and individual needs. Although municipalities play a key role in implementation, many strategies will ultimately depend on the actions of residents and businesses.

The following section outlines the Region's policies and actions for using energy efficiently, developing renewable energy resources, and reducing greenhouse gas emissions. These policy recommendations are grounded in data, community input, and state and federal priorities. Progress will be tracked using indicators that measure implementation and ensure accountability as the Region moves toward its enhanced energy goals.

SUMMARY OF CURRENT USES & TARGETS

2050 Energy Target Progress

ALL SECTORS



Total Energy Targets (MMBtus)

2023	2025	2035	2050
8,873,880	7,982,979	6,046,975	4,955,640

THERMAL SECTOR

2023 TOTAL ENERGY USE:
4,587,131 MMBtu

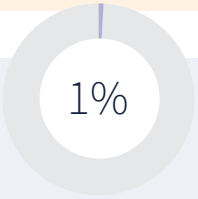
RESIDENCES: **26,555**

BUSINESSES: **2,504**

2023 DOMINANT FUEL:
Heating Oil

Thermal Targets

	Current	2025	2035	2050
Weatherized Buildings	586	5,947	12,853	20,793
Cold Climate Heat Pumps	7,474	9,069	24,672	35,859
Heat Pump Water Heaters	1,398	5,401	17,988	24,680



TRANSPORATION SECTOR

2023 ENERGY USE:
2,355,755 MMBtu

CURRENT TOTAL VEHICLES:
43,008

2023 DOMINANT FUEL:
Gasoline

Transporation Targets

	Current	2025	2035	2050
# of Passenger EV & PHEVs	826	2,466	26,844	57,409

Commuting Patterns

11,029 Average Yearly Vehicle Miles

27.7 Minute Avg. Commute

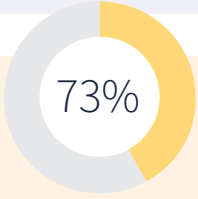
80.9% Commute Alone

9.5% Work at Home

6.0% Carpool

0.3% Public Transit

2.6% Walk



ELECTRIC SECTOR

2023 ENERGY USE:
1,930,994 MMBtu

2023 DOMINANT FUEL:
Hydroelectricity

Renewabe Generation Targets (MW)

	Current	2025	2035	2050
Solar	63.8	0	34.0	85.8
Wind	0.1	0	0	1

Figure 8.22

Enhanced energy planning involves a complex web of partners, technologies, and individual needs.

Section 248 Process

Section 248 of the Vermont Statutes requires utilities and companies to obtain approval from the Public Utility Commission (PUC) for the siting of electric generation and transmission facilities, as well as certain gas pipelines. The process requires a Certificate of Public Good from the PUC before construction can begin. A Regional Enhanced Energy Plan provides the RRPC Board of Commissioners with enhanced legal weight, known as substantial deference, in the Section 248 siting process, ultimately providing increased legal protections to the Region.

In a Section 248 proceeding for a project proposed in the Region, the RRPC will use specific criteria to review the Certificate of Public Good application. These criteria establish a consistent and transparent review process in accordance with the obligations and authority of the RRPC Board of Commissioners. The purpose of the review is to ensure that new energy projects 1) are in conformance with this Plan and 2) align with orderly development in the Region. Orderly development is the planned growth or change of an area through an organized process that creates outcomes aligned with the Region's goals and values. The RRPC Board of Commissioners can intervene in a Section 248 proceeding if the energy project is found not to be in conformance with this Plan.

The Section 248 Review Criteria are designed to promote renewable energy siting while protecting the Region from inappropriate development. They are divided into Universal (applicable to all energy projects) and technology-specific requirements.

Section 248 Review Criteria

1) Renewable Energy Certificates (RECs) associated with proposed generation must count toward meeting Vermont's Renewable Energy Standard to conform with the Regional Plan.
2) Biomass energy facilities do not conform to the Regional Plan due to significant air quality concerns.
3) Geothermal energy development that meets all applicable state and federal regulations is considered to conform to the Regional Plan.
4) Hydropower facilities that are certified through the Low Impact Hydropower Institute are deemed to conform to the Regional Plan.
5) Natural gas service connections do not conform to the Regional Plan. Additionally, all infrastructure related to natural gas and biogas must be sited at least 1,000 feet away from residences, businesses, and any human-occupied locations.
6) For solar development, criteria related to forest fragmentation and wildlife passage do not apply to projects located on rooftops, parking lots, gravel pits, quarries, Superfund sites, or brownfields.
7) Utility-Scale Solar (>20 acres or >5MW): These projects must generate RECs that count toward meeting Vermont's Renewable Energy Standard. Developers are required to hold community outreach meetings to identify and address reasonable community concerns.

Utility-scale solar projects must not result in forest fragmentation or habitat loss and must allow for wildlife passage through the development area.

8) Commercial-Scale Solar (≥5 acres or ≥0.5MW and ≤20 acres or ≤5MW): Like utility-scale projects, commercial-scale solar developments must produce RECs that contribute to the Renewable Energy Standard and hold community engagement meetings to respond to community concerns. These projects must also avoid causing forest fragmentation and habitat loss and must accommodate wildlife passage.

9) Residential-Scale Solar (<5 acres or <0.5MW): Residential-scale solar energy systems that comply with state and federal regulations are considered to conform with the Regional Plan.

10) Utility-Scale Wind (>150kW): Utility-scale wind projects do not conform to the Regional Plan.

11) Commercial-Scale Wind (>50kW and ≤150kW): Commercial-scale wind projects also do not conform to the Regional Plan.

12) Residential-Scale Wind (≤50kW): Residential-scale wind energy systems that meet state and federal regulations are considered to conform with the Regional Plan.

Renewable electricity generation can be achieved through various technologies and at different scales. Figure 8.23 shows the varied scales of solar and wind generators. The Section 248 Review Criteria provide regional requirements pertaining to these technologies.

In combination with the Section 248 Review Criteria, the Enhanced Energy Plan Maps in Appendix A8.2, A8.3, and A8.4, page 426 show areas appropriate for energy facility development, specifically solar, wind, and geothermal. The primary energy siting locations are those with high-quality resources (such as sun or wind) and without known constraints, including FEMA flood zones and protected natural resources. The Regional Enhanced Energy Plan Maps have specific statutory requirements that differ from those of the Regional Future Land Use Map as presented in the Land Use Chapter (Chapter 2, page 37). As such, areas suitable for energy development are separate from the Future Land Use Areas and may span multiple Future Land Use Areas.

RENEWABLE GENERATION SIZE CATEGORIES

	Solar	Wind
Residential	**<5 acres or 0.5MW**	**≤ 50kW**
Commercial	**≥ 5 acres or 0.5MW ≤20 acres or 5MW**	**> 50kW ≤150 kW**
Utility	**>20 acres or 5MW**	**> 150kW**

Figure 8.23

Enhanced energy planning involves a complex web of partners, technologies, and individual needs.

What's Next? // ENHANCED ENERGY PLANNING

Goals

1) Use energy efficiently, develop renewable energy resources, and reduce greenhouse gas (GHG) emissions.

Policies

1) Total residential energy consumption should be reduced by approximately 45% from 2025 levels to meet state energy and climate goals.
2) Switching from fossil fuels to sustainable alternatives should be prioritized for heating, cooling, transportation, and electric generation to reduce greenhouse gas emissions and improve energy resilience.
3) Enhanced Energy Plans should be considered by all municipalities.
4) Weatherization and the adoption of high-efficiency appliances **shall** be priority pathways to reduce residential thermal energy consumption by 2050.
5) Electric vehicle adoption, transit and ridesharing use, and active transportation, **shall** be priority pathways to reduce transportation energy consumption by 2050.
6) Smart growth and energy-efficient land use patterns should be implemented by prioritizing redevelopment within Growth Future Land Use Areas (FLUA), promoting compact, mixed-use development, expanding water and sewer infrastructure to support designated centers, and maintaining and enhancing walking and biking infrastructure consistent with complete streets principles.
7) Commercial and industrial-scale wind and biomass energy generation **shall** not be considered in conformance with this Plan.
8) New renewable energy siting should be closely coordinated with the appropriate FLUA, prioritizing siting in Enterprise Areas and locations near existing electric capacity and three-phase power infrastructure, and avoiding the Rural Conservation FLUA.
9) Efforts to reduce household energy burden are encouraged, with a focus on municipalities identified as having the highest burdens in the 2023 Efficiency Vermont Energy Burden Report.

Policies continued

10) New energy projects should be prioritized when they advance renewable energy goals and are located on preferred siting locations.
11) Renewable energy generation siting **shall** follow orderly development, as required by this Plan's Section 248 review criteria.
12) Distributional equity should be considered in all energy planning and siting.
13) Energy planning and decision-making should include opportunities for meaningful participation.

Actions

1) Assist one municipality annually with creating an Enhanced Energy Plan beginning in 2026.
2) Update Enhanced Energy Plans to include actions that support municipal efforts to redevelop town and village centers, revise land use regulations to prioritize compact, mixed-use development surrounded by rural and open land, expand water and sewer infrastructure to enable smart growth and energy-efficient settlement patterns, and maintaining and enhancing walking and biking infrastructure consistent with complete street principles to reduce single-occupancy vehicle trips.
3) Identify and prioritize a regional list of preferred renewable energy generation sites, with a focus on siting projects on brownfields, gravel pits, closed landfills, rooftops, parking lots, and other underutilized or limited-use properties.
4) Incorporate priority forest blocks into municipal energy potential mapping as a local constraint by 2026.
5) Host an annual weatherization, energy efficiency and conservation, and/or electric vehicle educational event starting in 2026.
6) Create a Regional Heating Plan, including identification of district heating candidate locations, by 2030.
7) Apply renewable energy siting criteria, review municipal plans, and encourage municipal project review, to ensure Section 248 applications align with this Plan's land use provisions.
8) Create a Regional Energy Committee to provide routine trainings, events, and workshops for municipal energy committees and planning commissions by 2030.

Actions continued

9) Assist with securing grant funding for residential heat pump installations, prioritizing low-income households and underrepresented populations to advance equitable access to clean energy.

10) Partner with VTrans, MVRTD "The Bus," and Go Vermont to apply for a Mobility and Transportation Innovation (MTI) grant to expand public transit education, promote ridesharing, and implement transportation demand management programs.

Indicators of Progress

1) Number of Towns with an Enhanced Energy Plan
2) Regional Energy Burden
3) Total Energy Targets 2025, 2035, 2050
4) Total GHG Reduction Targets 2025, 2035, 2050
5) Number of Homes Weatherized 2025, 2035, 2050
6) Number of Cold Climate Heat Pumps Installed in Homes 2025, 2035, 2025
7) Number of Heat Pump Water Heaters Installed in Homes 2025, 2035, 2050
8) Number of Passenger EV and PHEVs Added to the Vehicle Stock
9) Renewable Generation Targets for Solar and Wind 2025, 2035, 2050

WORKING LANDSCAPE

INTRODUCTION

LAND USE

ECONOMIC DEVELOPMENT

CULTURAL RESOURCES

TRANSPORTATION

HOUSING

COMMUNITY FACILITIES AND PUBLIC UTILITIES

ENHANCED ENERGY

WORKING LANDSCAPE

NATURAL RESOURCES

CLIMATE RESILIENCE

NEIGHBORING PLANS

PLAN IMPLEMENTATION

INTRODUCTION

The Rutland Region (the Region) seeks to encourage and strengthen agricultural and forestry industries. The Working Landscape Chapter describes the current conditions, informed by research and public engagement (see Engagement Report, Appendix A1.2, page 417), as well as trends shaping the future of these industries in the Region. The chapter concludes with regional policies and RRPC-specific actions designed to achieve the working landscape goals.

HEALTHY, EQUITABLE, RESILIENT COMMUNITIES

An active working landscape is crucial for the health and well-being of residents in the Region. Access to nutritious and affordable locally grown fresh food is directly linked to improved health outcomes and reduced food insecurity. Initiatives like the Farmacy Project highlight this connection by providing underserved individuals in the Region with fresh produce, promoting a "food as medicine" philosophy. Furthermore, boosting local food production lessens the environmental impact of limited access to nutritious food options. For example, when food is grown locally instead of being transported long distances, greenhouse gas emissions from delivery are reduced. In the Region, it is important to prioritize the growth and widespread distribution of local food not only to enhance community health but also to support the local economy and advance environmental stewardship.

To fully realize the health benefits associated with local food systems, it is essential that everyone, regardless of income, geography, or background, has equitable access to nutritious and affordable local foods. Unfortunately, this ideal is far from the current reality. In many communities, especially those with lower income levels, fast food chains and discount grocery stores dominate the food landscape. These outlets typically offer cheaper options, which are often calorie-dense and low in nutritional value, making them more accessible than fresh, local alternatives that may be more expensive. According to recent data, only a small percentage of food purchased in the US is locally sourced, with many households citing price and convenience as the main reasons for choosing non-local options. Equitable access goes beyond proximity—it also involves affordability, availability, and cultural relevance. Even in rural areas, where local production may be higher, residents may still face limited access due to the ease and lower cost of imported or processed foods. These communities are often described as "food deserts," where nutritious and locally grown food is scarce or economically out of reach. Equity also plays a critical role in determining who gets to participate in the local agricultural and forestry economies. Removing systemic and logistical barriers is necessary to allow aspiring farmers, foresters, and producers, especially from

Figure 9.1 caption TBD

historically marginalized groups, to enter and thrive in these industries. This not only fosters inclusivity but also strengthens the entire Region by diversifying the economic base, promoting food security, and encouraging sustainable stewardship of its agricultural and forestry resources.

Manufacturing and marketing agricultural and forestry products strengthen rural economies and promote sustainable economic development. This is especially important in rural or underserved areas, where residents often face low per capita incomes and limited job prospects. By investing in value-added processing, local enterprises, and improved market access for these products, communities can create jobs, generate income, and reduce their economic vulnerability.

In a world increasingly affected by climate change—manifested through erratic weather patterns, invasive species, and environmental toxins—local food systems emerge as powerful buffers. At the same time, healthy, well-managed forests aid climate mitigation and adaptation by offering ecosystem services like carbon sequestration, water filtration, and biodiversity protection. These natural resources also function as economic

assets through sustainable forestry and ecotourism initiatives. By intertwining agriculture and forestry, we establish a foundational strategy for cultivating adaptable, self-reliant, and equitable communities in a rapidly changing environment.

CURRENT CONDITIONS

A bond with the land is integral to the Region, deeply rooted in the rich traditions of Indigenous peoples who expertly cultivated crops and managed livestock while diligently caring for the Region's vast forests. While agriculture and forestry have evolved significantly over the years, these sectors remain essential to the Region's identity and prosperity today. Farming shapes the picturesque, rolling fields and acts as one of the Region's most resilient economic drivers. Additionally, without effective logging and sustainable forest harvesting practices, the health and vitality of the forests covering approximately 75% of the Region would be at risk.

The United States Census estimates that in 2023, there were 442 people in the Region employed in agriculture, forestry, hunting, and fishing. That is just 1.5% of the total workforce.[1 2] According to the State, 42,046 acres of farmland in the Region are enrolled in the State's Use Value Appraisal Program (UVA or "Current Use") and receive property tax reductions in exchange for remaining in active agricultural use. Whether as an active working landscape or conserved fields and woodlands, maintaining and growing our rural communities delivers multiple benefits that continue to shape the Region's rural areas as mapped in the Land Use Chapter (Chapter 2, page 37).

Agricultural Industry – Regional Food Production

Agriculture in the Region has transformed, making it almost unrecognizable compared to two generations ago. The era of predominant dairy farms is over; today, the Region features a dynamic mix of dairy, crops, meat, and fiber production. It is this more diverse and varied agricultural landscape that is driving an increase in the number of farms and expansion of food-related jobs. Regional food production encompasses the growing and harvesting of raw materials such as crops and livestock. According to the Census of Agriculture, the number of farms increased from 530 in 1997 to 624 in 2022, representing a growth of 94 farms.[3] Presently, various farming practices are utilizing the land, thereby contributing to the overall increase in the number of farms.

As one traverses the rural communities within the Region, one may observe a decline in the population of dairy cows; nonetheless, the number of diverse agricultural operations continues to expand. A significant increase in vegetable farms, orchards, and livestock enterprises is evident. The Census of Agriculture highlights the diversity and variety present in modern farms. Crops now encompass a wide range of raw agricultural products, including various vegetables, berries, greenhouse plants, nurseries, cut flowers,

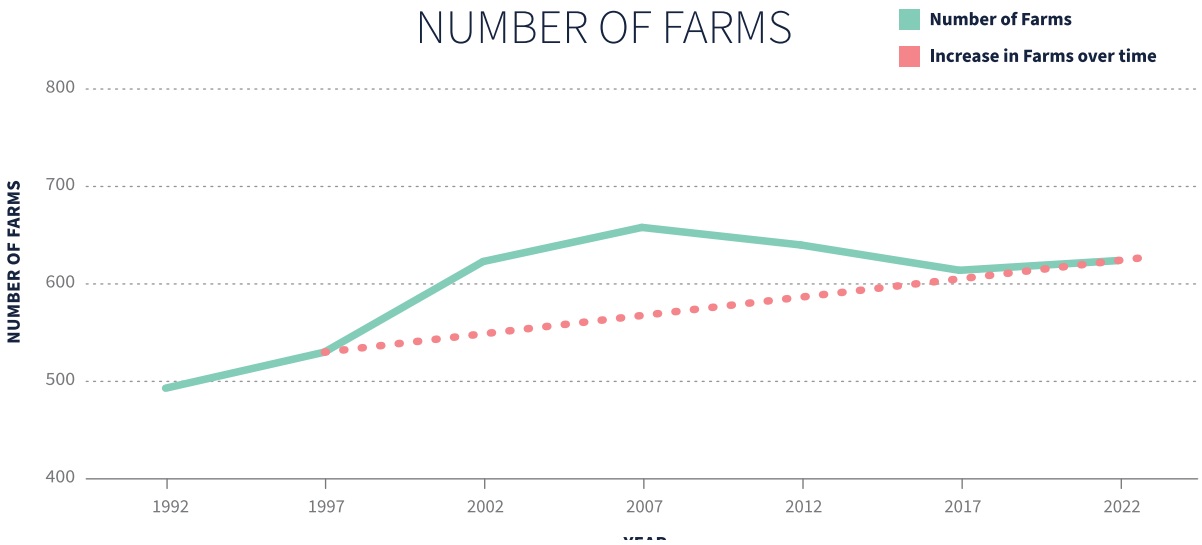


Figure 9.2

Number of farms in the Region from 1997 - 2022 showing an upward trend in farm count over 25 years. Credit: U.S. Census of Agriculture.

Christmas trees, and cannabis. Vermont continues to lead the nation in maple syrup production, with the Region accounting for 4% of the state's total output. Additionally, farms are now raising a broader spectrum of animals, from beef cows and hogs to goats and sheep. A prime example is Hubbard's Farm in Rutland Town; once a dairy farm, it now raises Black Angus beef cattle. The farm's market offers 12 different cuts of its beef, along with pork and lamb sourced from other local farms, as well as maple syrup products from three local producers and various craft items.

While the number of dairy farms has dropped significantly from 179 in 1997 to only 43 in the 2022 Census of Agriculture,[4] the dairy industry remains vital to the Region. Larger operations are successfully dominating the market, effectively absorbing smaller farms and industrializing milk production. Despite this decline in the number of farms, the Region maintains the same volume of milk production. This trend of consolidating dairy farms mirrors similar patterns seen at the state and national levels over the past 25 to 30 years.

Historically, dairy farming demanded significantly more land than modern agricultural practices. To sustain large herds of dairy cows, farmers needed extensive acreage for hay production and other feed crops. However, a decisive shift is occurring as farmers adopt methods that utilize less land. From 1997 to 2022, the Region experienced a reduction in the number of acres farmed, dropping from 125,770 to 116,540 acres, while the average farm size decreased from 237 to 187 acres.[5] Fortunately, the overall loss of farmland to housing or other development has remained modest, at only 7% since 1997, which is significantly lower than the statewide average of 11%.

Consumers are also actively shaping changes in agriculture in the Region by demanding innovative farm products, which

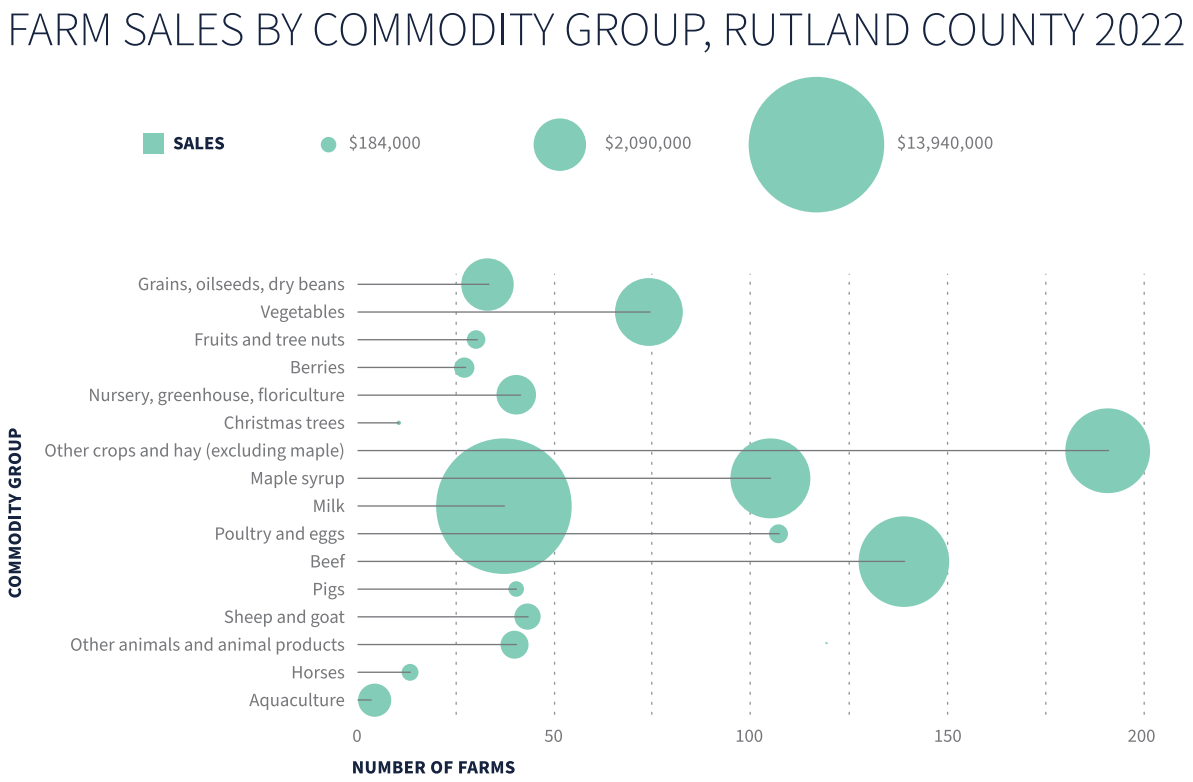


Figure 9.3

What Rutland Region farms produce and sell. This shows the various types of commodities and number of farms per commodity in 2022. Credit: Vermont Sustainable Jobs Fund.

enables farmers to diversify their offerings. This ongoing investment in innovation and diversification empowers farmers to shift away from a heavy reliance on dairy towards a broader range of viable alternatives. Additionally, today's consumers insist on transparency. They seek knowledge about the origins of their food, pursue direct relationships with food producers, and desire deeper connections with local farmers. There is a rising demand for organic produce, with 39 certified organic farms in the Region generating $2.4 million in total organic product sales, and this upward trend continues to accelerate.[6] Interest is also growing in strengthening the Region's local food economy through direct-to-consumer sales, institutional partnerships, and community-based food systems.

To operate efficiently, many farms require hired help. In 2022, there were 912 hired workers employed by farms across the Region, but the pay was low. The reported per-person payroll in the Region stands at only $15,118.[7] This highlights the economic vulnerability of agricultural laborers, particularly in comparison to broader income trends. In stark contrast, the US Census reports a per capita income of $38,902 in the nation during the period from 2019 to 2023.[8]

While the Region is seeing a rise in younger farmers, the average age of a farmer remains 58.8 years.[9] As outlined in the Economic Development Chapter (Chapter 3, page

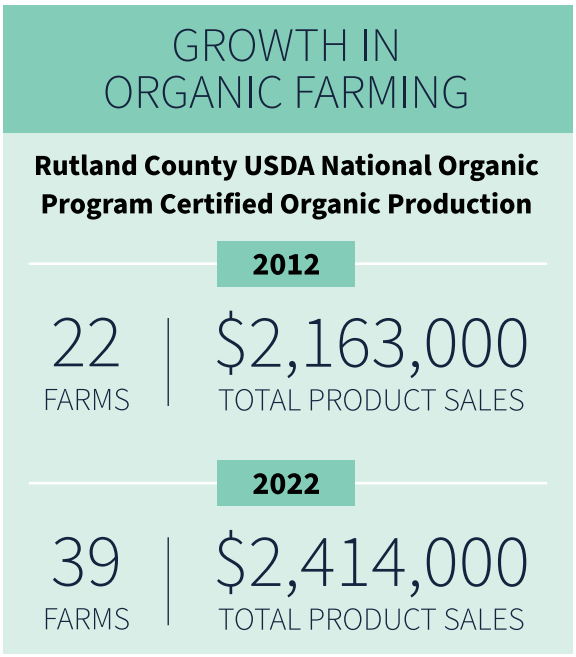


Figure 9.4

Growth in Organic farming in Rutland Region: Certified farms nearly doubled and sales increased from 2012 to 2022. Credit: U.S. Census of Agriculture

79), rejuvenating the aging workforce with younger talent in all regional economic sectors is crucial. This shift reflects an increase in the number of younger farmers: notably, 24% of all farmers are aged between 25 and 54.[10] This growth is remarkable considering the daunting 10-year learning curve newcomers face, particularly those exploring non-traditional crops and livestock. Another significant barrier to entering the farming sector is the cost of land acquisition. A practical solution for new farmers is the option to rent or lease land with prime agricultural soils from willing landowners.

To reduce barriers for new farmers, increased support is essential. The Vermont Land Trust's Option to Purchase at Agricultural Value and Farmland Access Program help make farmland more affordable and accessible for prospective buyers. These tools are now bolstered by strong business planning and technical assistance, improving the likelihood of success for new and beginning farmers. Additional support comes from the Vermont Sustainable Jobs Fund's Farm to Plate Investment Program, the Vermont Forest Products Program, and the Farm to Plate Local Planning for Food Access Toolkit. Together, these initiatives help strengthen the production and marketing of local food and wood products, support quality job creation, and expand access across local and regional markets.

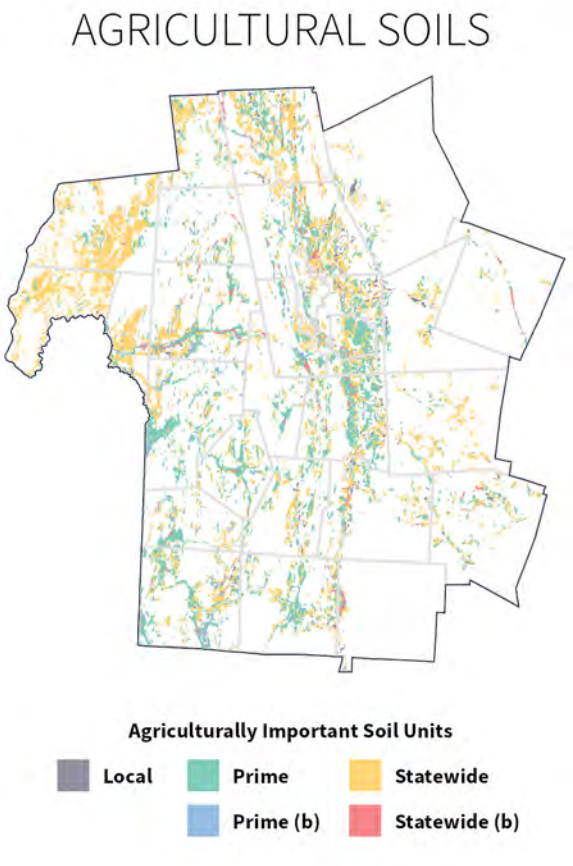


Figure 9.5

A map showing prime agricultural soils in the Region. These are the productive farmland, which includes prime, statewide, and local importance classifications. Credit: Vermont Center for Geographic Information.

Prime agricultural soils are designated soil map units that exhibit the optimal combination of characteristics for cultivating food, feed, and forage crops, comprising 20.7% of the land area in the Region. Developers aiming to obtain an Act 250 permit for projects on prime agricultural soils must prove that their undertaking will not diminish the agricultural viability of these soils or comply with specific criteria if impacts are unavoidable.

According to the Vermont Sustainable Jobs Fund (VSJF), 5,167 individuals found direct employment within the Region's food system in 2022. This workforce includes farmers, food and beverage manufacturers, food wholesalers, retailers, and community food service professionals. When including those indirectly employed in the food system, such as transportation workers, this total number of workers rises significantly to an impressive 7,440. Additionally, VSJF data indicates that the total value of agricultural products sold in the Region reached $40.4 million in 2022. By applying a multiplier to account for the additional revenue generated from processing these raw products, the overall value of agricultural products increases to $61.9 million.

Labor plays a crucial role in agricultural production. Workers are essential for getting farm products ready for processing. The Region's agriculture significantly depends on migrant labor, where many workers face low wages and long hours in often dangerous conditions. There are two main categories of migrant workers: seasonal laborers who work in orchards, vegetables, fruits, flowers, and cannabis, and year-round workers on dairy farms. Since there is no visa program

Importance of Pollinators

Pollinators such as flies, wasps, moths, butterflies, beetles, bees, bats, and hummingbirds are indispensable for the health of the Region's commercial crops such as blueberries, tomatoes, peppers, pumpkins, squash, and apples. Without them, the food system faces existential risk, and its ability to cultivate local, healthy food is jeopardized. Bees alone pollinate an estimated $24 billion in crops nationwide.[11] The Vermont Center for Ecostudies estimates one-third of Vermont's bee species are now deemed "critically imperiled or imperiled." Declining pollinator populations result from habitat degradation, the use of harmful pesticides and pesticide-treated seeds, and various diseases and pathogens. As of 2024, the Vermont Legislature has banned neonicotinoids, the most widely used pesticide on pesticide-coated seeds.

Figure 9.6

Illustration Credit: Annie Daley & Margaret Desiree-Mug

for year-round dairy farm laborers, most of these workers likely lack proper documentation. On the other hand, seasonal laborers participate in the H2A visa program, which enables employers to hire foreign nationals for temporary agricultural jobs when domestic workers are not available.[12]

There are other inequities in agriculture. Historically, the Region has fostered a strong culture dedicated to supporting local food production and consumption, as well as a steadfast commitment to farmland conservation and access. While addressing migrant issues is essential, it is crucial to recognize that Black, Indigenous, and People of Color (BIPOC) and other minorities in agriculture face additional challenges as well. BIPOC farmers encounter formidable barriers when starting their businesses in food production, struggling with access to sufficient land, capital, and infrastructure. Liberation Ecosystem, formerly the Vermont Releaf Collective, a BIPOC organization, actively provides agricultural and other assistance to 375 members statewide and 20 regionally. Its members consistently highlight critical issues, including inadequate access to land, the absence of generational wealth, and challenges in securing funding. Moreover, the persistent, albeit subtle, racism must be addressed directly. The Region can enhance its agricultural economy by transforming into a welcoming environment for BIPOC individuals who aspire to farm in the Region.

Climate change presents a host of emerging challenges for farmers, many of which are unpredictable and evolving. One of the most pressing issues is the uncertainty itself—producers are being forced to adapt to conditions that are rapidly shifting but not yet fully understood. They must prepare for a wide range of potential impacts, including heat stress on both crops and livestock, increased pressure from pests and diseases due to warmer and more variable temperatures, and fluctuating precipitation. This may include both prolonged droughts and extreme flooding events, each requiring vastly different responses. As a result, farmers are navigating a complex and uncertain

Agricultural Migrant Labor

According to Migrant Justice, Vermont's farms critically depend on approximately 1,500 migrant workers, including several hundred in the Region. These workers come from Mexico, Guatemala, and other Central American countries, as well as from various parts of Latin America. Most are undocumented, motivated by limited opportunities in their home countries. These seasonal workers are essential, returning year after year. However, they face numerous significant challenges: inadequate safe housing, high risks of dangerous accidents, limited access to healthcare, wages that fall below the state minimum, insufficient training, lack of protective equipment, and educational deficits for their children. Without these laborers, the dairy industry in Vermont would struggle to survive.

landscape, often without clear guidance on how best to protect their livelihoods and ensure long-term resilience. These challenges are explored further in the Climate Resilience Chapter (Chapter 11, page 333), which outlines strategies for adaptation and mitigation.

Agricultural Industry - Processing

Despite the increasing diversity of farming and the variety of regionally grown crops available at local farmers' markets, roadside markets, co-ops, and grocery store shelves, there is a need for enhanced agricultural infrastructure, especially with the growing diversity of farm products in the Region. This infrastructure, referred to as processing, includes the facilities, equipment, and technology necessary to support the processing and storage of raw agricultural products into finished food items suitable for sale. For many new farmers, accessing this infrastructure remains a significant barrier. While the transformation of old dairy barns is underway, with the addition of floor drains, washable walls, ventilation systems, and higher ceilings, this repurposing still has its limitations.

The Vermont Farmers Food Center (VFFC) in Rutland has experienced the challenges associated with repurposing old infrastructure, particularly at former industrial sites in non-rural areas. Despite successfully securing funding to expand its operations, the site's soil and air are heavily contaminated with tetrachloroethylene (TCE), a known carcinogen. Consequently, VFFC has undertaken extensive remediation efforts to ensure safety for both employees and the public. With the site cleanup now complete, the Vermont Farmers Food Center (VFFC) is moving forward with plans to support small and mid-sized farms and food producers across Vermont, particularly those in remote rural areas. As part of its three-acre campus, VFFC will develop a produce packing center and commercial kitchen to address the Region's need for additional food infrastructure. Together, these facilities will serve as a food hub, supporting over 50 emerging farm businesses and local food entrepreneurs. The project aims to improve supply chain efficiency, boost sales and revenue for producers, create new jobs within the food system, and foster a more resilient, coordinated, and equitable local food economy, contributing to long-term prosperity for the Region. The project underscores a broader need for food hubs throughout the Region, as highlighted in the Economic Development Chapter (Chapter 3, page 79).

A significant barrier to growth for local meat producers is the limited availability of full-service meat processing facilities. Maple Ridge Meats in Benson is the only USDA-inspected slaughter and processing facility in the Region. Two other facilities, Wallingford Locker and Curtis Deer Processing, in Sudbury, are not USDA-inspected and are limited to personal-use processing. Maple Ridge Meats plays a vital role in supporting a localized food system by enabling farms to process and sell meat commercially within the Region, avoiding the added costs and logistical burdens of out-of-state processing.

For example, Hubbard's Farm in Rutland Town raises Black Angus beef cattle and uses Maple Ridge Meats for slaughter and processing. Hubbard's Farm then sells a variety of cuts directly to consumers through its on-site market, along with pork, lamb, and maple products from other local producers. This model, from production to processing to retail, demonstrates the potential of regional collaboration to strengthen the local food economy. However, the limited processing infrastructure remains a constraint, highlighting the need for further investment in overall regional capacity.

Agricultural Industry - Markets

Getting food products from farmers to consumers involves markets. In today's agricultural landscape, nearly every farming sector faces major marketing challenges that threaten the sustainability and profitability of its operations. A primary issue is the ongoing downward pressure on the prices that producers earn for their goods, reducing their overall income even as production costs continue to rise. Farmers are grappling with increasing expenses for essentials like seeds, fertilizers, equipment, and labor, making it more challenging to sustain profit margins.

Farmers are encouraged to develop stronger marketing and sales skills to effectively promote and sell their products in an increasingly competitive and complex marketplace. This often involves navigating new technologies, adapting to shifting consumer preferences, and distinguishing their offerings in a crowded field. For example, Hubbard's Bald Mountain Farmers Market offers home delivery of its meat products. Given the notable shift in our economy and cultural traditions from land-based agriculture to processed, convenience foods,[13] farmers must continually adapt their marketing strategies to remain competitive.

One strategy for enhancing markets for the Region's farm products is to get residents more engaged with the industry. One example is the popular Hathaway Farm Corn Maze in Rutland Town. The Region is experiencing a surge in agritourism, featuring farms that actively involve visitors through direct sales, educational programs, entertainment, farm stays, recreation, and special events. Currently, 15 farms within the Region are capitalizing on agritourism and recreational services, generating a combined income of $762,000 in 2022, representing 4% of the total farm income. In 2017, 13 farms in the Region were offering agritourism or recreational services, generating just $156,000 in revenue, highlighting the rapid growth of this sector.[14]

In addition to agritourism, the Region supports five local community-supported agriculture (CSA) programs. These programs strengthen connections between consumers and farms by providing residents with a direct stake in seasonal food production. CSAs provide a reliable revenue stream for farmers, promote food security, reduce environmental impact, improve the supply chain, and foster a local appreciation for agriculture. These programs uplift the Region's economy, encourage community engagement, and support sustainable local farming practices.

Figure 9.7

Fresh produce at the Vermont Farmers Market in Rutland: Foggy Meadow Produce stand from Benson. Credit: Sean Beatty

The Vermont State Fair, a cornerstone of the agricultural community since 1846, unites local farmers and showcases the essence of farming culture. Officially rebranded from the Rutland County Agricultural Fair in 1972, it calls Rutland City its permanent home. The fair maintains its deep-rooted rural spirit with exciting events like horse pulls, pig races, livestock shows, pie contests, and colossal pumpkins. Its vibrant midway and grandstand shows contribute to its status as one of the Region's most anticipated annual events. Organizers estimate that the fair draws between 40,000 and 50,000 visitors each year during its current five-day span. Another key marketing opportunity lies in expanding access to underserved populations within the Region.

Efforts to connect local food producers with food-insecure residents are underway through several programs. Ensuring that the food we produce is safe and healthy is as important as delivering that food to those most in need. These individuals face limited access to adequate, safe, and nutritious food, which is essential for normal growth, development, and the ability to lead active, healthy lives. A 2022 University of Vermont study found that 2 in 5 Vermonters were food insecure in the past year, with BIPOC individuals, women, families with children, and households dealing with job disruptions impacted the hardest.[15] The root causes include poverty and the scarcity of healthy food options.

SNAP (Supplemental Nutrition Assistance Program) plays a crucial role as a government grocery subsidy, benefiting approximately 10.8% of the Region's households, equating to 2,758 households as of 2023. A significant 55% of households with members who have disabilities actively utilize SNAP. The median income for these households is $21,540, representing about one-third of the overall regional median. As of October 2021, the average cost of a modest meal in the Region exceeded SNAP benefits by 13%, highlighting a persistent gap between food costs and available assistance. Additionally, recipients confront what is termed a "benefit cliff," where even small increases in income can lead to the loss of SNAP eligibility. This situation can leave individuals with a higher-paying job still struggling to meet daily grocery expenses. Fortunately, new models are emerging to connect fresh, locally grown food with those most in need, an essential step toward achieving food equity. At the same time, hunger relief is increasingly

BROC Community Food Shelf

Upon entering the Bennington Rutland Opportunity Council (BROC) Community Action, the Community Food Shelf immediately captures attention. By actively forging partnerships within the community to gather donations, engaging with local farms, and diligently pursuing new grants, BROC ensures its shelves remain stocked and vibrant. BROC actively serves over 800 families, which includes 1,450 seniors, disabled individuals, and working-class residents from all corners of the Region. The influx of new immigrants from the Middle East and Africa is also benefiting from these vital services. The shelves brim with fresh milk, eggs, meat, and seasonal fruits and vegetables sourced from local farms, embodying the quality typically found at a local farmers' market. This food comes from a combination of donations, direct purchases from local farms at fair market value, and food rescue efforts involving near-expiration items from local grocery stores. BROC continues to pursue grant opportunities, strengthen community partnerships, and champion local agriculture through its commitment to purchasing locally grown food.

Figure 9.8

Daily offerings from the BROC Community Food Shelf, Rutland.

recognized as a distinct and growing economic sector with the potential to support both food access and local producers.[16]

Other sources for fresh foods include the Vermont Foodbank's VeggieVanGo program, which operates monthly. A Foodbank truck visits VeggieVanGo locations across the state, offering five to six fresh produce items each time, with no eligibility requirements. In Fair Haven, Slate Valley Cares' Right to Food Center provides free groceries to members, featuring a changing selection of fresh produce, meats, eggs, and dairy products. Additionally, up to 50 farmers are actively participating in the Vermont Farmers Food Center (VFFC) in Rutland, an essential initiative aimed at boosting local food production and consumption. VFFC was Vermont's first year-round farmers' market and remains one of the most vibrant local markets in the state. Since its launch in 2015, VFFC's Farmacy Project has reached over 3,672 individuals in Rutland County, providing 10-12 pounds of local fresh produce throughout the year. Together, these programs support local growers by expanding market access and strengthening the Region's food system.[17]

Forestry Industry – Regional Forests

Vermont stands out as one of the most heavily forested states, with forests covering 78% of its land. The Region has 73.5% forest cover, making it a vital component of the expansive northeastern forest corridor as well as a significant source of raw materials for the forest industry. This area is home to the iconic Green Mountains, which run along the spine of Vermont, and the Taconic Mountains to the west. In the Region, northern hardwoods thrive, primarily featuring beech, birch, and sugar maple, while robust oak/pine and white pine forests also flourish. Notably, the tree population is on the rise, with net growth now exceeding harvested removals at a 2:1 ratio annually, demonstrating a significant opportunity for increased harvesting.

Healthy forests provide essential benefits to the Region. They act as vital habitats for wildlife and enhance biological diversity. Economically, forests are a key driver supporting tourism and recreation while providing raw materials for the wood products industry. The Region's forests also produce food products like maple syrup and related items. Moreover, forests offer significant yet less obvious benefits, such as clean water

Effective forest management strikes a balance between economic and ecological priorities. Achieving this requires sustainable timber harvesting, ongoing control of invasive species, and stringent protection of water resources.

