

Town of Townshend, Vermont

2017 Town Plan



Scott Bridge over the West River

Photo by Andrew Snelling 2017

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**Townshend's Planning Commission
dedicates this Town Plan
to the memories of
Elizabeth Garfield, Stanley Holt
and Arthur Monette.**

**May their tireless commitment
to community service
guide and inspire all who follow.**

TOWNSHEND TOWN PLAN

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TOWNSHEND TOWN PLAN

I. INTRODUCTION

Townshend enjoys an attractive natural, as well as man-made, environment which spells "Vermont" to much of the world. In 2010, a town wide survey indicated that the top five needs of the Town were controlling property taxes, retaining existing businesses, protecting lakes, ponds, rivers, streams and wetlands, and preserving open space.

Since the completion of the last Town Plan update there have been several changes in Town to address the needs outlined in the 2011 Town Plan update. The Valley Cares West River Valley Senior Housing and Assisted Living complex was completed in October 2007 through Valley Cares and Housing Vermont. The development provides seniors with 24 independent living apartments with supportive services in one building and 40 units of assisted living in a second building. Most of the units are affordable to lower and moderate-income elderly residents.

The project was selected as the nation's top new senior housing development by a national coalition of affordable housing developers and financiers.

Parking issues within the Townshend Village district were somewhat alleviated when Grace Cottage Hospital added additional parking with a lower lot off of Route 35 in the Village area. The Town also added additional parking spaces on Route 30.

We intend that foresight and appropriate planning will guard the qualities of Townshend which attract people to settle and live here.

PURPOSE OF THE TOWN PLAN

The Townshend Town Plan identifies the means by which the Town proposes to guide its growth. The official adoption of the Plan represents a community decision towards the Town's future character, its priorities for land use, and conservation of natural resources. The Townshend Town Plan sets forth goals and policies that establish a standard for review in Act 250 proceedings and other state regulatory processes. Its language is intended to be sufficiently clear for any citizen to understand and be guided accordingly. Its provisions shall be "mandatory in nature" as defined by the Vermont Supreme Court rulings (Nov. 1995). It can be amended at any time during the life of the plan, which is 8 years after adoption.

The Townshend Town Plan will help the community achieve its goals, as well as to increase the amount of local control over the future of Townshend. It directs state agencies to take only those actions in Town which are compatible with the goals and policies of the Town Plan. Therefore, the Plan is an obligation and a commitment by appointed and elected officials at all levels of

government to resolve issues according to the direction that has been established in the Town Plan by the people of Townshend.

INTERPRETATION OF THE TOWN PLAN

Interpretation of this Town Plan and a proposed project's conformance or non-conformance to it is to be made by the Town of Townshend through its Planning Commission and Selectboard. Sections of the Town Plan that contain the language "should" are recommendations only. The language "could" or "may" are only suggestions as to the direction a project may or could take. The language "shall, will, or must" is mandatory. Nothing in this Town Plan shall commit the residents to expend funds, and no condition shall be put into a permit under this Town Plan that can cause the taxpayers to expend funds without their approval at a duly warned Town Meeting.

II. TOWN PLAN GOALS

Statement of objectives, policies, and programs of the town to guide future growth and development of land, public services and facilities, and to protect the environment.

1. To maintain a continuous planning program that will entail active participation among members of town boards, commissions, and residents to update the Town Plan and ensure that land use decisions are based upon open, transparent debate that includes participation of town residents in decisions affecting the future growth of Townshend.
2. To encourage policies that promote a diversity of employment opportunities that provide jobs and wages that support working families.
3. To maintain a sustainable pattern of settlement typified by villages within a rural setting surrounded by contiguous undeveloped corridors to preserve forests and agricultural soils.
4. To plan the town's growth in a manner consistent with the town's ability to provide and pay for public services such as education, highway maintenance, and fire protection, without placing an undue burden upon taxpayers or otherwise leading to excessive increases in the town tax rate.
5. To prohibit incompatible and uncoordinated development that could jeopardize the character of the community and the balance of public and private interests.
6. To encourage the continued use of lands for agriculture and forestry purposes for promoting a long-term sustained yield of crops and timber products, which will preserve the rural character of the community.
7. To address issues of compliance with the Americans With Disabilities Act (ADA).
8. To require that, where possible, public utilities and transmission or distribution facilities share the use of corridors in order to minimize the impact on the environment and to assure desired development patterns, minimize their visual impact on ridgelines, slopes, and open areas, and avoid important natural and historic resources.
9. To protect significant natural areas and locations of special educational, scientific, historical, scenic, architectural and archeological significance from adverse development through appropriate conservation measures.
10. To assure that any project for increasing the capacity of any existing highway or developing any new highway is consistent with the land use policies of this Plan and that consideration be given to the secondary growth that results from transportation infrastructure improvements.
11. To establish a plan that addresses the Act 250 criteria and other state regulatory processes as a standard for review of development applications and other changes in land uses.

III. COMMUNITY PROFILE

History

New Hampshire Governor Benning Wentworth's grant of the Town of Townshend is in the form of a charter dated June 20, 1753. The Townshend charter grants to the named subjects of King George II, and to their heirs and assigns, 74 equal shares in a tract of land to be named Townshend. It is to measure six miles square and to enclose 23,040 acres. Each share or allotment of land equals about 313 acres. Charles Townshend, for whom the town is named, is best remembered as the British Chancellor of the Exchequer responsible for the burdensome taxes imposed on the colonists. Known as the Townshend Acts, the levy on imported tea led to the dumping of tea into Boston harbor, the Boston Tea Party.

The Townshend proprietors were men from Sutton, Upton, Uxbridge and Mendon, Massachusetts. Their first meeting took place on July 24, 1753 in Worcester, Massachusetts. At that meeting town officers were elected: a town clerk, five selectmen, two assessors, a treasurer, and a constable-tax collector. The selectmen were to visit the land and have boundaries and parcels surveyed, mapped and marked. Because of the intervention of the French and Indian War, the town was not settled until the charter was renewed in 1762.

Early settlement in Townshend was concentrated near the West River and its tributary brooks. West Townshend was the main settlement, but the center of town gradually shifted to the Townshend East Village, with the Church on the Common (1791), the Baptist Seminary (1835), and the Second Baptist Church (1837). A short distance from the Townshend Common the settlements of Harmonyville and Simpsonville were important business centers. Farming, lumbering, and the production of potash, together with related enterprises – sawmills, lumber yards, grist mills, harness shops, tanneries, tinmiths and blacksmith shops were the means for making a living.

The first town meeting was held May 30, 1771 and the first census of Townshend was taken the same year. It shows 25 heads of families; males under 16 years of age 33; males above 16 and under 60 years - 40; males over 60 – 1; females under 16 years of age - 35; females above 16 years - 26; and blacks above 16 – 1. Total inhabitants numbered 136.

In 1840, the town of Acton, containing 5046 acres, became part of Townshend. The union, called "The Wedding of the Towns," was celebrated in the Baptist Church in February 1841.

Topography and Acreage

The topography of steep hills and narrow valleys limits farming and development, but enhances the town's natural beauty. The elevation at the Townshend Town Hall is 547' and the highest peak located on Acton Hill is 2,017'. The town is calculated to contain 27,334 acres. The land, its water and its mountainous beauty is still the town's principal resource.

Townshend U.S. Census Year 2010 – The U.S. Census shows the total population as 1,232, a 7.2% growth between 2000 and 2010. The chart tracks changes from 1980 to 2010:

Age	1980	1990	2000	2010	Change 1980- 1990	Change 1990- 2000	Change 2000- 2010
18 years and younger	238	235	295	258*	-1%	26%	-13%
19-64 years	452	617	665	733**	37%	8%	10%
65 years and older	159	167	189	241	5%	13%	28%
total population	849	1,019	1,149	1,232	20%	13%	7%
Median age (years)	34	38	42	48	12%	10%	14%

* 2010 Census data categories are for 19 years and younger;

** 2010 Census data categories are 20-64.

Throughout its history, Townshend has always had considerable economic diversity with workers in many trades and professions. It is often referred to as “the hub” of the West River Valley towns. The presence of Otis Health Care (Grace Cottage Hospital), Valley Cares West River Valley Senior Housing and Assisted Living, and Leland and Gray Union High School contribute to the diverse mix.

IV TOWN PLAN ELEMENTS

EXISTING LAND USE

Settlement Pattern – A traditional landscape of small compact communities clearly separated from surrounding rural countryside distinguishes Vermont from many other states. Townshend’s settlement began on the plains of the West River in West Townshend and from there along the brook plateaus. This led to distinct villages with homes separated by natural areas.

Land Use Plan – A land use plan should have considerable influence on the future development of the town and its land. It is therefore important through the Town Plan, and any other regulations and ordinances, to seek the best possible solutions to provide for responsible growth while maintaining the rural character of the town. Townshend has no zoning regulations covering various types of land use activities. The Town of Townshend intends to address the character and impacts of various land uses by following the general and specific policies in this Town Plan.

GENERAL LAND USE POLICIES:

- i. The location of businesses, such as offices, retail stores, service facilities, etc. shall be governed by the concept that the rural character of the town should be preserved while providing services to an increased population.

2. The traditional attractive Vermont village, of which Townshend, Harmonyville, and West Townshend are examples, is an important social and economic asset to the town and should be maintained.
3. Encourage the restoration and preservation of buildings that contribute to the architectural and historical character of Townshend. When such buildings become obsolete, new uses should be found for them that will preserve their value.
4. Support a mix of rural land uses, including forests, agriculture, housing, home businesses, small-scale commercial and industrial uses and outdoor recreation, so long as these uses do not cause excessive noise, pollution, traffic congestion, or additional cost to the town for infrastructure and services.
5. Support cluster development in areas outside village centers in order to prevent fragmentation of land into small parcels and in order to provide efficient use of utilities, roads and town services.
6. Support preservation of open farm land and agricultural activities consistent with environmental concerns.
7. Support long-term management of forest lands for multiple uses, including wildlife and sustained yields of timber products.
8. Mountain ranges and steep valley walls are intolerant of development. Ridge tops and steep slope highlands are designated to accommodate only very limited development. Land development in this kind of location should be limited to the proposed site's physical limitations.
9. Proposals for land development should include a statement of the immediate and long-term impact on all public facilities and services and the environment.
10. Lands adjacent to or including areas of historical, cultural, scientific or architectural value should be used in a manner that will not reduce or destroy the value of the site or area.
11. The town should consider purchase or donation of property that has high public value.

SPECIFIC LAND USE POLICIES

There are certain land uses that present distinct potential threats to the resources, including the character and the environment of the town. In order to protect the town, the following policies shall apply to proposed recycling/metal recovery/salvage yard facilities, communications towers, solar energy facilities, and wind energy towers.

Recycling, Metal Recovery/Salvage Yard Facilities Policies:

1. Require that proposals for these facilities demonstrate that efforts have been made to minimize noise and any adverse effects on aesthetics, surface waters, groundwater, air quality, adjacent properties and the character of the area.

2. Ensure that these facilities have site rehabilitation plans that are reviewed for approval by the Townshend Planning Commission and the Townshend Selectboard, and are implemented with bonding assurance.
3. Ensure that site planning for recycling/metal recovery or salvage yard facilities include design, management and material disposal, and addresses public health issues, environmental quality and impacts on adjacent and nearby land.
4. Work with the District Environmental Commission in Act 250 land use permit applications to address management of recycling/metal recovery or salvage yard facilities.

Priorities for Action:

Support a local ordinance to regulate commercially operated recycling/metal recovery or salvage yard facilities.

Communications Towers Policies:

1. The development of new sites, towers, and structures for transmission and receiving equipment for broadcasts, satellite transmission and other wireless telecommunications shall be in compliance with the Townshend Telecommunications Ordinance (2001).
2. Encourage siting, design and access of towers and structures, in all cases, to minimize negative impacts on natural and scenic resources.
3. Ensure that provisions are made for removal of towers or structures as set forth in Townshend Telecommunications Ordinance (2001)
4. Ensure that new and existing telecommunication facilities comply with FCC emission standards in order to protect public health.

RENEWABLE ENERGY

Solar Energy Facilities Policies:

The Town of Townshend supports responsibly sited and developed renewable energy projects within its boundaries. It recognizes that to maximize returns on investment, developers desire projects to be located in close proximity to electric power lines capable of transmitting the load proposed to be generated and with easy access from major transportation networks for construction. However, Townshend desires to maintain the working landscape, adopted conservation and habitat protection measures, and scenic rural views important to tourism economy and rural cultural aesthetic. Not all commercial or community scale solar projects proposed can meet this standard. Projects must meet the following community standards in order to be considered "orderly development" supported by this plan and in order to not unduly impact the aesthetics of the rural countryside and scenic corridors this plan intends to protect:

1. Community Standards:

a. Siting.

The most critical element in the siting of a project is its aesthetic placement on the landscape. Poor siting cannot be adequately mitigated. Accordingly, all renewable energy projects must evaluate and address the proposed site's aesthetic impact on the surrounding landscape.

i. Good sites have one or more of the following characteristics:

- Roof-mounting;
- Proximity to existing larger scale, commercial, industrial or agricultural buildings;
- Proximity to existing hedgerows or other topographical features that naturally screen the proposed array from view from at least two sides;
- Reuse of former brownfields or otherwise impacted property.

ii. Poor Sites have one or more of the following characteristics:

- No natural screening;
- Topography that causes the arrays to be visible against the horizon or skyline from common vantage points like roads or neighborhoods;
- A location in proximity to and interfering with a significant viewshed. Significant viewsheds within the Town of Townshend include: the scenic corridor of Route 30 from the Newfane town line to the Jamaica town line and all of Route 35 within the town.
- The removal of productive agricultural land from agricultural use.

b. Mass and Scale:

The historical working landscape that defines Townshend currently and that the town desires to preserve is dominated by viewsheds across open fields to wooded hillsides. Rural structures like barns fit into the landscape because their scale and mass generally do not impact large tracts of otherwise open land. All commercial scale solar arrays shall also be limited in mass and scale, and/or have their mass and scale broken by screening to fit in with the landscape. Commercial solar projects larger than 150 kW are larger than any other structure within the Town of Townshend and, unless adequately screened or mitigated to blend into the town's landscape, are prohibited.

Projects found to have poor siting characteristics pursuant to the Community Standards contained in Siting standards Section A, above, and/or projects found to violate the maximum mass and scale, Community Standards contained in Section B, above, violate the town's standards regarding orderly development.

2. Mitigation methods:

In addition to properly siting a project, solar developers must take the following action to mitigate all project sites:

- a. Locate the structures on the site to keep them from being "skylined" above the horizon from public and private vantage points;
- b. Use shorter panels when more appropriate in certain spaces than taller panels to keep the project lower on the landscape;
- c. At a minimum, for all solar arrays observe at least the minimum setback requirements governing solar installations contained in Act 56;
- d. Use the existing topography, development, or vegetation on the site to screen and/or break the mass of the array;
- e. In the absence of existing natural vegetation, the commercial development must be screened by native plantings beneficial to wildlife and pollinators that will grow to a sufficient height and depth to provide effective screening within a period of five (5) years. Partial screening to break the mass of the site and to protect public and private views of the project may be appropriate;
- f. Practice a "good neighbor policy." The siting of the array should be done in such a manner that the array creates no greater burden on neighboring property owners or public infrastructure than it does on the property on which it is sited. As an example, a landowner may not site an array on his or her property in a location calculated to diminish the visual impact of the array from his or her residence, but places the array immediately within their neighbor's or the public's viewshed. Locating a solar array in a manner designed to reduce impacts on neighbors or public viewsheds constitutes reasonable mitigation.
- g. Use black, gray, or earthtone materials (panels, supports and fences that blend into the landscape instead of metallic or other brighter colors).

3. Decommissioning and Restoration:

All projects shall be decommissioned at the end of their useful life and the property shall be restored to its pre-project condition. Developers of all projects 100 kW and greater shall provide the town with appropriate assurances to guarantee funding exists to decommission the project.

Wind Energy Towers Policies:

Wind energy turbine towers, both commercial and individual, should be sited to minimize negative impacts on natural and scenic resources.

PROPOSED LAND USE DISTRICTS

In order to continue the historic settlement pattern and to protect the various resources of Townshend, this Town Plan classifies five categories of land use areas in the town. The districts are: Villages, Health Care Services, Rural Residential, Productive Rural Lands, and Resource Lands.

VILLAGE DISTRICTS

Townshend village, which includes Harmonyville, and West Townshend village constitute the Village Districts. These areas are comprised of moderately dense residential, civic, and commercial uses. To promote the vitality and protect the character of these areas, the town adopts the following policies for the Village Districts. The boundaries of these districts are shown on the Proposed Land Use map.

In 2002 the state created a "Village Center Designation" that would recognize and encourage local efforts to revitalize Vermont's traditional village centers. Benefits include a town having preferential status in community grant proposals, as well as tax credits for private business owners who improve village properties, and/or municipal or private historic building preservation. In addition to tax credits for rehabilitative work, designated Village Centers are given priority consideration for all grants administered through the State's Municipal Planning Grant Program and the Consolidated Plan for HUD funding, including the Community Development Block Grant (CDBG) program.

On May 17, 2004, the Townshend Select Board passed a motion authorizing the Townshend Planning Commission to submit the town's application and in June, 2004, Townshend village received Village Center designation from the State. The designation was renewed in 2007. The Vermont legislature subsequently revised the duration of the designation from three to five years, so the Town did not need to reapply until June 2012. The Town did not succeed in submitting a timely renewal application, so the Downtown Board de-designated the Village Center. The Town intends to re-visit the issue and apply for Village Designation.

Village District Policies:

1. Promote the economic and community vitality of the central business districts in Townshend, Harmonyville, and West Townshend.
2. Promote the attractiveness of village centers through quality building, landscaping, and by maintaining public open spaces for scenic and recreational pleasure.
3. Concentrate growth in village centers to minimize sprawl. Use and maintain existing historic structures whenever possible.
4. Encourage the appropriate and compatible rehabilitation and use of under-utilized land and buildings in village centers.
5. Maintain the character of Townshend's villages by ensuring that any additional commercial and residential development within the Village is compatible with existing types of uses and architectural styles.

6. Target federal, state or private funding to support infrastructure improvements, bridge and highway repairs, installation of sidewalks and lighting, housing, recreation, or any other identified village need.
7. Establish and maintain village boundaries in order to prevent rural sprawl and strip development along highways and to preserve historic settlement patterns.

Priorities for Action:

1. Support the development of utilities, such as municipal water or wastewater treatment facilities, when needed to protect health and ground water resources and to allow full use of lands within villages.
2. Work with Selectboard on applying for Village Center designation and Vermont grants, and give tax relief to business owners through the Village District for Townshend Village.

HEALTH CARE SERVICES DISTRICT

There is a significant cluster of health care services in Townshend village. We recognize its importance to the town and want to support the vitality of health care services in Townshend and also protect the character of the village. The Town Plan defines a Health Care Services District. Expansion of Otis Health Care Services and related facilities or structures should be located in the Health Care Services District. This area consists of certain lands to the north of the Common along Route 35 and is shown on the Proposed Land Use map.

Health Care Services District Policies:

1. Direct new health care services growth in the form of jobs, housing, commerce, facilities and utilities, to the Health Care Services District.
2. Encourage cooperation between the institutional health care services providers, neighbors and the town on issues related to health care services development, related impacts, and financial issues.

Priorities for Action:

1. The Town's officials should be active participants in Grace Cottage's long term plans which may call for any capital improvements to occur outside the Health Care Services District.
2. The Town's officials should encourage compatibility of the goals and policies that would occur in any long-range Master Plans for Grace Cottage Hospital with goals and policies in the Town Plan.

RURAL RESIDENTIAL DISTRICTS

There is demand for rural housing outside the defined Village Districts. The Rural Residential District is intended to accommodate this demand in the most appropriate areas, minimizing costs to the town and maximizing protection of resources. These areas are shown on the Proposed Land Use map.

Rural Residential District Policies:

1. Encourage a mix of rural land uses including: housing; home businesses; small-scale agricultural or commercial uses; and outdoor recreation, as long as these uses are compatible with one another and do not cause excessive noise, disturbance, pollution, and traffic congestion or safety issues.
2. Ensure that any development of Rural Residential lands will be at densities that will serve to contain rural sprawl and that are compatible with existing land uses and sensitive to the limitations of the land.
3. Ensure that new development avoids important natural resource areas located within the Rural Residential lands.
4. Direct new rural residential development away from areas that provide critical access to wildlife habitat and ensure, through planning, that wildlife habitat does not become fragmented by the elimination of connecting parcels between wildlife areas.

Priorities for Action:

1. The Planning Commission should consider the creation of an Open Space Plan.
2. The Planning Commission shall support and encourage conservation organizations that work with the Town to identify and preserve lands that are considered as conservation priorities.

PRODUCTIVE RURAL LANDS

There are significant areas in Townshend where the most appropriate use of the land is for agricultural and forestry production. Low density, low impact rural residential use is also accommodated. These areas are shown on the Proposed Land Use map.

Productive Rural Lands Policies:

1. Support a mix of rural land uses including agriculture, housing, home businesses, small-scale commercial and industrial uses, commercial forestry and outdoor recreation, so long as these uses are compatible with one another and do not cause excessive noise, pollution, traffic congestion, or disturbance.

