

Braintree Town Plan

Adopted September 5, 2023

Braintree Planning Commission

Town of Braintree, 932 VT Route 12A, Braintree, Vermont 05060

Adopted: September 5, 2023

Preface

*“When we plan for our future, we will need to consider where we live and how it does, or does not, support our economy, reduce energy use, encourage a sense of community, and protect our natural resources.” (Two Rivers Ottauquechee Regional Commission. *Regional Plan, 2019*)*

The Braintree Town Plan addresses the challenges facing our future and seeks to balance the Town's economic opportunities for recreation and housing with the desire to protect our own cultural history, scenic quality, and traditional land use resources.

From a regional perspective, Braintree complements and supplements the scenic and agricultural strengths of its neighboring towns by making available the rich recreational opportunities afforded by its large areas of forest lands and by serving the region's economy as a modest location for new housing development.

Realization of Braintree's recreational and housing potential might challenge Braintree's desire to protect its agricultural and forest resources, for each prefers land having minimal slopes. However, Braintree's topography of steep hillsides, increased climate-related impacts, and the land fragmentation pressures make town planning difficult.

Acknowledgements

The creating of this planning document has been made possible through the diligent efforts the following: current Braintree Planning Commission members, Nathan Cleveland, Jackson Evans, Malcolm FitzPatrick, Paul Kendall and Jennifer Phipps; past Braintree Planning Commission members, Bob Moyers and Joan Richmond-Hall; Two River's Ottequechee Regional Commission, in particular the efforts of Victoria Littlefield; the Braintree Selectboard and all those who reviewed early drafts. This honors the generations of good people who have called our special town “home”, and without whom the legacy of our past and the vision for our shared future would not have been possible.

Table of Contents

Chapter One: Introduction	4
1.1 Our People and Community.....	4
1.2 Our Physical Place	5
1.3 Our Future Prosperity	6
1.4 Our Relationship with the Surrounding Region.....	6
1.5 Overarching Goals	7
1.6 Overarching Policies	7
1.7 Overarching Recommended Actions	8
1.8 Why are these Goals, Policies, and Recommended Actions important?	9
Chapter Two: Our People and Community.....	10
2.1 Residents	10
2.2 Education.....	11
2.3 Child-care.....	11
2.4 Senior Social Services	12
2.5 Governance.....	12
2.6 Emergency and Enforcement Services	13
2.7 Goals.....	13
2.8 Policies.....	14
2.9 Recommended Actions.....	15
Chapter Three: Our Physical Place.....	16
3.1 Natural Resources	16
3.1.1 Agriculture.....	16
3.1.2 Forestry and Wildlife.....	16
3.1.3 Recreation	17
3.1.4 Water and Minerals	18
3.2 Natural Hazards and Resilience.....	19
3.3 Scenic, Historical, Cultural and Archaeological Resources	20
3.4 Land Use	21
3.4.1 Village Settlements	21
3.4.2 Rural Areas	22
3.4.3 Conservation Areas	22
3.5 Goals.....	23
3.5.1 Natural Resource Goals:.....	23
3.5.2 Natural Hazards and Resilience Goals:.....	23
3.5.3 Scenic, Historic, and Cultural Resource Goals:	24
3.5.4 Land Use Goals:.....	24

3.6 Policies.....	24
3.6.1 Natural Resource and Hazard Policies:	25
3.6.2 Scenic, Historic, Cultural, and Land Use Policies:.....	25
3.7 Recommended Actions.....	26
3.7.1 Natural Resource and Hazard Actions:	26
3.7.2 Scenic, Historic, Cultural, and Land Use Actions:.....	27
Chapter Four: Our Future Prosperity	28
4.1 Economic Development.....	28
.....	29
4.2 Housing.....	29
4.3 Transportation	31
4.3.1 Energy and Transportation.....	32
4.4 Utilities and Community Facilities	32
4.5 Energy.....	33
4.5.1 Energy Efficiency and Conservation	35
4.5.2 Energy Affordability	35
4.5.3 Renewable Energy Siting Standards.....	35
4.6 Goals.....	36
4.6.1 Economic Development Goals:	36
4.6.2 Housing Goals:	37
4.6.3 Transportation Goals:	37
4.6.4 Utility and Community Facility Goals:.....	37
4.6.5 Energy Goals:.....	37
4.7 Policies.....	38
4.7.1 Economic and Housing Development Policies:.....	38
4.7.2 Transportation and Community Facility, Policies:	38
4.7.3 Energy Policies	39
1. The generation, transmission, and distribution facilities or service areas for new energy generation facilities shall complement the recommended land use patterns set forth in this Town Plan.....	39
4.8 Recommended Actions.....	41
4.8.1 Economic and Housing Development Actions:	41
4.8.2 Transportation, Community Facility, and Energy Actions:.....	41
1. The Selectboard will annually review and submit to the voters the Town's needs for highway maintenance and improved roadway resilience as a part of its Annual Budgeting and 5-Year Capital Planning process.	41
Chapter Five: Implementation Matrix	43
Appendix I: Maps.....	48
Appendix II: Summary of Changes to Town Plan.....	56

Chapter One: Introduction

The Braintree Town Plan is a framework for decisions that the Town, the State, and a variety of public agencies and commissions will make over the next eight years. It is presented in three chapters plus this one entitled “Our People and Community”, “Our Physical Place”, and “Our Future Prosperity”.

Each chapter begins with a reflection upon our Town’s history and an assessment of how that heritage has changed over time before addressing the question of what kind of future development we do or do not want. Each chapter ends with proposed Goals, Policies, and Recommended Actions that provide a balanced pathway towards an attractive vision for the Town as a whole. This vision includes:

- protecting Braintree's historic scenic character, and natural resources;
- providing a safe and secure place for all residents;
- retaining and attracting young adult and family residents;
- responding to the challenges of climate change;
- enhancing our recreational resources;
- keeping public services affordable; and
- coordinating our actions with neighboring towns and regional objectives.

A fifth chapter entitled “Implementation Matrix” summarizes the Recommended Actions found in the preceding three chapters in a manner showing how they can be accomplished in Braintree over the next 8-years or longer.

1.1 Our People and Community

Braintree has evolved over the 200 plus years of its settlement history as a function of:

- the landscape and natural resources that existed long before European settlement;
- the character of those who settled the town and those who have moved here;
- the changing nature of New England's agricultural and rural economies; and
- Braintree’s relationship to its neighboring towns and the economy of our own wider region.

Today our town is a beautiful, rural, and largely undeveloped working landscape that our residents are committed to protecting in a sustainable manner; however, it faces significant demographic, economic, and environmental challenges.

Demographically, Braintree seems to have plateaued at about 1,200 residents, and like all of Vermont, our average age is increasing with more retirees than young families. This shift has

reduced the number of children in our schools and the number of adults available to volunteer for all the functions of our local government. Although the building of the Interstate highway system has brought some new residents to the region, they have not fundamentally altered this longer-term demographic trend.

Our sense of community and its intimate connection between the land and our livelihoods has been affected economically by the decline of agricultural and silvicultural occupations. Today Braintree is more of a bedroom community in which most residents commute to work and travel to towns outside of Braintree for shopping, commercial services, health care, and secondary education. And being so small, Braintree must now share with or rely upon our neighboring towns and the State to provide such essential services as fire protection, law enforcement, health care, public transportation, and waste management.

Yet, Braintree residents maintain a strong spirit of neighborliness, a love of their unique community, and respect for our working landscape. These are the great strengths upon which Braintree can build a vibrant and demographically diverse future.

1.2 Our Physical Place

In his 1883 *The History of Braintree Vermont*, H. Royce Bass wrote eloquently of how Braintree residents valued their sense of community, their working landscape, and their natural resources. He noted however that over the 100 years since its formal incorporation in 1781, the nature of Braintree's prosperity had changed significantly. While the landscape and its wonderful views of Braintree's hills were still a great regional asset, and while Braintree's villages and hamlets continued to be residential and social centers, Bass chronicled how their economic value had declined. Agriculture had shifted to new lands opening in America's west, and businesses and schools had moved towards Randolph with its railroad station.

This economic evolution continued during the second hundred years of our history. The advent of the automobile at the turn of the 20th century and the construction of the Interstate Highway system in the 1960s accelerated the trend of residents working outside of the community and fewer working farms. And with larger land holdings being fragmented or sub-divided into smaller residential lots, the sense of connectedness to our traditional agricultural and forest-based livelihood has weakened.

More recently, Braintree's desire to protect our natural resources, scenic beauty, infrastructure, and working landscape has experienced significant challenges due to the increased climate-related changes of shorter and milder winters and more frequent and intense rainfall.

We no longer are the town we were two hundred, one hundred, or even 50 years ago, but with an excellent highway system and the advent of high-speed telecommunication service, Braintree remains a very desirable place to live, work, and raise a family.

1.3 Our Future Prosperity

Braintree's future prosperity requires us to embrace the present and to plan for our future as a demographically diverse and physically attractive telecommuting and bedroom community with exceptional recreational opportunities.

In addition to protecting our small-town cultural heritage and the charm of our natural landscape, this vision of our future requires us to support energy efficient new residential development close to existing services; to promote home-based occupations taking advantage of our advanced communication network; to utilize increased access to public transportation; to construct resilient town highways; to avoid land fragmentation; and to coordinate our efforts with neighboring towns.

1.4 Our Relationship with the Surrounding Region

Braintree, in Orange County, is bounded, clockwise from the south, by Rochester, Hancock, Granville, Roxbury, Brookfield, Randolph and Bethel. Braintree has reviewed neighboring municipal plans and has found no obvious conflicts in terms of land use patterns along its borders. In general, most of Braintree's neighbors value the open, rural landscape and choose to encourage intensive development in village centers.

Town	Town Plan Expiration Date	Zoning	Subdivision	Flood Hazard
Granville	2027	no	no	yes
Rochester	2028	yes	yes	yes
Bethel	2027	yes	yes	yes
Braintree	2025	yes	yes	yes
Brookfield	2024	yes	yes	yes
Roxbury	Expired	no	no	yes
Randolph	2027	yes	yes	yes
Hancock	2030	yes	no	yes

Braintree shares numerous activities and services with surrounding towns, including schools, emergency medical services and fire protection. The Town is a member of the Two Rivers-Ottawaquechee Regional Commission (TRORC) and is within the geographic jurisdiction of Green Mountain Economic Development Corporation (GMEDC) as well as the East Central Vermont Economic Development District (ECVEDD). Braintree also maintains membership in the East Central Vermont Communications Union District (ECFiber) and in the Tri-Town Alliance, a solid waste district that includes Randolph and Brookfield.

TRORC's regional plan covers 30 towns including Braintree. The preparation of the Braintree Town Plan was done with the assistance of the Regional Commission, and as such, no conflicts

between the two have arisen. In fact, the two plans have similar policy statements regarding the need for development that does not overburden services. In addition, no specific development goals in this Plan conflict with any regional goals.

1.5 Overarching Goals

Braintree's sense of place and community is both our strongest link to our past and the foundation of our future. In order to meet the challenges that the Town faces and to create a vibrant and sustainable future consistent with regional objectives, this Plan proposes the following over-arching Goals that are expanded upon in the subsequent Chapters.

1. Protect Braintree's natural resources and valued agricultural and silvicultural scenic character from undesirable fragmentation and from the challenges posed by climate change.
2. Modernize and expand our housing stock to meet the needs of senior citizens, young families, and single residents for energy efficient units.
3. Implement the goals, policies and recommendations in this Plan to achieve Braintree's targets towards the State's 2050 90% renewable energy goal.
4. Balance the development of a recreational economy with the protection of our natural resources.
5. Provide needed public services and facilities without creating an undue tax burden.
6. Reflect regional objectives in Braintree's Goals and coordinate with neighboring towns to implement shared goals.
7. Prioritize the production of low-carbon energy and its efficient utilization in existing and new housing development and public transportation.
8. Remove existing residential dwellings in the 100-year flood plain which are threatened by the projected greater frequency of more tempestuous major rain storms.

1.6 Overarching Policies

The following over-arching Policies are intended to guide the Town as it seeks to achieve its Overarching Goals.

1. Protecting the economic viability and the scenic character of Braintree's agricultural and silvicultural landscape in Conservation, Rural, and Scenic Areas, especially along scenic roads.
2. Encouraging the modernization of existing housing to prolong its utility in an attractive and energy efficient manner.
3. Encouraging development of new housing, particularly in Village areas, such as “South Braintree”, to meet the needs of senior citizens, young families, and single residents, outside of the mapped flood plain of the Third Branch of the White River.
4. Encouraging development of a recreational economy consistent with the protection of Braintree's natural resources in Conservation, Rural, and Scenic Areas.
5. Providing financial support needed public services and facilities, including public transportation, subject to voter approval.
6. The Goals, Policies, and Recommended Actions of this Plan shall reflect regional objectives and a spirit of cooperation with neighboring towns
7. Enabling residential homeowners to be relocated outside of the 100-year mapped flood plain.

1.7 Overarching Recommended Actions

The following Actions are Recommended to assist the Town in the implementation of its Overarching Policies.

1. Revise the Unified By-laws to protect Braintree's existing blocks of agricultural and forest lands from fragmentation and the challenges of climate change
2. Revise the Unified By-laws to remove unnecessary barriers to the modernization of existing homes and to facilitate the development of new housing units for senior citizens, young families, and single residents.
3. Consult with local landowners, outdoor organizations, and neighboring towns to understand how we can best balance public access with privacy concerns in order to enhance Braintree's recreational potential.
4. Continue to support efficient public services and facilities in our Annual Operating Budget and 5-Year Capital Plan.

5. Continue to participate in the Two Rivers-Ottawaquechee Regional Commission and to work with multi-town organizations (such as fire districts, EC Fiber etc.)
6. Develop a program to protect the scenic trees along the roadways.
7. Facilitate all homeowners to relocate outside of the 100-year mapped floodplain and assist in efforts to obtain funding for this purpose.

1.8 Why are these Goals, Policies, and Recommended Actions important?

Once this Plan is adopted, it will be the Town's public touchstone guiding investment and the pattern of future growth. It will be used by:

- The Town's Selectboard as it prepares the Town's Annual Budget and its 5-Year Capital Plan;
- The Town's Planning Commission as it revises zoning in Braintree's Unified By-Laws;
- The Town's Development Review Board as it reviews new development proposals;
- The Town's Conservation Commission as it identifies important natural resources;
- The State of Vermont and the Regional Planning Commission as they determine if Braintree is eligible for certain state grants and project funding;
- and Vermont's Environmental Court when called upon to review cases involving Development Review Board decisions for Act 250 and Section 248 proceedings.

Chapter Two: Our People and Community

2.1 Residents

Demographic data shows that Braintree has a gradually aging population that fluctuates between 1,000 and 1,200 persons and has a notable level of poverty, especially among children. If unchanged in the future, the data will have implications for our educational system, for our ability to recruit volunteers to fulfill required governance functions, for the funding of community and emergency services, and for the sustainability of our tax base.