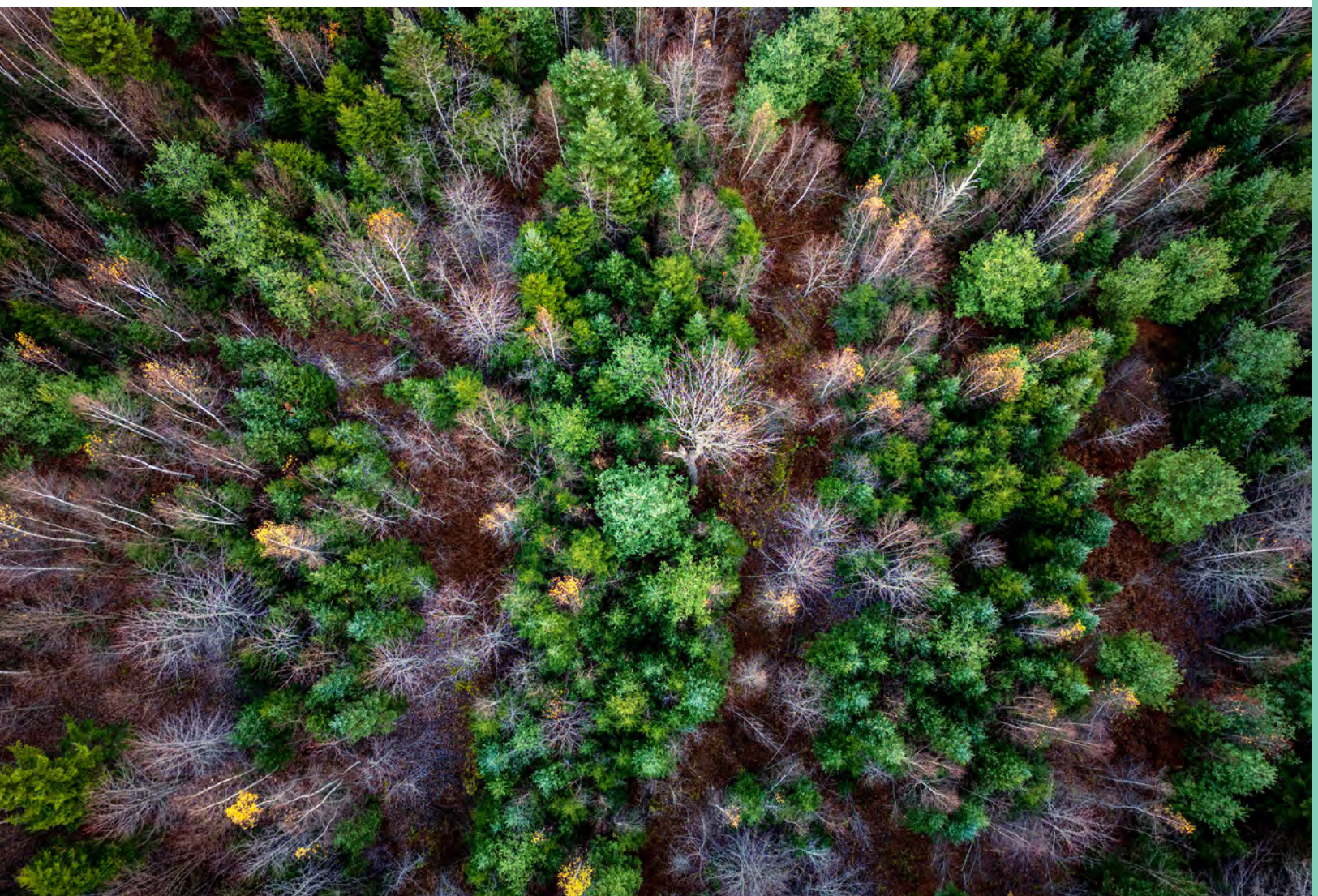
and air, flood mitigation, and carbon sequestration, as outlined in the Natural Resources Chapter (Chapter 10, page 297).

Forests may be owned by the federal, state, and local governments, yet individuals and companies privately own an overwhelming 82% of forestland. Some of these privately owned forests have been effectively conserved through the efforts of local land trusts, such as the Vermont Land Trust and The Nature Conservancy. Many others are enrolled in the State's Use Value Appraisal Program (UVA or "Current Use"). In the Region, 113,115 acres of forestland are enrolled in the Use Value Appraisal program, requiring active management of the forests in return for significantly lower property tax rates, including 35.2% of the Region's land in 2023 as displayed in the Rural Agriculture & Forestry Area on the Regional Future Land Use Map and referenced in the Land Use Chapter (Chapter 2, page 37).

Forestry Industry – Processing and Crafting

In the forestry industry, processing refers to harvesting wood, while crafting involves transforming it into marketable products. The forest industry plays a crucial role in the state's economy, contributing $2.1 billion annually.[18] Much like Vermont's high-quality

Figure 9.9 Photo Credit: Mike DiMeola



agricultural products, forest products are known for their overall exceptional quality. The Region's diverse array of forest products includes everything from saw timber to firewood and maple syrup. Essential wood products, such as hardwood and softwood lumber and veneers, are key for local construction and woodworking businesses. Additionally, secondary or value-added wood products—enhanced through subsequent production stages—include furniture and specialized wood construction items, like window frames. While specific data on the Region's contribution to the forest industry is not currently available, the Region has historically played a significant role in the Vermont forest economy. According to the Department of Forests, Parks & Recreation, this role has evolved, particularly due to several notable mill closures in the past two decades.

In many ways, the forest products industry has evolved alongside agriculture over the past few decades. One notable trend is the reduction in the workforce, reflecting the changes observed in the farming sector. Data from the Vermont Labor Department reveals that in 2023, only 11 individuals were employed in logging in the Region. In comparison, the wood manufacturing sector is much more active, employing 201 people.[19]

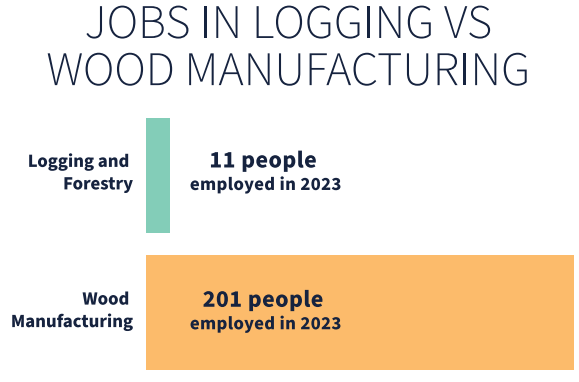


Figure 9.10

Employment in Logging compared to Wood Manufacturing in the Region. Credit: Vermont Department of Labor.

To thrive in today's competitive environment, the industry has embraced greater mechanization and adaptability, demonstrating a readiness to pivot toward niche markets when necessary. However, smaller operations often face challenges in securing the financial resources needed for equipment upgrades and other changes required to switch to new markets. Additionally, the forest products sector is actively grappling with urgent workforce challenges. A 2013 report from the Northeast State Foresters Association indicated that 58% of Vermont's logging business owners are over the age of 50, with 23% exceeding 60. The localized harvesting, milling, and marketing of forest products have become increasingly integrated into a national and global forest economy. Wood flows freely across state lines and international borders. The Region's highly sought-after hardwood attracts buyers from around the world, with a significant focus on Asia. Logs from the Region are processed and exported to markets and ports along the East Coast. With no pulp mills in Vermont, 54% of the Region's low-grade harvest is sent out of state for processing. The area hosts two paper companies that actively use local pulp: International Paper's Ticonderoga mill and Finch Pine's Glen Falls mill, both located in neighboring New York. The remainder of the low-grade harvest is used for heating in the form of cordwood, chips, or pellets.

Value-added products like pellets and mulch dominate the market, supported by a robust supply of wood material. Since its

The working landscape plays a role in the Region's heritage. Looking ahead, despite the loss of a major lumber mill in the Region, the logging and forest products industry remains a cog in the economy, thanks to the high quality of the Region's forests.

establishment in 2009, the Vermont Wood Pellet Company in North Clarendon has excelled in producing long-burning, highly efficient, and clean-burning pellets made entirely from wood, earning a stellar reputation in the pellet industry. The Gagnon Company in Pittsford stands out as one of the three local sawmills still thriving. It actively sources wood from local loggers and manufactures a range of value-added products. The bark mulch used in gardens incorporates sawdust. In contrast, bark, along with softwood and hardwood chips, contributes to leading organic products like Moo-Doo and fuel for pellet-heated schools in Rutland City, Pittsford, and Proctor.

Public perception of the forest industry remains a challenge for the logging sector. Logging often carries a negative image, and financial incentives for practicing it are declining. In many cases, land development offers greater financial returns for landowners. To support conservation, Vermont recently introduced a "reserved forestland" category under the Current Use program, enabling some landowners to enroll without actively logging. The program offers reduced property tax rates in exchange for keeping land undeveloped.

Conclusion

While agriculture and forestry make up a small share of the regional economy, their strong cultural roots continue to shape the rural character of the area. Strengthening these sectors offers clear benefits for sustaining and revitalizing rural communities. However, sustaining the working landscape and the jobs and businesses reliant on it is not guaranteed. The decline of small dairy farms exemplifies this reality. Across the Region, farmers and forest products workers are proactively adapting to remain competitive and to diversify the range of crops and products they offer. Their cultural significance and growth potential are evident. New, diverse crops and forest products, as well as opportunities in agricultural and forestry production, processing, and markets, are driving change across the Region. As the working landscape evolves, it continues to play a key role in sustaining rural communities, preserving regional heritage, and contributing to a more resilient and dynamic economy.

FUTURE TRENDS

Agricultural Industry – Regional Food Production

Despite the ongoing consolidation of dairy farms, the trend toward smaller farms is expected to persist, accompanied by an increasing diversification of farming operations. This evolution offers a valuable opportunity for the Region. The growing demand for organic food among consumers is expected to drive the expansion of foods grown in the Region. Additionally, regional farmers are poised to play a role in addressing food insecurity and supporting the New England Feeding New England initiative, which aims to enhance local food production and distribution. This effort is expected to help achieve the ambitious target of sourcing 30% of food locally by 2030, contributing to the broader goal of ensuring food security for all Vermonters by 2035 through the Vermont Food Security Roadmap. New solutions will be needed to help farmers adapt to the emerging challenges of extreme rainfall and other impacts of climate change, as discussed in the Climate Resilience Chapter (Chapter 11, page 333). By leveraging Indigenous farming wisdom, Agroecology and Regenerative Agriculture present solutions to enhance water quality, improve soil health, and increase the soil's carbon sequestration abilities, thereby directly contributing to reversing global warming.

Although dairy products continue to dominate Vermont's agricultural output, the agricultural economy has diversified significantly over the past twenty years and is expected to diversify further in the coming decades. An entrepreneurial spirit now pervades the industry, with many young individuals expressing interest in diversified farming practices, rather than solely focusing on dairy, within the State and the Region.[20]

To continue addressing the barriers to entry for new farmers, several programs have proven effective, including the Option to Purchase at Agricultural Value, the Farmland Access Program at the Vermont Land Trust, the Vermont Sustainable Jobs Fund's Farm to

Alternative Agriculture

The growing interest in agroecology, regenerative agriculture, and other innovative holistic farming methods is set to spark further advancements in this sector of the regional economy. Practices like no-till agriculture, where farmers intentionally refrain from plowing, and cover cropping, which involves growing plants specifically to cover the soil after harvest, are leading the way in sustainable farming. Moreover, adopting diverse crop rotations—planting multiple crops in succession over several years—and incorporating livestock grazing into these rotations are strategies that need to be widely adopted. These practices significantly enhance resilience, whether in the face of climate challenges or other disruptions.

Plate Program, the Vermont Forest Products Program, and the Farm to Plate Local Planning for Food Access Toolkit. These initiatives not only help new farmers enter the field but also support existing farmers in sustaining their operations and preserving agricultural jobs in the Region.

Agricultural Industry – Processing

Establishing more regional Food Hubs is essential to effectively process crops and ensure the hubs reach markets in response to the anticipated surge in production. The Vermont Farmers Food Center exemplifies the future of the agricultural industry in the Region, with a steadfast commitment to serving as a food hub and supply chain solution. Its primary objectives include expanding opportunities for local food distribution, enabling value-added processing to create innovative food products, and providing modern climate-controlled storage. These infrastructure upgrades are needed to help both new and established farmers thrive in a competitive and evolving marketplace.

Furthermore, the Region will require more meat processing facilities to meet the rising demand for locally sourced meats. Supporting this expansion will require financial incentives, such as grants, to reduce startup and operational costs and make facilities more accessible to producers. Reducing reliance on distant processing facilities will lower costs, improve logistics, and strengthen the Region's local food economy. The RRPC will be available to assist in securing these incentives.

To ensure local farms are adequately staffed, it is essential to provide migrant laborers with safe housing and necessary services. Prioritizing access to resources and targeted assistance for underserved communities—including BIPOC, economically disadvantaged groups, and aspiring new farmers—will expand the agricultural workforce and reduce barriers to entry, including steep learning curves faced by both new farmers and migrant laborers.

Agricultural Industry – Markets

The concerted effort to revitalize local and regional food systems is expected to continue. Increased consumer interest, coupled with a willingness to pay premiums for local products, has fostered the development of new markets for smaller-scale, niche businesses. This trend will open up wholesale and larger-scale opportunities for Vermont farmers, enabling them to expand beyond traditional commodity markets.

Vermont's strong reputation for high-quality food products will continue to position local producers to pursue out-of-state urban and local direct markets (selling directly to consumers through farmers markets, Community Supported Agriculture (CSA), and other channels). Direct markets allow farms to capture more income compared to wholesale, giving them more autonomy over the products they sell and the ability to foster customer relationships. The trend towards consolidation in wholesale markets favors larger producers.

Consumers in Vermont are spending more money on direct market channels as well, with sales increasing over 82% from $27.4 million in 2012 to $49.9 million in 2017. Direct-to-consumer sales in Vermont made up over 24% of total local food and beverage purchases in 2017 and 3.3% of overall food and beverage purchases.[22]

Results from the 2017 USDA Census of Agriculture show that direct sales positively impact the bottom line for Vermont farms, with average sales per farm through direct market channels more than double those in 2012.[21]

Equitable access to food cannot exist in the face of food insecurity. Everyone should have access to fresh, healthy, locally grown food, especially those who can least afford it and those who struggle physically to obtain it, including individuals living in shelters, food deserts, and those with physical limitations. The Vermont Sustainable Jobs Fund (VSJF) is committed to ending hunger in Vermont by 2035, a goal that will significantly benefit both those facing food insecurity and local food producers. The Food Security Roadmap to 2035 documents the way to achieve this goal. It includes VSJF's Farm to Plate Program, which is the most comprehensive initiative in the state for connecting locally grown food with restaurants and schools. This program focuses on food security and enhancing the viability of local farms: driving economic development and job creation within the farm and food sector, improving soil and water quality, and ensuring landscape resilience against climate change, while also increasing access to healthy local food for all Vermonters. Additionally, boosting local food production aligns with the New England Feeding New England campaign, which aims to source 30% of our food from local producers by 2030.

Forestry Industry – Regional Forests

The future of the Region's forest-based industry lies in effective forest management practices, including sustainable timber harvesting, ongoing control of invasive species, and stringent protection of water resources. Healthy forests are key for the Region's economic growth and the advancement of the forest products sector. These practices will generate jobs, support new product development, and ensure long-term forest health. Remaining competitive will require continuous investment in mechanization and emerging technologies, an ongoing challenge for many operations.

To effectively manage its forests, the Region must be able to adapt to the shifts in tree species expected from climate change. Projections indicate a shift toward more oak-hickory forests, while northern hardwood and spruce-fir forests—currently prevalent in the Region—are expected to decline. The Climate Resilience Chapter (Chapter 11, page 333) details the significant threat that climate change poses to sugar maples and maple syrup production, both of which rely on the delicate balance of cold spring nights followed by above-freezing daytime temperatures.

Smart Growth will be essential for adapting to climate change while maintaining or enhancing carbon storage and sequestration. The RRPC will work with municipalities to implement sustainable land use strategies in collaboration with landowners and industry stakeholders that promote effective forest management practices. The RRPC will also work with municipalities in promoting sustainable harvesting by encouraging enrollment in the State's Use Value Appraisal Program (Current Use), which offers property tax reductions to landowners who actively manage their forestland.

Forestry Industry – Processing and Crafting

Emerging opportunities in the forest products industry include a growing demand for cross-laminated timber (CLT) and other glue-laminated wood products. CLT is an engineered wood product created by bonding layers of lumber with structural adhesives, resulting in panels strong enough for use in walls, floors, and roofs. CLT offers a more sustainable alternative to concrete and steel and can be locally sourced, delivering both environmental and economic

Figure 9.11 Well-managed forest in the Region. This is an example of sustainable forestry practices.

[placeholder]

benefits.[23] Another new product, Tanbark, repurposes wood mill byproducts, such as sawdust and pulp, into sustainable, compostable packaging for food and consumer products. This innovation reduces waste, supports local sawmills, and contributes to a circular economy.[24] Similarly, TimberHP uses sawmill byproducts such as fiber to produce high-quality, renewable insulation. This eco-friendly alternative to conventional insulation promotes forest health and is backed by Efficiency Vermont.[25]

Attracting younger workers to the forestry sector is essential to ensure the vitality and longevity of this industry as the current workforce ages. These physically demanding fields require focused recruitment efforts, competitive wages, and meaningful financial incentives to not only encourage participation but also to sustain livelihoods and nurture the next generation of rural entrepreneurs. To remain competitive in a rapidly evolving economy, forest-based enterprises will need increased financial support to modernize operations and adopt emerging technologies. Persistent challenges—such as workforce shortages, rising labor costs, and the high price of innovation—demand coordinated action. Yet, the enduring strength, high quality, and growing demand for products from the Region's forests demonstrate that these obstacles can be overcome. With bold investment, thoughtful planning, and a commitment to innovation, forestry can continue to thrive and contribute meaningfully to the Region's economic future.

Conclusion

The working landscape remains a vital pillar of the Region's identity, deeply woven into its cultural fabric and economic future. It offers potential for growth, particularly in agriculture, where a variety of crops and value-added products can flourish. Improving access to fresh, healthy, local food helps combat food insecurity while creating pathways for economic advancement and agricultural innovation. To fully realize this potential, the Region must address persistent challenges: a declining and aging workforce, outdated land use policies, and insufficient infrastructure for processing, marketing, and distribution.

Both sectors demand renewed focus and investment to support value-added enterprises, promote sustainable practices, and attract a new generation of skilled workers. Forest-based businesses, in particular, require enhanced financial support to modernize operations and integrate emerging technologies, while competitive wages and career pathways are essential to draw and retain young talent. At the same time, agriculture and forestry are uniquely positioned to contribute to the Region's climate resilience, offering nature-based solutions to reduce greenhouse gas emissions and steward the land for future generations.

Despite these challenges, the high quality and enduring demand for the Region's farm and forest products offer a strong foundation. With planning, targeted investment, and collaborative action, these industries can help shape a resilient, prosperous, and sustainable future for the Region.

The following section outlines the Region's policies and actions for encouraging and strengthening its agricultural and forestry industries. These policy recommendations are grounded in data, community input, and state and federal priorities. Progress will be measured through a set of indicators designed to track implementation and ensure accountability as the Region works to achieve its working landscape goals.

What's Next?

Goals

1) Encourage and strengthen agricultural and forestry industries.

Policies

1) Future residential, energy, and commercial development should be compatible with the preservation and viability of existing agricultural and forestry industries, particularly within Rural FLUAs.
2) In municipalities with significant Rural Agriculture and Forestry FLUA, local bylaws and ordinances should minimize the loss of productive forests and farmland.
3) In municipalities with significant forestry industries and forest blocks, local bylaws and ordinances should minimize the loss of forestry uses, deforestation, and fragmentation, and enhance climate resilience.
4) The development of local food production is encouraged in Rural FLUAs to strengthen the agricultural economy and should include components that increase equity and food security.
5) The development of local food hubs, co-packing and other processing facilities is encouraged in Growth FLUAs, including Enterprise Areas, that have access to freight transportation infrastructure.
6) The development of local food marketing, such as farmers markets, is encouraged within Growth FLUAs, especially Downtown and Village Centers.
7) The development of forestry processing is encouraged in Rural FLUAs, and the development of forestry craft products is encouraged in Growth FLUAs, including Enterprise Areas.
8) Working landscape planning and decision-making should include opportunities for meaningful participation.

Actions

1) Assist with the redevelopment and expansion of the Vermont Farmers Food Center through brownfields planning, technical assistance, and grant writing.
2) Assist with the study, identification, and development of agricultural and forestry practices and products.
3) Assist with developing municipal plans, bylaws, and studies aimed at reducing parcelization by development in interested municipalities that have significant agricultural and forestry industries.
4) Assist with determining the feasibility of adding more local food facilities for co-hubs, processing, and co-packing.
5) Assist with developing local plans to improve food insecurity and equity.

Indicators of Progress

1) Number of Farms
2) Number of Food Hubs, Processing, and Co-Packing Facilities
3) Number of Farmers Markets and Community Supported Agriculture (CSAs)
4) Number of Forest Industry Jobs

NATURAL RESOURCES

INTRODUCTION

LAND USE

ECONOMIC DEVELOPMENT

CULTURAL RESOURCES

TRANSPORTATION

HOUSING

COMMUNITY FACILITIES AND PUBLIC UTILITIES

ENHANCED ENERGY

WORKING LANDSCAPE

NATURAL RESOURCES

CLIMATE RESILIENCE

NEIGHBORING PLANS

PLAN IMPLEMENTATION

INTRODUCTION

The Rutland Region (the Region) seeks to maintain and improve the quality of air, water, wildlife, forests, and other land resources while promoting the wise and efficient use of these natural resources and appropriate extraction of earth and mineral resources. This approach helps ensure the area is properly restored and its aesthetic quality preserved. The Natural Resources Chapter outlines current conditions, informed by research and public engagement (see Engagement Report, Appendix A1.2, page 417), as well as trends shaping the future of natural and earth resources in the Region. It concludes with regional policies and RRPC-specific actions designed to achieve the natural resource goals.

HEALTHY, EQUITABLE, RESILIENT COMMUNITIES

Maintaining and improving the Region's natural resources in a healthy, equitable, and resilient way required recognizing their interconnectedness. An ecosystem comprises the dynamic balance between plants, animals, and their surrounding environment. Ecosystems in the Region generally fall into two types: aquatic and terrestrial. Aquatic ecosystems exist in water, like lakes, ponds, rivers, and streams. Terrestrial ecosystems are found on land and include forests. Every part of an ecosystem depends on every other part.

Healthy communities are inseparable from high-quality natural resources. The Region benefits from the quality of groundwater, surface waters, and air. Ecosystems, both aquatic and terrestrial, thrive on exceptional natural resources, such as clean water and air. These elements are key for fostering a strong and beneficial relationship among all living organisms. The health of residents is closely linked to the well-being of the Region's ecosystems. Environmental health science—the study that explores the link between health and natural resources—has extensively documented the positive impacts of these resources on human health and well-being. For instance, clean air and water play vital roles in preventing respiratory and waterborne illnesses, while forests actively purify the air around us. Access to high-quality natural resources significantly enhances mental well-being by reducing stress, boosting mood, and improving cognitive function. Therefore, ensuring broad and equitable access to the Region's abundant, high-quality natural resources is crucial for enhancing the health of the Region's communities.[1]

Achieving equity requires the elimination of threats to the Region's natural resources. Pollution from harmful plastics and chemicals can contaminate the air, water, and food that residents rely on, ultimately affecting their health. Certain groups and areas disproportionately suffer from pollution. This includes outdoor workers and recreational users, who are vulnerable to bacteria, viruses, or parasites; individuals

Figure 10.1 Scenic Chittenden Reservoir: A reflection of the Region's clean air, clean water, and healthy forest. Credit: Mike DiMeola

experiencing homelessness; residents in flood-prone zones; and those at increased risk due to age, health conditions, or specific medications. Even individuals in good health may lack the financial means to reduce their exposure to risks, prevent harmful effects, or recover when problems arise. Communities can only achieve true equity by taking proactive steps to protect those who are most susceptible to pollution.

To achieve resilience, communities must have high-quality natural resources that thrive and grow, even under stress. Resilience requires establishing strict standards to protect public health and safety against pollution, climate change, and other urgent threats. Essential standards include effective floodplain protection and restoration, as outlined in the Climate Resilience Chapter (Chapter 11, page 333). Moreover, resilience entails promptly restoring the integrity of natural resources after any damaging events and proactively implementing measures to protect these resources beforehand. While it is impossible to predict the exact challenges that may test community resilience, the Region stands significantly stronger when diverse ecosystems remain intact. By preserving these ecosystems, the Region minimizes adverse impacts and enhances the likelihood of natural recovery, thereby reducing the need for human interventions.

Ensuring the equitable access and preservation of natural resources supports public health and environmental justice. It is also key to the long-term economic stability and growth of the Region. Healthy ecosystems decrease public spending on healthcare, disaster recovery, and infrastructure damages, while also supporting industries like agriculture, tourism, and outdoor recreation. Human actions affect both ecosystems and human well-being. Nature provides four main types of services that support life: provisioning, regulating, cultural, and supporting services. These are referred to as Ecosystem Services.

Investing in clean air and water, maintaining resilient landscapes, and preventing pollution can lead to economic benefits and lower future costs. Mitigating inequities for socially marginalized groups and ensuring that all communities can access and benefit from natural resources not only strengthens the workforce but also improves overall quality of life and fosters a more sustainable and competitive regional economy.

ECOSYSTEM SERVICES

1) Provisioning Services: These are the things directly obtained from nature, like food, water, wood, natural gas, and medicine. Examples include fruits, vegetables, fish, livestock, and trees.
2) Regulating Services: Nature helps keep the environment healthy and balanced. Trees clean the air, plants filter water, bees pollinate flowers, and roots prevent soil from washing away.
3) Cultural Services: Nature also supports our mental, emotional, and social well-being. It inspires art, music, and traditions, and provides places for fun and relaxation, like parks and forests.
4) Supporting Services: These are the natural processes that keep ecosystems going. Things like photosynthesis, the water cycle, and soil formation help all other services work. Without these, life on Earth would not be possible.[2]

CURRENT CONDITIONS

At the heart of the Region's natural landscape and rural character are its extraordinary natural resources, which are vital for its economic, ecological, and physical well-being. Respondents to this Plan's public engagement survey emphasized that natural resources are the Region's foremost strength and asset (see the Engagement Report, Appendix A1.2, page 417). This robustness is best demonstrated by the rich diversity of plant and animal life, alongside the extensive network of connected natural areas that define the Region. A thriving ecological landscape allows plants and animals to flourish, reproduce, migrate, and adapt to changes in land use and climate fluctuations.

"[The] Rutland Region's greatest strength is our natural environment for people to connect to the land while living in close-knit rural towns. Clean air is something everyone talks about when coming to Vermont from other big city states… It's beautiful here. Nature in this state is a big selling point."

Maintaining and enhancing the quality of air, water, wildlife, and forests—while using these natural resources wisely and efficiently and extracting earth resources responsibly (24 V.S.A. § 4302) requires a balanced approach that emphasizes careful planning, consideration of potential impacts, and economic opportunity. A key guiding principle for Vermont and the Region is ensuring these natural resources remain available for future generations.

The Vermont Agency of Natural Resources (ANR) holds primary responsibility for overseeing and managing these resources. In their own words, "ANR endeavors to draw from and build upon Vermonters' shared ethic of responsibility for our natural environment, an ethic that encompasses a sense of place, community and quality of life, and an understanding that people are an integral part of the environment and that all residents must be responsible stewards for this and future generations."[3]

ANR has three departments that manage different types of natural resources. The Department of Environmental Conservation (DEC) manages programs that protect air and water quality, limit pollution, and reduce waste streams. The Fish & Wildlife Department (DFW) administers the state's hunting, fishing, and wildlife conservation programs. Lastly, the Department of Forests, Parks, and Recreation (DPR) oversees the conservation and management of Vermont's forest resources, as well as the operation and maintenance of the State Park system. All three departments advance goals in their respective domains, promoting to Vermonters and visitors alike the importance and benefits of clean water and air, biodiversity, and responsible outdoor recreation.

In this way, the State offers a framework that sets general guidelines for the conservation of natural resources. How this framework manifests in the Region is the focus of this chapter. Specifically, this chapter will explore the use and value of the Region's natural resources, their role in the regional economy, and the current and emerging pollutants and stressors that threaten their quality. This baseline established the foundation for tracking progress toward the Region's goal of maintaining and improving natural resource quality, as outlined in the Future Trends and Implementation section.

Air

A layer of gases known as the atmosphere surrounds the Earth and contains elements that are essential for human, plant, and animal life. Air's primary components, namely nitrogen and oxygen, are cycled between organisms and the environment to support the production and use of organic energy. Certain natural resources, such as wetlands, trees, and soils, provide clean air as an environmental service, filtering out pollutants like carbon monoxide, ozone, and nitrogen oxides. In addition, air acts as a medium for weather patterns, helps regulate temperature, and shields life from harmful radiation. Locally, the presence of clean air benefits the Region by safeguarding the health of those who live, work, and play throughout the Region.

Vermont has Air Pollution Control Regulations that prohibit or limit a variety of air contaminants or emissions, define air quality levels deemed adequate to protect human health, and outline requirements for air monitoring. The DEC manages air monitoring, which involves measuring levels of common pollutants and meteorological parameters, such as wind speed and direction, temperature, and precipitation. Sampling and analyses for numerous air toxic compounds (e.g., benzene) are conducted at State and local air monitoring stations. For more information about the air monitoring network, see the 2025 Vermont Annual Air Monitoring Network Plan, which is housed on DEC's website.

Air is considered "healthy" when the levels of criteria pollutants — including carbon monoxide, lead, ground-level ozone, particulate matter, nitrogen dioxide, and sulfur dioxide – are kept within limits that aim to protect public health, especially for at-risk populations, with an adequate margin of safety.[4] Data indicate improvements in air quality in the Region over the past 20 years. However, the Region has only one air quality monitoring site, located behind the US Courthouse in downtown Rutland. With only four sites across the entire state, data availability for both the state and the Region remains limited. The primary pollutants of concern in the Region are ground-level ozone and nitrogen oxides, which are monitored due to their impacts on respiratory health and their role in smog formation.

The Environmental Protection Agency (EPA) data show that Rutland is making progress in reducing nitrogen oxide levels, a significant air pollutant that contributes to smog and ozone. These levels decreased from 0.049 parts per million in 1993 to 0.031 parts per million in 2023. Similarly, ozone levels are also declining; data since 2018 reveals a reduction from 0.063 parts per million to 0.058 parts per million by 2023.

Ozone pollution significantly increases during the summer months, especially in warm and sunny weather. This pollution often moves from urban areas into southern Vermont. In the summer of 2023 and again in 2025, multiple air quality alerts reported a noticeable rise in ozone levels and particulate matter—tiny particles generated by the flames—that can severely harm the respiratory system. Both pollutants damage the airways, frequently leading to coughing, scratchy throats, and shortness of breath.

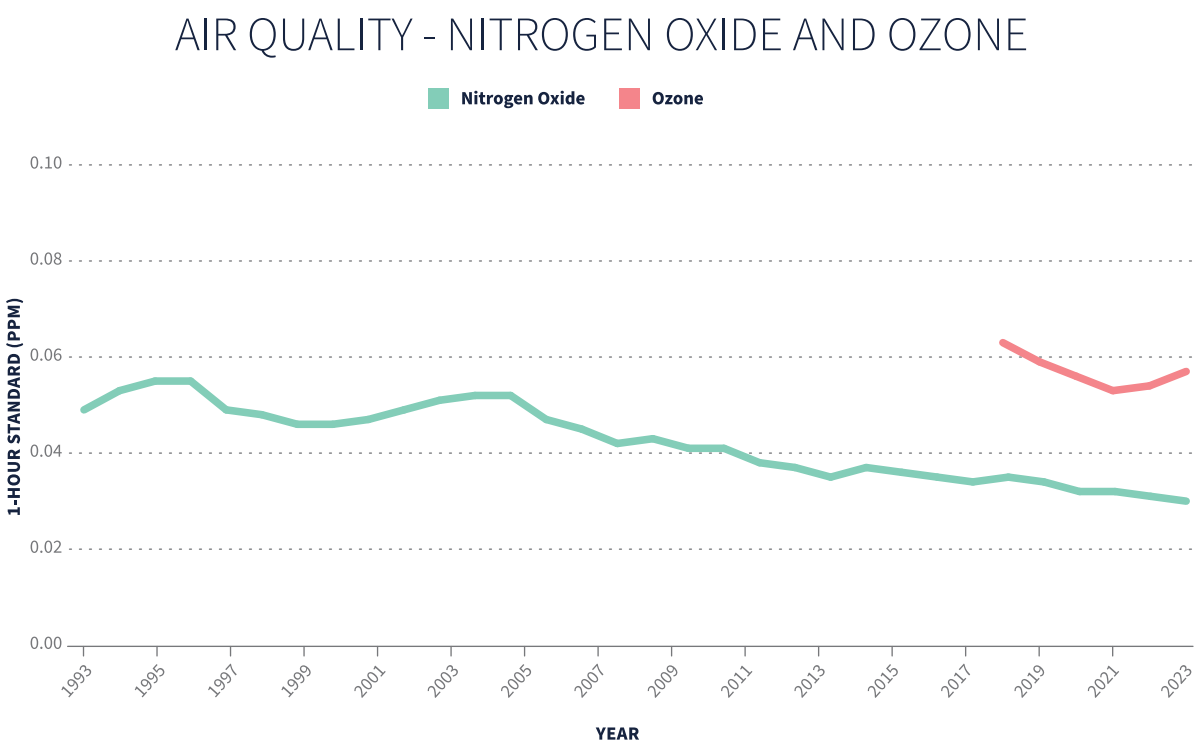


Figure 10.2

Air quality trends in the Region: Nitrogen Oxide levels have declined since the 1990s; Ozone monitoring since 2018 (when testing began) shows a slight downward trend. Credit: U.S. Environmental Protection Agency

It is vital to protect the health of sensitive groups, such as those with asthma, children, and the elderly, highlighting the necessity of maintaining safe levels of particulates and ozone in the atmosphere.[5]

Air pollution does not only come from local sources. A significant contributor is transported air pollution, also known as cross-state or interstate air pollution, which includes pollutants carried by wind from one location to another. This can adversely affect air quality and public health in downwind areas. Because of prevailing wind patterns from the west, the Region is susceptible to pollutants that can travel hundreds of miles, interacting chemically in the atmosphere to form harmful substances like soot and ground-level ozone. A major source of these pollutants is transportation-related activities, which exacerbate respiratory and cardiovascular issues, especially among groups experiencing lung health issues. Additionally, these pollutants contribute to problems like acid rain, smog, and damage to ecosystems, complicating downwind states' efforts to meet air quality standards.[6] For more details on transportation pollution, refer to the Transportation Chapter (Chapter 5, page 129).

Enhancing air quality in the Region stands as a critical environmental and economic priority. The Vermont Department of Health reports that air pollution leads to around 300 premature deaths annually in the state, burdening healthcare costs that exceed $100 million. In Rutland, where outdoor recreation

and tourism are vital to the local economy, poor air quality threatens revenue and job security. Furthermore, air pollution exacerbates chronic conditions like asthma and cardiovascular disease, resulting in increased absenteeism and reduced productivity in the workforce. By actively investing in clean energy, public transportation, and emissions reduction strategies, the Region not only protects public health but also boosts economic performance and fosters long-term regional sustainability. These strategies can be read in further detail in the Transportation Chapter (Chapter 5, page 129) and the Enhanced Energy Chapter (Chapter 8, page 239).

Surface Water

The Region, characterized by the prominent Green Mountain and Taconic ranges, is dotted with a variety of water features, including lakes, ponds, rivers, streams, wetlands, pools, waterfalls, and marshes. Among the largest bodies of water are Lakes Bomoseen, St. Catherine, Hortonia, and Glen, as well as Perch Pond and the Chittenden Reservoir. The Otter Creek, the longest river in the state, winds its way through the Region from south to north. Together with the Poultney and Mettowee Rivers, along with numerous tributaries, they create two major

Light Pollution

Air quality also significantly impacts the visibility of the night sky. This phenomenon, known as light pollution, prevents the night sky from reaching full darkness. Light pollution is spreading throughout the Region and into neighboring areas of New England. The detrimental effects of artificial light are well-documented. It creates glaring hot spots that hinder visibility after dark. Light pollution poses serious health risks, contributing to an increased likelihood of sleep disorders, depression, weakened immune systems, and conditions such as Alzheimer's disease. Additionally, recent studies indicate that both wildlife and plant life are adversely affected by this issue. Preserving dark skies is vital, not just for maintaining the biological rhythms of residents but also

Figure 10.3

Not being able to see fully dark skies is the result of light pollution which is caused by street lights and commercial lighting. There are detrimental effects from this encroachment of artificial light. Copyright Donna Wilkins

for safeguarding the natural light/dark cycles that govern days and nights. In recent years, organizations like Vermont Dark Sky have emerged to protect the state's nocturnal environment while also promoting night tourism events and attractions.

watersheds within this picturesque area: the Otter/Lewis and Poultney-Mettowee.

These are all examples of surface water, which, as the name implies, is water located on top of land. The majority of surface water is produced by precipitation, including inputs from snowmelt that occur with the warming of the climate each spring. The uses for surface waters are many, and the value provided by clean surface waters cannot be overstated. In the Region, surface water is used to provide drinking water, irrigate farmland, provide habitat for plant and animal species, sustain ecological cycles, run wastewater treatment plants, power hydroelectric dams, and support forms of recreation such as swimming and fishing. Surface water also plays a critical role in flood mitigation and stormwater management, particularly as the climate increases the frequency and intensity of precipitation events. The relationship between land use impacts and the interconnectivity of water ultimately determines the quality of the Region's surface waters and its ability to manage flooding and stormwater runoff. The Climate Resilience Chapter (Chapter 11, page 333) provides further details on this topic.

The DEC's Watershed Management Division is responsible for managing the quality of Vermont's surface waters. Guiding the Division are three primary goals: to protect, maintain, enhance, and restore the biological, chemical, and physical integrity of all surface waters; to support the public use and enjoyment of water resources; and to protect public health and safety. The Vermont Surface Water Management Strategy is a comprehensive resource that aims to manage stressors responsible for pollutants that degrade water quality, rather than focusing on individual pollutants themselves. For more information about Vermont's goals, objectives, and mechanisms for sustaining clean surface waters, readers should look to the Strategy on the DEC's website.[7]

The Watershed Management Division covers three programs – Wetlands, Rivers, and Lakes, each contributing to the science-based management and permitting of surface waters. The Wetlands program identifies and protects the function and values of wetlands through the implementation of the Vermont Wetland Rules. This law defines the criteria for evaluating a wetland's significance, outlines its allowed uses, and provides a framework for rulemaking petitions and permit requirements. The Rivers program oversees the protection and restoration of natural river and floodplain processes and is divided into three sections: Streamflow Protection, River Management, and River Corridor and Floodplain Protection. Lastly, the Lakes and Ponds program works to protect, maintain, enhance, and restore the health of lakes, as well as the public uses these ecosystems provide. The Rivers and Lakes Programs are supported through a combination of regulatory programs, permitting, technical (both regulatory and non-regulatory) assistance, monitoring and assessment, planning, and education and outreach.

Vermont classifies its surface waters into four categories: A(1), B(1), B(2), and A(2), with A(1) and B(1) requiring the highest water quality standards. In the western part of the Region—including the South Lake Champlain Basin within Basins 2 and 4—waters are generally managed to meet Class B(2) standards,

which indicate a "good" condition according to Vermont's Water Quality Standards. Many of these waters could qualify for reclassification to higher standards, such as B(1) or A(1), if they meet the necessary criteria.[8] Basin 3, located in the eastern part of the Region and encompassing Otter Creek, is also managed for Class B(2), although it faces additional challenges due to degradation and impairments.[9]

The Region features two Class I wetlands that receive the highest level of protection in Vermont: the Tinmouth Channel in Tinmouth and Ward Marsh in West Haven. Wetlands typically coexist with lakes, ponds, rivers, and streams, but they can also occur in areas where the landscape allows for water accumulation or where groundwater surfaces. There are 1,277 acres of Class I wetlands in the Region and 38,947 acres of Class II. Class III wetlands are not mapped. More information on wetland protection areas is available in the Land Use Chapter (Chapter 2, page 37).

Lakes, ponds, rivers, streams, and wetlands are also important aquatic habitats for fish, aquatic plants, invertebrates, and other organisms in the Region. Mature trees provide shade for these aquatic habitats, which lowers water temperatures, and vegetated buffer zones enhance water quality by filtering runoff (a natural cleansing process). Additionally, this vegetation stabilizes lakeshores and streambanks, preventing erosion. These

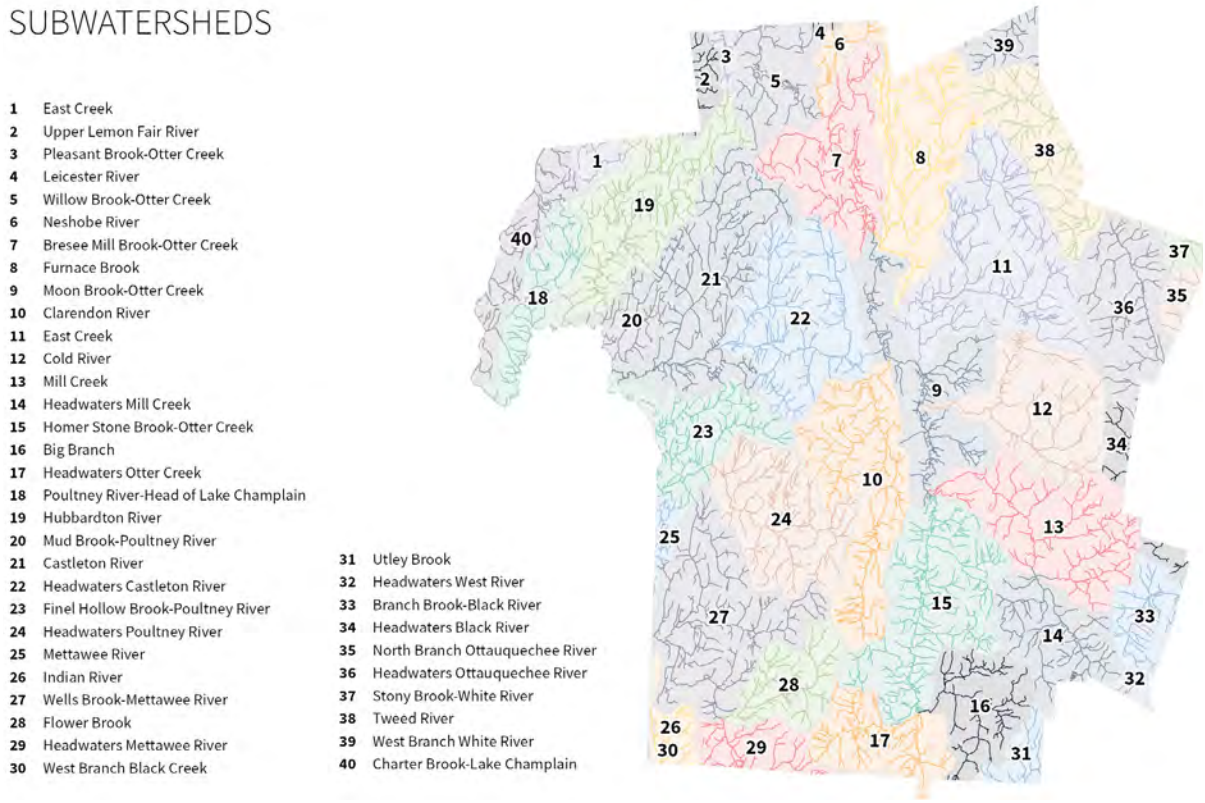


Figure 10.4

A map of the Region's subwatersheds. There are 40 smaller drainage basins that feed into larger watershed systems. Credit: Vermont Center for Geographic Information.

zones are essential for maintaining drinking and recreational water quality while shielding surrounding lands from flood and ice damage. In the water, downed trees, leaves, and organic materials boost aquatic systems.

