

**NORWICH PLANNING COMMISSION
AGENDA**

**NOTE START
TIME!!!**

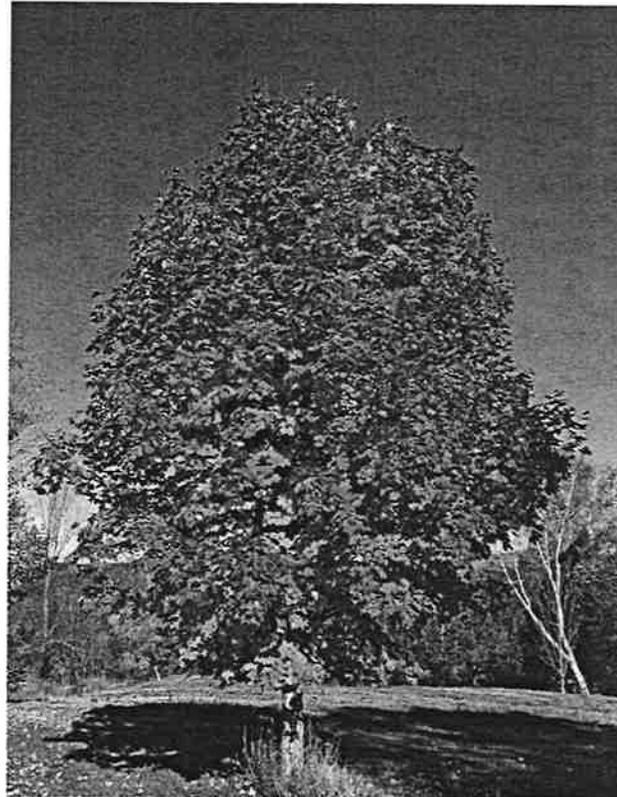
Friday, December 6, 2019, Norwich Historical Society, 277 Main Street, 3:15 pm

- Approve Agenda
- Meeting Objective:
 - Review and approve Town Plan pre-hearing draft
- Comments from the Public
- Announcements, Reports, Updates & Correspondence
 - Correspondence
 - i. 11/21 letter from Michael Kiess
 - Announcements
 - Updates
 - Reports
- Review and approve Town Plan pre-hearing draft
 - Comments from the Public
- Review and approve Minutes 11-14-19 and 11-21-19
- Other Business
- Comments from the Public
- Future Meeting Schedule & Agendas
TBD

**Note
Location!!**

Real Estate Market Update

November 1, 2019



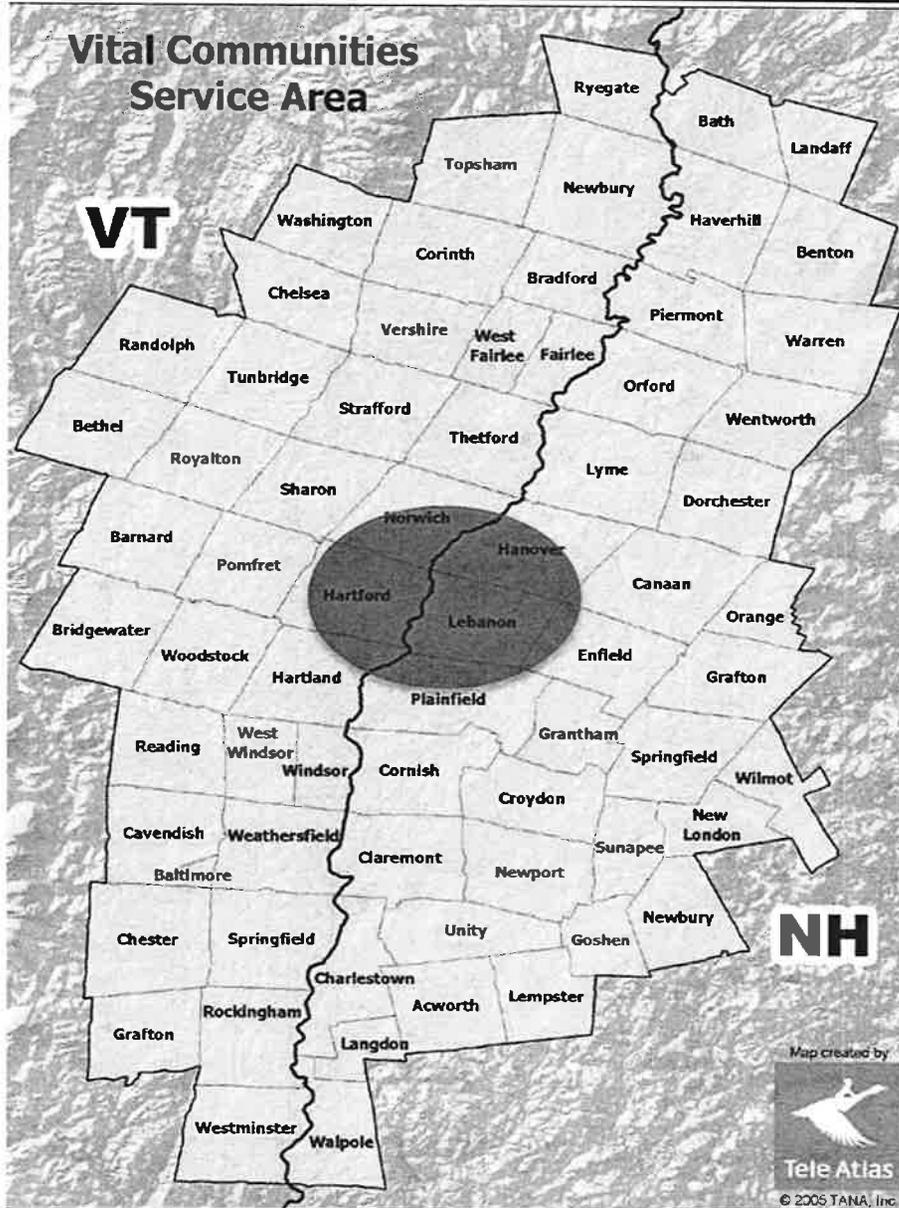
Host: Vital Communities
Sponsor: Mascoma Bank



Presented by: Buff McLaughry & Lynne LaBombard/ Mike Kiess



Upper Valley



Upper Valley Demographics

- 69 Towns
- 183,012 Population
- 87,354 Jobs
- 93,963 Homes

*US Census 2017

*American Community Survey 2015



Agenda

1. Green Real Estate

2. Rentals

3. For Sale



Green Real Estate...



...is all about the cost of energy for Sellers and Buyers.

Sellers and Buyers should know the cost of energy for a home.



Especially in our region:

- 1. More heating degree days than 80% of the country**
1971-2000, VT ranked 6th, NH 10th ¹
- 2. More older homes on the market than other regions**
In 2017, 32% in the Northeast purchased a home from 1914-1961, compared to 19% nationwide.²
- 3. Energy expenditure per person:**
 - \$3,759 in VT (65% Transportation, 35% Heating/Electricity)
 - \$3,360 in NH (63% Transportation, 37% Heating/Electricity)³
- 4. Reliant on oil and propane for heat: dirty & expensive**
Rather than natural gas or electricity like the rest of the nation⁴



VitalCommunities.org/Energy/GreenRealEstate

Green BUYER Guide



Tools & tips for low energy bills and year-round comfort in your new home.

[Learn more >](#)

Green SELLER Guide



Tools & tips for selling your energy efficient home. [Learn more >](#)

Network



Trainings, support, and networking for Upper Valley real estate professionals.

[Learn more >](#)



Landlords and Property Managers can save \$1,000s

VitalCommunities.org/LandlordNetwork

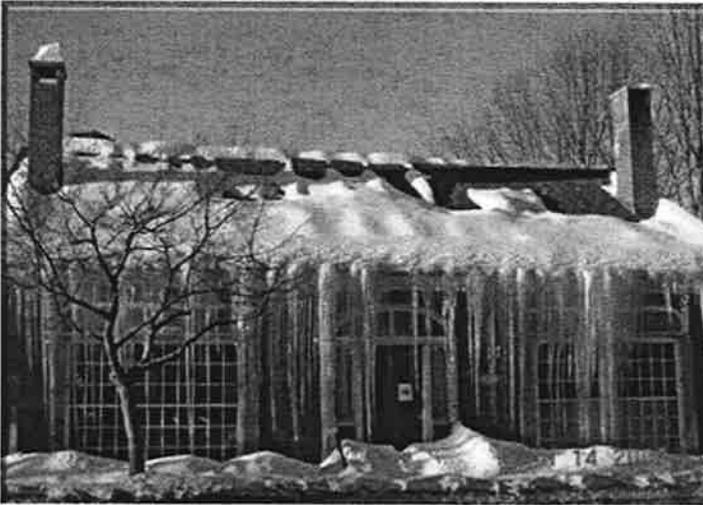
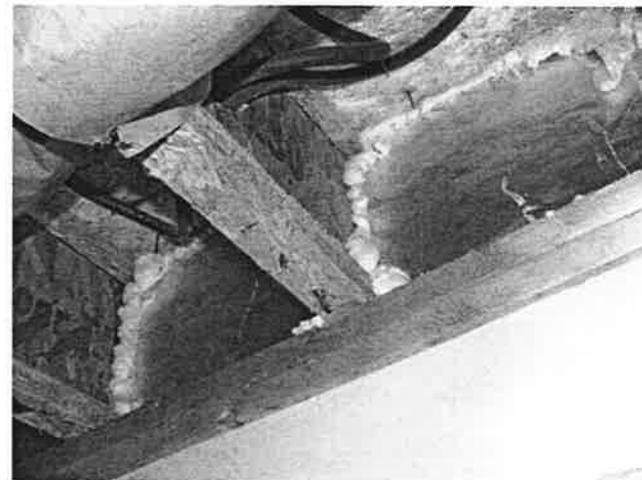
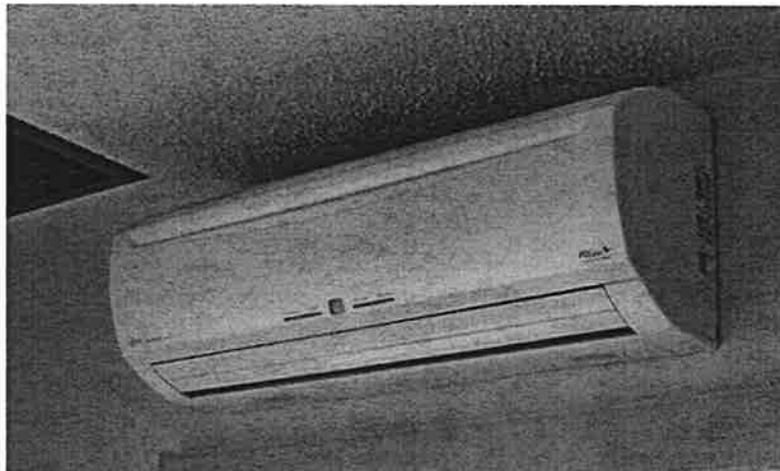


Image courtesy of Efficiency Vermont



Resources:

VitalCommunities.org/Energy/GreenRealEstate

VitalCommunities.org/LandlordNetwork

Sarah Brock, Energy Program Manager

Sarah@VitalCommunities.org

Mike Kiess, Workforce Housing Coordinator

Mike@VitalCommunities.org



Agenda

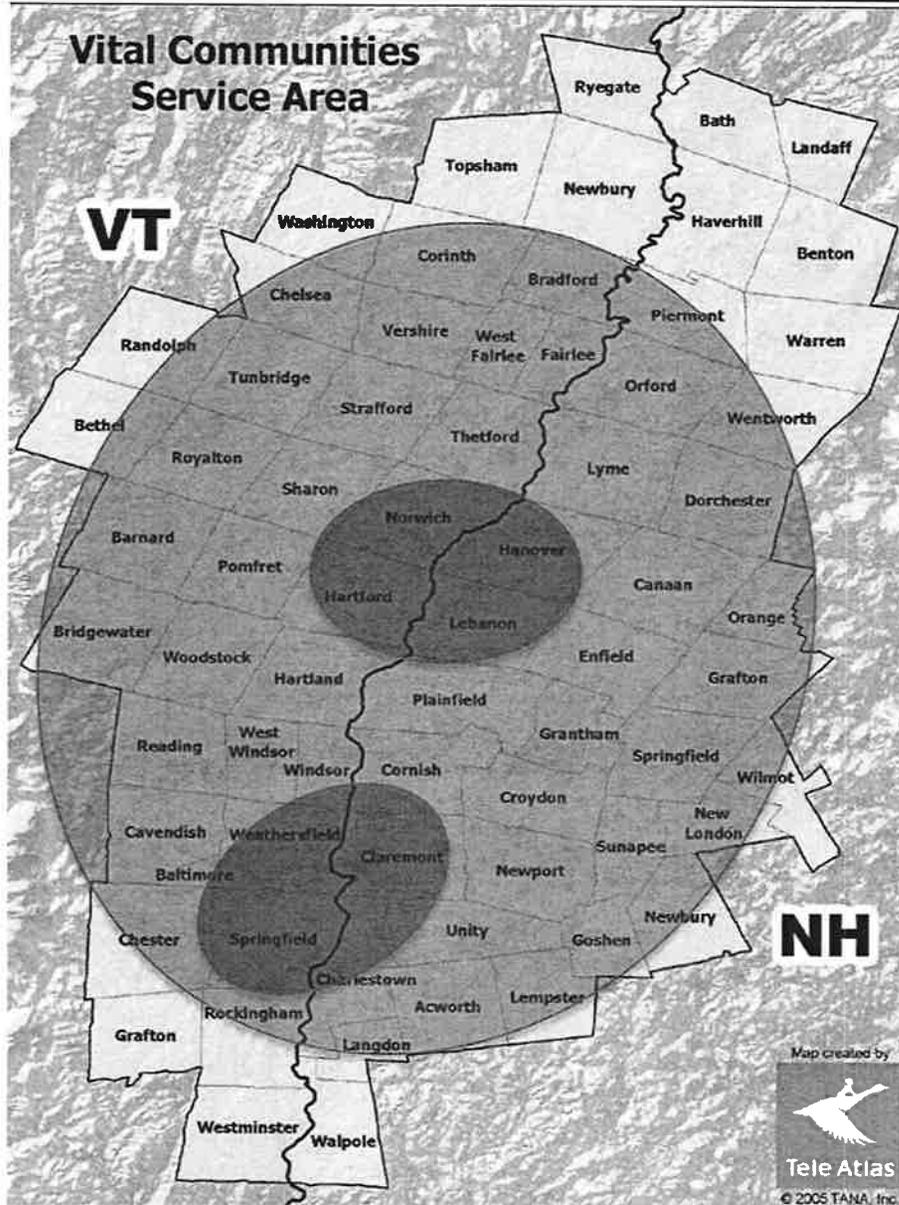
1. Green Real Estate

2. Rentals

3. For Sale



Rental Availability Snapshot 10/25/19



What is available today for our potential employees?