2. Ensure that new development reflects existing settlement patterns, is low in intensity, and does not conflict with the use and management of forest, agricultural and mineral resource lands, but rather sustains these natural resource commodities.
3. Support long-term management of agricultural and forest lands for uses that promote a sustained yield of crops and timber products.
4. Encourage the use of innovative land-saving techniques such as cluster development and large lot zoning based on maximum acreage necessary to support agricultural operations, fixed area density allocation to protect agriculture, forest and mineral resource lands from development and fragmentation.
5. Encourage protective buffers along streams and rivers and protection of other important lands that are valued for trails, open space, wildlife habitat and scenic enjoyment.

Priorities for Action:

1. For all large residential developments that meet Act 250 review threshold criteria, the Planning Commission should advocate that, where feasible, dwelling units are clustered to avoid fragmentation of forested lands and wildlife corridors.
2. The Planning Commission shall encourage the use of innovative land saving techniques to protect agriculture, forest, and mineral resources lands from development.

RESOURCE LANDS

These lands in Townshend have resource values of critical importance that must be protected. These lands include productive agricultural and forest lands, mineral, stone and sand deposits, streams, high elevations and steep slopes, wildlife habitats and other areas of significant ecological value. See Proposed Land Use map.

Resource Lands Policies:

1. Ensure that new development is low impact, and does not conflict with the resources, but rather sustains these natural resources.
2. Protect fish and wildlife habitats; federally identified endangered and threatened species; unique and fragile natural areas; wetlands; shore lands; floodplains; aquifer recharge areas; steep slopes and high elevations; ridgelines; and essentially undeveloped forest lands that have limited access to an improved public road from development that would negatively impact the resource.
3. Encourage protection of green space, particularly along streams and rivers, and other important lands that are valued for trails, open space, wildlife habitat and scenic enjoyment.
4. Avoid extension of roads, energy transmission facilities, and other services into and through Resource Lands.

5. Construct corridors for new energy transmission facilities only when needed and then adjacent to and parallel to existing operational energy transmission facility corridors. Minimize their visual impact on ridge lines, slopes and open areas and avoid important natural resources.
6. Avoid the fragmentation of wildlife habitat by protecting wildlife corridors that join large tracts of resource land.

Priorities for Action:

1. The Townshend Planning Commission and Selectboard should improve resource mapping and identification to raise awareness among residents and town officials of key resources in Town.
2. The Town should consider conducting a natural resources inventory to identify natural areas that should be preserved and protected.
3. The Planning Commission should encourage landowners to manage their lands in ways that protect valuable resources.
4. The Town shall work with the Vermont Land Trust or other appropriate non-profit organizations to encourage the voluntary protection of productive agricultural and forest lands. Techniques such as conservation easements or donation of land should be explored.
5. The Town should consider forming a Conservation Commission for the purposes of implementing the above recommendations for protecting the natural resources of the Town for the benefit of all.

TRANSPORTATION

Existing Transportation System

Roads:

The majority of Townshend's transportation infrastructure includes Town roads and State highways. The closest federal highway is Interstate 91, which passes through Brattleboro about 15 miles southeast of Townshend. Regional access to Townshend from State maintained roads is provided by Vermont Route 30 with 7.3 miles of State Highway running through Town. A major travel corridor for Windham County, VT 30 runs in a northwest-southeast direction through the region connecting the Towns of Winhall, Jamaica, Townshend, Newfane, Dummerston, and Brattleboro.

Table 1: Town and State Road Mileage in Townshend

Town					State
Class 1	Class 2	Class 3	Class 4	Legal Trail	State Highway
0	10.6	44.8	5.6	0.91	7.3

(Vermont Agency of Transportation, 2015)

No state appropriation is made for maintaining Class 4 roads. These roads are seasonally functional for normal vehicular traffic and have a gravel surface. Like many Vermont communities, Townshend has Class 4 roads and legal trails that are now mapped on the VTrans Highway Maps. Recent statutory changes require the accounting of mileage and mapping of Class 4 roads and legal Town Trails. The current maps show 5.6 miles of Class 4 roadway, and 0.91 miles of legal Town Trails.

Unpaved roads tend to limit the amount of traffic and discourage speeding, thereby promoting vehicle safety. However, while the traffic calming effect of dirt roads is beneficial, unpaved surfaces are less ideal for commuter bicyclists.

The Vermont Agency of Transportation has conducted traffic counts along Route 35 (Grafton Road), and Athens Road.. to the town line with Athens. The data reveal the average annual daily traffic (AADT) along the route. The 2011 average daily traffic was 1,300 vehicles along the Grafton Rd. portion of Route 35 just south of Deer Ridge Road in Townshend. The Athens Rd. section had less traffic with an AADT of 450. This shows that less traffic moves north along 35 into Athens and more is diverted along Grafton Rd. towards Grafton. It is possible that much of the traffic counted was generated by activity at Grace Cottage Hospital. This is a significant amount of traffic being generated around a small compact village area that has noticeable pedestrian foot traffic as well.

Traffic and Safety Factors – Route 30 and Route 35:

Route 30 is classified a rural minor arterial which links the West River Valley towns and major resorts west of Townshend. Route 35 links the valley towns with Athens, Grafton and Rockingham.

While local traffic along Grafton Rd. has been relatively consistent in recent years, average daily traffic counts along Route 30 have shown a decrease in volume from 2004 to 2015. For example, the average annual daily traffic (AADT) count on Route 30 near the Newfane/Townshend town line for the year 2004 was 5,200 vehicles. In 2012 the traffic count showed 4,600 vehicles, a decrease in volume of 600 vehicles. A traffic count location approximately a half mile west of West Townshend showed AADT of 3573 in 2015, down slightly from a count of 3,800 in 2004.

While volume has been decreasing, safety concerns are important for town officials who want to assure the safety of pedestrians and school populations in the village area. On the Route 30 hill to Harmonyville, speed and road conditions contribute to safety concerns. With constant building at Stratton Mountain Resort and points west, traffic continues to be a perennial concern. It is also unclear how much impact higher gas prices and economic recession have impacted the noticeable decrease in AADT. It is assumed that with economic recovery and a recovery in residential and business development, there will be a corollary increase in daily traffic. All options for increasing safety at the Townshend Common intersections should be explored, including the long-range possibility of rerouting through traffic around the center of Townshend. This option would be many years away and would be subject to the approval of Townshend voters.

Harmonyville Path Sidewalk Study:

In 2000, the Town of Townshend and the Windham Regional Commission selected Summit Engineering LLC to conduct a feasibility study for pedestrian facilities connecting the village of Harmonyville with Townshend Village at Leland and Gray High School. The planning study involved soliciting adjacent property owners for feedback on pedestrian needs, as well as identifying any opportunities or constraints for development. The recommendations of the study concluded that a sidewalk alignment was feasible along the east side of Rt. 30 that would entail constructing four separate retaining walls for a total of approximately 1,788 ft., two eleven foot travel lanes with two foot shoulders on both sides as well as a five foot sidewalk on the east side.

The Town formed a Harmonyville Path Study Committee to study this recommended option as well as other alternatives. The Study Committee recommended the Selectboard accept the findings of the Sidewalk Study and continue on to surveying and design studies. However, there were several landowners who voiced concerns about any construction affecting their properties. The Town was also concerned with the costs associated with constructing retaining walls along the corridor. Due to the expected costs and concerns voiced by landowners, the Town has not proceeded any further on this issue to date.

Alternative Transportation:

Currently, there are no fixed service commuter bus routes that run along Route 30 through town. A feasibility study has been completed and a number of interested parties are working on developing a Congestion Mitigation and Air Quality (CMAQ) grant application to fund such service. The Southeastern Vermont Transit (SEVT), (802-885-5162), provides fixed route service along Route 5, which services the towns of Rockingham, Westminster, Putney, Dummerston, and Brattleboro. While fixed route service is unavailable to Townshend residents, the SEVT does provide a service known as "Dial a Ride". This service is available for medical appointments for residents with Medicaid, or who are over 60 years old, or who have an ADA defined disability. The Dial a Ride service is also available for residents in town who are looking for a general bus ride for commuting or shopping purposes. For this service, there is a general recommended donation of four dollars and a need to request this service two days in advance.

The GoVermont program of VTrans is a resource for Vermonters who want to reduce the cost and environmental impact of driving. It offers free carpool matching and vanpool services and statewide bus routes, as well as free GoVermont resources to help promote more efficient travel options at work or at home. Call its Q/A hotline at 800-685-7433 and a real person can answer your transportation questions. This program provides a database of other commuters in nearby areas who are looking to combine trips. The GoVermont program has an easy online form that residents can fill out which will enter them in a statewide database to help match the resident with carpool partners in the area. The cost savings of carpooling to work, especially for residents in a largely rural area where commutes can be lengthy, are potentially quite large. The GoVermont website can be accessed here: <http://www.connectingcommuters.org/> and provides a cost savings calculator for residents looking to find out how much money they will save by carpooling to work.

In Townshend, there are currently pedestrian sidewalks only in the village areas of town and none along Route 30 or Route 35 outside of the village areas. Generally, the road rights-of-way are narrow, affording pedestrians little shoulder width. This, combined with topographical difficulties along areas of Route 30, make sidewalk creation difficult. The existing road network is used for recreational bicycling however, weather conditions, automobile-oriented development patterns, and the difficult terrain combine to keep it from serving as a significant mode of transportation in Townshend. On roads with no shoulders, cyclists share the road with vehicular traffic.

Townshend		
Commuting to Work Data, 2000 and 2010 Census (Workers 16 years and over)		
Means Of Commuting	2000 Number of People	2010 Number of People
Car, truck, or van – drove alone	394	364
Car, truck, or van - carpooled	69	49
Public Transportation	0	0
Bicycled	N/A	32
Walked	44	42
Other Means	7	0
Worked at Home	49	70
Avg. travel time to work (min.)	23.7	18.4

Specific Concerns List:

1. The Townshend Common intersections - Route 30 by Leland and Gray and Route 30 by Common Road (near the elementary school).
2. The intersection in West Townshend where Windham Hill Road enters Route 30.
3. Inadequate parking space in the village of Townshend.
4. Lack of a sidewalk from Townshend to Harmonyville.
5. The intersection of Route 30 at Depot Road and the Harmonyville Bridge.
6. Speeding through the village of West Townshend on Route 30.
7. Increase pedestrian safety along Route 35 from the village to the town garage.

Transportation Policies:

1. Pursue options that would enhance safety at the Townshend Common intersections of Route 30 and Route 35.
2. Look at long-term possibilities for relocation of Route 30 as a solution to greatly increasing traffic volume in the years ahead.

3. Pursue options that would enhance safety at the intersection of Route 30 and Windham Hill Road. Continue with dynamic striping where appropriate.
4. Control the impact of site development on Routes 30 and 35 by careful review of traffic growth in development or expansion proposals, and by use of techniques such as shared highway access point, landscaping, and signage.
5. Integrate the use of energy efficient and alternative modes of transportation such as public transit, ride-sharing, van pools, bicycling, and walking into community plans and private development, whenever possible.
6. Maintain the rural, historic, and scenic character of Townshend by retaining the current system of paved/unpaved roads with no increase in paving activity unless public safety or the State of Vermont requires it.
7. Support the design of transportation improvements that provide for access, mobility, and safety of users; compatibility with environmental contexts; and avoidance of “over-designing” in terms of scale and capacity. Add sidewalks and bike paths to existing infrastructure whenever possible.
8. Post and enforce speed limits.
9. Retain all present public rights-of-way whether or not they are presently being maintained by the town. No tract of land shall be allowed to become “land-locked” by the relinquishment of a public right-of-way.
10. Discourage development in remote areas of town in order to minimize the need for more road construction, maintenance, and consequent increased cost to the town.
11. Work with the VTrans, the Windham Regional Commission, and state or regional agencies to solve traffic safety problems.

Priorities for Action:

1. Support the Townshend Parking Ordinance (2014) and consider options for additional off-street parking spaces in Townshend village.
2. Cooperate with other towns, especially towns along the Route 30 corridor, the Windham Regional Commission, and VTrans in developing solutions to the traffic problems along Route 30. A Planning Commission member and Selectboard member should attend monthly Road Foreman meetings to keep up to date on transportation and infrastructure issues in the region.
3. Enforce overweight permits on local roads and bridges in coordination with appropriate officials, local and state.
4. Pursue funding options such as Transportation Alternatives Program grants to help design and implement a plan for pedestrian and traffic safety at the Townshend Common intersection of Route 30 and Route 35.
5. Consider adopting a Class 4 Road and Trail Policy to assure clarity when maintenance or improvements are proposed along a legal Town Trail.

COMMUNITY FACILITIES, SERVICES, AND PUBLIC RECREATION

The community facilities and utilities are the infrastructure provided by the Town of Townshend, or provided in cooperation with the town, for the health, safety, benefit and enjoyment of the general public. These include municipal government, emergency services, schools, solid waste disposal, and recreational facilities.

Municipal Government:

Town officers include a Board of Selectmen, Town Clerk, Town Treasurer, Constables and Listers, all elected positions. Townshend School Board members, Leland and Gray School Board members from Townshend, Cemetery Commissioners and Library Trustees are elected, among others, at Town Meeting. Planning Commissioners are appointed by the Selectboard.

Health and Emergency Services:

Townshend currently depends on organizations located inside and outside of the community to provide necessary health care and emergency services. There are medical professionals located throughout the West River Valley. Hospitals both in Town and outside the community serving residents are Grace Cottage Hospital in Townshend, Brattleboro Memorial Hospital in Brattleboro, and Southwestern Vermont Medical Center in Bennington and Dartmouth Medical Center in Hanover, New Hampshire. While the regional centers provide options outside of Townshend, most residents rely on Grace Cottage as an immediate asset for providing medical services for residents' healthcare and well-being.

The Carlos G. Otis Health Care Center, Inc. consists of Grace Cottage Hospital, supporting 19 patient bed and also an outpatient lab and an X-ray department; the Wolff Outpatient Clinic with numerous outpatient services, among them physical, occupational, and speech therapy; the Messenger Pharmacy; RESCUE Inc. ambulance service; and the Bock EMS Training Center providing emergency and first aid training. There is also Valley Cares development which provides seniors with 24 Independent Living units and 40 Assisted Living units.

RESCUE Inc is a non-profit ambulance service located in West Townshend that serves the West River Valley area. Their mission: "To serve a key component of our rural healthcare system and to provide the highest quality, risk appropriate rapid response emergency medical care and transportation services in our region."

Fire Departments:

The Town is served by the Townshend Volunteer Fire Department. The Townshend Volunteer Fire Department is located at 208 Grafton Road and currently consists of 18 active members. In many cases where large or multiple incidents occur in Town, the Volunteer Fire Department response is supplemented by assets provided by Newbrook Fire Station in Newfane, as well as fire departments and EMS from the neighboring communities of Grafton, Windham, Wardsboro and Jamaica.

The Townshend Volunteer Fire Department is a member of the Southwestern New Hampshire District Fire Mutual Aid system, sometimes referred to as "Keene Mutual Aid" for short, since the central dispatch is located in Keene. This system dispatches personnel and equipment to neighboring towns, as needed, and encompasses one hundred and twenty-six fire departments across three counties; Bennington and Windham Counties in Vermont, and Cheshire County in New Hampshire. The website for Keene Mutual Aid is <http://firemutualaid.com/> and their business phone number is 603-352-1291.

Police Services: Police protection is contracted through the Windham County Sheriff's Department or the Vermont State Police. The Town is part of the Enhanced 911 state service. Elected Constables serve the community in a limited capacity.

Health Care Services: Nine medical doctors on the hospital staff include five family-practice physicians, a pediatrician, two podiatrists and a psychiatrist at Grace Cottage Hospital. One physician and one dentist who are not staff members of the Otis Health Care Center maintain private practices in Townshend. Rescue Inc. provides ambulance service to the community, assisted by the Newbrook Fire & Rescue Department in Newfane, Vermont. The Hospital Auxiliary's annual Fair Day, held on the first Saturday in August, helps to provide financial support. A grateful community supplies dozens of volunteers who labor diligently for the Fair's success.

Town Hall: Built in 1921, the Townshend Town Hall is a state-listed historic building. It is the site of many town functions, including The Annual Town Meeting, elections, banquets, wedding receptions, and cultural events. It houses all of the town offices and, as a result of an extensive study done by the Town Hall Renovation Committee, necessary upgrades are being planned.

Townshend Public Library: Located in a building next to the Townshend Post Office, the Library provides a meeting place for community groups. With over 10,000 volumes of books and tapes, and interlibrary loan service, the collection serves many adults and children. Support for the Library comes from taxes, gifts, grants, and fundraising efforts. It is accredited by the Vermont Department of Libraries. Internet access stations are available and extensive public programs are available.

The West River Community Project, (WRCP) is a non-profit organization that has transformed the West Townshend Country Store into a community center featuring a Post Office, cafe, community kitchen, farmers market and thrift shop. The WRCP is dedicated to preserving and promoting the West River valley heritage, local culture, arts and agriculture.

Town Garage: Located on Route 35, the Town Garage also serves as the site of the solid waste compactor and recycling center. At the Town's 2009 Annual Town Meeting voters approved the construction of a new Town garage at the Route 35 site. Funding for the project was obtained and construction was completed in 2010.

Municipal and Privately-Owned Waste Water Disposal Systems:

State regulations now require property owners to acquire a permit from the State for any new wastewater systems. There have been two studies that have described the issues involved in dealing with the topography of the village area and the constraints related to allowing municipal or privately owned waste water disposal systems. A 1992 Sewage Disposal Capacity Study for Townshend village conducted by the Windham Regional Commission and a study conducted by Dufresne and Henry, dated 1971, both address waste disposal in Townshend village and both are on file in the Town Hall.

On July 14, 1970 the Town of Townshend leased a parcel of land to Leland and Gray Union High School for a period of 99 years, with what buildings were there. It is now used for playing fields. The terms of the lease have the following constraint:

“The Lessor reserves the right if it should be necessary during the term of this lease to construct and maintain a municipal sewage disposal system, sewage treatment system, and/or municipal sewage line for the Town of Townshend on the leased premises, provided:

- A. That such system, plant or line does not in any way interfere with the operation of the school facilities; and
- B. That such arrangement meets approval of the State Board of Education, at such time as a proposal for the above system is submitted to Lessee by Lessor.”

Leland and Gray Union High School maintains its own waste disposal system.

Privately-owned large capacity waste disposal systems are vitally important to the economy and public health of Townshend village. Currently, there are two such systems:

One serves buildings on the south side of the Common from Oakwood Cemetery Road to the house just south of Townshend Pizza. This system has a leach field on town-owned property on the south side of Route 30. At one time, the Townshend Elementary School tied into this system. (See Existing Conditions map).

The second serves the Otis Health Care complex, the Townshend Elementary School and the Townshend Church parsonage. The leach field is located on town-owned land next to Oakwood Cemetery, where the ball field is located. (See Existing Conditions map).

Schools: The Townshend Elementary School serves children in grades Pre-Kindergarten through 6, and Leland and Gray Union High School serves students in grades 7 through 12. (See Education section for detailed descriptions).

Child Care: Child care is a concern for many working parents and employers. The accessibility, affordability, and quality of child care affects parents' ability to enter the workforce, be productive while at work, and remain employed. According to the Bright Futures Child Care Information System, a service of the Vermont Department for Children and Families, the private sector provides child care services in Townshend. As of February 2016, there was one registered child care home in Townshend and one licensed child care facility within 10 miles of Townshend - Sunny Lane Daycare and Preschool in Brookline. The Vermont Agency of Human Services, Department for Children and Families requires any person who provides child care for children from more than two families, other than their own, to be registered or licensed. Family childcare home registration is for a caregiver seeking to operate out of his or her home. A registered caregiver may provide care for up to six children, including up to two children under the age of two at any one time. In addition, he or she may care for up to four school-age children for not more than four hours daily per child. A caregiver wishing to care for children in a building other than his or her home requires a state license. Registered childcare homes and licensed providers can also be found in the surrounding towns of Athens and Jamaica.

Community Facilities and Utilities Policies:

1. The rate of town growth should not exceed the town's ability to provide community facilities and services required to service new development.
2. If the capacity of community facilities or services (e.g. sewer, water, fire, police protection, schools, etc.) cannot be expanded without incurring significant capital expenditure for the town, then a fair share of the burden for required services or facilities shall be borne by the beneficiary of such services.
3. Townshend should maintain a certified solid waste transfer and recycling facility for Townshend residents and encourage residents to recycle waste materials and to take advantage of hazardous waste disposal days.
4. The town should not accept, by gift or other means, the responsibility for privately-owned utilities, facilities, or services unless the cost of owning, operating and maintaining such utilities, facilities and services are provided for in the town's budget and the town's annual operating budget is not significantly increased.
5. Support the town's contracting for police services.
6. Encourage the provision of safe and affordable childcare in Townshend.
7. Ensure that the emergency service personnel, facilities, and equipment needed to effectively service new development are available to avoid placing undue demands on existing personnel, equipment, and facilities.