Polluted runoff—consisting of rainwater and snowmelt from parking lots, roads, logging routes, agricultural fields, and well-maintained lawns—introduces harmful sediments and nutrients, particularly nitrogen and phosphorus, into the waterways of the Region and Lake Champlain. Climate change and an increase in heavy rains, as noted in the Climate Resilience Chapter (Chapter 11, page 333), intensify runoff events. South Lake Champlain (segments A and B), the narrow and shallow section of the lake within the Region, is especially vulnerable to the impacts of pollution. Phosphorus sources include agricultural runoff, streambank erosion, runoff from developed lands (such as roads, parking lots, and lawns), wastewater treatment plants discharge, and runoff from forest harvesting operations and forest roads.[10] Phosphorus concentrations above targeted limits have been observed in the shallow waters of the South Lake A segment.[11]

Phosphorus can cause cyanobacteria blooms and unpleasant odors, and lead to low dissolved oxygen concentrations, impaired aquatic life, and reduced recreational use.[12] Cyanobacteria blooms can sometimes produce toxins (cyanotoxins) that can be harmful if ingested by people, pets, or wildlife. Fortunately, cyanotoxins are rarely detected in the Region or Lake Champlain, even in shallow areas such as the South Lake A segment.[13]

While most monitored surface waters meet or exceed state water quality standards, some local water bodies need restoration and ongoing monitoring. For example, the Chittenden Reservoir is affected by mercury contamination in fish. Additionally, three lakes in Mount Tabor—Big Mud Pond, Little Pond, and Long Hole Pond—are suffering from acidic particles deposited from the atmosphere as a result of acid rain. A section of Lake Champlain in Benson is facing severe issues with phosphorus pollution.

The rivers in the Region currently facing impairment include sections of Tenney Brook, East Creek, Otter Creek, Moon Brook, and Mussey Brook in Rutland City, along with the Hubbardton River in Benson, which face

Vermont Wetland Rules

The Vermont Wetland Rules establish a three-tier classification system for wetlands. Class I wetlands are considered “exceptional or irreplaceable” due to their contributions to Vermont’s natural heritage. Class II wetlands include those that appear on the National Wetlands Inventory or are adjacent to mapped wetlands. Class III wetlands have not yet been evaluated. State regulations require a 100-foot buffer for Class I wetlands and a 50-foot buffer for Class II wetlands.

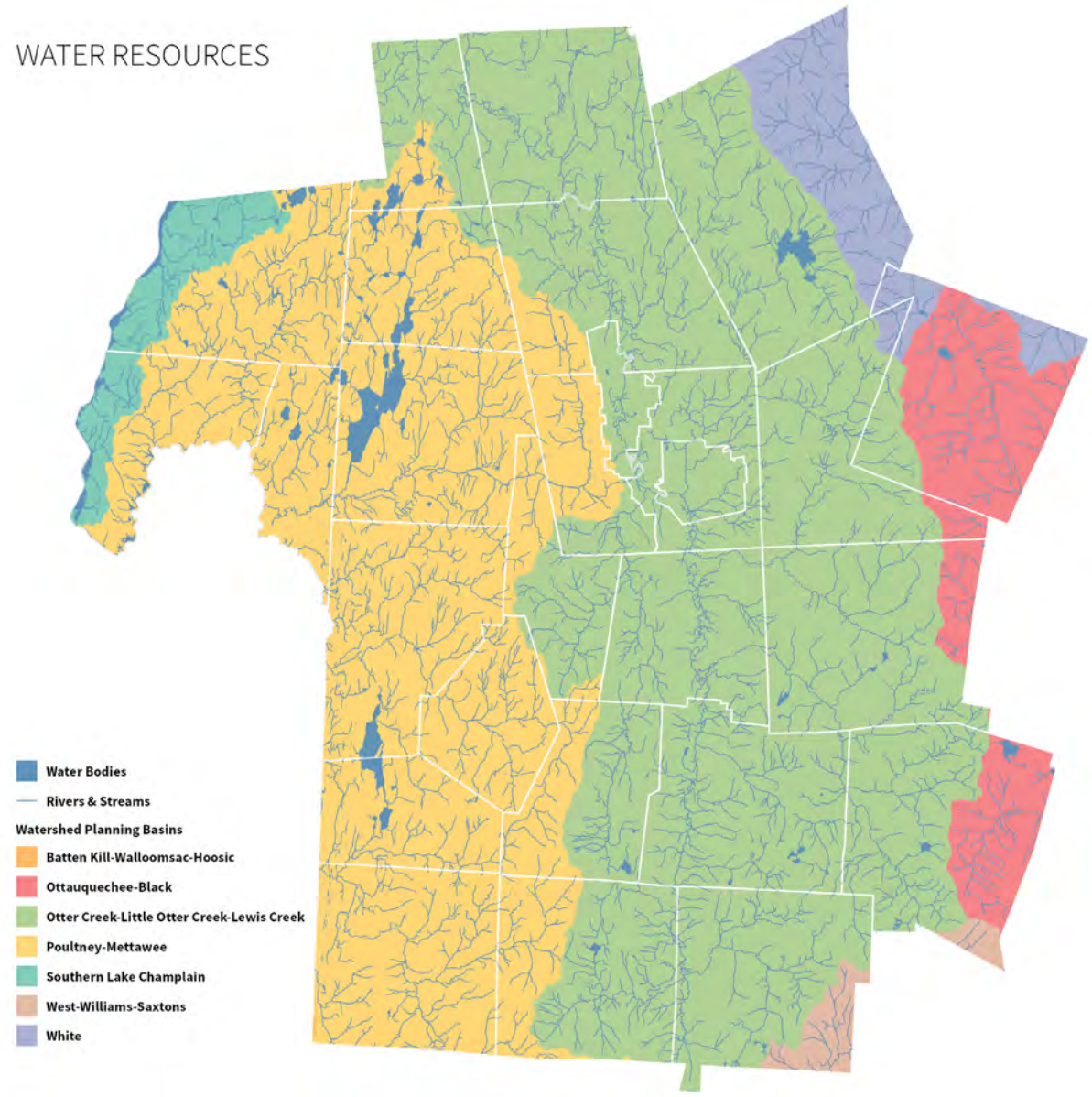


Figure 10.5

Water resources of the Region: Watersheds, Lakes, Rivers, and Streams supporting the Regional ecosystem and communities. Credit: Vermont Center for Geographic Information.

challenges by nutrient overloads stemming from municipal and private septic wastewater discharges and agricultural runoff. Furthermore, the Poultney River in West Haven is affected by mercury contamination, while the Mettowee River, Flower Brook, and an unnamed tributary in Pawlet deal with E. coli bacteria and pollutants leaching from landfills.[14]

In Rutland City, factors contributing to river impairment include elevated water temperatures, E. coli contamination, pollutants from urban stormwater runoff, and combined sewer overflows (CSOs). During heavy rainstorms, the combined sewer system discharges wastewater and stormwater into surface waters, introducing significant pollutants. Over the past decade, millions of

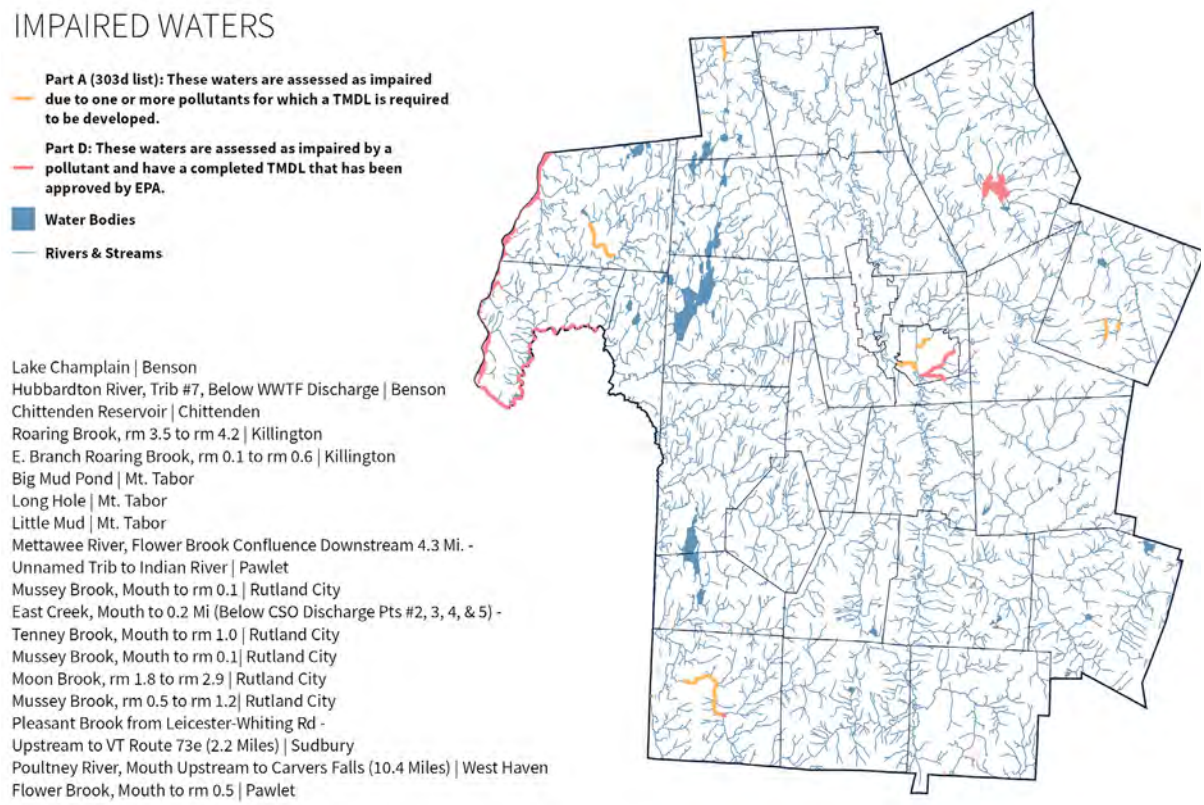


Figure 10.6

Impaired water segments in the Region: Rivers and Lakes with documented pollution or water quality issues.

gallons of CSOs containing partially treated sewage and stormwater have flowed from Rutland City into Otter Creek and downstream. In 2024, the City reported a low-end estimate of 1.6 million gallons of CSO discharges to the state for that year.[15] This pollution affects downstream areas and can lead to potential environmental injustice, whereby communities downstream bear the burden of pollution generated upstream. The City is taking action to mitigate CSO impacts and has already separated the combined system in some neighborhoods, while exploring CSO storage solutions in other areas.

To address nutrient and pollutant issues in the Region's Lake Champlain segments, the South Lake Champlain Clean Water Service Provider (CWSP) launched in 2022 with the RRPC and the Poultney Mettowee Natural Resources Conservation District. The South Lake CWSP identifies and implements water quality projects aimed at reducing phosphorus entering Lake Champlain. These proactive efforts are essential to meet the

The RRPC, together with the Poultney Mettowee Natural Resources Conservation District, serves as the Clean Water Service Provider for the South Lake Champlain Basin.

stringent targets set by the EPA's Lake Champlain Phosphorus Total Maximum Daily Load (TMDL) requirements. Projects funded by the CWSP prioritize nature-based solutions as powerful and cost-effective strategies to combat nutrient loading and address the impacts of climate change.

Projects range from large-scale to community-based initiatives: In Fair Haven, actively stabilizing a stream and its banks effectively mitigates erosion and manages high-velocity storm flows while reconnecting to the floodplain. In Pawlet, a wetland adjacent to the school is being restored. In Castleton and Benson, stormwater drainage problems are being tackled. In Benson, significant erosion affecting private properties along Lake Champlain is being resolved. In Pittsford and Poultney, significant erosion issues along small streams and tributaries to the Poultney River are being addressed. South Lake Champlain CWSP funding is also being allocated to ensure that all projects function as designed and are properly maintained for their anticipated lifespan. In the eastern part of the Region, the Otter Creek Basin CWSP, managed by the Addison County Regional Planning Commission, ensures a strong and coordinated approach to water quality improvements for Lake Champlain. See the Climate Resilience Chapter (Chapter 11, page 333) for precipitation trends and floodplain restoration strategies.

Groundwater

Water that exists beneath the Earth's surface in the cracks and spaces in soil, sand, and rock is known as groundwater. Similar to surface water, groundwater is replenished by precipitation (albeit at a slower rate, as it needs time to percolate through soil), utilized for drinking water and irrigation, and can be affected by pollutants released into the environment. Groundwater is, in fact, intricately

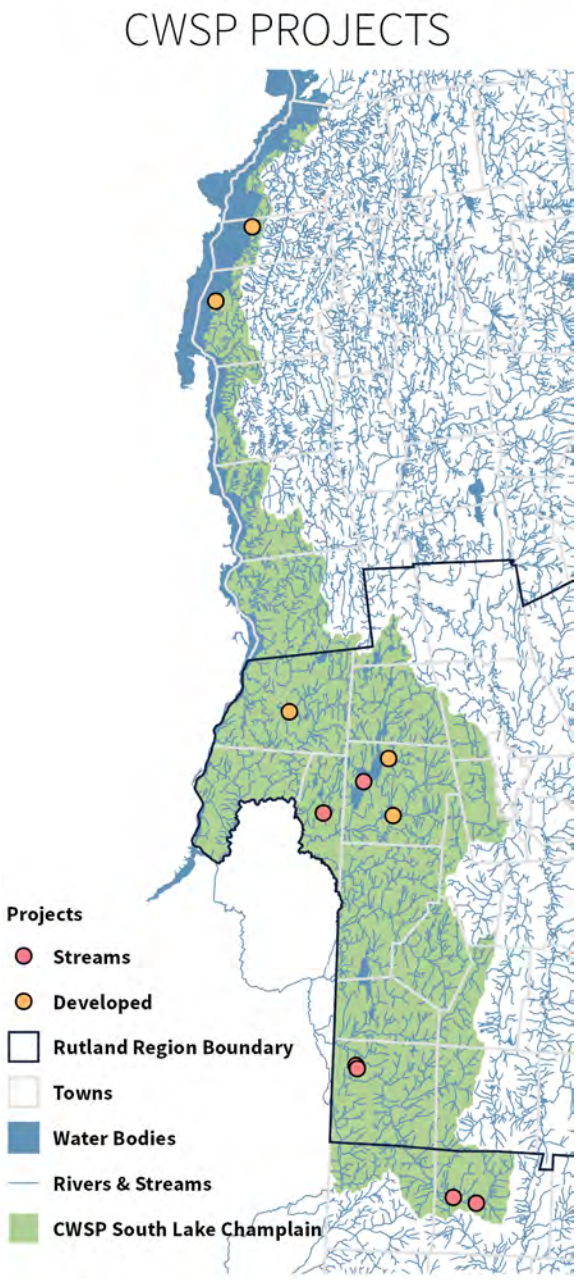


Figure 10.7

A map of South Lake Champlain Clean Water Service Provider (CWSP) Area with project locations addressing water quality in the Lake Champlain Basin. Credit: Vermont Clean Water Initiative Program

connected to surface water. As groundwater moves in the subsurface, it can feed into and receive water from streams, rivers, lakes, and wetlands. The ability of small streams to maintain flow during droughts stems from steady and reliable groundwater discharge. Aquifers can serve as storage areas during flooding events to minimize their impacts. Solutes from underground are transferred from groundwater to surface water, and pollutants from surface waters can be filtered and bound in sediment. It is these interactions and cycles that help sustain human health and environmental services.

A comprehensive groundwater management program is outlined in Vermont legislation under Title 10, Chapter 48. This law establishes the policy for managing groundwater, regulates its withdrawal as a public resource for the benefit of Vermonters, and minimizes groundwater quality deterioration by regulating activities that pose a risk to it. This management also requires balancing the state's groundwater policy with the need to maintain and promote a healthy and prosperous agricultural community (see the Working Landscape Chapter (Chapter 9, page 271), while holding groundwater resources in trust for the public. The related Groundwater Management Plan outlines goals and actions to fulfill the intent of 10 V.S.A. 48; this, combined with the Groundwater Protection Rule and Strategy, can be referred to for more information on groundwater management objectives and approaches.[16]

Most of the Region outside of Downtown and Village Centers relies on private wells for drinking water. Wells extract groundwater from aquifers formed by fractured bedrock, which is continuously replenished and filtered as it moves through the earth. To ensure groundwater meets the standards for drinking water and is safe for consumption, regular testing is important. Refer to the Regional Future Land Use Map's Rural Conservation category for more information on aquifer protection in the Land Use Chapter (Chapter 2, page 37).

Ultimately, water quality is influenced by the management of stressors. These can include the application of pesticides and fertilizers to the land, as well as the use of salts on roads, waste from livestock and other animals, mining operations, and unintentional releases from chemical spills or storage tank leaks. Where it is not a natural occurrence, high levels of dissolved solids (i.e., salinity), metals found in rock formations (e.g., arsenic), and biological contaminants like bacteria and viruses can pose significant risks. The State regulates public water supplies for these factors, but private wells frequently remain unmonitored, placing the responsibility on landowners to assess their water quality and take necessary precautions. Additionally, many residential septic systems installed before Vermont's regulations inadequately treat septic discharge, resulting in pollution leaking into groundwater.

Of particular concern are hazardous materials resulting from historical industrial activities, including spills, leaks, or improper storage. Areas identified as contaminated are referred to as brownfields. The RRPC actively manages the Region's Brownfields Reuse Program, which focuses on the remediation of sites threatened by soil contamination or polluted drinking water sources.

The redevelopment of these sites directly supports economic growth in the Region, as suggested in the Economic Development Chapter (Chapter 3, page 79).

Recent findings highlight that chemicals from per- and polyfluoroalkyl substances (PFAS), often referred to as forever chemicals, are contaminating the groundwater in the Region. PFAS do not easily degrade and can remain undetected in the environment for centuries. Their resistance to heat, stains, grease, oils, and water has made them common in products like popcorn bags, fast food wrappers, single-use food containers, non-stick cookware, and cleaning agents. Over 9,000 types of PFAS have been identified, but Vermont only regulates five of them. The Vermont PFAS/Military Poisons Coalition[17] collects water samples throughout the state to analyze both regulated and unregulated PFAS. The US Centers for Disease Control warns that PFAS directly cause serious health issues, including kidney cancer, testicular cancer, decreased fertility, thyroid disease, and liver damage.

In 2019, Killington discovered that eight distinct water systems across the town were contaminated. Following the detection of PFAS at the Rutland Southern Vermont Regional Airport in Clarendon in 2018, the State proactively mapped the underground flow of these harmful chemicals to assess their spread. The results revealed that the chemicals had traveled into the groundwater much faster and farther than anticipated, significantly complicating remediation efforts. At the Mount Holly School, officials uncovered PFAS contamination in the drinking water in 2019, leading the school to rely on bottled water while determining the most effective actions to tackle the issue.

Microplastics are another toxic chemical threat in the environment. As the Region's understanding of microplastics evolves, one key fact emerges: discarded plastics continuously break down into smaller fragments, ranging from the

WHERE DO PFAS COME FROM?

Figure 10.8
Common sources of PFAS exposure: Everyday products that contribute to the presence of per- and polyfluoroalkyl substances. Credit: Vermont Department of Environmental Conservation.

size of a pencil eraser to that of a DNA strand, making these fragments ubiquitous. These tiny particles can infiltrate individual cells and tissues, disrupting essential biological functions. Moreover, fruits and vegetables can absorb microplastics through their root systems, underlining the urgency of addressing this issue. Microplastics have also been detected in human bodies, including lungs, maternal and fetal placental tissues, human breast milk, and human blood. These particles can easily bypass water filtration systems, leading to the contamination of waterways. Aquatic life and birds often mistake microplastics for food, endangering ecosystems. Importantly, microplastics can carry hazardous contaminants such as PFAS. Ongoing studies suggest that microplastics are likely widespread throughout the environment. See the Community Facilities and Public Utilities Chapter (Chapter 7, page 199) for more on public water systems and infrastructure.

Wildlife and Their Habitats

Wildlife encompasses all living organisms that exist in their natural habitat. The complex web of interactions among species defines the local ecosystem. For instance, the control of deer species by predators prevents overbrowsing. This prevents the decline in plant populations that can increase the extent of erosion along a riverbank. By controlling various factors, wildlife plays a crucial role in stabilizing the environment and its services, such as pollination. Maintaining ecological balance and biodiversity is inherently valuable, although humans also stand to benefit directly from wildlife conservation. It creates jobs, supports wildlife-based recreation, provides educational opportunities, and serves as the backbone for many community events, such as the annual Lake Bomoseen Ice Fishing Derby. In Vermont, approximately 20 species of animals are actively fished for food or sport, underscoring the importance of wildlife conservation. Fish and game hunting seasons are managed not only to sustain animal populations but also to strengthen local economies. Activities such as hunting, fishing, and wildlife viewing generate over $700 million from license fees and related sales for local businesses, as reported by the Vermont Fish & Wildlife Department.

The Fish & Wildlife Department (DFW) in the Agency of Natural Resources coordinates the conservation and management of aquatic species and their habitats. Correspondingly, the Wildlife Division of the DFW maintains oversight over terrestrial species and their habitats. Both monitor populations of sport and rare, threatened, or endangered (RTE) species; regulate species imports and takings; maintain Wildlife Management Areas (WMAs) and public access areas; and provide technical assistance, outreach, and education to wildlife observers, landowners, schoolchildren, and other audiences. Personnel roles range from fishery managers to habitat protection specialists and are housed within the Wildlife Diversity Program, the Wildlife Management Program, and the Lands and Habitat Program. The DFW is also responsible for adhering to Act 250 regulations as they relate to the protection of critical wildlife habitat.

Title 10 of Vermont Statutes includes regulations developed to conserve fish, wildlife, and plants, as well as their habitats, for the benefit of Vermonters. Like groundwater, wildlife is held in the interest of the public welfare. Regulations also support quality fish and wildlife-based recreation and education about these resources. These goals are realized through the rules set by the Fish and Wildlife Board, which is authorized and enforced by Title 10. Chapter 103 establishes the authority of the DFW and its powers and duties. Licenses, season suspensions, and penalties/enforcement are covered by Chapters 105, 107, and 109, respectively. Chapter 111 covers the taking of fish, while Chapter 113 sets provisions for the taking of game. For more information regarding these regulations, see the Appendix of Title 10 on the Vermont General Assembly website. Refer to the Community Facilities and Public Utilities Chapter (Chapter 7, page 199) for additional context on public access and recreational infrastructure.

THE REGION'S ANIMAL SPECIES DIVERSITY INCLUDES

250
BIRDS

92
FRESHWATER FISH

58
MAMMALS

40
REPTILES

~21,400
INVERTEBRATES
(insects, worms, etc.)

The Vermont Conservation Design (VCD) offers a framework for assessing the Region's overall ecological health. Based on VCD data, about 73.3% of the Region—roughly 433,994 out of 592,123 acres—is designated as high or highest priority for landscape-scale conservation. This reflects the Region's significant ecological value and diversity, further emphasized by the presence of five distinct biophysical regions within its boundaries. The Region hosts a rich diversity and abundance of wildlife species.

In the Region, fishers, bobcats, coyotes, foxes, river otters, and bears play a role in the landscape as prominent furbearing carnivores and omnivores inhabiting the forests and waterways. Wild turkeys increasingly establish their presence in agricultural areas, while moose and large rodents, such as the Great American Beaver and North American porcupines, assert territory in the forests and marshlands. Songbirds and bats effectively manage summertime insect populations, while raptors, including hawks, eagles, and owls, help maintain balance by regulating other animal populations. The Region's diverse habitats—grasslands, marshlands, farmlands, and forested areas—support a vibrant array of birdlife. Birdwatching is not merely a pastime; it serves as an engaging recreational

Figure 10.9
Wheelerville Falls in Mendon: A visual example of groundwater feeding surface streams in the Region. Credit: Mike DiMeola

Figure 10.10 West Rutland Marsh in West Rutland. This is a popular birding destination featuring accessible boardwalk trails.

activity, as this Region acts as a migratory flight path to and from Canada. The West Rutland Marsh and Boardwalk stand out as a prime birdwatcher's location, recognized as an Important Bird Area by the Rutland County Audubon Society.

Healthy rivers and streams significantly contribute to the enhancement of animal habitats. The Region's lakes and ponds provide habitats for over ninety species of fish, primarily warm-water species such as yellow perch, which flourish in ponds and shallow lakes. Concurrently, rainbow trout and lake trout thrive in the colder depths of the largest lakes, while brook trout inhabit the clear, cool, and shaded streams. However, thirty-two other species are classified as rare or endangered. The Region hosts the state's most diverse populations of Odonata (dragonflies and damselflies), attributable to a combination of habitats and the committed efforts of volunteers in surveying these populations.

Among the pressing threats to the Region's vital habitats and wildlife is the rise in species facing extinction. Across the state, 53 species—encompassing fish, mammals, amphibians, birds, and invertebrates—are listed as rare, endangered, or threatened.[18] Of the Region's nine bat species, five are classified as endangered due to the severe impacts

Figure 10.11 Bald Eagle in the Rutland Region: A symbol of species recovery following near extinction. Credit: Steve Costello

of White-Nose Syndrome (WNS), a deadly fungal disease. Research indicates that populations of these species have plummeted by 90% or more due to WNS. Bats play a crucial role in pollination and insect control.[19]

Additionally, the Region serves as a vital sanctuary for several rare, threatened, or endangered animal species, with populations so limited that their survival is jeopardized. Importantly, the only timber rattlesnakes and lizards in Vermont are found in the western parts of the Region, with the Common Five-lined Skink being the state's sole native lizard. Animal populations can recover and be removed from endangered lists. A remarkable example of this is the bald eagle, which is now frequently spotted throughout the area. This recovery highlights the importance of long-term conservation efforts and habitat protection.

The introduction and spread of invasive exotic species—both plants and animals—pose a threat to wildlife and the integrity of well-functioning habitats. Invasive species aggressively eliminate native wildlife populations by outcompeting them and

introducing new diseases. Invasive species reduce crucial food sources, forcing wildlife into less suitable habitats. They also disrupt ecological relationships and can alter entire ecosystems, making recovery more difficult.

The Region's robust ecological landscape allows plants and animals to thrive, reproduce, migrate, and adapt to changes in land use and climate. The most resilient ecosystems endure seasonal flooding, predator-prey dynamics, tree windthrow, and other environmental shifts. This resilience results from incorporating the full spectrum of the Region's native species, habitat types, and natural processes. Maintaining this diversity is essential for long-term ecological stability and the continued provision of ecosystem services.

Wildlife corridors on the ground promote biodiversity as well. Also known as habitat connectors, these vital land or water areas link essential patches of habitat necessary for the movement, migration, and dispersal of animals. These corridors may include forest blocks, riparian zones, or road crossings frequently used by both wide-ranging and smaller animals. Bobcats and black bears use these connections, while spotted salamanders may only depend on them for a few nights each spring as they travel from hibernation sites to breeding pools. Identifying and mapping corridors and connectors is the crucial first step in ensuring their protection and long-term effectiveness.

Wildlife does not recognize Vermont's borders, necessitating that planning efforts extend beyond them. For instance, a Canada lynx was spotted in Shrewsbury in 2024, marking the first sighting in Vermont since 2018. A significant and ongoing initiative actively gathers data and maps wildlife connectivity across state and national lines, including those involving Vermont. The Staying Connected Initiative stands out as a pivotal project, engaging 21 public and private partners throughout the northeastern US and Canada.[20] Currently in the research phase, this initiative has deployed 130 cameras to track wildlife movements. Notably, the project identifies key linkage areas in western and central regions that connect the Green Mountains to the Adirondacks across Vermont and New York. Wide-ranging species,

Vermont Invasive Species

In Vermont, invasive plant species such as Eurasian watermilfoil, phragmites, purple loosestrife, common buckthorn, Japanese knotweed, Morrow's honeysuckle, goutweed, black swallowwort, and invasive pests like the hemlock woolly adelgid, rusty crayfish, alewife, and zebra mussels threaten ecosystems in the Region. Furthermore, invasive fish species are also being introduced in the Region, worsening the situation. These species often spread rapidly and are difficult to control once established, requiring coordinated management across jurisdictions.

such as bears, moose, and bobcats, face constraints in moving between these areas due to lost landscape connectivity, which jeopardizes their long-term survival. The data is essential for pinpointing the most critical wildlife corridors, enabling more informed local land-use planning and enhancing transportation options with improved pathways for wildlife across busy roads and highways, fostering wildlife-friendly transit. Refer to the Land Use Chapter (Chapter 2, page 37) for more information on wildlife habitats and corridor areas included in the Rural Conservation Future Land Use Area.

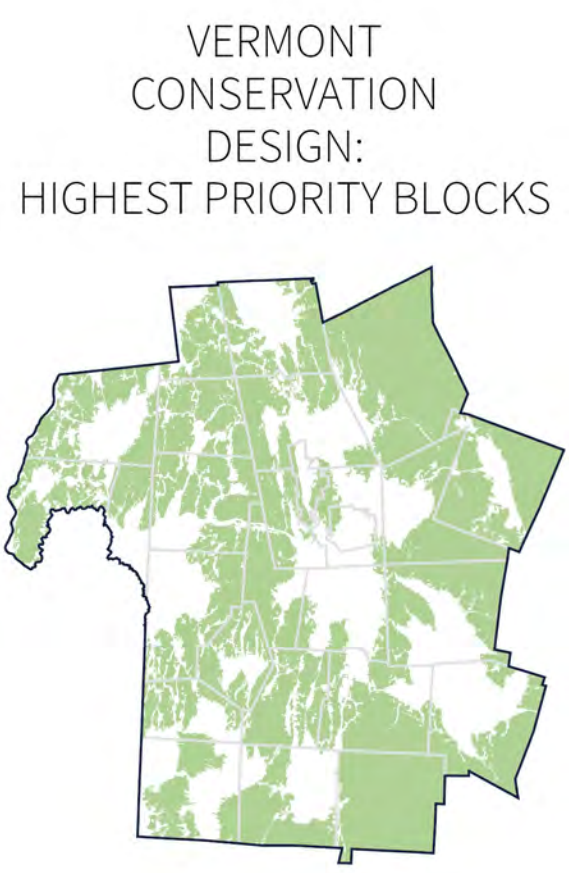


Figure 10.12

Wildlife habitat corridors in the Region: Priority and highest priority areas supporting species movement and biodiversity. Credit: Vermont Conservation Design

Forests

Forests are a defining feature of the Region, covering nearly 73.5% of the landscape. These forested lands provide essential benefits—clean water and air, carbon storage to help combat climate change. They play an economic role by supporting tourism, outdoor recreation, and the wood products industry as detailed in the Working Landscape Chapter (Chapter 9, page 271). According to the Vermont Forest Action Plan, the health and sustainability of the Region's forests are vital to the livability of communities, natural systems, and overall quality of life. Maintaining these benefits requires keeping forests intact and actively managed, or "keeping forests forested."[21]

Forest lands in Vermont are managed through a combination of public and private stewardship. The Department of Forests, Parks, and Recreation (FPR) is the lead agency responsible for conserving and managing Vermont's forest resources. FPR oversees state-owned lands, supports private landowners, and promotes sustainable forestry practices. The Green Mountain National Forest, headquartered in Mendon, is a major public holding in the Region, complemented by state and municipal forests. However, approximately 82% of Vermont's forestland is privately owned. These landowners can access technical assistance from FPR, the Vermont Fish & Wildlife Department, and the USDA Natural Resources Conservation Service to help manage forests sustainably and protect wildlife habitats. This support is especially important in the Region, where private stewardship plays a central role in maintaining forest health.

Several key frameworks and policies guide forest management in Vermont. The Vermont Forest Action Plan outlines statewide goals for forest health, biodiversity, and climate resilience. The Use Value Appraisal (Current Use) Program provides tax incentives for landowners who manage their forests according to approved plans. On state lands, FPR applies sustainable forest management practices that balance ecological integrity, recreation access, and economic viability. These include silvicultural treatments, invasive species control, habitat enhancement, and trail maintenance.

The overall condition of Vermont's forests is stable. In the Region, forest health is generally strong, particularly in the Green and Taconic Mountain Ranges, where large, contiguous forest blocks remain intact. These areas are identified as the high and highest priority in the Vermont Agency of Natural Resources Biofinder4 and the Vermont Conservation Design due to their ecological function and connectivity. These are contiguous forests, uninterrupted by roads, development, or agriculture. Collectively, these areas encompass 63% of the Region, as highlighted in the Land Use Chapter (Chapter 2, page 37).

Fully functioning ecosystems, such as healthy forests, provide economic value through recreation, tourism, and ecosystem services. Economic contributions in Vermont from regulated hunting and fishing, and other outdoor recreation totaled $2.1 billion in 2023, according to the US Department of Commerce's Bureau of Economic Analysis. Evaluating the economic value of ecosystems helps analyze the costs and benefits associated with development, as well as the expenses tied to preservation and conservation efforts. It is integral for community economic development. This reinforces the importance of preserving these natural assets. Likewise, ensuring that ecosystems are accurately valued and can access funding is necessary for sustainable resource management. This method of quantification is becoming increasingly common in Vermont. An example is Forest, Parks & Recreation's Vermont Forest Indicators Dashboard, which is based on stressors, overall health and condition, economic/social/ecological/aesthetic services, and tree structure.[22]

However, Vermont's forests face increasing pressures. Threats such as invasive pests, climate change, and forest fragmentation continue to pose challenges. Monitoring data show that while canopy cover and regeneration remain healthy, stress indicators like drought sensitivity and pest outbreaks are being tracked closely. Development that leads to forest fragmentation, the spread of non-native invasive species, and the ongoing impacts of climate change also threaten the long-term value and resilience of this critical natural resource. Parcelization, the division of land into smaller parcels for new housing and subdivisions, increases the risk of detrimental ecological effects, jeopardizing the health of forests and habitats, water quality, and the sustainability of local forest product economies. Data from the Vermont Natural Resources Council shows that, across the Region, parcel sizes have remained largely unchanged from 2005 to 2021, with only minimal annual fluctuations. While statewide, the acreage designated for homes is on the rise, this trend does not apply to the Region.

The RRPC is tracking forest parcelization to keep parcelization rates low.

For landowners in the Region, developing forested parcels can prove to be an economic choice. The burden of high property taxes can lead to significant financial losses and a strong temptation to subdivide land. Furthermore, conserving land incurs expenses, including necessary surveying and management fees from land trusts. To facilitate effective planning, it is crucial to adhere to smart growth principles outlined in the Land Use Chapter (Chapter 2, page 37).

Earth and Mineral Resources

Minerals are naturally occurring substances formed through geological processes such as the cooling of magma, mineral evaporation, and the transformation of rocks by heat and pressure. Materials like stone, sand, gravel, slate, and marble are vital to everyday life, serving important roles in construction, road building, manufacturing, and within consumer products such as paper, paint, and medicine. The Region is rich in these resources, which have long supported local industries and contributed to the regional economy. Slate and marble were especially important to the Region's economy in the 1800s and early 1900s, and they are still valuable today.

The management of earth and mineral resources is the responsibility of the Geology and Mineral Resources Division of the DEC. Also referred to as the "Vermont Geological Survey", this team of geologists and environmental scientists provides aid, advice, and technical expertise on multiple fronts. For instance, their expertise supports the extraction and development of earth and mineral deposits suitable for construction projects. They also provide information and education to the public, the government, industry, and other institutions regarding the state's geology, topography, and mineral

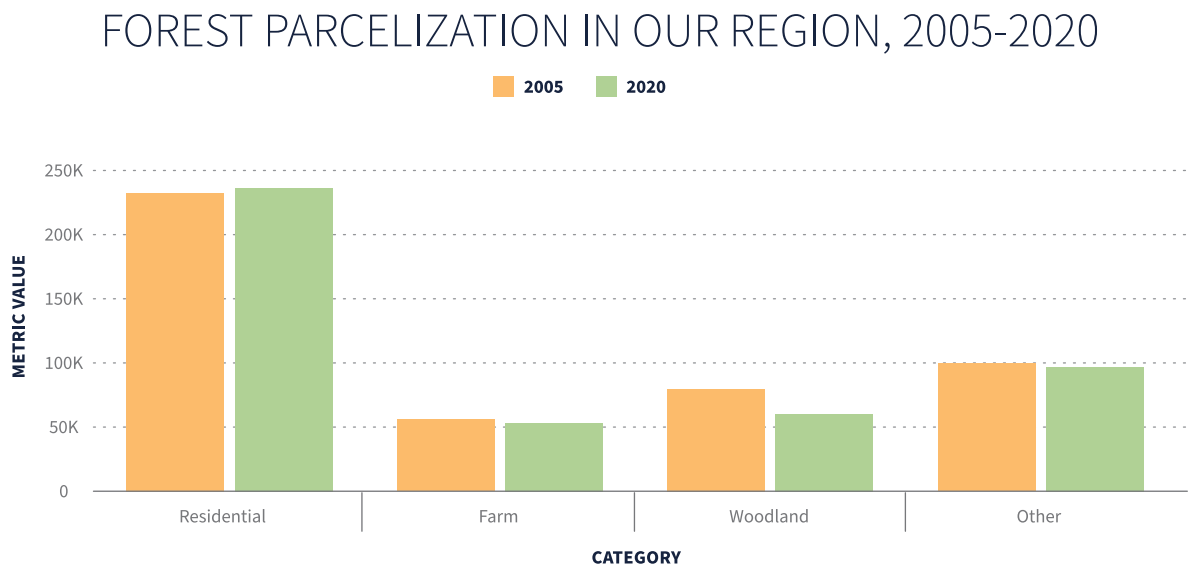


Figure 10.13

Forest parcelization in the Region, from 2005-2020 showing minimal fragmentation compared to other parts of Vermont.
Credit: Vermont Natural Resources Council

resources. With support from the United States Geological Survey, the Vermont Geological Survey conducts research related to these topics and publishes reports and maps that are available to the public.

Like other natural resources, the authority and duties of the Vermont Geological Survey are authorized through Title 10. Chapter 7, Geologic Surveys and Support, is less extensive than its Agency of Natural Resources counterparts, but it does provide a structure for fiscal expenditures and management. There are no formal statewide benchmarks for the condition of earth and mineral resources, but extraction activities are regulated under Act 250. Specifically, criteria 9D and 9E guide how projects involving earth resources are reviewed. The slate industry benefits from an exemption from the Act 250 review. However, this lack of oversight has resulted in community complaints regarding noise, air, and water pollution. Other extraction sectors are encountering similar problems. It is important to strike a balance that supports these industries' growth while protecting the environment from permanent harm.

The Region plays a critical role in sustaining the state's leading position in slate production, which is primarily used for roofing. The slate industry flourishes in Poultney, Pawlet, and Fair Haven, along with ongoing production of construction sand, gravel, crushed stone, marble, and marble slurry. Mining and quarrying operations are actively extracting sand, gravel, slate, marble, and crushed rock throughout the Region. Numerous sand and gravel pits of various sizes are strategically situated across the landscape. These resources are essential to the Enterprise Areas highlighted in the Future Land Use map found in the Land Use Chapter (Chapter 2, page 37).

Danby's underground marble quarry is the largest in the world, spanning 25 acres and extending over a mile into Dorset Mountain. The quarry produces enormous marble blocks that can weigh up to 93 tons. These blocks are prominently used in famous structures, including the Supreme Court Building and the Jefferson Memorial in Washington, DC, as well as the United Nations Building in New York City.

Florence, part of Pittsford, hosts Omya, the world's leading producer of fine ground calcium carbonate derived from marble. This valuable material finds applications as fillers and pigments in multiple industries, including food, medicines, paper, paint, plastic, and diapers. Omya actively operates quarries at various locations across the Region and is recognized for its innovative "progressive reclamation" techniques. As it expands its quarries into the countryside, Omya ensures that new and often improved farmland replaces the areas that have been quarried through these reclamation techniques.

The Region's earth and mineral resources remain abundant, but the industries that rely on their use face challenges. All resource projects, except those involving slate, require a thorough review to pass and obtain a permit for extraction. These reviews often limit or delay local operations and expansions. Additionally, land use conflicts, environmental regulations, and changing market demands all impact the long-term viability of the Region's extraction operations. Despite these pressures, the Region continues to play a leading

role in Vermont's mineral production, especially in slate and construction materials. Maintaining this leadership will require ongoing coordination between industry, regulators, and communities.

Extraction industries actively shape the economic landscape of the Region. The development of marble quarries and other earth and mineral operations not only provides employment and stimulates local economies but also positions the area as a critical contributor to Vermont's industrial output. These activities attract investment, support the growth of infrastructure, and foster the rise of ancillary industries. Although the scale of extraction has diminished over time, its economic legacy continues to influence the Region, underscoring the long-term significance of resource-based development in sustaining local prosperity. Balancing this legacy with environmental stewardship remains a planning challenge.

WORKING MINES IN THE REGION

329

INDIVIDUALS EMPLOYED

$68,379

AVERAGE ANNUAL WAGE

≈ 130

ACTIVE MINES AND QUARRIES

are extracting marble stone, finely crushed marble, slate, crushed rock, gravel, and sand.

(Vermont Labor Department).

Conclusion

The Vermont Agency of Natural Resources (ANR) plays a vital role in safeguarding the Region's natural resources through a structured framework of evaluation and conservation. With air, water, wildlife, forests, and extraction industries generally in good condition, the Region is well-positioned to balance environmental stewardship with economic opportunity. However, ongoing vigilance is essential as emerging threats—such as invasive species, pollutants, toxins, and the impacts of climate change—pose increasing risks. Maintaining high environmental standards while adapting to these challenges is key to ensuring the long-term health of both the environment and the communities that depend on it.

FUTURE TRENDS

Residents of the Region place a high value on the protection and sustainable use of natural resources, including essential earth and mineral resources. Clean water and air are widely recognized as the cornerstones of public health, contributing directly to the physical well-being of individuals and the vitality of the broader community. These elements also play a key role in supporting economic activity, from recreation and tourism to farming and manufacturing. Looking ahead, the conservation of the Region's rich biodiversity—including its forests, wetlands, and wildlife habitats—will remain a central priority. Efforts to conserve clean air and water, protect native species, and ensure sustainable access to natural resources will guide planning and development, ensuring that environmental quality is safeguarded

not only for current residents but for future generations to come as well.