Market survey of 30 towns within 45 minute commute

How many? How much?

‘Core employment’ towns
(Claremont, Hanover, Hartford, Lebanon,
Springfield)

144 places (apartments, condos, houses)

Median rent \$1,350

Min \$600, Max \$6,000

How many? How much?

'Commuter' towns

139 places (apartments, condos, houses)

Median rent \$1,350

Min \$500, Max \$5,000

Points of Reference

Fall 2019:	284 rentals
Spring 2019:	241
Fall 2018:	198
Spring 2018:	270

937 full time positions
within 25 miles of Lebanon, NH¹

¹ Indeed.com Oct 29, 2019

Agenda

1. Green Real Estate

2. Rentals

3. For Sale



Market Trends - Price Range: Under \$299,000

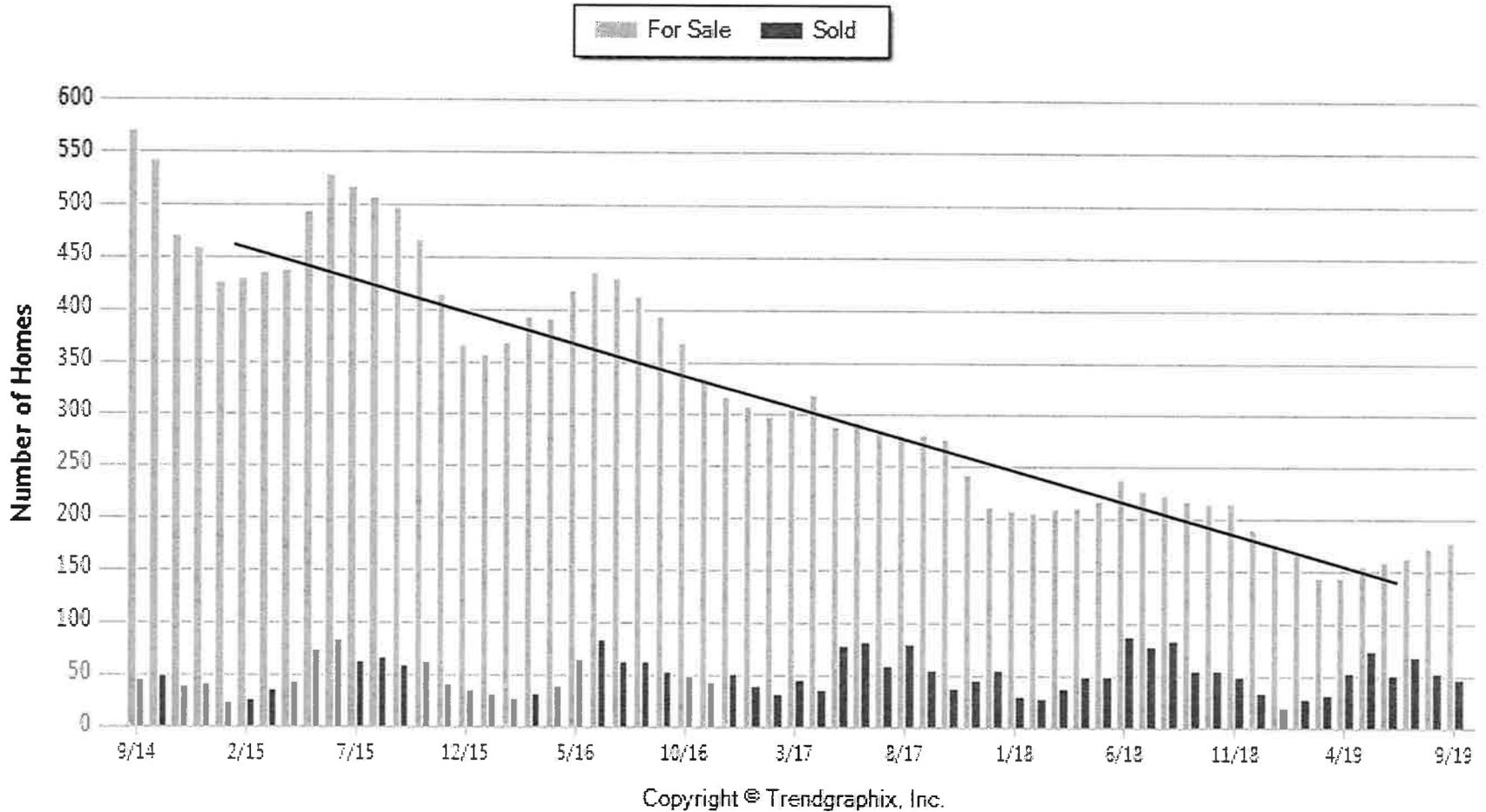
	YTD Q3 2014			YTD Q3 2019		
	Units Sold	Units Invent.	Price \$ 000's	Units Sold	Units Invent.	Price \$ 000's
Core Towns	274	239	\$166	247	77	\$171
Commuter Towns	2,265	2,426	\$142	1,740	934	\$161

Comments:

- 10% decrease in core housing units sold
- 23% decrease in commuter housing units sold
- 68% decrease in core inventory
- 62% decrease in commuter inventory
- 3% increase in core price
- 12% increase in commuter price



Market Trends - Five Largest Towns Under \$299,000



Hartford, Springfield, Hanover, Lebanon, Claremont



Market Trends - Price Range: \$300,000 - \$599,000

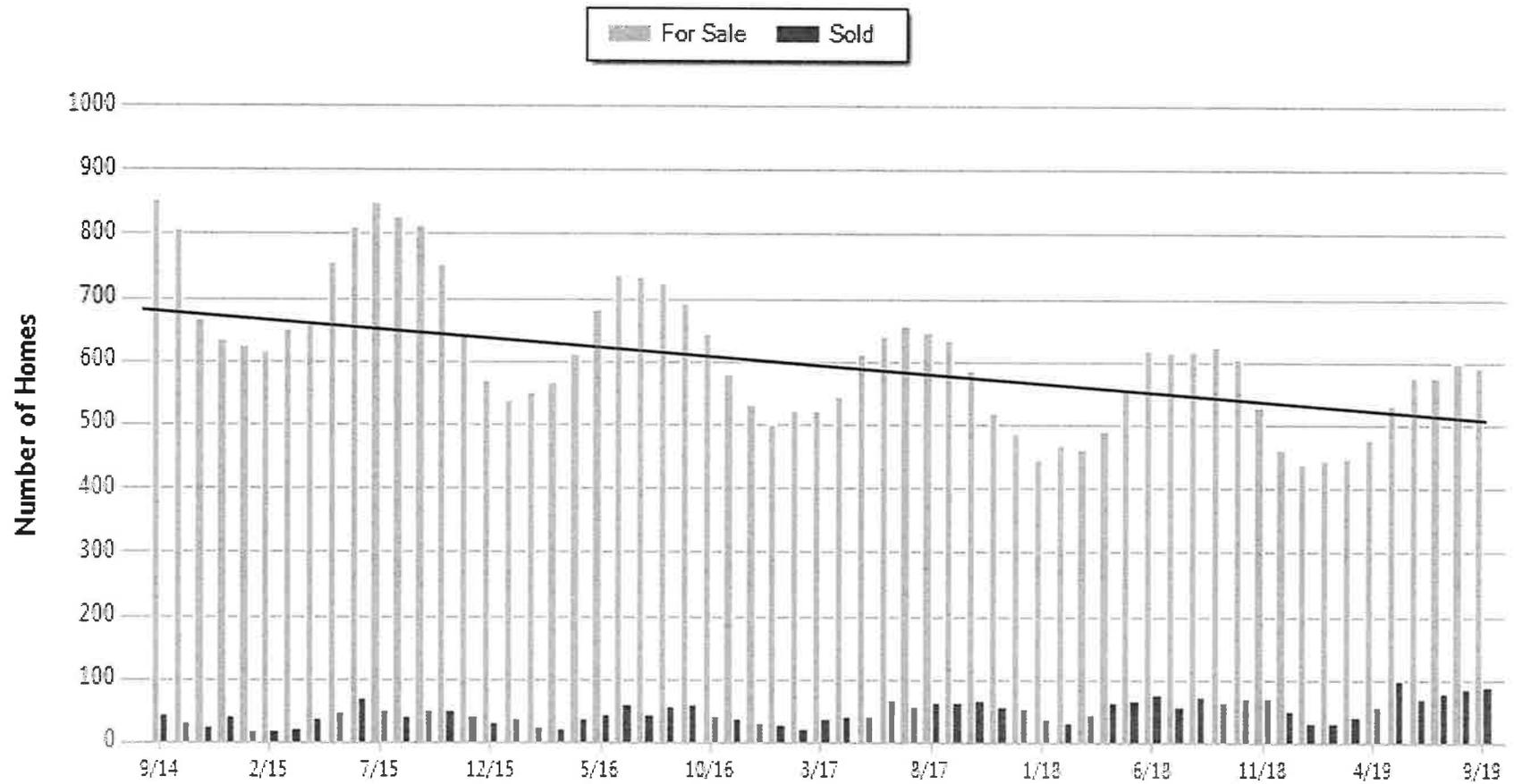
	YTD Q3 2014			YTD Q3 2019		
	Units Sold	Units Invent.	Price \$ 000's	Units Sold	Units Invent.	Price \$ 000's
Core Towns	84	80	\$393	135	62	\$410
Commuter Towns	244	713	\$402	985	926	\$465

Comments

- 4% Core price increase
- 14% Commuter price increase
- 38% Increase in core units sold
- 75% Increase in commuter units sold
- 77% Decrease in core inventory
- 23% Increase in commuter inventory



Commuter Towns \$300,000 - \$599,000 – Inventory and Sales



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Orange, Windsor, Grafton, Sullivan



Market Trends - Price Range: Over \$600,000

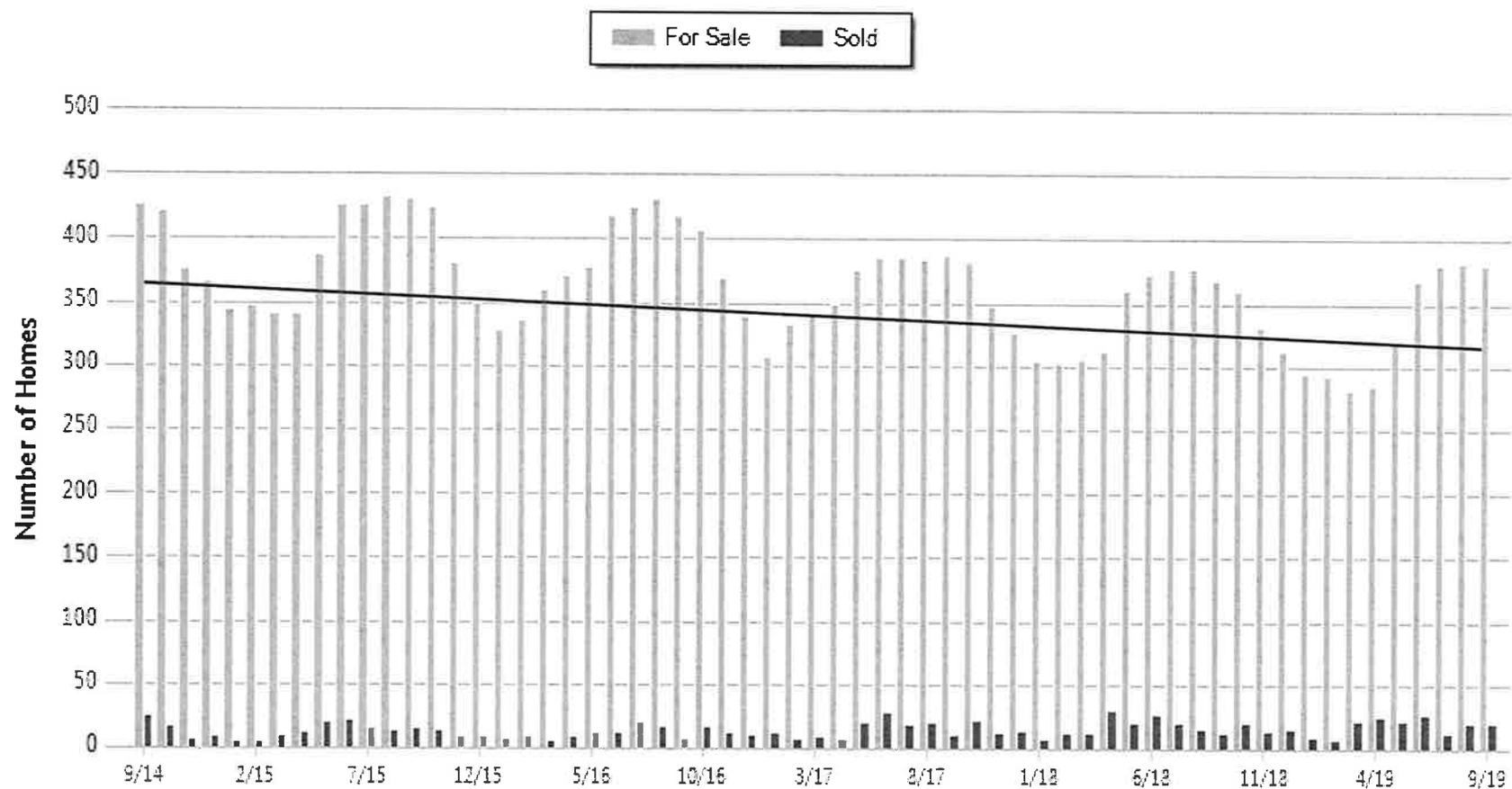
	YTD Q3 2014			YTD Q3 2019		
	Units Sold	Units Invent.	Price \$ 000's	Units Sold	Units Invent.	Price \$ 000's
Core Towns	35	33	\$893	45	39	\$790
Commuter Towns	92	347	\$1,054	129	289	\$932