Priorities for Action:

1. Support a committee to make recommendations on the use of the town-owned property on Route 30, Taft Meadow.
2. Assess the need for replacing the present fire department station, which lacks enough space for equipment and lacks sufficient parking space.

3. Maintain an inventory of all childcare programs in or near Townshend and their capacities.
5. Support improvements to the Town Hall.

RECREATION

Many opportunities for recreation are available in Townshend. There are ample opportunities for hunting, hiking, biking, fishing, and swimming. Tennis courts at Leland and Gray and an elementary school playground for younger children are open to the public. In addition to the above, there are two government-managed recreational areas, occupying about 2,000 acres. They are:

Townshend Flood Control Dam:

The Army Corps of Engineers (ACOE) manages a flood control dam built in the West River in 1961 at a cost of \$7.5 million. It is part of a network of 32 flood control projects in the Connecticut River Basin. Townshend Lake reservoir can store up to 11 billion gallons of flood water. At one time, the lake provided a safe swimming area, with a long sandy beach, changing facilities and rest rooms.

At one time, The Vermont Dept. of Fish & Wildlife stocked the West River and its tributaries with fish.

Located in an area overlooking the lake is a wooded picnic area that provides 120 tables, 50 fireplaces, and several covered shelters. Reservations for shelter use may be made with the Corps of Engineers. Hiking trails are marked and maintained in the approximately 1000 acre area.

Townshend State Park:

The Townshend State Park provides shelter facilities and tent areas for camping, but no RV spaces. A registered forester and summer interns supervise the park. The stone building that houses the park headquarters was built by the Civilian Conservation Corps during the 1930s and is now on the National Register of Historic Places.

Recreation Policies:

1. Support the "West River Trail" project for hikers and bicyclists, which presently starts on Old Route 30 in the Townshend Lake area, with access provided from the parking lot next to the Townshend Dam spillway, and extends to the Route 100/Route 30 intersection in East Jamaica. There are plans to construct a connected trail from Brattleboro to South Londonderry with segments of the path now running through Brattleboro, Dummerston and Jamaica State Park. The upper section by the Winhall campground provides access for wheelchairs.

2. Work with neighboring communities, the Windham Regional Commission, and state and federal agencies to stop the degradation of the West River and the damage to fish population that results from release of silt from both Ball Mountain Reservoir and Townshend Dam.
3. Support a "catch and release" program for the West River.

NATURAL RESOURCES, NATURAL AREAS AND FRAGILE AREAS, AND SCENIC RESOURCES

Townshend prides itself on the quality of its natural environment. The purity of air and water, the abundance of wildlife, and the integrity of land resources are critical contributors to Townshend's strength and character, as well as to the health and welfare of all Townshend citizens. Unless the location, type and quality of development receive careful attention, these resources will quickly degrade.

The wise use of Townshend's hills, forests, streams, rivers, lakes and roadways and the protection of the landscape's beauty are matters of public good. Special areas are lands and resources with unique, irreplaceable qualities which are so valuable that their protection and preservation is a high priority in all land use planning efforts.

Forest Lands:

The Town of Townshend consists of approximately 27,334 acres. Of this total, the Town estimates 86 percent is forested. The State Forest covers 1,334 acres. In 2015, landowners enrolled in the Use Value Appraisal Program accounted for about 14,000 acres. Numerous small landowners hold forested parcels that make up the remaining acreage.

Forests are valuable as a timber resource, as wildlife habitat, for recreation and hunting, as a retreat, and as a scenic resource. Vermont's Use Value Appraisal Program, frequently referred to as the "Current Use Program," enables landowners who choose agriculture or forestry as long-term uses of their property to have that land taxed accordingly. The law's intent is to encourage continued and productive use of Vermont's agricultural and forest lands. This is Vermont's best tool for assuring that land is continually used and preserved for forestry and agriculture. There is a minimum acreage requirement of 25 acres, plus two for a home site, so effectively 27 acres, for enrollment.

Forest Land Policies:

1. Support the development of local industries which produce "value added" agricultural and forest products.
2. Timber harvesting should follow a professionally prepared management plan. Timber harvesting practices must protect surface waters, shorelines and stream banks and should minimize all adverse short-term and long-term environmental impacts, including those on neighboring properties.

3. Encourage the use of cluster development as a measure to prevent the fragmentation of large tracts of forest land and to protect locally significant forest land within those tracts.

Scenic Resources:

Townshend's scenic landscape, including the back roads and trails, the open lands, water bodies and wetlands, is widely appreciated by residents and visitors alike. The landscape itself is a valuable economic resource.

Maintaining the overall scenic quality of our town is one aim of this plan. Special attention should be given to particular components of Townshend's scenery. Conservation of scenic resources need not preclude development, nor cause economic hardship; rather it should be an important consideration in the planning and design of development to ensure enjoyment of living in our town.

Scenic Landscapes and Views:

The rocky cliff face of Peaked Mountain, at 1,280 feet above sea level, 750 feet above the Townshend Common, is a striking view when traveling north on Route 30. Its profile resembles a sheep's back. From the top there is a panoramic view of the valley, as well as of Stratton Mountain in the distance. Peaked Mountain is mentioned in the 1889 Beers Atlas of Windham County, along with Bald Mountain, also part of the vista seen from Route 30.

Ridge lines and hilltops and their upper slopes are visible for great distances and give the landscape form and coherence. Development may have a great visual impact and should be sited and landscaped to minimize incompatibility with the natural landscape.

Open meadowlands provide contrast with the predominant forests, reminding one of the agricultural activities of the past. The impact of development can be minimized on meadowlands by careful grouping of structures and sensitive alignment of access roads.

The list below incorporates a number of the special scenic values in Townshend.

1. Route 30 - the entire length within Townshend's boundaries.
2. Townshend Common and views surrounding the common.
3. Route 35 - village and outlying districts.
4. Mountain vistas as seen from Routes 30 and 35, Townshend Acres and East Hill in Townshend and Windham Hill Road in West Townshend.
5. Townshend's system of back roads such as Deer Valley, Simpson Brook, West Hill, State Forest Road and Back Windham Road.
6. Scott Covered Bridge.
7. Vermont's largest sycamore tree - located in Harmonyville next to the bridge.

8. Follett stone arch bridges (See Existing Conditions Map)

Scenic Resource Policies:

1. Give special care and attention in reviewing development proposals that involve high quality scenic landscapes and scenic corridors.
2. Foster greater appreciation of scenic resources as a significant environmental and economic resource.
3. Improve public sites that have diminished a scenic view, particularly along state and local highways and within scenic corridors.
4. Encourage the scale, siting, and design of new development to be in keeping with the landscape and to enhance it.
5. Encourage incentives for preserving scenic lands that may otherwise be suitable for development.
6. Preserve special views and protect mountain vistas against towers or commercialization. When deemed absolutely essential, minimize visual impacts of communication towers, wind generators, and other high-elevation or ridgeline structures through co-location, design, siting, and color choice.
7. Design and site communication and other high elevation towers so that they do not require night-time illumination.
8. Provide for removal of towers, at owner's expense, when no longer in use.
9. Illuminate structures and exterior areas only at levels necessary to ensure safety and security of persons and property. Illumination of prominent physical features, landscapes, buildings and towers should be designed so as to not unduly distract from the night-time horizon or night sky.
10. Encourage careful planning of new or improved roads to maintain or enhance scenic resources.

Natural Areas, Fragile Areas, and Wildlife:

Fragile Areas are designated and managed by the Secretary of the Vermont Agency of Natural Resources, while Natural Areas are designated and managed by the Commissioner of the Vermont Department of Forests, Parks & Recreation. Both resource areas should be recognized and protected. A function of Natural Areas and Fragile Areas is to protect plant and animal species and their ecosystems. In 1991, a wildlife habitat survey was completed on a 4,600 acre tract of land owned by about 40 contiguous landowners in Newfane, Townshend and Wardsboro. Also included in the survey were 1,100 acres of the Townshend State Forest bringing the total acreage to 5,700 acres. The Town could consider continuing surveying of landowners after this new Town Plan is completed. Such a survey of landowners could be accomplished by an appointed Conservation Commission, if the Town pursues such an option.

Planning so that large portions of a town, (and adjoining communities), are left forested minimizes many of the detrimental effects on wildlife, ecosystems and the fragmentation of land by dividing it into too many smaller parcels. Forests do not have to be untouched wilderness and are often better if they are not. Low density development, clustering of land uses which leave large expansions of connected wooded habitat and buffer strips along waterways, help to protect important wildlife habitat and corridors.

Natural Area, Fragile Area and Wildlife Resource Policies:

1. Protect Natural Areas, Fragile Areas, and critical plant and animal habitats, especially those of state and regional significance.
2. Protect habitats of threatened, endangered, and economically significant species and important ecosystems. Maintain or enhance the habitat resources and travel corridors required by our region's larger mammals. If necessary, protect these areas from indiscriminate publicity by mapping them in very general terms.
3. Support state, federal, and conservation group acquisition of land and/or conservation easements to protect critical wildlife habitats. Encourage designation of State Natural and Fragile Areas for significant features and resources.
4. Encourage private and public landowners to recognize the importance of protecting, maintaining, and enhancing fish and wildlife habitats and ecosystems by supporting a variety of community, regional, and state programs and incentives.

Water Resources

Much of the West River's watercourse and shorelines in Townshend are controlled and managed by the U.S. Army Corps of Engineers (ACOE) Townshend Dam and Lake and the flowage easements above the dam. The federal lands, consisting of 949 acres, managed by ACOE, cannot be developed without approval by the Army Corps. In 2016, Eagle Creek Hydro completed installation and began operating a flow-of-the-river generation facility at the Townshend Dam.

Surface Waters:

The quality of surface waters in Vermont is highly dependent upon the content and amount of surface runoff from the surrounding land. The Upper West River Basin Water Quality Management Plan and the Basin 11 Management Plan, cover the area above the Townshend Dam and also includes the West River below the Dam which can be affected by upstream water uses. The Basin 11 Management Plan also includes the Williams and Saxtons River watersheds. Townshend Lake acts as a sedimentation basin during large flood control operations, allowing some silt and soil particles to settle out before reaching the dam outlet. Sediments are transported out of the impoundment with water drawn from the bottom of the lake. Operation of the project degrades water quality and, in particular, increases temperature and decreases dissolved oxygen content.

The Southeastern Vermont Watershed Alliance is a nonprofit organization originally established as the West River Watershed Alliance to promote protection of and education about the resources of the West River watershed. As the current name implies, it has expanded its focus to cover all watersheds in southeastern Vermont. It works in cooperation with the Windham County Natural Resources Conservation District, the Windham Regional Commission, and ANR to protect and enhance existing natural and cultural resources and to plan for the future of the basin.

Pursuant to VSA Title 10, Chapter 47, Section 1252, as amended, Vermont has adopted the following classes and definitions of its surface waters:

- TYPE A:
1. Waters to be managed to maintain ecological integrity
 2. Waters to be managed for public water supply purposes.

TYPE B: All waters other than Type A are currently Type B. This classification is to be broken out into three categories. Type B1, B2, and B3, through the state mandated Basin Planning process. Type B1-B3 are to be managed for impacts ranging from minimal through moderate deviation in aquatic biota and habitat from the reference (pristine) condition.

The West River is classified as Type B Waters. There are threats to its quality from the impacts of the Townshend Dam, as mentioned above, and from public and private septic, agricultural runoff and other wastewater discharges. Tributaries to the West River include Mill, Negro, Fair, Tannery, Joy, and Ranney Brooks among others, which provide fishing and recreational opportunities.

The greatest concerns in Basin 11, (comprised of the watersheds of the West, Williams, and Saxtons Rivers, as identified in the ANR 2008 Basin 11 Management Plan), were as follows; 1) thermal modification or a change in temperature from the natural condition of the stream; 2) sedimentation; 3) habitat alteration; 4) flow alterations; and 5) pathogens. These top five concerns, along with nutrient loading, atmospheric deposition of pollutants and intrusion by invasive species are addressed in the Management Plan. A Priority action listed in the 2015 Tactical Basin Plan for Basins 11/13 which includes the West, Williams, and Saxtons Rivers and Connecticut River direct tributaries.

Incorporate river corridors, floodplain protection and flood resiliency strategies into local and regional development plans and zoning.

Surface Water Policies:

1. Maintain undisturbed buffers of vegetation along watercourses, lakes, ponds and wetlands in order to protect shorelines, minimize effects of erosion, sedimentation, and other sources of pollution, and maintain scenic, recreational and habitat values.
2. Maintain or enhance existing chemical, physical and biological quality of the town's and the region's surface waters.
3. Support surface water classification and management strategies which are, insofar as possible, consistent with the municipal and regional land use planning objectives for the affected watershed and which will also effectively maintain existing water quality.

4. Maintain water flows in streams at levels which will support a full range of in-stream uses and values.
5. Ensure that the location and design of development in flood hazard areas does not impede the flow of flood waters or endanger the health, safety and welfare of the public.
6. Identify and address any adverse environmental impacts of development proposals which could alter the stream channel or its floodplain.
7. Advocate that agriculture, forestry, recreation and development activities be conducted in accordance with generally accepted best management practices in order to reduce sedimentation, chemical pollution and disturbance to surface waters.
8. Ponds which do not divert water from a stream or infringe on the property of a neighbor are encouraged for both fire protection and as a wildlife enhancement.
9. Protect and enhance water quality in the West River and its tributaries, especially in regard to sediment impact from operations of flood control dams in Townshend and Jamaica.
10. Protect and enhance water quality in the West River and its tributaries from impacts of effluent from sewage disposal facilities (latrines as well as septic systems).
11. Support the work of the Southeastern Vermont Watershed Alliance in its dedication to the protection of and education about the resources of the West River and other watersheds.

Priorities for Action:

1. Work with legislators, the Army Corps of Engineers, and ANR to remove sediment from Townshend Lake.
2. Encourage agricultural practices such as nutrient management planning, conservation tillage, riparian area protection, fencing, incorporating manure after spreading, and the development of alternative livestock watering facilities.
3. Work with the Natural Resources Conservation District, the Southeastern Vermont Watershed Alliance and the Windham Regional Commission to conduct a series of best management practice workshops for municipal officials and landowners in the basin.
4. Work with organizations such as the Vermont Farm Bureau, Rural Vermont, and others, on providing technical assistance to farmers regarding crop diversification and management to avoid soil runoff into adjacent streams.

Groundwater:

An adequate supply of high quality groundwater is essential to the health, safety and welfare of Townshend residents. The sources of our water supply are natural springs, dug and drilled wells, or artesian wells. These resources should be protected.

The majority of town residents are served by individual private on-site water supplies; usually drilled or dug wells. Dug wells are susceptible to contamination from leachates that have reached the water table through soils. Private drilled wells are susceptible to the same groundwater contaminants as those of public water supply wells. Unlike source protection for public water supplies, private wells are not afforded specific levels of protection.

Individual on-site wells can be affected by factors other than contamination. A new well drawing a high volume can deplete the groundwater supply in an area creating supply problems for existing wells.

Groundwater Policy:

Avoid contamination of groundwater through the use of proper well-drilling technology and appropriate well placement that protects wellhead areas.

Water Quality:

Major potential sources of groundwater contamination include landfills, abandoned dumps, and leaking underground petroleum storage tanks which can contaminate large areas of groundwater supply. Other potential sources of groundwater contamination include: salt storage piles and treated sand storage piles, manure storage areas, onsite sewage disposal systems, fertilizer and pesticide applications, and uncontrolled dumping of waste, homeowner products and petroleum. Federal and state regulations exist to help protect groundwater quality. However, research, planning and regulatory measures and sound land use practice carried out at the local level, are also needed to protect Townshend's groundwater supplies.

Water Quality Policies:

1. Where there are known or potential pollution sources of water resources, either underground or above ground, periodic monitoring should be ongoing.
2. Maintain or enhance existing chemical, physical and biological quality of the town's groundwater and, since water doesn't abide by political boundaries, the region's ground waters.
3. Design and construct sewage disposal systems in consultation with a qualified professional in accordance with applicable state and local regulations.
4. Require small quantity generators of hazardous waste, as defined by the current Vermont Hazardous Waste Management Regulations, to have storage and disposal plans which demonstrate that water contamination risks have been minimized.
5. Support Windham Solid Waste Management District, of which Townshend is currently a member, in its efforts to provide safe disposal of household and agricultural hazardous waste products. Work to increase public awareness of these products and reduce reliance on them.
6. Plan, design and operate developments in order to minimize the consumption of water, conserve the town's water resources and minimize the cost of waste disposal systems.

7. Unless otherwise approved, subdivisions shall provide a water supply large enough to serve all the units within the subdivision, as well as to provide fire protection as needed. Where appropriate, dry hydrants or fire ponds will be constructed to assure adequate supply during fire response.
8. Any new water supply systems or waste disposal systems should not deplete or contaminate any existing water supply system.
9. Proper maintenance of septic systems should be an on-going educational effort, supported by the town.
10. Drainage areas of upland streams which are characterized by steep slopes or marginal soils need special attention to prevent siltation of streams, soil erosion and pollution to ground and surface waters from septic systems.

Wetlands:

Wetlands are defined as those areas that are inundated by surface or ground water sufficient to support vegetation and/or aquatic life that depend on saturated or seasonally saturated areas for growth and reproduction. Such areas include marshes, swamps, potholes, sloughs, river and lake overflows, mud flats, bogs and ponds. Wetland benefits include fish and wildlife habitat, flood and erosion protection, pollution filtration, ground water re-charge, and sites for education, recreation and scenic enjoyment. Wetlands are shown on state resource maps, but the accuracy of locations should be reviewed on an individual basis.

Several state and federal laws provide protection for wetlands, including U.S. Army Corps of Engineers permits, Act 250 and the Vermont Wetlands Rules.

Wetlands Policies:

1. Protect important wetlands, including the area surrounding them, from land uses that would result in runoff or direct discharge or otherwise diminish the benefits and functions that wetlands provide.
2. Significant Wetlands should be protected from development by maintaining an undisturbed, naturally vegetated buffer strip around the wetland edge sufficient to ensure the integrity of the wetland.

Priorities for Action:

1. Conduct an inventory of wetlands in town to verify Vermont Wetland Inventory (VWI) wetlands and document other wetlands not on the VWI maps.
2. Adopt Town road management standards designed to protect wetlands. Roads should be managed to maintain natural vegetated buffers around wetlands and to limit road runoff from directly entering wetlands. Existing roads that cross wetlands should be retrofitted with culverts and/or bridges to restore wetland hydrology and minimize impacts to wildlife and their habitat.

Flood Resilience Plan:

Townshend has land, homes, and businesses that are susceptible to two types of flooding: fluvial erosion and inundation. Both fluvial erosion (erosion of banks or scouring of riverbeds during high flow conditions) and inundation flooding are potential risks along the West River and Fair, Mill, Simpson and Tannery Brooks, as well as along streams that drain watersheds extending to town borders with Athens, Grafton and Windham.

Fluvial Erosion:

Erosion and deposition along a stream or river is natural. Efforts to stop these processes in one place can make them worse in others. Rivers, streams, and their channels are changing constantly in response to the inputs of water, energy, sediment and debris that pass along them. If a stream cannot spill out of its banks, the power of the trapped water increases and the channel either digs down or cuts out further to the sides. Where roads and buildings are nearby, these adjustments to the channel's shape can be dramatic and costly.

A river is in geomorphic equilibrium when its water, energy, sediment, and debris are in balance. In this condition a river is neither building up sediment in the channel nor losing sediment from its bed. Importantly, a river in equilibrium will not be overly deep and can continue to overflow onto its floodplains. The water that spills onto the floodplain slows down, and the velocity of the water still in the channel does not become excessively powerful. In trying to protect roads and buildings we need to be sure that the river is able to function, as well as possible, naturally both upstream and downstream. Streams and rivers with room to adjust and with access to intact floodplains are necessary to moderate the impact of high water events.

River Corridors and Floodplains:

A River Corridor is the area that provides the physical space that a river needs to release its energy and meander. A floodplain is the area where water flowing out over a river bank can spread out and slow down. River Corridors and floodplains often overlap a great deal. However, there are areas in a River Corridor that will be eventually shaped by the channel, although they may be currently high and dry, and there are areas in the floodplain that will be under water during a flood, but which the channel may not need to access to maintain its equilibrium.

Regulatory Designations:

There are two types of regulatory flood hazard designations and two sets of official maps that identify those flood hazards in Vermont: fluvial erosion hazard areas are identified by the Agency of Natural Resources (ANR) River Corridor maps and inundation hazard areas are identified by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs).

Addressing Flood Resilience:

This plan identifies fluvial erosion hazard areas as those shown on the ANR River Corridor maps and flood hazards as the Special Flood Hazard Areas (SFHAs) shown on the NFIP FIRMs. This Plan designates both of them as areas to be protected, including river corridors, floodplains, land adjacent to streams, wetlands and upland forests to reduce the risk of flood damage to improved

property and infrastructure. This plan incorporates, by reference, the Local Hazard Mitigation Plan approved under 44 C.F.R. § 201.6 and recommends the following policies and strategies to protect the designated areas to mitigate risks to public safety, critical infrastructure, historic structures and municipal investments.