Air

Air quality problems are expected to worsen, particularly with winter smog resulting from the use of old wood-burning stoves and boilers, as well as rising ozone (smog) issues due to warming temperatures. Air quality will need increased attention and proactive measures to safeguard the health and well-being of all residents, particularly those in heavily impacted communities.

Transported air pollution, where pollutants travel hundreds of miles to distant regions, is becoming increasingly significant. It will be important for State and federal governments to address transported air pollution in communities that are likely to experience the most severe health effects and depletion of natural resources, especially since they have limited capacity to manage these challenges. To ensure environmental justice, the Region needs to evaluate whether specific communities are disproportionately affected.

In the future, it will be important to ensure that development does not significantly risk the Region's air quality. Continued efforts must focus on reducing air pollution from residential, commercial, industrial, and transportation sources. Specifically, reducing transportation emissions by adopting cleaner vehicles, utilizing alternative fuels, and enhancing infrastructure is essential for improving air quality and mitigating pollution.

Addressing the Region's air quality issues requires an equitable approach that considers both local and transported sources of pollution. As climate patterns shift and emissions from various sectors increasingly impact environmental and public health, it is essential to implement policies and technologies that reduce pollutants at their source. Key actions include prioritizing cleaner energy, modernizing outdated equipment, and investing in sustainable transportation infrastructure. These strategies are essential to safeguarding air quality and ensuring long-term public health. Furthermore, a strong commitment to environmental justice will ensure that communities are not disproportionately affected, allowing all residents to enjoy the advantages of cleaner, healthier air both now and in the future.

Surface Water

The health of the Region's waters plays a crucial role in supporting a thriving ecosystem. Protecting these resources will require consistent, and potentially expanded, monitoring of water quality, along with vigilance against both known and emerging pollutants. In the coming years, continued reductions in harmful toxin levels, such as phosphorus and nitrogen, while simultaneously tackling emerging threats like PFAS and microplastics, will be needed. In addition, the Region will confront other surface water pollutants that have been identified: mercury, Combined Sewer Overflows, acid deposition (acid rain), and nutrients. Ongoing monitoring of these pollutants will remain essential.

Another area of concern is changes in surface water triggered by climate change.

Increased flooding is likely to worsen the influx of pollutants into these vital resources, while drought conditions may heighten the concentrations of existing pollutants. Developing a robust ecosystem network and implementing strategic conservation measures, such as land acquisition and development restrictions in riparian areas, stands out as one of the most cost-effective methods for tackling climate change challenges while safeguarding essential surface waters. Moving forward, wetlands and floodplains will take on even greater importance, playing a key role in mitigating flooding and managing the substantial precipitation events expected from climate change. Ongoing efforts in floodplain restoration and river corridor protection should effectively reduce flood impacts and improve water quality, as highlighted in the Climate Resilience Chapter (Chapter 11, page 333). In addition, healthy riverbank riparian zones will serve as vital buffers against the growing threats of flooding, changing weather patterns, temperature variations, and escalating pollution risks.

Protecting the health of the Region's surface waters serves as both an environmental imperative and a wise economic choice. Clean and resilient waterways reduce long-term costs associated with flood damage, water treatment, and public health while also strengthening vital sectors like agriculture, recreation, and tourism. By investing in natural infrastructure, adopting smart growth policies, and revitalizing degraded ecosystems, the Region can avert much larger economic losses caused by inaction.

Groundwater

Maintaining the Region's groundwater quality will require expanded monitoring, particularly for emerging contaminants like PFAS. Encouraging increased state financial support will be essential to fund testing efforts and ensure water remains safe following any cleanup activities. At present, the State does not cover the costs of sampling or maintaining private wells, meaning PFAS testing for these sources will likely remain the responsibility of individual property owners. This creates a significant equity gap for rural residents who rely on private wells.

The RRPC will continue working with the Environmental Protection Agency (EPA), as well as state and local officials, to identify, evaluate, and remediate brownfield sites. This coordinated effort is vital to safeguarding water quality while also opening the door to local redevelopment and economic opportunities.

Protecting groundwater is not only a public health priority but also a wise long-term investment in the Region's economic future. By partnering with the EPA and other stakeholders to clean up and repurpose contaminated sites and map and protect groundwater sources, the Region helps transform environmental risks into catalysts for sustainable growth and community well-being.

Wildlife and Their Habitats

Maintaining the Region's rich diversity of natural communities and resources will depend heavily on the conservation of wildlife and fish habitats.

There is a rising demand for accessible outdoor spaces that cater to recreation, outdoor sports, hunting, fishing, food foraging (such as wild mushrooms), and eco-tourism as referenced in the Cultural Resources Chapter (Chapter 4, page 101). Moreover, promoting ecotourism serves as a powerful strategy to build appreciation and safeguard the Region's natural resources. These initiatives not only enhance environmental stewardship but also ensure that communities enjoy and benefit from the rich natural resources available in the Region.

Conservation projects by Audubon Vermont, the Nature Conservancy, and the Vermont Land Trust, in collaboration with landowners and municipalities, will continue to protect the Region's wildlife and their habitats. The efforts in conservation and the rising demand for outdoor activities signify a pivotal moment for sustainable engagement with nature. Identifying funding sources for land protection will be essential, and expanding equity and access is crucial to ensure that all communities and diverse populations are integral to the Community Resilience and Biodiversity Protection Act's long-term Conservation Plan. The final Conservation Plan will serve as a cornerstone for the Region's efforts to safeguard biodiversity and, ultimately, natural resources.

Conserve
30%
OF THE VERMONT LANDSCAPE
by 2030 and
50%
by 2050
(Community Resilience and Biodiversity Protection Act of 2023)

The RRPC has pinpointed potential areas for conservation to achieve the ambitious 30% and 50% targets, as outlined in the Land Use Chapter (Chapter 2, page 37). Significantly, the Rural Conservation category encompasses 42% of the Region's land area. Additionally, the remaining 8% can be sourced from the Rural Agriculture/Forestry category (35% of land area), converting substantial woodlots or agricultural fields currently enrolled in the Current Use Program into conserved land. The Region is well-positioned to accomplish these conservation objectives.

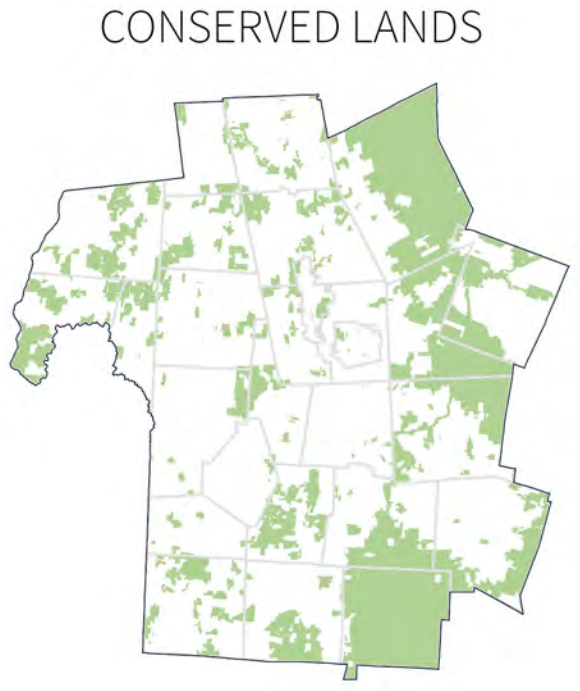


Figure 10.14
Conserved land in the Region: Permanently protected areas supporting natural resource stewardship and public access.

Forests

The State of Vermont and the Region will prioritize the conservation of their most important interior forest blocks and habitats. The Vermont Conservation Design, developed by the Vermont Fish & Wildlife Department, envisions a landscape that actively supports diverse plant and animal life.[23] This Design identifies Interior Forest Blocks—large habitat areas with optimal interior forest conditions across the landscape—and categorizes them into two critical tiers: priority and highest priority. Although all interior forest blocks warrant consideration for landscape-level conservation, only the largest blocks in each region are classified as highest priority. A nearly continuous corridor of these highest priority blocks runs through the Green Mountains and the Taconic Range, with additional key areas located in Rutland, Lake Bomoseen, and West Haven, near Lake Champlain. These sites are projected to be the most significant natural resource areas for local and regional planning efforts. As the climate changes, wildlife must adapt to the shifts in their habitats, with many species migrating toward cooler areas. Continuous monitoring of these trends will be essential to sustain the health of wildlife populations.

The Region's conservation efforts play a role not just in protecting biodiversity and ecological health but also in unlocking significant economic potential. By investing in land protection, increasing access to outdoor recreation, and promoting ecotourism, the Region invigorates local economies, supports small businesses, and generates sustainable jobs connected to Vermont's natural resources. Strategic conservation planning, bolstered by legislation such as the Community Resilience and Biodiversity Protection Act of 2023, positions the Region to attract both public and private funding while boosting property values and enhancing community resilience.[24] With the capability to meet—and even surpass—the state's conservation goals, the Region is set to lead by example, showcasing how environmental stewardship and economic vitality can thrive together.

Earth and Mineral Resources

While its prominence may have diminished over the past century, mining remains a vital component of the Region's economy. The available marble in the Region can meet Omya's industrial needs. Due to its exceptional quality, the demand for marble slabs processed on-site at the Danby Quarry is expected to stay strong. Additionally, slate production in the western part of the Region is poised for growth, spurred by the continuous demand for Vermont slate in roofing, flooring, and flagstones. The extraction of gravel, sand, and crushed rock will continue to support the needs of local construction and road maintenance. These trends suggest that mineral extraction will remain a key economic driver for the Region.

That said, the Region must utilize and manage its earth and mineral resources wisely while ensuring the restoration of all affected lands. Through the Act 250 review and strong local initiatives, the RRPC will help ensure that extraction activities, including blasting and truck traffic, do not lead to a

decline in property values, structural damage to neighboring properties, excessive noise and dust, deterioration of town roads from truck traffic, or any negative impacts on natural resources. The Region will prioritize the protection of water quality, fish and wildlife habitats, and the surrounding land. The RRPC acknowledges the necessity of balancing the reasonable use of resources with the need for conservation and preservation rights, alongside the rights of industry owners to engage with the public's right to address and mitigate potential nuisances.

Although mining in the Region has evolved from its historic peak, it remains a vital part of the local economy. By balancing resource extraction with environmental stewardship, community well-being, and regulatory oversight, the Region can continue to benefit from its rich mineral assets while preserving its natural beauty and residents' quality of life. Through diligent planning and collaboration, the Region can sustain both its industrial legacy and its commitment to a responsible, resilient future.

Conclusion

Air quality is expected to decline due to smog issues and transported air pollution, and increased monitoring may be necessary. To maintain healthy surface water and foster economic opportunities, consistent monitoring and possibly expanded testing will be required. The Region must also stay vigilant against both known and emerging pollutants. Climate change-induced increases in flooding and drought conditions could worsen surface water threats, necessitating strategic land acquisition and development restrictions. Likewise, groundwater will likely require enhanced monitoring for both known and emerging pollutants, which will be crucial for public health and long-term economic growth.

Protecting the Region's rich wildlife diversity depends on strategically conserving their habitats. The conservation of key forest habitats will be prioritized, as the Region has the potential to exceed State conservation goals and demonstrate how environmental stewardship and economic strength can coexist.

Demand for the Region's earth and mineral resources—marble, slate, gravel, sand, and crushed stone—is expected to remain high. The Region must manage these resources wisely, restore affected lands, and minimize impacts on other natural resources and residents.

The following section outlines the Region's policies and actions for maintaining and improving the quality of air, water, wildlife, and forests while promoting the wise and efficient use of these resources and appropriate extraction of earth and mineral resources. These policy recommendations are grounded in data, community input, and state and federal priorities. Progress will be measured through a set of indicators designed to track implementation and ensure accountability as the Region works to meet its natural resource goals.

Figure 10.15

What's Next? // NATURAL RESOURCES

Goals

1) Maintain and improve the quality of air, water, wildlife, forests, and other land resources while promoting the wise and efficient use of these natural resources and appropriate extraction of earth and mineral resources. This approach helps ensure the area is properly restored and its aesthetic quality preserved.

Policies

1) Human health **shall** be safeguarded by protecting air quality in high-density residential areas within Downtown and Village Centers, and by minimizing harmful emissions from industrial practices in Enterprise Areas.
2) Surface water quality impairments, as identified in Tactical Basin Plans, Water Quality assessments, the 303(d) List of Impaired Waters, and by Clean Water Service Providers, should be prioritized for restoration and targeted for funding.
3) Class I and II wetlands as mapped by the state **shall** be protected from development in all FLUAs.
4) Groundwater should be maintained at a quality suitable for drinking water, and source protection areas **shall** be protected from contamination.
5) Development in Rural FLUAs should not substantially fragment Highest Priority Interior Forest Blocks or High Priority Wildlife Corridors as mapped by the state.
6) 30% of land **shall** be conserved by 2030 and 50% by 2050, as required under the Community Resilience and Biodiversity Protection Act.
7) Safe and clean earth and mineral extraction in Rural and Enterprise FLUAs is encouraged, provided that negative impacts are minimized, such as excessive dust and noise, water quality impacts, soil erosion, and deterioration of highway infrastructure.
8) Natural resource planning and decision-making should include opportunities for meaningful participation.

Actions

1) Assist with developing municipal plans, studies, and assessments to identify and remediate surface water and groundwater contamination, from phosphorus, mercury, PFAS, microplastics, and other toxins.
2) Assist with the remediation of groundwater, soil, and surface water contamination at brownfield sites.
3) Assist with developing municipal plans, bylaws, and studies focused on reducing parcelization caused by development.
4) Assist with updating the database of active mines in the Region.
5) Assist with rehabilitating earth and mineral extraction sites that predate local and state regulations.
6) Provide education and planning support for the Staying Connected Initiative, as well as the 30x30 and 50x50 conservation goals outlined in the Community Resilience and Biodiversity Protection Act.
7) Achieve phosphorus reduction targets for the South Lake Champlain Clean Water Service Provider as designated by the EPA and DEC.
8) Assist with developing new relationships, projects, and capacity in the Addison County portion of the South Lake Champlain Clean Water Service Provider basin.
9) Advocate for socially marginalized groups to have access to and benefit from natural resources.

Indicators of Progress

1) Number of Air Quality Alerts
2) Number of Surface Water Impairments
3) Number of Class I and II Wetland Reclassifications
4) Number of Mapped Groundwater Contaminations
5) Total Parcel Acreage by Land Type
6) Number of Active Mines

CLIMATE RESILIENCE

INTRODUCTION

LAND USE

ECONOMIC DEVELOPMENT

CULTURAL RESOURCES

TRANSPORTATION

HOUSING

COMMUNITY FACILITIES AND PUBLIC UTILITIES

ENHANCED ENERGY

WORKING LANDSCAPE

NATURAL RESOURCES

CLIMATE RESILIENCE

NEIGHBORING PLANS

PLAN IMPLEMENTATION

INTRODUCTION

The Rutland Region (the Region) seeks to enhance the ability of communities to prepare for, respond to, and recover from climate-related impacts, including flooding. The Climate Resilience Chapter outlines current conditions, informed by research and public engagement (see Engagement Report, Appendix A1.2, page 417), as well as trends shaping the future of a changing climate and the Region's ability to adapt. It concludes with regional policies and RRPC-specific actions designed to achieve the Region's climate resilience goals.

HEALTHY, EQUITABLE, RESILIENT COMMUNITIES

A healthy, equitable, and resilient community minimizes the impacts of natural hazards, including extreme weather events worsened by climate change. It seeks to avoid or at least limit risks to life and property. The lifelines supporting community functions – transportation, communications, energy, etc. – remain online to protect human health, safety, and access to basic needs (food, water, and shelter). Those experiencing greater impacts are involved in shaping community decisions that lead to more just outcomes. These are the principles that make up the core of a climate-resilient community.

Climate change heightens existing health challenges and amplifies the conditions for new ones.[1] More intense rain events increase stormwater runoff, degrading water quality.[2] Larger wildfires generate more toxins that worsen asthma and cause respiratory infections.[3] Thus, climate change impacts directly threaten natural life support systems like clean water and air.[4] A healthy community implements adaptation strategies to counter these effects, such as providing well-equipped, accessible cooling facilities during heat waves.[5]

Climate change impacts are greater for those socially marginalized because of their race, income, or other socioeconomic factors.[6] For example, low-income residents face higher flood risks because it is cheaper to site mobile homes in floodplains.[7] To address this, a just community actively involves affected residents in decision-making, ensures equitable opportunities, distributes community resources fairly, and rectifies existing and future harms. This human-rights-centered approach is defined as climate justice by the Intergovernmental Panel on Climate Change.[8]

A resilient community prepares for the harmful effects of climate change by prioritizing mitigation and adaptation.[9] Mitigation cuts heat-trapping emissions and enhances greenhouse gas sinks to curb global temperature rise.[10] Adaptation means adjusting to the current or anticipated climate impacts.[10] Combining these allows the community to simultaneously achieve diverse objectives, known as co-benefits[11] (e.g., planting trees for cooling enhances air quality[12]). Ultimately, these strategies boost a community's

resilience to climate change and promote public welfare; see Figure 11.1 for examples.

CURRENT CONDITIONS

Disturbance sets the context for resilience – a community must first define its challenges before evaluating its ability to endure. Determining the current condition of climate resilience in the Region begins with analyzing the impacts of climate change. This section uses data, public engagement, and planning studies to outline the risks related to the Region's most common disasters and their influence on community vulnerability and resilience. Climate change poses significant challenges to the Region's infrastructure, natural environment, and economy, but opportunities exist to improve resilience within ongoing initiatives and programs.

Changes in Climate Trends

The Introduction Chapter (Chapter 1, page 15) explains how geography, topography, and natural resources shape community settlement and growth in the Region. Climate, or a region's long-term weather patterns, similarly influences how people live, work, and play. The community framework is predicated on environmental factors influenced by climate, such as water availability or temperature regimes. Therefore, changes in the relative predictability and stability of these factors have serious implications for the Region's continued growth and survival.

Vermont's annual average temperature has risen by 3°F since 1900, with winter and summer temperatures having "increased considerably" since 1995.[13] Winters are especially warmer, with seasonal temperatures rising 2.5 times faster than annual temperatures since 1960.[13] The result is freeze-free

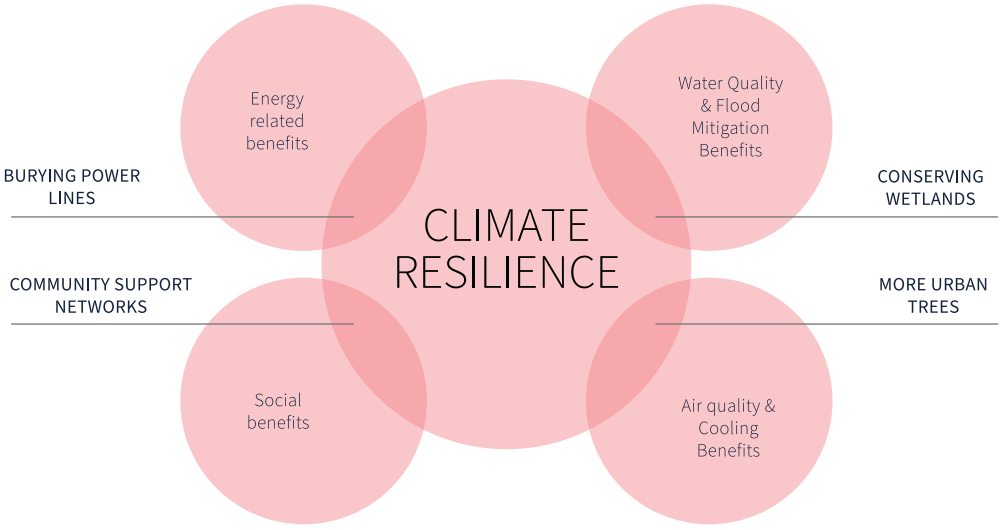


Figure 11.1

The benefits of climate resilience are typically not exclusive to a single area. Here are some examples of the "co-benefits" shared among interdependent systems.

periods that are three weeks longer than they were 60 years ago.[13] Earlier ice-out dates on the Region's lakes and ponds may hinder certain winter sports, as seen in winter 2024 when insufficient coverage made ice fishing infeasible. These conditions also raise the risk for harmful algal blooms in lake and river systems.[14] More information on harmful algal blooms and other surface water quality concerns is provided in the Natural Resources Chapter (Chapter 10, page 297).

In tandem with rising temperatures, Vermont's annual snowfall totals have fallen since the 1960s.[13] However, winter precipitation levels have grown over the same period, suggesting that it falls as rain more often than snow.[13] Combined with earlier spring thaws, this may contribute to more flooding events.[13] A notable consequence is the rise of "false springs", in which warmer late winter temperatures are followed by cold air, freezing rain, and snow from April to June.[15] A recent example in May 2023 involved a 20°F flash freeze that decimated orchards and vineyards, causing $1.3 million in regional losses.[16]

Warmer air can hold more moisture, which increases the severity and commonality of once-rare extreme weather events. A notable example occurred in Summer 2023, when a train of heavy winds and rain repeatedly lashed areas of the state for several weeks.[17] But this does not preclude the occurrence of dry spells. As smaller snowpacks disappear sooner, limited water availability during the growing season may contribute to more frequent droughts.[14] More recent droughts that challenged the Region's farmers include 2016-2017 and 2020-2021.[18]

"[The Region] will probably remain survivable with climate change. I hope."

– A response from the Regional Plan Survey

Vermont is becoming hotter and wetter overall, with greater variability in temperature and precipitation extremes. The associated impacts on recreation, human health, and the environment hinder community economic development in ways that will be described in this chapter. As a result, maintaining access to life-sustaining resources, like water and safe shelters, is key to ensuring the Region remains a great place to live, work, and play.

Risks Posed by Most Common Disasters

Natural disasters are not caused by recent climate change. Rather, they are inherent products of long-existing processes, like planetary rotation and uneven surface heating from the sun. As explained above, the cause for concern lies in climate change *amplifying* disaster events. Compared to other areas of Vermont, the Region has been relatively fortunate regarding the number of disasters it has endured. However, the extent of damage in recent years indicates it will not be spared from the fury of climate change.

From 2011 to 2024, the Region experienced seven federally declared disasters and received $20.7 million in Public Assistance funding from the Federal Emergency

Management Agency (FEMA) to help restore public infrastructure.[19] Only three other counties in Vermont - Washington, Windham, and Windsor – were hit harder than Rutland County during this timeframe.[19] Notably, the Region can experience severe storm impacts that do not rise to the level of being considered a federally declared disaster. Severe storms in December 2022, for example, led to a major slope collapse on Branch Brook Road in Mount Holly, costing over $88,500 in repairs.[20] In August 2023, a heavy rainstorm caused Rutland City to evacuate over 20 people, lose access to the Region's only hospital for hours, and incur over $150,000 in damages.[21,22] These and similar events will only become more common, and the Region should not assume it is safe simply because Rutland County has fewer federally declared disasters than most other counties in Vermont.

FEDERALLY DECLARED DISASTERS

7

for the Region since Tropical Storm Irene in 2011. Of these, five (5) involved severe storms and flooding: the remaining two (2) involved severe winter storms and the COVID-19 pandemic.

Flooding is Vermont's most common natural hazard. Inundation flooding submerges low-lying areas, while flash flooding is possible everywhere and may entail fluvial erosion, or the physical adjustment of stream channels.[23] Of the two flood types, flash flooding is more frequent and costly, with fluvial erosion accounting for over 75% of Vermont's flood damages.[23] Local Hazard Mitigation Plans (LHMPs) throughout the Region show that 26 out of 27 municipalities consider flash flooding and fluvial erosion as higher-risk hazards due to the probability of occurrence and potential impacts. This risk is reinforced by climate change, as increases in annual precipitation rates exacerbate these events.

The worst flood event in recent history came in August 2011 from Tropical Storm Irene, which dropped 5-7 inches of rain and cost the Region upwards of $57 million.[24] The next major event, termed the "Great Floods of 2023," caused only $1.6 million in flood damages[25], though some municipalities suffered heavily. On July 7 of that year, Killington had a major washout on East Mountain Road (see Figure 11.2) and a large mudslide that blocked traffic on US Route 4.[26]

The mere 12-year gap between Irene and the Great Floods of 2023 shows that terms like "100-year floods" are no longer a reliable frame of reference.[27] Such designators come from FEMA's Flood Insurance Rate Maps (FIRMs), which are developed with historical data.[28] Flood maps are one tool that communities use to identify which areas have the highest risk of flooding. FIRMs outline areas, known as special flood hazard areas (SFHAs), with a high risk of inundation flooding, specifically those with a 1% annual chance of flooding (also known as the 100-year flood).[28] All towns except Killington have FIRMs that were last revised in 2008, with updates slated for 2028. However, FIRMs focus on flooding due to rising water and

do not consider areas vulnerable to erosion and river channel migration, where at least 2/3's of Vermont's flood damage occurs.[23,29] Property outside SFHAs is often assumed to be safe, until it suffers major and costly flood damage, because floods can happen almost anywhere.[30] Heavy rains, poor drainage, and even nearby construction projects can put one at risk for flood damage.

To help provide rivers and streams with the space they need to adjust naturally and minimize erosion hazards, the Agency of Natural Resources (ANR) has mapped river corridors[23]; these are depicted in Figure 11.3. River corridors are areas where the river channel can shift, slow down, and allow the adjacent floodplain to do its job.[23,31] Without this buffer, river movement and erosion can overpower protective measures like structural elevation or floodproofing.[31] River corridors are generally included in the Rural Future Land Use Area to promote their active conservation; see the Land Use Chapter (Chapter 2, page 37) for more details. Wetlands and upland forests are also included in this land use type, as they play equally important roles in flood moderation.[32]

Minus Killington and Mount Tabor, all municipalities in the Region have adopted flood hazard area bylaws to regulate land use within FEMA-mapped flood hazard areas. As of 2025, only six towns – Brandon, Castleton,

Figure 11.2 The July 2023 washout in Killington was so significant that it nearly carved East Mountain Road out of existence.

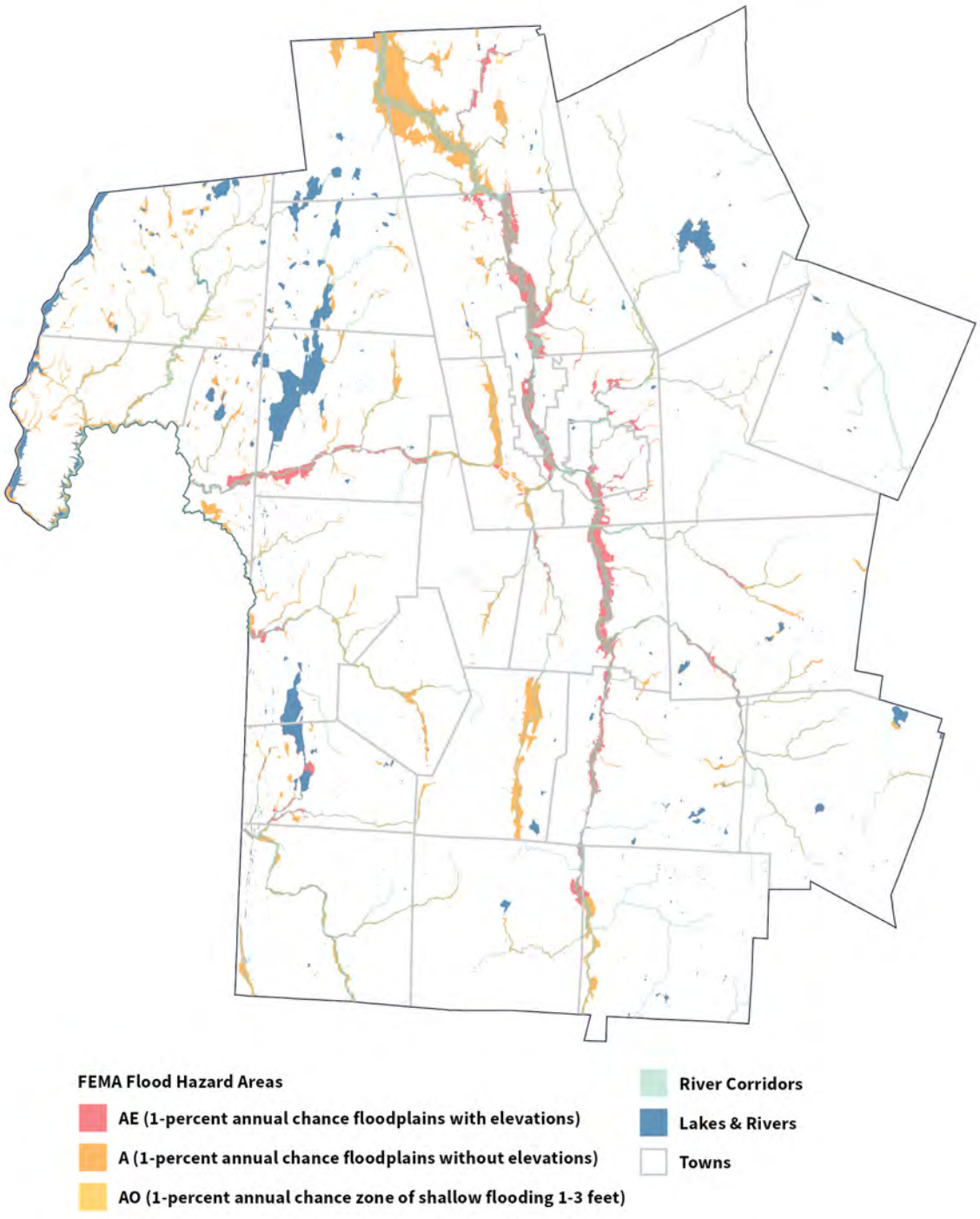


Figure 11.3

This map combines FEMA-mapped floodplains and State-mapped river corridors to show the areas of highest flood risk in the Region.

Mount Holly, Pawlet, Proctor, and Shrewsbury – have adopted river corridor bylaws, which guide development in State-mapped river corridors. In some cases, FEMA flood hazard areas and river corridors overlap. In other cases, they do not and should therefore be viewed as two complementary regulatory tools to help understand flooding hazards in the Region. The 2024 Flood Safety Act (S.213) will require State permits for development in river corridors starting in 2028.[33]

Strong winds and severe winter storms are other natural hazards ranked highly in LHMPs. From 2011 to 2024, damages from these hazards combined totaled over $6.5 million.[34] More recent LHMPs from Benson, Fair Haven, Middletown Springs, Rutland City, and Rutland Town demonstrate that extreme heat is also gaining recognition as a higher-risk hazard. A perceived rise in the likelihood of heatwaves and the meaningful danger they pose to life safety is likely responsible for this shift. More information about extreme heat and disproportionately impacted populations is provided later in this chapter.

The impacts of these natural hazards jeopardize public safety and divert capital from community economic development to expensive repairs. Limiting or avoiding these risks provides a more robust foundation for community growth and prosperity.

Examination of Cascading Disasters

Natural disasters may not happen in isolation. When vulnerabilities overlap and interact, the primary event can lead to secondary or cascading effects that have a greater impact than the primary event alone. Picture dropping a pebble into a pond: physical contact with the water is a primary event, while the resulting ripples on the surface are a cascade effect. In this analogy, the pebble represents the disturbance event (a flood), while the water ripples represent the cascading effects (longer response times for emergency services or combined sewer overflows). The primary event cannot be eliminated, but the weak points in society that enable cascading impacts to develop can be limited or avoided through strategic planning and investments.

This Plan organizes cascading effects from climate change into four general domains. The built environment, natural environment, economy, and people and society. These domains deflect the systems most affected by climate-related disruptions to infrastructure, ecosystems, economic activity, and community wellbeing. Given the high degree of complexity in modern society's networks

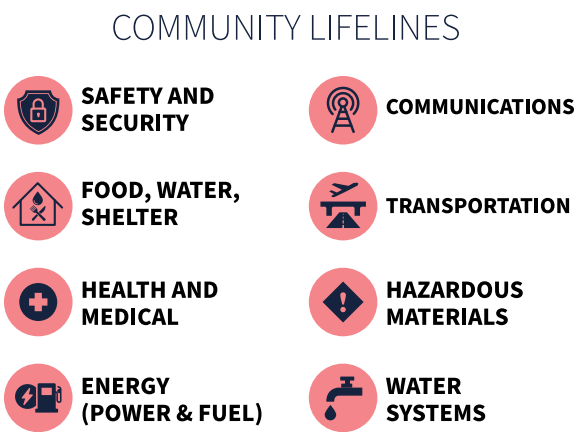


Figure 11.4

FEMA defines community lifelines as systems that enable the continuous operation of critical government and business functions or are otherwise essential to human health and safety and economic security.

and dependency on critical infrastructure, most disasters will be cascading events to some extent.

Within the Built Environment, key infrastructure networks supporting community economic development include transportation (highway, mass transit), energy (power grid), and facilities and public utilities (water, wastewater, communications). These systems were also designed for milder past climates and often lack redundancy, making them vulnerable to failure, as seen in Figure 11.4. For instance, landline phones connected to fiber die after eight hours without power. This makes contacting emergency services during outages challenging in areas with unreliable cell service.

Stormwater infrastructure best illustrates systems that are ineffective under current conditions. As climate change produces heavier rainfall over shorter periods, old drainage systems are inadequate for conveying large runoff volumes.[35] Stormwater systems that are frequently overwhelmed cause more road washouts in rural areas and more flash flooding in Downtowns. Rutland City has a combined sewer system that further reduces stormwater capacity during high-flow events, though the City has separated the system in some areas.

Road infrastructure that crosses or interfaces with streams is some of the most vulnerable to flooding damage.[14] The Transportation Chapter (Chapter 5, page 129) notes that the Region has over 12,000 publicly surveyed culverts. This creates many instances of conflict with the space needed by streams and rivers for high-flow conditions.[14] Even small culverts located away from streams are susceptible to damage if they are undersized or clogged.[14] The resulting damage and disruption from floodwater impoundment, flow constriction, and debris jams are increasingly common as rainfall intensifies.[14]

Infrastructure maintenance, operations, and repair costs are becoming more frequent and costly. Following the flooding events of 2023 and 2024, at least 60 Vermont municipalities had deficits ranging from $1 to $14 million, well exceeding their annual budgets.[36] None of these towns were local, but the Region's undersized and outdated infrastructure is still vulnerable to future events. The need for infrastructure upgrades is significant – the pre-applications submitted in 2024 for federal hazard mitigation assistance funds indicated municipalities need at least $20.8 million to fund projects ranging from upsizing culverts and bridges to road elevation or stabilization.[37] Because not every municipality submitted a pre-application, the true need is likely even higher.

In the Natural Environment, forest compositions will change. Vermont's most common forest type is northern hardwood, with sugar maple as the most prevalent overstory species. The Working Landscape Chapter (Chapter 9, page 271) predicts the Region will become more favorable for oak-hickory forests during the 21st century.[38] This shift is primarily due to projected changes in

INFRASTRUCTURE NEEDS

The Region needs at least $20.8 million to meet current highway infrastructure needs.

the length and temperature of the growing season, which are causing forest-type zones to move northwards.[38]

The transition in native tree species will significantly impact some sectors of the economy. From 2013 to 2021, the already short maple syrup production season (4-6 weeks) has seen an average loss of 16 days[39] (or 38-57%). This reduction hampers production amounts and revenues, and threatens staples of regional culture, such as the annual Maple Open House event at Baird Farm in Chittenden. While warmer and longer growing seasons will initially benefit trees, increased water loss is expected to outweigh those gains by mid-century.[38]

Invasive species are also changing the landscape. Experts predict that, without preventative action, the Emerald Ash Borer (EAB) will destroy 90-95% of ash trees in the Region by 2034.[40] This beetle causes tree fatalities within three to five years and has no natural predators to counter it. In October 2020, the first local EAB infestation was found in West Rutland, prompting the town to start an inventory of roadside ash trees that may pose a transportation risk. Eight municipalities have reported infestations since, with six occurring in 2024 or 2025.[41] Milder winters will exacerbate the problem by promoting the spread of other invasive pests responsible for infections like beech bark disease.[38] As a result, the ecosystem services and the economic value of trees will suffer.

The richness and variety of the Region's landscape attract visitors who contribute to the local Economy. Tourism is a strong pillar supporting the third-largest county labor force in the state, as shown in the Economic Development Chapter (Chapter 3, page 79). Outdoor recreation is particularly important, drawing around 13 million visitors to Vermont annually.[42] Local businesses provide food, lodging, and hospitality services for visitors, which in turn bolsters job opportunities. From leaf peeping to winter sports, the outdoor recreation economy depends on stable climate conditions.

Skiing is at substantial risk as resorts face challenges from diminishing snowpacks and fluctuating temperatures.[43] Vermont Adaptive Ski and Sports reports that traditional season benchmarks are no longer reliable; the likelihood of sufficient snow by Christmas or mid-January is decreasing.[44] The ski industry is predicted to remain viable until 2050, and some resorts may last until 2080. But by then, the season could be reduced by two weeks, and the conditions that allow for snowmaking will be severely limited as fewer days remain at or below 28°F.[39]

While the exact quantitative economic losses remain unclear, they will likely be significant. For instance, about 40% of the Vermont Association of Snow Travelers' budget relies on ski leases.[45] As snowfall becomes less predictable, their financial stability will worsen. Winter gear vendors will also struggle with declining cash flow. And some winter activities are too rigid to adapt; using snowmakers on several miles of snowmobile trails is impractical.[39] Sports like ice hockey and skating may need to migrate to indoor rinks.[39]

Economic cascading effects extend beyond these industries. Homes repeatedly hit by disasters experience diminished

property values, ranging from reduced worth to being rendered uninhabitable. FEMA provides property buyouts for homeowners in designated flood hazard areas; however, relocation options are scarce in a state facing a housing crisis. More information about the state of the Region's available housing stock is provided in the Housing Chapter (Chapter 6, page 179). Municipalities may also hesitate to approve buyouts because these properties must remain undeveloped indefinitely, which removes taxable property from the grand list.[46]

Since 2011, the Region has had 11 buyouts totaling approximately $1.2 million: six in Brandon, two in Rutland City, and one each in Clarendon, Danby, and Wallingford.[47] The remainder of the state has had 335 buyouts valued at around $99 million[47] (Figure 11.5). Thus, the Region accounts for only about 3.1% of buyouts and 0.1% of the total funding. Among the 190 properties submitted to FEMA after July 2023, only the town of Wallingford had an awarded buyout.[47] Moving residents out of harm's way is a hard sell in the Region without willing property owners; in this regard, Brandon is an exception.

Flood insurance is available for communities participating in the National Flood Insurance Program (NFIP). The NFIP uses the Flood Insurance Rate Map created by FEMA for floodplain management, mitigation, and insurance purposes. However, high insurance costs produce inequities that leave many unprotected. FEMA provides Individual Assistance as an alternative, but not in every circumstance. Following the July 2023 federal disaster, FEMA denied Individual Assistance to a homeowner in Wallingford because they failed to obtain flood insurance after being impacted by Irene. This decision does not consider the barrier posed by exorbitant insurance expenses.

At the municipal level, if the disaster does not meet the per capita damage threshold, then the town is not eligible for funding.[48] For federally declared disasters in Vermont beginning October 1, 2024, the FEMA Public Assistance per capita damage indicator for the state is $1.89.[49] This means the total damage across the state must exceed this amount per person in Vermont. The county per capita indicator is $4.72, requiring the county to demonstrate damage exceeding this amount per resident to be eligible for FEMA aid.[49]

Earlier, this chapter highlighted the link between climate change and human health. Without proper determinants of health, the Region cannot sustain the workforce and community activities that benefit People and Society. Those used to cooler weather

BUYOUT STATS BY COUNTY

County	# of Buyouts	Total FEMA Award
Addison	5	$1,139,230.00
Bennington	7	$2,456,927.04
Caledonia	30	$8,182,548.48
Chittenden	27	$12,847,738.35
Essex	1	$198,765.00
Franklin	3	$508,510.00
Lamoille	25	$9,428,121.90
Orange	7	$2,082,980.00
Orleans	6	$1,651,422.00
Rutland	16	$1,827,371.98
Washington	134	$44,016,800.22
Windham	30	$4,233,763.91
Windsor	60	$12,604,320.31
TOTAL	**351**	**$101,178,499.19**

Figure 11.5

The Rutland County total accounts for an additional five buyouts from the Town of Pittsfield. Note that the FEMA Award amount does not include the final amount after overruns and deobligations.

are more likely to have heat-related illnesses as temperatures rise, and certain towns pose greater risks due to their physical environment (see "Heat Vulnerability in the Region"). Current data indicates that Vermonters experience heat-related illnesses at 87°F, a lower threshold than most of the country.[50] Groups most at risk include children, the elderly, low-income and transient populations, and individuals with existing health conditions.[50] Outdoor workers and residents of older homes lacking adequate cooling are also vulnerable.[50] Local Hot Weather Response plans acknowledge these situations and outline monitoring and response procedures aligned with the Rutland Vulnerable Populations Communication Protocol.

Vector-borne diseases like Lyme and West Nile will thrive in warmer temperatures, allowing mosquitoes and ticks to remain active for longer periods.[51] In summer 2024, 86 mosquito groups tested positive for Eastern Equine Encephalitis (EEE) in 16 municipalities, including Benson, Brandon, and Sudbury.[52] The Vermont Department of Health (VDH) identified these towns, along with Hubbardton and Pittsford, as high-risk transmission areas well into the fall.[52] While most cases are asymptomatic, EEE can lead to long-term disabilities, personality disorders, seizures, paralysis, coma, and death.[52] COVID-19, though not vector-borne, showed the consequences of a pandemic: supply chain disruptions, employee shortages, and ongoing health crises. Serious vector-borne

Heat Vulnerability in the Region

According to the Vermont Heat Vulnerability Index, the Towns of Killington, Pawlet, Rutland Town, Wallingford, Wells, and West Rutland are 0.5-1.5 times more vulnerable to heat illness. Rutland City is the most vulnerable at 2 times due to the Urban Heat Island Effect. The Heat Island Effect occurs when there are more paved surfaces and less green spaces, making the surrounding areas radiate more heat.