Following are some demographic highlights¹:

- Braintree currently has about 1,207 residents according to the 2020 Census. Braintree had a 3.1% decrease in population since the 2010 Census; Randolph stayed relatively the same with 0.1% decrease.
- Orange and Windsor County populations have been relatively stagnant since the 2000 Census.
- The per capita income in Braintree is \$32, 379. This is slightly higher than Orange County at \$31,697, but lower than Vermont at \$34,577.
- 64% of Braintree's residents are between 18 and 64 years of age with a median age of 54, significantly older than Orange County's median age of 46 and Vermont's median age of 43. First time mothers are also older than in the rest of Orange County, a fact that could affect our future school-age population.
- 50% of Braintree's residents are married, and married couples make up 66% of our households.
- Braintree residents live in 486 households with an average of only 2.1 people per household. This compares to Orange County and statewide household averages of 2.3.
- Similar to the rest of the State, 97% of Braintree residents are white, and very few, 1%, were born outside of the US.

¹ <https://www.census.gov/search-results.html?searchType=web&cssp=SERP&q=Braintree%20town,%20Orange%20County,%20Vermont>

- 6% of Braintree residents live in poverty, but the situation for our children is more dire, with 9% living in poverty. This is lower than the rest of Orange County (12%) and Vermont (13%).

2.2 Education

Braintree is now a part of the consolidated Orange Southwest School District (OSSD) that administers the pre-K-12 educational system for the towns of Braintree, Brookfield, and Randolph. The district also offers technical education through its Technical Career Center.

In the 2021 school year, there were a total of 836 students in the Supervisory Union, with 76 of those students attending Braintree Elementary. This is a decrease from previous school years where there were about 900 students in 2020 and 2019. Homeschooling is 5% of the student population across the Region.²

Among Braintree's adult population, educational attainment is very similar to that of Orange County and the State as a whole. 93% of residents have at least a high-school diploma, and nearly 25% have a bachelor's degree or higher.

2.3 Child-care

The region-wide shortage of child-care and after school care facilities for children aged 0 – 14 is a major problem for employees and businesses alike. It is especially hard for low wage-earning single parents and for shift-workers who need support during non-regular work hours.

Statewide it is estimated that licensed or registered care is unaffordable for 90% of those who need it. In our TRO Region 13.6% of families with children live below the poverty level. The State of Vermont, through the Department for Children and Families, provides income-based subsidies in order to make child-care more affordable for working families.

The most recent US Census Data available indicates that just over 3% of Braintree's population is under five years of age and 90% are between the ages of 18 and 65. These figures put a significant number of school-aged children potentially needing after-school care. while parents remain at work.

At present Braintree has two "registered family child-care homes" and six others within ten miles of Braintree. With many of Braintree's working parents commuting out of the town for jobs, it is possible that those families are utilizing child-care facilities closer to their workplaces.

² Vermont Department of Education

“Registered family child-care homes” differ from “licensed programs” significantly in the types of educational opportunities they offer as well as the requirements of their facilities. Registered Family child-care homes are based out of the operator’s residence and are limited in the number of children they can take on. Licensed programs require a greater level of government oversight and permitting and are generally limited to school-sponsored early childhood education (preschool) and afterschool programs, and independent preschools. There are fourteen licensed programs within 10 miles of Braintree, however, five of those may not be accessible to Braintree families as they are part of other Supervisory Unions. Three of the fourteen programs are independently operated preschools.

In 2014, the Vermont Legislation passed Act 166, the Universal Pre-Kindergarten Act, paving the way for publicly funded preschool throughout the state. Braintree Elementary began providing universal Pre-kindergarten education soon after passage of this law, but its effort does not fully meet this need.

2.4 Senior Social Services

An aging population, the lack of senior care facilities, and the scarcity of home assistance programs make planning for ‘aging in place’ a significant public concern across the State. It is especially challenging for seniors living in small rural towns such as Braintree whose settlement patterns are scattered with many homes outside of our village centers and unserved by public transportation.

Braintree does not offer any social services for its Seniors, and its residents are dependent upon those services located in neighboring towns and beyond. While programs such as “Meals-on-Wheels” offer help to some house-bound individuals, many of our elderly have no or only limited means of transportation to access exercise, physical therapy, and socialization programs located in larger communities such as Randolph which has an active Senior Center. Braintree’s annual appropriation to Tri-Valley Transit, Inc. (formerly Stagecoach) is an important support for these and other residents needing public transportation, but access to its services are limited.

2.5 Governance

Braintree’s town government is limited to the essential services required by the State of all municipalities and to representation on multi-town or regional organizations that either manage or provide oversight of critical shared services.

Braintree employs the following Town Officers:

- a full-time Administrative Assistant to a 5-person Selectboard;
- a full-time Town Clerk/Treasurer with a part-time Assistant Town Clerk;
- a four-person, full-time Highway Department;

- three part-time Listers;
- a part-time Zoning Administrator; and
- a part-time Tree Warden.

In addition to Town employees, residents are elected to fulfill a variety of municipal functions, such as Auditor, Delinquent Tax Collector, Constable, Cemetery Commissioners, Justices of the Peace, and Representatives to the Orange Southwest School District Board.

Other Town Officials are appointed by the Selectboard, including the Emergency Management Director; the Fire Warden; the Health Officer; the Town Service Officer; and the Truant Officer; as well as members of the Planning Commission, the Development Review Board, and the Conservation Commission; and representing the Town on multi-town organizations such as ECFiber, the Fire Advisory Committee, Stagecoach, the Green Mountain Alliance, the Two Rivers-Ottawquechee Regional Planning Commission, the Transportation Advisory Committee, and the White River Valley Ambulance.

The burden of filling all these positions, however, has fallen increasingly upon a limited number of individuals many of whom serve in more than one capacity.

2.6 Emergency and Enforcement Services

Alone in the Two Rivers Ottawaquechee Region, Braintree pays a neighboring town, Randolph, for fire protection. The cost of this service and the challenge of finding enough volunteers to staff it are shared by both towns. Water for fire protection is dependent on Braintree's four fire ponds, which are at a lower elevation; the water has to be trucked from one of these sources, or from other sources, for any fire.

For its emergency medical services Braintree contracts with White River Valley Ambulance and with the Dartmouth-Hitchcock Advanced Response Team (DHART).

Braintree has no law enforcement officers of its own nor does it have a contract with the County Sheriff's Department for enforcement of its local regulations. The Town is therefore dependent on the Vermont State Police for these services, though given its other obligations the State Police do not normally give local enforcement a high priority.

2.7 Goals

The following Goals address the needs and opportunities of our residents and community. They are intended to ensure that Braintree remains a vibrant and demographically diverse community capable of sustaining its self-government.

1. Reinforce the tradition of connectedness - between individuals and families and among all age, income, and social groups - that supports neighbors helping neighbors and encourages individuals to participate in and volunteer for Town governance and community service.
2. Support the ability of older residents to “age in place” and avoid having to relocate out of the Town.
3. Retain and attract a more inclusive population of residents.
4. Ensure the public's access to high quality social and emergency services in coordination with neighboring towns.
5. Increase the number of dry hydrants and fire protection ponds in Braintree.
6. Encourage licensed and registered child-care facilities to meet Braintree’s needs.
7. Retain the Braintree Elementary School.

2.8 Policies

The following Policies are intended to establish guidelines for the Town as it seeks to achieve its People and Community Goals.

1. Sustaining Braintree’s sense of community-connectedness shall be a priority of its governing body, commissions, and task forces.
2. Improving the ability of older residents to “age in place” within our community and close to family and friends shall be a priority of the Town.
3. Encouraging the development of housing, attractive to young adults and families with children, shall be a priority of the Planning Commission, and Development Review Board.
4. Supporting intermunicipal partnerships of social and emergency services, including public transportation, shall be a priority of the Selectboard, subject to the approval of the voters.
5. New registered child-care homes or licensed child-care facilities should be encouraged in or near designated growth centers (such as “South Braintree”, etc.).

2.9 Recommended Actions

The following Actions are Recommended to assist the Town in the implementation of its People and Community Policies.

1. The Select Board and all Town Commissions and Task Forces will encourage the respectful participation of citizens in their deliberations and will encourage residents to volunteer for community service.
2. Braintree will continue to financially support the Orange Southwest School District and our community-based elementary school.
3. The Planning Commission will revise Braintree's Unified By-law governing zoning to eliminate unnecessary barriers to the modernization of older homes, thereby facilitating the needs of older adults. (See also the Housing-related goals, policies, and recommended actions in Chapter Four.)
4. The Planning Commission will revise Braintree's Unified By-law governing zoning to modify use, density, height, and set-back requirements posing unnecessary barriers to the development of new affordable housing units or to the provision of child-care facilities. (See also the Housing-related goals, policies, and recommended actions in Chapter Four.)
5. Braintree officials will continue the Town's participation in multi-town organizations that provide Regional Planning, Medical Emergency, Fire Protection, Waste Disposal, Public Transportation, and Broadband Internet services.
6. The Braintree Selectboard should apply for a Rural Fire Protection grant to increase the number of dry hydrants and fire ponds in conjunction with the Randolph Fire Department.
7. Subject to need, the Town of Braintree should consider investigating underutilized properties with potential for child care, adult day care, or other public social service needs.

Chapter Three: Our Physical Place

Braintree is a very special place. More than a place just to live, it is a community set within a notably scenic environment of mountains, streams, farmlands, and forests that provide abundant clean water and exceptional recreational opportunities. Nevertheless, the decades of region-wide development since the construction of the Interstate highway system have changed our landscape and our Town's place within the region's economy. The recent effects of climate change upon our soils, water, roads, and homes have also been experienced with greater and more severe frequency.

This Chapter seeks to sustain Braintree's desirable sense of place and our economic future by protecting its natural resources and by enhancing the physical character of our working and recreational landscape.

3.1 Natural Resources

3.1.1 Agriculture

The nature of Vermont's agricultural economy has changed significantly over the past few decades. While the number of large dairy farms (those between 180 and 1,000 acres) continues to decline through consolidation into larger operations, many smaller and more diversified farms have been developed to specialize in a variety of locally sourced foods and beverages. Braintree has benefited from this diversification.

It is also noteworthy that our region's traditional dairy farmers are aging: their average age is 56 and 25% are 65 years of age or older. Would-be young farmers are financially challenged by high land prices and taxes.

The State's Current Use program helps maintain the working landscape by taxing land based on its actual use value rather than on its potential development value. In our Two Rivers Ottauquechee (TRO) Region, for example, 46% of land is enrolled in Current Use with 15% of these enrolled lands used for agriculture and 85% in forests. In Braintree only 9% of Current Use land is agriculturally enrolled, significantly less than the 12% in Brookfield or the 19% in Randolph.

3.1.2 Forestry and Wildlife

Like the rest of Vermont, our TRO Region is now about 75% forested with 85% of its Current

Use enrollments being in this category and with more than 50% of the enrollments in large parcels of greater than 100 acres.

Much of Braintree's regionally significant forested land and its related ridgeline, are owned by two contiguous not-for-profit organizations (the New England Forestry Foundation and The Conservation Fund). These organizations champion the long-term health of woodlands for silvicultural purposes and their accessibility to the general public. In addition, these forests sequester significant amounts of carbon in their trees that contribute to the mitigation of global warming by reducing the amount of CO₂ in the atmosphere, by reducing the flood potential, and by filtering rain water and snow melt runoff.

It is notable that these large areas in Braintree abut similarly forested lands to their north, west, and south in Roxbury, Granville, Rochester, and Bethel. This is in stark contrast to our neighboring towns to the east, Randolph and Brookfield, which no longer have large contiguous forest blocks to serve as wildlife habitat, habitat connectors, or to mitigate climate change.

Statewide forest cover peaked in 2007, and Vermont is now losing about 1,500 acres per year largely due to the fragmentation of larger parcels into smaller ownerships and the sub-dividing ("parcelization") of land into residential lots. Such fragmentation and parcelization affect the economic viability of silviculture and reduce the connectivity of forest lands that supports wildlife.

In addition, global warming poses other challenges to the protection of healthy and economically viable forests. Climate-related changes in temperature generally favor the spread of invasive plant species and diseases. More particularly, Vermont's iconic maple, beech, ash, and hemlock trees are being threatened by invasive insects such as the Emerald Ash Borer and the European Long-horned Beetle, and are slowly being replaced with species better suited to the warming climate.

Braintree is fortunate to have Mud Pond as an identified wetland protected by a Special District Zoning Overlay. It and smaller vernal pools provide habitat for a wide variety of flora and fauna including 21% of animal and 35% of rare plant species that are threatened or in danger of extinction. Braintree's Conservation Commission is currently finding, evaluating and mapping our vernal pools.

3.1.3 Recreation

Braintree is graced with exceptional recreational resources. Our streams and forests have traditionally provided opportunities for fishing and hunting, and Braintree is known to have productive bear habitat but less deer wintering area than our neighbors in Brookfield and Randolph.

More recently, the growing network of hiking, skiing, snowshoeing, ATV, and snowmobile trails

that are maintained by local residents and organizations are increasingly attracting visitors from around the New England and New York State region. Of particular note is the recent creation by the Ridgeline Outdoor Collective (ROC) of the first “glade” skiing experience in Vermont to be located on private land in the Braintree Mountain Forest owned, by the New England Forestry Foundation.

Our scenic rural highways also attract many visitors who enjoy their beauty by foot, bike, and car.

3.1.4 Water and Minerals

Braintree has a number of high-quality streams and brooks, as well as the Third Branch of the White River, that provide clean surface water to support an excellent aquatic habitat. Drinking water is provided primarily by individual wells or springs. The underground source of this water is largely undetermined; the water can percolate into the ground from a nearby swale after each rainfall, or from a surface water body many miles away. It is therefore important that each well or spring be protected from nearby pollution, and all surface waters be protected from contamination.

Fortunately, although there is a former arsenic and silver mine located in East Braintree, there is no legacy of mining or industrial enterprises in Braintree that could pollute this resource. Furthermore, while other mineral deposits have historically been identified in some areas of town none have achieved extraction on any kind of commercial scale.

But this blessing of no mineral related pollution is now under some pressure from other sources, namely: aging septic systems, storm-related erosion, flash flooding, and roadway and agricultural runoff. In addition, Braintree has an on-going need for gravel to improve and maintain its road system. This need is currently being met from sites in neighboring towns but in the future may need to be met by more local sources in a manner that does not negatively impact water quality and restores any such site upon completion of extraction.

The [2018 White River Tactical Basin Plan \(Basin 9\)](#)³, which includes Braintree, provides an assessment of watershed health and defines on-going and future strategies to address high-priority surface water stressors and opportunities for protecting high quality waters. It states that the White River is facing four major stressors that are affecting its water quality:

- Encroachment of unpermitted stream alterations, non-buffered agricultural fields, and development within river corridors, floodplains, wetlands, and lake shores
- Stream channel erosion due to undersized crossing structures, lack of riparian vegetation for bank stabilization, and unmitigated increases in storm water velocity and volume,

³ <https://dec.vermont.gov/water-investment/watershed-planning/tactical-basin-planning/basin9>

- Land erosion due to unmanaged storm-water runoff from roads, developed lands, and agricultural lands, and
- Pathogens from sources that likely stem from bacterial communities in soils, waste runoff from domesticated animals and livestock, and out-of-date and failed septic systems.