Flood Resilience Policies:

It is the policy of the town to foster the protection and restoration of river corridors, floodplains, wetlands and upland forested areas that attenuate and moderate flooding and fluvial erosion.

1. It is the policy of the town to protect floodplains, river corridors, land adjacent to streams, wetlands and upland forests through adoption and administration of flood hazard area regulations governing development in designated Special Flood Hazard Areas and River Corridors, in order to reduce the risk of flood damage to infrastructure, improved property, people, and the environment.
2. New development in identified flood hazard, fluvial erosion, and river corridor protection areas should be avoided. If new development is to be built in such areas, it should not exacerbate flooding and fluvial erosion.
3. The protection and restoration of geomorphic equilibrium, floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion should be encouraged.
4. Flood emergency preparedness and response planning are encouraged.

Flood Resilience Strategy Recommendations:

Townshend will be familiar with Flood Insurance Rate Maps (FIRMs) that delineate areas that could be inundated by water during flooding and with the ANR River Corridor maps that delineate the land areas adjacent to streams and rivers that are required to accommodate a stable channel.

1. Townshend will pursue a flood resilience management approach whose essential components are to identify and map flood and fluvial erosion hazard areas based on studies and maps provided by the Vermont ANR Rivers Program and designate those areas for protection to reduce the risk of flood damage to infrastructure and private property.
2. Townshend will update the Flood Hazard Area Bylaw to include regulation of river corridors, and include provisions for advance notification of and specific limits on new development activities in identified flood hazard areas and/or River Corridors.
3. Townshend will regulate any new development in identified flood hazard areas and/or River Corridors to ensure that development does not exacerbate flooding and fluvial erosion.
4. Townshend will pursue a flood resilience management approach by implementing the Local Hazard Mitigation Plan and other strategies for restoring stream geomorphic equilibrium conditions and enhancing emergency preparedness that will mitigate the risks to public safety, critical infrastructure, historic structures, and municipal investments.

Additional information is available at <http://floodready.vermont.gov/>.

Air Quality: Generally, the widespread use of wood burning stoves can be a potential threat to air quality, unless catalytic converters are installed. Outdoor wood furnaces or boilers are gaining popularity across the country as a home heating method. These are free-standing combustion units located outside the home or structure that is to be heated. When used properly these systems can be a clean and economical way to heat a house and water. Nonetheless, concerns over the safety and environmental impacts of these heating devices, particularly the production of offensive odors and potential health effects of uncontrolled emissions, exist. The State of Vermont does have regulations pertaining to these systems. Amongst the provisions are the fact that they must be located at least 200 feet from neighboring residences and that the stack on the furnace must be higher than the neighboring roof line if the furnace is between 200 and 500 feet from the nearest neighboring home. (Vermont Air Pollution Regulation, Section 5-204, Outdoor Woodstoves (September 1997). The State regulations also permit towns to have their own ordinances regulating outdoor wood furnaces. Any installation shall comply with all local and state regulations. A significant contributor to air quality degradation is the emissions from internal combustion and diesel engines, particularly those powering transportation.

Air Quality Policies:

1. Discourage any development or activity which significantly degrades air quality.
2. Support efforts to reduce locally generated air pollutants from residential, industrial and transportation uses, in particular, emissions from vehicles and wood and coal burning stoves. Encourage pollution controls on any present or future operations that emit contaminants into the atmosphere.
3. Target clean industry for economic development.

Land Resources

Floodplains - As to the use of flood hazard areas for development, Townshend encourages agricultural and open space uses whenever feasible. Whenever such uses are not feasible, the town shall allow only development which will not restrict or divert the flow of flood waters and endanger the health, safety, and welfare of the public during flooding. Townshend's Community Flood Insurance number is 500136C (for building construction). (See Flood Hazard Area Regulations in Town Clerk's Office).

Floodplain Policies:

1. The Town shall continue to enforce its Flood Hazard Regulations to ensure the health, safety, and welfare of Town residents and assure continued participation in the National Flood Insurance Program.
2. The Town shall update its Flood Hazard Area Regulations to incorporate protection of ANR-mapped River Corridors.

Agricultural and Forest Soils:

Land used for farming purposes in Townshend includes land whose soils are considered primary agricultural soils, as well as those considered non-primary. In order to identify and protect local farmland, we need to consider more than just the soil's characteristics. Farmers may also rely on forest soils that permit marketing of maple products, firewood, timber, fruit and Christmas trees.

Soils and Topography Policies:

1. Take special precautions on slopes to avoid environmental damage, including negative consequences associated with erosion. Minimize areas of earth disturbance, grading and vegetation clearing on slopes over 15%; avoid intensive development in areas predominated by slopes exceeding 25%.
2. Use detailed site studies to determine suitability for development where steep slopes occur with shallow soils. Ensure that construction and/or logging activities on such soils provide and conform to an erosion control plan for the construction phases of the operation as well as a site drainage plan.
3. Design developments on slopes over 15% so as to minimize the potential impacts of slides and earthquakes.
4. Conduct extensive site investigation to determine suitability for any development on unstable soils.
6. Any non-agricultural or non-forestry related development shall be designed to minimize adverse impacts on existing or potential agricultural or forest uses.

Mineral Resources:

Earth resources include deposits of sand and gravel and deposits of other minerals including granite, slate, limestone, sulfide, uranium, iron ores, talc, soapstone and serpentine. Natural resources do not recognize political boundaries and the management of some resources may take the efforts of several towns or the region as a whole.

The Town of Townshend owns a gravel pit in Harmonyville. There are one or two operational private pits in West Townshend. There is an abandoned soapstone pit located in the northeast part of Townshend.

Mineral Resource Policies:

1. Land with high potential for the extraction of mineral and earth resources shall be developed so as to not interfere with the subsequent extraction or processing of the resource. The extraction of such resources must assure site rehabilitation suitable for alternative uses. Any extraction of minerals or earth resources must comply with the Townshend Fissionable Source Materials Ordinance and Flood Hazard Area Regulations as recorded in the Town Office.
2. In connection with conformance to Act 250 criteria regarding proposed mineral extraction operations, the town shall require such operations meet strict health, safety and environmental performance standards and regulations. For approval, the operator will submit an excavation plan, a site restoration plan and be subject to a bond.
3. Overweight permits on local roads and bridges for trucks and heavy equipment will be required.
4. Extraction of mineral resources should not interfere with or have negative impacts on groundwater, surface waters, wetlands, air quality, (dust and noise), and special community resources (historic sites, recreation areas, or scenic areas). Extraction site must handle truck traffic without creating unsafe conditions for adjoining landowners.

HISTORIC AND CULTURAL FEATURES AND RESOURCES

Over two centuries of history has left a rich heritage in Townshend. Although few structures remain from the past, the following are significant historic areas and structures.

1. **Townshend Common and Fountain** - land area of 2 3/4 acres leased to the inhabitants of Townshend from Ephraim Wheelock in 1803. In 1893, the fountain was erected at a cost of \$526. The gazebo was constructed for the movie, "Funny Farm," filmed in 1987.
2. **Bridges** - Scattered throughout the town are six small stone arch bridges, fine examples of handcrafted stone masonry. These bridges were built between 1894 and 1910 by James Otis Follett, a local farmer turned stonemason, using the "keystone" rock at the top of two arches. Follett reportedly built as many as forty stone bridges throughout the region of southern Vermont and New Hampshire, of which only eleven are known to remain. These bridges should be preserved through grants. (See locations on Existing Conditions Map)

Townshend used to have four covered bridges, but now Scott Bridge on Route 30 is the only one still standing. Scott Bridge remained in service for over 80 years, until it was seriously weakened by two heavily loaded trucks crossing together. In 1955, the bridge was closed to vehicular traffic. It was donated to the Vermont Historical Site Commission, responsible for its maintenance, and is listed as a State Historic Marker site. VTrans is rehabilitating it for pedestrian use, with the intent that most work will be completed in 2016.

3. **Woods-Wheelock House** - south on Route 30 in Harmonyville, is listed in the National Register of Historic Places.

4. **West Townshend Village** - is in the National Register of Historic Places. It consists of the aggregation of historic buildings in West Townshend Village plus adjoining farmsteads. The National Historic Register has stated that: "Compared with similar villages (and historic districts) in VT, West Townshend retains a higher proportion of historic buildings and displays fewer actual intrusions than most of its counterparts and belongs among the small number in the state without any modern commercial buildings near its center." The architectural style is primarily Federal with two buildings in the Greek Revival style.
5. **Fletcher Grave Site** - is situated in the back yard of a private residence in West Townshend. *Townshend and the Founding of Vermont*, a town history published by the West Townshend Historical Society (1991) sets forth General Fletcher's efforts in the campaign for Vermont becoming an independent state, sympathetic to the American Congress in its war with England, but sovereign in itself. General Fletcher's career and accomplishments are fully described in the Townshend Historical Society's book *A Stitch in Time: Townshend, Vermont, 1753-2003*.
6. **Aaron Taft Homestead** - Aaron Taft and family came to West Townshend in 1799 and established a farm on 100 acres. Aaron's grandson, Alphonso, born in Townshend in 1810, afterward moved to Cincinnati, Ohio, where his son William Howard Taft was born in 1857. William Howard became President of the United States and Chief Justice of the United States Supreme Court. A Vermont historic plaque honoring the Taft family is located in West Townshend on Route 30 at the site of the West Townshend General store.
7. **Cemeteries** - There are 17 known cemeteries maintained by both private and public funds. Wiswell Cemetery is the location of the earliest carved stone, dated 1786. The oldest stone at Oakwood Cemetery is dated 1792. A cemeteries brochure with map is available free from the Town Clerk. 14 of these known locations are shown on the Existing Conditions map.
8. **Historic Barns and Agricultural Structures:** Since a survey approved by the Vermont Division for Historic Preservation Townshend was conducted in 2009, Townshend has lost 4-5 barns per year. The Townshend Historical Society is endeavoring to document and preserve those structures that remain.
9. **Townshend Town Hall** was built in 1921 and is described as a Classical Revival building. The structure and clock-tower clock are the gift of Mrs. Dutton in honor of her husband, Col. Henry R. Dutton, and her son, H.R. Dutton, Jr.
10. **The Painted Stage Curtains at Town Hall** were painted by William R. Stuart and are considered national treasures.
11. **Clarina Howard Nichols** was a journalist and lobbyist involved in the temperance, abolitionist and women's movements. She was the first woman to address the Vermont Legislature and an historic plaque honoring Clarina Nichols is located in West Townshend near the West Townshend Country Store.

12. **Winfield Scott Montgomery** (1853-1928) was an escaped slave who lived in Townshend for nine years and went to Leland & Gray Seminary School. After graduating from Dartmouth College, Montgomery began a career in the public education of Afro-American students in Washington, D.C.

Leland and Gray Seminary:

The "Leland Classical and English School of Townshend," a private school, was incorporated by the State Legislature under the auspices of the Baptist Association in 1835, with the Hon. Peter Taft as President of the Board of Trustees. To honor Deacon Samuel Gray, who made an endowment of \$500, the name was changed in 1860 to "Leland and Gray Seminary." In 1970, the old Seminary building was taken down along with the general store and Baptist Church to make room for Leland and Gray Union High School.

Cultural Activities:

The community enjoys a rich heritage of art, music, drama and dance. Beginning in the 1950s, the Leland and Gray Seminary held an annual festival of the arts with elaborate original productions involving students, and many community members. Posters announcing these events are saved by former headmaster Arlo Monroe in his Jamaica studio. Participation in the arts continues to be a focus of the Leland and Gray Union High School curriculum. The Dutton Gym has been remodeled and used for plays and other artistic events for the community, as well as school sports.

Annual events with large community participation are the Grace Cottage Fair Day, the 1st Saturday in August, and in October, the Pumpkin Festival, sponsored by the Townshend Business Association. In June 2003, Townshend celebrated for a full week the 250th anniversary of its charter as a town.

The Townshend Historical Society, a 503(c) non-profit organization incorporated in 1999, is dedicated to the preservation of documents, artifacts and places of historic interest in Townshend. Its mission is to communicate the historic and cultural story to the community through the schools; a website www.townshendvt.org; and special programs. A major project, supported by donations, grants, and volunteers, resulted in the publication of an updated history book *A Stitch in Time: Townshend, Vermont, 1753-2003*. Membership in the Townshend Historical Society is open to everyone with an interest in Vermont history.

Historic and Cultural Resource Policies:

1. Encourage community-based organizations that support art, theatre, music and other cultural programs.
2. Support preservation and restoration of historic buildings and sites, under the guidance of the local community.
3. Protect places of outstanding archeological or historical value from development that unreasonably impairs their character and quality.
4. In Act 250 proceedings involving projects utilizing or nearby to historic structures, their architectural and historic value should be taken into consideration.

5. Support the Townshend Historical Society, and its educational and communication programs.
6. Support the Townshend Public Library, and its variety of cultural programs.

Priorities for Action:

Identify and inventory architecturally significant buildings and streetscapes (defined as a group of buildings where individual buildings in the group may be undistinguished but together they make an important historic architectural environment.)

EDUCATION

Public School Facilities

Children in Pre-Kindergarten through Grade 6 attend the Townshend Elementary School, overlooking the Townshend Common, which also serves as a place to play at recess. There is a small playground for younger children on the grounds in back of the school building. In 1990 the building was renovated with additional space added. The capacity of the building is 120 students. Enrollment in the 2015-16 year was 71 students.

Leland and Gray Union High School was formed in 1968 replacing the Leland and Gray Seminary, a private school established in 1835. Leland and Gray serves students from the towns of Brookline, Jamaica, Windham, Newfane and Townshend, and is part of the Windham Central Supervisory District. Enrollment of students for the year 2015-2016 was 320 students. Enrollment peaked at 440 students in the year 2003-2004 and has been declining since. It should be noted that forces that affect immigration of families to Southern Vermont do not permit accurate predictions. For instance, earlier predictions suggested a peak at 460 students in the fall of 2003, but the number was slightly less. Some students in grades 11 and 12 take advantage of comprehensive career training at the Southern Vermont Career Education Center in Brattleboro. Thanks to the support of voters in June, 2007, construction began at Leland and Gray Union High School to renovate or add spaces that will benefit students, staff, and the community. Renovations were completed in October of 2009. The renovations to Leland and Gray included one new art room, new room for experiential learning, and relocation of the woodworking room.

Private School Facilities:

Kindle Farm School, located on Route 30 at the Newfane/Townshend border, is a day school currently enrolling 65 students ages 7-20. The Townshend site is for the school's organic farming program. Other sites in Vermont are used for academic work.

Educational System Policies:

1. Support public and private cooperation in offering vocational and basic skills training to employees of area businesses and industry.

2. Promote lifetime learning as a goal, supporting, whenever possible, educational programs for all ages.
3. Support the activities of the Townshend Public Library in programs for pre-school and elementary age children, and programs for adult book discussions and parenting skills.
4. Involve the Townshend business community in assisting with career fairs, special courses and hands-on job experiences.

ENERGY

INTRODUCTION:

Reliable, affordable, properly sited, clean and sustainable sources of energy are vital to Townshend's economy, social well-being and future development.

Under the Planning and Development Act ("the Act;" 24 V.S.A. Chapter 117) Vermont municipalities are authorized, but not required, to develop and adopt comprehensive municipal plans including an Energy Plan. The Townshend 2017 Town Plan includes a review of energy resources, needs, scarcities, costs and problems within the municipality and statements of policy and standards for:

- the conservation of energy, including programs, such as integrity standards for buildings, to implement that policy,
- the minimum siting requirements for energy projects to protect our environment, the character of our community, and the health and safety of our residents.
- promoting patterns and densities of land use likely to result in conservation of energy and promoting energy efficiency.
- the development of appropriately scaled and sited renewable energy resources.

Transportation:

Renewable fuels for transportation are limited to bio-fuels. At present, for example, ethanol can only represent 10% of automotive fuel; and even then there is controversy as to whether the environmental benefits of ethanol production are meeting expectations. Bio diesel can be used to replace diesel petroleum, but availability is an issue in many places and some of the same efficacy questions apply to it as to ethanol.

The extent to which electric vehicles will replace petroleum fueled vehicles in Vermont is not yet clear. As of 2012 there were fewer than 200 plug-in electric cars registered in Vermont. According to the Center for Transportation Studies at the University of Vermont, with proper grid management, the plug-in fleet could grow to 200,000 vehicles without requiring the construction of additional electric generation or transmission capacity. (www.uvm.edu/~transctr/pdf/EffectsofPHEVsontheVTElectric.pdf.) The closest existing charging stations are in Brattleboro and Grafton.

Home Heating:

In Vermont, 60% of homes are heated wholly or in significant part by petroleum fuel oil or propane. The balance of home heating energy is produced from burning wood. There is no generally available natural gas in the southern part of the state.

Electricity:

Although electricity is consumed in home heating, it is largely for air handling rather than thermal warming. The greatest amount of electricity used by Vermonters is in lighting, refrigeration, laundry appliances, entertainment, air conditioning and in what are called phantom loads produced by the proliferation of LED lights on appliances of all kinds.

Energy Definitions:

Energy Conservation: Reducing energy use. This applies to measures, including changes in personal habits (e.g., turning off lights, driving less, and improving insulation of homes and other buildings) that reduce the amount of energy consumed.

Energy Efficiency: Using less energy to perform the same functions and tasks. This applies to measures such as the use of new technologies (e.g., LED lights, energy efficient appliances, and more efficient vehicles) that use energy more efficiently and reduce waste.

Net-Metered System: An onsite generating system for local use that is connected to the power grid. The state defines this more specifically as a facility for the generation of electricity that is of no more than 500 kW capacity, operates in parallel with facilities of the electric distribution system, is intended primarily to offset the customer's own electricity requirements, is located on the customer's premises, or for group net-metered systems, on the premises of a member of the group, employs a renewable energy source or is a qualified micro-combined heat and power system of 20 kW or less, that meets state definitions and may use any fuel source that meets air quality standards (30 V.S.A. 219a). Net metered systems are considered residential or small business applications and represent an example of community scale, decentralized or distributed energy generation.

Renewable Energy: (1) Energy available for collection or conversion from direct sun light, wind, running water, organically derived fuels and agricultural resources, waste heat, and geothermal sources. (2) Under the state's renewable energy programs, "renewable energy" means energy produced using a technology that relies on a resource that is being consumed at a harvest rate at or below its natural regeneration rate (30 V.S.A. 8002).

Residential: Small-scale renewable energy facilities most often consist of systems that can range up to 15 kW in power.

Commercial/Industrial: These are energy systems that are greater than 500 kW. These are generally large scale projects designed to generate profit for owner, lessee, or licensee by sale of the output to or through public utilities.

Energy Goal:

The overall goal of Townshend's Energy Plan is to encourage the efficient use and conservation of energy in all categories (including transportation, heating and electricity) and the appropriate siting and development of appropriate renewable energy resources.

Townshend believes it can best achieve these goals by:

- Promoting and facilitating the use of state, utility and municipally-supported energy efficiency and conservation programs regarding home heating, transportation and electrical usage, as a means of increasing the effectively available energy resources without constructing new capacity.
- Encouraging individual and group net-metered and off-grid renewable energy projects, community-based projects and small-scale systems serving individual users, in appropriate, context-sensitive locations.
- Supporting and promoting those facilities that are suitable for the topography and character of the areas within the Town and will avoid, reduce or defer transmission or distribution system investments.
- Supporting in-place upgrades, as opposed to new construction, of existing facilities, including transmission lines, distribution lines and substations as needed to serve the town and region.
- Exploration of safe and convenient alternatives to individual automobile travel.
- Education and promotion regarding ways in which homes and other buildings can be heated and insulated more efficiently.
- Preventing environmental degradation.

Plan Policies:

Townshend believes local energy planning is both relevant and important. While many energy issues are national or global in reach, local government has some control over its own energy consumption, and can lead by example to influence residents to be more aware of the ways to reduce energy use and costs, and to help develop local energy options, to the benefit of the entire community. The town is also in a unique position to understand, identify and protect our natural resources and land conservation opportunities in the process.

Townshend municipal plan policies and land conservation measures as adopted Community Standards provide the basis for local participation in state regulatory proceedings including Act 250 for energy facility development and Public Service Board (Section 248) hearings. Before the Public Service Board can issue a Certificate of Public Good (CPG) for most projects it must find that "the purchase, investment, or construction, with respect to an in-state facility, will not unduly interfere with the orderly development of the region, with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of the municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality." 30V.S.A.&248(b)(1) (<http://info.libraries.vermont.gov/supct/current/op2007-456.html>)

Energy Coordinator / Energy Committee:

Title 24 V.S.A. provides towns with the ability to appoint an Energy Committee or Coordinator. Consistent with this Title, Townshend has appointed a Town Energy Coordinator responsible for developing and contributing to energy policy for the town and is considering expanding this function and developing a Town Energy Committee to work in conjunction with its Planning Commission. The Energy Coordinator is responsible for quantifying and tracking municipal energy consumption and recommending actions that the town and community should take to conserve energy (transportation, home heating and electrical usage), increase energy efficiency, promote local energy production from community-scale renewable resources, and to reduce energy costs and greenhouse gas emissions. The Energy Coordinator, in conjunction with the Town Treasurer or Assistant shall separately quantify and track energy consumption and recommend action for improved efficiency and conservation for town owned buildings, vehicles, and equipment.