Comments

- 22% Increase in core units sold
- 29% Increase in commuter units sold
- 15% Increase in inventory in core
- 17% Decrease in inventory in commuter
- Approximately 12% decrease in price in both core and commuter



Commuter Towns Over \$600,000 – Inventory and Sales

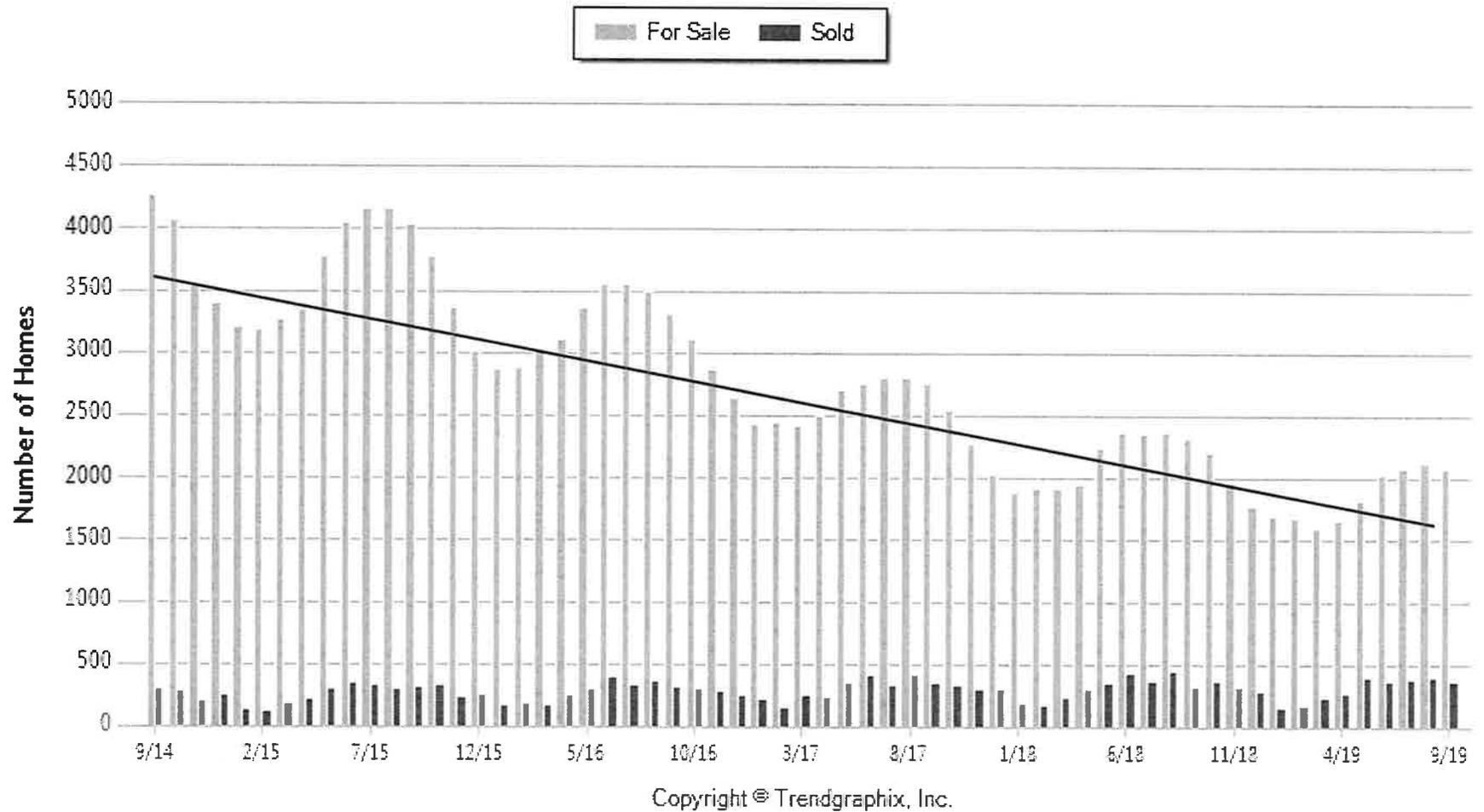


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Orange, Windsor, Grafton, Sullivan



Upper Valley Total Inventory – No Price Limits



Orange, Windsor, Grafton, Sullivan



Takeaway

237 new places to live each year*
is not meeting our needs

*from Counting New Homes study: 237 is the average number of homes added each year 2010 through 2018 for 12 largest and 14 commuter towns in the Vital Communities service area.

Presentation posted on the Vital Communities website:

WWW.VITALCOMMUNITIES.ORG



Buff McLaughry

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Lynne LaBombard

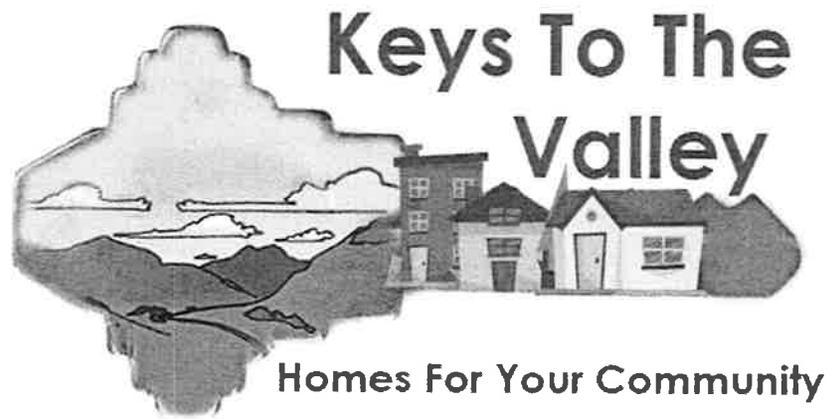
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Mike Kiess

email: mike@vitalcommunities.org



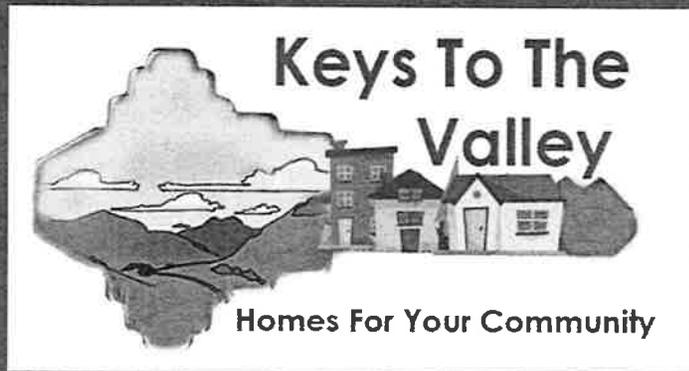


2019 FALL BUSINESS LEADERS HOUSING BREAKFAST

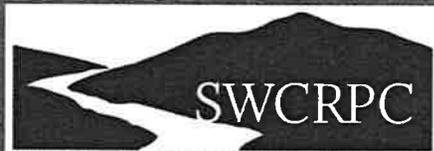
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www.keystothevalley.com



TRORC



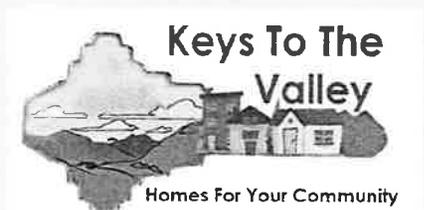
- 3 regional planning commissions in VT and NH
- 67 towns
- Needs study
- Survey of housing desires and fears
- Subject expert identification of obstacles
- Compilation of solutions from near and far
- Place-based visual examples

Tenet

- Having employees live in or near the town they work makes families, communities, and businesses stronger.

Principle

- People should be able to afford to live in the town in which they work.



Situation

- Employees commuting long distances
- Residents aging out of workforce
- Difficulty recruiting employees due to housing
- Region needs to attract young families
- We have much of what people want in terms of quality of life, except housing

Employer Input

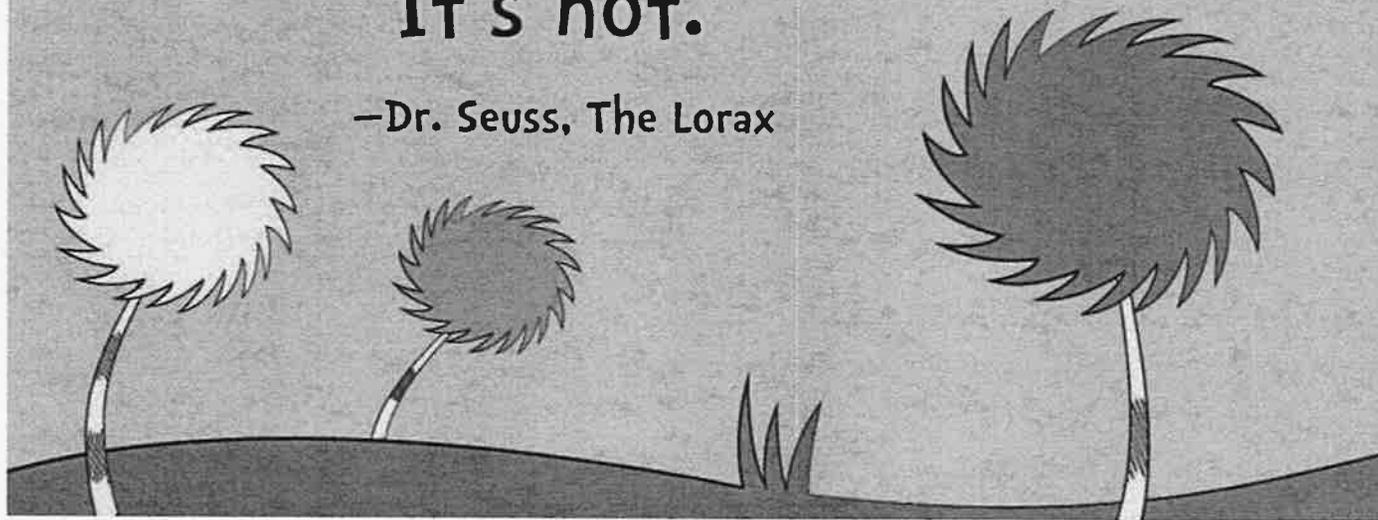
- Survey
- Technical Advisory Group
- Unsolicited Comments

Dwell on Solutions

- **Financing:** direct, loan guarantees; down payment assistance, construction bridge loans, etc.
- **Construction:** build it and sell it or manage it
- **Infrastructure:** roads, transit, sewer and water
- **Land:** acquisition or reuse of land owned
- **Organizational:** public/private, new non-profits or coops
- **Regulatory:** zoning, legislation

Unless someone like you
cares a whole awful lot,
Nothing is going to get better.
It's not.

—Dr. Seuss, *The Lorax*



Rod Francis

From: Stuart Richards <stuartrichards50@gmail.com>
Sent: Monday, November 18, 2019 1:54 PM
To: norwich@lists.vitalcommunities.org
Cc: Herb Durfee; Rod Francis
Subject: MEGA DEVELOPMENT REDUX

If you thought that the Norwich Planning Commission had given up on the idea of mega development read the quote below contained in the Section entitled Land Use 11/13/19 in the new proposed Town Plan. To foster large scale development it seems apparent that the Planning Commission wants to promote municipal wastewater disposal regardless of the cost to taxpayers. A copy of the 2005 Sewer Committee Report can be found here:

<https://tinyurl.com/s3x5pvq>. The issue of a municipal sewage system and or a hookup to Hartford/Hanover has been studied and restudied by Norwich committees perhaps 5 or 6 times and the conclusion has always been that it's too expensive and that it would impose a burden on tax payers.

The Planning Commission is proposing to change the current zoning on the easterly side of Route 5 South and an area on the west side to Mixed Use to enable high density residential and commercial development. When thinking about the Planning Commission's proposals it's worth considering whether you like Norwich as a small town of 3400 people or whether you'd like to see a lot of growth. The 2018 Survey with around 480 respondents found here: <https://tinyurl.com/ra453x5> stated that 53% wanted the population of Norwich to remain relatively stable and 42% wanted Norwich to grow some. The 2005 Survey with almost 1,000 respondents found here: <https://tinyurl.com/wdal2bt> had similar responses. 47% said they wanted the population to remain relatively stable and 6% said they wanted it reduced some. 42% wanted the population to grow some and 2% said they wanted the population to grow significantly.

In 2005 payment for a Norwich municipal wastewater system was a question. 59% said they were not willing to pay anything. 51% said they were not willing to pay anything to hookup to Hartford. In 2018, 58% said they felt that hooking up to Hartford/Hanover was of Low/No Priority. In addition, in 2018 70% said having a municipal waster facility in Norwich was of Low/No Priority. Nevertheless, it appears that the Planning Commission is headed toward promoting growth, a municipal hookup to Hartford/Hanover and large scale expansion of the Village on Route 5 South. Why is the Planning Commission moving forward without majority public support?

There have been about 6 new houses a year built in Norwich in recent years in addition to quite a few additions and accessory structures. Is that too few? Do we really want to see intensive large scale growth? How do you feel about growth? These issues will be resolved by 5 members of our Planning Commission and 3 members of our Selectboard unless the public decides to petition to vote on these important matters. It's also not too late to enter your thoughts on this very important issue by writing the listserv and or the Selectboard through Herb Durfee and or the Planning Commission and Affordable Housing Subcommittee through Rod Francis at their email addresses, HDurfee@norwich.vt.us and RFrancis@norwich.vt.us

"Land Use 11/13/19

This plan supports exploring how to provide for an expansion of the housing stock in the village, immediately adjacent to the village and along Route 5 South.

Objective 2. Increase the diversity and total stock of housing in Norwich by directing intensive residential development to areas adjacent or near the village while discouraging strip development along highways (24 VSA 54302 (c) (1) (A)).

Actions 5. Consider how to address barriers to development related to limitations on septic capacity, including a review of the findings of the 2005 study conducted by the Norwich Sewer Committee in light of current challenges and changes in wastewater management.

Absence of a wastewater system limits growth and expansion of the village and established commercial districts (Route 5 South).”