Of the eleven priority waters identified for remediation in the Tactical Basin Plan, none are located in Braintree. This is further evidence that Braintree has good water quality that should be maintained.

3.2 Natural Hazards and Resilience

When Braintree and the Region were first settled, houses, villages, and roads were frequently constructed along rivers and streams. This pattern of settlement, especially when combined with a topography characterized by many steep slopes, places many areas of Braintree at risk of severe flooding from all of its three distinct forms: inundation, flash flooding (aka side hill flooding), and fluvial channel erosion (erosion of a bank by lateral displacement of a channel undermining the bank).

Widespread impervious surfaces, such as paved roads, parking areas, driveways, and buildings also contribute to flooding and erosion, especially when they are located too close to streams or fail to have adjacent areas capable of absorbing their discharge. It is estimated that as little as 10 percent impervious cover in a watershed can destabilize rivers.

Already occurring climate change is creating an even wetter Vermont with more intense and more frequent storms - having a greater volume and velocity of rainfall (inches per hour) over a shorter period of time. This means that Braintree will be impacted by increased velocity runoff of water in brooks and streams, with local flooding on the many swales, drainage ways, and brooks that serve to convey runoff to the larger streams and rivers. Tropical Storm Irene demonstrated Braintree's vulnerability to all three types of flooding in 2011 and cost the State, the Town, and private land owners millions of dollars to repair the damages.

Future storms are predicted to cause flooding in new areas not previously recognized on the Federal Emergency Management Agency's (FEMA's Flood Insurance Rate Maps that were based on 1970s data. These maps are therefore outdated from a future development management perspective; moreover, FEMA's flood modeling only considers inundation and not "flash"/"side-hill" flooding. Currently, FEMA is updating the flood maps for the main stem of the White River.

Wetlands mitigate the potential damage of intense rainfall by absorbing and gradually releasing storm water. Braintree is fortunate to have a significant wetland in its Mud Pond area that plays this role for a large part of our community. It is protected by its own Conservation overlay district in the Town's Zoning Ordinance.

Never-the-less, it is important that Braintree recognize the importance of implementing measures to mitigate the impacts of climate change, including storm water runoff, by including in its permitting process the current State requirements for runoff management and mitigation.⁴

3.3 Scenic, Historical, Cultural and Archaeological Resources

As motorists pass through Randolph on Interstate 89, they can enjoy one of only a few mountain ridgeline vistas available on that highway. This iconic view of the Braintree Mountain Range is enjoyed daily by many Braintree residents as well and is complemented in the foreground by a Rockwell-esque pattern of old farms and open fields. Fortunately for both Braintree and the region, much of this vista is protected by conservation-minded owners.

Venturing off the interstate and down into Braintree, travelers would find scenic farmland, centuries old homesteads and evidence of small but vibrant historic village centers.

These broad patterns of historic settlement are present throughout Braintree and are complemented by the many vernacular interpretations of the Greek revival style of architecture that was popular during the first half of the 19th century when the Town was built up.

Further evidence of Braintree's architectural heritage is visible in the number of traditional timber frame barn structures that served the self-sufficient hill farms dotting our landscape. While most of these modest farmsteads lack significance on an architectural level, taken as a whole, they represent the broad patterns of development that made our town, region and state what they are today.

Braintree does not have either a designated National Register Historic District or a completed Vermont Historic Sites & Structures Survey District. A town wide survey was carried out by the Vermont Division for Historic Preservation in 1979 but was never finalized or submitted for recognition. The one building that is officially listed on the Vermont Historic Sites & Structures Survey is the Braintree Hill Meeting House. This circa 1845 Greek revival styled former church and town meeting hall today houses the Braintree Historical Society and Museum, containing an extensive array of farm and hearth artifacts from Braintree's and the region's past.

⁴ <https://dec.vermont.gov/watershed/stormwater>

The [Vermont Division for Historic Preservation](#)⁵ lists three archaeological sites in Braintree dating from the historic-era. While no pre-contact Native American sites have been identified, this does not indicate that Native Americans did not live in Braintree but rather points to the lack of significant investigation.

3.4 Land Use

How we use our private property, and how the Town guides future development through zoning regulations and its investments in public infrastructure, are critical to achieving many of the goals in this Plan.

Historically our land uses have fallen into three general categories: village settlements, rural areas of agriculture with low to moderate density of development, and large unfragmented blocks of forest land.

This Plan builds on our history and enhances it by envisioning how the traditional pattern can be sustained given today's economy, environmental challenges, and community preferences.

3.4.1 Village Settlements

Villages are the most common type of dense settlement in the Two Rivers Ottauquechee Region. With their mix of residential, public facilities and small-scale commercial uses, sometimes supported by public water and wastewater systems, they are gradually replacing older, smaller hamlet areas as the region's growth centers. The Regional Plan also promotes future development in village areas, because development there can make the most efficient use of existing and anticipated public services.

Braintree has two historically settled villages: East Braintree (aka Snowsville) along Route 12 and West Braintree along Route 12A. More recently, significant residential development has occurred along Route 12A between the Randolph town line and Mobile Acres Mobile Home Park. This area is being considered as a viable new village area and is being referred to as "South Braintree".

It is noteworthy that some traditional village settlement patterns do not reflect current smart growth principles, as they are built along brooks/streams with limited septic suitability. Flooding has been an ongoing issue. Zoning needs to be changed to allow for new village settlements in appropriate areas, such as in South Braintree and Snowsville.

⁵ <https://accd.vermont.gov/historic-preservation>

3.4.2 Rural Areas

“Rural Areas are not simply suburbs waiting to be created; they are a valued land use to Vermonters in their own right, and can remain that way for a long time if we are careful in how we develop them.” (TRORC Regional Plan, 2019).

Braintree's Rural Areas can be loosely grouped into two groups: either areas of modest home development on one- to two-acre lots, such as are found along the State Highways outside of the Village Settlements, or they can be very low-density areas with significant portions of agricultural or forestry use, such as are found along our unpaved Town highways.

Some of these lower density areas are recognized for their notable scenic quality and are so designated. For example, Braintree is blessed with long segments of its lesser traveled highways, including the Brainstorm- Peth Road area and in the Braintree Hill-Thresher Road area, that are designated as Rural Scenic Areas.

Part of the scenic quality of Braintree is provided by the shade trees along the sides of the roads. Those trees that sit within the Town's right-of-way are termed “public shade trees” and have limited protection under law. The fact that many of these trees are sugar maples can be traced back to ease of access from the roads to the trees when there was deep snow in the sugar orchards. With a decline of sugar houses and motorized access to the woods, the maintenance of the roadside trees has declined. A program needs to be initiated to maintain the mature trees, designate trees that will mature, and remove scrub growth, in order that the scenic trees along the roadways continue to be part of the heritage of Braintree.

In today's economy, any rural area with high-speed Internet access is very attractive for home occupations and appropriate small-scale home enterprises. These uses can respect the integrity of the landscape, do not contribute to forest or agricultural fragmentation; and can avoid contributing to water runoff and erosion concerns. Looking to the future, these internet-assisted home occupations may help Braintree contribute to the regional economy without increasing Vermont's high transportation footprint.

3.4.3 Conservation Areas

Braintree has two types of Conservation Areas – wetlands and forests – where land fragmentation and development is discouraged by larger lot-size requirements and limited public infrastructure. The avoidance of fragmentation and the conversion of large forest blocks through the clearing of land or the construction of roads and structures is also of primary concern in the Regional Plan.

The land around Mud Pond is our only conserved wetland area. It serves many purposes in the management of fluctuating water flows and in the protection of rare or endangered flora and fauna. The Braintree Mountain Forest is a prime example of our conserved forest areas.

Situated along the Town's western edge, this area provides large-scale wildlife habitat, contains an extensive outdoor recreational trail network, and retains its silviculture-related economic value.

In the future, our conserved forest areas could be expanded in coordination with our neighboring towns of Roxbury, Granville, Rochester, and Bethel. They also have large, abutting forested blocks that could be conserved to promote regional recreational opportunities and to further protect wildlife corridors and enhanced wildlife management.

3.5 Goals

The following Goals address the physical needs and opportunities of the Town. They are intended to ensure that Braintree remains a vibrant and demographically diverse community capable of sustaining its self-government.

3.5.1 Natural Resource Goals:

1. Protect agricultural and forest lands from fragmentation and parcelization and reduce the impact of invasive species upon them.
2. Protect the natural habitats in Braintree, especially those that support diverse populations of fauna and flora, including native fish and the migratory routes of endangered species.
3. Protect large blocks of open and forested land for recreational uses, including sport and subsistence hunting.
4. Protect the quality of water from ground and surface pollution, including private wells and springs from developmental pollution and agricultural runoff.
5. Identify potential local sources for the extraction and processing of gravel required for highway construction and maintenance purposes that can be extracted without unduly affecting the utility and visual quality of their surrounding areas.

3.5.2 Natural Hazards and Resilience Goals:

1. Encourage the use of flood and fluvial erosion hazard areas as open space, greenways, non-commercial recreation, and agricultural land.
2. Ensure no net loss of flood storage capacity, especially in wetlands; and protect 1) "Mud Pond" as a valuable catchment area; 2) other natural catchment areas, and 3) natural river corridors.

3. Protect municipal infrastructure and facilities from the potential for inundation and flash flood damage.
4. Facilitate the removal and/or relocation of at-risk residential properties from 100 year mapped floodplain to reduce loss of life and property.

3.5.3 Scenic, Historic, and Cultural Resource Goals:

1. Protect the unique rural, scenic, and historic qualities of the Town that are central to its identity, such as our Villages of East Braintree (Snowsville) and West Braintree, along with its broad pattern of historic development that situated buildings in close proximity to each other and to the town highway.
2. Pursue State designation of Snowsville, West Braintree, and South Braintree as designated 'Village Centers'.
3. Develop a program to assure the continuing presence of public shade trees along Braintree roads.

3.5.4 Land Use Goals:

1. Encourage new residential and small business development in the burgeoning Village Center of "South Braintree" using smart growth principles, such as shared water and sewer systems.
2. Encourage the removal and/or relocation of at-risk residential properties from Special Flood Hazard Areas to reduce loss of life and property.
3. Preserve the working landscape within Rural and Conservation Areas and enhance their potential for recreational uses.
4. Extend the Conservation designation to forest blocks of agricultural or forest lands that abut similarly designated lands, including those in neighboring towns, to support regional wildlife, their connective corridors, and recreational trail networks.

3.6 Policies

The following Policies are intended to establish guidelines as the Town seeks to achieve its Physical Goals.

3.6.1 Natural Resource and Hazard Policies:

1. Fragmentation and parcelization of land in Conservation and Rural Areas shall be avoided or minimized.
2. Natural habitats shall be protected, and the spread of invasive species addressed.
3. Where permitted by State regulation, preference shall be given to in-town sources for the economical extraction and processing of gravel to be used for its highway construction and maintenance, and that can be extracted in a manner consistent with the Natural Resources Goal of Section 3.5.1 and the objective of site restoration mentioned in Section 3.1.4.
4. In approving new development, the risks of flooding and fluvial erosion to private property and municipal facilities shall be addressed; water sources shall be protected from surface and groundwater pollution; and wetlands shall be protected from encroachment and alteration and require that runoff be mitigated to the extent under state law.
5. Enabling homeowners to remove or relocate their dwellings from mapped floodplain areas will be a priority of the Town.

3.6.2 Scenic, Historic, Cultural, and Land Use Policies:

1. Braintree's scenic, historical, archeological, and cultural resources shall be preserved.
2. Village Center Designation shall be pursued for East Braintree/Snowsville
3. The working landscape and access to its recreational potential in Rural and Conservation Areas shall be preserved in a manner that is respectful of private property and the requirements for highway maintenance and reconstruction infrastructure due to climate change.
4. Extending Conservation Area designation to blocks of agricultural or forest lands that abut similarly designated lands in neighboring towns shall be considered in support of regional wildlife, their connective corridors, and the potential for recreational trail networks, consider.

5. New residential and small business development to meet the needs of senior citizens, young families, and single residents shall be encouraged in “South Braintree”, and designated Village Centers.
6. Pursue public investments, including construction or expansion of infrastructure, to reinforce the general character and planned growth patterns of the area.

3.7 Recommended Actions

The following Actions are Recommended to assist the Town in the implementation of its Physical Policies.

3.7.1 Natural Resource and Hazard Actions:

1. The Planning Commission will revise Braintree’s Unified Bylaw to incorporate methods for limiting fragmentation and parcelization in new development within the Conservation and Rural Areas.
2. The Planning Commission will revise the Unified Bylaw to reflect new Department of Environmental Conservation (DEC) rules related to future and existing developments.
3. The Town will support State programs and the efforts of not-for-profit organizations seeking to restore or improve natural habitats and to reduce the vulnerability of agriculture and flora and fauna to invasive species.
4. The Selectboard will identify and seek to protect and ensure the restoration of any in-town sources for meeting its future gravel requirements.
5. The following steps will be taken to protect our water resources:
 - a. The Conservation Commission will seek to locate unidentified wetlands and vernal pools and the Planning Commission will request the State to update their maps delineating flood and fluvial erosion hazard zones
 - i. The Planning Commission will revise Braintree’s Unified Bylaw to include design and set-back standards in all new development that (1) protect surface and groundwater from potential sources of pollution; (2) protect identified wetlands and vernal pools, (3) implement the permit requirements for stormwater mitigation for new impervious surfaces and (4) use most recent data to delineate flood prone areas.
 - ii. The Selectboard will request that the State prioritize the mapping of groundwater flows and subterranean aquifers

6. The Selectboard and Planning Commission will support homeowners as appropriate in applications seeking funding for the removal or relocation of their dwellings from mapped floodplain areas.

3.7.2 Scenic, Historic, Cultural, and Land Use Actions:

1. The Planning Commission will revise Braintree's Unified Bylaws to add protections for the Town's scenic, historic, and cultural resources that might be affected by new development proposals.
2. The Town will request that the State designate Snowsville as an historic Village Center.
3. The Planning Commission will revise Braintree's Unified Bylaws to reflect "South Braintree" as a new village district and as the primary focus of new residential and small business development.
4. The Planning Commission will revise Braintree's Unified Bylaws to encourage limiting the fragmentation and parcelization of agricultural and forest lands in Rural and Conservation Areas and to preserve access to these lands for recreational uses.
5. The Planning Commission will consider extending the Conservation Area designation to large blocks of agricultural and forest lands that abut similarly designated lands in neighboring towns.
6. The Selectboard shall appoint a task force to develop a program to assure the continuing presence of public shade trees along Braintree roads. This task force, made up of the tree warden, a member of the Planning Commission and of the Conservation Commission, shall submit a program and a supporting budget to the Selectboard.