Energy Objectives:

- To increase energy conservation and efficiency in home heating, transportation and electrical usage.
- To ensure the long-term availability of reliable, affordable, clean and safe energy supplies from a combination of utility-distributed sources and appropriately scaled community and residential systems.
- To promote the development of appropriate renewable energy resources in the Town of Townshend to contribute to the energy needs of the community and region.
- To reduce energy usage and expenditures by residents through improved conservation and efficiency.
- To reduce reliance on fossil and other polluting fuels, such as by using biomass for electric generation, and thereby reduce greenhouse gas emissions that contribute to climate change.
- To identify and limit the adverse impacts of energy development and use on public health, safety and welfare.
- To preserve the Town's historic districts and planned pattern of development, environmentally sensitive areas, and our most highly valued natural, cultural and scenic resources, consistent with related development, resource protection and land conservation policies.
- To identify, study, and understand steps necessary to preserve and protect the Town and regional headwaters and water quality from negative consequences of new energy project siting such as pipelines, transmission lines, extraction processes and electric generation.

Energy Planning:

Townshend actively supports partnerships, strategies, and state and federal legislation that will ensure the affordable and reliable production and delivery of electrical power to the community, in conformance with community goals, objectives and standards. It is our intent to work with utility providers, the Regional Planning Commission, the Department of Public Service and neighboring communities to plan for needed system upgrades and expansions to meet projected demand while protecting and preserving the natural environmental characteristics of the town.

The Town will participate in long-range energy planning and development, in cooperation with the Regional Planning Commission, the Public Service Department and neighboring communities, to ensure that local energy, resource conservation and development objectives are identified and considered in future energy initiatives including public utility or merchant power development.

Townshend's Planning Commission believes that without widespread understanding of the issues, all renewable energy projects may be viewed uncritically as making positive contributions to society. However, not all energy projects, including Renewable projects, provide the same benefit(s) or present the same obstacles or impacts. With this understanding, we begin our planning by considering all renewables for the benefit(s) they potentially offer and the tradeoffs they may require.

Our plan requires us to apply our knowledge and understanding of the Town of Townshend, its unique geographic features, critical natural resources and attributes to allow us to understand what may be best for Townshend and its Region. The Planning Commission, in consultation with the Energy Coordinator, is responsible for preparing Community Standards for the siting and development of generation, transmission and substation facilities, for reference by facility developers and local property owners, and for consideration in Section 248 proceedings.

Energy Facility Development:

The Planning Commission, in consultation with the Selectboard, is responsible for the development of guidelines and standards to direct local participation in Section 248 proceedings for the review of public utility or utility scale merchant generation projects located in Townshend or in neighboring communities which may affect the Town. The guidelines and standards reflect levels of participation or formal intervention in relation to the type, location, scale, and magnitude of a proposed project, and its potential benefits and impacts to the health and welfare of the community and its residents and property owners.

Townshend will participate in the Public Service Board's review of new and expanded generation and transmission facilities as necessary to ensure that local energy, resource conservation and development objectives are identified and considered in proposed utility development. This may include collaboration with other affected municipalities and the Regional Planning Commission for projects that may have significant regional impact.

Energy Conservation & Efficiency:

Townshend's local government will lead by example to increase energy efficiency and reduce overall energy consumption and costs to local taxpayers. Energy efficiency and conservation will be a consideration in all municipal construction projects, vehicles, equipment purchases and facility operations. Accordingly the Selectboard, with the assistance of the Energy Coordinator and municipal employees will conduct baseline energy studies and periodic energy audits or assessments of all municipal buildings, vehicles, equipment and facilities to identify improvements that will reduce energy consumption and costs. This may include, but is not limited to: an analysis of electricity, space heating, lighting and hot water usage for town halls, libraries, town garages, schools, etc.

- Profile municipal vehicle inventories and their associated fuel type and efficiency.

- Prioritize municipal energy efficiency projects and incorporate them into the municipal Capital Budget & Program.
- Apply for grants to pay for energy audits for the town and its residents and work in collaboration with Efficiency Vermont. www.encyvermont.com
- Develop facility maintenance and operation policies that maximize energy efficiency while maintaining comfort levels for employees and visitors, to include building temperature, heating and air conditioning guidelines, electrical equipment use guidelines, interior and exterior lighting guidelines, and the use of energy management devices (e.g., sensors, timers). Examples include installation of day-lighting tubes, programmable thermostats, occupancy light sensors, smart strips and energy star appliances.
- Finish upgrade to Town Hall heating system.
- Prioritize weatherizing municipal buildings before conducting any space heating energy efficiency improvements.
- Replace facility lighting with energy efficient compact fluorescent or LED bulbs and fixtures with the assistance of Efficiency Vermont and local utilities. Some of these options include the elimination of certain fixtures, the replacement of inefficient bulbs with more efficient ones, such as LEDs, and the utilization of lighting controls such as timers or light sensors.
- Develop municipal vehicle purchase, maintenance and use policies, including minimum fuel efficiency standards for new vehicles. Consider alternative-fuel vehicles as available and appropriate. One example of such a policy would be to ensure all municipal vehicles are up to date with tune ups and tire pressure checks in order to maximize fuel economy.

The Town of Townshend supports energy literacy, and voluntary energy conservation and efficiency programs for residential, commercial buildings, including home energy audits, retrofit and weatherization programs. The Town will:

Develop community education, outreach and informational programs, in cooperation with Efficiency Vermont and other groups and organizations, to illustrate and promote the benefits of energy conservation and energy efficiency.

- Work with local school teachers and administrators to promote energy literacy in the classroom, for example, in association with the Vermont Energy Education Program (VEEP).
- Provide information on energy conservation techniques, energy-efficient products and efficiency and weatherization programs available to local residents and businesses.
- Develop community-based lighting design guidelines that promote energy efficiency, and reduce glare, light trespass, and light pollution or "sky glow."

New development and renovation projects should include measures to reduce energy consumption through site and building design, material selection and the use of energy-efficient lighting, heating, venting and air conditioning systems. The Town will:

- Provide available information on energy efficient development to individuals and developers.
- Encourage new development and renovations to meet at least minimum state commercial and residential energy building codes. This may include a provision that state-required certificates of code compliance be filed with the town prior to the issuance of a municipal certificate of occupancy.

- Develop municipal outdoor lighting standards to require lighting plans for larger development projects, and the use of energy-efficient lamps and fixtures, timers and sensors.
- Support local and regional programs for energy audits and cost-effective weatherization services on all existing homes, with a priority on affordable housing.

Renewable Energy Resources:

Renewable energy facilities have the potential to raise complex and controversial issues regarding the potential health, visual, ecological, environmental, social and economic impacts of large scale renewable (wind, biomass and solar, for instance) development initiatives. Even the siting of small scale installations in certain locations has raised community concerns about the impacts such facilities may have on the health and welfare of town residents. Each proposed project must be reviewed based upon location and impacts to the Town, our natural resources and our residents. Every attempt will be made to balance town policies to maximize the positive benefit(s) of appropriately scaled renewable energy with community attributes, values and natural resources consistent with 24 V.S.A. Section 4302 and the CEP.

The Town of Townshend continues to support the development and use of residential and community-scale renewable energy resources including off-grid and net-metered wind and solar, biomass, micro hydro, geothermal at a scale that is sustainable. Any and all of these approaches will enhance energy system capacity and security and promote cleaner, more resilient energy production.

The Townshend Planning Commission has developed Community Standards for renewable energy projects that are intended to avoid and mitigate potential negative impacts of renewable energy. These standards are for municipal and Public Service Board (“PSB”) consideration and permitted residential and community-scale renewal energy projects and prohibit commercial/industrial-scale wind/solar development initiatives. The town has prepared local guidelines for the development of renewable energy resources (including related access and transmission line extensions) for reference by utilities, developers and local property owners, and for consideration in state and local permit proceedings.

Energy Usage and Sources:

The EPA measures energy usage in four primary categories for purposes of calculating Greenhouse gases (GHGs) emitted by each. Vermont’s carbon footprint from all energy sources compared to New England and the Nation as a whole in 2010 was reported by the EPA as follows:

	<u>Vermont</u>		<u>New England</u>		<u>US</u>	
	<u>%CO2</u>	<u>%Energy</u>	<u>%CO2</u>	<u>%Energy</u>	<u>%CO2</u>	<u>%Energy</u>
Electricity	4%	20	33%	N/A	35%	38
Home Heating	33%	29	12%	N/A	10%	14
Transportation	59%	35	39%	N/A	30%	27
Agriculture / Industry	11%	16	10%	N/A	20%	21

A. ENERGY APPLICATIONS:

Energy resources are necessary for transportation, home heating and electricity usage. Sufficient clean energy supplies at an affordable cost are essential to a town's growth and economic health and development. Improved energy efficiency and conservation in all energy usage are key components of the town's energy plan.

Transportation:

Transportation accounts for the largest category of energy usage in Vermont and accounted for an estimated 35% of the total energy used in 2010 and 59% of GHG emissions. (The National equivalents are 27% of total energy and 30% of GHGs). Motor vehicles are the state's largest source of air pollutants, and greenhouse gases (GHGs).

Approximately 17% of Townshend Town residents currently work at home or walk to work, and we expect this figure to continue to grow as Townshend is ideally suited for small scale home-based businesses. Over time we expect this development will have a net positive effect on the town's energy and conservation as it relates to transportation.

In a rural community with no access to public transportation, the opportunities for reduced energy use in Transportation are somewhat restricted. The Townshend Planning Commission and Energy Coordinator will attempt to raise community awareness of the environmental costs of unnecessary transportation and will try to inform residents of the advantages of sharing rides for shopping and other errands in addition to carpooling.

Townshend supports ongoing and collective efforts to reduce transportation energy demand, vehicle miles traveled, fossil fuel consumption and greenhouse gas emissions. Townshend will:

- Partner with local and regional service agencies to explore establishing a volunteer driver program that offers rides for local residents and opportunities to coordinate group travel.

Work with local businesses and farmers to develop programs that support the local economy – for example a "buy local" campaign, a local business directory, a farmers market, or a vendors ordinance – to increase the availability of locally produced energy, food, goods and services.

- Adopt a no-idling policy or ordinance that limits vehicle idling on town and school property. For more information see www.idlefreevt.org.
- Investigate plug-in charging stations as appropriate vehicles become more available.
- Promote telecommuting to capitalize on expanded internet connectivity for at-home workers and to reduce unnecessary automobile travel.

Home Heating:

Residential Home Heating represents the state's second largest use of energy and accounted for an estimated 29% of the total energy used in Vermont in 2010. Home Heating is reported by the EPA to contribute 33% of Vermont's GHG emissions, and we assume Townshend falls within that pattern. Home Heating offers both Townshend and the state the most accessible opportunities to combat climate change through the reduction of GHGs.

The residents of Townshend use a variety of energy sources for home heating. According to the 2010 Census, residents heat their home primarily with fuel oil (64.8%) and secondarily with wood (29.3%). The remaining heating fuel sources include propane (14%), electricity (2.7%) and solar energy (1.3%). Heating provides Townshend its most significant opportunity to reduce energy use, GHG emissions and shift to cleaner fuels and technology. Energy efficiency and conservation are key component of the Town's Energy Plan.

The most practical means to reduce home heating emissions are in improved home insulation, modernizing HVAC systems, and/or converting to solar, geothermal, heat pumps or wood-fired heating sources. There is also the prospect of increased availability of natural gas supplies in the foreseeable future. Such a development would offer the combined advantage of much lower GHG emissions and lower heating costs (as compared to fuel oil) for households and businesses.

Wood is currently the most commonly used biomass fuel for residential home heating, and the Town of Townshend supports the continued use of wood as a fuel source. The Town encourages residents to use low-emission wood burning appliances and to install any wood burning appliances according to state standards and guidelines.

Electricity:

Electricity sold to residential, commercial and industrial customers in Vermont represents about 20% of the State's total energy usage and generates less than 4% of its Greenhouse Gas Emissions.

According to the Environmental Protection Agency (EPA), and other sources, Vermont uses less electric power than any state, and according to the Energy Information Agency (EIA), the electric power it both uses and generates is the cleanest in the US when measured in terms of GHG emissions per Megawatt hour and in millions of metric tons total GHGs. In 2010 Vermont's electrical energy produced 3 pounds of CO₂ per Mwh as compared to a national average of 1300 pounds per Mwh. (State CO₂ Emissions of Fossil Fuel Combustion –MMTons 1990-2011 http://www.epa.gov/statelocalclimate/resources/state_energyco2inv.html).

Residential Electric Energy Usage:

In per capita terms, Vermont ranks among the ten states with the lowest electric usage (EIA).

Vermonters annually use 9000 kwh per capita. The New England average is 8500; and the average of the other 45 states is 12,700 kwh per capita.

Facility Development:

The following forms of energy development are supported by the Town of Townshend in order of priority:

1. Increased system capacity derived through appropriate energy efficiency and conservation programs.
2. Small, onsite distributed energy projects, including individual and group net-metered renewable energy projects and community-based projects that conform to municipal policies and standards.
3. Give preference to in-place upgrades of existing facilities over new construction including existing transmission lines, distribution lines and substations as needed to reliably serve the town and region.
4. New community-scale energy facilities (including transmission and distribution lines, substations, hydro dams, solar farms and small wind generation) as may be necessary to meet increased demand for power or to improve grid stability and community resiliency.
5. Public education on the subject of conservation and efficiency as real sources of more energy and a better alternative than new construction of generation or transmission facilities.

B. ENERGY CONSERVATION AND EFFICIENCY

Energy resource availability and costs are generally not within the control of Townshend residents; however, consumption can be influenced through education, technology, and the alteration of use patterns. Effective land use planning can promote energy conservation. Targeting new development towards areas located close to the community's major roads and existing settlements will minimize the energy consumed by residents commuting and will reduce the energy required to deliver essential services to residents and businesses. Decisions concerning capital expenditures on roads and other municipal infrastructure should be mindful of energy conservation.

Energy savings can be realized by retrofitting existing buildings with insulation, more efficient doors and windows, weather-stripping, compact fluorescent lights, or LEDs and energy efficient appliances. The following programs are available to residents of Townshend:

- Southeastern Vermont Community Action (SEVCA): SEVCA is the service provider in Windham County that runs the Weatherization Assistance Program. Weatherization services, which include an energy audit, diagnostic tests, analysis, and installation

measures, are available at no cost to income-eligible homeowners and renters. SEVCA is also available to help in the event of a heating emergency. They can help purchase oil, kerosene, propane, or wood. In addition, they also work with electric companies in order to prevent disconnection and help negotiate payment plans. (802-722-4575)

- Efficiency Vermont: Efficiency Vermont is the State's provider of energy efficiency services. They provide technical and financial assistance to electrical consumers for the purpose of improving the efficiency of existing and new facilities. (Efficiency Vermont.com)
- ENERGY STAR Home Rebates: Energy Star Homes meet strict energy efficiency guidelines set by the U.S. Environmental Protection Agency and U.S. Department of Energy. Efficiency Vermont provides free financial, design, and technical help to build an ENERGY STAR qualified home. Benefits of being an ENERGY STAR home include financial incentives such as product rebates; utility savings; higher resale value; increased comfort and air quality; and other environmental benefits.
- Townshend's Energy Coordinator can help with specific energy saving programs.
- Call 211 (the Vermont State information call line) for information on a variety of services available to Vermonters.
- Vermont Public Service Department has a line for energy efficiency advice at the Vt. State Efficiency Office. (802-828-2363)

Policy 1: Reduce energy consumption and increase energy efficiency at both Town and Homeowner levels.

Priorities for Action:

1. Have the Town of Townshend lead by example by seeking ways to increase energy efficiency and reduce energy consumption in all town offices, vehicles and buildings.
2. Support carpooling and promote increased use of the improving telecommunications infrastructure that can support telecommuting to reduce energy consumption for travel.
3. Provide information in the Town Office about energy assistance programs such as SEVCA and Efficiency Vermont.
4. When new residential construction is undertaken, provide informational materials to owners and builders at the time the Wastewater Permit is issued to inform property owners of the State Energy Code.
5. Support appointment of the Townshend Town Energy Committee to help educate residents on conservation practices and potential cost savings benefits.

Policy 2: The placement of utility line extensions above ground and roadside must be sited to provide maximum protection of Townshend's scenic resources.

Priorities for Action:

1. Require that electric poles that have been abandoned due to relocation or consolidation are removed from the landscape.
2. When relocating, upgrading, or establishing electric distribution lines, a review of operational maintenance, engineering design, direct cost, and visual impact should be undertaken to determine the appropriateness of the existing or proposed utility line location.

Policy 3: Support the use of individual on-site energy sources.

Priorities for Action:

1. Cordwood for domestic use is an important by-product of good forest management. Encourage landowners with woodlots to participate in sustainable management plans that emphasize full utilization of wood fuel resources, as well as the production of high grade saw timber.
2. Refer to Community Standards for specific standards for residential wind energy systems that address limitations on size, setbacks, aesthetics, and other items as deemed necessary.
3. Residential connection of individual wind energy and photovoltaic systems of 15 kW or less to the electric power grid under "net-metering" shall not be considered commercial use for purposes of this plan.
4. Outdoor wood furnaces are regulated and shall comply with Vermont Air Pollution Regulation, Section 5-204, Outdoor Waterstoves (September 1997).

Policy 4: With the exception of net-metered residential wind energy systems, prohibit Commercial/Industrial wind energy projects in the Town of Townshend.

Priority for Action:

Participate in and/or designate an expert agent to represent the Town's interests in any regulatory hearings for any potential commercial/industrial-scale wind energy development in and around Townshend.

C. RENEWABLE ENERGY

1. Hydroelectric

Hydroelectric energy generation is one form of renewable energy. While Townshend has abundant water resources, their potential to generate energy is limited because, as a headwater community, most of the streams are small and have low seasonal flows. The possibility of developing small "micro-hydro" systems may exist. Micro-hydro systems usually do not dam rivers or streams. Their utility depends on the dynamic head, amount of water flow, and the efficiency of the turbine. In Townshend, if this type of system is feasible, it would probably act to augment other power sources. However, in addition to stream flows, cost and the effect of cold weather climate on the equipment will likely be

deterrents to wide spread usage of this type of renewable energy. (See Natural Resources for a more detailed discussion of Townshend's water resources and their protection.) Commercial hydroelectric was installed at the Townshend Dam and began producing power in 2016.

2. Solar Energy

Passive solar designs can reduce heating and electricity bills. No mechanical means are employed in passive solar heating. Instead, siting and design measures, such as south facing windows, open floor plans, and ventilation are used. Photovoltaic systems can be used to convert sunlight to electricity. These systems require equipment such as solar panels, a charge controller, batteries, and an inverter, which convert DC current into AC current for use in outlets for regular household appliances. Photovoltaic systems of up to 15 kW or less are eligible for net metered electric rates after receiving a Certificate of Public Good. By special arrangements with the power company which may involve additional fees, larger systems can be constructed. (30 VSA Section 219a(h)(1)(E)). The Town of Townshend supports the use of solar energy and encourages research and education on its use at both residential and community scales.

3. Wind Energy Systems

The Town of Townshend is supportive of alternative and renewable energy sources, but as with other development, it must fit the scale, topography, settlement patterns and character of the Town. It must be sensitive to the impacts on neighbors and quality of life. It must not adversely impact the unique qualities of our ridgelines or of woodlands that accommodate healthy headwaters, a wide variety of wildlife and its habitat and other unique features. There are many ways, especially those involving energy conservation and efficiency, for the Town and its residents to make a positive impact on the larger environment without compromising the local environment and ecology or the health of our residents.

4. Individual Wind Energy Systems

Rural areas with low density residential development or working agricultural landscapes are the most appropriate places to locate individual wind systems. Their height and visual prominence make them incompatible with densely settled areas. Individual wind energy systems must be designed so that they are not located as a focal point in one of the designated scenic areas of Townshend as listed and described elsewhere in this plan. In addition, adequate setbacks which accommodate a fall zone, ice throw, operational noise levels, and lighting shall be addressed by the following:

- Turbines shall not be allowed or permitted unless they are set back a minimum of 2 times the highest blade height measured in a straight line from the closest property line.
- Turbines shall not be allowed or permitted unless applicant clearly demonstrates noise will not exceed the lesser of 45 dBA Fast Lmax at the closest property line or 5dBA Lmax above the ambient sound level.
- Turbines shall not be allowed with lights.

- Turbines and associated development shall not be allowed on slopes of 20% or greater.

5. Commercial/Industrial Wind Energy Systems

Wind energy systems (wind farms) that are greater than 500 kW are defined as commercial/industrial systems. These are large-scale projects with large or multiple turbines designed to generate electricity for sale to or through regulated public utilities in Vermont or elsewhere. At the time of preparing the updated Town Plan, the State of Vermont has four operating utility-scale wind generation facilities: Searsburg, Lowell Mountain, Georgia Mountain and Sheffield. A large landowner in Windham is currently measuring wind resources (DOCKET 7905) with the stated intention of constructing another such facility.