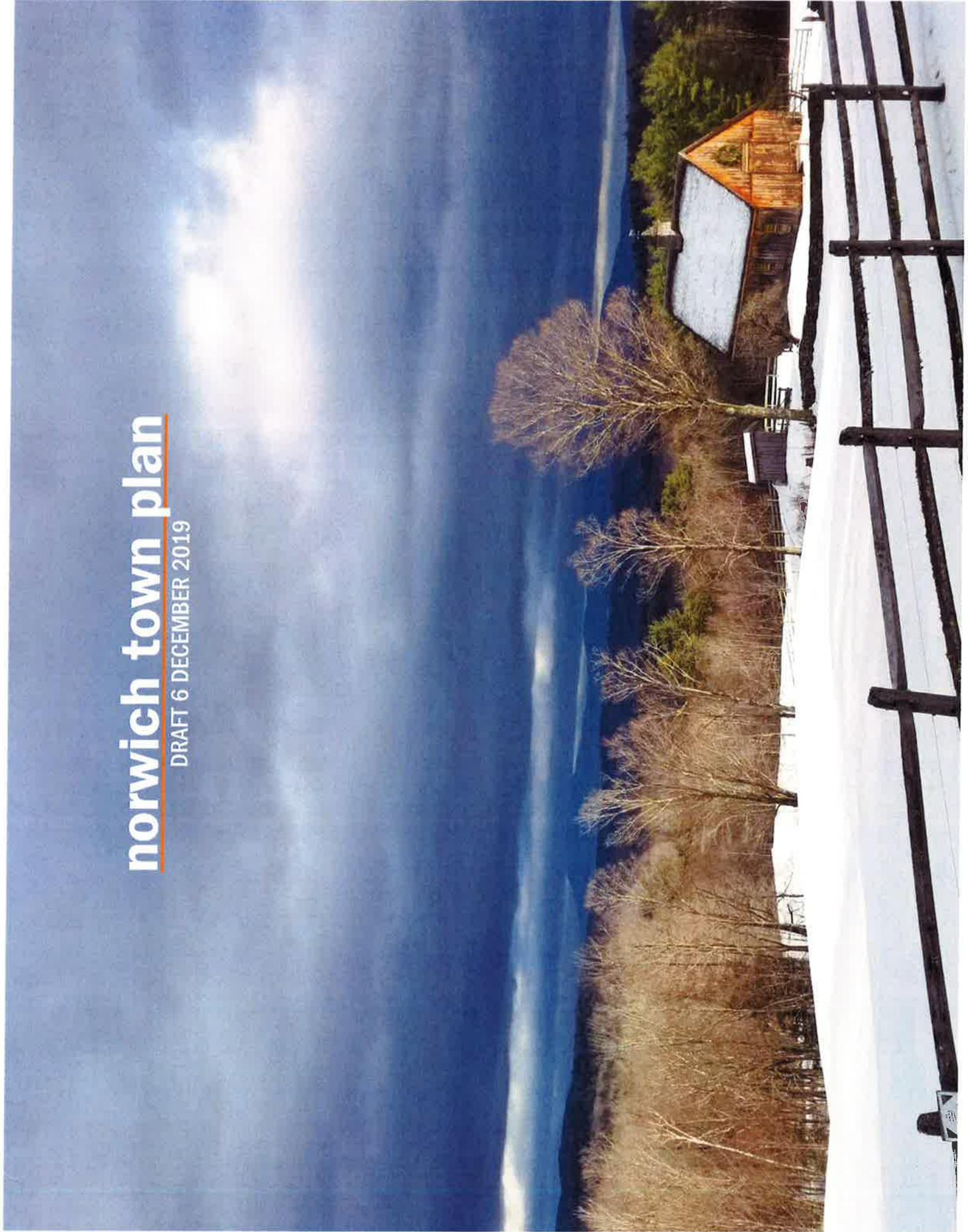
Rod and Herb please include this email in correspondence to the Selectboard, the Planning Commission and Affordable Housing Subcommittee.

Thanks to all,

Stuart Richards

norwich town plan

DRAFT 6 DECEMBER 2019



1 Introduction	1
1.1 Purpose	1
1.2 Authority	1
1.3 Planning Process	1
1.4 Using the Plan	2
1.5 State Planning Goals	2
2 Land Use	4
2.1 Objectives	4
2.2 Policies	5
2.3 Actions	5
2.4 Current Land Use	6
2.5 Future Land Use	7
2.6 Forest Blocks and Habitat Connectors	9
2.7 Village Center Designation	10
2.8 Compatibility	10
3 Energy	21
3.1 Objectives	21
3.2 Policies	21
3.3 Actions	22
3.4 Overview	22
3.5 Current Energy Use	23
3.6 Renewable Energy Resources	24
3.7 Energy Conservation and Efficiency	27
3.8 Future Generation, Use and Conservation	28
4 Housing	30
4.1 Objectives	30
4.2 Policies	31
4.3 Actions	31
4.4 Regional Market	31
4.5 Local Housing Stock Characteristics	32
4.6 Affordability	33

5 Economic Development	37
5.1 Objectives	37
5.2 Policies	37
5.3 Actions	38
5.4 Background	38
5.5 Barriers To Economic Growth	39
6 Transportation	40
6.1 Objectives	40
6.2 Policies	40
6.3 Actions	41
6.4 Roads In Norwich	41
6.5 Regional Transportation Planning Issues	43
7 Facilities and Services	45
7.1 Objectives	45
7.2 Policies	45
7.3 Actions	46
7.4 Town Government Facilities	46
7.5 Water Supply Infrastructure	46
7.6 Electricity Infrastructure	47
7.7 Telecommunications Infrastructure	47
7.8 Stormwater Infrastructure	47
7.9 Wastewater Provision	47
7.10 Solid Waste Facilities and Services	48
7.11 Trails	48
7.12 Educational Facilities	48
7.13 Childcare	49
7.14 Recreation	49

8 Resilience	53
8.1 Objectives	53
8.2 Policies	53
8.3 Actions	54
8.4 Floodplains	54
8.5 Mitigation Plans	55
9 Implementation Program	56
10 Appendices	61
A. Affordable Housing Strategy	61
B. TRORC Act 174 Supplement	61

Figures

Figure 1. Future Land Use Recommendations	11
Figure 2. Current Land Use Map	12
Figure 3. Current Land Use Map (Village Detail)	13
Figure 4. Housing Location Map	14
Figure 5. Protected Lands Map	15
Figure 6. Protected Lands Map (Village)	16
Figure 7. Water Resources Map	17
Figure 8. Forest Block and Habitat Connector Map	18
Figure 9. Future Land Use Map	19
Figure 10. Future Land Use Map (Village Detail)	20
Figure 11. Energy Use and Goals by Sector	23
Figure 12. Norwich Energy Targets	24
Figure 13. Year Housing Unit Built	32
Figure 14. Change in Housing Units 1940 — 2018	33
Figure 15. Change in Household Income 2000-2017	34
Figure 16. Single-Family Home Sales in Norwich by Price	34
Figure 17. Establishments, Employees and Wages	38
Figure 18. Commuting Patterns 2017	39
Figure 19. Traffic Counts	41
Figure 20. Transportation Map	44
Figure 21. Community Facilities Map	51
Figure 22. Community Facilities Map (Village Detail)	52

1 | INTRODUCTION

1.1 Purpose

The Norwich Town Plan states the town’s objectives, policies and actions for guiding future land use and development in the community. This plan is a guide for municipal decision-making. It also contains policies directing the deliberations of the Selectboard, Planning Commission, Development Review Board and other town and state boards and commissions in reviewing development proposals. This plans identifies current conditions and gathers public input as a resource for future public spending on community facilities, housing assistance and other municipal programs and services.

1.2 Authority

Under the Vermont Municipal and Regional Planning and Development Act (24 VSA Chapter 117), the Planning Commission has the duty to make and approve a Town Plan and then recommend its adoption to the Selectboard. State Law requires that a Town Plan be composed of several interrelated elements that address the following areas: land use, transportation, energy, economic development, utilities and facilities, educational facilities, natural areas, and plan implementation. The Act also requires that town plans promote goals set forth by the legislature related to both *process* and *planning content*. The process goals are designed to ensure that there is coordination across all levels of government, the development of the plan involves

citizens, the plan considers the consequences of growth, and the plan encourages towns to work together. The 14 planning goals help to ensure that all town plans are coordinated and reflect the legislature’s vision for how land in Vermont will be developed. Finally, the Act requires that a town plan study present conditions and trends, anticipate future internal and external influences that will affect the town, and formulate policies and actions that will ensure the health of the town in the coming years. Through the Act plans must also be compatible with the regional plan — Two Rivers Ottauquechee Regional Planning Commission (TRORC) Regional Plan. Once adopted the Norwich Plan remains in effect for eight years.

Having a duly adopted and approved plan will allow Norwich to reapply for Village Center Designation and seek support from the State for future planning studies and projects.

1.3 Planning Process

Norwich first adopted a town plan in 1968. The plan has been regularly updated and re-adopted since. This plan is a major change over the previous three plans adopted in Norwich. This plan includes input from an on-line survey conducted under the auspices of the Selectboard in 2018, a postcard survey in 2019 and numerous workshops and meetings spanning ten months where residents discussed:

- ▶ how to respond to the climate crisis;
- ▶ how to continue protecting important natural resources;

- ▶ how to increase housing stock, including the variety and type;
- ▶ preserving rural character and vibrant village life.

The Vermont Planning and Development Act establishes the process by which town plans must be adopted, which includes public hearings by both the Planning Commission and Selectboard. That process has been followed in the re-adoption of this 2020 plan.

1.4 Using the Plan

The Norwich Town Plan conveys a vision for thoughtful stewardship of rich cultural and natural resources, a commitment to address the climate crisis and fostering housing development that is appropriate in scale and responsive to community needs. The plan policies and recommendations will be implemented over time through many distinct actions, including capital improvements, land use regulation amendments, and changes to other municipal regulations and documents. The plan provides the policy platform for the integration and coordination of these decisions and actions. This plan also provides guidance on how the town’s land use development regulations should be updated and enhanced to facilitate plan implementation. Vermont state statute requires that the town’s land use regulations be consistent with the adopted plan.

When using this plan for a regulatory purpose, the objectives, policies and actions found throughout must be considered in context as part of a whole rather than individual statements meant to stand alone. Norwich (like any community) has competing objectives that must be

weighed carefully when applied on an individual basis. This plan is a guide for such decisions.

The plan is organized into seven subject area chapters. Each chapter opens with objectives, policies and actions.

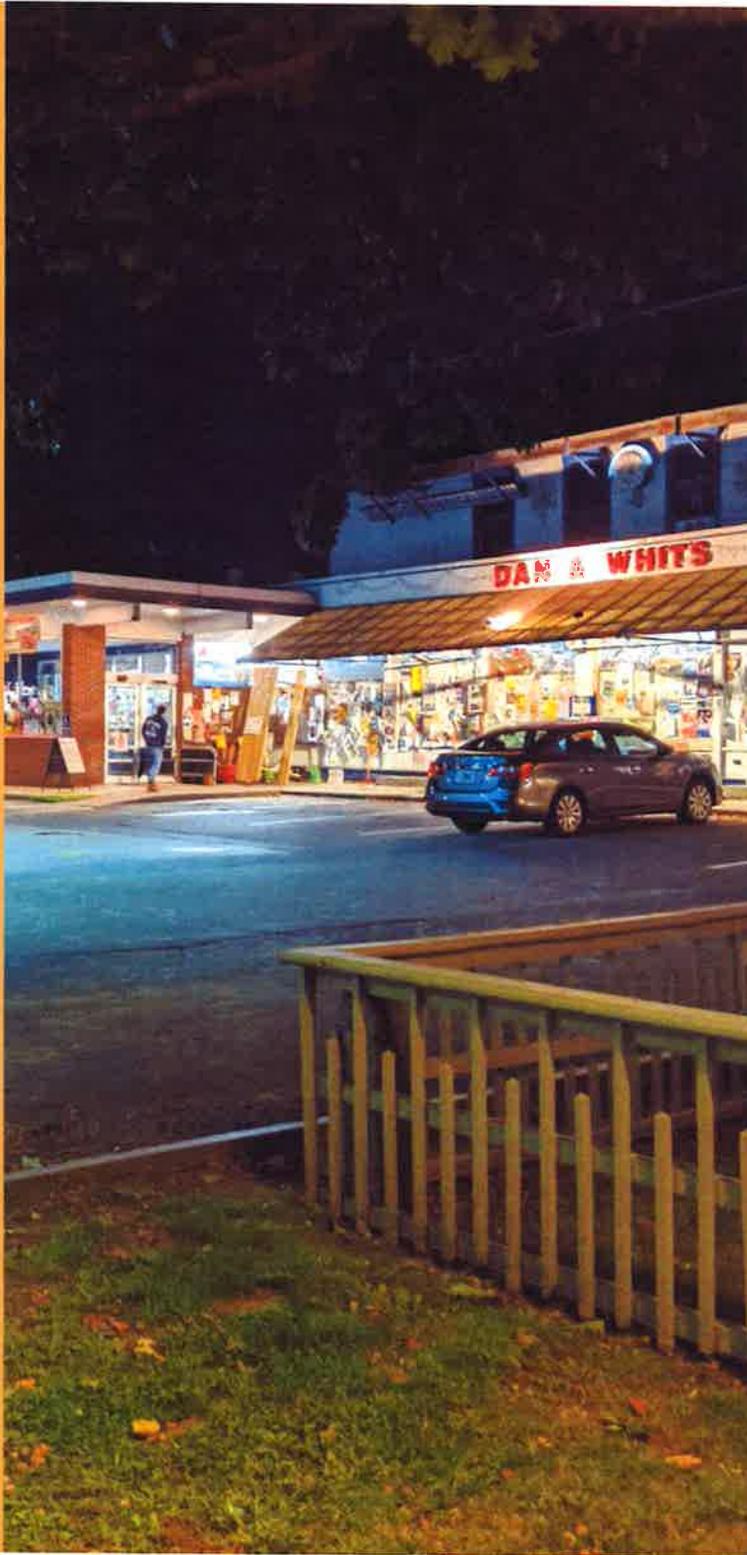
- ▶ Objectives are attainable outcomes accomplishing one or more goals (see [State Planning Goals](#)). Where possible they should be specific and quantifiable so that the community can determine when they have been met.
- ▶ Policies are principles that guide progress to achieving one or more objectives. They guide all relevant decision-making by town government, and in those circumstances where the plan is intended to influence regional or state decision-making.
- ▶ Actions are the concrete activities or programs intended to achieve (or contribute to) one or more objectives that town government will implement during the life of the plan (eight years).