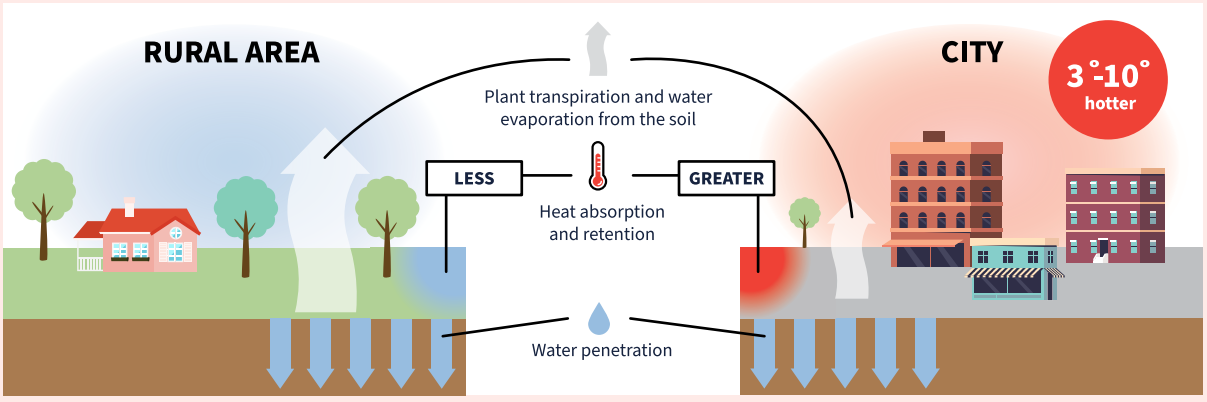


Figure 11.6

diseases will likely cause similar disruptions, impacting daily life and straining public health and the economy.

The Built Environment, Natural Environment, Economy, and People and Society all face threats from climate change. Physical infrastructure cannot handle current weather patterns. Altered forest ecosystems reduce tree longevity and their natural products. Warmer weather will diminish winter recreation and increase heat stress in under-resourced communities. Addressing these issues is essential for fostering community economic development and realizing a healthy, equitable, and resilient Region.

Regional Vulnerability

With a better understanding of the Region's vulnerabilities, the question remains whether the Region is resilient enough to withstand and adapt to disruptions from climate change. As part of this Plan's public engagement strategy (see the Engagement Report, Appendix A1.2, page 417), the RRPC sought a reaction to the following: "The Region is prepared for natural disasters and has the necessary resources to address them." Around 72% of survey participants (or over 800 people) disagreed or felt uncertain about this claim. Determining the accuracy of this perception requires a deeper dive into the various determinants of community vulnerability.

State and federal governments have developed tools such as the Vermont Municipal Vulnerability Indicators Tool (MVI) and the FEMA National Risk Index (NRI) to evaluate climate-related vulnerabilities and their contributing factors. This enables users to prioritize resource allocation and concentrate interventions where they are most needed. These tools facilitate the following analysis and offer an overview of where the Region is most vulnerable. However, vulnerability levels are not uniform across municipalities, and the specifics will vary due to local contexts.

Compared to the nation, the Region fares well. According to the US Climate Vulnerability Index, Rutland County has the "lowest vulnerability" (within the top 4%) for overall effects on neighborhood-level stability.[53] The NRI shows the Region as having a very low risk index value, very low expected annual losses, relatively low social vulnerability, and relatively high community resilience.[54] (For term definitions and supporting data, see the Glossary and FEMA National Risk Index: Rutland County Snapshot, Appendix A11.2, pages 430.) This means, relative to the nation, the Region will lose less property and capital to natural hazards each year; disproportionately impacted populations face lower risks; and communities are better equipped to prepare, adapt, withstand, and recover rapidly from disruptions. [54]

But this broader view obscures the Region's specific climate-related risks, which are highlighted in Figure 11.7. Compared to the state of Vermont, the NRI reveals that Rutland County has the highest risk for heatwaves and the third-highest risk for flooding and strong winds.[54] When including other costly disasters like extreme winter weather, the Region can expect an annual loss of $5.17 million.[54] If climate predictions hold, the Region will rank among the top 5

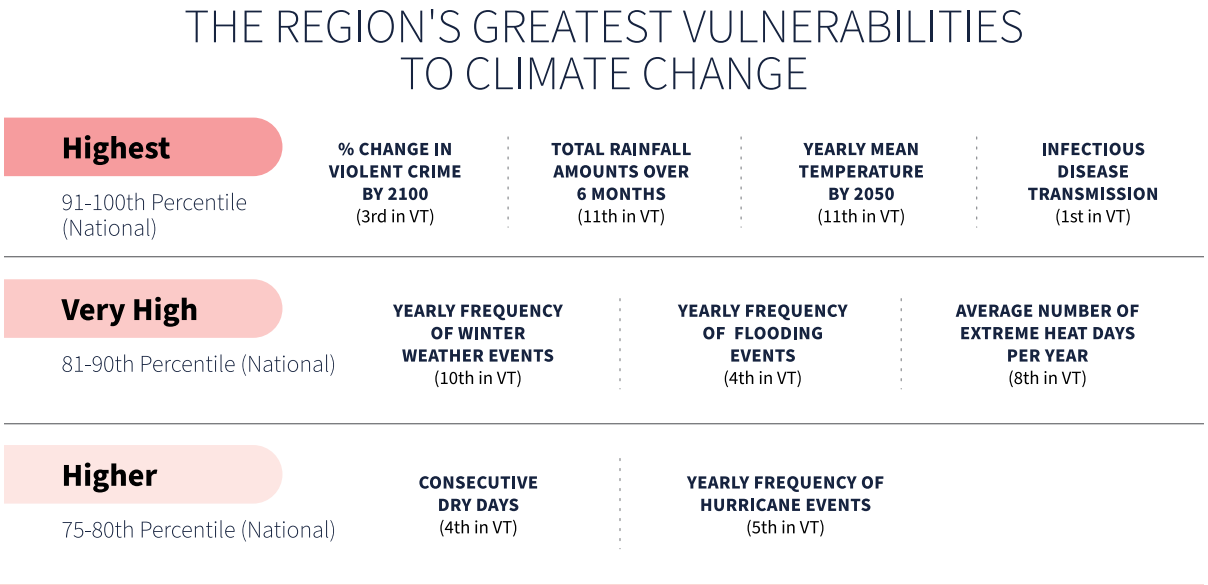


Figure 11.7

This graphic represents climate impacts for which we have the highest vulnerability when compared to the rest of the nation (75th percentile or above).

counties in the state for natural hazard risks and expected annual losses.[54] (Rutland at least fares better than Washington County, which leads as the second-most disaster-affected county in the country.[55])

The NRI also shows high social vulnerability levels (within the top 14%) for the Region compared to the state.[54] This is due to many towns having vulnerability indicators above state averages. According to the MVI, most of the Region has older housing stocks, limited municipal financial and staff capacity, and a higher percentage of people who are BIPOC, elderly, or chronically ill.[56] In relation to climate change, this means more homes are at risk of damage or loss, towns are stretched too thin to manage operations during times of crisis, and medically underserved or under-resourced communities are less capable of preparing for, coping with, and recovering from disasters. (For more details, see MVI Factors and Relationship to Climate Vulnerability, Appendix A11.1, page (page 416))

Adapting to disruption is especially difficult for those with pre-existing conditions. People with mental health and substance use disorders face higher risks of "deaths of despair"[53] (i.e., suicide or drug/alcohol poisonings); this likelihood will be exacerbated by increasingly unstable environments that lack adequate support systems. Unstable conditions may also contribute to rising crime rates; the Region is projected to rank in the top 2% nationally for increases in violent and property crime by the century's end.[53] Also, consider households without vehicles, which complicates evacuation before or during natural disasters. The Region leads Vermont in having vehicle-access-related vulnerabilities,[53] stressing the importance of considering factors like health and income when assessing vulnerability.

The public often views Vermont as a "climate haven" compared to states like California or Florida.[57] However, the extensive flooding seen in the summers of 2023 and

2024 challenges this perception.[57] Identifying vulnerabilities specific to the Region is the first step in constructing a strategy to mitigate the effects of climate change and bolster community resilience.

Regional Resilience: Present

Like vulnerability, resilience is shaped by several factors (see Figure 11.8). Stable jobs and substantial incomes dictate one's capacity to afford a vehicle, manage living costs, and save for emergencies. Municipalities with skilled personnel can enforce development standards to minimize flood-related losses. The principle here is clear: financial resources and skilled personnel are key to supporting societal well-being and government functions, even during disruptions.

It is worth asking, then, if current regional resources, including funding and staffing, are enough to build sufficient levels of climate resilience. With a better understanding of the Region's climate-related challenges, it is time to explore achievements made to date in building climate resilience across the four domains: the Built Environment, the Natural Environment, the Economy, and People and Society.

In relation to the Built Environment, every municipality in the Region has up-to-date road and bridge standards. This qualifies them for additional aid from Vermont's Emergency Relief Assistance Fund (ERAF) while improving safety, reducing life-cycle costs, and addressing environmental concerns.[58] All municipalities except Killington and Mount Tabor also participate in the National Flood Insurance Program (NFIP). NFIP helps minimize the economic impact of flood response and recovery and offers access to funding for mitigation projects through the Hazard Mitigation Grant Program[59](HMGP). The HMGP is funded through FEMA and is administered by Vermont Emergency Management (VEM) on behalf of the State. This grant funding is available after a federally declared disaster.

The Transportation Chapter (Chapter 5, page 129) discusses Brandon's $2.5 million "supersized" culvert, which saved the Downtown from flooding in July 2023. While large-scale mitigation is crucial, smaller actions add up, as seen with the Municipal Roads General Permit (MRGP). MRGP requires municipalities to implement customized multi-year plans to stabilize road drainage systems.[59] Stable ditches, culverts, and other methods help direct excess runoff away from nearby water resources (e.g., rivers, streams, wetlands, ponds), reducing phosphorus loading and minimizing sediment transport and erosion.[60]

MRGP PROGRESS

OVER 1,600

Regional road segments have been brought up to MRGP standards since 2018

According to MRGP reports, approximately 1,605 road segments (or about 51% of baseline non-compliant segments) have been upgraded to MRGP standards as of July 2025.[61] In the Region, 24 out of 27 municipalities met the 15% compliance target for December 31, 2022, with 525 road segments brought up to standard.[61] Similarly, 23 out of 27 municipalities

achieved the 7.5% target for April 1, 2024.[61] Although more work is needed to achieve compliance by December 31, 2026, these achievements demonstrate a dedicated effort toward limiting stormwater-related erosion on municipal roads.

Projects in the Natural Environment that restore natural features and processes, known as nature-based solutions, provide significant economic and public health benefits, often outperforming traditional infrastructure.[62] One example is floodplain restoration, which allows floodwaters to spread and slow down, thereby reducing erosion through natural sediment deposition.[63] Figure 11.9 depicts a floodplain restoration project in Clarendon, completed with support from the Rutland Natural Resources Conservation District (NRCD) in 2022.[63] The project included the removal of a sediment berm in the Cold River, which was formed by channelization and dredging during post-Irene recovery efforts.[64] Another example of a nature-based solution is the removal of antiquated or malfunctioning dams. Benefits include decreased erosion potential downstream[66], such as the 2023 removal of Shrewsbury's Conolly Pond dam, and lowered flooding threats in nearby neighborhoods[65], as seen with the 2021 removal of Rutland City's Dunkley Dam.

Despite this progress, critical gaps remain.

What Makes a Community Resilient?

According to the Vermont Community Resilience Index, these five communities are most resilient in terms of public health: Sudbury, Chittenden, Mendon, Hubbardton, and Shrewsbury. They all share similarly high percentiles for median income levels and rates of home ownership, similarly low percentiles for housing costs, and moderate to similarly high percentiles for employment, vehicle access, and broadband access. Here is a snapshot of the Community Resilience score for Chittenden from 2018-2022.

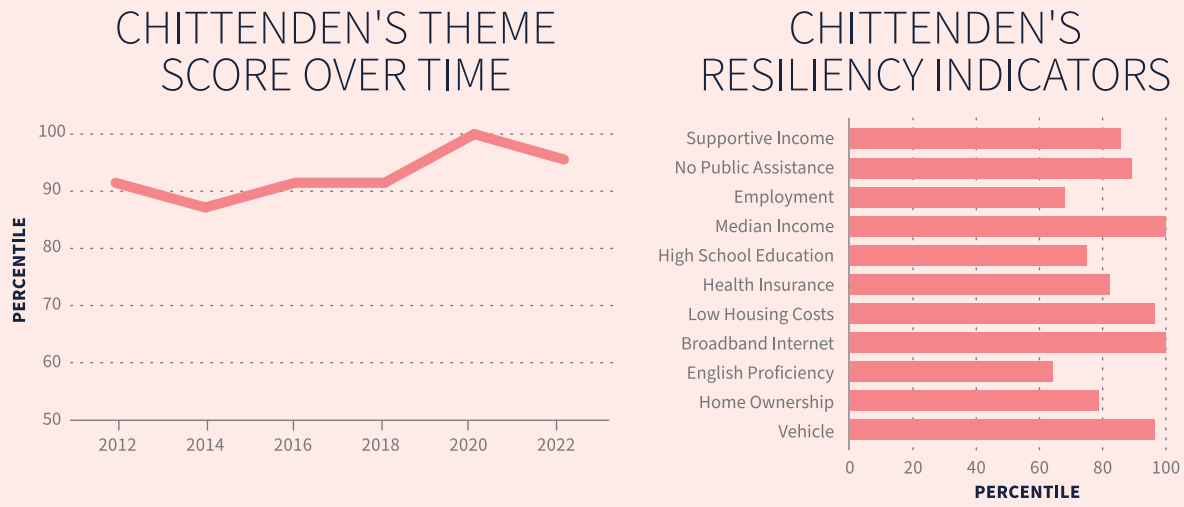


Figure 11.8

Figure 11.9 Restoring the Cold River's Floodplain in Clarendon.

Many nature-based solutions are needed on private land beyond municipal control. On public land, limited staff capabilities prevent these projects from moving forward. Indeed, finding suitable projects is an ongoing challenge without a local or regional watershed agency. While NRCDs and Clean Water Service Providers (CWSPs) undertake this type of work, the primary focus is on improving water quality. For more details, refer to the Natural Resources Chapter (Chapter 10, page 297). Projects with the greatest flood resilience benefits are not necessarily identified and quantified as such.

Regarding the Economy, the Smokey House Center in Danby is tackling the climate challenges posed to the maple syrup industry. The center received a $500,000 federal grant in 2024 to launch its Climate Adaptive Maple Program, a long-term study testing climate-adaptive forest management strategies and sap extraction techniques.[67] By assessing impacts on syrup yield and sugar bush resilience, the program aims to make these adaptive measures more appealing to producers concerned about potential short-term declines in production.[67]

Local food systems play a vital role in climate resiliency, as described in the Working Landscape Chapter (Chapter 9, page 271). Stone's Throw Farmstead in Shrewsbury built a climate-resilient, passive solar greenhouse, thanks to financial assistance provided by the Vermont Council of Rural Development (VCRD).[68] The $4,000 Climate Catalysts Innovation Fund award paid for various energy-efficient upgrades, including a 99% efficient wood-burning heater and wool insulation.[68] Since then, field production has tripled, as transplants are now shielded from temperature swings.[68] Such investments strengthen farm revenue and provide food security, an emerging need as the demand for local products grows.

For People and Society, the RRPC helped develop Local Hot Weather Response Plans for Middletown Springs and Wallingford. These plans outline communication strategies and

emergency response mobilization and designate locations for cooling sites. Sites may include outdoor areas with water access (e.g., lakeside beaches) and indoor facilities offering free air conditioning (e.g., libraries).[69] Ideally, these places also provide food, water, Wi-Fi, device charging, and overnight accommodations, effectively serving as resilience hubs.[69] (Resilience hubs are described in greater detail later in this chapter.) Equity considerations are important, indoor facilities should be ADA accessible, and outdoor sites like public pools should waive or reduce fees on hot days.[69] Cooling sites should be in Downtowns and Village Centers for better accessibility by foot, bike, and bus.

Expanding local response efforts remains difficult. About half of the Region's municipalities lack suitable locations for cooling sites, and existing facilities have age and design limitations that inhibit their ability to take on increased energy loads for adequate air conditioning. Outdoor sites may be in floodplains, like Pittsford's recreation area, which makes them vulnerable to closures. Even if cooling sites are available, many Vermonters prefer staying home during extreme weather events, diminishing the perceived value of these facilities. Although awareness of heat risks is growing, flooding remains the more immediate concern for many communities. Only time will tell if this mindset changes.

In summary, rising global temperatures are causing more extreme fluctuations in precipitation. Climate change in the Region results in more frequent and costly flooding events, especially as development encroaches on areas that can help moderate flooding. It also leads to forests that are more susceptible to invasive species, declining key industries like winter sports and maple syrup, and increased illness from heatwaves and vector-borne diseases. Protecting underserved populations and investing strategically in built and natural environments must be prioritized to enhance the Region's climate resilience.

FUTURE TRENDS

The future of climate resiliency in the Region is dependent on proactivity and mutualism. This vision stems from economic and demographic projections, trend reports, public engagement, and insights from local studies and reports. Achieving it requires enhancing social (e.g., community spaces) and physical infrastructures (e.g., walkable neighborhoods) for stronger, more connected communities; pursuing action to mitigate impacts and adapt infrastructure and neighborhoods to changing conditions; prioritizing the voices of those most affected in guiding solutions; emphasizing living in harmony with ecosystems that support human health; and sharing knowledge and resources to help build capacity and expand the impact of climate change-related efforts.

Realizing these future opportunities requires strategic investments, regional collaboration, and innovative approaches that align resources with the vision of a healthy, equitable, and resilient Region. Although the factors driving climate change are systemic and widespread, and some may be beyond local or regional control, reducing harm through mitigation and adaptation is

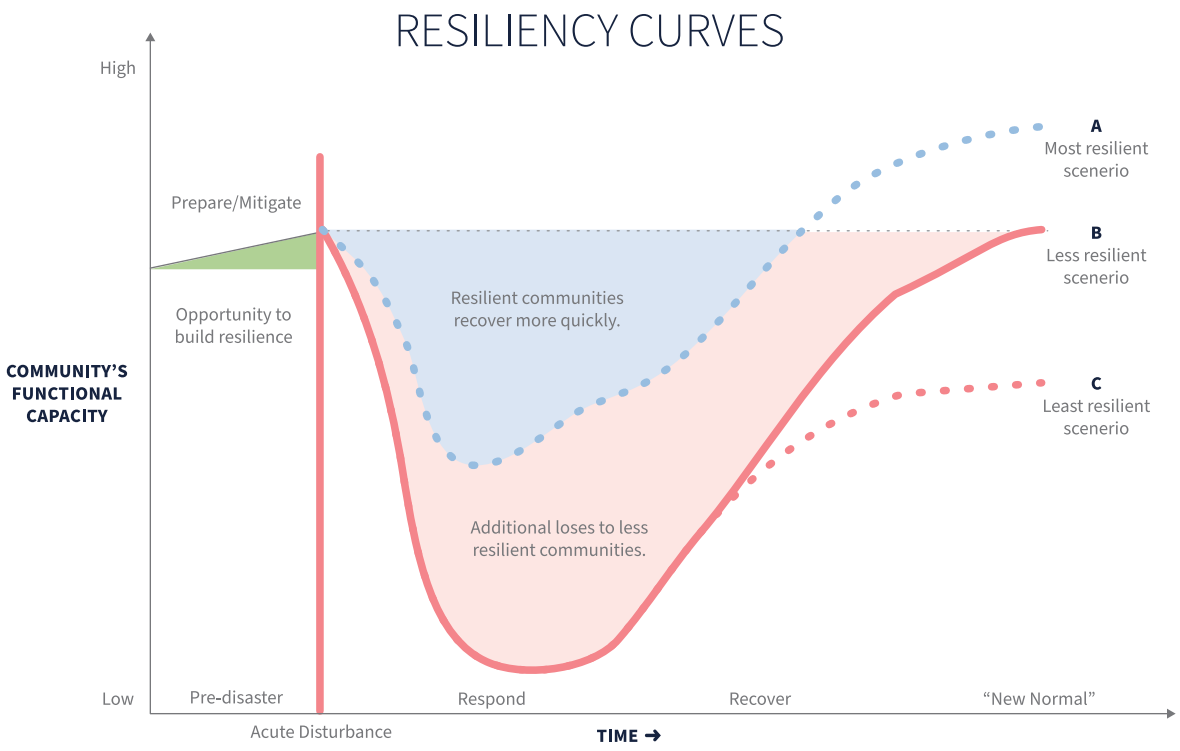


Figure 11.10

The Region is more like the C or B curve: true resilience is seen with the A curve.

crucial. The Region starts at a low point on the resiliency curve, making this a daunting prospect. (This is illustrated in Figure 11.10, which shows the Region starting on the lowest curve of resilience). Nevertheless, addressing climate change necessitates a transition that promotes community economic development and ensures future prosperity.

Regional Resilience: Future

Beyond the patchwork efforts noted above, resilience in the Region is poorly defined. Conversely, the state's multi-year climate preparedness effort, beginning with the 2020 Global Warming Solutions Act, mandates binding greenhouse gas reductions by 2050 to mitigate climate change. The Vermont Climate Action Plan, last revised in 2025, details strategies to meet these targets.[23] Municipalities play a key role in this effort, and the RRPC will aid towns with greenhouse gas mitigation through the Region's Enhanced Energy Plan presented in the Enhanced Energy Chapter (Chapter 8, page 239). The RRPC is also collaborating with ANR's Climate Action Office to help create a municipal climate adaptation strategy that integrates relevant climate actions into local planning processes while aligning with State resiliency objectives.

Community planning and action can reduce the impact of natural events that are inevitable yet uncertain in timing and severity. Mitigation measures that limit their effects serve as an investment to reduce risk and enhance resilience. This investment takes many forms, such as integrating

mitigation actions into policies and regulations that guide land development. For this Plan, the regional resilience strategy will outline mitigation pathways as they relate to the four impact domains: the Built Environment, the Natural Environment, the Economy, and People and Society.

Regional Resilience: Built Environment

For the Built Environment, proactive investments from both public and private sectors in critical infrastructure supporting community lifelines are essential. More details about the Region's infrastructure can be found in the Community Facilities and Public Utilities Chapter (Chapter 7, page 199). Implementing these investments requires sufficient funding and administrative and technical capacity. Financing public infrastructure projects can be challenging, but there are grant opportunities that should be pursued wherever possible. For example, several FEMA funding rounds from declared disasters since July 2023 are anticipated, and the RRPC should be prepared to investigate potential projects and provide technical assistance for their applications.

Sometimes, municipal priorities conflict with State ones. For instance, over 95% of the July 2023 HMGP funding went to buyouts, but most of the Region's pre-applications sought help for highway infrastructure upgrades. Thus, the RRPC must align municipal projects with potential grants like the Vermont Agency of Transportation's Municipal Highway and Stormwater Mitigation Program. This approach would also promote nature-based flood mitigation solutions that are not typically covered by CWSPs - see the Natural Resources Chapter (Chapter 10, page 297) for details. Aligning municipal needs with funding intentions ensures competitive project applications and increases the likelihood of an award.

State and federal grants are important but highly competitive funding sources, so the Region cannot expect to receive every grant. The withdrawal of FEMA Hazard Mitigation Assistance funding in April 2025 further indicates that the Region may not be able to rely on federal assistance. Towns should therefore begin to allocate funds for climate resilience into their budgets (e.g., emergency reserve funds) and capital plans. The RRPC recommends a two-pronged strategy: ongoing monitoring of grant opportunities and assisting municipalities in strategizing targeted investments through capital planning.

Municipalities already struggle with daily operations, let alone the additional challenges posed by climate change. Road foremen retire without successors, and public works positions are not easily filled, as specialized skills are needed for water and wastewater operations. This leads to setbacks in long-term planning and highlights the need for younger, trained professionals in the Region, as noted in the Economic Development Chapter (Chapter 3, page 79). In the meantime, mutual aid agreements, especially the Rutland Region Public Works Mutual Aid Agreement, provide vital support lines. These and other shared municipal services help towns cut costs and improve and maintain essential services.[70]

PLANNING AROUND FLOODING

If the flood risk is severe enough, a *managed retreat* of people and property may be the only option.[71] Avoiding new development in SFHAs and River Corridors protects public health and safety and improves financial resilience. If it cannot be avoided, flood hazard area and river corridor bylaws must ensure that development mitigates or eliminates flooding and fluvial erosion impacts. These provisions are most beneficial in Planned Growth Areas and other "Growth FLUA" – see the Land Use Chapter (Chapter 2, page 37) for more details.

Regional Resilience: Natural Environment

In preparation for July 2023 HMGP funding, the RRPC identified a significant gap in municipal flood resiliency projects utilizing nature-based solutions. Many potential projects remain buried within mid-2000s River Corridor Plans; reviewing these plans alongside CWSP projects could help identify viable opportunities. Additionally, conducting a flood study along historically problematic rivers, such as the Cold and Mill Rivers, can help evaluate alternatives for known high-risk sites. One area that recently benefited from a flood study is the Big Branch alluvial fan in Mount Tabor. An alluvial fan is a fan-shaped deposit of sediment formed where a river abruptly flows from a steep, confined channel to a flatter, unconfined area. Since Irene, sediment buildup in the Big Branch alluvial fan has reduced flood capacity and increased flood risk to properties along Brooklyn Road.[72] With RRPC assistance, the town considered options like property buyouts, flood chute capacity enhancements, and a vegetation management plan.

The municipal capacity and property ownership challenges described in Current Conditions require regional organizations, like the RRPC and NRCDs, to engage with the Vermont Agency of Natural Resources in strategic watershed planning. Tactical Basin Plans, which lay out strategies designed to protect or improve surface waters, may serve as a starting point. But these actions prioritize water quality issues, and there remains a need to quantify flood mitigation benefits through advanced modeling. Completing this groundwork now can reduce the time and effort needed for future funding applications.

Earlier in the chapter, impacts of a changing climate on the Region's forests were discussed. Forests managed for health and resiliency – for instance, through adaptive management practices that optimize forest structure, composition, and function[38] – are better able to mitigate these impacts. This is because a structurally and compositionally diverse forest has multiple pathways to recover from disturbances.[38]

Since most Vermont forests are privately owned, the primary responsibility will fall on the landowners to utilize these techniques. Municipal forest tracts would also benefit from adaptive management, and implementing these techniques on public land will help enhance forest resiliency.

The invasive pest of greatest concern in the Region is the Emerald Ash Borer (EAB), given its previously detected presence and the high mortality rate of ash trees. Treating or removing trees before they die is highly cost-effective and maximizes the chances of ash tree survival.[73] Rutland City utilized this approach when implementing its 2019 EAB Strategy Plan. Today, 120 of their roadside ash trees remain alive, while a diversity of hardwood species stand in place of the 235 removed trees.[74] This helps bolster the resilience of the urban tree canopy to future invasive attacks.[74]

Regional Resilience: The Economy

According to the Economic Development Chapter (Chapter 3, page 79), outdoor recreation will remain a key driver of growth in the Region. As a result, traditional sectors must diversify to offset revenue losses from shorter winters. Potential options include mountain biking, guided hikes, music festivals, and food events. Killington is a good case study, as it hosts the Wine Festival, Cooler in the Mountain concert series, and Sherburne Trails. In a similar vein, municipalities with deep agricultural roots may find opportunities in promoting agrotourism. The Working Landscape Chapter (Chapter 9, page 271) discusses this in greater detail.

A variety of warm-weather recreational and cultural opportunities may entice tourists drawn to warm-weather activities to stay longer. These trends present opportunities to attract extended-stay visitors and strengthen the local economy. Municipalities may want to consider devising economic development strategies that will effectively draw in these consumers. The first step to developing such a strategy is to understand how outdoor recreational assets contribute to the town's economy. Poultney has an economic and fiscal impact report from 2023 that can help guide other towns wishing to conduct a study of their own.

In the realm of disaster recovery, little can be done at the regional level about systemic shortcomings in federal assistance programs. However, the potential loss of federal aid highlights the importance of shifting toward local capital planning. In addition to the RRPC, the Vermont League of Cities and Towns can provide financial and technical assistance to help municipalities with capital planning. If FEMA Individual Assistance and Public Assistance programs remain as viable options, then RRPC can help municipalities navigate the federal process to maximize reimbursements. Emergency management directors (EMDs) and public works staff would greatly benefit from targeted, RRPC-delivered training and workshops to assist towns with tasks such as damage and response documentation.

More broadly, enhanced coordination of resilience planning and investments is

an approach that supports the efficient use of public dollars.[75] Strong communication and collaboration among community partners help maximize resource efficiency.[76] For instance, municipalities that have more severe damages following a disaster would benefit from the expertise of EMDs in unaffected areas. With proper recordkeeping, the assisting EMD can be reimbursed for their time by FEMA. The sharing of knowledge and manpower helps alleviate administrative burdens for towns, which in turn saves financial capital for necessary repair and recovery efforts. See the Community Facilities and Public Utilities Chapter (Chapter 7, page 199) for more information on shared municipal services.

Regional Resilience: People and Society

The best way to protect human health, well-being, and economic stability is to enhance the Region's capacity to prepare for, respond to, recover from, and mitigate the impacts of disasters. The physical embodiment of this capacity is evident in resilience hubs, which offer trusted locations for residents to gather and gain direct access to

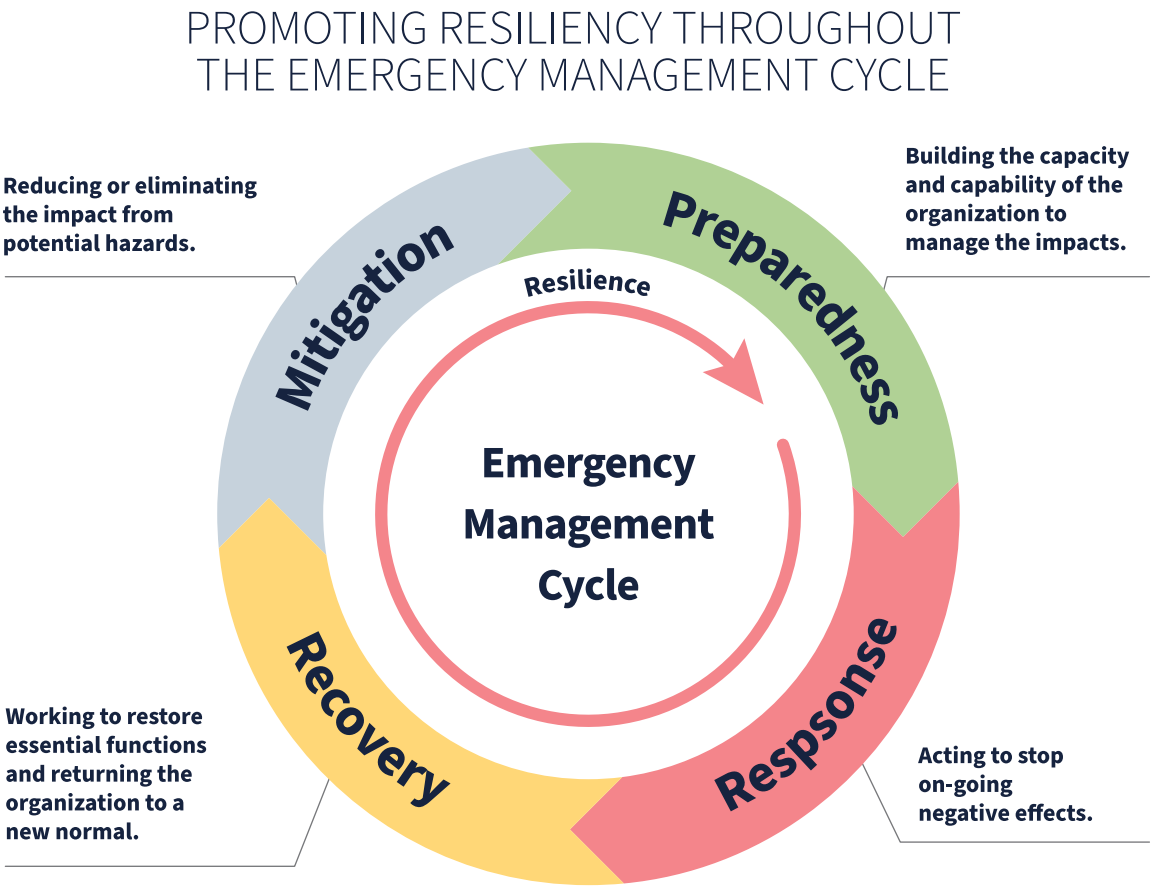


Figure 11.11

The emergency management cycle illustrates the ongoing process of "impact management" that occurs before, during, and after a disaster. By integrating resiliency throughout all phases of the cycle, the Region enhances its enhance our overall ability to prepare, withstand, respond, and adapt to disruption.

community resources throughout the year.[77] Hubs are most effective when strategically positioned (i.e., outside floodplains), support on-site power systems (e.g., solar and battery storage), and are led and managed at the grassroots level.[77] Meeting community needs during normal "blue-sky" conditions as well as disasters enhances the community's ability to anticipate, accommodate, and recover swiftly from disruptions.[77]

Hubs in the Region will likely be in municipally owned buildings, which are trusted sites for gathering, learning, and supporting communities. Additionally, current work is underway to install on-site power systems in some municipal buildings. Thanks to the Municipal Energy Resilience Program (MERP), technical and financial support has enabled nine municipalities and one fire district in the Region to implement more renewable and resilient power systems, such as heat pumps, in their buildings. Nearly every town in the Region received detailed assessments through MERP, and this information will help address energy concerns and optimize municipal buildings as resilience hubs.

Natural hazard events cross town boundaries and impact multiple sectors of society, which makes community preparation a collaborative effort. A strategic network of partners and resources will best support municipalities facing challenges with limited capacity. Strong communication among community partners also helps minimize service duplication.[78] With these principles in mind, the Rutland Regional Disaster Cooperative (RRDC) came into being following the flood events of July 2023.

No municipality or organization can handle all aspects of a disaster alone. With limited state and federal resources, the RRDC aims to bridge knowledge and capacity gaps by fostering intercommunity connections.[78] This allows the strengths of each partner, including their knowledge and resources, to be leveraged where needed.[76] Through the Rutland Regional Emergency Management Committee (REMC), the RRPC has developed a close working relationship with the RRDC to strengthen resilience among the Region's municipalities. By preparing together, the Region can recover faster and more effectively while also ensuring that no community or group is overlooked.[78]

> The RRDC has a 2030 vision where 'community champions' (i.e., municipalities actively involved in emergency management) work with key regional personnel to coordinate emergency communications and resources on behalf of the municipalities in their respective 'sub-regions.

Community resilience depends on social cohesion, or the quality of inter-human relationships.[79] Strong social networks, trust in people and institutions, and expressions of solidarity are all indicators of a community's level of social cohesion.[79] These factors are known to support resilience, as cooperative communities can mobilize swiftly and better manage long-term recovery.[80] Building unity enhances social cohesion—simple actions, such as monthly coffee with new neighbors,

Figure 11.12

The International Consortium for Organizational Resilience Community Framework asserts that there are five primary systems upon which each community functions, no matter its size. Each system contributes to the overall resilience or vulnerability of the community.

help foster trust, while community gatherings create a shared sense of identity.[80] The Cultural Resources Chapter (Chapter 4, page 101) speaks in more detail about the benefits of strong social bonds. Municipalities may benefit from resources provided through VCRD's Climate Economy Resilient Community program, which can provide support for relationship-building initiatives.[81]

In summary, effective climate resilience requires a unified effort to build mutual relationships, coordinate non-competitive service and resource sharing, and encourage proactive municipal planning. These are ongoing initiatives in the Region that cannot be accomplished in a day. However, prioritizing and formalizing these principles now will better position the Region not just to recover but to thrive in the face of future challenges.

Conclusion

The future-facing strategies outlined above require thoughtful planning and coordinated investment to ensure effective implementation. The following section outlines the Region's policies and actions to enhance the ability of communities to prepare for, respond to, and recover from climate-related impacts. These policy recommendations are grounded in data, community input, and state and federal priorities. Progress will be measured through a set of indicators designed to track implementation and ensure accountability as the Region works to achieve its climate resilience goals.

Swift Water Rescue on Clover Street in August 2023 (DR4744)

What's Next? // CLIMATE RESILIENCE

Goals

1) Enhance the ability of communities to prepare for, respond to, and recover from climate-related impacts, including flooding.

Policies

1) State and federal tools **shall** be used to help identify community-specific climate change vulnerabilities.
2) Investments in critical infrastructure, like highway infrastructure, water, wastewater, and electric utilities, should include resiliency measures.
3) In all FLUAs, new development should be discouraged in FEMA-mapped floodplains and state-mapped river corridors, and municipalities **shall** enforce protections, such as raising structures at least two feet above base flood elevation, through applicable regulations.
4) Infill development in FEMA-mapped floodplains and state-mapped river corridors **shall** mitigate or eliminate the impacts of flooding and fluvial erosion, including effects on downstream communities, consistent with application regulations.
5) Development should avoid impacts to wetlands and upland forests to maintain natural flood storage capacity, consistent with applicable regulations.
6) Restoration of floodplains and other natural features that enhance flood resilience is encouraged.
7) Nature-based solutions to mitigate flood impacts are encouraged.
8) Local sources of funding, such as emergency reserve funds, should be considered to prepare for, respond to, and recover from climate-related impacts on public infrastructure, in addition to secondary aid that may be available from state and federal sources.
9) The tourism and outdoor recreation sector should diversify its services and offerings to provide more resilience against warming temperature trends.
10) Hot Weather Response plans should be considered in all municipalities to identify cooling sites, formalize public communication and warning, and monitor and support at-risk populations.

Policies continued

11) Local capacity and social cohesion should be strengthened to plan for, respond to, and recover from climate-related impacts.

12) Resiliency planning and implementation should include opportunities for meaningful participation, particularly for individuals affected by frequent flooding and climate-related hazards.

Actions

1) Utilize the Municipal Vulnerabilities Indicator Tool, the Transportation Resilience Planning Tool, the National Risk Index, and similar resources to identify community-specific vulnerabilities in the built, social, and natural environment for all municipalities by 2027.

2) Host a training session for municipalities to help them develop a holistic understanding of community-specific climate change vulnerabilities by 2030.

3) Investigate whether municipal buildings with Municipal Energy Resilience Program-funded projects are adequately equipped to serve as resilience hubs after 2028.

4) Advance mitigation investments in municipal facilities and utilities by assisting with capital improvement planning, feasibility studies, and municipal plans.

5) Assist municipalities with updating flood hazard bylaws or adopting river corridor bylaws.

6) Identify municipalities where establishing cooling sites/resiliency hubs and developing Hot Weather Response plans are viable by 2028.

7) Assess the need for a Regional Hot Weather Response Plan. If appropriate, begin development in 2030; if not, continue promoting municipal Hot Weather Response Plans.

8) Assist municipalities with the mapping of upland forests and floodplains and the development of restoration projects through a watershed level flood risk assessment.

9) Identify and share state and federal grant opportunities annually for infrastructure, stormwater, and nature-based solutions, and provide technical assistance to implement projects identified in Local Hazard Mitigation Plans and Tactical Basin Plans.

10) Identify eligible, competitive projects, especially those not covered by the Clean Water Service Provider (CWSP) program for FEMA's Hazard Mitigation Grant Program.

Actions continued

11) Determine the capability of municipal conservation commissions to identify and prioritize areas with potential for nature-based solution projects, beginning in 2029.
12) Conduct a flood resilience study along the Cold and Mill Rivers to support the development of potential mitigation projects, and issue a Request for Proposals in 2031.
13) Conduct a flood risk analysis or vulnerabilty study for the Region's watersheds, primarily Otter Creek, Poultney-Mettawee, and Ottauquechee-Black, by 2032.
14) Develop a Regional Flood Resiliency Plan for the Otter Creek watershed by 2034.
15) Host annual workshops teaching the public about flood mitigation through nature-based solutions, beginning in 2028.
16) Maintain the Rutland County Fire and Public Works Mutual Aid Agreements. Determine the feasibility of additional shared service and equipment agreements through the biennial municipal shared services assessment.
17) Determine the potential for developing a mutual aid agreement between Emergency Management Directors to assist with sharing knowledge and resources following a disaster by 2029. If feasible, develop and ratify this agreement no later than the end of 2030.
18) Merge Rutland Regional Emergency Management Committee (REMC) meetings with Rutland Regional Disaster Cooperative (RRDC) meetings to ensure participation and strengthen the regional emergency management support network by 2027.
19) Facilitate discussions (at least once yearly) investigating how the capabilities of RRDC key partners (non-profits, community-based organizations, businesses, etc.) can support municipalities' needs; have ratified agreements between these parties in place no later than 2032.
20) Establish a REMC subcommittee comprising 'community champion' municipalities that will meet regularly to develop regional emergency management aids by 2030.
21) Explore opportunities for municipalities to participate in the Resilient Communities Program; have five municipalities apply for this program before 2030.

Indicators of Progress

1) Number of Updated Flood Hazard Area and/or River Corridor Bylaws

Indicators continued

2) Number of Municipalities with Dedicated Local Funding Sources for Mitigation Investments
3) Number of Resiliency Plans and Studies
4) Number of Municipalities Participating in the Regional Emergency Management Committee
5) Number of 'Community Champion' Municipalities in Each Emergency Management Sub-Region

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Photo Credit: Mike DiMeola

INTRODUCTION

The State of Vermont has 11 regional planning commissions. As shown in Figure 12.1, the Rutland Region (the Region) borders five regional planning areas within Vermont, as well as Washington County, New York. Since Vermont lacks county government, regional planning is carried out at the planning commission level, as explained more thoroughly in the Plan Implementation Chapter (Chapter 13, page 373). In contrast, regional planning in Washington County, New York, is managed at the county level under New York State law.

This chapter examines the relationship between the Rutland Regional Plan (the Plan) and neighboring regional plans, including Washington County, New York. Several development issues in these areas have regional impacts, making it important to assess how their plans and development trends relate to those of the Region. Since all five Vermont regional planning commissions bordering the Region are currently updating their regional plans to meet the requirements of Act 181 (2024), statements of plan consistency include a review of pre-Act 181 plans and early drafts available at the time of writing.

The State of Vermont has
11
REGIONAL PLANNING COMMISSIONS

ADDISON COUNTY REGIONAL PLANNING COMMISSION (ACRPC)

Development Trends

The Region shares its northern border with Addison County. The Addison-Rutland border shares many resources, including Otter Creek. Brandon is equidistant from both Rutland and Middlebury, serving as a sub-regional hub for communities in either area. Brandon also relies on services from both Middlebury and Rutland. Sudbury and Whiting share emergency services and are both rural communities along VT Route 30. Benson and Orwell share several services, including schools, and are both rural communities along VT 22A.