On October 2, 2012, the Governor's Energy Generation Policy Siting Commission was created through Executive Order No. 10-12. The Commission was charged to recommend guidelines for permitting electric generation project of all kinds. The legislature is studying those recommendations, and may propose related legislation. The Agency of Natural Resources is studying new guidelines for wetlands management and for storm water runoff, and the Public Service Board has recently opened its own investigation into the adequacy of the State's noise pollution standards and their application. Public comment on the Total Energy Study and the Comprehensive Energy Plan is invited. While all these events are going on, the State is gaining valuable firsthand experience with the benefits costs and trade-offs of utility scale renewable energy.

As the Town of Townshend approached the updating of the Town Plan, we are cognizant of these unfolding events. It is not our intention to address any particular landowner or project, but rather to extend and strengthen our published policy, which declares commercial/industrial scale wind development inappropriate for Townshend for a variety of reasons. In addition to our unique relationship of settlement and topography those include but are not limited to the Town's statutory responsibilities under the law to protect and preserve the health and welfare of residents and property owners, the preservation of the unique aspects of our natural environment as well as the quality of life and the values, both material and social, that have characterized our Town for more than 215 years.

Industrial wind energy systems are inappropriate in Townshend for several reasons including:

- the nearness of many probable turbine sites to historic settlement patterns
- the presence of steep slopes (slopes of 20% or greater)
- the presence of wildlife and their critical habitat
- the many fragile natural areas including wetlands and vernal pools
- several listed high-elevation headwaters draining through rugged terrain
- pristine views and natural quiet and darkness.

It is the policy of the Town of Townshend that commercial / industrial wind energy systems as defined above and temporary meteorological towers proposed as precursors to such projects are prohibited throughout all of town as potentially hazardous to the health and welfare of its residents, incompatible with high elevation headwaters and not compatible with the town's vision of appropriate development, or its historic settlement patterns and for other reasons set forth in this section.

In addition, Townshend's high elevation lands, as identified elsewhere in this Plan - those most

desirable for industrial wind energy development - are unique and contain many important natural resources and are among the most sensitive sites from a development perspective. For these reasons, these high elevation lands have been located in the Resource Lands.

If permitted by the Public Service Board, Commercial/Industrial Wind Energy Systems are subject to some of the same requirements articulated above plus some further specifics:

1. Turbines shall be set back according to the following required measurements:
 - a. 2,500 feet from property lines
 - b. 1,300 feet from transmission lines & poles, ski lift equipment & structures, camps, other turbines and public travel ways.
2. Turbine noise shall not exceed 45 dBA Fast Lmax at the property line or 5dBA Lmax above the ambient sound level.
3. Turbines shall not have lights.

These setbacks are intended to accommodate the impact on the surrounding area of commercial/industrial wind turbines. Potential impacts include not just a falling tower, but ice throw, shadow flicker, noise, size of mounting pads, storm water runoff, access roads and lighting which are potentially harmful to the community and its residents.

If, however, application for a utility scale generation project should be filed with the PSB for any location in Townshend, the Town will ask the Board to deny such requests and will in so doing refer to 30 V.S.A. Section 248. Section 248 was written to enable public utilities to site and build needed generation and transmission facilities without having to meet all criteria of Act 250 – most particularly the portions dealing with the role of town plans.

In Section 248 proceedings, the Town requests that the Public Service Board adopt Townshend's Town goals and policies as criteria under which any such project should be judged. If we weigh and balance the goals of Title 24 of the Vermont Statutes Annotated, which have guided us in the writing of this plan, we must conclude that certain types of development cannot co-exist in a Town with Townshend's goals, unique attributes and historic treasured patterns of settlement. Commercial/Industrial wind projects are among those types of development and must not be sited within the town.

24 V.S.A. Section 4302(c)(5) charges towns to create plans that are written:

(5) To identify, protect and preserve important natural and historic features of the Vermont landscape, including:

- (A) Significant natural and fragile areas;
- (B) Outstanding water resources, including lakes, rivers, aquifers, shore lands and wetlands;
- (C) Significant scenic roads, waterways and views;
- (D) Important historic structures, sites, or districts, archaeological sites and archaeologically sensitive areas.

(6) To maintain and improve the quality of air, water, wildlife and land resources.

Each of these sections represents important elements of Townshend's vision of its future and this plan endeavors to set forth how they contribute to our vision for the Town and should be protected. It is the Town's position that Section 248 of Title 30 and Section 4302 of Title 24 – should be read together to give support and meaning to each in a reasonable and just manner so that statewide projects take into account town standards and prohibitions and consider the differences of each town when it comes to topography, settlement patterns, natural resources and other unique features of the town.

6. Wood:

Wood is considered a biomass fuel and can be beneficial if used appropriately. The use of biomass fuel can replace or reduce the use of non-renewable fuels such as heating oil. When grown and harvested in conjunction with effective forest management plans, woodlots can provide an alternative fuel source for landowners, thereby decreasing dependence on non-renewable resources. While burning wood does create air pollution, wood-burning technology has improved and emission requirements have been implemented. Townshend supports the continued use of wood as a local thermal fuel source and encourages residents to use low-emission wood burning appliances.

Outdoor wood furnaces or boilers are gaining popularity across the country as a home heating method. These are free-standing combustion units usually located outside the home or structure that is to be heated. When used properly these systems can be a clean and economical way to heat a house and water. Nonetheless, concerns over the safety and environmental impacts of these heating devices, particularly the production of offensive odors and potential health effects of uncontrolled emissions, such as carbon monoxide and particulates, exist. The State of Vermont does have regulations pertaining to these systems. Amongst the provisions are the fact that they must be located at least 200 feet from neighboring residences and that the stack on the furnace must be higher than the neighboring roof line if the furnace is between 200 and 500 feet from the nearest neighboring home. (Vermont Air Pollution Regulation, Section 5-204, Outdoor Waterstoves (September 1997). The State regulations also permit towns to have their own ordinances regulating outdoor wood furnaces. Any installation shall comply with all local and state regulations.

TOWNSHEND COMMUNITY STANDARDS AND CONDITIONS FOR ENERGY DEVELOPMENT

Purpose: The purpose of these municipal energy policies and standards is to promote the development of appropriate small-scale renewable energy resources and energy facilities in the Town of Townshend, while limiting the adverse impacts of such development on public health, safety and welfare, the town's historic and planned pattern of development, environmentally sensitive areas, and our most highly-valued natural, cultural and scenic resources – consistent with related development, resource protection and land conservation policies included elsewhere in this plan. These policies are to be considered in undertaking small-scale municipal energy projects and programs, in updating the Town's bylaws to address energy development, and in the review of new or upgraded energy facilities and systems by the Town and the Public Service Board under 30 V.S.A. § 248.

To the extent physically and functionally feasible, existing utility systems, including transmission lines, distribution lines and substations, shall be upgraded or expanded on site or within existing utility corridors before new facilities or corridors are considered.

The Town of Townshend will endorse or permit the development and installation of small-scale energy facilities that conform to community energy facility development and siting standards through participation in Public Service Board (Section 248) proceedings or, where applicable, through local financing and incentive programs and regulations.

TOWNSHEND COMMUNITY STANDARDS FOR ENERGY DEVELOPMENT

Public Health and Safety Standards:

Noise:

Noise generated by any energy facility, including wind energy systems, or by any other industrial or commercial facility or operation shall not exceed the lesser of (a) 45 dBA Fast Lmax as measured at any property line, or (b) 5 dBA Lmax above the ambient sound level.

Shadow Flicker:

Wind energy facilities shall be sited or screened so that shadows cast by rotor blades will not result in shadow flicker on occupied buildings located within the viewshed of the project.

Lighting:

Energy facilities, including wind and transmission towers, are not to be artificially lighted.

- Substation lighting should be the minimum necessary for site monitoring and security, should be cast downward, and must not result in light trespass or glare on adjoining properties.

Codes:

Energy facilities shall comply with all manufacturer specifications, state or industry safety and electric codes, and utility connection requirements. Documentation of code compliance may be required for facilities subject to municipal review.

Height:

The maximum tower height for energy facilities including net-metered, or similar off-grid wind energy facility shall not exceed the lesser of (a) 120 feet in total height, as measured vertically from the ground to the rotor blade tip at its highest point, or (b) 50 feet in total height above the existing tree canopy.

Setbacks:

- All ground-mounted small-scale wind energy facilities must be setback at least 2 times the total facility height, as measured vertically from the ground to the rotor blade tip at its highest point, from all property lines, occupied buildings on adjoining properties, overhead utility lines, public and private rights-of-way and established trail corridors, unless easements are secured from adjoining property owners.
- Guy wires used to support wind towers are exempt from minimum distance setback requirements, except they shall be set back at least 20 feet from all property lines.
- A building-mounted solar panel(s) must meet minimum setback requirements for the building on which it is mounted.
- Facility setback distances from property lines, or from occupied structures in existence at the time of application, shall be increased as necessary to mitigate identified public health and safety hazards or nuisances to adjoining property owners (e.g., noise, vibration, glare, shadowing and shadow flicker, ice throw).

Ground Clearance:

The blade tip of any wind turbine shall, at its lowest point, have a ground clearance of no less than 30 feet, as measured vertically from the ground to the tip of the rotor blade at its lowest point.

Access:

- Facility access shall be provided from existing access roads where physically feasible, and, where feasible and safe access roads and utility corridors shall be shared, to minimize site disturbance, resource fragmentation, the creation of additional edge habitat, and the introduction and spread of invasive exotic species.
- Public access to generation and transmission facilities, including substations, shall be restricted as necessary to protect public health and safety.

Burial:

Utility controls and onsite line connections shall be wireless or buried, except at the point of connection with distribution lines, transmission lines and substations.

Signs:

Energy facilities and structures shall not be used for display or advertising purposes. Signs, except for owner and manufacturer identifications and safety warnings, which exceed one square foot are prohibited on all facilities and structures.

Interference:

Facility operation shall not reduce or interfere with television, radio, telemetry, or other telecommunications signals, including public safety communications systems.

Decommissioning and Abandonment:

Generation facility permits or certificates must include provisions for system abandonment, decommissioning and site restoration. (see page#9 Town Plan Elements)

Facility Siting Standards:**Hazard Areas:**

With the exception of transmission and distribution lines, new energy facilities that are not attached to existing or permitted structures shall not be located in:

- Special Flood Hazard Areas (SFHAs), including floodways and floodway fringes identified on Flood Insurance Rate Maps (FIRMs) for the town. Any allowed facility located within these areas must meet minimum National Flood Insurance Program (NFIP) requirements, as reviewed and permitted by the municipality or the state.
- Fluvial erosion hazard areas identified on Townshend FEHA maps.
- Slopes, with natural (pre-development) grades of 20% or more.

Conservation Areas:

Energy facilities are to be sited to avoid or to otherwise minimize encroachment and mitigate the adverse impacts of facility development on:

- Surface waters, wetlands, vernal pools and associated setback and buffer areas, as specified for all development under town bylaws.
- Primary agricultural soils as mapped by the USDA Natural Resource Conservation Service for the state.
- Significant wildlife habitat, including core habitat areas, and travel and migratory corridors, as identified from state inventories and data sets, local inventories, and site investigations associated with facility development.
- Onsite mitigation is required through a combination of facility clustering, relocation, buffering and permanent conservation easements. Mitigation to avoid flooding from storm water runoff will be limited to well proven, non-experimental technologies. Off-site mitigation measures should be required where on-site mitigation is not physically feasible.

Land Conservation Measures:**Headwaters, Wetlands, Slopes, Vernal Pools, Agricultural Land and Open Space:**

Energy facilities, including solar arrays and other generation facilities, transmission and distribution lines, accessory structures and access roads shall be located on non-agricultural land or along field edges to avoid fragmentation of, and to minimize and mitigate adverse impacts to agricultural land and open fields.

- Forestland Energy facilities, including wind towers and other generation facilities, transmission and distribution lines, accessory structures and access roads shall be located along existing tree lines, or on otherwise disturbed forestland, as necessary to avoid the fragmentation of, and to minimize and mitigate adverse impacts to productive timber stands and critical forest habitat.
- Forestland intended for commercial biomass production must be sustainably managed and harvested in a manner that preserves critical forest habitat and long-term forest health.

Visual Impacts:

Applicants shall demonstrate through site planning, facility siting and proposed mitigation that the visual impacts of new and upgraded energy facilities will be minimized as outlined in the standards set forth below:

- All energy facilities and accessory structures are to be designed and constructed of materials, colors, and textures that blend into the surrounding natural or built environment. Wind towers, turbines and blades shall be of a neutral, non-reflective and unobtrusive color (e.g., white, off-white or gray).
- Facilities are to be sited to outside of, or to the edge of scenic views or viewsheds so that they are not a prominent focal point.
- The facility should not extend above the background horizon line as seen from populated areas.
- The facility should be screened from view through the use of existing topography, structures, vegetation or strategically placed tree, shrub and ground cover plantings that do not block distant views.

Designated Scenic Areas:

The documented historic, rural and scenic character of the following areas in the Town of Townshend, its Hamlets and their environs shall be preserved under any form of new energy development. New energy facilities sited within or as viewed from these areas shall not create a significant physical, visual, audible, or historically incongruous or incompatible intrusion into these areas. New facilities, including generation facilities greater than 15 kW, substations and transmission lines, are specifically prohibited within, or as viewed from these areas unless significant associated impacts can be avoided, for example through facility siting, screening, or line burial.

- Designated historic districts, including the West Townshend and Townshend Historic Districts, as described in the application filings for Historic Status.
- Townshend has many significant and iconic views within the Town.
- Views from locally designated scenic roads, as listed in the plan, or as subsequently designated by the Townshend Selectboard.

Historic Districts, Sites and Structures:

Energy facilities, including wind systems and solar photovoltaic (PV) or thermal panels, that are located in the town's two designated historic districts, or on properties with federal or state-listed

historic structures, are to be sited in accordance with current Secretary of the Interior's Standards for Rehabilitation, and the following:

- The historic character of listed properties and structures shall be retained and preserved. The removal of historic materials, or alteration of features and spaces that characterize a property shall be prohibited unless they are required for health and safety reasons, as certified by a Vermont professional historic preservation expert and a Vermont health official.
- Ground installations are preferred to roof-mounted installations on historic structures. Ground installations, to the extent functionally feasible, shall be installed in locations that minimize their visibility, such as a side or rear yard, and be screened from view of public rights-of-way and adjoining properties.
- Roof-mounted systems may be placed on new construction, non-historic buildings and additions.
- Solar panels and other roof, or wall-mounted structures shall not be placed on primary building facades, including street-facing walls or roofs, unless there is no other suitable location on the site, or structure.
- Roof, or building-mounted systems on an historic structure shall not physically damage the structure, alter its character-defining features, including existing roof lines, or dormers, nor obstruct significant architectural features such as overlaying windows or architectural detailing. Attachment points must be minimized and allow for future system removal.
- Roof-mounted Installations are to be placed below and behind parapet walls and dormers on rear-facing roofs, where feasible. Panels should be mounted flush with and at the same angle as the existing roof surface and, on flat roofs, set back from the roof edge to minimize visibility. They should not be visible above the roofline of the primary facade. Panels and mounting systems must be compatible in color to established roofing materials to minimize their visibility.

HOUSING

Existing Conditions:

In 2000, the U.S. Census documented that 1,149 people lived in Townshend. Between 1990 and 2000, the Town's population increased by 130 people, a 12% increase. Between 2000 and 2010 the population increased by 83 people, from 1,149 to 1,232, an increase of 7%. For additional information and statistics about housing in Townshend see the Community Profile section.

Some key indicators from the 2010 US Census include that from 2000 to 2010, total housing units increased 17%, from 668 to 784, and that twenty-three percent (23%) of housing units are for seasonal, recreational or occasional use down from 42.0% in 1990. For some years, single family units have accounted for the majority of all new housing in Townshend.

Housing Affordability:

A special challenge to all communities throughout Vermont, particularly for smaller rural communities like Townshend, is the task of adequately meeting the housing needs of low and moderate income citizens.

Vermont's Planning and Development Act requires that town plans must have a housing element that includes a program for addressing low and moderate income persons' housing needs, as identified by the regional planning commission. Affordable housing is a term applied to housing that a family of four, with an income at or below the median income level for the county, can afford without spending more than 30% of its income on monthly housing costs. Housing costs for renters include rent and utilities, while housing costs for homeowners include mortgage payments, insurance and property taxes.

Townshend is fortunate in having The West River Valley Senior Housing and Assisted Living development, which was completed in October 2014 through Valley Cares and Housing Vermont. The development provides seniors with 24 Independent Living units, 28 Assisted Living units, and 12 Supportive Housing units. Most of the units are affordable to lower and moderate-income elderly. Otis Health Care also provides Meals on Wheels and additional services through the Valley Health Council for elderly and handicapped persons remaining in their homes.

Townshend Town Plan policies encourage accessory apartments within, or attached to single family residences. These provide affordable housing in close proximity to cost-effective care and supervision for relatives, handicapped, or elderly persons.

The Town recognizes that high real estate costs make housing unaffordable for many of our residents, especially young people. Some possible solutions to be examined are community land trusts and state programs that help with home ownership. With no municipal sewage or water facilities in Townshend, there are distinct limits on multi-family dwellings and larger housing complexes.

The wage a household must earn in order to afford a rental unit at Fair Market Rent¹ and only pay 30% of its income towards housing costs varies depending on the number of bedrooms in a unit. Proposed Fair Market Rent in 2010, for a two bedroom unit in Windham County, is \$930. This monthly cost requires a renter to earn an hourly wage of \$17.89, (assuming a 40 hour work week), and would equal an annual income of \$37,211. The table below helps put the affordability gap for rental units in perspective.

Table: Occupational Wage Estimates for the Southern Balance of Vermont, 2015

Occupation	Median Hourly Wage	Median Annual Wage
Recreational Workers	\$15.01	\$31,210
Medical and Health Service Managers	\$54.41	\$113,170
Secondary School Teachers	\$n/a	\$53,520
Child Care Workers	\$12.20	\$25,380
Police and Sheriff Patrols	\$23.15	\$48,150

¹ Fair Market Rent is the 40th percentile and what is commonly used by US Housing and Urban Development's (HUD). Median rent would be the 50th percentile.

Carpenters	\$21.17	\$n/a
Elementary School Teachers	N/A	\$52,100
Healthcare Practitioners and Technical Occupations	\$20.52	\$42,680

Source: Vermont Department of Labor (<http://www.vtlni.info/occupation.cfm>)

According to the Vermont Department of Taxes, the median purchase price for a primary residence in Townshend in 2015, (based on 17 homes sold), was \$142,500.00 and the average price was \$132,556.00². To purchase a primary residence at the median price, an annual household income of \$65,379 would be needed³. The median annual household income for a family of four in Townshend for 2009 was \$61,800, according to the 2009 U.S. Department of Housing and Urban Development database; however, in 2006 the median family adjusted gross income was \$50,088⁴.

One subset of Townshend population that may be struggling to afford housing in the community is elderly on a fixed income and single parent families. The 2000 Census indicated that Townshend had 200 householders living alone, 47% (94) of whom were over the age of 65. In 2010 there were 17 single female heads of household and 24 male heads of household in Townshend, which had children living with them under 18 years of age.

Affordable Housing Programs:

Currently, housing affordability in Townshend is addressed through regional programs. The Windham –Windsor Housing Trust has created and manages affordable housing through a variety of programs that serve low and moderate income residents. The Windham-Windsor Housing Trust can also provide income-eligible homebuyers with a subsidy towards the purchase of a qualifying home. In addition, homebuyers under this program have access to below market rate mortgages as well as financial assistance with closing costs. Southeastern Vermont Community Action Agency, (SEVCA), provides referrals to area shelters, landlord lists, and assists in completing applications for affordable housing possibilities. SEVCA also operates weatherization and fuel assistance programs for income-eligible homeowners and renters. The Southeast Vermont Housing Rehabilitation Loan Fund provides loan funding for low and moderate income homeowners to maintain safe and affordable housing.

Housing Needs:

² The median price of primary residences sold is the middle of selling price of all primary residences sold in ascending order for the given year.

³ This has been calculated using the Vermont Housing Data online Home Mortgage Calculator (www.housingdata.org). It assumes a 5% down payment, average interest rates, average property taxes, average property and private mortgage insurance premiums, average closing costs, and that a homebuyer can afford to spend 30% of their income for housing expenses.

⁴ The median measure of adjusted gross incomes from the Vermont State tax forms of families, including those filing as Married filing jointly, Civil union filing jointly, Head of household, and Widow(er) with dependent children.

It is important to assure that existing and future town residents and the workforce are served by a range of housing opportunities. The Planning Commission has identified that there is a noticeable lack of affordable rental units in Town and that there is a lack of willing investors who would want to build affordable housing units. Providing for affordable housing in Town will continue to be an important process going forward; the Planning Commission will continue to study the issue and make recommendations to developers and non-profits that can assist in achieving the goal of a diversity of housing options in Town.

Housing Policies:

1. Future development should occur on sites capable of maintaining permanently functioning on-site sewage and water facilities.
2. Support a healthy diversity of housing to meet the needs of low and moderate income households.
3. Encourage accessory apartments within, or attached to single family residences that provide affordable housing in close proximity to cost-effective care and supervision for relatives, handicapped, or elderly persons.
4. Encourage new residential development in the villages that is compatible with existing architecture and community character. Outside the villages, development should have minimal impact on natural resources, open space, and important agricultural and forest lands.