This plan incorporates the state planning goals as Norwich’s planning goals. The objectives and policies of each chapter are formulated to further these goals.

1.5 State Planning Goals

The 2020 Norwich Town Plan is consistent with the 14 state planning goals listed in the Vermont Development Act as demonstrated below. To be ‘consistent with a goal’ requires that one or more objectives identified in this plan will result in Norwich making substantial progress towards attaining the stated goal. This plan incorporates the state’s planning goals as Norwich’s planning goals. The table below includes each goal and identifies the related objectives and policies established in this plan.

State Planning Goal	Chapter
1 To plan development so as to maintain the historic settlement pattern of compact downtowns and village centers separated by rural countryside.	Land Use, page 4 Economic Development, page 37 Housing, page 30
2 To provide a strong and diverse economy that provides satisfying and rewarding job opportunities and that maintains high environmental standards, and to expand economic opportunities in areas with high unemployment or low per capita incomes.	Economic Development, page 37
3 To broaden access to educational and vocational training opportunities sufficient to ensure the full realization of the abilities of all Vermonters.	Economic Development, page 37 Facilities and Services, page 45
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.	Transportation, page 40 Energy, page 21
5 To identify, protect, and preserve important natural and historic features of the Vermont landscape.	Land Use, page 4
6 To maintain and improve the quality of air, water, wildlife, forests, and other land resources.	Land Use, page 4 Transportation, page 40
7 To make efficient use of energy, provide for the development of renewable energy resources, and reduce emissions of greenhouse gases.	Energy, page 21 Transportation, page 40
8 To maintain and enhance recreational opportunities for Vermont residents and visitors.	Land Use, page 4
9 To encourage and strengthen agricultural and forest industries.	Land Use, page 4 Economic Development, page 37
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.	Land Use, page 4 Economic Development, page 37
11 To ensure the availability of safe and affordable housing for all Vermonters.	Housing, page 30 Land Use, page 4
12 To plan for, finance, and provide an efficient system of public facilities and services to meet future needs.	Facilities and Services, page 45 Land Use, page 4
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.	Facilities and Services, page 45 Land Use, page 4
14 To encourage flood resilient communities.	Resilience, page 53 Land Use, page 4



2 LAND USE

2.1 Objectives

- 2-1.a Plan development to maintain the historic settlement pattern of compact downtowns and village centers separated by rural countryside (24 VSA §4302 (c) (1)).
- 2-1.b Increase the diversity and total stock of housing in Norwich by directing more intensive residential development to areas in, or adjacent to, the village while discouraging strip development along highways (24 VSA §4302 (c) (1) (A)).
- 2-1.c Preserve rural character and working lands throughout the existing rural areas of town by developing in accordance with smart growth principles (24 VSA §4302 (c) (1) (D)).
- 2-1.d Identify, protect, and preserve important natural and historic features of the Norwich landscape, including: significant natural and fragile areas, outstanding water resources (including rivers, aquifers, shorelands and wetlands), significant roads, waterways and views, important historic structures, sites or districts (including archaeological sites) (24 VSA §4302 (c) (5)).
- 2-1.e Encourage and strengthen Norwich forestlands by maintaining and improving forest blocks and habitat connectors (24 VSA §4302 (c) (6) (C), (9)).
- 2-1.f Expand an interconnected system of trails for access to natural ecosystems for Norwich residents and visitors (24 VSA §4302 (c) (1) (D) (4), (8) (B)).
- 2-1.g Revise Norwich Zoning and Subdivision Regulations informed by the climate crisis, specifically the ability of existing forest cover to provide ecosystem services such as carbon absorption and sequestration.

2.2 Policies

- 2-2.a Increase the resilience of Norwich by avoiding, minimizing and mitigating conflict between land development and natural riparian functions along streams and rivers.
- 2-2.b Guide development away from priority forest blocks and discourage fragmentation or subdivision of land within those blocks that would adversely impact natural resource values, including absorption and sequestration of carbon dioxide.
- 2-2.c Guide development away from visually prominent locations on ridgelines and hills as viewed from public vantage points.
- 2-2.d Encourage conservation of primary agricultural soils for current and future agricultural use.
- 2-2.e Guide development away from steep slopes and require appropriate erosion control and stormwater management practices to protect water quality and avoid increased downstream flooding.
- 2-2.f Guide residential development in accordance with the objectives, policies and actions of this plan.
- 2-2.g Encourage use of conservation subdivision design and low-impact development practices in the rural areas of town in order to protect and conserve natural resources, open space and rural character.
- 2-2.h Encourage and support continued permanent conservation of farmland, forest land and natural areas.
- 2-2.i Encourage landowners to maintain or establish riparian buffers with native woody plants.
- 2-2.j Support the work of the Norwich Historical Society and Historic Preservation Commission to help inform land use decisions.

2.3 Actions

- 2-3.a Implement the recommendations made in this chapter (see [Figure 1](#)) and throughout this plan when revising the Norwich Zoning and Subdivision Regulations to:

- i. Maintain the rural character of Norwich by preserving working lands and forests
 - ii. Recognize the important ecosystem services performed by forests
 - iii. Facilitate appropriate scale mixed-use development in areas currently zoned commercial-industrial
- 2-3.b Participate in state, federal and other efforts to protect the Connecticut River, including basin plans provided for under 10 VSA §1253.
 - 2-3.c Develop a plan to address any potential conflicts between existing or proposed development on the edge of the village and mapped forest blocks.
 - 2-3.d Continue to advocate for the preservation and adaptive reuse of historic Lewiston.
 - 2-3.e Consider how to address barriers to development related to limitations on septic capacity, including a review of the findings of the 2005 study conducted by the Norwich Sewer Committee in light of current challenges and changes in wastewater management.
 - 2-3.f Consider incentive programs to encourage adaptive reuse of historic structures.
 - 2-3.g Update the inventory of barns at risk, and support owners in obtaining state grants to offset rehabilitation costs.
 - 2-3.h Ensure the participation of the Historic Preservation Commission in any study of improving bike-ability and walkability in the village.

2.4 Current Land Use

Norwich’s current land use pattern ([Figure 2](#), [Figure 3](#)) includes a densely settled village with a commercial core in the southeast corner with low density residential development accounting for the remainder. Union Village in the north and a few other hamlets hint at an earlier agrarian settlement pattern. There are significant areas of conserved land, Appalachian Trail lands along the southern border, riverine lands on the Ompomponoosuc River and higher elevation forest lands along the western border with Sharon (see [Figure 5](#), [Figure 6](#)). Outside of the village there is some commercial development along Route 5 South. An expanse of conserved woodlands along the Connecticut River associated with the Montshire Museum gives way to school playing fields on the border with Hartford to the south.

Since the 1970s the predominant pattern of development has been subdivision of farm/forest tracts into lots for residential use some distance from the village. The rate of development has slowed significantly since the 1990s (see [Figure 4](#)). The rural character (wooded hillsides and hayfields) has largely been maintained, despite the continued loss of productive farms. There has been a recent resurgence in small-scale farming and rural enterprise (need data).

Norwich has limited commercial development, dominated by small retail, banking and professional services in the village, and retail oriented to tourists and passing traffic on Route 5 South. The towns of Hanover, Lebanon and

Hartford are major employment and commercial centers for Norwich households.

Key Findings

TRANSPORTATION. The current settlement pattern is predicated on high levels of personal car use. Norwich currently supports Advance Transit to service the village and Route 5 South on a limited schedule. It is not feasible to extend transit routes or increase the schedule because of the low population density beyond the village. Norwich devotes considerable resources to road maintenance and repair, and low-density residential development increases maintenance and repair costs without significantly increasing the tax base to fund them. Increased commitments to improving transit and non-vehicular commuting would be needed to support a different settlement pattern in the future.

COMMUNITY FACILITIES & SERVICES. The existing complement of facilities and services could accommodate modest growth, particularly if it occurs in or near the village. Marion Cross School has some capacity for additional students and is an asset for the community, although wastewater management is an unresolved problem. Childcare is in short supply and limited, however. Potable water is supplied to homes and businesses in the village. Extensive recreation facilities including playing fields and a trail network for hiking and mountain biking support an active community. Absence of a wastewater system limits growth and expansion of the village and established

commercial districts (Route 5 South) and imposes costs and constraints on existing property owners.

ENERGY. Current state energy goals, intended as a response to the climate crisis, require Norwich to dramatically reduce auto-dependence caused by low-density settlement and improve the thermal efficiency of the housing stock. Additional renewable energy generation is very unlikely to come from wind turbines given current technologies and existing siting needs. Large-scale solar installations away from valley floors are limited by topography. With current technology about 16 acres of solar panels (of 47,000 acres) could satisfy current electricity demand in Norwich.

HOUSING. The very low growth in new housing stock is unlikely to change within the life of this plan, given broader patterns and economic conditions. More effort to obtain compact development will be needed to achieve the energy and housing objectives of this plan. Increasing the variety of housing by type and price is needed to stem demographic changes apparent in the past twenty years (see p#). This plan supports exploring how to provide for an expansion of the housing stock in the village, immediately adjacent to the village, and along Route 5 South.

ECONOMIC DEVELOPMENT. Norwich has a very small commercial base, which limits the number of in-town jobs. The existing commercial-industrial district is well-served by road, electricity infrastructure and transit, but requires on-site water and wastewater for development. The existing land use controls allow for traditional highway strip development and need to be amended to better reflect

community values and standards. Growing employment opportunities in town can be a strategy for reducing auto-dependence. Diversifying the tax base can also contribute to offsetting the residential property tax burden. Lastly, a broader range of economic development can encourage a more diverse community.

2.5 Future Land Use

LAND CAPABILITY. A key principal of land use planning is to guide development towards land best suited to the purpose and discourage and prevent uses inappropriate to the landscape. Capability assessments identify landform attributes which can constrain future development. Some attributes that can influence future land use decisions are:

STEEP SLOPES are poorly suited to development. The landform of Norwich is dominated by narrow valleys and steep slopes. As severe weather events increase in frequency and intensity, reviewing land use regulations as they pertain to development on steep slopes will be needed.

SOIL TYPE is a major determinant of development in the absence of municipal wastewater systems. Norwich does not operate a municipal wastewater system. Norwich does provide potable water in the village district through the Fire District, accessing aquifers to the north of the village, which allows for denser settlement in the village area.

RIPARIAN AREAS (INCLUDING FLOODPLAINS) are sensitive environments often subject to flooding. Historically these

areas have been used for agriculture (fertile silt deposits from stream action) and industrial power generation (for mills prior to the advent of electricity). Today, repeated private property and public infrastructure losses due to flooding and erosion from severe storms is best resolved by avoiding continued development in these areas.

Future Land Use Map

The Future Land Use Map illustrates Norwich's desired future land use pattern by identifying Planning Areas. These areas are not intended to align with the current zoning district boundaries, nor represent the boundaries of any future zoning districts. Rather, they graphically depict the direction land development will likely take in response to the objectives, policies and actions established in this plan, which will inform any proposed changes to the town's zoning districts.

THE VILLAGE PLANNING AREA encompasses Norwich's historic village with a settlement pattern and architecture typical of 19th century Vermont. It is characterized by a mix of residential, commercial and civic land uses at higher densities. Buildings are set close to the street with pedestrian access and circulation. There is a concentration of commercial activity in the core surrounded by predominately residential land uses. Potential future growth is limited by physical constraints, commitment to the traditional village scale and form, and absence of wastewater infrastructure (the village is served by municipal water). The intent of the Village Planning Area

is to maintain the historic village settlement pattern, architectural character and mix of uses.

THE MIXED USE PLANNING AREA includes land in two areas of Norwich. The area in Lewiston reflects the remnants of an earlier industrial development pattern focused around the railroad depot and river. The railroad continues to own a portion of the property (exempt from local regulation). No significant changes in its use are anticipated during the life of this plan. The other area is on the east side of Route 5 South. This area has evolved and developed in response to the transportation corridor it is bounded by (Route 5, and I-91). It is currently developed with a mix of commercial, institutional and residential land uses. While most of the land is developed, the current land use pattern is low density. The intent of the Mixed Use Planning Area is to reflect the existing development pattern and recognize that there may be opportunity for some mixed use infill with small businesses and housing over time, if constraints posed by the lack of infrastructure and institutional ownership of these lands are addressed.

THE RESIDENTIAL PLANNING AREA is composed of lands already developed into residential lots at moderate densities or suitable for such development due to their proximity to the village, access to transportation, and relatively few natural resource constraints. It is the intent of the Residential Planning Area to accommodate future residential development at densities similar or somewhat higher than currently exist in the area — as feasible — given the availability of infrastructure to support it.

THE RURAL PLANNING AREA includes lands outside the village that retain their rural character, although largely subdivided into residential lots. The settlement pattern is irregular in response to natural features and terrain. Much of the roadscape remains dominated by views of open meadows and wooded hillsides. The intent of the Rural Planning Area is to protect the rural character and maintain a low overall density of development in these areas which are further from the village and major transportation corridors.

THE RESOURCE PROTECTION PLANNING AREA is composed of lands with resource constraints or hazards that significantly limit their potential for future development, and lands not available for future development due to public ownership or private conservation easements. Despite the constraints, most of this land is part of a residential lot, albeit at extremely low densities. The intent of the Resource Protection Planning Area is to recognize the constraints and limitations that exist on a large portion of the land in Norwich. Little change in the use or development of these lands is anticipated and this plan discourages further disturbance or fragmentation of the remaining undeveloped portions of these lands through incremental, large-lot residential development. The high and medium priority forest blocks have been mapped and can form a basis for future decision-making.

2.6 Forest Blocks and Habitat Connectors

The Vermont Agency of Natural Resources (ANR) has mapped and assessed the habitat value of forest blocks in Norwich as part of a state-wide exercise. Since 2018 municipal plans have been required by state statute (Act 171) to identify forest blocks and habitat connectors, and to plan for land development in these areas to minimize forest fragmentation and to promote forest health and ecological function.