Chapter Four: Our Future Prosperity

The Two Rivers Ottauquechee (TRO) Region has been in a ‘post-growth period’ following the rapid economic development and resulting changes to the landscape that occurred during the three decades between 1970 and 2000.

Today, while managing growth is still important, the Region faces new challenges. Broadband telecommunications and on-line sales are changing the way we access entertainment, commute to work, buy goods, and even receive services. In order to maintain the Region's sense of place, its vital communities, and its local economies, it must focus on supporting existing businesses, encouraging entrepreneurial development, investing in existing downtown centers, improving village infrastructure, strengthening unique community characteristics, and adapting our energy and transportation systems to mitigate the effects of global climate change. (TRORC Regional Plan, 2019).⁶

Given this regional backdrop, Braintree's future prosperity will build upon our community spirit, our scenic and recreational resources, our development of new and rehabilitated housing, and our connections to neighboring towns and the region for jobs and public services.

4.1 Economic Development⁷

The TRO Region's traditional agricultural and silvicultural economy now employs only about 3.5% of the regional workforce. Surprisingly though, Orange County has seen a 9.5% increase in the number of its farms since 2007, most of which however have a median size of only 75 acres and focus on a variety of food for local consumption rather than forage crops for dairies.

Although the region's workforce grew about 1% per decade between 1990 and 2010, it suffered a net loss of about 1,700 workers between 2010 and 2016, mostly in the age group between 16 and 44 years of age. Hence, the region's prime age group of educated and skilled workers is not growing to meet the needs of regional employers working to exploit growth opportunities. Contributing to this challenge is the fact that our residents often work beyond their home counties and even their state: 28.3% of Orange County residents work outside of the County and an additional 28% work outside of Vermont, most often in the Lebanon, NH area.

White collar occupations now dominate employment in the Region with 41.3% of jobs in management, business, science, and the arts, an increase of 17% from 2000 to 2016. High tech industries, such as Nolato GW Bethel (formerly G W Plastics), LED Dynamics, Freedom Foods, and VerTech, are major employers and significant drivers of local labor demand. Major regional employers are in the education, health, local and state government operations, and leisure

⁶ https://www.trorc.org/wp-content/uploads/2019/06/TRORC-2019-Regional-Plan-DRAFT_small.pdf

⁷ *ibid*

industries and include the Vermont Law School, Vermont Technical College, Gifford Medical Center, the Veterans Administration Hospital, the Lake Morey Resort, the Woodstock Inn and Resort, and the Quechee Club.

Vermont has several State-run programs to support the revitalization of small- to medium-sized historic centers formally designated as villages. The designation brings financial incentives, training, and technical assistance needed to attract new businesses and vitality. Participation in this program provides several benefits to businesses located within a designated boundary. Being a Designated Village Center supports the traditional Vermont development pattern of a compact village center, with its mix of residential, commercial and public/not-for-profit services, surrounded by a rural countryside, and reinforces the Town Plan’s goals of continuing to support historical economic and land use patterns of Braintree itself. The areas of Braintree with the potential to be designated villages are East Braintree (Snowsville) and West Braintree. The area of South Braintree may be eligible for New Town Center Designation, which brings with it other assistance and incentives.

4.2 Housing

According to TRO's 2019 Regional Plan and the [Keys to the Valley](#) project, the region's housing market is so tight that high prices and reduced options discourage first-time buyers and young families from settling here. Area businesses often claim that a lack of housing impedes their growth.

County-wide, it is estimated that Orange County needs to construct about 2,113 units by 2030 (both rental and owner-occupied) just to meet the demand for new families and to replace its older housing stock. In Braintree alone, 90 units are needed to meet projected demands. It is also estimated that the Region needs several hundred units of senior housing and thousands of low and moderate units for its existing residents.

A vibrant second home market and the increasing presence of short-

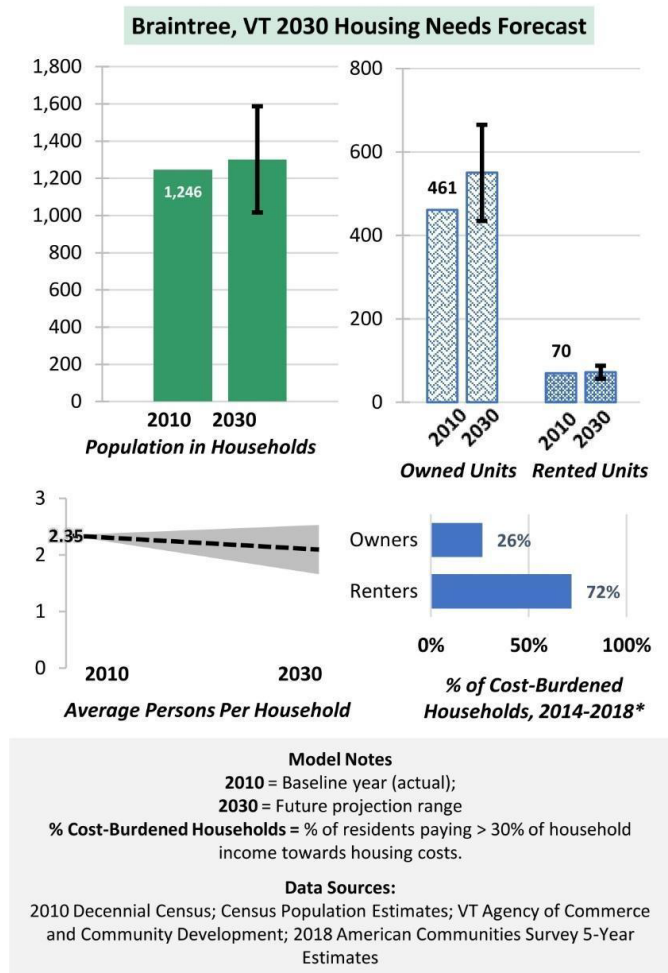


Figure 1 From, "Keys to the Valley" <https://www.keystothevalley.com/wp-content/uploads/2019/12/Braintree-VT.jpg>

term rentals, such as Airbnb and VRBO, only add more pressure, driving vacancy rates virtually to zero. As a result, future population growth in our region may be tied more closely to the availability of affordable housing than to the location of employment.

However, such lack of availability is not uniform throughout the region however. Housing in larger towns, where most of the jobs are located, generally grew more slowly than smaller towns with lower land costs. In Braintree and Brookfield, for example, housing units grew by 11 to 20% in the decade from 2000 – 2010, while Randolph only saw a 3 to 10% increase.

In terms of housing types, 89% of Braintree's housing units are owner-occupied. Only 11% are rented, and even fewer (4%) are multi-family homes. Region-wide, mobile homes make up 8% of housing units with Braintree having the highest concentration (23.8%).⁸

In terms of affordability, according to the Keys to the Valley project, 45% of renters and 29% of owners are cost burdened. This means they are paying over 30% of their household income on housing, including rent / mortgage, utilities, and other costs associated with their living space. People who spend a higher proportion of their income on their homes have greater difficulty affording other vital expenses including food and transportation. In the region, a third of households are cost-burdened. While renter's region-wide are more likely to be cost-burdened, homeowners in our smaller communities also struggle at a higher rate, with nearly a quarter paying 30% or more on housing compared to only 18% of homeowners in larger communities.⁹

Braintree has lower land costs than Randolph and has access to public transportation along Routs 12 and 12A. These provide the Town with an opportunity to help meet the region's housing needs through a variety of different housing types (mobile/manufactured, single-family, multi-family, etc.). But barriers to new construction remain: low cost land is not readily available in our existing village centers; current zoning restricts density, height, and the types of construction permissible; and access to water and sewer services is poor.

The size of a home and amount of land it is on, in addition to its location, greatly affects the affordability of the home. Common issues that impact affordable home availability in the region include:

- The region's housing stock is old. Many houses are not weatherized and are energy inefficient. Also, many contain health hazards, such as lead based paint.
- The existing housing stock includes many very large homes.
- Many new homes built in the past two decades are not located within community centers and require access to a reliable personal vehicle for transportation.

⁸ <https://www.keystothevalley.com/wp-content/uploads/2019/12/orange.png>

⁹ ibid

- Older residents who choose to “age-in-place” need services to stay in their homes or want small, single-level homes, which are in short supply in their community.
- Homes that are for sale at \$250,000 or less are in high demand, but there is a limited supply.
- During the COVID pandemic it was common for out of state homeowners to make their vacation homes their household’s primary residence. In addition, out-of-state buyers purchased available homes, greatly reducing the supply and further driving prices.

Types of homes that need to be considered when updating Braintree’s Unified Bylaw to become more housing friendly include: single-detached houses, accessory dwelling units, duplex/multi-family dwellings, mixed-use buildings, manufactured and mobile homes, modular homes, boarding homes, home sharing, cohousing, bungalow courts, tiny homes, housing with supportive services, short-term rental, townhouses, and live/work units. Not all of these may be appropriate for the rural character of Braintree, but if they are scaled to appropriate sizes to fit into the character of the Town, then they should be highly encouraged, provided adequate water and sewer infrastructure is available.

4.3 Transportation

For many, the luxury of having a home in a rural setting is why we choose to live here. But our choice to live in more rural areas means that we must use cars and trucks to get to work, access goods and services, and be part of our communities. (TRORC Regional Plan, 2019).

In Vermont, transportation-related exhaust contributes 39% of greenhouse gas emissions.¹⁰ Contributing to this situation, the residents of Windsor and Orange Counties traveled an average of 11,500 miles using 500 gallons of gas in 2015, with 20% of commuters traveling more than 50 miles to work with very few of them carpooling. This means that while spending up to 15% of income on transportation is considered affordable, Orange County residents spent 26%.

Systems of public transportation can greatly reduce these environmental and financial impacts. Although the traditional rail service offered by Amtrak is mostly limited to long distance passengers going either to Canada, New York city, or Washington D.C., the more recent advent of bus and volunteer driver services provided by Tri-Valley Transit (formerly Stagecoach Transportation) have been welcomed by many Braintree residents. Tri-Valley

¹⁰

<https://vtrans.vermont.gov/sites/aot/files/planning/documents/planning/2021%20Vermont%20Transportation%20Energy%20Profile.pdf>

Transit now offers scheduled daily commuter services to the Barre-Montpelier and the White River Junction areas, as well as local services along Route 12A to Mobile Acres. More services are needed, however, to meet the requirements of residents in the more rural parts of Town, and some weekend and evening services should be considered.

Other than Tri-Valley Transit, Braintree's transportation system is primarily based upon vehicles using town highways that require constant maintenance and upgrading to withstand increased climate challenges in all seasons of the year. The annual expense of this maintenance and repair work is second only to our educational costs for local taxpayers. Fortunately, Braintree has a well-developed Five-Year Capital Budget process that schedules major highway improvements over the ensuing five years. Priorities of improvements should utilize the Vermont Agency of Transportation's *Orange Book* to capture the maximum number of reimbursements from the State and Federal governments.

4.3.1 Energy and Transportation

Looking beyond public transportation and in order for the State to meet its self-mandated 20% decrease in transportation energy use, Vermont's *Comprehensive Energy Plan*¹¹ has set a goal of transitioning to 82% electric vehicles by 2050. Currently, electric vehicles and their hybrid counterparts are largely unaffordable and unsuited for Vermont winters. This enormous challenge will require installation of a statewide network of public and private electric charging stations. Presently Braintree has no public charging stations.

There is a park & ride facility in West Braintree at the Town Hall, but according to TRORC (who conducts a twice annual park & ride utilization count), the West Braintree facility is underutilized. Residents likely utilize the park & ride in Randolph at the I-89 exit or the Roxbury facility as it is more convenient for traveling.

Multi-modal transportation, such as biking and walking, is not an easy option in Braintree. Since there is no formal village center, walking and biking is not considered a transportation option for most residents. While residents utilize the gravel back roads for the recreational aspects of walking and biking, it is unlikely they will walk or bike to neighboring Randolph for their shopping needs

4.4 Utilities and Community Facilities

The Mountain Alliance, which now includes the towns of Randolph, Braintree, Brookfield, Roxbury and Northfield, provides solid waste management services at its location in Randolph. Municipal water and wastewater systems, in contrast, are not available in most TRO Region towns, including Braintree, and private shared water and sewer systems have not been

¹¹ https://publicservice.vermont.gov/publications-resources/publications/energy_plan

encouraged by State environmental regulators. Without this water and waste water infrastructure, denser development in our village centers will not be possible. In order to facilitate development in higher density areas, master plans for water and sewer should be supported and facilitated by the Town.

Across Vermont, high speed Internet and telecommunication services are available in most villages and town center, but 'last mile' and rural gaps remain. Braintree, however, is now almost entirely covered by the ECFiber network, making our town attractive to young families and to those who work from home.

Braintree has no formal, publicly-owned recreational facilities beyond our Elementary School gym and playing fields. We do have however an attractive network of town highways, Class 4 roads, and legal trails that offer recreational opportunities to residents and visitors who enjoy vista-filled 'back-road' driving or horseback riding, safe walking and running, and pleasant to challenging biking and skiing experiences. They also provide important points of access to large conserved blocks of forest land for a wide variety of year-round pedestrian uses.

The Selectboard has the ability to encourage the use of these road and trail resources by adopting policies regulating their use and maintenance, including some portions that are available to ATV users and Snowmobilers. While Braintree currently has such an ordinance, it should be strengthened to preserve access to these roads and trails.

4.5 Energy

To address the issue of how to create, use, and conserve energy, the State of Vermont has undertaken state-wide energy planning, most recently through the 2022 Comprehensive Energy Plan (CEP).

The 2022 CEP advances and builds on the high-level goals set in the [2011](#) and [2016](#) CEPs:

- Meet 25 percent of energy needs from renewable sources by 2025
- Meet 45 percent of energy needs from renewable sources by 2035
- Meet 90 percent of energy needs from renewable sources by 2050

In addition, the 2022 CEP is structured to meet greenhouse gas (GHG) reduction requirements including:

- 26 percent reduction from 2005 levels by 2025
- 40 percent reduction from 1990 levels by 2030
- 80 percent reduction from 1990 levels by 2050

Two Rivers-Ottawaquechee Regional Commission (TRORC), has also done a regional energy plan and created town-level data from state models. Presently the TRO Region depends on fossil fuels for heating and transportation. To meet the goals of Vermont's 2022 CEP, the TRO Region

must cut its overall energy use by 50% while increasing electricity consumption by 10%. Efficiency and energy management are critical components for the success of this Plan, as are the increased access to public transportation and the transition to electric vehicles.

To meet the goals of the CEP by 2050, Braintree must do its part as follows:

- Increase its renewable generation by between 6,995 to 8,550 MWh
- Fully weatherize 100% of all residences
- Fully weatherize 18% of commercial establishments to increase electrical efficiency by 9.9%
- Achieve 90% of transportation energy needs from renewable sources
- Achieve 93% of residential heating from renewable sources

To accomplish these goals this Plan looks primarily at energy used within the Town and at the potential local sources of that energy.