Priorities for Action:

1. Support and collaborate with Otis Health Care in efforts to provide housing for elderly throughout the eight-year cycle of this Town Plan.
2. Support a housing assessment that would project needs for elderly, lower income and physically disabled residents.
3. The town shall study the need for municipal water supply and/or sewage treatment facilities for village districts in order to maintain property values and assure public health.
4. Create a program for addressing low and moderate income persons' housing needs, based upon inventory and analyses of current trends.

ECONOMY:

For a small rural town of 1,232 people, Townshend has a diverse economy. It has become a regional center for healthcare and supports a union high school serving grades 7-12. A diversity of industries is represented in Town with the highest concentration of jobs in healthcare and education. Major employers are Otis Health Care Inc. Mary Meyer Corporation, River Bend Farm Market, the Townshend Elementary School, and Leland and Gray Union High School.

Products from our forests and fields, while less than in the past, are very important to our economy. The list includes logs for lumber, firewood, maple sugar products, Christmas trees, fruit and organic produce, cheese and other dairy products: also, bison, horses, sheep and llamas.

Some of these are part-time activities, but they all add up to the Vermont working lifestyle that so intrigues visitors.

Route 30 provides a steady stream of visitors who add to our economy and support businesses and services. The natural scenic beauty of the mountains, villages, and river valleys invites visitors to stop and shop, eat and sleep, hike, bike and ski. Major ski resorts nearby offer all-season activities and provide year-round employment opportunities. There is steady demand for Vermont-made food and crafts, as well as for sports equipment and related services. Owners of second homes employ building tradesmen and property management services.

Median Household Income:

The median estimated household income for the period 2008-2012 increased from \$49,331 to \$57,731. The Townshend school system and Grace Cottage Hospital remain the largest employers in Townshend. The last decennial census confirms this fact stating that just over a quarter of employment in Town falls under the education, health, and social services industries. Other large employment sectors in Town were construction and manufacturing, accounting for just under 25 percent of employment. The manufacturing sector has been declining for many years in the region. In 2008 the manufacturing sector in Windham County accounted for only 9.6% of employment, where in 2004 it accounted for 11% of employment, and this sector had accounted for 15% of employment as recently as 1998. The loss of work in this sector means the loss of relatively high paying jobs for the region.

Property Taxes:

Within the town, approximately 12,000 acres are in the Use Value Appraisal Program, known as "Current Use", and another 100 acres are tax exempt or town owned. In addition, the Townshend State Forest occupies 856 acres for which the Town receives \$2,300 annually about \$2.69 per acre. The federally owned Townshend Dam facility occupies 948 acres of what used to be very productive bottom land, for which the Town is paid \$5,656.00 annually, or \$5.65 per acre. Both of these properties yield revenues in lieu of taxes to the town that are far below comparable acreage of privately owned land.

Economic Development Policies:

1. The town favors economic development that provides diversified and stable local employment opportunities with competitive wages to enhance Townshend's small town rural character and protect the community's natural resources.
2. Development should not overburden existing town services and facilities, nor require expansion of such facilities at public expense. Townshend desires to balance growth and additions to the tax base.
3. All agricultural, commercial and industrial operations must adequately control wastes, be environmentally responsible, relate satisfactorily to existing land uses, and minimize traffic congestion. Activities that cause repetitive excessive noise, noxious or hazardous wastes, soil and groundwater pollution, or traffic congestion are undesirable. Architecture and signage that is not in keeping with the character of the town should be discouraged.

4. Townshend encourages cottage industries, home-based work and entrepreneurial ventures that preserve and revitalize the town's character and add to the diversity of cultural and other activities available to residents and visitors.
5. Encourage production and marketing of land-based industries such as agriculture and forest products, and development of recreation and sporting facilities.
6. Support protection of farm and forest lands by encouraging donation of development rights to local government or qualified nonprofit land trusts.
7. Encourage businesses that support tourism, provide lodging, dining, and recreational activities for visitors.
8. Support agricultural demonstration, test projects, and other programs, including agri-tourism, community supported agriculture, consumer or producer cooperatives, and farmers' markets. The Town should also encourage restaurants and markets to obtain and supply agricultural products from within the region and Vermont
9. Encourage civic organizations: among them the Townshend Business Association that assists businesses and promotes tourism; the Leland and Gray Education Foundation that promotes education, occupational training and scholarships, and the Townshend Historical Society that supports historical preservation, education, and communication projects.
10. Encourage the Federal Government to maintain the environmental health, natural aesthetics and recreational utility of Townshend Lake, which is operated as a flood control dam by the Army Corps of Engineers.

Priority for Action:

The town shall continue to formally petition the proper authorities to obtain a substantial increase in payments to Townshend in lieu of taxes for the state and federally owned property.

V. PROCESS GOALS:

1. To establish a coordinated and comprehensive policy framework, including a capital expenditure, or 5 year plan, to help guide local decisions.
2. To encourage citizen participation at all levels of the planning process.
3. To consider the use of resources and the consequences of growth and development in Townshend.

4. To coordinate with neighboring communities to develop and implement compatible municipal plans.

The Planning Commission believes that the planning process is continuous and this plan builds on plans made as early as the 1970s. Two public hearings are scheduled before adoption of this plan.

VI. PLAN RELATIONSHIP TO DEVELOPMENT TRENDS AND TO PLANS FOR ADJACENT TOWNS AND THE REGION

Townshend is a focal point for towns in the West River Valley because of the union high school and the large complex of health care services. We have a cooperative relationship with our neighboring towns and look forward to continued collaboration in the planning efforts with our bordering communities.

When Vermont's Growth Management Law, Act 200, was passed in 1988, Vermont set up a system for communities to work in concert with their neighbors, and with agencies of state government, to shape the future. As envisioned, decisions on local growth issues are to be made by the local communities; decisions of regional significance are to be made by the region's communities acting in consort. Town Plans are to be compatible with the regional plan and compatible with approved plans of other municipalities in the region.

Athens: Athens is working on a Town Plan

Brookline: (Town Plan adopted January 9, 2013) Brookline is located east of Townshend and can be accessed via Ellen Ware rd. Brookline has four land use districts which abut Townshend; they are the Town Center District, Rural Residential Lands District, Resource Lands District and Conservation Lands. Brookline's Conservation lands are meant to encourage the retention and acquisition of public or private conservation lands to promote recreation, reforestation, water conservation and suitable forest practices. This is compatible with Townshend's abutting land use Resource Lands district which encourages protection of green space, particularly along streams and rivers, and other important lands that are valued for trails, open space, wildlife habitat and scenic enjoyment.

Grafton: (Town Plan adopted August 19, 2013) Grafton is located north of Townshend and can be accessed via Grafton Rd. The land uses in the southern portion of Grafton which directly abut Townshend are Rural Residential and Conservation. The Conservation Land Use district is composed of areas that are best used for agriculture, forestry, low-intensity recreation, and open space. The Rural Residential Land Use district is where primary growth of permanent and vacation homes would occur. These districts are compatible with Townshend's Resource District and Productive Rural Lands, under the assumption that commercial and residential densities remain low in the Productive Rural Lands district and Rural Residential District in Townshend and Grafton which are outside of the Route 35 / Townshend Rd. corridor. Townshend and Grafton should work together in the next eight year cycle of this Plan to assure that any development of rural residential lands will be at densities that contain rural sprawl and are sensitive to the limitations of the land.

Jamaica: (Town Plan adopted in November 19, 2012) Jamaica lies to the west of Townshend and can be accessed via VT Route 30. The Route 30 corridor and border between Jamaica is Conservation and Rural Resource Area Land Use Districts, allowing for low density development at one unit per 12.5 acres for the Conservation District and one unit per four acres for the Rural Resource Areas District. Townshend's bordering Land Use District is primarily the Resource Lands District which discourages residential or commercial development, the extension of roads, energy transmission facilities, and other services. These land use districts are largely compatible. Growth is clustered along West Townshend Village which runs along Route 30 into Jamaica.

Newfane: (Town Plan adopted in July 22, 2013) Newfane lies to the south of Townshend and can be accessed via Route 30. The Land Use Districts which border Townshend are the Resource District and the Rural District. The Resource District is where Newfane identifies its areas where development should be discouraged and the land should be used for low intensity recreation, open space, or forestry. These areas would be considered a high priority for long term conservation efforts. The Rural District comprises areas that are already committed to development and primarily benefits from road access along Route 30. The district policies encourage development at densities that will contain rural sprawl. These Districts abut Townshend's Resource Lands District and State Forest District. These Districts encourage preservation of open spaces, wildlife habitat, wetlands, floodplains, and steep slopes. These uses are largely compatible.

Wardsboro: (Town Plan adopted in June 17, 2014) Wardsboro lies to the west of Townshend and is south of Jamaica, which also borders Townshend to the west. Townshend can be accessed via West Hill Road through Wardsboro. The Land Use District in Wardsboro which borders Townshend is the Rural Residential District. The Rural Residential District is used to accommodate a major portion of the growth of year-round residences and vacation homes. This abuts the Resource Lands District in Townshend which covers lands that are primarily meant for uses that prevent development to preserve wildlife corridors, open space, wetlands, and fragile natural areas. This has potential to create incompatible uses due to the targeting of residential growth along West Hill Rd. The towns of Townshend and Wardsboro should further discuss the future planning and development of this section of the border.

Windham: (Town Plan adopted in January 5, 2015) Windham lies northwest of Townshend and is accessed only through Back Windham and Windham Hill Roads. The Land Use District which borders Townshend is the Rural Residential District, however, Windham has decided to add a Resource Protection Area Overlay which covers most of the border region with Townshend. Townshend's border area is designated as a Resource Land. There should be no conflict with the designated land uses in both towns.

Compatibility with the Windham Regional Plan:

The Windham Regional Plan, adopted September 30, 2014, and effective November 4, 2014, is intended to provide guidelines for the planning and coordination of development which will allow for a shared vision of the region's future that provides for a high quality of life, defined as a composite of our economic, social, cultural, and ecological well-being. For the most part The Townshend Town Plan is compatible with the land use and development goals of the Regional Plan.

There is one exception between the proposed land use and the Windham Regional Plan. The Rural Residential District land in the northwest portion of Townshend along Windham Hill Rd. encourages a mix of rural land uses including: housing; home businesses; small-scale agriculture;

or commercial uses. This could contrast with the Regional Plan which identifies the land use as Productive Rural. Productive Rural lands are “low density and very low density residential areas containing land-based resources that, when in productive use, contribute to the working landscape and have significant economic value”. Townshend Town officials should work actively with neighbors and with the Windham Regional Commission to assure that future development is in line with regional goals and policies.

VII. TOWN RESPONSE TO VERMONT’S PLANNING GOALS

Goal 1. To plan development so as to maintain the historic settlement pattern of compact village and urban centers separated by rural countryside and avoid sprawl.

The Town Plan acknowledges that Townshend's future development should occur primarily in presently developed areas. Every effort should be made to avoid sprawl and maintain a rural countryside.

Goal 2. To provide a strong and diverse economy that provides satisfying and rewarding job opportunities and that maintains high environmental standards.

The Town Plan’s policies in the Economy section, as well as Natural Resources address these issues.

Goal 3. To broaden access to educational and vocational training opportunities sufficient to ensure the full realization of the abilities of all Vermonters.

Leland and Gray Union High School sends students to the Southeastern Vermont Career Center in Brattleboro and also cooperates with businesses for career days and training programs. The Townshend Business Association participates in “career days.”

Goal 4. To provide for safe, convenient, economic and energy efficient transportation systems that respect the integrity of the natural environment, including public transit options and paths for pedestrians and bicyclers.

The Town Plan policies and priorities for action in the Transportation section support paths for pedestrians and bicyclists, and advocate for measures to increase safety for pedestrians and motorists, including a long-range study of relocating heavily traveled Route 30, as well as other safety measures at dangerous intersections. Policies also support traffic-calming methods on Vermont Route 30 as well as reducing the speed limit along RT 35 to Grace Cottage Hospital .

Goal 5. To identify, protect and preserve important natural and historic features of the Vermont landscape, including: significant natural and fragile areas, outstanding water resources and wetlands; significant scenic landscape and views, important historic structures, sites, or districts and archaeological sites.

Policies that clearly address these issues are found in the Natural Resources, Natural Areas and Fragile Areas and Scenic Resources sections.

Goal 6. To maintain and improve the quality of air, water, wildlife and land resources.

Policies address these issues in the Natural Resources, Natural Areas and Fragile Areas, and Scenic Resources sections.

Goal 7. To encourage the efficient use of energy and the development of renewable energy sources.

Policies in the Energy section support conservation, energy audits, and renewable energy sources.

Goal 8. To maintain and enhance recreational opportunities for Townshend residents and visitors.

The Town Plan addresses this in the Public Recreation section of Community Facilities and Services.

Goal 9. To encourage and strengthen agricultural and forest industries.

Policies in the Natural Resources and the Economy sections encourage strategies to protect agricultural and forest industries, and include maintaining low over-all density.

Goal 10. To provide for the wise and efficient use of Vermont's natural resources and to facilitate the appropriate extraction of earth resources and the proper restoration and preservation of the aesthetic qualities of the area.

Policies in Natural Resources and Mineral Resources sections clearly address protection and restoration of such areas.

Goal 11. To ensure the availability of safe and affordable housing for all Vermonters.

In the Housing section, the Town Plan recognizes the need for safe and affordable housing and seeks ways to provide it, with particular emphasis on elder and handicapped housing needs.

Goal 12. To plan for, finance and provide an efficient system of public facilities and services to meet future needs.

Policies in the Community Facilities, Services and Public Recreation section support long-range planning and a capital budget plan.

Goal 13. To ensure the availability of safe and affordable child care and to integrate child care issues into the planning process, including child care financing, infrastructure, business assistance for child care providers and child care work force development.

The Childcare section and related policies in the Community Facilities chapter and the Education chapter encourage provision of childcare.

Goal 14. To encourage flood resilient communities.

- (A) New development in identified flood hazard, fluvial erosion, and river corridor protection areas should be avoided. If new development is to be built in such areas, it should not exacerbate flooding and fluvial erosion.
- (B) The protection and restoration of floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion should be encouraged.
- (C) Flood emergency preparedness and response planning should be encouraged.

The Flood Resilience Plan chapter addresses this goal.

VIII . IMPLEMENTING THE TOWN PLAN

The Townshend Town Plan is a statement of vision: it is a dynamic document which provides a new starting point in the ongoing process of planning for the future of Townshend. Used properly, the Town Plan can provide guidance to elected officials and the people for present and future decisions facing the town. The Town of Townshend supports decision-making at the most local level possible, whenever appropriate and legal. This section summarizes the “Priorities for Action” elements of the Town Plan and suggests who has responsibility for implementation.

PRIORITIES FOR ACTION IMPLEMENTATION PLAN

<u>ACTION</u>	<u>RESPONSIBILITY</u>	<u>PAGE #</u>
Land Use –		
Support a local ordinance to regulate commercially-operated recycling/metal recovery/junkyard facilities.	Selectboard	7
Village Districts –		
Support the development of utilities, such as municipal water or wastewater treatment facilities, when needed to protect health and ground water resources and to allow full use of lands within villages.	Selectboard & Consultants	10
Rural Residential District –		
The Planning Commission should consider the creation of an Open Space Plan and support and encourage conservation organizations that work with the Town to identify and preserve lands that are being considered as conservation priorities.	Planning Commission	12
Resource Lands –		

The Town should consider forming a Conservation Commission for the purposes of implementing the above recommendations for protecting the natural resources of the Town for the benefit of all.

Planning Commission 14

Transportation -

1. Support the Townshend Parking Ordinance (2003) and consider options for additional off-street parking spaces in Townshend village.

Selectboard 18

2. Cooperate with other towns, especially towns on Route 30, the WRC and VTrans in developing solutions to the traffic problems on Route 30.

Plan.Comm, Selectboard, WRC& VTrans 18

3. Enforce overweight permits on local roads and bridges in coordination with appropriate officials, local and state.

Selectboard 18

4. Pursue funding options such as Transportation Enhancement Grants to help design and implement a plan for pedestrian and traffic safety at the Townshend Common intersection of Routes 30 and Route 35.

Plan.Comm, Selectboard & VTrans 18

Community Facilities -

1. Support a committee to make recommendations on the use of the town property on Rte 30, Taft Meadows.

Plan. Comm. & Selectboard 22

1. Assess the need for replacing the present fire department station, which lacks enough space for equipment and lacks sufficient parking space.

Plan. Comm., Selectboard, and Fire Dept 22

Natural Resources, Natural Areas, and Fragile Areas, and Scenic Resources -

1. Work with legislators, the Army Corps of Engineers and ANR to remove sediment from Townshend Lake.

Plan. Comm. & Selectboard 29

2. Encourage agricultural practices such as nutrient management planning, conservation tillage, riparian area protection, fencing, incorporating manure after spreading and the development of alternative livestock watering facilities.

Plan. Comm. & Selectboard 29

3. Work with the Natural Resources Conservation District, the Southeastern Vermont Watershed Alliance and the Windham Regional Commission, conduct a series of best management practice workshops for municipal officials and landowners in the basin.

Plan. Comm. & Selectboard 29

4. Work with organizations such as the Vermont Farm Bureau, Rural Vermont, and others, on providing technical assistance to farmers regarding crop diversification and management to avoid soil runoff into adjacent streams.

Plan. Comm. & Selectboard 29

Historic & Cultural Resources -

Identify and inventory architecturally significant buildings and streetscapes – (defined as a group of buildings where individual buildings in the group may be undistinguished but together they make an important historic architectural environment.)

Plan. Comm. & Consultants 37

Energy -

1. Have the Town of Townshend lead by example by seeking ways to increase energy efficiency and reduce energy consumption in all town offices, vehicles and buildings.

Plan Comm. & Selectboard 49

2. Support carpooling and promote increased use of the improving telecommunications infrastructure that can support telecommuting to reduce energy consumption for travel.

Plan Comm. & Selectboard 49

Housing -

1. Support and collaborate with Valley Cares in efforts to provide housing for the elderly.

Plan.Comm. & Selectboard 61

2. Support a housing assessment that would project needs for elderly, lower income and physically disabled residents.

Plan.Comm. & Selectboard 61

3. The town shall study the need for municipal water supply and/or sewage treatment facilities for village districts in order to maintain property values and assure public health.

Plan.Comm., Selectboard & Consultants 61

4. Create a program for addressing low and moderate income persons' housing needs, based on inventories and analyses of current trends.

Plan.Comm. & WRC & Consultants 62

Economy-

The town shall formally petition the proper authorities to obtain a substantial increase in payments to Townshend in lieu of taxes for the state and federally owned property.

Selectboard

63

IX. MAPS & REFERENCES

Existing Conditions – includes roads, community facilities and utilities

Proposed Land Use – shows 5 districts: Villages, Health Care Services, Rural Residential, Productive Rural Lands, and Resource Lands

Natural Resources – shows topography, rivers and streams, wetlands, natural & fragile areas and wildlife resources

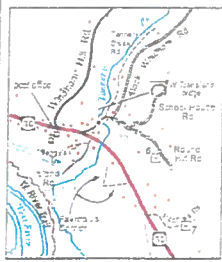
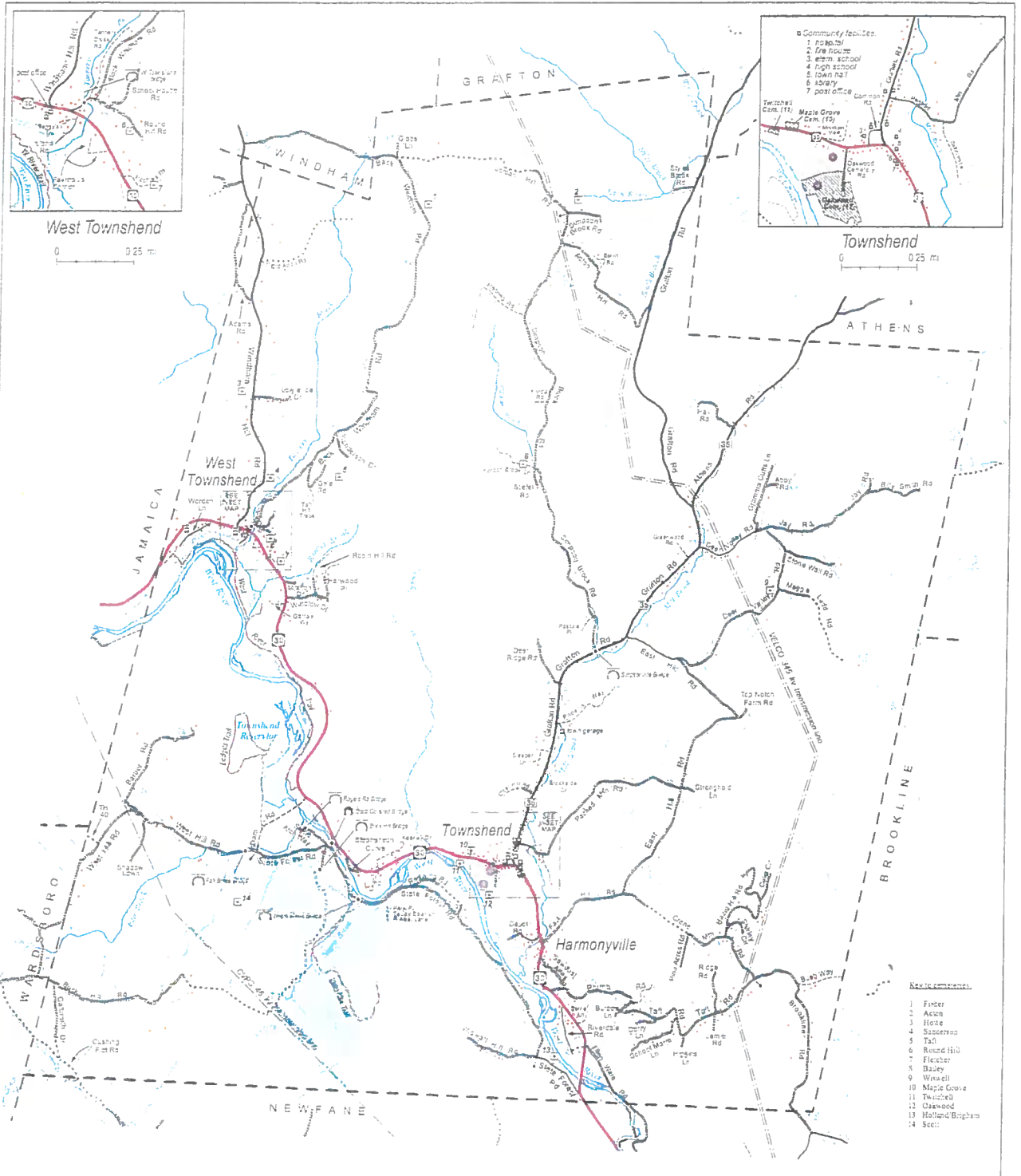
Water Resources – shows perennial streams, intermittent streams, rivers, lakes, ponds, wetlands, state-designated River Corridors, and FEMA-designated Special Flood Hazard Areas

Note: Town maps may be seen in large-size format at the Town Hall offices. The maps of this plan are key to understanding the vision of the plan in the same manner as the plan's policies; the maps and policies should be used in concert with each other.