The mature trees on these forest lands perform critical ecosystem services including absorbing and sequestering carbon dioxide — a greenhouse gas. Data gathered by the **US Energy Information Administration** tracks annual carbon dioxide emission by state, which shows that each Vermonter produces approximately 10.6 tons of carbon dioxide per year. Based on **research** by the University of Massachusetts, Amherst this individual carbon dioxide load could be offset by approximately 3.7 acres of healthy forest. The combined area of the mapped forest blocks in the resource protection area is 17,202 acres. There is also considerably more forested land in other areas of town. Therefore, mapped forest blocks can offset the carbon dioxide load of up to 4,650 residents.

This plan and any implementing regulations treat mapped forest blocks in Norwich of 500 acres or more in area as shown in **Figure 8** as priorities for protection. The impact of proposed development on forest blocks may be considered during state regulatory processes. Due to the scale of the state forest block mapping, the boundaries of priority forest blocks should be more precisely delineated based

on a site-level assessment before being used for regulatory purposes by the town or state. The mapped priority forest blocks occur in the rural residential district. Although Norwich subdivision regulations include consideration of natural resources including steep slopes and forest cover, alternative approaches could be explored, including the creation of a resource protection zoning district with a significantly higher minimum parcel size to better protect against fragmentation of forest blocks. Other key areas to review include the development density algorithm to ensure development in forest lands is minimized.

2.7 Village Center Designation

Norwich’s village center designation expired in 2018 (see [Figure 10](#)). It cannot be renewed until Norwich has a duly adopted plan subsequently approved by TRORC.

Village center designation supports the town’s land use policies preserving the historic scale and pattern of development, while encouraging private investment in historic buildings. Participation in the designation program promotes infill and improves the walkability of the village. The program offers both the town and property owners within the designated area benefits including:

- ▶ Owners of income-producing buildings can access tax credits for eligible improvements;
- ▶ Land in or within ¼ mile of the village center could be eligible for the state’s Neighborhood Development Area program;
- ▶ The town is more competitive when seeking state grant funding for projects in the village center.

2.8 Compatibility

Norwich is part of the Claremont-Lebanon micropolitan area (as defined by the US Census Bureau) which takes in Grafton and Sullivan counties in New Hampshire and Orange and Windsor counties in Vermont. The town is a member of the Two Rivers Ottauquechee Regional Planning Commission (TRORC) which comprises 30 towns in Orange and Windsor counties in Vermont. The history of Norwich is tied closely with Hanover and Lebanon, NH. Norwich is part of a bi-state school district, and Norwich residents depend on Hanover, Lebanon and Hartford for employment opportunities and access to retail and service functions. Many planning issues including housing supply and transportation (including bike-pedestrian accommodations) will involve a regional response.

NEIGHBORING TOWNS. There are no proposed changes to zoning districts or land use policies that will affect the neighboring towns of Thetford or Sharon. This plan identifies constraints to development in the Route 5 South Commercial-Industrial district, which borders Hartford to the south, caused by the need for on-site potable water and wastewater systems. The development potential of this district could change if municipal wastewater was provided. This plan is recommending that wastewater options for the village, adjacent areas and the commercial-industrial district be explored.

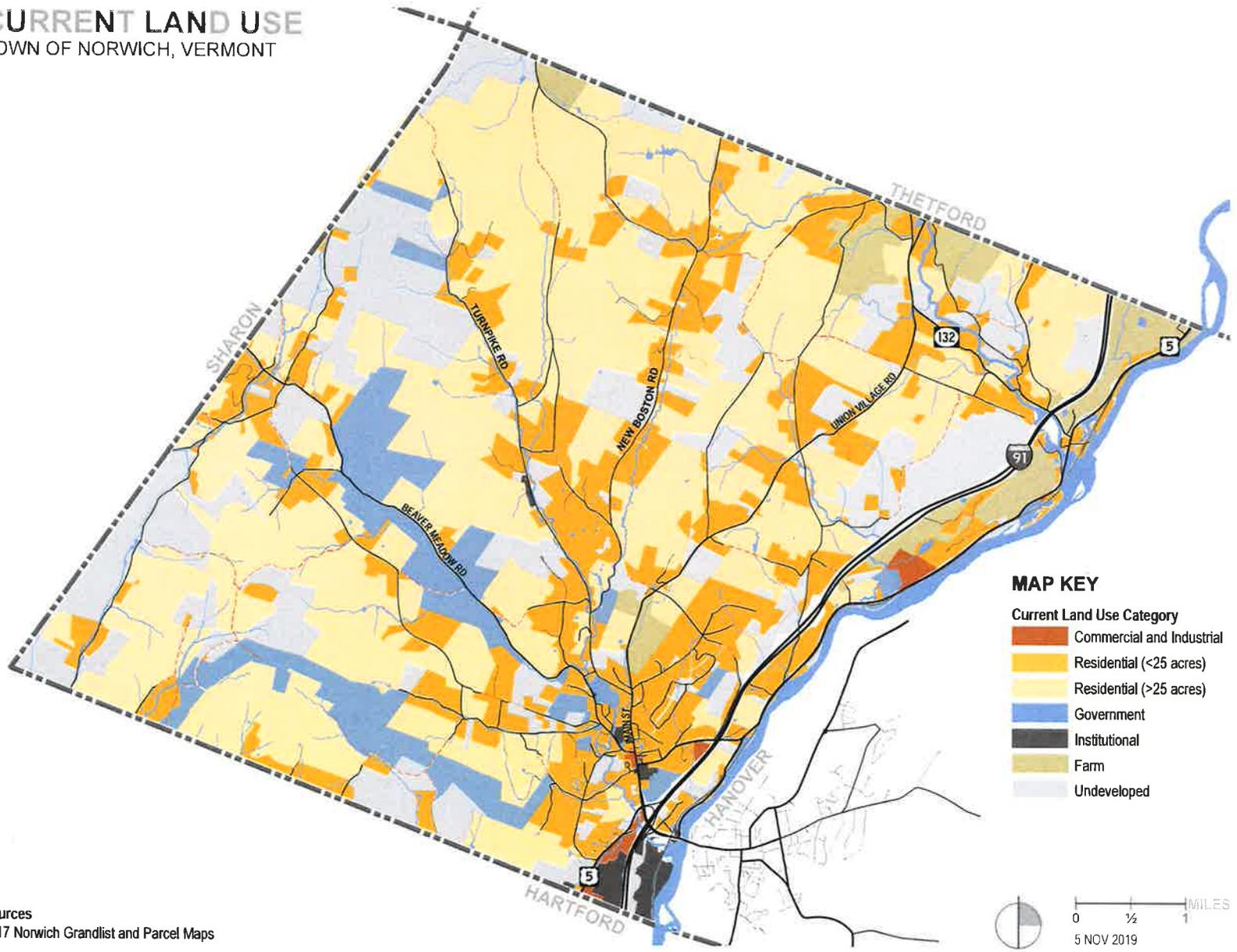
TRORC LAND USE AREAS. In previous regional plans the area east of I-91 (Lewiston neighborhood and lands to the east of Route 5 South) were identified as an ‘interchange area’. In the 2019 TRORC [regional plan](#), this designation has

been dropped for Norwich and been replaced with mixed use and rural land use areas. Other adjustments were made, including defining principal retail, and allowing for mixed use development with some retail when combined with housing. These amendments followed discussion with Norwich. There is now a greater degree of compatibility between this plan and the regional plan. Norwich appreciates the greater flexibility and an application of regional land use areas that more closely resembles current land use patterns.

Figure 1. Future Land Use Recommendations

Land Use Type	Recommendation
Village	1 Reapply for Village Designation
	2 Assess Current Wastewater conditions
	3 Improve public infrastructure to enhance walkability, access management and stormwater management
Residential	1 Assess Current Wastewater conditions
	2 Explore creating a new residential zoning district (dependent on wastewater assessment)
Rural	1 Review effectiveness of subdivision regulations in limiting rural sprawl
Resource Protection	1 Explore creation of a new zoning district that would take in lands with forest blocks of 500 acres or more to reduce possibility of fragmentation
Mixed Use	1 Explore changing Commercial-Industrial to a mixed use zoning district with performance and design standards governing scale of development, site plan etc. to mitigate impact
	2 Ensure adequate provision for housing is made in this new district

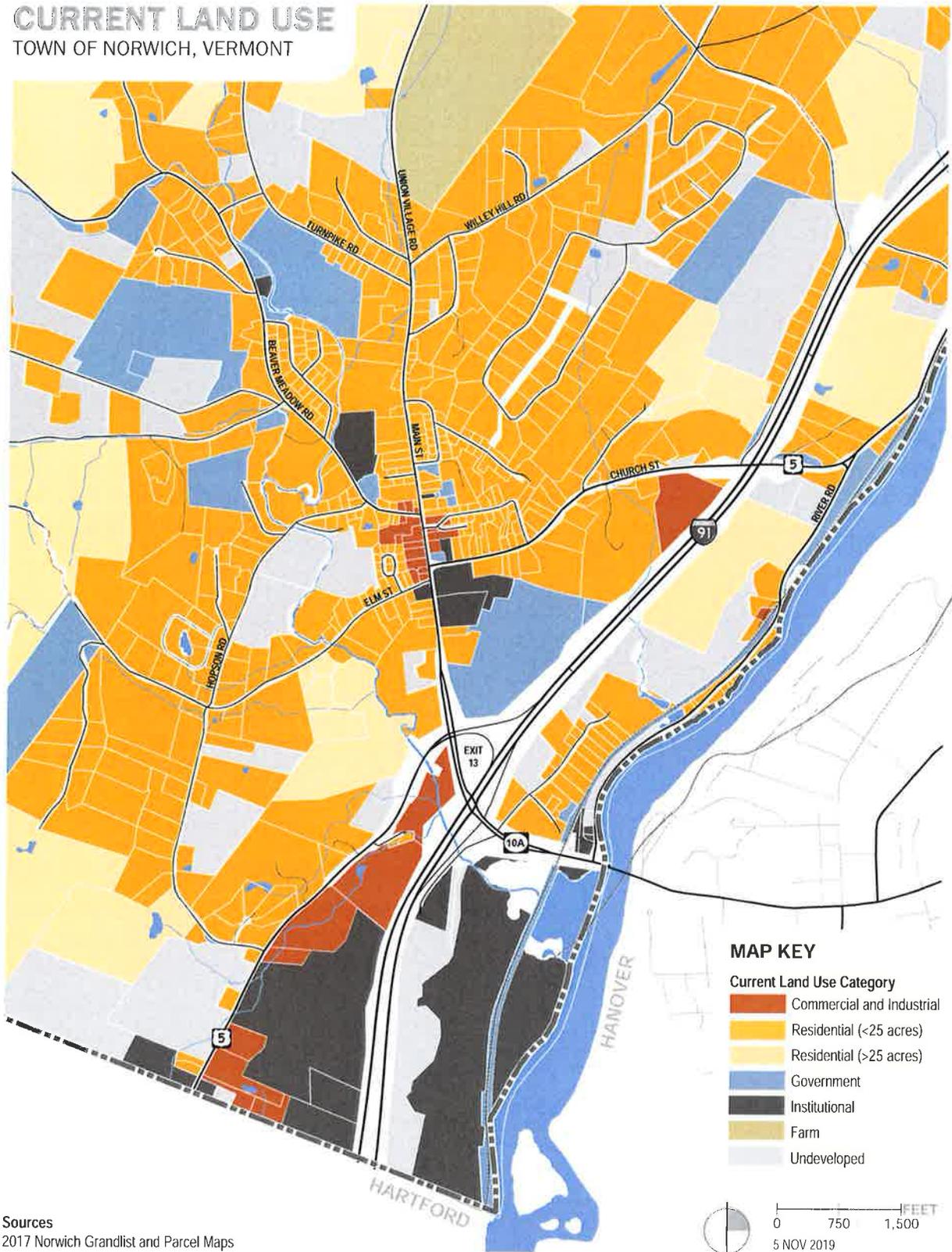
CURRENT LAND USE
TOWN OF NORWICH, VERMONT



Sources
2017 Norwich Grandlist and Parcel Maps

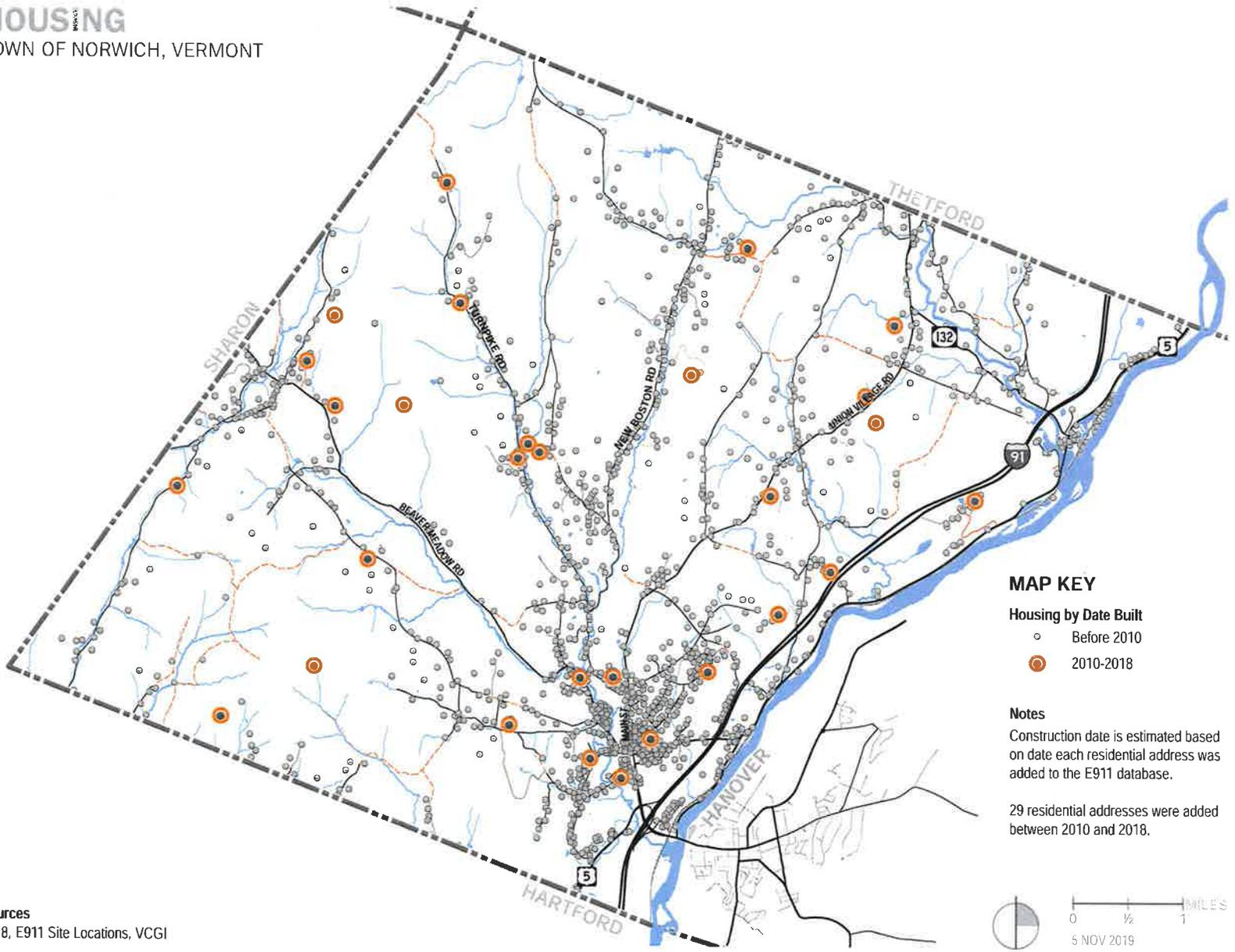
CURRENT LAND USE

TOWN OF NORWICH, VERMONT



Sources
2017 Norwich Grandlist and Parcel Maps

HOUSING
TOWN OF NORWICH, VERMONT



MAP KEY

- Housing by Date Built**
- Before 2010
 - 2010-2018

Notes
Construction date is estimated based on date each residential address was added to the E911 database.