The energy we use locally can be categorized as doing work in one of three areas—heating, transportation, and other household and commercial uses. Most of the energy we use for heating and transportation is supplied by fossil fuels from far away— gasoline, diesel, heating oil, propane, and natural gas. These uses of energy are important on a larger scale but are not considered in this Plan. It is not known how much wood is burned for heat, but it is estimated that 42% of the energy we use for heat comes from wood, which would equate to about 2,600 cords of wood.

Our next largest use of energy is electricity, most of which is used for household or commercial needs such as lighting, cooking, refrigeration, and washing and drying clothes. Using the latest figures from permitted solar electric systems, on the best day we may be producing 318kW of electricity from solar if all of these systems were operating at maximum capacity. This converts to a probable 247,400 kWh of electric energy annually or 844 MMBtus, a very small percentage of the estimated annual usage of 16,669 MMBtus. (See the generation map for locations of power generation in the Town in the Appendix).

The vast majority of our electricity is supplied by the State’s public utility power grid and comes from two sources: hydropower and nuclear generation. Braintree is served by Green Mountain Power (GMP). GMP sources most of its electricity from hydropower sources, but does include non-renewables as a significant portion of its current power portfolio.¹² Nuclear electrical generation makes up the remainder of GMP’s production. Although nuclear power does not produce greenhouse gas emissions as part of power production, it is not considered a renewable resource. New construction of such plants has not proved financially viable and also has large carbon impacts.

¹² GMP 2018 Integrated Energy Plan

4.5.1 Energy Efficiency and Conservation

Braintree has a number of ways in which it can reduce energy needs by switching to more energy efficient technology and learning how to conserve energy. Residents, businesses, farms, and Town buildings can apply the principles of energy efficiency to use less energy in order to cost-effectively provide the same level and quality of service. These principles, for most, come down to using newer, better electric appliances and devices; load management, building improvements; smaller newer cars and trucks; and various means to lower the number of miles driven per person. The great benefit of such end user measures is that they cancel not only direct costs but also many associated costs of entire supply chains.

Since Braintree does not have an energy committee, efforts and responsibilities for implementing the actions in this Plan lie on the Selectboard and Planning Commission. Energy committees can be a great resource for communities as they can take an active role in auditing Town buildings for energy use, working with residents on a variety of programs, and maintaining this energy plan.

4.5.2 Energy Affordability

Vermont has been ranked 44th in the nation for energy affordability, especially among low income families who spend about \$1,870 per year to heat their homes. According to TRORC, only 4.6% of homes built before 2000 have been weatherized, and few of these use modern heat pumps. Weatherization alone could save homeowners about \$1,000/year on heating and cooling costs. Homeowners could also consider switching fuel heating sources from petroleum based (oil, propane) to electric, geothermal, or wood.¹³

4.5.3 Renewable Energy Siting Standards

In the 2011 Comprehensive Energy Plan (CEP), the DPS set out an ambitious goal that, by 2050, 90 percent of all energy consumed in the State be from renewable resources. This goal was formally adopted by the State Legislature and is evident in Title 30 of the Vermont State Statutes; it is therefore binding for Vermont to meet this goal.

The 2016 CEP kept and further fleshed out that goal. The CEP sets an energy policy vision for Vermont, and issuing the CEP every six years is a statutorily required duty of the DPS. The information attached in the Appendix lays out information on our energy use and goals to meet regional efforts and those of the State.

¹³ 2022 TRORC Regional Plan

Braintree’s Target Renewable Energy Goals and Generation Potential¹⁴

2050 Generation Target	6,995- 8,550 MWh		
Current Generation (November 2021)	1,696 MWh		
Generation Potential			
	Prime Potential	Prime Potential within one mile of three-phase	Prime Potential in Prime Agricultural Soils
Wind Potential	429 acres	10 acres	
Solar Potential	1,291 acres	441 acres	1,170

Currently, Braintree has no wind power installations, and the State of Vermont appears reluctant to approve any commercial wind power installations (TRORC Regional Energy Plan, 2020). However, small wind towers intended for residential properties is another avenue of renewable energy generation if solar is not feasible. It is still anticipated that the full burden of Braintree’s renewable energy production on solar generation will have to be balanced with the State's priority of preserving agricultural and forest lands. Moreover, the Public Utility Commission should encourage “community” solar farms, including co-ops to create solar farms for local distribution.

The State of Vermont has set standards for energy siting protocols under its Section 248 Review Process that allows towns to develop policies in their Town Plan to guide the development of renewable energy generation facilities. These guiding policies are in the goals, policies, and recommended actions below.

4.6 Goals

The following Goals address the Town's Future Prosperity needs and opportunities. They are intended to ensure that Braintree remains a vibrant and demographically diverse community capable of sustaining its self-government.

4.6.1 Economic Development Goals:

1. Support continuation of our agricultural and forest economy.
2. Facilitate new home-based occupations and businesses.
3. Enhance recreational opportunities in conjunction with neighboring towns.

¹⁴ https://www.trorc.org/wp-content/uploads/2017/05/Braintree_Energy.pdf

4.6.2 Housing Goals:

1. Support the modernization and weatherization of energy efficient older homes.
2. Encourage the development of a variety of energy-efficient housing types, including rental and accessory units, that meet the needs of all income, age, and family situations.
3. Explore ways for clustered housing proposals to share water and sewer services.
4. Encourage the continued viability of Mobile Acres mobile home park as an option for affordable home ownership.

4.6.3 Transportation Goals:

1. Fund the maintenance and resilience of Braintree's rural highways for emergency vehicle access in snow and mud.
2. Support a safe, energy-efficient, cost-effective, integrated, and multi-modal regional public transportation system.
3. Explore ways to encourage the use of electric vehicles with public charging stations.

4.6.4 Utility and Community Facility Goals:

1. Maintain the Town's investment in its public buildings, highways, and cemeteries.
2. Continued participation in the Mountain Alliance for the management of solid waste and with the Randolph Fire Department and the White River Valley Ambulance Service for emergency services.
3. Support and maintain the recreational use and the retention of Town rights-of-way, such as Class 4 Roads, and Legal Trails.
4. Continue participation in ECFiber for the delivery of locally controlled high-speed Internet.

4.6.5 Energy Goals:

1. Promote energy-efficient design and siting in new building construction.

2. Encourage the development of local renewable energy sources, especially solar, biomass (wood), and micro-hydroelectric projects.
3. Facilitate the development of renewable energy sources.
4. Support the reduction of fossil fuel usage in the heating of homes.

4.7 Policies

The following Policies are intended to establish guidelines as the Town seeks to achieve its Future Prosperity Goals.

4.7.1 Economic and Housing Development Policies:

1. Protection of the long-term viability of our agricultural, silvicultural, and recreational economy shall be given priority over other land uses in Rural, Scenic, and Conservation Areas.
2. Support for the modernization of older housing, including their conversion to multi-units and the development of accessory dwellings on existing lots shall be encouraged.
3. Higher density, mixed use, owner-occupied, and rent-based housing development in Village Areas, especially in “South Braintree”, where access to public transportation, adequate water, and shared septic services could be located, shall be encouraged.
4. Home-based occupations and businesses that are consistent with the Economic and Housing Development Goals of this Chapter shall be encouraged.
5. Opportunities to enhance the region's recreational resources and to coordinate these efforts with neighboring towns shall be pursued.

4.7.2 Transportation and Community Facility, Policies:

1. Funding of our goals for highway maintenance and improvements through our Annual Operating Budget and the 5-Year Capital Plan shall continue as a Town priority.
2. The development of an energy-efficient and multi-modal transportation system shall be supported.
3. Braintree residents shall be encouraged to utilize the West Braintree Park & Ride, public transportation systems, and other strategies to decrease transportation energy use.

4. Regional goals for the increased production of renewable energy, where consistent with the Town's overarching goal of protecting its agricultural and forested lands, shall be supported, and the development of energy efficiency in new building construction shall be encouraged.

4.7.3 Energy Policies

1. The generation, transmission, and distribution facilities or service areas for new energy generation facilities shall complement the recommended land use patterns set forth in this Town Plan.
2. All renewable energy generation facilities shall comply with Braintree's Unified Bylaw.
3. Power generation projects in Braintree, the purpose of which is primarily to sell power back to the electrical grid, shall be sited provided each of the following is true:
 - a. The generation facilities involved in the project and the renewable energy credits from the facilities are applied toward the Vermont Renewable Energy Standard.
 - b. They are located on:
 - i. State designated preferred sites, such as Roof Mounted Systems, landfills, brownfields outside of the village center, reclaimed quarries, and gravel pit; or
 - ii. a site that was previously covered by a structure or other impervious cover; or
 - iii. in specific areas identified as preferred on the accompanying map.
 - c. For generation facilities over 150 kW, they are on preferred sites that are located either:
 - i. Along Routes 12 and 12A in the areas identified as West Braintree, East Braintree and Rural 2 as identified on the Future Land Use Map; or
 - ii. Along Battles Brook Rd within 1000 horizontal ft.
 - d. The Town, by joint letter of the Planning Commission and Selectboard may designate a site as preferred that is well screened and is not part of a priority or high priority forest block or habitat connector.
 - e. The project meets other policies of this Plan.
4. New energy generation, transmission, and distribution projects shall be excluded from the following areas because of their distinctive value:
 - a. Floodways shown on FEMA Flood Insurance Rate Maps (except as required for hydroelectric facilities);
 - b. River Corridors (fluvial erosion hazard areas) shown on the ANR river corridor maps (except as required for hydroelectric facilities) and special flood hazard areas identified by National Flood Insurance Program maps (except as required for hydroelectric facilities);
 - c. Wetlands as indicated on Vermont State Wetlands Inventory maps or identified through site analysis;
 - d. Rare, threatened, or endangered species habitat or communities;

- e. For projects over 15kW, highest priority or priority forest blocks or habitat connectors except when accepted measures to mitigate habitat loss or wildlife movement are part of a project; and
 - f. Prime agricultural soils, except as project build-outs allow co-production by cropping or grazing.
5. All new generation, transmission, and distribution projects other than those of 15kW or less shall avoid the following:
- a. Historic districts, landmarks, sites, and structures listed, or eligible for listing, on state or national registers.
 - b. Public parks and recreation areas, including State and municipal parks, forests and trail networks.
 - c. Scenic roads, vistas, and view sheds (when such have been determined by the Town).
 - d. Public and private drinking water supplies, including mapped source protection areas.
 - e. Primary agricultural soils mapped by the U.S. Natural Resources Conservation Service.
 - f. Forest land. For the purpose of this policy, intrusion by clearings, roads or buildings more than 300 feet into highest priority forest blocks and other conserved lands constitutes an adverse impact.
 - g. Necessary wildlife habitat, natural communities, and wildlife migration and travel corridors. For the purpose of this policy, fragmentation of these resources constitutes an adverse impact. Project designers must gather information and analyze the effects of the project on habitat and natural communities in the project area, and wildlife residing in the area and its migratory routes.
6. Ground-mounted generation projects of 15kW or less shall be set back from property lines at least 20 feet and should coordinate with neighboring properties to minimize visual impact.
7. Ground-mounted generation projects of 150 kW or more shall use screening to reduce the visual impacts of energy generation, transmission, and distribution projects as seen from public roads and neighboring properties in accordance with the following:
- a. Without interfering with the project's function, make the maximum use possible of preexisting vegetation, structures, and topographical features that screen the project on site to reduce the visual impacts from residences and town roads.
 - b. Install screening such as vegetation or topographic features to distract the viewer from the project and break up the view of the project.
8. Distribution line reconstructions and extensions subject to Act 250 jurisdiction must demonstrate that reasonable measures have been taken to minimize the visual impact and avoid or, if not avoidable, minimize the natural resource impact of the reconstructed line or line extension.
9. This Plan shall be used to provide input on behalf of the citizens of Braintree in any Public Utility Commission Certificate of Public Good application relative to the generation of energy.

10. Any commercial energy generation facility proposed in Braintree should be developed so as to avoid negative impacts on the rural character of the area in which they are proposed to be located.

4.8 Recommended Actions

The following Actions are Recommended to assist the Town in the implementation of its Future Prosperity Policies.

4.8.1 Economic and Housing Development Actions:

1. The Planning Commission will revise the Unified Bylaw to ensure that any proposed development in Rural, Scenic, and Conservation Areas considers the need to minimize its impact upon agriculture and forests lands and to avoid limiting access to or the use of recreational resources.
2. The Planning Commission will revise the Unified Bylaw to permit greater density and design flexibility in the modernization of existing homes; in the addition of accessory dwellings; and in the development of new single-family and multi-family housing types.
3. The Selectboard will request the Agency of Natural Resources to seek a review of State regulations concerning the design of shared water and septic systems that currently inhibit the development of clustered and multi-unit housing.
4. The Planning Commission will revise the Unified Bylaw to clarify those home-based occupations and businesses that may be approved by the Zoning Administrator and those that shall require the approval of the DRB.
5. The Town will request TRORC to assist in seeking funding to support the development of a master land use plan for "South Braintree."

4.8.2 Transportation, Community Facility, and Energy Actions:

1. The Selectboard will annually review and submit to the voters the Town's needs for highway maintenance and improved roadway resilience as a part of its Annual Budgeting and 5-Year Capital Planning process.
2. Braintree will continue to support the development of a regional public transit system and the delivery of locally-controlled high speed Internet.

3. Braintree will investigate the potential for locating viable electric vehicle charging stations and renewable energy generation at its public facilities
4. The Planning Commission will revise the Unified Bylaw to encourage on-site renewable energy sources and the use of passive solar in all new development.
5. When purchasing new municipal fleet equipment, the town will consider purchasing the most efficient vehicles and explore looking into bio-diesel powered trucks for road maintenance if feasible.
6. Braintree will explore a reimbursable fee structure to ensure that new builds submit their Residential Building Energy Standards (RBES) certificate.
7. The Town of Braintree will consider establishing an energy committee to work with residents, town staff, and businesses to encourage energy efficiency and conservation efforts.
8. The Selectboard will review the town's Class 4 and Legal Trail policy to ensure that it provides adequate protection for recreational uses in town rights-of-way.

Chapter Five: Implementation Matrix

This Matrix organizes Braintree's Recommended Actions Steps for the Plan's Implementation in a manner reflective of the State's requirements for municipal plans (VSC Title 24, Chap. 117, Sub. 005, Sect. 4382) and the State's specific planning goals related to each of the plan requirements (*Department of Housing and Community Development Planning Manual*, April 2017). The State's "requirements" are identified as the **Bold numbered items: 5.1, 5.2**, etc. The State's "specific planning goals" are identified as the **Bold lettered items under each "requirement": (A), (B)**, etc. Braintree's "Action Steps" related to each "requirement" and "planning goal" are identified by reference to their location in the Plan's chapters: Action 3.7.2 (2), Action 4.8.1 (1), etc.