REFERENCES:

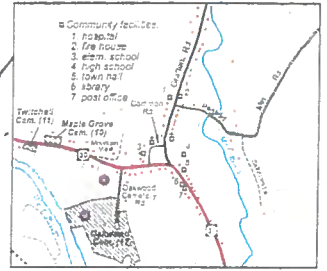
Sewage Disposal Capability Study and Route 30 Relocation Feasibility Study – Final Report May 6, 1992 by Windham Regional Commission for Town of Townshend. On file in Town Offices.

Vermont Comprehensive Energy Plan, 2016



West Townshend

0 0.25 mi



Townshend

0 0.25 mi

Existing Conditions - Transportation, Utilities, and Community Facilities

Town of Townshend, Vt.

November 2016



0 0.5 1 1.5 mi

town map scale 1:48,000

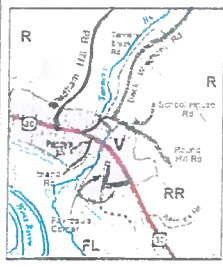
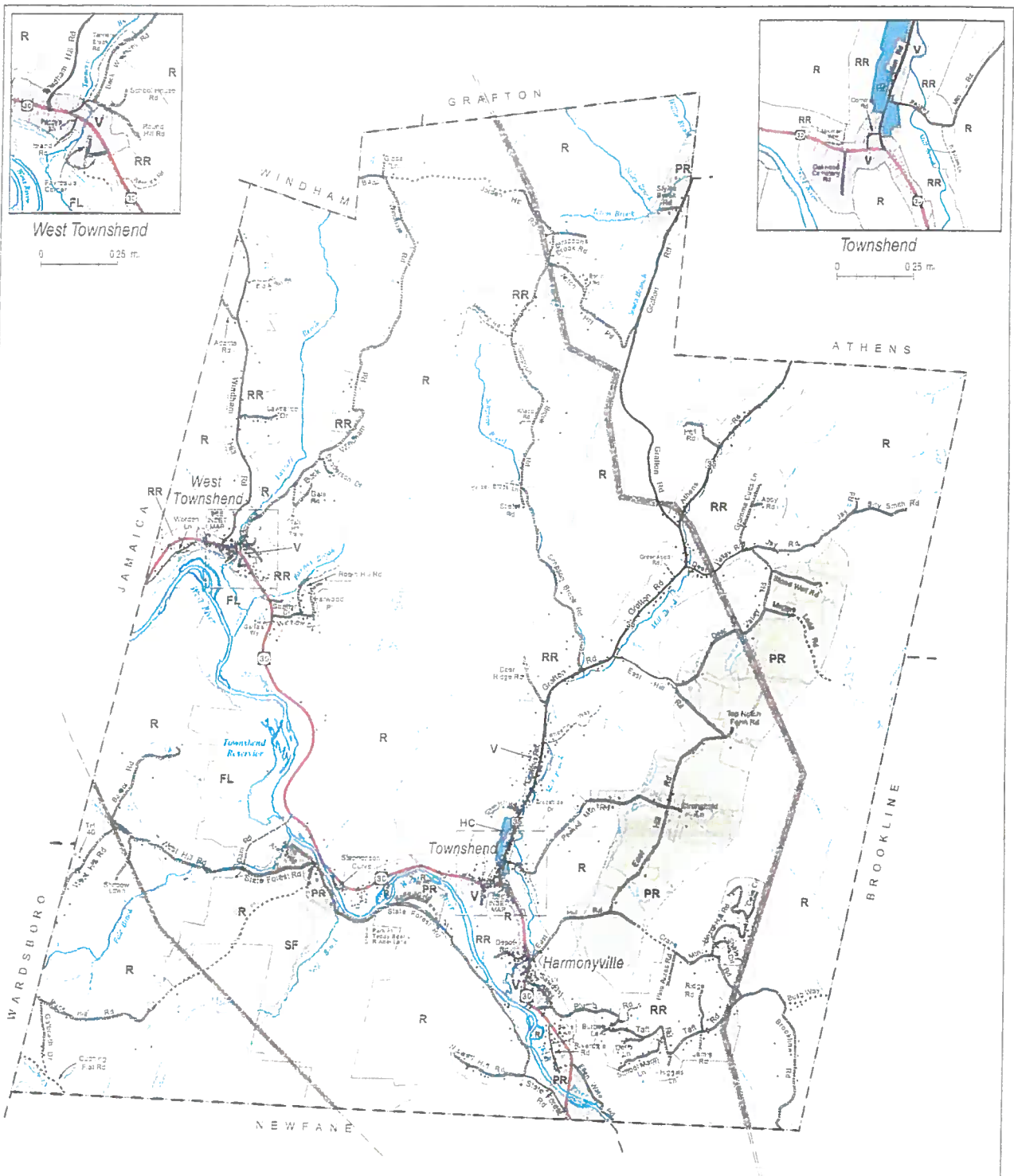
- | | | | |
|--|---------------------------------------|--|------------------------------------|
| | Historic bridge - covered, stone arch | | State highway |
| | Public cemetery, general location | | Class 2 town highway, paved |
| | Public cemetery - extent | | Class 3 town highway, paved |
| | Recreational trail | | Class 3 town highway, unpaved |
| | Church | | Class 4 town highway |
| | Community facility | | Legal Trail |
| | Electric transmission line | | Named private road |
| | Structure | | Other roads |
| | Large capacity septic disposal field | | Stream |
| | Federal land | | River or pond |
| | State land | | Symbol denotes change in road name |
| | Town land | | |

* Note: most Class 4 town highways and Legal Trails are impassable to automobiles

Data sources:

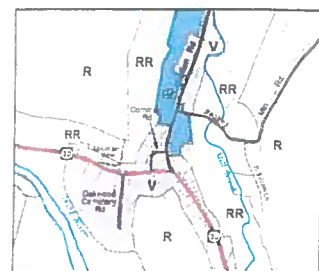
- Highway data are from Vt. Agency of Transportation sources (VGIS data layer: RDShrink). Data were updated by Windham Regional Commission in 2006, 2009 and 2013 using information provided by the Town of Townshend, data from Vermont's Enhanced 911 Beard and Vermont digital orthophotos.
- Federal, state, and town lands were extracted from Townshend's 1:5000 digital parcel coverage.
- Building locations were captured using Global Positioning System technology by microDATA, St. Johnsbury, VT and the Vermont Enhanced 911 Beard and are extracted from the VGIS data layer ESITE. Data are current to 2016.
- Electric transmission lines are taken from VGIS FLTRN data layer and were digitized from 1:5000 orthophotos by Greenhome & O'Mara Inc. edited by WRC.
- Community facilities were identified by the Townshend Planning Commission. Locations were determined by WRC using 1:5000 orthophotos, E911 buildings data, and Townshend's digital parcel coverage.

Note: This map of the Plan is intended to understand the vision of the Plan in the same manner as the Plan is intended. This map is not a public document and should not be used in concert with another. This map should be used for planning purposes and does not constitute an offer.



West Townshend

0 0.25 m.



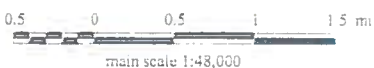
Townshend

0 0.25 m.

Proposed Land Use

Town of Townshend, Vt.

November 2016

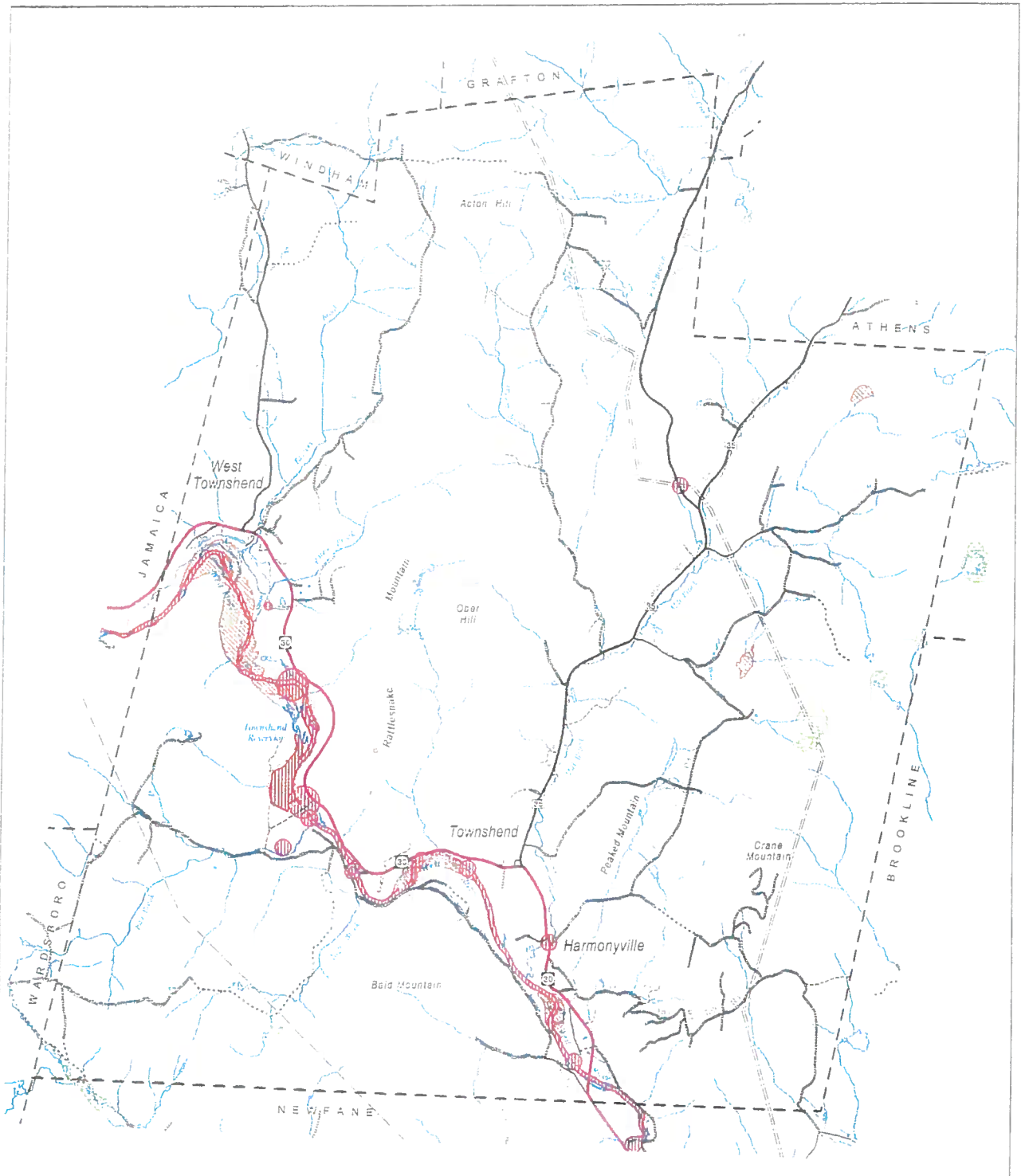


- Structure
- Parcel boundary (2012)
- Utility Corridor
- Federal Land (FL)
- Health Care Services District (HC)
- Productive Rural Lands (PR)
- Resource Lands (R)
- Rural Residential (RR)
- State Forest (SF)
- Village District (V)

Data sources

- Proposed land use areas were defined by the Townshend Planning Commission and digitized by the Windham Regional Commission.
- Utility corridors were digitized by WRC from 1989 Vermont Orthophotos, updated in 2016
- State and Federal land boundaries are from Townshend's digital parcel data
- Parcel boundaries are from Townshend's 1:5000 tax maps updated by Dauchy Associates in 2012
- Building locations were captured using Global Positioning System technology and are extracted from the VGIS data layer PSITF. Data are current to 2016

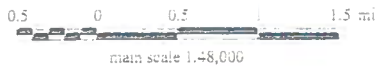
Note: The maps of this Plan are key to understanding the vision of the Plan in the same manner as the Plan's policies; the map and policies should be used in concert with each other. This map should be used for planning purposes and general reference only.











Natural Resources

Town of Townshend, Vt.

November 2016



-  Rare or uncommon animal
-  State threatened, rare, or uncommon plant
-  Significant natural community
-  Deer Wintering Area
-  Important farmland soil
-  Large stream
-  Small stream
-  River or pond

Data sources:

- Natural Heritage data are from VT Dept. of Fish and Wildlife, Nongame and Natural Heritage Program's Natural Heritage Inventory Database. This includes data on Rare, Threatened and Endangered Species and Significant Natural Communities database (VGIS layer RTENATCOM), and on uncommon species and other features (VGIS layer UNCOMSPO).

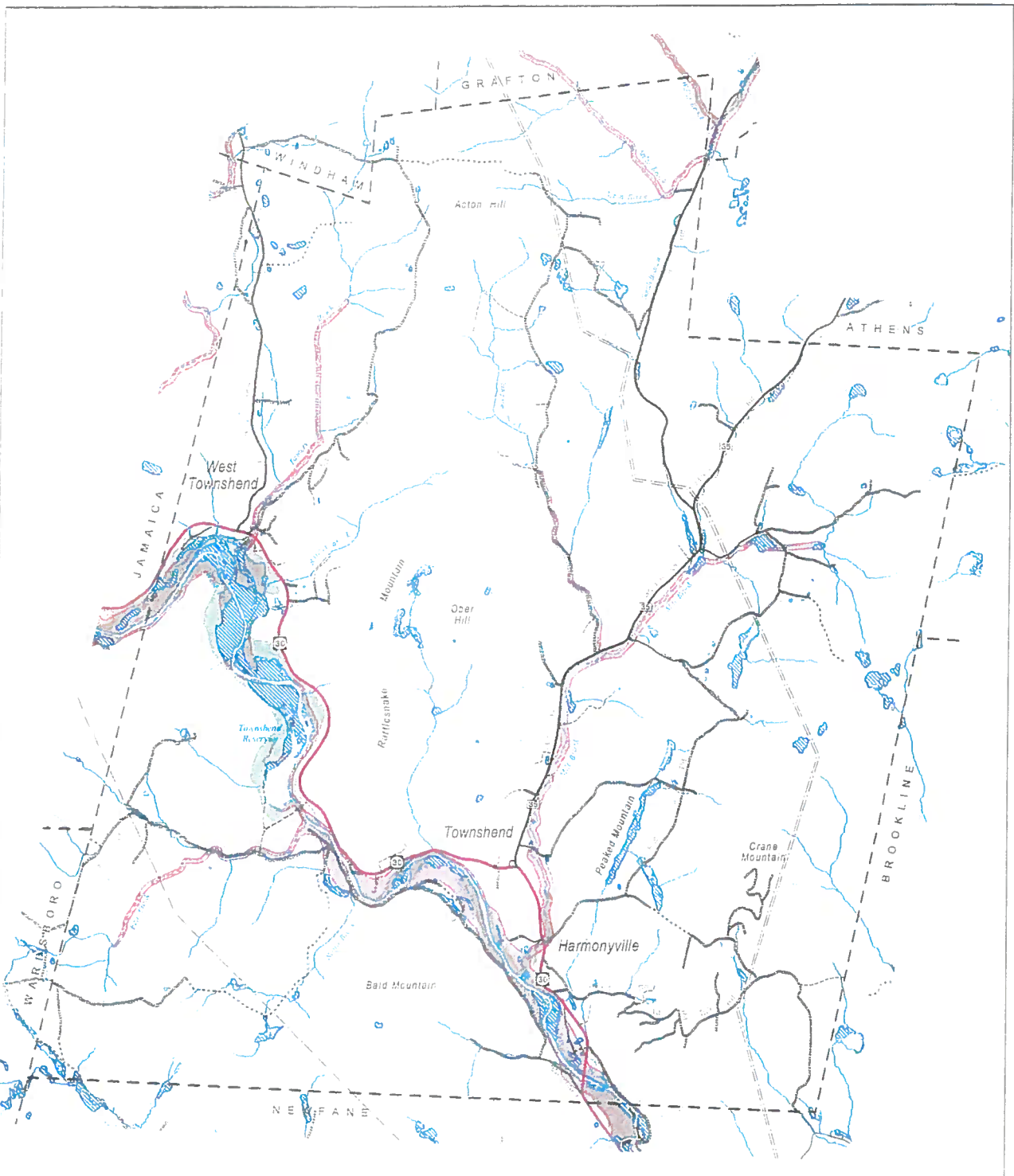
- Deer wintering areas are taken from the VGIS data layer: DEFRWN. They were delineated by VT ANR, Department of Fish and Wildlife, and have been updated to a limited extent through 2011.

- Surface waters are from the Vermont Hydrography Dataset (VGIS data layer SWHYDR). The dataset was generated at a scale of 1:50,000 and was developed using digital elevations, topographic maps, color infra red aerial photography and other auxiliary data sources.

- Contour lines were generated from USGS 1:24,000 Digital Elevation Models by WRC using ESRI's Spatial Analyst software. They are intended to portray the general hydrography of the area and should not be used to determine actual elevations.

- Agricultural soil delineations are derived using soils data. Soil boundaries were digitized from 1:20,000 orthophotos for the Windham County Soil Survey.

Note: The map and this Plan are not to be interpreted as the action of the Plan in the same manner as the Plan's policies. The map and policies should be used in concert with each other. This map should be used for planning purposes and general reference only. Greater investigation is required to verify the precision and extent of accuracy. Accuracy: natural heritage data and water features.



Water Resources

Town of Townshend, Vt.

November 2016

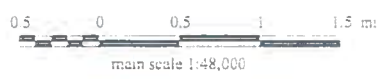


- Perennial stream
- Intermittent stream
- Wetland
- River corridor *
- Special Flood Hazard Area
- River, lake, or pond

* Official source of River Corridor data is Vermont Dept. of Fishery & Aquaculture. Where river corridors are not mapped, the corridor is taken to be the area within 50 feet of a perennial stream.

Data sources

- Wetlands data are from the Vermont Significant Wetlands Inventory (VGIS data layer VSWT) as of 2010. These include wetlands in the original VSWI data, as well as those from National Wetlands Inventory (NWI) maps, and show approximate locations of wetlands that are generally 3 acres or larger.
- Special Flood Hazard Area boundaries (i.e. "the 100-year floodplain") are from FEMA (Federal Emergency Management Agency) D-FIRM (Digital Flood Insurance Rate Map) data effective September 28, 2007.
- Statewide River Corridors are from VT ANR Rivers Program 2015 data (VGIS data layer RIVERCORRIDORS).
- Surface waters are from the Vermont Hydrography Dataset (VGIS data layer SWBOUNDARY). The dataset was generated at a scale of 1:5000 and was developed using digital orthorectified topographic maps, color infra-red aerial photography and other auxiliary data sources.



Note: The maps of this plan are key to understanding the vision of the Plan in the same manner as the Plan's policies. The maps and policies should be used in concert with each other. This map should be used for planning purposes, and general reference only. On-site investigation is required to verify the presence and extent of