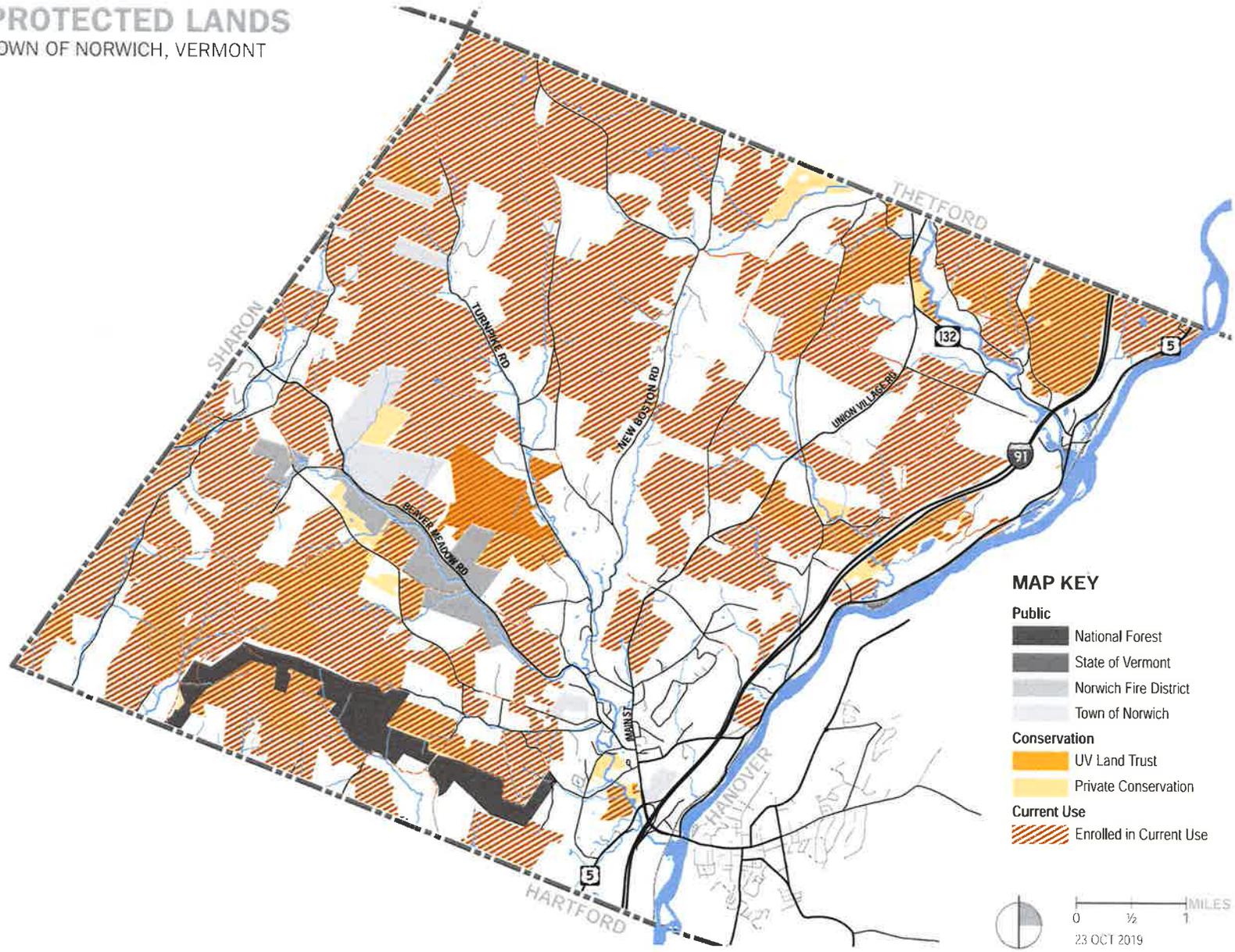
29 residential addresses were added between 2010 and 2018.