The timeframes and priority are defined as follows:

- Short term – 1 to 3 years
- Medium term – 4 to 8 years
- Ongoing – beyond 8 years

Responsible Party abbreviations are as follows:

- SB – Selectboard
- PC – Planning Commission
- CC – Conservation Commission
- TF – Special Task Force assigned by the Selectboard

Notably omitted from this Matrix is a response to the State requirement for an educational facilities plan and its related goal of broadened access to educational and vocational training. Braintree is now a part of the Orange Southwest School District which is charged with developing and implementing educational and vocational training opportunities for Braintree.

Chapter One: to achieve Overarching Goals and Policies									
(Chapter & Sec. #)					Resp. Party	Timeframe/Priority			
						Short	Med.	On-going	
1.7.1	Protect existing blocks of agricultural and forest lands from fragmentation and the challenges of climate change.				PC	X			
1.7.2	Remove barriers to modernize and facilitate development of new units for seniors, families and single residents.				PC		X		
1.7.3	Consult with landowners, outdoor organizations, and				PC			X	

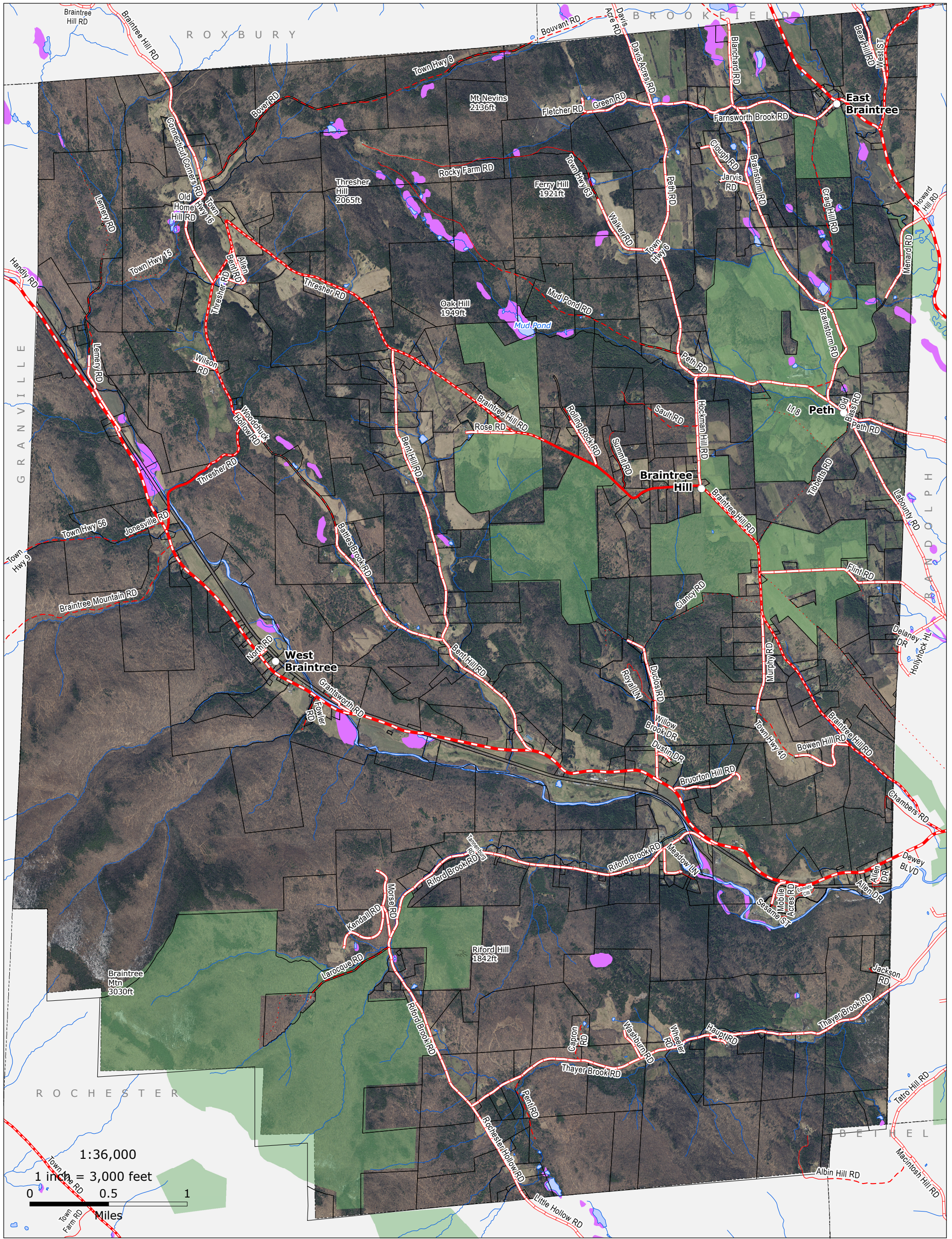
	neighboring towns to balance public access with privacy concerns to enhance recreational potential.				
1.7.4	Support efficient public services and facilities in Operating Budgets and 5-Year Capital Plans.	SB			X
1.7.5	Participate in the TRORC and work with multi-town organizations.	SB			X
1.7.6	Develop a program to protect scenic trees along roadways.	CC	X		
1.7.7	Facilitate homeowners wishing to relocate outside the 100-year flood plain	SB			X
Chapter Two: to achieve Our People & Community Goals and Policies					
(Chapter & Sec. #)		Resp. Party	Timeframe/Priority		
			Short	Med.	On-going
2.9.1	Encourage participation of citizens in deliberations and encourage residents to volunteer for community service.	ALL			X
2.9.2	Support OSSD and community-based elementary school.	SB			X
2.9.3	Remove barriers to modernize and facilitate development of new units for seniors, families, and single residents.	PC		X	
2.9.4	Modify use, density, height, and set-back barriers to affordable housing units and child-care facilities.	PC	X		
2.9.5	Continue participation in multi-town organizations that provide shared services.	SB			X
2.9.6	Apply for a Rural Fire Protection grant to increase the number of dry hydrants and fire ponds.	SB	X		
2.9.7	Investigate use of underutilized properties to meet child care, adult day care, or other public needs.	SB/TF	X		

Chapter Three: to achieve Our Physical Place Goals and Policies								
(Chapter & Sec. #)					Resp. Party	Timeframe/Priority		
						Short	Med.	On-going
3.7.1 (1)	Incorporate methods for limiting fragmentation and parcelization within Conservation, Scenic, and Rural				PC	X		
3.7.1 (2)	Reflect (DEC) rules related to developments.				PC			X
3.7.1 (3)	Support efforts seeking to restore or improve natural habitats and to reduce vulnerability to invasive species.				CC/SB			X
3.7.1 (4)	Identify and protect in-town sources for future gravel requirements.				SB	X		
3.7.1 (5)	To protect our water resources:							
(A)	(1) Locate unidentified wetlands and vernal pools				CC	X		
	(2) Request the State to update its flood plain maps				PC	X		
(B)	Include design and set-back standards in new development				PC			
	(1) to protect surface and groundwater from pollution;						X	
	(2) to protect identified wetlands and vernal pools;						X	
	(3) to implement permit requirements for storm-water mitigation for new impervious surfaces;						X	
	(4) using most recent mapped flood plain areas						X	
(C)	Request the State to prioritize mapping of groundwater flows and subterranean aquifers.				SB	X		
3.7.1 (6)	Support funding applications for removing dwellings from mapped flood plains.				SB			X
3.7.2 (1)	Protect the Town's scenic, historic, and cultural resources affected by new development.				PC			X

3.7.2 (2)	Request State designation of “Snowsville” as an historic “Village Center”.		SB	X		
3.7.2 (3)	Reflect “South Braintree” as a New Town Center and as the focus of new residential and small business development.		PC		X	
3.7.2 (4)	Incorporate methods for limiting fragmentation and parcelization within Conservation, Scenic, and Rural		PC	X		
3.7.2 (5)	Consider extending the Conservation Area designation to large blocks of agricultural and forest lands that abut similarly designated lands in neighboring towns.		PC	X		
3.7.2 (6)	Appoint a task force to assure the presence of public shade trees along roads.		SB/TF	X		
Chapter Four: to achieve Our Future Prosperity Goals and Policies						
(Chapter & Sec. #)			Resp. Party	Timeframe/Priority		
				Short	Med.	On-going
4.8.1 (1)	Areas to preserve access for recreational uses.		PC	X		
4.8.1 (2)	Permit greater density and design flexibility in modernization of existing homes; in the addition of accessory dwellings; and in new single-family and multi-family housing types.		PC	X		
4.8.1 (3)	Request TRORC seek a review of State regulations concerning the design of shared water and septic systems.		SB	X		
4.8.1 (4)	Clarify home-based occupations and businesses that may be approved by the Zoning Administrator and those that shall require the approval of the DRB.		PC	X		
4.8.1 (5)	Request TRORC to assist in the development of a “South Braintree” master land use plan.		SB	X		
4.8.1 (6)	Show preferred sites for solar power generation on the Future land Use map		PC	X		

4.8.2 (1)	Annually review highway maintenance and improved roadway resilience needs as a part of the Budgeting and 5-Year Capital Planning process.					SB			X
4.8.2 (2)	Support the development of a regional public transit system and the delivery of locally-controlled high speed Internet.					SB			X
4.8.2 (3)	Investigate potential for locating EV charging stations and renewable energy generation at public facilities.					SB/TF	X		
4.8.2 (4)	Encourage on-site renewable energy sources and the use of passive solar systems.					PC	X		
4.8.2 (5)	Consider purchasing the most efficient vehicles and look into feasibility of bio-diesel powered trucks					SB			X
4.8.2 (6)	Explore a reimbursable fee structure to ensure that new builds submit their Res. Bldg, Energy Std. certificate.					DRB	X		
4.8.2 (7)	Consider establishing an Energy Committee to encourage energy efficiency and conservation efforts.					SB	X		
4.8.2 (8)	Review the Town's Class 4 and Legal Trail policy to ensure protection for recreational uses in town rights-of-way.					SB/TF	X		

Appendix I: Maps



Current Land Use

Braintree, Vermont

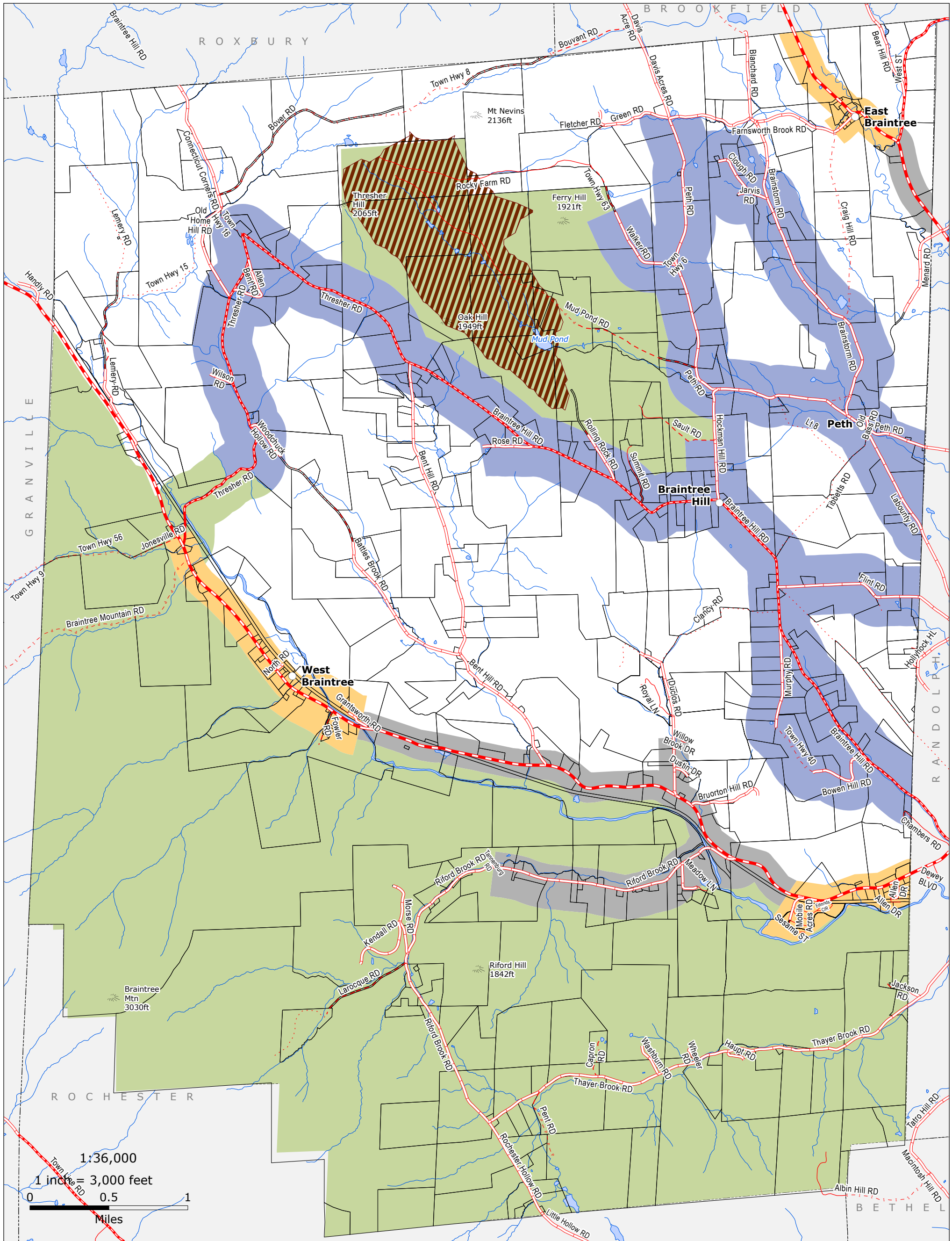
Town Plan
Map 1 of 7

Adopted: September 5, 2023

- VT route/TH cls 1
- TH cls 2
- - - - - TH cls 2 gravel
- TH cls 3
- - - - - TH cls 3 gravel
- - - - - TH cls 4
- - - - - trail
- private
- US route
- US interstate
- - - - - VT forest hwy