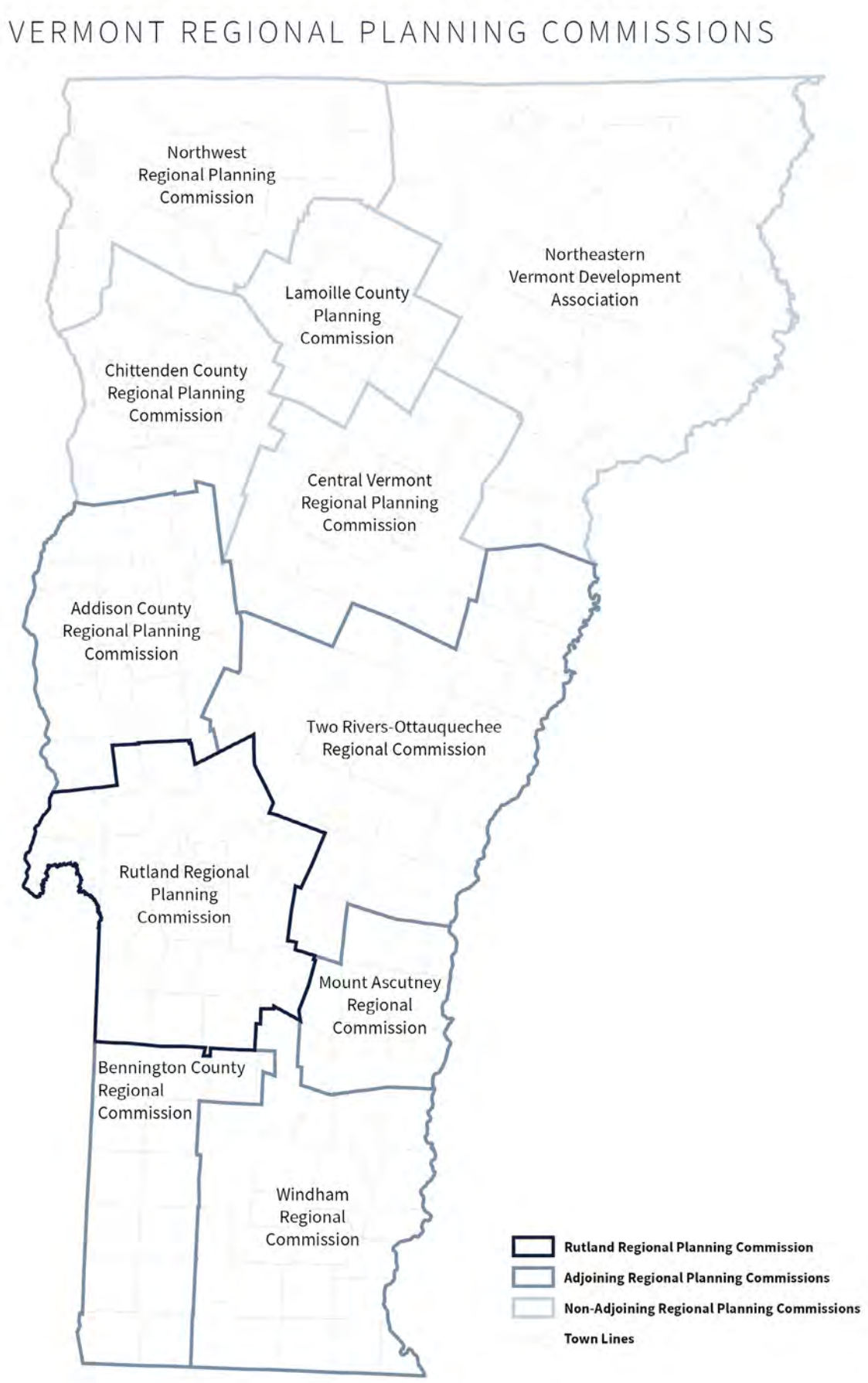

Figure 12.1

The Rutland Region shares borders with five other regions.

Plan Consistency

The four border communities—Sudbury, Whiting, Benson, and Orwell—promote mostly rural, agricultural, and forest land uses, with the most intense uses focused along US Route 7 in Leicester and VT Route 30 in Whiting. Projected growth patterns in Addison County align with those anticipated in the northern part of the Region. The ACRPC Regional Plan is consistent with the Rutland Regional Plan.

TWO RIVERS OTTAUQUECHEE REGIONAL COMMISSION (TRORC)

Development Trends

The Region shares most of its eastern border with the Two Rivers-Ottauquechee Region. The border communities within the Two Rivers-Ottauquechee Region are Pittsfield, Stockbridge, Bridgewater, and Plymouth. Due to the topography, the only major routes connecting the two regions are US Route 4 (into Bridgewater) and VT Route 100 (into Pittsfield). Both regions have economies and natural features related to Killington and its resort. A hamlet exists at West Bridgewater, serving residents on both sides of the border and tourists. Pittsfield remains a small community but has several hotels and restaurants geared toward the Killington resort market. As Killington expands, these neighboring communities are also expected to grow.

Plan Consistency

The Rural Conservation future land use category dominates in the border communities, with a hamlet and a village designated in Bridgewater, and a village designated in Pittsfield. The TRORC Regional Plan is consistent with the Rutland Regional Plan.

MOUNT ASCUTNEY REGIONAL COMMISSION (MARC)

Development Trends

The Region has a small border with the Mount Ascutney Region, specifically with the towns of Mount Holly and Ludlow. The two regions also share a tourist destination, the

Okemo Mountain Resort, which is mostly in the Mount Ascutney Region. This resort significantly impacts neighboring communities, affecting traffic, economic growth, and housing. Ludlow also serves as an employment and service hub for people in the southeastern part of the Region.

Plan Consistency

Both the RRPC and MARC have mapped their border as the Rural Conservation future land use category, except for the existing Okemo ski trails, which are mapped as the Resource-Based Recreation future land use category on both sides of the border, ensuring consistency around the resort. Both plans emphasize protecting forest blocks and wildlife corridors outside of existing ski areas. The MARC Regional Plan is consistent with the Rutland Regional Plan.

WINDHAM REGIONAL COMMISSION (WRC)

Development Trends

The Town of Weston in Windham County shares its northern and western borders with Mount Holly and Mount Tabor in the Region. Due to the topography, only a seasonal National Forest Service road connects Mount Tabor to Weston. Mount Holly and Weston have loose economic ties, though neither community is a major employer or service provider for the other.

Plan Consistency

Pre-Act 181 drafts show that Weston is planned for conservation. The WRC is in the early stages of developing an Act 181-compliant regional plan. The current WRC Regional Plan is consistent with the Rutland Regional Plan.

BENNINGTON COUNTY REGIONAL COMMISSION (BCRC)

Development Trends

Four towns in Bennington County—Dorset, Rupert, Landgrove, and Peru—border the

southern edge of the Region. Two major highways, US Route 7 and VT Route 30, connect these areas. Services and employment opportunities are equally accessible from Pawlet, Danby, and Mount Tabor to Rutland and Manchester. Residential growth in Manchester and Dorset, which are larger communities compared to their northern neighbors, has led to a spillover effect. These communities share multiple resources, including emergency response services and schools. The Bennington-Rutland area also has shared natural resources, such as the Mettowee River watershed and National Forest Land in the Green and Taconic Mountains.

Plan Consistency

The BCRC plans to designate most of the border areas as the Rural Conservation future land use category. The RRPC has primarily mapped the border areas as the Rural Agriculture and Forestry future land use category because these lands are enrolled in the Current Use Program. The BCRC Regional Plan is consistent with the Rutland Regional Plan.

WASHINGTON COUNTY PLANNING AGENCY (NEW YORK)

Development Trends

The Region's western border is shared with Washington County, New York. US Route 4 is a main cross-border road that carries freight, commuter, and tourist traffic. Passenger rail service to Whitehall, New York has been operating since 1934, with the Ethan Allen Express offering daily trips from Castleton, Vermont, to Albany, New York. Fire departments in Fair Haven, Middletown Springs, Pawlet, West Pawlet, Poultney, and Wells participate in Washington County's mutual aid system. Granville and Whitehall act as sub-regional employment and service hubs for people in the western part of the Region. Fair Haven and Poultney function as sub-regional employment hubs for eastern Washington County. Shared natural resources include the D&H Rail Trail, the Mettowee River watershed, and an important wildlife corridor that enables animals to move between the Green Mountains and Adirondacks. Development pressures from seasonal and second homes, along with agricultural labor concerns, reflect a shared rural economy and workforce.

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LEGAL AUTHORITY AND USE OF THE PLAN

Chapter 117 of Title 24 in the Vermont Statutes Annotated, known as the Vermont Planning and Development Act, defines the roles of regional planning commissions. These commissions work with municipalities to achieve municipal and state-level planning and land use goals. In June 2024, Vermont passed Act 181, which overhauled the state's land use planning framework to enhance community resilience and biodiversity protection. The law modernizes how Vermont directs public investments to designated areas and accelerates the transition of Act 250 permitting to municipal, location-based jurisdiction. The Land Use Chapter (Chapter 2, page 37) offers more information about the new land use categories and areas eligible for municipal jurisdiction for certain types of Act 250 exempt development. Chapter 117 of Title 24 specifies the purpose, the required elements, and the process for adopting and amending regional plans.

This comprehensive plan for the Region, specified by state statute, serves a variety of users. The Plan is an educational and reference document for citizens and landowners, providing essential information about the area and outlining a vision for the future. It offers municipal officials guidance for developing town plans and supporting local initiatives, such as transportation and economic development projects. Businesses and developers can refer to the Plan to gather pertinent information about the Region, identify suitable locations for projects, and create business plans. State agencies with programs or actions that impact land use must participate in a planning process to ensure alignment with the Plan. As part of their application review for major subdivision and development projects seeking an Act 250 permit under 10 V.S.A. Chapter 151, Act 250 District Environmental Commissioners must determine whether the project aligns with the goals and policies of the Plan. The Vermont Public Utility Commission must also evaluate, in its application review for electrical or gas transmission or generation projects seeking a Certificate of Public Good under 30 V.S.A. §248, whether the project unduly disrupts the orderly development of the Region as outlined in the Plan. Finally, the RRPC Board of Commissioners and staff utilize the Plan to establish an 8-year action plan that addresses regional issues of importance, guides the creation of municipal plans and land regulations, and enables the review of Act 250 and Section 248 project applications.

The RRPC intends, when necessary or appropriate, to appear as a party in Act 250 or Section 248 proceedings to determine whether a project proposed in the Region conforms with the Rutland Regional Plan.

DEVELOPMENT REVIEW

As a statutory party to all Act 250 and Section 248 applications in the Region, the RRPC conducts development reviews in accordance with its adopted application review policy. The RRPC reviews proposed developments for 1) their conformance with the goals and policies of the Plan and 2) their potential substantial regional impact. The RRPC reports its findings to either the Act 250 District Environmental Commission or the Vermont Public Utility Commission. In most instances, the Regional Plan and local town plans will align. However, if the plans are incompatible, the Regional Plan will take precedence when the development has a substantial regional impact.

Developments of Substantial Regional Impact

When assessing a proposed project for substantial regional impacts, the RRPC examines the impacts produced by the project itself. The criteria for determining if a proposed development has a substantial regional impact are presented on page 376. Additionally, as the Region experiences varying intensities and densities of development over time, the RRPC evaluates the potential cumulative impacts of multiple projects within a limited geographic area when reviewing development applications. More information on the Act 250 process and developments of substantial regional impact is provided in the Land Use Chapter (Chapter 2, page 37).

Communities can mitigate undesirable cumulative impacts through proper planning, particularly master planning. Therefore, the RRPC strongly recommends that municipalities collaborate with public and private interests to develop comprehensive municipal plans and master plans.

Section 248 and 248a Review Criteria

The RRPC will use specific criteria to review Certificate of Public Good applications as they pertain to the Public Utility Commission Section 248 and 248a approval processes. These criteria establish consistent and transparent review processes in accordance with the obligations and authority of the RRPC Board of Commissioners. The Section 248 criteria are divided into Universal (applicable to all energy projects) and technology-specific requirements. More information on the Section 248 process is provided in the Enhanced Energy Chapter (Chapter 8, page 239). The Section 248a criteria are universal and applicable to all telecommunications projects. More information on the Section 248a process is provided in the Community Facilities and Public Utilities Chapter (Chapter 7, page 199). The review criteria presented on page 376 are used by the Public Utility Commission to assess Certificate of Public Good applications, highlighting those that impact regional and municipal authorities in influencing renewable energy generation siting and telecommunications projects.

Substantial Regional Impact Review Criteria

The Regional Plan will take effect when a proposed development meets any one or combination of the criteria listed below and may, therefore, have benefits or negative impacts beyond the borders of the host municipality. A development, or series of affiliated or planned developments, that either in totality or cumulatively:

1) Will contribute to a reduction in the peak hour level of service (LOS) on a state highway, or a town highway of 5,000 Annual Average Daily Traffic from D to E or from E to F.
2) Will contribute 5% or more traffic volume to the peak hour LOS D on a regionally significant local or state highway in or immediately adjacent to Planned Growth Future Land Use Areas or LOS C on regionally significant local or state highways in Rural Future Land Use Areas.
3) Will necessitate capital improvements, such as widening or signalization of Class 2 local highway or any state highways, expansion of public wastewater treatment or water supply systems, additional fire apparatus, or expansion of schools.
4) Will necessitate capital grid improvements such as extension, upgrading, or enlargement of electrical transmission lines.
5) Will generate new direct employment equal to or greater than 1% of the Region's existing employment level.
6) Is located in areas of special flood hazard, necessary wildlife habitats or significant natural communities, Class I wetlands, areas identified with threatened or endangered species, source protection areas, or in two or more municipalities.
7) Impairs the continued function of regionally significant facilities, including Rutland Southern Vermont Regional Airport, Rutland Regional Medical Center, Vermont State University at Castleton, any bridge, dam, school, or airport, any state or national recreational facility, or any recreation facility in the Resource-Based Recreation Future Land Use Area.
8) Will entail residential construction where the total proposed housing units exceed 5% of the total housing count of the host town.
9) Will entail commercial or industrial construction within a single or multiple buildings, of 10,000 square feet or more of gross floor area outside of a Planned Growth Future Land Use Area or 20,000 square feet or more of gross floor area inside such area.
10) Will construct public, private, or nonprofit facilities or utilities meant to serve multiple towns within one mile of a municipal boundary.
11) Affects the existing or potential capacity to provide essential or required public services by one or more municipalities adjacent to the municipality where the proposed development is located, due to direct and indirect impacts.

Section 248 Review Criteria

The Section 248 Review Criteria are designed to promote renewable energy siting while protecting the Region from inappropriate development. They are divided into Universal (applicable to all energy projects)

and technology-specific requirements. Renewable electricity generation can be achieved through various technologies and at different scales. The Section 248 Review Criteria provide regional requirements pertaining to these technologies.

1) Renewable Energy Certificates (RECs) associated with proposed generation must count toward meeting Vermont's Renewable Energy Standard to conform with the Regional Plan.
2) Biomass energy facilities do not conform to the Regional Plan due to significant air quality concerns.
3) Geothermal energy development that meets all applicable state and federal regulations is considered to conform to the Regional Plan.
4) Hydropower facilities that are certified through the Low Impact Hydropower Institute are deemed to conform to the Regional Plan.
5) Natural gas service connections do not conform to the Regional Plan. Additionally, all infrastructure related to natural gas and biogas must be sited at least 1,000 feet away from residences, businesses, and any human-occupied locations.
6) For solar development, criteria related to forest fragmentation and wildlife passage do not apply to projects located on rooftops, parking lots, gravel pits, quarries, Superfund sites, or brownfields.
7) Utility-Scale Solar (>20 acres or >5MW): These projects must generate RECs that count toward meeting Vermont's Renewable Energy Standard. Developers are required to hold community outreach meetings to identify and address reasonable community concerns. Utility-scale solar projects must not result in forest fragmentation or habitat loss and must allow for wildlife passage through the development area.
8) Commercial-Scale Solar (≥5 acres or ≥0.5MW and ≤20 acres or ≤5MW): Like utility-scale projects, commercial-scale solar developments must produce RECs that contribute to the Renewable Energy Standard and hold community engagement meetings to respond to community concerns. These projects must also avoid causing forest fragmentation and habitat loss and must accommodate wildlife passage.
9) Residential-Scale Solar (<5 acres or <0.5MW): Residential-scale solar energy systems that comply with state and federal regulations are considered to conform with the Regional Plan.
10) Utility-Scale Wind (>150kW): Utility-scale wind projects do not conform to the Regional Plan.
11) Commercial-Scale Wind (>50kW and ≤150kW): Commercial-scale wind projects also do not conform to the Regional Plan.
12) Residential-Scale Wind (≤50kW): Residential-scale wind energy systems that meet state and federal regulations are considered to conform with the Regional Plan.

Section 248a Review Criteria

The Section 248a Review Criteria are designed to protect the environment and sensitive areas when siting telecommunications infrastructure in the Region. These criteria are universal and apply to all telecommunications projects.

1) Telecommunications facilities are prohibited within 1,500 feet of neighboring structures.
2) Telecommunications facilities siting shall include balloon scenic impact tests in all Rural future land use areas designated in the Regional Plan.
3) Telecommunications facilities are prohibited in highest priority forest blocks, directly adjacent to Class I and II wetlands, special flood hazard areas, river corridors, in protected airspace around Rutland Southern Vermont Regional Airport, and areas with critically endangered species, or areas above 2,500 feet.
4) Developers of any proposed telecommunications facility must hold community outreach meetings to investigate and propose solutions to reasonable community concerns.
5) Telecommunications facilities should primarily serve residents in communities that are unserved or underserved, with particular priority given to locations where improved public safety communications or wireless service is needed.
6) In Rural future land use areas designated in the Regional Plan, telecommunications towers that exceed the height of the surrounding tree line should be designed to mimic natural features, blending into the landscape to the greatest extent possible.

IMPLEMENTATION MECHANISMS

Adopting the Rutland Regional Plan alone does not generate direct regulatory or funding outcomes; instead, its impact comes from the RRPC, municipalities, partner organizations, and the public actively implementing it. This section outlines the main mechanisms that bring the Plan to life, converting the regional vision into action. These mechanisms include initiatives led by the RRPC, providing technical support and aligning policies through local town planning, and integrating with regional and statewide planning goals. State and federal funding programs supply essential resources to advance the infrastructure, housing, conservation, and economic development priorities outlined in the Plan. Regional collaboration—with neighboring planning commissions, local service providers, and nonprofit organizations—boosts the capacity to tackle shared challenges. The Vermont Association of Planning and Development Agencies coordinates inter-regional efforts and advocates for consistency in policies and programs at the state level. Central to all implementation is meaningful public participation, allowing community voices to influence local decisions and guide investments. These mechanisms support a vibrant and responsive planning framework that reflects the Region's priorities.

Regional Commission

The RRPC Board of Commissioners includes a representative from each of the 27 municipalities in the Region, ensuring that every town has an equal vote and voice in regional planning decisions. This structure fosters balanced representation and encourages collaboration across the Region. The Board directs the overall activities of the RRPC, receiving support from several standing committees: Brownfields, Community, Executive Finance, Regional, and Transportation Advisory Committees. These advisory groups offer focused oversight and expertise in areas of regional importance.

The Regional Committee actively shapes and implements the Regional Plan. It reviews and provides formal recommendations on Act 250 applications and Section 248 and 248a petitions for major regional development. Its review determines whether projects have a substantial regional impact and if they conform to the goals and policies of the Regional Plan. The Regional Committee ensures the Plan remains current and responsive by working closely with towns to incorporate local priorities and with developers to better understand project details. This coordination guides and supports orderly, sustainable development that aligns with community values and regional goals.

Regional Planning

The RRPC integrates the Regional Plan across various programs, ensuring cohesive attention to regional goals and local priorities. These include land use, transportation, energy, economic development, emergency management, natural resources, housing, clean water, brownfields redevelopment, GIS/mapping, and workforce development. The RRPC bridges local and regional priorities while implementing new state programs and policies from the legislature and state agencies, including clean water compliance, emergency preparedness, and transportation planning. By aligning these efforts with the Regional Plan, the RRPC aids communities in navigating policy changes and promotes sustainable development, resilience, and equity through the Region.

Town Planning

Town planning constitutes a fundamental mechanism for the implementation of the Regional Plan at the local level. Municipal plans guide land use, development, and investment decisions. The RRPC supports towns in creating and updating these plans to ensure alignment with regional goals and compliance with state planning priorities. In addition to town plans, the RRPC assists with developing and administering local bylaws, including zoning regulations, subdivision regulations, flood hazard area regulations, and river corridor protections—critical tools that directly shape the usage and development of land. Furthermore, the RRPC collaborates with municipalities on master planning, village and area-wide studies, and project feasibility and scoping efforts that inform future public infrastructure and economic development

initiatives. Capital planning and asset management support enable towns to prioritize investments and maintain essential services. Through technical assistance and project management, the RRPC equips local officials with the knowledge and tools necessary for making informed decisions, ensuring that community planning efforts are proactive, resilient, and rooted in community values.

State and Federal Funding

State and federal funding are pivotal in transforming local and regional plans into actionable projects. The RRPC assists municipalities in navigating the complex landscape of funding opportunities to ensure that community priorities are effectively realized. The planning process begins with identifying community needs through town plans and public engagement. The RRPC supports project development through feasibility studies, scoping projects, and developing engineering designs, all while ensuring broad community support through outreach initiatives. The RRPC also provides technical assistance in identifying suitable funding sources, including local, state, and federal programs, and aids municipalities in preparing grant applications, ensuring that projects meet eligibility criteria and align with funding priorities.

Beyond traditional grants, the RRPC assists towns in exploring alternative funding mechanisms. Municipal bonds, for example, are debt securities issued by local governments to finance capital projects. Other innovative approaches include municipal investment trusts and crowdfunding platforms, which can engage community members directly in funding local initiatives. Municipalities can enhance financial resilience and reduce reliance on a single funding stream by diversifying funding sources.

Regional Collaboration

Regional collaboration is critical to successful plan implementation, especially as towns and organizations work together to address shared challenges and opportunities. Vermont law (24 V.S.A. Chapter 121) allows municipalities to form cooperative agreements, compacts, and districts to provide services or undertake projects jointly. This enables towns to pool resources and expertise to manage complex services such as public safety, solid waste, education, and infrastructure more efficiently. This collaborative approach extends beyond municipalities to include a wide network of regional organizations and service providers in the Region.

The RRPC actively partners with various regional entities, such as the Chamber and Economic Development of the Rutland Region (CEDRR), Cornerstone Housing, Vermont Adult Learning, and others, to ensure that planning efforts are aligned and mutually supportive. These organizations contribute to housing development, workforce training, and economic development, and their work is often integral to achieving the goals of the Regional Plan. The RRPC also engages with intermunicipal bodies like union school districts, solid waste districts, and natural resource conservation districts to support coordinated planning on a broader scale.

Vermont Association of Planning and Development Agencies (VAPDA)

VAPDA is a statewide organization comprising Vermont's 11 Regional Planning Commissions (RPCs), including the RRPC. VAPDA facilitates collaboration among RPCs, enabling them to coordinate programming, share resources and information, and participate in statewide decision-making processes. Through representation on various state boards, committees, and studies, as well as active involvement in the legislative process, VAPDA ensures that regional and municipal perspectives are integrated into policies affecting planning and development across Vermont.

In 2024, the National Association of Development Organizations conducted a comprehensive assessment of Vermont's RPC network. This evaluation aimed to ensure that RPCs are statutorily enabled and strategically positioned to meet ongoing and emerging state and municipal needs. The assessment reviewed aspects such as governance, funding, programs, service delivery, equity, accountability, and staffing, providing recommendations to strengthen the capacity and effectiveness of RPCs statewide.

Public Participation

Public participation is central to the RRPC's mission, ensuring that planning and development processes are transparent, inclusive, and reflective of community needs. The development of the Regional Plan exemplified this commitment, incorporating extensive public engagement to shape a vision for a healthy, equitable, and resilient Region. The RRPC continues to prioritize community involvement through outreach, education, and collaboration with towns, stakeholders, and residents.

The RRPC provides platforms for meaningful dialogue and input on regional initiatives by facilitating public meetings, workshops, and forums. This approach fosters community ownership of projects and ensures that diverse perspectives inform decision-making. Through ongoing engagement efforts, the RRPC upholds its dedication to empowering communities and advancing regional goals in a manner that is both inclusive and responsive to the needs of its constituents.

IMPLEMENTATION OF THE PLAN

The RRPC developed a matrix to ensure the Plan's implementation. Presented at the end of this chapter, the implementation matrix summarizes the Plan's goals, regional policies, RRPC-specific actions, and indicators of progress for Chapters 2 through 11. The goals outline the future conditions the Plan aims to achieve, while the regional policies illustrate how to meet those goals. To effectively implement the regional policies and achieve the community economic development goals for the Region, the RRPC will take several realistic actions. A rough timeframe for implementation, estimated level of effort,

approximate cost, and potential partners are included for each action. Progress indicators are data-based measures of how close the Region is to achieving its community economic development goals. There are 51 indicators of progress included in this Plan. The RRPC will monitor progress throughout the Plan's eight-year life and will annually report on ten key indicators. A baseline report of the ten key indicators is provided in Figure *IM-1.

Advancing Equitable Impacts

The RRPC conducted an equity analysis as part of the planning process to embed equity in both the vision and implementation of the Plan. This analysis aimed to identify and address potential disparities in the distribution of economic benefits, resources, and burdens among different communities within the Region. The analysis also assessed whether communities disproportionately bear burdens, such as environmental impacts or lack of access in rural areas. Key assessment questions include:

1) How can the RRPC accurately represent the Region's population and identify communities of concern?
2) How can the RRPC ensure that all voices are heard, that everyone participates, and that they engage in the planning process while creating space for their involvement?
3) Are the most burdened or affected by the Plan included in the dialogue?
4) What needs exist for each community in the Region?
5) Are there residents in the Region who experience inequities due to this Plan's implementation?
6) Are opportunities for engagement in the Plan provided equitably? Are these opportunities accessible to all residents, regardless of race, location, ability, income, language, etc.?
7) How will future actions deliver equitable outcomes, benefits, and burdens?
8) How will progress toward equitable outcomes be monitored and measured?
9) The equity analysis will serve as a tool for supporting regional planning goals. By evaluating policies, programs, and proposed investments through an equity lens, the RRPC will actively assess ways to engage socially and economically marginalized groups in the planning process, ensuring they benefit from economic growth, including access to good jobs, infrastructure improvements, and environments that promote healthy living. This approach will provide a strong foundation for building a fair and inclusive regional economy where all residents can thrive.

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*IM-1 [Regional Plan Annual Report Card]

2 pages

[placeholder page 2 of Annual Report Card]

CH 2: LAND USE

Goals

Plan development to maintain historic settlement patterns of compact downtown and village centers separated by rural countryside.

Policies

1) Development should be undertaken in accordance with smart growth principles as defined in 24 V.S.A. 2791(13).
2) Development should occur in a fiscally responsible manner, meaning that the cumulative municipal costs for the development should not exceed the projected municipal tax revenue generated by the development.
3) Land use planning and decision-making should include opportunities for meaningful participation.
4) Proposed developments with a combined building footprint, parking, and other paving totaling 25,000 square feet or more in the Rural FLUAs, or 50,000 square feet or more in the Growth FLUAs, or any development involving the extraction of mineral or earth resources, **shall** hold one or more community outreach meetings to investigate and propose solutions to reasonable community concerns about the proposal.
5) Intensive residential developments are encouraged in the Downtown, Village Center, Planned Growth Area, Village Area, and Transition/Infill Area FLUAs.
6) Community-serving facilities, like grocery stores, child care centers, transit hubs, or cultural gathering places, are encouraged in Downtown, Village Center, Planned Growth Area, Village Area, and Transition/Infill FLUAs to improve access to services that enhance public well-being and reduce travel burdens.
7) In the Downtown, Village Center, Planned Growth Area, Village Area, and Transition/Infill FLUAs, if a public sidewalk or shared-use path exists within the parcel boundary, or 500 feet of any boundary of the parcel located in the FLUA, proposed development or subdivision **shall** include internal pedestrian routes that directly connect to that sidewalk or path, provided that such connection can be made entirely on-site or across adjacent parcels with existing pedestrian infrastructure.
8) Proposed development in the Downtown FLUA with a building footprint, parking, and other paving of 100,000 square feet **shall** incorporate one public cooling and gathering amenity, such as a shaded seating area or a publicly accessible pocket park.
9) No new use, change of use, or expansion of use for extraction and processing of mineral and earth resources fully or partially within an Enterprise Area FLUA or Rural FLUAs **shall** result in worsening off-site impacts that contribute to existing environmental burdens, as defined in 3 V.S.A. § 6002, for residents who will be demonstrably affected.
10) Industrial and commercial uses are encouraged in the Enterprise Area FLUA, provided that the scale and intensity do not unduly adversely impact the surrounding area.
11) No land use or development **shall** interfere with the Rutland Southern Vermont Regional Airport's flight clearance.
12) Development in the Resource-Based Recreation FLUA **shall** not reduce public access to lakes, trails, or scenic viewsheds.
13) Development in the Rural and Resource-Based Recreation FLUAs should use neutral colors, non-reflective roofing materials, and limited exterior lighting to blend projects into the natural landscape.
14) Development in the Rural and Resource-Based Recreation FLUAs should limit clearing to the smallest feasible footprint, including parking areas and building footprints.
15) Development in the Rural and Resource-Based Recreation FLUAs should not occur on slopes exceeding 25%.

Action	Timeline	Effort	Cost
Identify areas for new development or redevelopment in Growth FLUAs, by municipality, by 2034. In doing so, identify prospective land use types, intensities, densities, and on-site development constraints, and utilize public input throughout the process.		○○○	$$$
Assist with municipal planning and bylaw updates, and advancing "Steps" for state designations that result in increasing both residential and commercial development in Growth FLUAs, while also encouraging municipalities to apply for municipal planning grants for these efforts.		○○	$$
Assist with municipal planning and bylaw updates that result in maintaining the Region's rural character and protecting locally and regionally significant natural resources, while also encouraging municipalities to apply for municipal planning grants for these efforts.		$$	$$

Timeline: Short-term / Long-term / Ongoing **Effort:** Low ○ / Medium ○○ / High ○○○ **Cost:** Low $ / Medium $$ / High $$$

CH 2: LAND USE *continued*

Action	Timeline	Effort	Cost
Prepare a Fiscal Smart Growth Land Use Planning Guide by 2030, outlining land use planning strategies to increase municipal revenues and reduce property owner tax burden.		oo	$$
Assist three municipalities of varying population sizes to implement the Fiscal Smart Growth Land Use Planning Guide by 2034.		ooo	$$$
Update the RRPC's Town Plan Toolkit annually to ensure it is current with changing state law.		o	$
Host a land use planning public forum annually, where the RRPC identifies a land use planning issue, and gathers public input on realistic actions that the RRPC and municipalities can take to address the issue.		o	$
Hold a feedback session annually, where the RRPC proposes a solution to a land use planning challenge faced by the Region, and gathers public input on whether this solution is appropriate in their municipality.		o	$
Assist with municipal planning and bylaw updates that help meet the Region's Housing and Natural Resource Conservation Targets, while also encouraging municipalities to apply for municipal planning grants for these efforts.		oo	$$
Develop three village or downtown master plans by 2032 in municipalities that express interest.		ooo	$$$
Offer two trainings annually for municipal officials on integrating smart growth strategies into land use regulations.		o	$
Update the Act 250 and Section 248 Review Criteria for the RRPC Board of Commissioners to include more public engagement and municipal coordination.		o	$

Indicators of Progress

1) **Land Cover Change from 2022 to 2030 based on UVM's Aerial LiDAR Data**
2) Building Permits Issued in Growth FLUAs from 2026 to 2034
3) Town Plan Updates Informed by Meaningful Participation, as Defined in 3 V.S.A. § 6002

CH 3: ECONOMIC DEVELOPMENT

Goals

Create a strong and diverse economy that provides satisfying and rewarding jobs while maintaining high environmental standards and expanding economic opportunities in areas with high unemployment or low per capita incomes.

Policies

1) Regional Workforce Development Initiatives should prioritize the creation of training pathways for high-demand jobs in collaboration with regional employers, focusing on sectors like trades and healthcare.
2) Workforce strategies should prioritize retaining local youth by aligning training, education, and career pathways with regional economic needs.
3) Regional industrial infrastructure—including water, wastewater, broadband, and commercial space—is encouraged in Growth FLUAs, particularly in business parks within the Enterprise FLUA.
4) Brownfields redevelopment investments should prioritize adaptive reuse for housing, job creation, and business development within Growth FLUAs.

CH 3: ECONOMIC DEVELOPMENT *continued*

Policies

5) Entrepreneurship and innovation should be strengthened by investing in small business incubators, maker spaces, and co-working hubs that promote equitable access to capital, mentorship, and professional development.
6) Regional and state workforce partners should work together to attract and retain recent high school graduates and working-age residents.

Action	Timeline	Effort	Cost	Potential Partners
Recruit more remote workers through the Real Rutland Program by 2034.		○○○	$$	Chamber and Economic Development of the Rutland Region (CEDRR)
Create more inclusive recruitment strategies to provide employment opportunities for communities that have been historically marginalized.		○	$	CEDRR
Develop a coordinated workforce development system that connects educators, employers, and workforce developers to align training with workforce needs and accelerate its delivery by 2027.		○○○	$$$	Rutland Region Workforce Investment Board
Leverage the Education to Employment Bridge Program to expand the capacity of local makerspaces, such as The MINT and REclaimED, to teach technical skills and the design process by 2034.		○○	$$	
Add projects to the Brownfields Reuse Program that support priority housing, workforce, and business development projects, especially in Growth FLUAs.		○○○	$$	CEDRR, Local Developers
Expand the Brownfields Reuse Program by securing additional assessment as well as cleanup funding.		○○○	$$	US Environmental Protection Agency, Vermont Department of Environmental Conservation (VTDEC), CEDRR
Develop a robust public engagement process for the Brownfields Reuse Program that builds on the new RRPC Brownfields Committee.		○○○	$	CEDRR, Rutland Redevelopment Authority, VTDEC
Implement pathways to sole proprietorship and independent contracting through the Education to Employment Bridge Program to support local business development, address workforce shortages, and bolster economic resilience by 2027.		○○○	$$	
Advocate for and assist with expanding public utilities and commercial space at the Rutland Regional Airport Park.		○○○	$$$	CEDRR
Conduct feasibility and scoping studies to expand commercial and industrial space in Growth and Enterprise FLUAs.		○○○	$$$	CEDRR, Municipalities
Assist with developing the Regional Priority Project List and advocate for projects that expand housing, workforce, and businesses.		○	$	CEDRR, Municipalities

Indicators of Progress

1) **Regional GDP**
2) Percent of 19-25 Year Olds Participating in the Workforce
3) Regional Median Household Income
4) Percent of Education to Employment Bridge Program Participants that Obtain Employment within Six Months of Training Completion

CH 4: CULTURAL RESOURCES

Goals

Identify, protect, and preserve significant historic, archaeological, scenic, and cultural resources.

Policies

1) Historic buildings should be maintained, preserved, and restored, especially in Growth FLUAs.
2) Cultural resources planning and decision-making should include opportunities for meaningful participation, particularly for Indigenous stakeholders.
3) Archaeological sites should be responsibly identified, documented, and protected during development and land use planning activities.
4) Historical societies should be supported as the stewards of local heritage.
5) The Creative Economy should be recognized and supported by encouraging arts and cultural initiatives that foster community identity, enhance civic engagement, and contribute to community economic development.
6) Investments in Third Places and public gathering spaces are encouraged in Growth FLUAs.
7) Scenic features and resources **shall** be identified and preserved to protect the visual and cultural character.
8) Projects and resources that promote a regional identity and highlight regional assets for residents and visitors should be prioritized.
9) Cultural resource planning and decision-making should include opportunities for meaningful participation.

Action	Timeline	Effort	Cost	Potential Partners
Digitize the National Register Historic District boundaries by 2027.		○	$	State Division of Historic Preservation
Develop resources to assist municipalities in becoming a Certified Local Government (CLG) by 2028.		○○	$	Vermont Agency of Commerce and Community Development (ACCD)
Better maintain and preserve historic buildings by advocating for and assisting with the creation of information packets for property owners within state-designated Centers and Neighborhoods that include details on tax credits and other funding opportunities by 2029.		○○	$	ACCD
Identify national and state-registered historic districts, sites, and structures on base maps for local hazard mitigation planning projects.		○	$	
Repurpose the 1984 Historic Architecture of Rutland County inventory into a digital-first format by 2029.		○○○	$	
Identify archaeological sites at higher risk of loss due to extreme weather events during the local hazard mitigation planning process.		○	$	State Archeologist, Vermont Archaeology Heritage Center
Develop a process to ensure that tribes, preservationists, and other stakeholders are notified about development activities that could impact archaeological sites by 2030.		○○○	$$	Vermont Commission on Native American Affairs
Advocate for and help to platform under-documented and untold stories of the Region by 2029.		○○	$	Vermont FolkLife
Promote and support Village Trust Initiatives and other novel business models that leverage historic assets to advance historic preservation efforts by 2032.		○○	$$	Preservation Trust of Vermont

Timeline: Short-term / Long-term / Ongoing **Effort:** Low ○ / Medium ○○ / High ○○○ **Cost:** Low $ / Medium $$ / High $$$

CHAPTER 4: CULTURAL RESOURCES *continued*

Action	Timeline	Effort	Cost	Potential Partners
Advocate for and assist with expanding arts programming.	Ongoing	oo	$$	Vermont Arts Council
Add a section to the RRPC Town Plan Toolkit that provides guidance for municipalities with cultural resource chapters and encourages others to adopt them, including strategies for identifying, protecting, and preserving cultural assets.	Ongoing	oo	$	
Expand the Real Rutland Map to include a regional community calendar by 2029.	Long-term	ooo	$$	Chamber and Economic Development of the Rutland Region (CEDRR)
Assist with promoting the heritage of everyone who has called the Region home by 2028.	Long-term	oo	$	VT Folklife, Downtown Rutland Partnership, CEDRR
Assist with developing municipal and regional public art projects that foster a sense of place by 2031.	Long-term	oo	$$$	Vermont Arts Council, Local Art Institutions
Identify underutilized buildings that could be transformed into Third Places and connect property owners with funding sources like tax credits or grants.	Ongoing	oo	$	ACCD
Develop a methodology to identify and preserve scenic features and resources by 2030.	Long-term	ooo	$	
Build RRPC staff capacity to perform viewshed analysis with ArcGIS Online by 2030.	Short-term	o	$	
Inventory and incorporate viewshed analysis into municipal planning, bylaw, and overlay districts by 2030.	Ongoing	oo	$	

Indicators of Progress

1) **Number of Regional Historic Tax Credit Applications and Awards**
2) Number of Certified Local Governments (CLG)
3) Number of Municipal Plans with Dedicated Cultural Resources and Events Section
4) Number of Municipalities with Scenic Resources Protections

CH 5: TRANSPORTATION

Goals

Establish a regional transportation system that incorporates public transit options and paths for pedestrians and bicyclists, ensuring the system is safe, convenient, economical, energy-efficient, and respectful of the natural environment.

Policies

1) Complete Streets infrastructure on municipal and state roads **shall** comply with context-sensitive design, as outlined in the Regional Complete Streets Implementation Matrix.

2) Development along roads with sidewalks or shared-use paths **shall** provide an ADA-compliant sidewalk connection to all structures, unless the use is exclusively auto-oriented, such as a car wash. Additionally, for developments accessed by public or private roads that are 1,500 feet or less in length, a pedestrian path **shall** be constructed along the access road to provide a continuous connection to the existing sidewalk or shared-use path network.

Timeline: Short-term / Long-term / Ongoing **Effort:** Low o / Medium oo / High ooo **Cost:** Low $ / Medium $$ / High $$$

CHAPTER 5: TRANSPORTATION *continued*

Policies

3) Improving the safety at high crash locations should be prioritized.
4) Planning, design, and implementation of major regional roadway projects on US Route 7, US Route 4, and VT Route 22A should be prioritized.
5) Rehabilitation or replacement of all bridge structures in poor condition should be prioritized.
6) Capital planning to ensure long-term maintenance and replacement of transportation assets is encouraged.
7) Resilience of regional transportation systems against increased extreme weather events should be strengthened.
8) Level three electric vehicle chargers should be prioritized along key US and Vermont highway corridors, targeting the highest traffic routes first.
9) Level three electric vehicle chargers **shall** be sited in or within walking distance of Growth FLUAs where feasible.
10) Public transit fixed routes should be cost-effective, efficient, and convenient.
11) All public transit stops **shall** be marked with signs, and amenities **shall** be provided according to Marble Valley Regional Transit District policy.
12) Information on how to utilize the public transit system should be widely accessible to increase ridership.
13) Amtrak Stations **shall** be connected to the surrounding bike and pedestrian network with safe ADA-compliant sidewalks and bike routes.
14) Rutland Southern Vermont Regional Airport, Rutland Amtrak Station, and Castleton Amtrak Station should be served with convenient public transit.
15) An increase in passenger rail ridership and the percentage of regional freight shipped by rail is encouraged.
16) All rail crossings should be provided with adequate safety measures, and gates **shall** be installed at all crossings with roads carrying more than 2,000 vehicles per day.
17) Low bridge clearances presenting a barrier for railroad double-stacking should be raised.
18) Transportation planning and decision-making should include opportunities for meaningful participation.

Action	Timeline	Effort	Cost	Potential Partners
Advocate for the expedited construction of the VT Route 22A projects in West Haven and Benson and the US Route 7 projects in Brandon and Pittsford.		○	$$$	Vermont Agency of Transportation (VTrans), Senators, Legislators
Advocate for the reconstruction of US Route 7 in South Wallingford and Danby to provide 5-foot shoulders.		○	$$$	VTrans, Wallingford, Danby
Develop a safety plan for US Route 4 in Rutland Town, Mendon, and Killington that can be implemented partially through resurfacing.		○○	$$$	VTrans, Rutland Town, Mendon, Killington
Advocate for reconfiguring Business Route 4 to a two-lane layout with a center turning lane and shared-use paths from the US Route 4 exit 6 to Simmons Avenue.		○	$$$	VTrans, Rutland Town
Assist with identifying gaps in municipal active transportation networks and support financing and development of these projects.		○○	$	VTrans, Municipalities
Develop a Regional Active Transportation Plan by 2030.		○○	$	
Assist with developing municipal transportation asset capital plans.		○○	$	
Develop a Regional EV Charging Plan by 2028.		○○	$	
Monitor performance of public transit fixed route services, analyze underperforming routes, and provide planning support to improve route performance.		○○	$	Marble Valley Regional Transit District (MVRTD)

Timeline: Short-term / Long-term / Ongoing **Effort:** Low ○ / Medium ○○ / High ○○○ **Cost:** Low $ / Medium $$ / High $$$

CHAPTER 5: TRANSPORTATION *continued*

Action	Timeline	Effort	Cost	Potential Partners
Advocate for public transit service that aligns with plane and train arrival and departure times.		oo	$$	MVRTD
Advocate for and assist with creating ADA-compliant sidewalks and bike routes between Downtown and the Rutland Amtrak Station.		oo	$$	Rutland City
Advocate for the expansion of the Ethan Allen Express to Manchester and Bennington.		o	$$	VTrans
Assist with municipal planning and bylaw updates to allow industrial uses on parcels adjoining rail lines when appropriate.		oo	$	
Advocate for developing hangar capacity at the Rutland Southern Vermont Regional Airport sufficient to house all currently based aircraft.		oo	$$	VTrans

Indicators of Progress

1) Number of Crashes
2) Number of Culverts Rated in Poor Condition
3) Number of Sidewalk Segments Rated in Fair or Better Condition
4) **Annual Marble Valley Regional Transit District Passenger Trips**
5) Number of EV Chargers in Growth FLUAs
6) Annual Rutland Amtrak Passenger Trips
7) Percent of Freight Shipping by Rail
8) Annual Rutland Southern Vermont Regional Airport Passenger Trips

CH 6: HOUSING

Goals

Ensure the availability of safe and affordable housing for all residents.