- Conserved
- Wetlands

Adopted: September 5, 2023



Future Land Use Braintree, Vermont

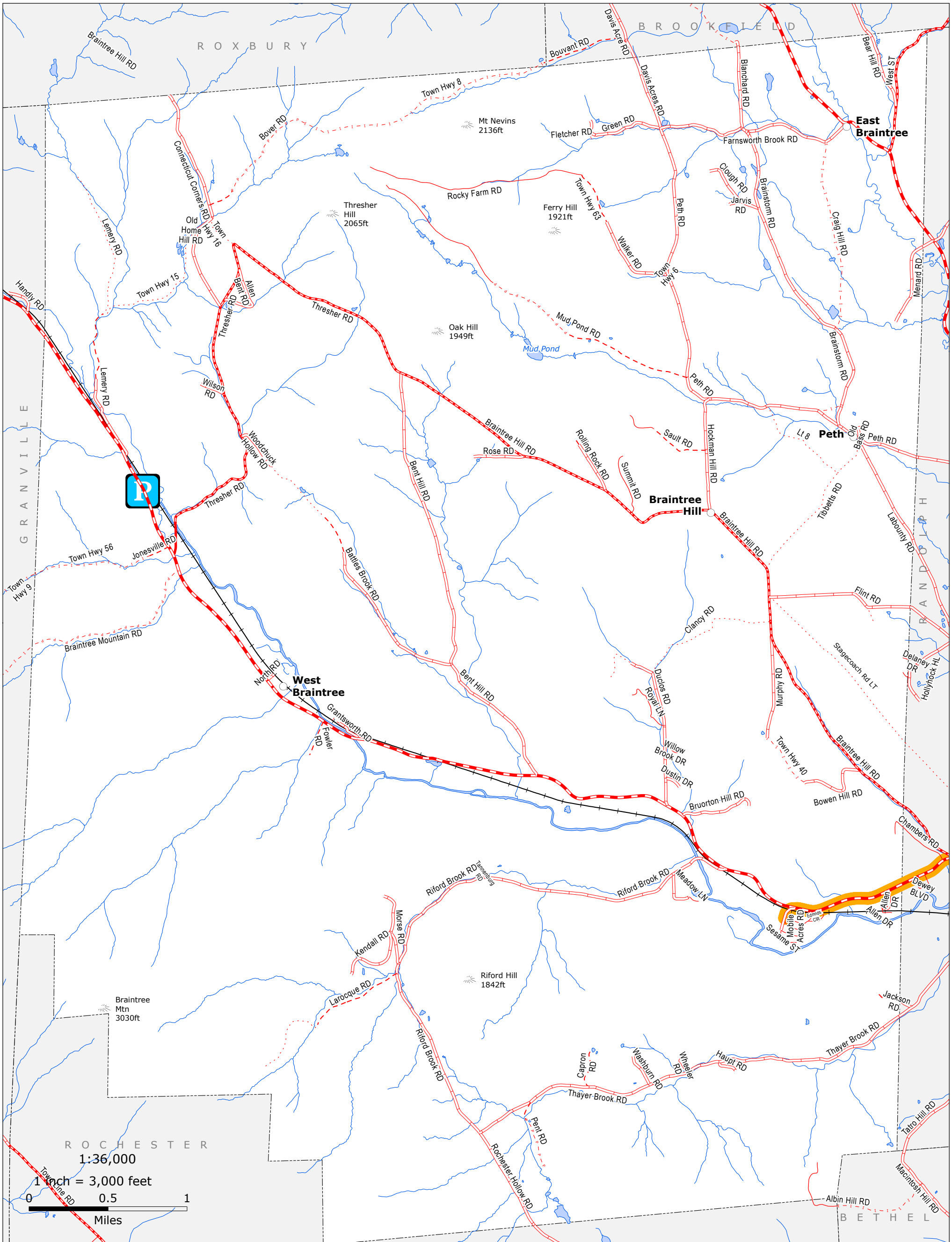
- VT route/TH cls 1
- TH cls 2
- - - TH cls 2 gravel
- TH cls 3
- - - TH cls 3 gravel
- - - TH cls 4
- - - trail
- private
- US route
- US interstate
- - - VT forest hwy

- Future Land Use Areas
- | | |
|--|--|
| <p>base</p> <ul style="list-style-type: none"> ■ CONSERVATION ■ RURAL SCENIC RURAL1 RURAL2 VILLAGE | <p>overlay</p> <ul style="list-style-type: none"> MUD POND WATERSHED |
|--|--|

Town Plan
Map 2 of 7

Adopted: September 5, 2023

Adopted: September 5, 2023



Current & Proposed Transportation

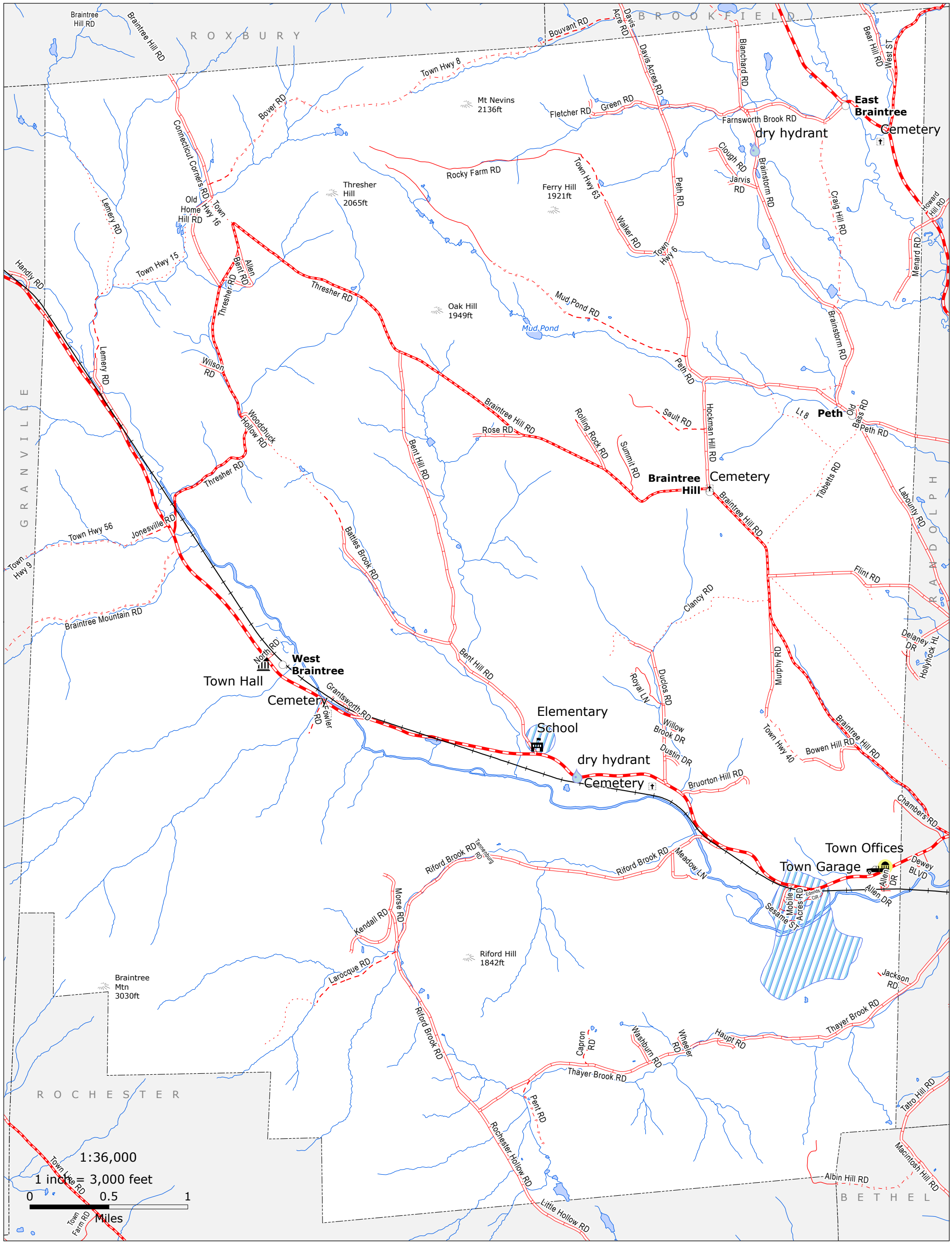
Braintree, Vermont

Town Plan
Map 3 of 7

Adopted: September 5, 2023

- ▬▬▬ VT route/TH cls 1
- ▬▬▬ TH cls 2
- ▬▬▬ TH cls 2 gravel
- ▬▬▬ TH cls 3
- ▬▬▬ TH cls 3 gravel
- ▬▬▬ TH cls 4
- ⋯⋯⋯ trail
- ▬▬▬ private
- ▬▬▬ US route
- ▬▬▬ US interstate
- ▬▬▬ VT forest hwy

Adopted: September 5, 2023



Current and Prospective Utilities, Facilities & Education

Town Plan
Map 4 of 7

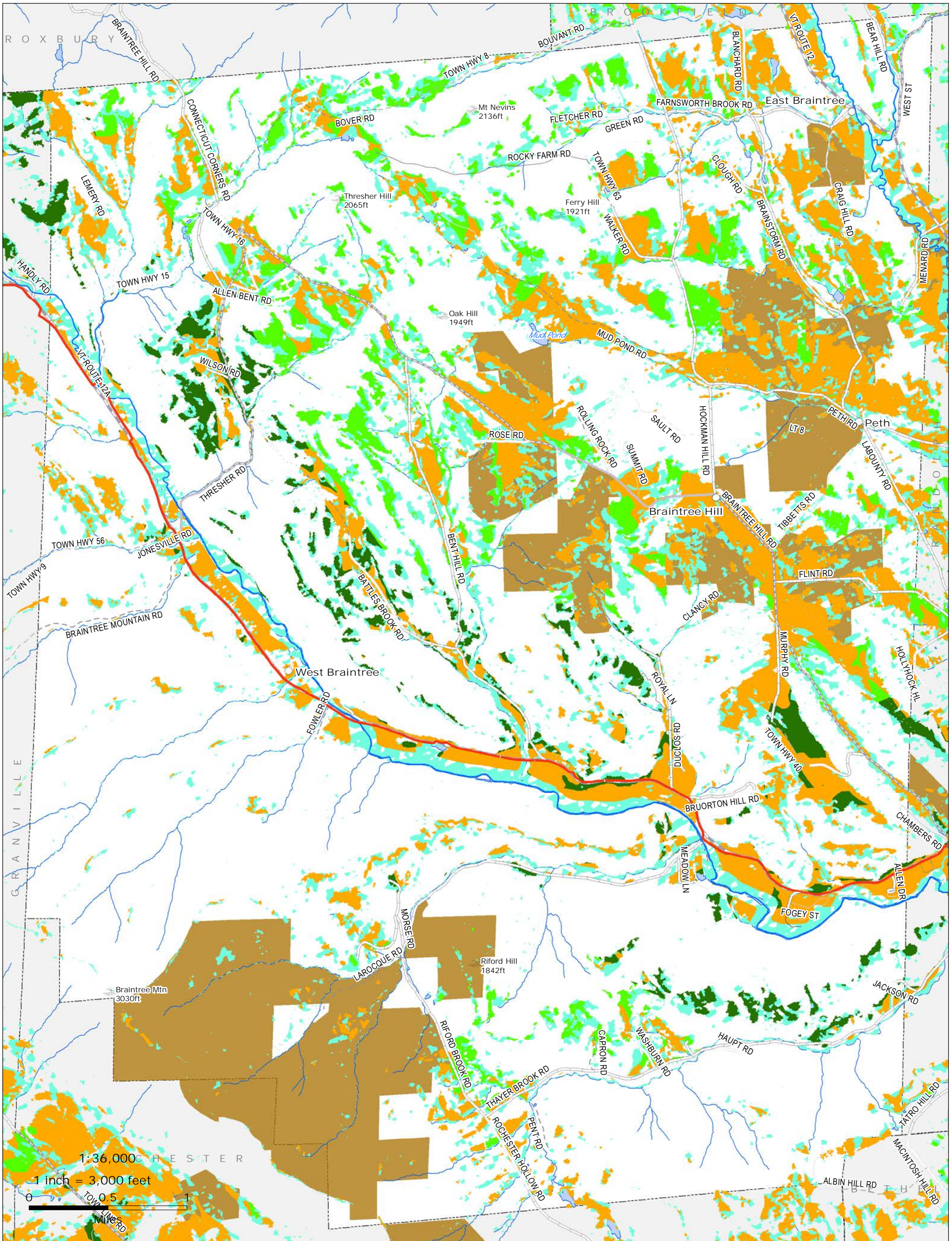
Braintree, Vermont

Adopted: September 5, 2023

- Town Garage
- Town Hall
- Town Offices
- dry hydrant
- Cemetery
- Elementary School
- railroad
- GroundWaterSPA

Adopted: September 5, 2023





Solar Energy Potential

Braintree, Vermont

- VT route/TH cls 1
- TH cls 2
- TH cls 2 gravel
- TH cls 3
- TH cls 3 gravel
- TH cls 4
- trail
- private
- US route
- US interstate
- VT forest hwy

- Substations
- 3 Phase Power Lines
- Transmission Lines
- Lakes/Ponds
- Rivers/Streams
- Conserved Land

- Known Constraints**
- Vernal Pools (confirmed and unconfirmed layers)
 - DEC River Corridors
 - FEMA Floodways
 - State-significant Natural Communities and Rare, Threatened, and Endangered Species
 - Wilderness Areas, including National Wilderness Areas
 - Class 1 and Class 2 Wetlands (VSWI and advisory layers)
- Possible Constraints**
- Agricultural Soils (VT Agriculturally Important Soil Units)
 - FEMA Special Flood Hazard Areas
 - Protected Lands (Updated 07/26/2016.)
 - Act 250 Agricultural Soil Mitigation areas
 - Deer Wintering Areas
 - ANR's Vermont Conservation Design Highest Priority Forest Block Datasets
 - Forest Blocks - Connectivity
 - Forest Blocks - Interior
 - Forest Blocks - Physical Land Division
 - Hydric Soils
 - TRORC Unsuitable areas (included in known constraints)
 - FEMA Floodways
 - Wilderness Areas, including National Wilderness Areas
 - Class 1 Wetland

- Suitability**
- Prime 1m 3phase
 - Constraints
 - Prime
 - RAW solar

Solar
This map shows areas of potential electricity generation from solar energy. It includes areas with good access to solar radiation and also considers other conditions that may limit the feasibility of solar energy development. These limiting factors are referred to as constraints. Areas of prime solar potential exist where the natural conditions make development feasible and no constraints are present.