Policies

1) Housing supply should increase through a combination of single-family homes, multi-family homes, manufactured homes, and Accessory Dwelling Units to meet the Region's Housing Target.
2) Most housing growth should occur in Rutland City and Growth FLUAs.
3) Most housing growth should be affordable for low- and medium-income households.
4) Homelessness should be reduced by expanding subsidized housing, homeless shelters, wraparound social services, and rental assistance, in collaboration with state, regional, and local partners.
5) Housing growth should utilize vacant residential and commercial buildings, including adaptive reuse of historic buildings that leverage available public housing development funds.
6) New housing **shall** not be located in FEMA-mapped special flood hazard areas and state-mapped river corridors, and current housing in these areas should elevate, floodproof, and adapt to withstand future flooding.

Timeline: Short-term / Long-term / Ongoing **Effort:** Low o / Medium oo / High ooo **Cost:** Low $ / Medium $$ / High $$$

CHAPTER 6: HOUSING *continued*

Policies

7) Housing growth should meet workforce needs and be located near employment centers.
8) In municipalities with a high volume of seasonal homes and short-term rentals, short-term rental ordinances should be considered.
9) Local-level regulatory barriers to housing development in Growth FLUAs should be removed.
10) Housing planning and decision-making should include opportunities for meaningful participation.

Action	Timeline	Effort	Cost	Potential Partners
Track progress yearly toward the Region's Housing Target with a virtual dashboard on the RRPC website.		oo	$	Vermont Department of Housing and Community Development
Assist with municipal planning and bylaw updates to allow for more housing types and density in Growth FLUAs.		ooo	$$	
Share information with local planning commissions on regulatory strategies that enable housing development by 2032.		ooo	$$	
Update the Regional Housing Resource Guide yearly and include information about available housing funding opportunities.		oo	$	
Identify areas within the Growth FLUAs and Rural General FLUA of each municipality suitable for new housing development by 2032.		ooo	$$	Municipalities
Advocate for a statewide vacant property registry to identify and utilize vacant housing and office units to meet the Region's Housing Target.		oo	$	
Assist with developing village master plans, housing needs assessments, and other housing-related feasibility and scoping studies to support strategic housing development.		oo	$	Municipalities, Vermont Agency of Commerce and Community Development
Create an RRPC Sustainable Housing Planning Program to support ongoing and future housing development through technical assistance, data and mapping support, and coordination with municipalities on planning, bylaw, and implementation strategies.		ooo	$$$	

Indicators of Progress

1) **Annual New Housing Units Added**
2) Percent of Households Spending More than 30% of Median Household Income on Housing
3) Median Home Sale Prices and Rents Relative to Inflation

CHAPTER 7: COMMUNITY FACILITIES & PUBLIC UTILITIES

Goals

Plan for, finance, and provide an efficient system of diverse public facilities and services, including fire and police protection, healthcare services, educational and vocational opportunities, public drinking water supply and wastewater treatment, solid waste disposal, childcare, and non-commercial recreational opportunities.

Timeline: Short-term / Long-term / Ongoing **Effort:** Low o / Medium oo / High ooo **Cost:** Low $ / Medium $$ / High $$$

CHAPTER 7: COMMUNITY FACILITIES AND PUBLIC UTILITIES *continued*

Policies

1) The scale and type of local and regional facilities and utilities **shall** support existing and future development, consistent with the FLUAs identified in this Plan.
2) Municipal offices, garages, libraries, and other facilities should be constructed, maintained, or upgraded to reduce costs, improve accessibility, and advance multifunctionality.
3) Water and wastewater utilities should be expanded, upgraded, and maintained in an economically and environmentally sustainable manner to meet future residential and commercial demand in Growth FLUAs.
4) Municipal shared services and resources should be considered to improve quality, close service gaps, and reduce costs, especially in rural communities.
5) School facility construction, consolidation, and renovation should increase efficiency, reduce tax burdens, and improve equitable education.
6) Access to healthcare, mental health services, and recovery treatment should be centered on advancing health equity and removing barriers for healthcare, mental health care, senior care, and recovery treatment.
7) Childcare facility and provider networks should be expanded to meet the current and future workforce and family needs, especially in Growth FLUAs.
8) Outdoor recreational resources, such as trails and parks, should be constructed, maintained, and marketed to serve all user types while balancing economic growth with environmental protection.
9) Energy transmission lines and substations **shall** be constructed to provide resilient and reliable energy in vulnerable areas while avoiding critical natural resources, as required by this Plan's Section 248 review criteria.
10) Telecommunications infrastructure and service areas should be expanded to unserved and underserved permanent residents, and **shall** not impact scenic and natural resources, as required by this Plan's Section 248a review criteria.
11) Solid waste districts and local transfer stations should prioritize reducing the toxicity and volume of waste in a cost-effective and environmentally responsible way.
12) Community facility and public utility planning and decision-making should include opportunities for meaningful participation.

Action	Timeline	Effort	Cost	Potential Partners
Assist with capital improvement planning, feasibility studies, and municipal plans while also encouraging municipalities to apply for municipal planning grants for these efforts.	Ongoing	oo	$	Municipalities, Vermont League of Cities and Towns (VLCT), Vermont Bond Bank
Use ArcGIS Online to inventory and analyze municipal facility needs, water and wastewater capacity, and redevelopment potential of publicly owned buildings.	Long-term	ooo	$$	Vermont Department of Environmental Conservation (VTDEC), University of Vermont (UVM), Vermont Bond Bank
Assist with developing municipal plans, studies, and projects that address the priorities identified in the ArcGIS Online inventory of municipal facility needs, water and wastewater capacity, and redevelopment potential of publicly owned buildings.	Long-term	ooo	$$	VTDEC, UVM, Vermont Bond Bank
Facilitate municipal collaboration and shared services by conducting a biennial municipal shared services assessment to identify emerging municipal needs and assist in the development of shared services, shared staffing, and union municipal districts where feasible.	Ongoing	oo	$	Municipalities, VLCT
Advocate for regional governance solutions to advance initiatives such as a Council of Governments.	Long-term	oo	$	Vermont Association of Planning and Development Agencies (VAPDA), VLCT, Legislature
Assist with assessing educational facility needs, consolidation opportunities, and adaptive reuse potential during the municipal planning process.	Ongoing	o	$	Schools, Municipalities
Develop a Rutland Region Recreation Plan to guide the equitable expansion and improvement of municipal and state recreation facilities.	Short-term	ooo	$$$	Vermont Department of Forests, Parks and Recreation

Timeline: Short-term / Long-term / Ongoing **Effort:** Low o / Medium oo / High ooo **Cost:** Low $ / Medium $$ / High $$$

CHAPTER 7: COMMUNITY FACILITIES AND PUBLIC UTILITIES *continued*

Action	Timeline	Effort	Cost	Potential Partners
Secure municipal support for expanding and promoting the Rutland Asset Mapping Project (RAMP).		○○	$$	CEDRR
Provide planning, mapping, and grant assistance to develop accessible, multi-use trails across the Region.		○○	$$	Trail Groups
Assist with developing a branding and marketing strategy for mountain biking and other outdoor recreation sports.		○○	$$$	CEDRR
Strengthen inter-municipal partnerships to connect recreation facilities with villages and downtowns.		○	$	Municipal Recreation Departments
Advocate for expanding three-phase power in Growth FLUAs.		○	$	Green Moutain Power (GMP), Municipalities
Advocate for utility grid hardening and resiliency efforts to reduce weather-related power outages.		○	$	GMP, Municipalities
Apply energy transmission siting criteria, review municipal plans, and encourage municipal project review, to ensure Section 248 applications align with this Plan's land use provisions.		○	$	
Advocate for and coordinate municipal involvement in expanding cellular coverage in unserved or underserved areas identified in the 2025 Vermont Mobile Wireless Test.		○○	$$	Municipalities
Assist with identifying feasible locations for public Wi-Fi in downtown and village centers during the municipal planning process.		○○	$$	Municipalities, Libraries
Apply telecommunications siting criteria, review municipal plans, and encourage municipal project review, to ensure Section 248a applications align with this Plan's land use provisions.		○	$	
Assist with developing the 2025-2029 Solid Waste Implementation Plan to ensure alignment with municipal and regional plans.		○○	$$	Rutland County Solid Waste District (RCSWD), Solid Waste Alliance Communities (SWAC)
Assist with assessing municipal transfer stations and securing funding for upgrades.		○○	$	RCSWD, SWAC

Indicators of Progress

1) Number of Users Served by Public Water and Wastewater
2) **Number of Childcare Spaces**
3) K-12 Enrollment per School District
4) Wireless Cellular Coverage
5) Miles of Adaptive Trails

CHAPTER 8: ENHANCED ENERGY

Goals

Use energy efficiently, develop renewable energy resources, and reduce greenhouse gas (GHG) emissions.

Timeline: Short-term / Long-term / Ongoing **Effort:** Low ○ / Medium ○○ / High ○○○ **Cost:** Low $ / Medium $$ / High $$$

CHAPTER 8: ENHANCED ENERGY *continued*

Policies

1) Total residential energy consumption should be reduced by approximately 45% from 2025 levels to meet state energy and climate goals.
2) Switching from fossil fuels to sustainable alternatives should be prioritized for heating, cooling, transportation, and electric generation to reduce greenhouse gas emissions and improve energy resilience.
3) Enhanced Energy Plans should be considered by all municipalities.
4) Weatherization and the adoption of high-efficiency appliances **shall** be priority pathways to reduce residential thermal energy consumption by 2050.
5) Electric vehicle adoption, transit and ridesharing use, and active transportation, **shall** be priority pathways to reduce transportation energy consumption by 2050.
6) Smart growth and energy-efficient land use patterns should be implemented by prioritizing redevelopment within Growth Future Land Use Areas (FLUA), promoting compact, mixed-use development, expanding water and sewer infrastructure to support designated centers, and maintaining and enhancing walking and biking infrastructure consistent with complete streets principles.
7) Commercial and industrial-scale wind and biomass energy generation **shall** not be considered in conformance with this Plan.
8) New renewable energy siting should be closely coordinated with the appropriate FLUA, prioritizing siting in Enterprise Areas and locations near existing electric capacity and three-phase power infrastructure, and avoiding the Rural Conservation FLUA.
9) Efforts to reduce household energy burden are encouraged, with a focus on municipalities identified as having the highest burdens in the 2023 Efficiency Vermont Energy Burden Report.
10) New energy projects should be prioritized when they advance renewable energy goals and are located on preferred siting locations.
11) Renewable energy generation siting **shall** follow orderly development, as required by this Plan's Section 248 review criteria.
12) Distributional equity should be considered in all energy planning and siting.
13) Energy planning and decision-making should include opportunities for meaningful participation.

Action	Timeline	Effort	Cost	Potential Partners
Assist one municipality annually with creating an Enhanced Energy Plan beginning in 2026.		oo	$$	Municipalities
Update Enhanced Energy Plans to include actions that support municipal efforts to redevelop town and village centers, revise land use regulations to prioritize compact, mixed-use development surrounded by rural and open land, expand water and sewer infrastructure to enable smart growth and energy-efficient settlement patterns, and maintaining and enhancing walking and biking infrastructure consistent with complete street principles to reduce single-occupancy vehicle trips.		oo	$$	Municipalities
Identify and prioritize a regional list of preferred renewable energy generation sites, with a focus on siting projects on brownfields, gravel pits, closed landfills, rooftops, parking lots, and other underutilized or limited-use properties.		ooo	$$	Municipalities, Landowners
Incorporate priority forest blocks into municipal energy potential mapping as a local constraint by 2026.		oo	$	Municipalities
Host an annual weatherization, energy efficiency and conservation, and/or electric vehicle educational event starting in 2026.		o	$$	Efficiency Vermont, Municipal Energy Committees
Create a Regional Heating Plan, including identification of district heating candidate locations, by 2030.		ooo	$$$	Efficiency Vermont
Apply renewable energy siting criteria, review municipal plans, and encourage municipal project review, to ensure Section 248 applications align with this Plan's land use provisions.		o	$	

Timeline: Short-term / Long-term / Ongoing **Effort:** Low o / Medium oo / High ooo **Cost:** Low $ / Medium $$ / High $$$

CHAPTER 8: ENHANCED ENERGY *continued*

Action	Timeline	Effort	Cost	Potential Partners
Create a Regional Energy Committee to provide routine trainings, events, and workships for municipal energy committees and planning commissions by 2030.		○○○	$	Towns
Assist with securing grant funding for residential heat pump installations, prioritizing -income households and underrepresented populations to advance equitable access to clean energy.		○○○	$$	Cornerstone Housing Partners, Vermont Housing Finance Agency
Partner with VTrans, MVRTD "The Bus," and Go Vermont to apply for a Mobility and Transportation Innovation (MTI) grant to expand public transit education, promote ridesharing, and implement transportation demand management programs.		○○○	$$$	VTrans, MVRTD, Local Emlpoyers, Municipalities

Indicators of Progress

1) Number of Towns with an Enhanced Energy Plan
2) Regional Energy Burden
3) **Total Energy Targets 2025, 2035, 2050**
4) Total GHG Reduction Targets 2025, 2035, 2050
5) Number of Homes Weatherized 2025, 2035, 2050
6) Number of Cold Climate Heat Pumps Installed in Homes 2025, 2035, 2025
7) Number of Heat Pump Water Heaters Installed in Homes 2025, 2035, 2050
8) Number of Passenger EV and PHEVs Added to the Vehicle Stock
9) Renewable Generation Targets for Solar and Wind 2025, 2035, 2050

CHAPTER 9: WORKING LANDSCAPE

Goals

Encourage and strengthen agricultural and forestry industries.

Policies

1) Future residential, energy, and commercial development should be compatible with the preservation and viability of existing agricultural and forestry industries, particularly within Rural FLUAs.
2) In municipalities with significant Rural Agriculture and Forestry FLUA, local bylaws and ordinances should minimize the loss of productive forests and farmland.
3) In municipalities with significant forestry industries and forest blocks, local bylaws and ordinances should minimize the loss of forestry uses, deforestation, and fragmentation, and enhance climate resilience.
4) The development of local food production is encouraged in Rural FLUAs to strengthen the agricultural economy and should include components that increase equity and food security.
5) The development of local food hubs, co-packing and other processing facilities is encouraged in Growth FLUAs, including Enterprise Areas, that have access to freight transportation infrastructure.
6) The development of local food marketing, such as farmers markets, is encouraged within Growth FLUAs, especially Downtown and Village Centers.
7) The development of forestry processing is encouraged in Rural FLUAs, and the development of forestry craft products is encouraged in Growth FLUAs, including Enterprise Areas.
8) Working landscape planning and decision-making should include opportunities for meaningful participation.

Timeline: Short-term / Long-term / Ongoing **Effort:** Low ○ / Medium ○○ / High ○○○ **Cost:** Low $ / Medium $$ / High $$$

CHAPTER 9: WORKING LANDSCAPE *continued*

Action	Timeline	Effort	Cost	Potential Partners
Assist with the redevelopment and expansion of the Vermont Farmers Food Center through brownfields planning, technical assistance, and grant writing.		○○	$	Chamber and Economic Development of the Rutland Region (CEDRR)
Assist with the study, identification, and development of agricultural and forestry practices and products.		○○	$	Vermont Farmers Food Center (VFFC), Smokey House Center
Assist with developing municipal plans, bylaws, and studies aimed at reducing parcelization by development in interested municipalities that have significant agricultural and forestry industries.		○○	$	Municipalities
Assist with determining the feasibility of adding more local food facilities for co-hubs, processing, and co-packing.		○○	$	CEDRR, VFFC
Assist with developing local plans to improve food insecurity and equity.		○○	$	Vermont Sustainable Jobs Fund

Indicators of Progress

1) **Number of Farms**
2) Number of Food Hubs, Processing, and Co-Packing Facilities
3) Number of Farmers Markets and Community Supported Agriculture (CSAs)
4) Number of Forest Industry Jobs

CHAPTER 10: NATURAL RESOURCES

Goals

Maintain and improve the quality of air, water, wildlife, forests, and other land resources while promoting the wise and efficient use of these natural resources and appropriate extraction of earth and mineral resources. This approach helps ensure the area is properly restored and its aesthetic quality preserved.

Policies

1) Human health **shall** be safeguarded by protecting air quality in high-density residential areas within Downtown and Village Centers, and by minimizing harmful emissions from industrial practices in Enterprise Areas.
2) Surface water quality impairments, as identified in Tactical Basin Plans, Water Quality assessments, the 303(d) List of Impaired Waters, and by Clean Water Service Providers, should be prioritized for restoration and targeted for funding.
3) Class I and II wetlands as mapped by the state **shall** be protected from development in all FLUAs.
4) Groundwater should be maintained at a quality suitable for drinking water, and source protection areas **shall** be protected from contamination.
5) Development in Rural FLUAs should not substantially fragment Highest Priority Interior Forest Blocks or High Priority Wildlife Corridors as mapped by the state.
6) 30% of land **shall** be conserved by 2030 and 50% by 2050, as required under the Community Resilience and Biodiversity Protection Act.
7) Safe and clean earth and mineral extraction in Rural and Enterprise FLUAs is encouraged, provided that negative impacts are minimized, such as excessive dust and noise, water quality impacts, soil erosion, and deterioration of highway infrastructure.
8) Natural resource planning and decision-making should include opportunities for meaningful participation.

Timeline: Short-term / Long-term / Ongoing **Effort:** Low ○ / Medium ○○ / High ○○○ **Cost:** Low $ / Medium $$ / High $$$

CHAPTER 10: NATURAL RESOURCES *continued*

Action	Timeline	Effort	Cost	Potential Partners
Assist with developing municipal plans, studies, and assessments to identify and remediate surface water and groundwater contamination, from phosphorus, mercury, PFAS, microplastics, and other toxins.		oo	$	
Assist with the remediation of groundwater, soil, and surface water contamination at brownfield sites.		ooo	$	Environmental Protection Agency (EPA), Vermont Agency of Natural Resources (ANR), Municipalities
Assist with developing municipal plans, bylaws, and studies focused on reducing parcelization caused by development.		oo	$	
Assist with updating the database of active mines in the Region.		o	$	Vermont Department of Environmental Conservation (DEC) Division of Geology
Assist with rehabilitating earth and mineral extraction sites that predate local and state regulations.		oo	$	Municipalities
Provide education and planning support for the Staying Connected Initiative, as well as the 30x30 and 50x50 conservation goals outlined in the Community Resilience and Biodiversity Protection Act.		o	$	DEC
Achieve phosphorus reduction targets for the South Lake Champlain Clean Water Service Provider as designated by the EPA and DEC.		ooo	$$$	ANR, Poultney-Mettowee Natural Resources Conservation District, South Lake Champlain Basin Water Quality Council
Assist with developing new relationships, projects, and capacity in the Addison County portion of the South Lake Champlain Clean Water Service Provider basin.		ooo	$	Addison County Regional Planning Commission
Advocate for socially marginalized groups to have access to and benefit from natural resources.		o	$	ARC Rutland Area, Come Alive

Indicators of Progress

1) Number of Air Quality Alerts
2) **Number of Surface Water Impairments**
3) Number of Class I and II Wetland Reclassifications
4) Number of Mapped Groundwater Contaminations
5) Total Parcel Acreage by Land Type
6) Number of Active Mines

CHAPTER 11: CLIMATE RESILIENCE

Goals

Enhance the ability of communities to prepare for, respond to, and recover from climate-related impacts, including flooding.

Timeline: Short-term / Long-term / Ongoing **Effort:** Low o / Medium oo / High ooo **Cost:** Low $ / Medium $$ / High $$$

CHAPTER 11: CLIMATE RESILIENCE *continued*

Policies

1) State and federal tools **shall** be used to help identify community-specific climate change vulnerabilities.
2) Investments in critical infrastructure, like highway infrastructure, water, wastewater, and electric utilities, should include resiliency measures.
3) In all FLUAs, new development should be discouraged in FEMA-mapped floodplains and state-mapped river corridors, and municipalities **shall** enforce protections, such as raising structures at least two feet above base flood elevation, through applicable regulations.
4) Infill development in FEMA-mapped floodplains and state-mapped river corridors **shall** mitigate or eliminate the impacts of flooding and fluvial erosion, including effects on downstream communities, consistent with application regulations.
5) Development should avoid impacts to wetlands and upland forests to maintain natural flood storage capacity, consistent with applicable regulations.
6) Restoration of floodplains and other natural features that enhance flood resilience is encouraged.
7) Nature-based solutions to mitigate flood impacts are encouraged.
8) Local sources of funding, such as emergency reserve funds, should be considered to prepare for, respond to, and recover from climate-related impacts on public infrastructure, in addition to secondary aid that may be available from state and federal sources.
9) The tourism and outdoor recreation sector should diversify its services and offerings to provide more resilience against warming temperature trends.
10) Hot Weather Response plans should be considered in all municipalities to identify cooling sites, formalize public communication and warning, and monitor and support at-risk populations.
11) Local capacity and social cohesion should be strengthened to plan for, respond to, and recover from climate-related impacts.
12) Resiliency planning and implementation should include opportunities for meaningful participation, particularly for individuals affected by frequent flooding and climate-related hazards.

Action	Timeline	Effort	Cost	Potential Partners
Utilize the Municipal Vulnerabilities Indicator Tool, the Transportation Resilience Planning Tool, the National Risk Index, and similar resources to identify community-specific vulnerabilities in the built, social, and natural environment for all municipalities by 2027.	1	○	$	Vermont Climate Action Office, Vermont Agency of Transportation (VTrans)
Host a training session for municipalities to help them develop a holistic understanding of community-specific climate change vulnerabilities by 2030.	∞	○○	$	Vermont Climate Action Office, Vermont Department of Environmental Conservation (DEC), VTrans
Investigate whether municipal buildings with Municipal Energy Resilience Program-funded projects are adequately equipped to serve as resilience hubs after 2028.	2	○○	$	Vermont Emergency Management (VEM), Vermont Department of Health (VDH)
Advance mitigation investments in municipal facilities and utilities by assisting with capital improvement planning, feasibility studies, and municipal plans.	∞	○○○	$$	Vermont League of Cities and Towns (VLCT)
Assist municipalities with updating flood hazard bylaws or adopting river corridor bylaws.	∞	○	$	DEC
Identify municipalities where establishing cooling sites/resiliency hubs and developing Hot Weather Response plans are viable by 2028.	1	○	$	VDH
Assess the need for a Regional Hot Weather Response Plan. If appropriate, begin development in 2030; if not, continue promoting municipal Hot Weather Response Plans.	2	○○	$$	VDH
Assist municipalities with the mapping of upland forests and floodplains and the development of restoration projects through a watershed level flood risk assessment.	2	○○○	$$	DEC, University of Vermont (UVM)
Identify and share state and federal grant opportunities annually for infrastructure, stormwater, and nature-based solutions, and provide technical assistance to implement projects identified in Local Hazard Mitigation Plans and Tactical Basin Plans.	∞	○○	$$	DEC, VTrans

Timeline: Short-term 1 / Long-term 2 / Ongoing ∞ **Effort:** Low ○ / Medium ○○ / High ○○○ **Cost:** Low $ / Medium $$ / High $$$

CHAPTER 11: CLIMATE RESILIENCE *continued*

Action	Timeline	Effort	Cost	Potential Partners
Identify eligible, competitive projects, especially those not covered by the Clean Water Service Provider (CWSP) program for FEMA's Hazard Mitigation Grant Program.		○○○	$$	Otter Creek CWSP, Otter Creek Collaborative, South Lake Champlain CWSP, Rutland Natural Resources Conservation District (NRCD), Poultney-Mettowee NRCD
Determine the capability of municipal conservation commissions to identify and prioritize areas with potential for nature-based solution projects, beginning in 2029.		○○	$	Municipal Conservation Commissions
Conduct a flood resilience study along the Cold and Mill Rivers to support the development of potential mitigation projects, and issue a Request for Proposals in 2031.		○○○	$$$	Mount Ascutney Regional Commission
Conduct a flood risk analysis or vulnerabilty study for the Region's watersheds, primarily Otter Creek, Poultney-Mettawee, and Ottauquechee-Black, by 2032.		○○○	$$$	Vermont Association of Planning and Development Agencies (VAPDA), Mount Ascutney Regional Commission
Develop a Regional Flood Resiliency Plan for the Otter Creek watershed by 2034.		○○○	$$$	VAPDA, Mount Ascutney Regional Commission
Host annual workshops teaching the public about flood mitigation through nature-based solutions, beginning in 2028.		○	$	DEC Floodplain Manager
Maintain the Rutland County Fire and Public Works Mutual Aid Agreements. Determine the feasibility of additional shared service and equipment agreements through the biennial municipal shared services assessment.		○○	$	Municipal Fire and Public Works Departments
Determine the potential for developing a mutual aid agreement between Emergency Management Directors to assist with sharing knowledge and resources foling a disaster by 2029. If feasible, develop and ratify this agreement no later than the end of 2030.		○○	$$	RRDC, VEM
Merge Rutland Regional Emergency Management Committee (REMC) meetings with Rutland Regional Disaster Cooperative (RRDC) meetings to ensure participation and strengthen the regional emergency management support network by 2027.		○	$	RRDC
Facilitate discussions (at least once yearly) investigating how the capabilities of RRDC key partners (non-profits, community-based organizations, businesses, etc.) can support municipalities' needs; have ratified agreements between these parties in place no later than 2032.		○○○	$$$	RRDC, VEM
Establish a REMC subcommittee comprising 'community champion' municipalities that will meet regularly to develop regional emergency management aids by 2030.		○○○	$$	RRDC, VEM
Explore opportunities for municipalities to participate in the Resilient Communities Program; have five municipalities apply for this program before 2030.		○	$	Vermont Council on Rural Development

Indicators of Progress

1) Number of Updated Flood Hazard Area and/or River Corridor Bylaws
2) Number of Municipalities with Dedicated Local Funding Sources for Mitigation Investments
3) Number of Resiliency Plans and Studies
4) **Number of Municipalities Participating in the Regional Emergency Management Committee**
5) Number of 'Community Champion' Municipalities in Each Emergency Management Sub-Region

Timeline: Short-term / Long-term / Ongoing **Effort:** Low ○ / Medium ○○ / High ○○○ **Cost:** Low $ / Medium $$ / High $$$

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APPENDIX

CH 1: INTRODUCTION

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Equity Analysis

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A1.2

Engagement Report

CH 2: LAND USE

Figure A2.1 (1 of 3) Inset maps provide a closer look at designated growth areas for each community

FUTURE LAND USE INSETS

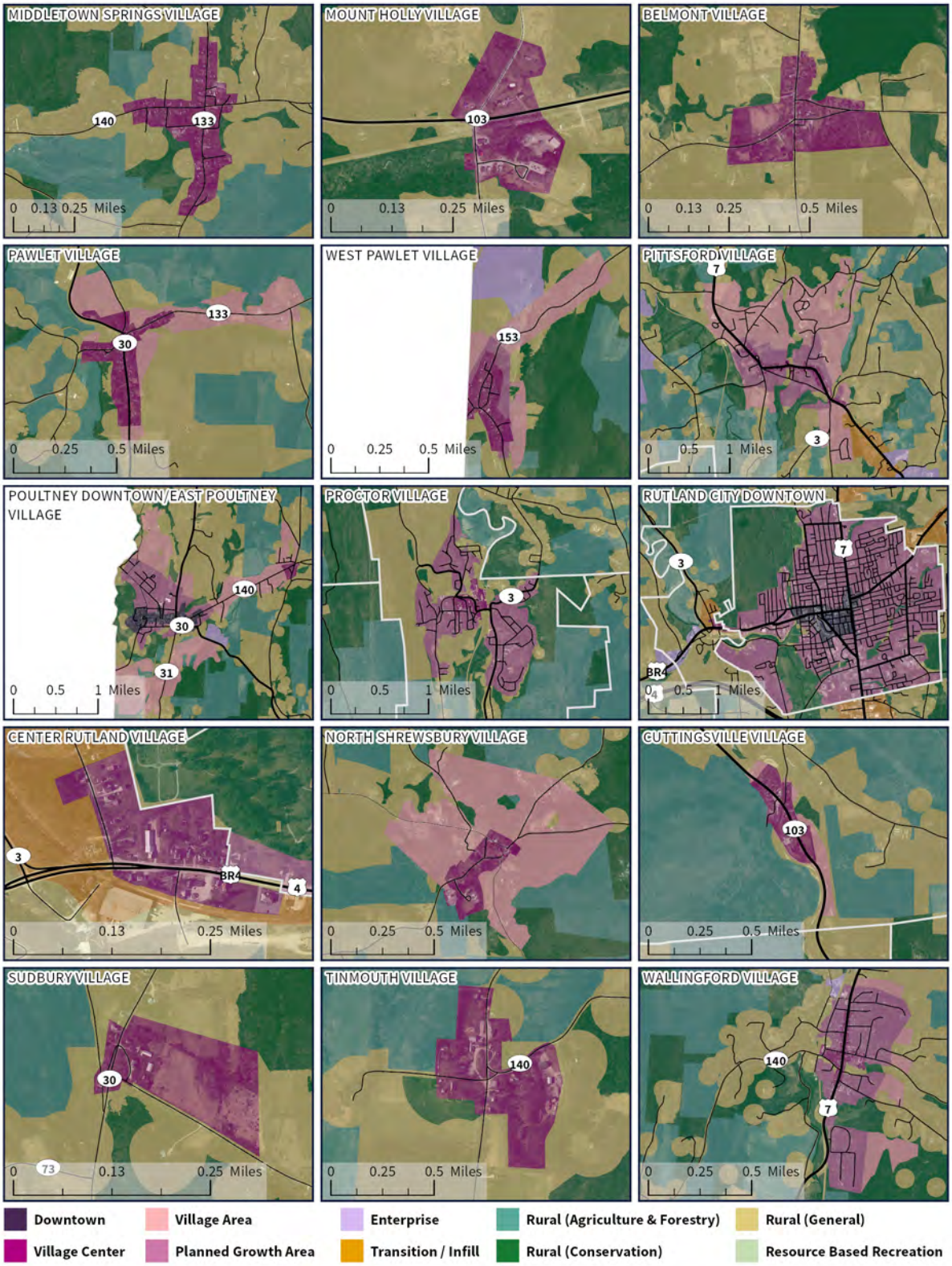

Figure A2.1 (2 of 3)

Inset maps provide a closer look at designated growth areas for each community

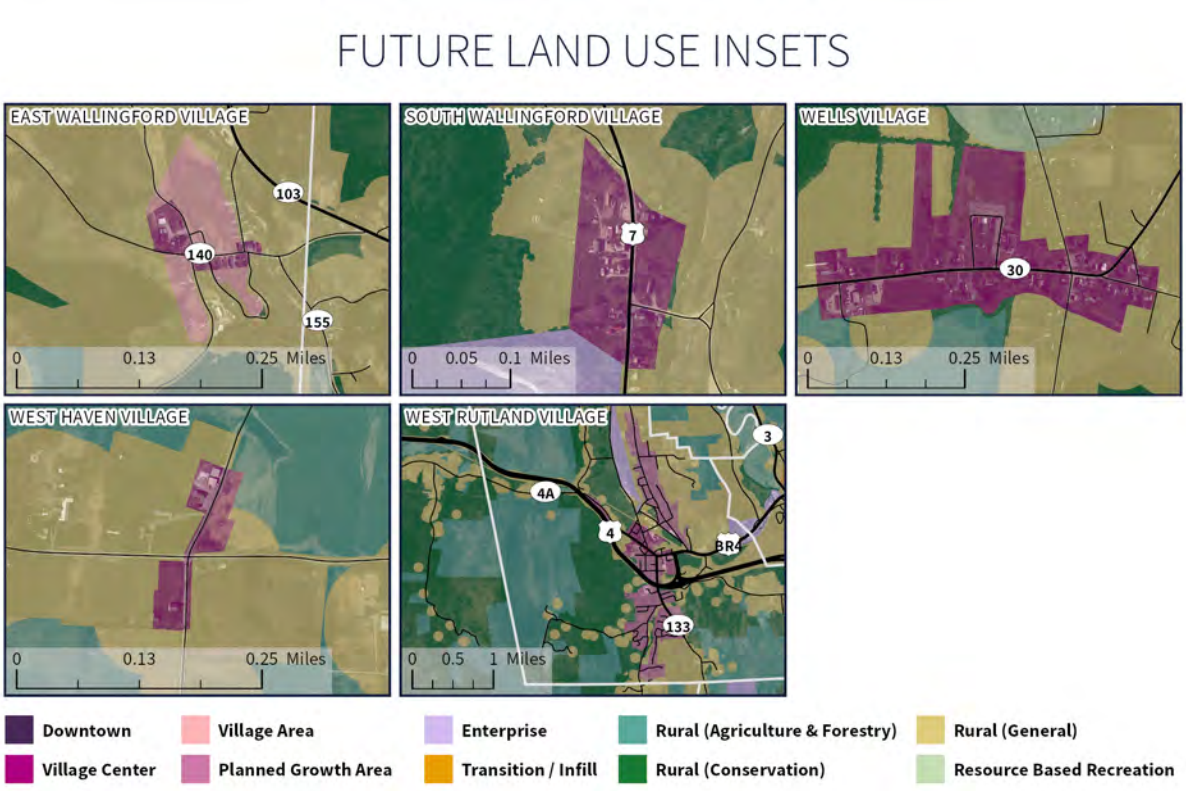

Figure A2.1 (3 of 3)

Inset maps provide a closer look at designated growth areas for each community

CH 5: TRANSPORTATION

COMPLETE STREETS IMPLEMENTATION TABLE

	Planned Growth Area (PGA)	Village Area (VA)	Transition/Infill Area (TIA)	Resource Based Recreation Area (RBRA)	Enterprise Area (EA)	Hamlet Area (HA)	Rural Area (RA)
Sidewalks	• Sidewalks should be present on both sides of the street unless there are insufficient destinations on one side of the street • Sidewalks shall be constructed to a minimum width of 5', with sidewalks 8'+ recommended in high density commercial districts	• Sidewalks should be present on one side of the street unless there is sufficient destinations on both sides of the street • Sidewalks shall be constructed to a minimum width of 5'	• Sidewalks should be present on one side of the street unless there is sufficient destinations on both sides of the street • Sidewalks shall be constructed to a minimum width of 5'	Sidewalks should be considered if there is sufficient pedestrian activity, especially connecting parking areas to recreation opportunities	Sidewalks are not recommended unless they can be connected to an existing sidewalk/path that leads to a PGA/VA or an existing transit stop	Sidewalks should be considered if there is sufficient pedestrian activity, especially connecting parking areas to retail businesses and public facilities	Sidewalks are not recommended unless there is an extremely strong justification
Bike Lanes/ Bike Paths	Bike lanes/ paths should be installed along corridors with high volumes of bike traffic and vehicle traffic	Bike lanes/ paths should be considered along corridors with high volumes of vehicle traffic and/ or identified as high-use/ priority by VTrans, especially when there is sufficient road width to support lanes through routine restriping	· Bike lanes/ paths should be considered along corridors with high volumes of vehicle traffic and/ or identified as high-use/priority by VTrans, especially when there is sufficient road width to support lanes through routine restriping	· Bike lanes/ paths should be considered along corridors with high volumes of vehicle traffic and connections to bicycle paths or trail networks and/or identified as high-use/ priority by VTrans, especially when there is sufficient road width to support lanes through routine restriping	Bike lanes/ paths are not recommended unless they can be connected to existing or planned bike lanes or paths that leads to a PGA/VA or an existing transit stop	·Bike lanes/ paths should not be considered unless the area already has existing sidewalks and is identified as a high use/priority bicycle corridor	Bike lanes/ paths are not recommended unless there is an extremely strong justification
Bicycle/ Pedestrian Friendly Shoulders	Wide shoulders are not appropriate in dense growth areas and should be avoided where possible, space is better utilized as either parking, designated bike lanes or green space	Wide shoulders are not appropriate in Village Areas and should be avoided where possible, space is better utilized as either parking, designated bike lanes or green space	Wide shoulders are generally not appropriate in areas targeted for infil and should be avoided where possible, space is better utilized as either parking, designated bike lanes or green space	• Wide shoulders (5'+) should be installed along corridors designated high use/priority by VTrans bicycle plan • Wide shoulders (5'+) should be considered along corridors designated medium use/ priority by VTrans bicycle plan	• Wide shoulders (5'+) should be installed along corridors designated high use/ priority by VTrans bicycle plan • Wide shoulders (5'+) should be considered along corridors designated medium use/ priority by VTrans bicycle plan	Wide bike/ ped friendly shoulders should be considered as an option, but weighed against narrower paved shared space	• Wide shoulders (5'+) should be installed along corridors designated high use/ priority in VTrans bicycle plan • Wide shoulders (5'+) should be considered along corridors designated medium use/priority in VTrans bicycle plan

Figure A5.1 Complete Streets Implementation Table

COMPLETE STREETS IMPLEMENTATION TABLE

continued

	Planned Growth Area (PGA)	**Village Area (VA)**	**Transition/Infill Area (TIA)**	**Resource Based Recreation Area (RBRA)**	**Enterprise Area (EA)**	**Hamlet Area (HA)**	**Rural Area (RA)**
Intersections & Crossings	Intersection curb should be extended to the maximum extent possible and prioritize minimizing pedestrian crossing distances and slowing vehicles speeds at crossings and intersections	Intersection curb should be extended to the maximum extent possible and prioritize minimizing pedestrian crossing distances and slowing vehicles speeds at crossings and intersections	Intersection curb should be extended to the maximum extent possible and prioritize minimizing pedestrian crossing distances and slowing vehicles speeds at crossings and intersections	Intersection curb should be extended to the maximum extent possible and prioritize minimizing pedesrian crossing distances and slowing vehicles speeds at crossings and intersections	Intersections should be as narrow as possible while still facilitating snow maintenance and large truck/farm vehicle turning movements	Intersections should be as narrow as possible while still facilitating snow maintenance and large truck/farm vehicle turning movements	Intersections should be as narrow as possible while stil facilitating snow maintenance and large truck/farm vehicle turning movements
Lane Widths	Lane should be marked to a width of 10' with a maximum width of 10.5' on transit routes and/or busy arterials	Lane should be marked to a width of 10' with a maximum width of 10.5' on transit routes and/or busy arterials	Lane should be marked to a width of 10' with a maximum width of 11' on transit routes and/ or routes with heavy truck traffic	Lane should be marked to a width of 10' with a maximum width of 10.5' on transit routes and/or busy arterials	Lane should be marked to a width of 10' with a maximum width of 11' on transit routes and/or routes with heavy truck traffic	Lane should be marked to a width of 10' with a maximum width of 11' on transit routes and/or truck routes	Lanes should be marked to a maximum width of 11' on roads with speeds greater than 40 MPH, excepting limited access highways
Transit Stops	• Transit stops should have at a minimum, proper signage and an ADA accessible transit pad for boarding if sidewalk present • Transit stops should have shelters or benches at high ridership locations	• Transit stops should have at a minimum, proper signage and an ADA accessible transit pad for boarding if sidewalk present • Transit stops should have shelters or benches at high ridership locations	• Transit stops should have at a minimum, proper signage and an ADA accessible transit pad for boarding if sidewalk present • Transit stops should have shelters or benches at high ridership locations	• Transit stops should have at a minimum, proper signage and an ADA accessible transit pad for boarding if sidewalk present • Transit stops should have shelters or benches at high ridership locations	Transit stops should have at a minimum, proper signage and an ADA accessible transit pad for boarding if sidewalk present	Transit stops should have at a minimum, proper signage and an ADA accessible transit pad for boarding if sidewalk present	Transit stops should have at a minimum, proper signage

CH 6: HOUSING

REGIONAL & STATE HOUSING TARGETS BY TOWN

Housing Targets By Town	% of Target	2025-2030, Low Growth Scenario 2025 State Housing Needs Assessment	2025-2030, High Growth Scenario 2025 State Housing Needs Assessment	2025-2050, Low Growth Scenario 2025 State Housing Needs Assessment	2025-2050, High Growth Scenario 2025 State Housing Needs Assessment	2023-2040, Historical Demand Scenario (2000-2019 demand), 2023 Rutland Region Housing Needs Assessment	2023-2040, Recent Demand Scenario (2020-2021 demand), 2023 Rutland Region Housing Needs Assessment	2023-2040 Midpoint Estimate: 2023 Rutland Region Housing Needs Assessment
Target	**% of Total**	**2,707**	**4,065**	**8,100**	**15,965**	**624**	**9,419**	**5,021**
Rutland City	55.00%	1,489	2,236	4,455	8,780	342	5,180	2,762
Killington	8.92%	241	363	722	1,423	56	840	448
Brandon	6.82%	185	277	553	1,088	42	642	343
Castleton	4.48%	121	182	363	714	29	422	225
Poultney	4.44%	120	180	359	708	29	418	222
Fair Haven	3.77%	102	153	304	600	23	354	189
West Rutland	2.84%	77	116	232	456	18	271	143
Pittsford	2.08%	56	84	167	330	13	195	103
Rutland Town	1.50%	41	60	121	238	9	141	74
Mount Holly	1.49%	40	61	120	237	9	139	74
Wallingford	1.37%	37	58	117	231	9	136	72
Proctor	1.18%	32	47	95	188	7	110	58
Pawlet	1.02%	28	40	81	160	6	95	50
Shrewsbury	0.78%	21	31	63	125	5	74	39
Danby	0.65%	18	27	52	102	4	60	33
Benson	0.58%	16	24	47	91	4	54	29
Clarendon	0.55%	15	22	44	86	3	51	28
Mendon	0.47%	13	19	37	73	3	43	23
Wells	0.41%	11	16	33	67	3	39	20
Middletown Springs	0.31%	8	13	24	48	2	28	16
Chittenden	0.29%	8	12	24	45	2	26	15
Tinmouth	0.26%	7	12	24	49	2	28	15
Hubbardton	0.22%	6	9	16	32	1	19	11
West Haven	0.18%	5	8	16	33	1	19	10
Ira	0.18%	5	7	14	27	1	16	9
Sudbury	0.15%	4	7	15	30	1	17	9
Mount Tabor	0.03%	1	1	2	4	0	2	1