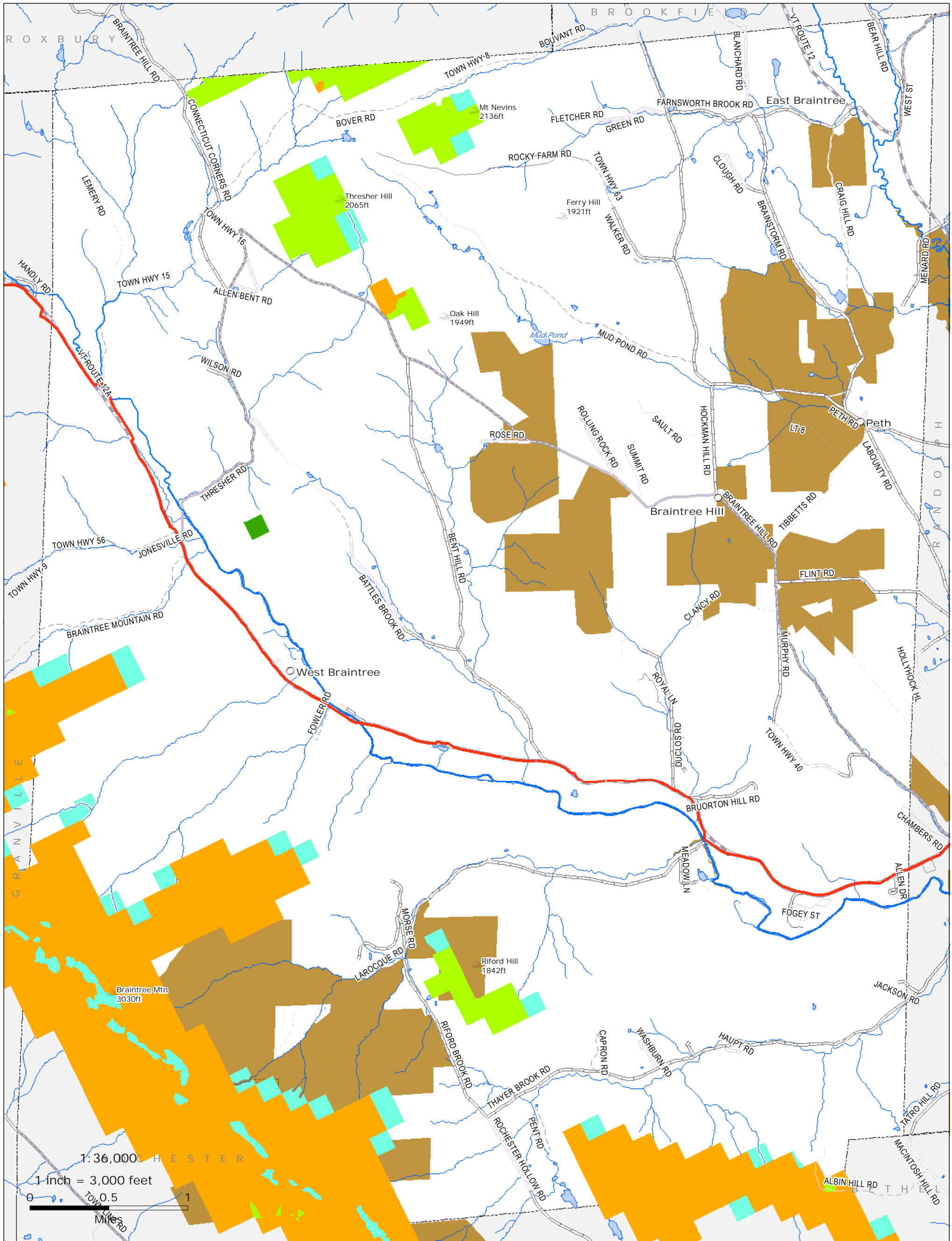
These maps are designed to initially identify areas and follow-up on-site work is required to verify the areas are feasible for projects. They are subject to revision and are NOT intended to green-light or fast-track projects.

DARK GREEN Prime: No Constraints within 1 mile 3 phase power
 GREEN Prime: No Constraints no known or possible constraints present
 ORANGE Constraints no known but at least one or more possible constraints
 BLUE GREEN Raw potential with constraints

Town Plan
Map 5 of 7

Adopted:
September 5, 2023

Adopted: September 5, 2023



Wind Energy Potential

Braintree, Vermont

- VT route/TH cls 1
- TH cls 2
- TH cls 2 gravel
- TH cls 3
- TH cls 3 gravel
- TH cls 4
- trail
- private
- US route
- US interstate
- VT forest hwy

- Substations
- 3 Phase Power Lines
- Transmission Lines
- Lakes/Ponds
- Rivers/Streams
- Conserved Land

Wind
This map shows areas of potential wind energy development. It includes areas with good access to wind resources and also considers other conditions that may limit the feasibility of wind energy development. These limiting factors are referred to as constraints. Areas of prime wind potential exist where the natural conditions make development feasible and no constraints are present.

These maps are designed to initially identify areas and follow-up on-site work is required to verify the areas are feasible for projects. They are subject to revision and are NOT intended to green-light or fast-track projects.

Wind Potential Suitability, HubHeight

- Prime, 50
- Prime, 70
- Constraints, 50
- Constraints, 70
- Prime 1m 3phase
- RAW wind

Known Constraints
Vernal Pools (confirmed and unconfirmed layers)
DEC River Corridors
FEMA Floodways
State-significant Natural Communities and Rare, Threatened, and Endangered Species
Wilderness Areas, including National Wilderness Areas
Class 1 and Class 2 Wetlands (VSWI and advisory layers)

Possible Constraints
Agricultural Soils (VT Agriculturally Important Soil Units)
FEMA Special Flood Hazard Areas
Protected Lands (Updated 07/26/2016.)
Act 250 Agricultural Soil Mitigation areas
Dear-Wintering Areas
ANR's Vermont Conservation Design Highest Priority Forest Block Datasets
Forest Blocks - Connectivity
Forest Blocks - Interior
Forest Blocks - Physical Land Division
Hydric Soils

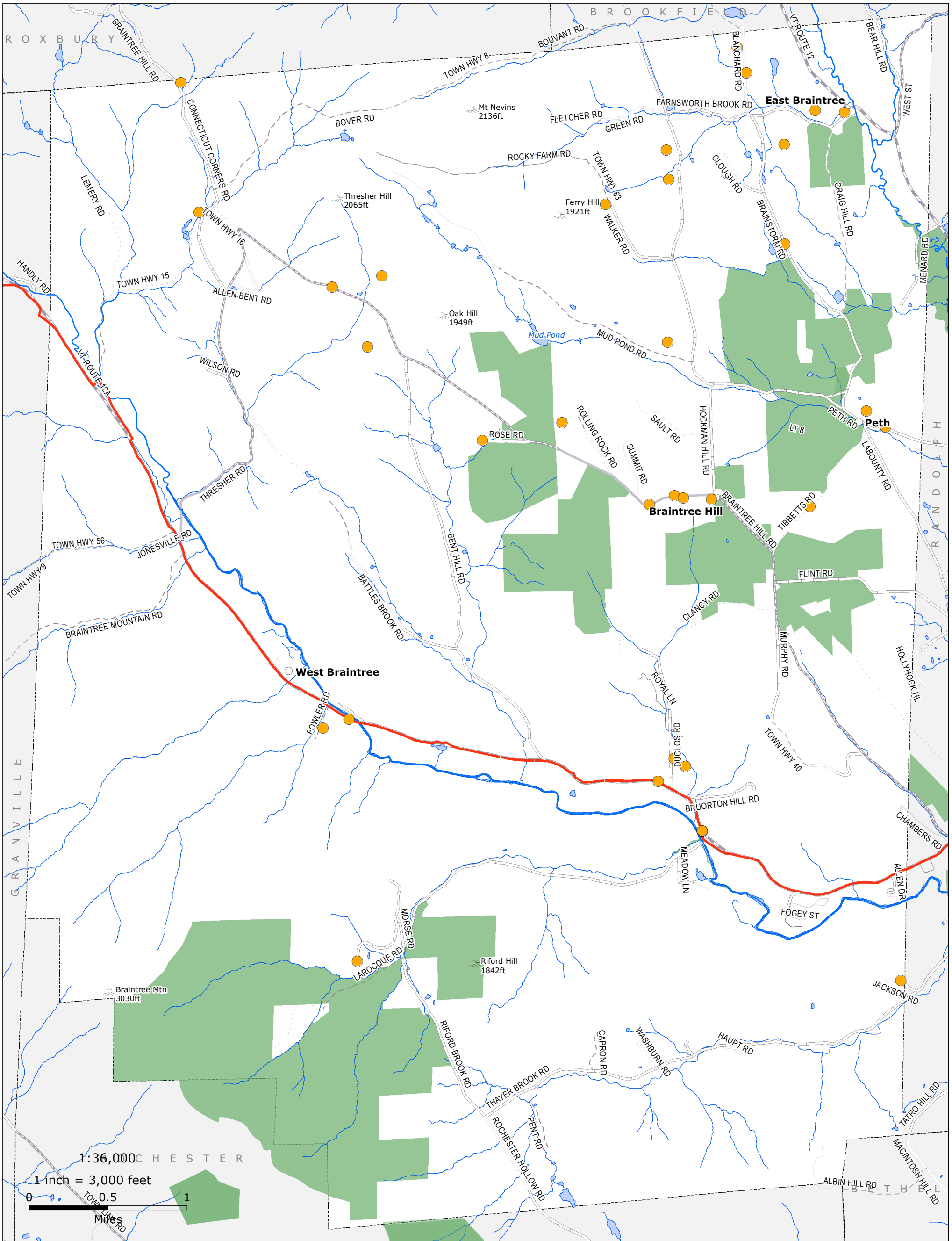
TRORC Unsuitable areas (included in known constraints)
FEMA Floodways
Wilderness Areas, including National Wilderness Areas
Class 1 Wetland

Town Plan
Map 6 of 7

Adopted:
September 5, 2023



Adopted: September 5, 2023



Existing Energy Generation

Braintree, Vermont

Town Plan
Map 7 of 7

Adopted: September 5, 2023

- VT route/TH cls 1
- TH cls 2
- TH cls 2 gravel
- TH cls 3
- TH cls 3 gravel
- TH cls 4
- trail
- private
- US route
- US interstate
- VT forest hwy

- Renewable Energy Sites
- Substations
- 3 Phase Power Lines
- Transmission Lines
- Lakes/Ponds
- Rivers/Streams
- Conserved Land

Adopted: September 5, 2023

Appendix II: Summary of Changes to Town Plan

SUMMARY OF PROPOSED CHANGES TO BRAINTREE TOWN PLAN

The Proposed Braintree Town Plan reviews the Town's history, character, and current condition and presents a vision of the Town. When adopted, this vision is intended to guide the Town's future growth and will be used by the Selectboard, Planning Commission, Development Review Board, and Conservation Commission: as they prepare the Town's Annual Budgets and 5-year Capital Plans; as its Unified By-Laws (Zoning Ordinance) are revised and administered; and to identify important natural resources to be recommended for protection. The Plan will also be used by the State of Vermont, its Regional Planning Commission, and its Environmental Court in Act 250 reviews and Section 248 proceedings, as well as to determine the Town's eligibility for certain State grants.

This summary is meant to notify the public to changes within the town plan. New planning goals incorporated into the plan are summarized. Along with these changes the plan has been restructured with the intent of clarifying our collective goals for future land use in the Town of Braintree, Vt.

ENERGY GOALS

Changes were made to comply with state energy goals. The energy section of the town plan includes compliance with state requirements for the town to consider siting for energy generation projects. Section 4.5 includes the vision for town energy goals. The planning commission has chosen the corridor along route 12a for preferred energy generation. These changes are reflected in the appropriate town maps along with the town plan.

FOREST FRAGMENTATION

Forest fragmentation has been addressed to protect wildlife corridors also addressed to promote accessible recreation opportunities. Forest fragmentation is mentioned throughout the plan with the intent of protecting existing wildlife corridors specifically the area around Thayer Brook Road. These changes are reflected in the appropriate town maps.

HOUSING

The need for housing has never been greater in Vermont. To address the planning commission has included language which will allow for greater density and more flexible zoning standards in parts of Braintree. The new town plan also identifies "South Braintree" (the area along route 12A adjacent to the Randolph town line) as an area where new housing development would achieve many of the other goals laid out in the plan, while limiting adverse effects on other areas.

CLIMATE RESILIANCE

The goal of climate resilience is embedded throughout the proposed Town Plan. By preserving the Town's historic character, including its old houses and present pattern of development, the carbon inherent in the actual construction materials are retained.

By recognizing the need to preserve quality farmland from development and direct development to its villages, agricultural land is preserved and unwanted by-products of development, such as waste water, can be addressed due to efficiencies of scale.

The Town Plan's recognition of prime sites for solar generation, a renewable resource, is part of the State's effort to increase use of renewable energy throughout its grid, thereby reduce carbon emissions while expanding energy use for heating homes by efficient heat pumps. The protection of Braintree's natural resources includes its forests and natural waterways. The forests protection will occur by addressing any fragmentation which is occurring, thereby furthering continuity of growth through large areas of mixed forest. The protection of natural waterways will occur through the use of site plan review, where required, to assure that increased runoff – increased intensity at a higher frequency – will be mitigated as part of any development. Furthermore, effort will be made to identify existing houses in areas being flooded due to increased runoff caused by climate change.

In summary facilitating climate resilience is one of the plan's goals; it is intended to run throughout all parts of plan, although perhaps not specifically identified.

RESTRUCURING THE DOCUMENT

The following paragraph taken from the introduction of the town plan explains what we tried to accomplish while restructuring the town plan:

The Braintree Town Plan is a framework for decisions that the Town, the State, and a variety of public agencies and commissions will make over the next eight years. It is presented in three chapters plus this one entitled "Our People and Community", "Our Physical Place", and "Our Future Prosperity". Each chapter begins with a reflection upon our Town's history and an assessment of how that heritage has changed over time before addressing the question of what kind of future development we do or do not want. Each chapter ends with proposed Goals, Policies, and Recommended Actions that provide a balanced pathway towards an attractive vision for the Town as a whole. This vision includes: • protecting Braintree's historic scenic character, and natural resources; • providing a safe and secure place for all residents; • retaining and attracting young adult and family residents; • responding to the challenges of climate change; • enhancing our recreational resources; • keeping public services affordable; and • coordinating our actions with neighboring towns and regional objectives. A fifth chapter entitled "Implementation Matrix" summarizes the Recommended Actions found in the preceding three chapters in a manner showing how they can be accomplished in Braintree over the next 8-years or longer.

This Proposed Town Plan achieves our objectives by presenting its vision of the Town's future in five Chapters. Each "seek(s) to balance the Town's economic opportunities for recreation and housing with the desire to protect our own cultural history, scenic quality, and traditional land use resources" and is presented with their respective Goals, Policies, and Recommended Action Steps, plus illustrative maps. The Chapters are:

- *Chapter One - Introduction* is a summary of Chapters Two, Three, and Four and includes a summary of the Plan's Overarching Goals, Policies, and Recommended Actions.
- *Chapter Two - Our People and Community* describes our current demographics, educational, child-care, government, emergency, enforcement, and senior services. It highlights the impact

of our aging population upon the future viability of our public elementary school and upon the number of persons potentially “available to volunteer for the functions of our local government.”

- *Chapter Three - Our Physical Place* describes our natural resources and hazards, our scenic, historical, cultural resources, and our patterns of land use. It notes that the Town’s economic base has shifted from being dependent upon large plots of land used for local agriculture and silviculture to being more of a commuter and internet-based economy that favors residential development on smaller lots.
- *Chapter Four - Our Future Prosperity* describes our current economic development, housing, transportation, community facilities, and sources of energy. It highlights the need to embrace our future “as a demographically diverse and physically attractive telecommuting and bedroom community with exceptional recreational opportunities.” It is a future that “requires us to support energy efficient new residential development close to existing services; to promote home-based occupations; to utilize increased access to public transportation; to construct resilient town highways; to avoid land fragmentation; and to coordinate our efforts with neighboring towns.”
- *Chapter Five - Implementation Matrix* presents all of the above Chapters’ proposed Recommended Actions Steps organized by the Town agencies that will be responsible for implementation (the Selectboard, Planning Commission, Conservation Commission, etc.). It also suggests a time frame for each action’s prioritization.