Figure A6.1

Regional & State Housing Targets by Town

CH 8: ENHANCED ENERGY

Appendix: Methodology

Fill Out: Calculations, mapping constraints

Appendix: Regional and Municipal Targets Summary

[placeholder]

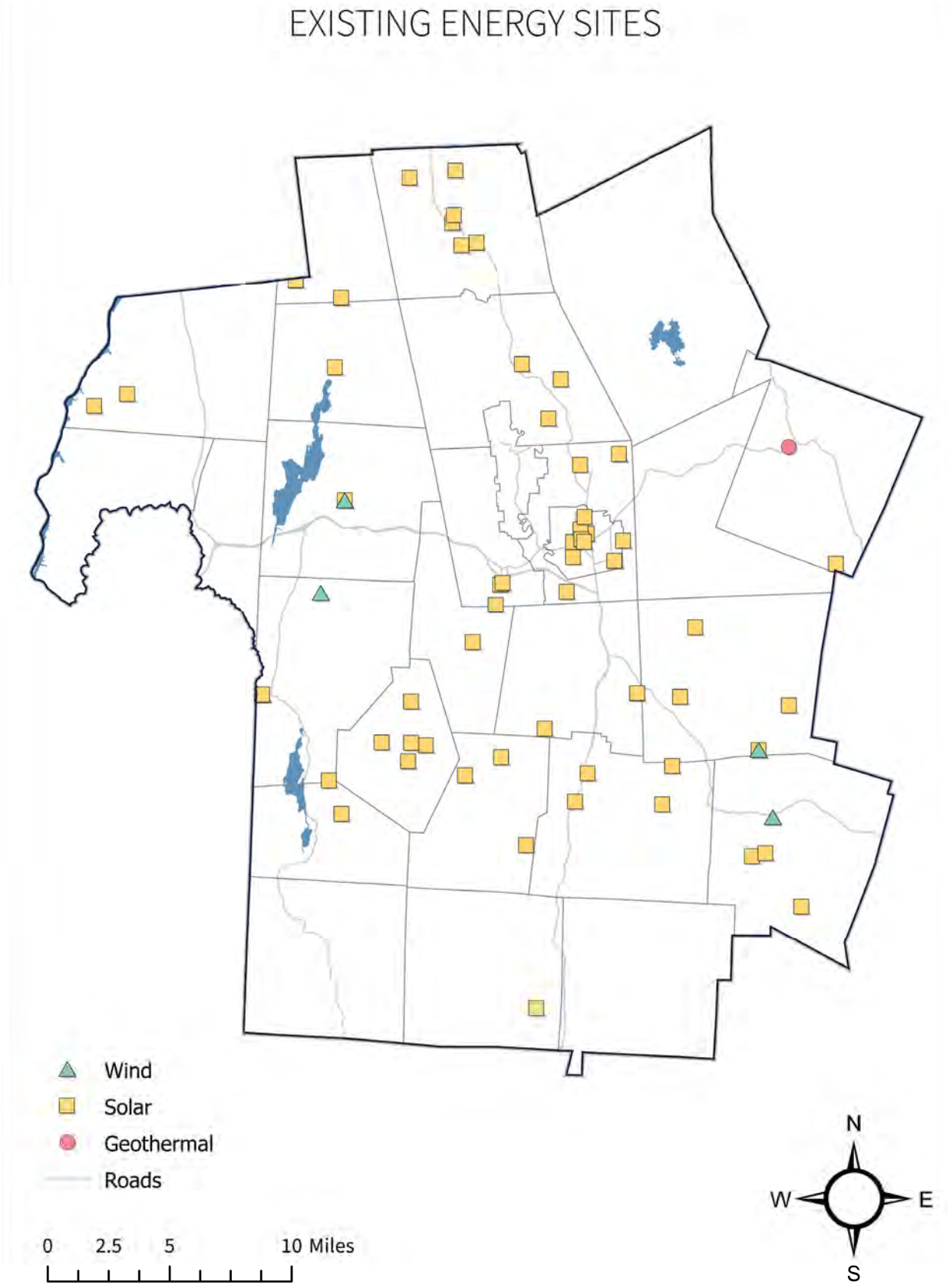

Figure A8.1

Existing Energy Sites

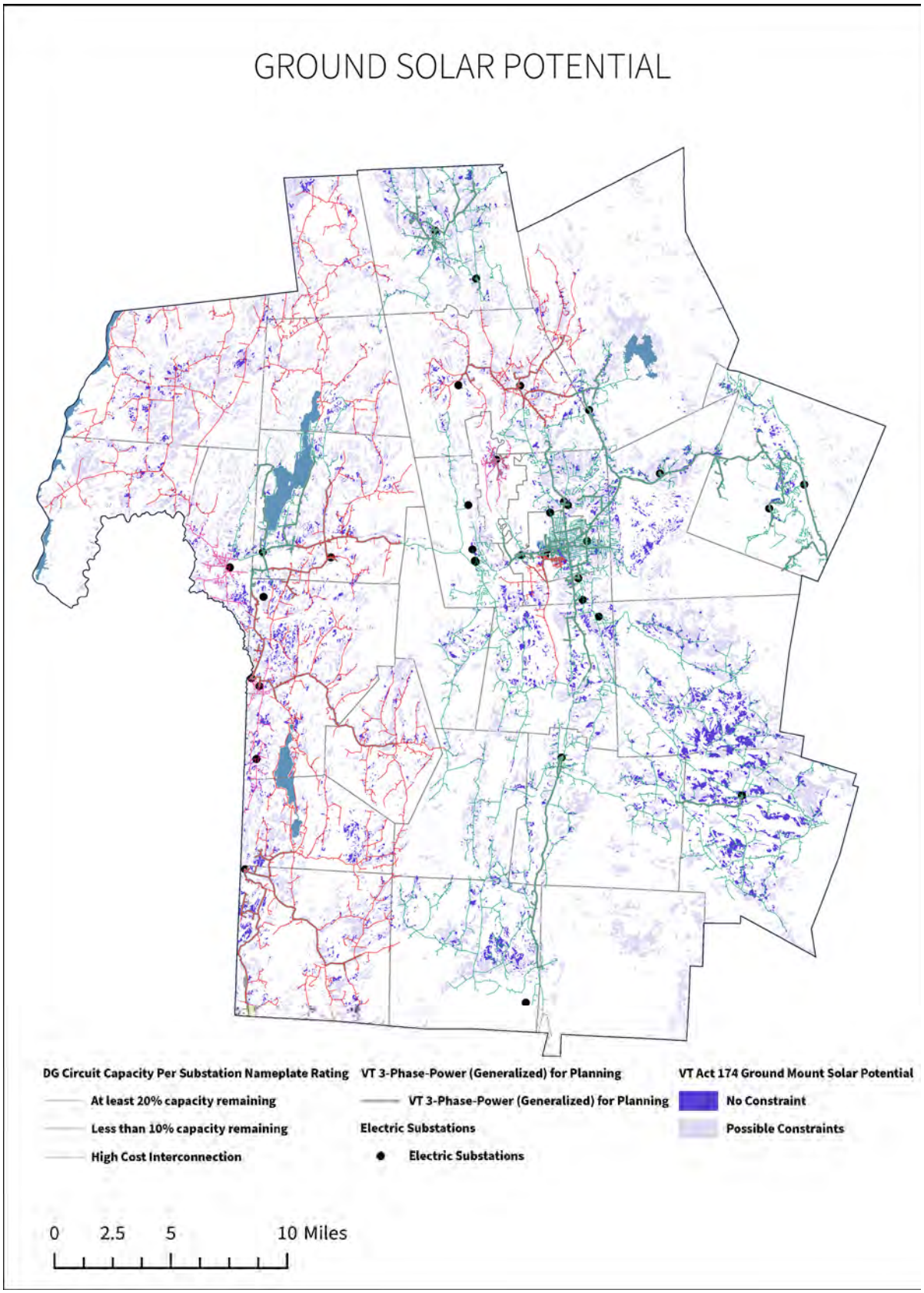

Figure A8.2

Solar Potential Map

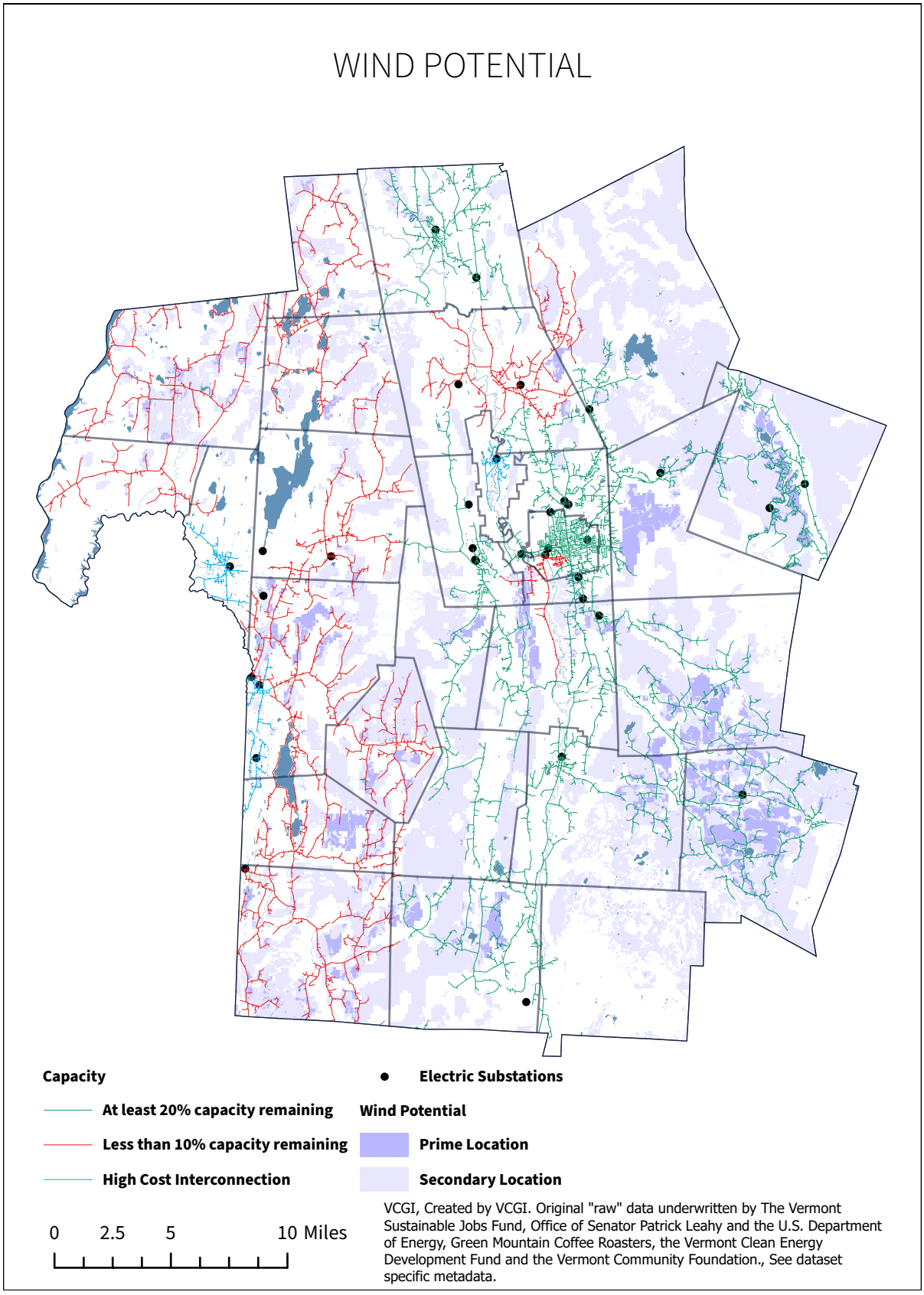

Figure A8.3

Wind Potential Map

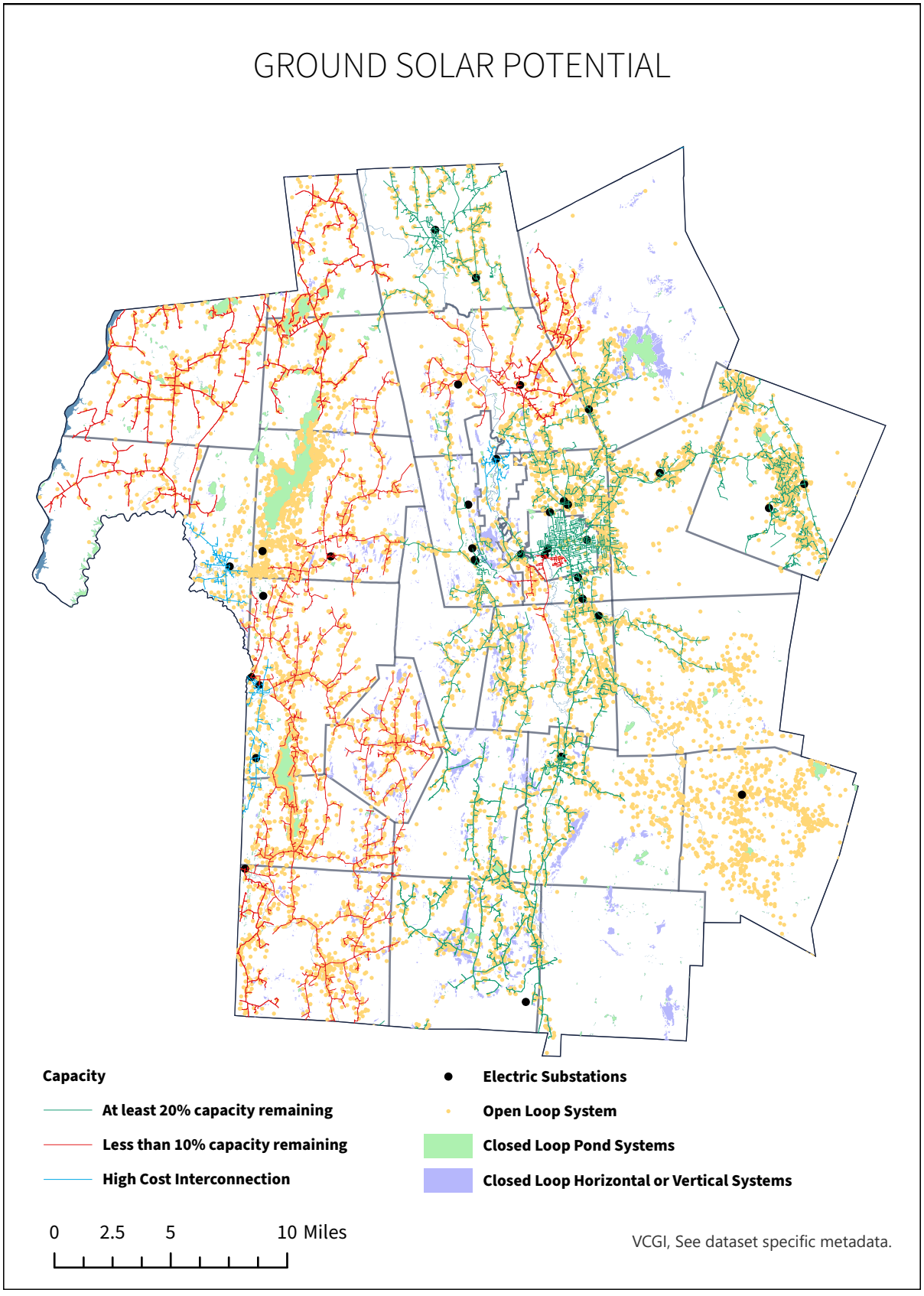

Figure A8.4

Geothermal Potential Map

CH 11: CLIMATE RESILIENCE

MVI Factors and Relationship to Climate Vulnerability

The Agency of Natural Resources developed the Municipal Vulnerability Indicators Tool, released in 2024, in partnership with the Vermont Climate Council. The tool helps municipalities understand their vulnerabilities to climate change across several social, economic, and environmental factors. This table indicates some of the Region's more commonly shared community characteristics that could indicate vulnerability to climate hazard.

FACTOR	# OF RUTLAND REGION TOWNS	RELATION TO CLIMATE CHANGE VULNERABILITY/RESILIENCE
Chronic Conditions	26	Respiratory illnesses will be exacerbated by poor air quality and a prolonged allergy season.
Housing Age	25	Older homes are more at risk of damage or loss due to climate hazard events.
Municipal Financial Capacity	22	This plays a significant role in the ability of the municipality to prepare for, respond to, or recover from a climate hazard event.
Elderly	16	Older adults have greater difficulty evacuating in advance of a climate hazard and are more vulnerable to high heat effects.
Municipal Staff Capacity	14	This plays a significant role in the ability of the municipality to prepare for, respond to, or recover from a climate hazard event.
BIPOC	14	Historically underserved groups have less capacity to prepare for, cope with, and recover from climate change impacts.
Rentership	13	Renters may be in buildings suffering from disinvestment and therefore more vulnerable to extreme weather impacts.
Energy/Transportation Burden	13	Significant income spent on energy and transportation costs means fewer resources to prepare for or recover from a climate hazard event.
Children	13	Children are dependent on their adults for their safety and well-being, which makes them more vulnerable during climate hazard events.
Disabled	13	These individuals may have greater difficulty evacuating in advance of a climate hazard event; emergency warnings may not be accessible.

Figure A11.1

MVI Factors and Relationship to Climate Vulnerability

FEMA NATIONAL RISK INDEX: RUTLAND COUNTY SNAPSHOT

Hazard Type	Historic Loss Ratios	Risk Index Score	Risk Index Rating	Expected Annual Loss Value	Expected Annual Loss Score	Expected Annual Loss Rating	Social Vulnerability	Community Resilience
Riverine Flooding	•	85.4	•••	$2,393,061	86.3	•••	••	••••
Hurricane	•••	71.9	••	$1,474,172	70.6	••	••	••••
Tornado	••	27.2	•	$384,473	30.8	••	••	••••
Landslide	••	93.7	•••	$206,277	93.9	•••	••	••••
Earthquake	••	55.1	•	$181,504	55.0	•	••	••••
Strong Wind	••	27.5	••	$161,278	32.1	••	••	••••
Heat Wave	••	57.4	••	$118,995	60.3	••	••	••••
Winter Weather	•	55.9	••	$70,595	59.7	•••	••	••••
Lightning	••	34.9	••	$62,182	39.5	••	••	••••
Cold Wave	•	44.6	••	$40,298	47.2	••	••	••••
Hail	•	23.7	•	$28,924	28.1	•	••	••••
Wildfire	••	42.6	•	$26,501	44.0	•	••	••••
Ice Storm	•	32.2	••	$23,884	34.2	••	••	••••

Hazard Type: represents the specific type of natural hazard event.
Historic Loss Ratio: a percentage that represents the area-specific, average rate of loss as it relates to people, buildings, and agriculture due to a single hazard event.
Risk Index Score: equals the annual expected loss value times the community risk factor (i.e., the social vulnerability score divided by community resiliency score).
Expected Annual Loss: the average economic loss in dollars resulting from a natural hazard event as it relates to people, buildings, and agriculture.

Rating definitions

- ••••• **Very High:** 80th - 100th percentiles
- •••• **Relatively High:** 60th - 80th percentiles
- ••• **Relatively Moderate:** 40th - 60th percentile
- •• **Relatively Low:** 20th - 40th percentiles
- • **Very Low:** 0th - 20th percentiles

Figure A11.2

The table shows data from FEMA's National Risk Index tool to summarize risk analysis results for Rutland County. Scores represent the national percentile ranking of the community's component value compared to other counties/census tracts. Ratings are qualitative categories describing the score compared to all other counties/census tracts, ranging from "Very Low" to "Very High". For example, a score of 75.0 indicates a rating of "Relatively High", such that 75% of all other U.S. counties (compared to Rutland County) have a lower value for one of three scores (risk index, expected annual loss, or social vulnerability scores), or a higher value for the community resilience score. Note that the expected annual loss value is in 2022 dollars, and that drought is excluded since expected annual loss values cannot be calculated for this hazard type. The graphics visually compare the score types for Rutland County in relation to other counties in Vermont and across the nation.

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GLOSSARY

A

Adaptation: Adjusting to the current or anticipated climate impacts by making improvements to, or preventing the deterioration of, natural and man-made systems and structures. 10 V.S.A. § 590

Adaptive Forest Management: Management practices that optimize forest structure, composition, and function to increase levels of forest resiliency.

Adaptive Reuse: The process of repurposing an existing building or structure for a new use, often preserving historic or valuable architectural elements while meeting modern needs.

Affordable Housing: Spending no more than 30 percent of household income on housing. 24 V.S.A. § 4303 (1)

Agritourism: tourism in which tourists take part in farm or village activities, as animal and crop care, cooking and cleaning, handicrafts, and entertainments. 12 V.S.A. § 5871

Agroecology: the application of ecological principles to agriculture, with attention to how agricultural practice will affect habitats or ecosystems. 6 V.S.A. § 4710

Archaeology: The study of physical evidence of past human activity, often unearthed through excavation or analysis.

Areas of High Flood Risk: Areas of High Flood Risk are Special Flood Hazard Areas as mapped by the U.S Federal Emergency Management Agency and River Corridors as mapped by the Vermont Agency of Natural Resources. 10 V.S.A. § 752

Aquifers: Underground layers of water bearing rock or sediment that store groundwater 10 V.S.A. § 1391

Audubon Vermont: State program of the National Audubon Society, focused on bird conservation, habitat protection, and environmental education.

B

Benefit cliff: The sudden decrease that can occurs from a small increase in earnings that can make people ineligible for benefits, but not making enough to sustain themselves

Berm: A raised barrier or shelf of land, often made of compacted soil, that separates areas vertically.

Biological Rhythms: Natural cycles in living organisms, such as sleep-wake cycles or seasonal behaviors, influenced by environmental cues.

BIPOC: Black, Indigenous, and People of Color: (used as a unifying identity label for people of color that also emphasizes the unique racial experiences of Black people and Indigenous people)

British Thermal Unit (Btu): The quantity of heat required to raise the temperature of 1 pound of liquid water by 1 degree Fahrenheit at the temperature at which water has its greatest density (approximately 39 degrees Fahrenheit).

Brownfield: A brownfield is a property where the presence, potential presence, or perception of hazardous substances, pollutants, or contaminants complicates its expansion, redevelopment, or reuse. 10 V.S.A. § 6642

Brownfields Reuse Program: A program that aims to assess, clean up, and reuse sites that have the presence or potential presence of hazardous substances.

Building height: The vertical measurement of a building, as measured from ground elevation to the heighest point of the structure .

C

Capital Improvement Planning (CIP): Short-range plan that identifies capital projects and equipment purchases, provides a planning schedule, and identifies options for financing the plan. 24 V.S.A. § 4382(a)

Cascading Disaster: Occurs when an initial event, such as a natural disaster, triggers a series of subsequent events that lead to further crises, often compounding the overall impact.

Certified Local Government (CLG): A local government recognized by the National Park Service and state preservation office for meeting standards in historic preservation; eligible for grants and involvement in federal reviews.

Clean Water Service Provider: A regional entity responsible for overseeing and implementing non-regulatory water quality projects within a designated water basin. 10 V.S.A. § 924

Climate Change: Long-term shifts in average temperature, humidity, and rainfall patterns for local, regional, and/or global environments.

Climate Justice: Links sustainable development and human rights to achieve a rights-based approach to addressing climate change. 3 V.S.A. § 6002

Co-Benefits: The additional positive outcomes that arise from a single action or intervention.

Community Lifeline: The most fundamental services in a community that enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security.

Community Resilience: The overall ability of a community to prepare for, withstand, respond to, and adapt readily to any kind of adversity, such that people are capable of surviving and thriving.

Community Supported Agriculture (CSA): Community-supported agriculture organization" or "CSA organization" means a farm or group of farms each subject to regulation under the Required Agricultural Practices that as part of the business of the farm stand or CSA organization grow, raise, or produce agricultural products for consumer shareholders or subscribers who pledge or contract to buy a portion of the agricultural products of the farm or group of farms. 6 V.S.A. § 2776(6)

Complete Streets: Streets which provide for the safety and accommodation of all transportation system users (motorists, pedestrians, cyclists & transit riders), regardless of age, ability, or modal preference. 19 V.S.A. § 10b

Conflict: When the Regional Plan allows for the project but the Town Plan doesn't, or visa versa.

Cooling Sites: A community-provided resource for those needing extra assistance to stay safe during hot weather; this can include air-conditioned buildings with amenities or an outdoor location providing shade, swimming, spray water, and/or drinking water.

Creative Economy: Economic activity derived from human creativity, including the arts, culture, design, and innovation.

Criteria Pollutants: A group of six common air pollutants regulated by the U.S. Environmental Protection Agency due to their harmful effects on human health and the environment.

Cross-State Pollution: Air pollution that originates in one state and travels across state lines, impacting air quality in other states.

Cyanobacteria Blooms: A rapid increase of a type of photosynthetic bacteria in a water body that can potentially release toxins harmful to humans and animals.

D

Development Constraint: A factor that limits or prevents the development of a piece of land.

E

Ecosystem: All the living and non-living parts within an environment and the interaction between those parts. Two of the main types of ecosystems are those for freshwater and terrestrial systems.

Ecosystem Services: Any positive benefit that wildlife or ecosystems provide to people.

Ecotourism: tourism to places having unspoiled natural resources, with minimal impact on the environment being a primary concern.

Effective Forest Management: Maintain and enhance the economic, social and environmental values of all types of forests, for the benefit of present and future generations. 10 V.S.A. § 2601

Electric Vehicle Supply Equipment (EVSE): Electric Vehicle chargers

Emergency Management Cycle: A continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action to ensure effective coordination during incident response.

Emergency Relief Assistance Fund (ERAF): An incentive where state funding is provided to match FEMA aid after federally declared disasters; the match ranges from 7.5% to 17.5% depending on which flood mitigation measures have been adopted.

Enterprise Areas: Locations of high economic activity and employment that are not adjacent to planned growth areas. 24 V.S.A. § 4348a(2)(F)

Equitable Access: The principle that all individuals should have fair and just opportunities to resources, education, and professional support. 3 V.S.A. § 6002

Environmental Benefit: As defined in state law. 3 V.S.A. § 6002 (1)

Environmental Burden: As defined in state law. 3 V.S.A. § 6002 (2)

Environmental Stewardship: Responsible use and protection of the natural environment through active participation in conservation efforts and sustainable practices 6 V.S.A. § 4963

Expected Annual Loss: The average economic loss in dollars resulting from natural hazards as it relates to buildings, people, and agriculture.

F

False Spring: Occurs when a stretch of unexpectedly warmer temperatures occurs in late winter/early spring, followed by sudden freezing events.

Farmland Access Program: The Vermont Land Trust's Farmland Access Program is an innovative, successful, and evolving tool for the transfer of farmland to the next generation.

Federally-Declared Disaster: Any disaster subsequently determined by the President of the United States to warrant assistance by the Federal Government under the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

Flash Flood: A sudden, violent flood that is caused by intense rainfall events and can occur anywhere.

Floodplain: An area of low-lying land adjacent to a river that absorbs water during heavy precipitation events, thus reducing the risk of downstream flooding. 10 V.S.A. § 753

Flood Hazard Area Bylaws: Local laws that restrict or regulate construction and land use in Special Flood Hazard areas to minimize the risk of flood damage to property and infrastructure. 24 V.S.A. § 4424

Flood Insurance Rate Map (FIRM): FEMA-mapped floodplains that are used to determine whether flood insurance is required for property owners.

Fluvial Erosion: The movement and deposition of soil and rock by flowing water in stream and river channels; often precipitated by flash floods.

Food Deserts: An area, usually low-income, in which many residents cannot easily get to stores that sell affordable, healthful foods.

Food Hubs: A centrally located facility with a business management structure facilitating the aggregation, storage, processing, distributions, and/or marketing of locally/regionally produced food products.

Food insecurity: Limited or uncertain access to sufficient, nutritious food. Contributing factors include economic disparities, rural isolation, and limited access to affordable, healthy food options.

Full Value: The total value of a property, including both land and improvements (e.g., buildings), as determined by the tax assessor for property tax purposes.

G

GHG: Greenhouse Gas Emissions .10 V.S.A. § 578

Gig Towns: A community that has completed fiber expansion and has access to high-speed internet .

Grand List: compilation of all taxable properties within a municipality or state.

H

Hazard Mitigation Grant Program (HMGP): Federal funding that is provided to state and local governments following a federally declared disaster to protect eligible public or private property through various impact reduction measures.

Highest and Best Use: The most profitable and efficient use of a property, based on its physical, legal, and financial characteristics, as determined by tax assessors for property tax purposes.

Historic Preservation: The act of protecting, conserving, and restoring historic buildings, landscapes, or objects of cultural significance.

H-2A Visa: Non-immigrant visa program that allows US employers to bring foreign nationals to the US to fill low-skill, temporary or seasonal agricultural jobs for which US workers are not available.

I

Impact Fees: As defined in state law. 24 V.S.A. § 5201(3)

Individual Assistance: A suite of federal programs providing financial or direct assistance to impacted individuals and households following a federally declared disaster.

Infrastructure: The system of public works (including roads, transit routes, power lines, sewer and water lines etc.) for the Region.

Inundation Flood: The often-gradual rise of water on low-lying land.

Invasive Species: An organism introduced to non-native ecosystems that is capable of causing harm to the environment, the economy, or human health.

K

Kilowatt-hour (kWh): A measure of electricity defined as a unit of work or energy expended for 1 hour. One kWh is equivalent to 3,412 Btu.

L

Labor Markets: The supply of and demand for labor .

Land Value: The value of just the land, excluding any improvements or structures, as assessed by the tax assessor to establish the property's taxable land value.

Landscape Scale Conservation: Conservation that considers the broader landscape, recognizing the interconnectedness of ecosystems and the importance of movement and migration for wildlife.

Light Pollution: The excessive or inappropriate use of artificial light outdoors which disrupts the natural darkness of the night sky.

Living Wage: Minimum income necessary for a worker to meet their basic needs. 2 V.S.A. § 526

Local Food Systems: collaborative network that integrates sustainable food production, processing, distribution, consumption, and waste management in order to enhance the environmental, economic, and social health of a particular area. 10 V.S.A. § 330

Local Hazard Mitigation Plan (LHMP): A prerequisite for federal funding, this plan identifies all natural hazards facing a community, ranks them according to local vulnerabilities, and develops strategies to reduce risks.

Low-End Estimate: A conservative or minimal projection.

M

Managed Retreat: An adaptation strategy that proactively moves people, homes, and infrastructure away from high-risk areas to avoid damage and minimize recovery costs.

Marble Slurry: A byproduct of marble processing, consisting of fine particles suspended in water .

Marshes: Wetlands dominated by herbaceous plants, often found in low lying areas. 10 V.S.A § 902

Meaningful Participation: As defined in state law. 3 V.S.A. § 6002 (6)

Mechanization: the act or process of introducing machines into an industry or other area of activity in order to replace human labor.

Megawatt-hour (MWh): One thousand kilowatt-hours or 1million watt-hours. 30 V.S.A. § 202b

Meteorologoical Parameters: variables such as temperature, humidity, wind speed, and precipitation used in weather climate analysis. 10 V.S.A. § 554

Microgrid: A local energy system.

Microplastics: Extremely small pieces of plastic debris resulting from the disposal and breakdown of consumer products and industrial waste.

Microtransit: On-demand transit that does not operate on a fixed route, but operates on a dynamic route based on rider demand with riders booking trips using an app or calling a phone number.

Mitigation: The reduction of heat-trapping emissions and/or the enhancement of carbon sinks to stabilize and reduce global temperature rise. 10 V.S.A. § 590

MMBtu: One million British thermal units. 30 V.S.A. § 202b

Municipal Ethics Requirements: Act 171, Municipalities must adopt a standardized code of ethics. 24 V.S.A §§ 1991-1999

N

National Flood Insurance Program (NFIP): Provided to property owners, renters, and businesses to share the risk of flood losses through flood insurance and reduce flood damages by restricting floodplain development.

Natural Hazard: A naturally occurring event or phenomenon that has the potential to cause harm or damage to human life, property, or the environment.

O

One Hundred Year Flood: A flood event that has a 1% chance of occurring in any given year on average.

Open Meeting Law: All meetings of public bodies must be open to the public at all times. 1 V.S.A. § 312

Option to purchase at agricultural value (OPAV): Voluntary legal agreement that restricts the sale of land to only certain farmers or to family members, and restricts the sale price to agricultural value. 10 V.S.A. § 6303a(7)

Orderly Development: The planned growth or change of an area through an organized process that creates outcomes aligned with the goals and values of the community. 24 V.S.A. § 4302c(1)

Organic Food: Organic food refers to fresh or processed products grown using organic farming methods. These methods avoid synthetic chemicals, such as artificial pesticides and fertilizers, and prohibit the use of genetically modified organisms (GMOs).

P

Parcelization: The division of larger parcels of land into smaller ones, often for the purpose of sale or development.

Payroll Tax: Taxes paid on wages, tips, and salaries by employees and employers.

Peak Demand: Amount of capacity required during the single moment when the grid as a whole experiences the highest demand for power.

Pedestrian: Any individual afoot or operating a wheelchair or other personal mobility device, whether motorized or not, and including an electric personal assistive mobility device. 23 V.S.A. § 4(67)

Percolate: Process of a liquid slowly passing through a filter or porous substance.

Per-Pupil: Total amount of money spent on each student's education.

Physiographic Region: An area of land defined by its unique geology, topography, and the native plants and animals that inhabit it.

Planned Unit Development: As defined in state law. 24 V.S.A. § 4303(19)

Polyfluoroalkyl: A group of synthetic chemicals used in industrial and consumer products, known for persistence in the environment and potential health risks. 18 V.S.A §§ 1661 - 1695

Prime Agricultural Soils: An important farmland soils map unit that the Natural Resources Conservation Service of the U.S. Department of Agriculture (NRCS) has identified and determined to have a rating of prime, statewide, or local importance, unless the District Commission determines that the soils within the unit have lost their agricultural potential. 10 V.S.A. § 6001(15)

Public Assistance: A federal grant traditionally given to state, local, territorial, and tribal governments for disaster response and recovery following a federally declared disaster.

Public Subsidy: Public program or benefit designed to stimulate economic development, create or retain jobs, provide assistance to corporations, industries, or sectors.

Public Wastewater System: The collection and treatment of municipal wastewater originating from a combination of domestic, commercial, and industrial activities. Wastewater is treated to established standards before discharge to a receiving water. 10 V.S.A. § 1972(5)

Public Water System: Any source(s) or combination of sources owned or controlled by a person, that provides drinking water through pipes or other constructed conveyances to the public and that has at least 15 service connections or serves an average of at least 25 individuals daily for at least 60 days out of the year. 10 V.S.A. § 1671(5)

R

Resilience: The capacity of individuals, communities, and natural and built systems to withstand and recover from climatic events, trends, and disruptions. 10 V.S.A. § 590

Resilience Hub: A community-serving facility outfitted to support residents, coordinate communication, and distribute resources both in everyday life and during disaster events.

Retrofits: Modifying existing equipment, buildings, or systems.

Risk Index Value: A FEMA metric rating a community's overall level of risk by multiplying the expected annual loss value by the community risk factor (social vulnerability score divided by community resilience score).

River Corridors: State-mapped areas adjacent to the river that represent the space required to accommodate the load of a river and minimize erosion-based hazards. 10 V.S.A. § 1422(12)

River Corridor Plan: These plans identify locations where restoration and conservation projects can improve or maintain river stability. Restoration projects include a variety of activities, such as stream bank plantings, bridge and culvert upgrades, and floodplain restoration.

Rutland Region: Rutland County is made up of 28 towns in southwestern Vermont. The Rutland Regional Planning Commission has responsibility for 27 of these towns-a jurisdiction referred to as the Rutland Region.

S

Special Flood Hazard Area (SFHA): Demarcated areas on flood insurance rate maps that have a high-risk of inundation flooding.

Smart Growth Principles: As defined in state law. 24 V.S.A. § 2791 (13)

Smog: A type of air pollution caused by the interaction of sunlight with pollutants like nitrogen oxides and volatile organic compounds. 10 V.S.A. § 554

SNAP: need-based federal program to help low-income households supplement their budget to buy food. 33 V.S.A. § 1701

Social Cohesion: Refers to the quality of inter-human relationships; indicators include strong social networks, trust in people and institutions, and expressions of solidarity.

Social Vulnerability: The susceptibility of social groups to adverse natural hazard impacts, including disproportionate death, injury, loss, or disruption of livelihood.

Sprawl: Unplanned, low-density village expansion into rural lands.

Strip Development: Linear, low-density development that typically occurs along major roads or highways. 10 V.S.A. § 6001(38)

Subdivision Regulations: Local rules governing the division of land into smaller parcels, including the layout of streets, provision of utilities, and requirements for environmental protection. 24 V.S.A. § 4418

Substantial Regional Impact: This is the threshold for precedence of this Regional Plan as the primary planning document to consider in Act 250 proceedings if a 'conflict' exists between the Town Plan and Regional Plan. 24 V.S.A. § 4345a(17)

T

Tactical Basin Plan: These plans describe the projects or actions needed to protect or restore specific waters and identify appropriate funding sources to complete the work, based on monitoring and assessment data.

Telecommunications: Communication over a distance by means of the internet, telephone, radio, television, etc.

Total Maximum Daily Load (TMDL): The maximum amount of a pollutant that a waterbody can receive while still meeting water quality standards. 10 V.S.A. §§ 1250 - 1284

Three-Phase Power: Type of power supply used in commercial and industrial facilities.

Tetrachloroenthylene: A chlorinated solvent commonly used in dry cleaning and metal degreasing. It is a hazardous air and groundwater contaminant known for its health risks. 10 V.S.A. § 554

U

Ubiquitous: Present or found everywhere.

Unified Development Bylaws: A single regulatory document for all land use regulation types. At minimum, it combines zoning regulations and subdivision regulations. 24 V.S.A. § 4419

Use-Value Appraisal: Value of a property assuming a specific use, which may or may not be the property's Highest and Best Use, on the effective date of the appraisal. 32 V.S.A. §§ 3750 - 3763a

V

Value-added: A product whose value has been increased by special manufacturing, marketing, or processing.

Vector-Borne Diseases: Diseases that are carried, transmitted, and spread by bites from "vectors" like mosquitoes, ticks, and fleas (e.g. West Nile).

Vermont Wetlands Rules: Rules that identify and protect significant wetlands and their buffer zones.

Viewshed Analysis: A GIS-based method for determining what areas are visible from a specific location, often used in planning to preserve scenic views.

W

Wetlands: Areas saturated with water, either permanently or seasonally, that support distinct ecosystems. 10 V.S.A §§ 902 - 928

Working Landscape: cohesive unit of land that is ecologically, socially, and economically connected. 6 V.S.A. § 4603

Z

Zoning Regulations: Local rules that define how properties in specific geographic zones can be used. 24 V.S.A. § 4414

ACKNOWLEDGMENTS

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2026 RUTLAND REGIONAL PLAN:
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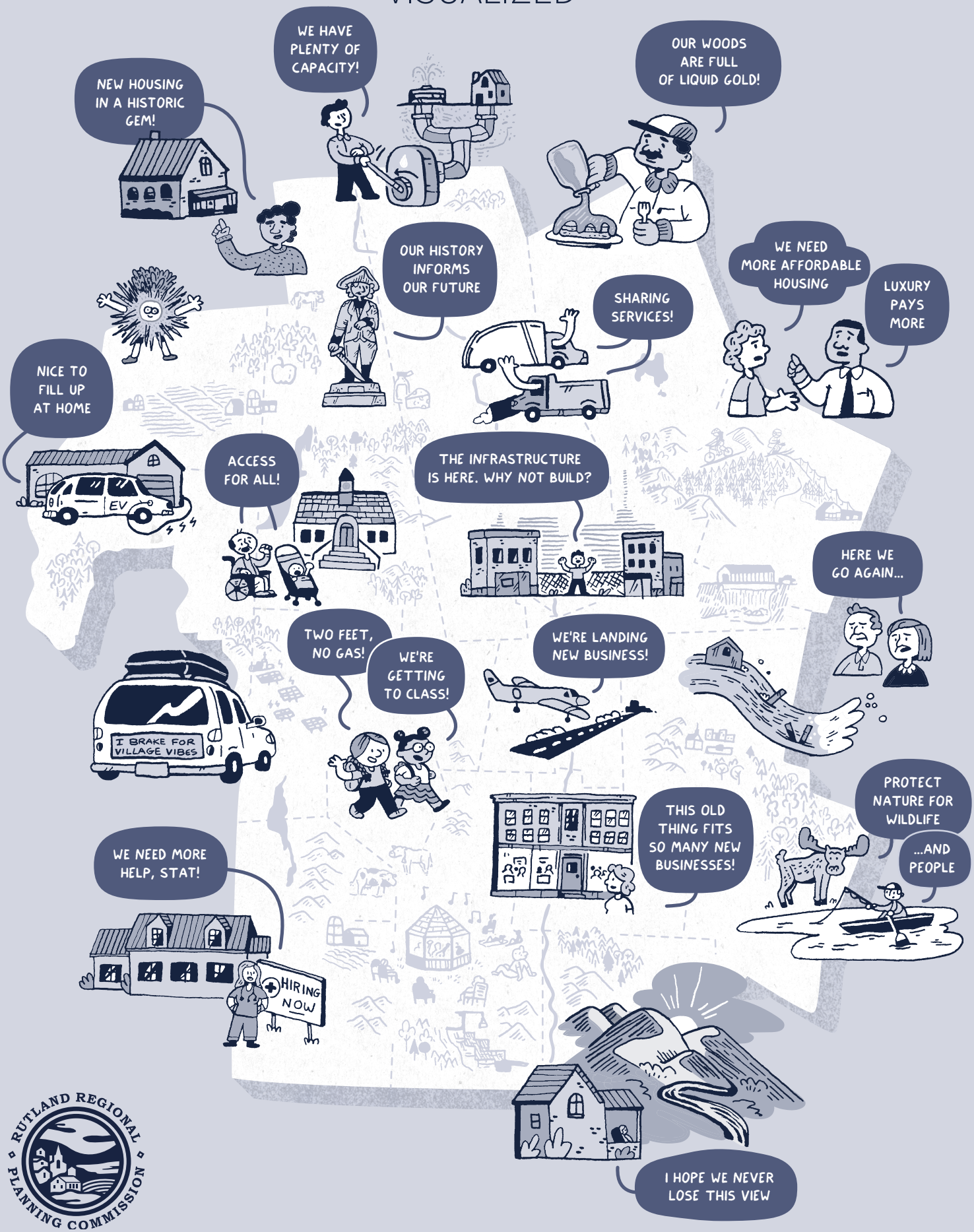

RUTLAND REGIONAL PLANNING COMMISSION