Sources
2018, E911 Site Locations, VCGI

PROTECTED LANDS

TOWN OF NORWICH, VERMONT



MAP KEY

Public

- National Forest
- State of Vermont
- Norwich Fire District
- Town of Norwich

Conservation

- UV Land Trust
- Private Conservation

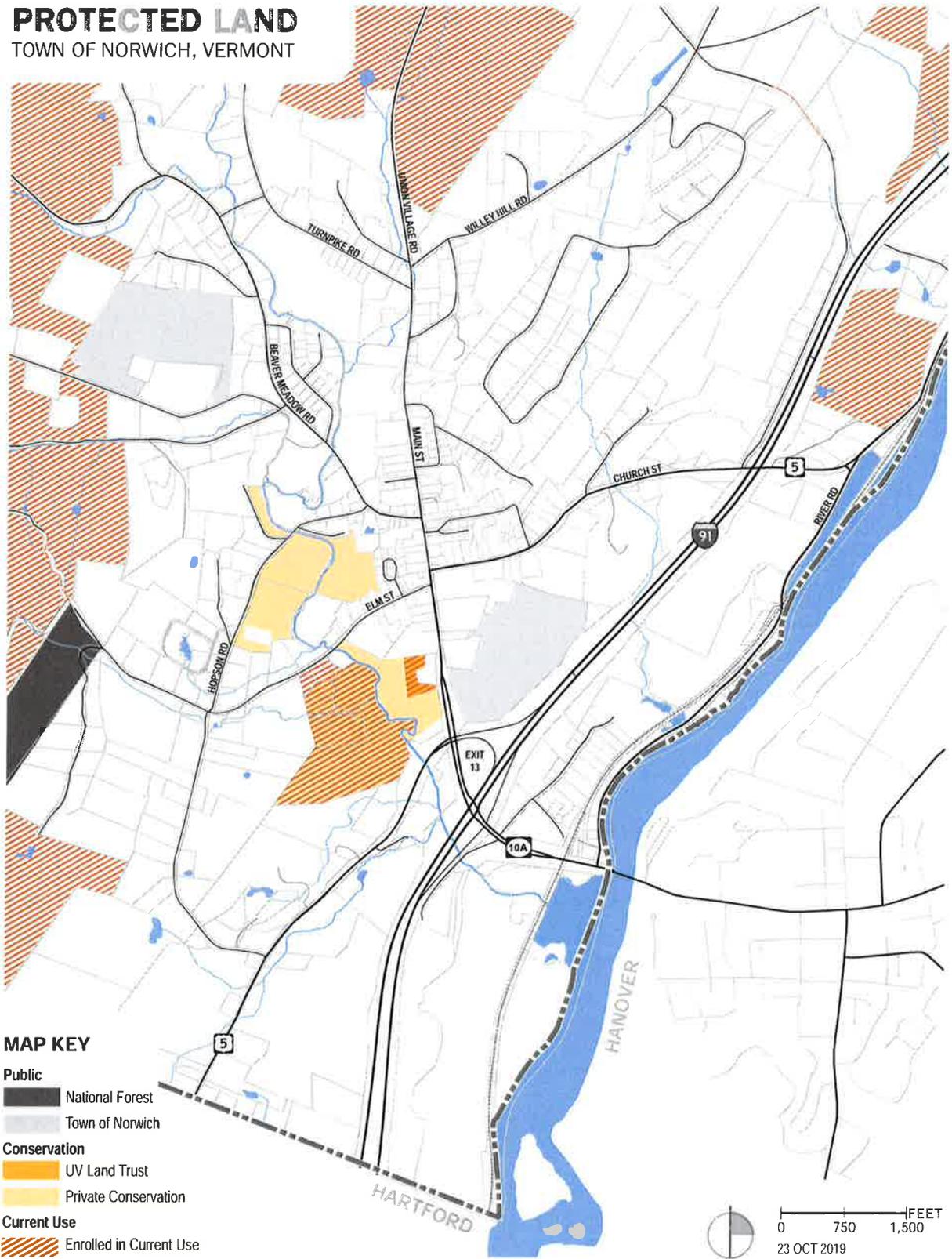
Current Use

- Enrolled in Current Use

0 1/2 1 MILES
23 OCT 2019

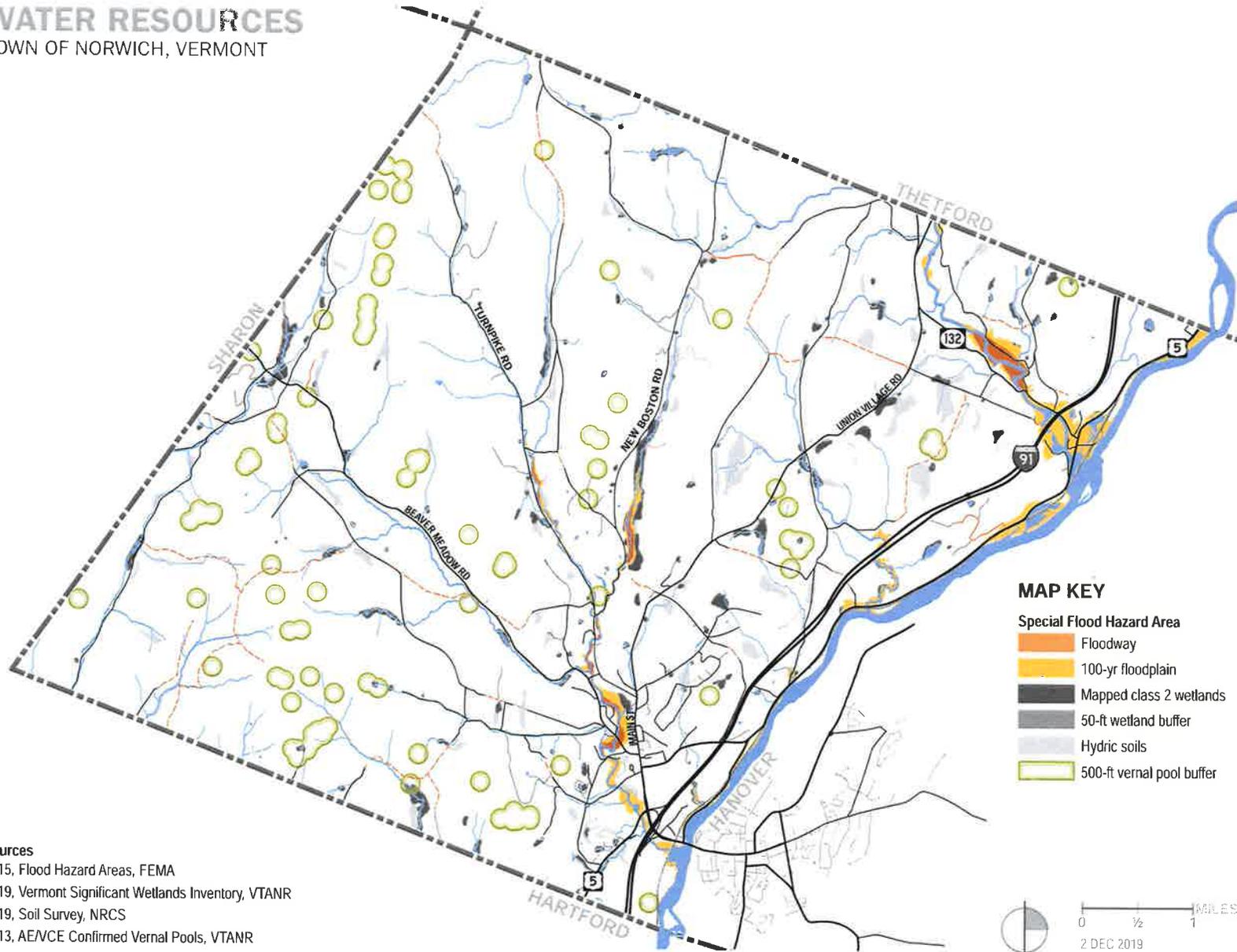
PROTECTED LAND

TOWN OF NORWICH, VERMONT



WATER RESOURCES

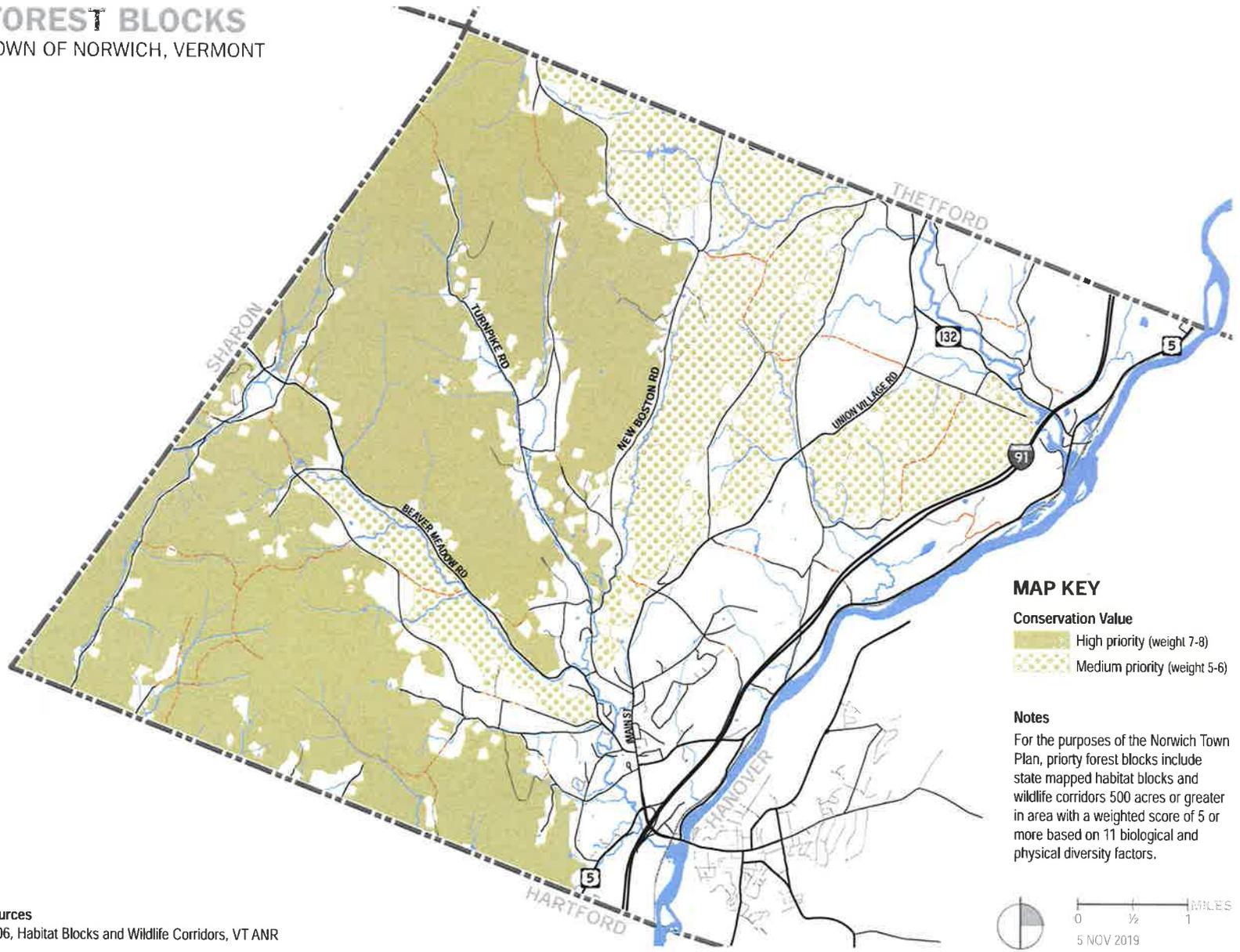
TOWN OF NORWICH, VERMONT



Sources
 2015, Flood Hazard Areas, FEMA
 2019, Vermont Significant Wetlands Inventory, VTANR
 2019, Soil Survey, NRCS
 2013, AE/VCE Confirmed Vernal Pools, VTANR

FOREST BLOCKS

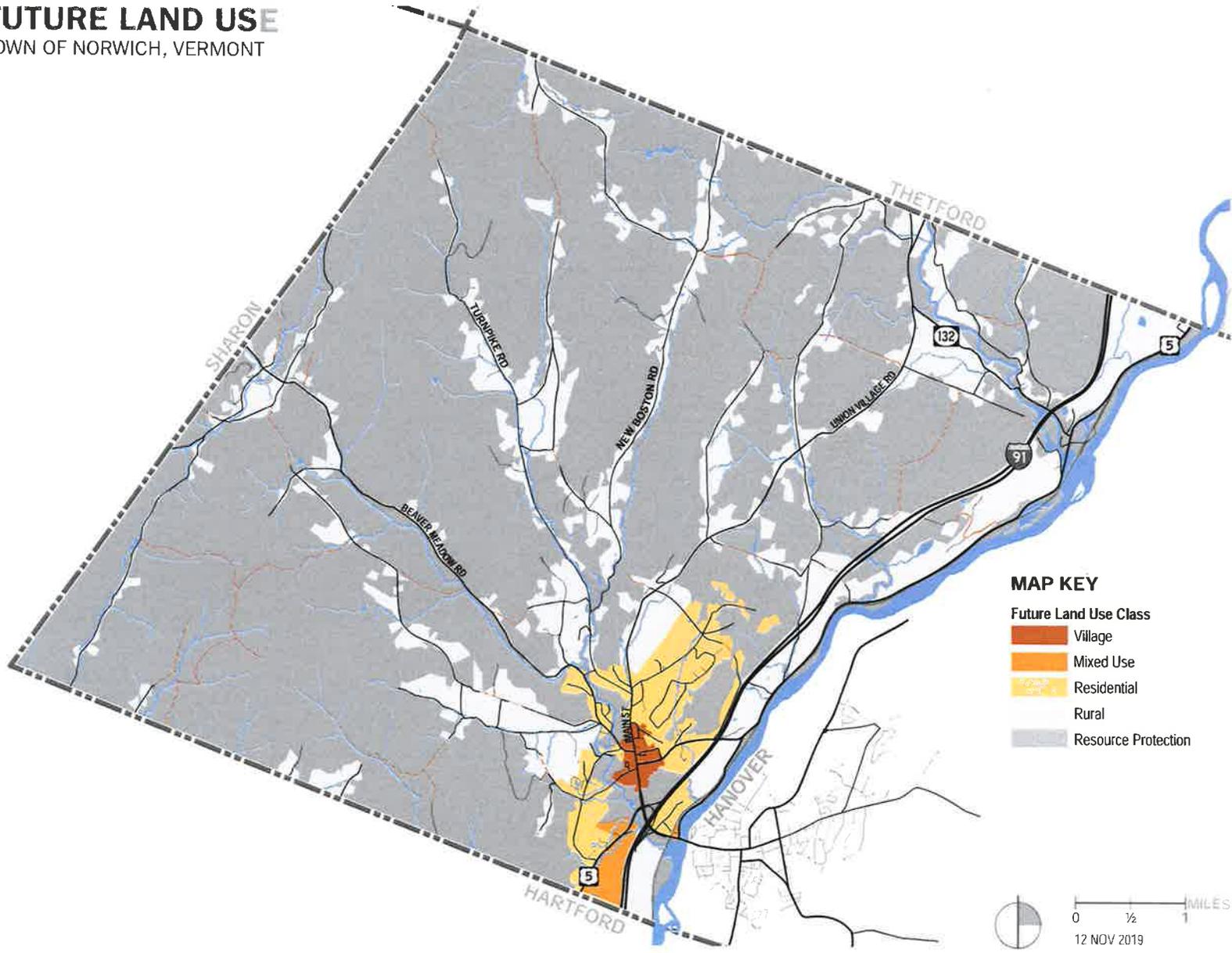
TOWN OF NORWICH, VERMONT



Sources
2006, Habitat Blocks and Wildlife Corridors, VT ANR

FUTURE LAND USE

TOWN OF NORWICH, VERMONT



MAP KEY

Future Land Use Class

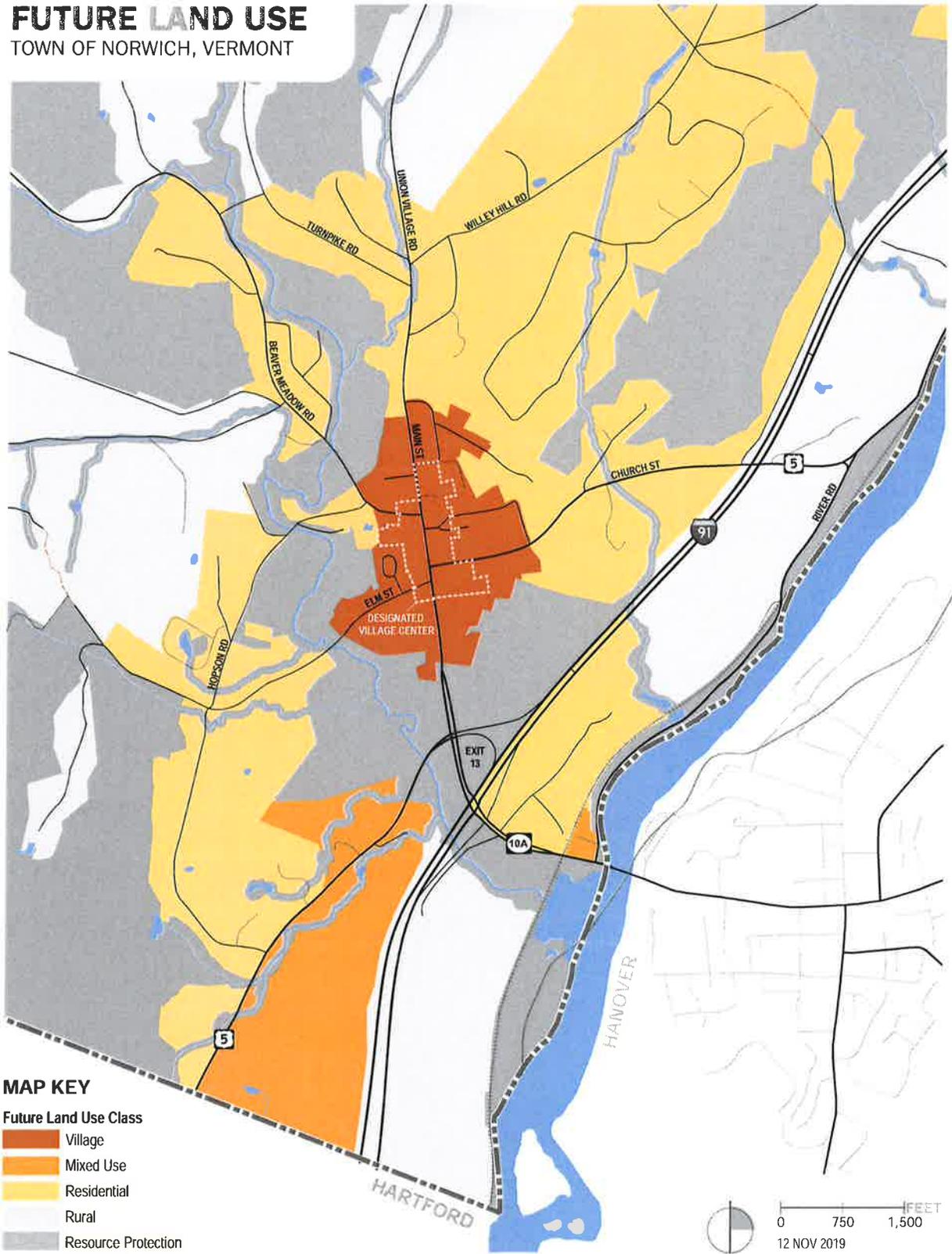
- Village
- Mixed Use
- Residential
- Rural
- Resource Protection

0 1/2 1 MILES

12 NOV 2019

FUTURE LAND USE

TOWN OF NORWICH, VERMONT



3 | ENERGY

3.1 Objectives

- 3-1.a Reduce greenhouse gas emissions from Norwich municipal operations, businesses and residents (24 VSA §4302 (c) (7)).
- 3-1.b Reduce overall energy use in Norwich (24 VSA §4302 (c) (7)).
- 3-1.c Shift energy use in Norwich from non-renewable to renewable sources (24 VSA §4302 (c) (7) (A)).
- 3-1.d Increase the amount of renewable energy being produced in Norwich in a manner that is consistent with the goals, objectives and policies of this plan (24 VSA §4302 (c) (7) (A)).
- 3-1.e Pursue strategies identifies in the State Energy Plan (30 VSA §§202, 202b).

3.2 Policies

- 3-2.a Establish a mechanism to collect and appropriate funds to support projects that further the objectives of this Energy Plan.
- 3-2.b Ensure that the review of the Norwich Zoning and Subdivision Regulations is informed by the link between changing land use patterns and reducing fossil fuel use, including, but not limited to, consideration of increasing density adjacent to the existing village district, and the creation of new zoning districts.
- 3-2.c Promote bike and pedestrian as non-vehicular transport modes using best practices for traffic engineering such as sidewalks, bike lanes and dedicated trails.
- 3-2.d Consider lifecycle costs when planning to construct or upgrade municipal facilities.
- 3-2.e Develop programs that assist low-income households with weatherizing and improving the efficiency of existing dwelling units.



- 3-2.f Expand the authority of the Zoning Administrator to require the issuance of a Certificate of Compliance on all new construction over 800-sq ft ensuring that such work meets the VT Residential Building Standards (VT-RBES).
- 3-2.g Require large-scale commercial and institutional development to install solar panels on roofs and over any parking lots where feasible.
- 3-2.h For solar generation projects sized from 15kW to 500kW the presumption is that all of Norwich meets the Public Utility Commission definition of 'preferred site', notwithstanding the existing areas of local concern including the Ridgeline Protection Overlay Area, Shoreline Protection Overlay Area and the historic village district as identified in the Norwich Land Use Regulations.
- 3-2.i Support Advanced Transit in providing a range of commuter services to Norwich, providing connections with locations where residents attend school, work and shop.

3.3 Actions

- 3-3.a Advocate before VTrans on behalf of non-vehicular road users for improved accommodations on state highways.
- 3-3.b Review hybrid and electric options for any municipal vehicle purchase or replacement.
- 3-3.c Consider how to address barriers to development related to limitations on wastewater capacity, including a review of the findings of the 2005 study conducted by the Norwich Sewer Committee in light of current challenges and changes in wastewater management.
- 3-3.d Encourage development projects to install solar collectors on rooftops and parking lots.
- 3-3.e Participate in the Section 248 process before the Public Utility Commission to make decisions that further the goals, objectives, and policies of this plan.
- 3-3.f Implement to the best of our abilities the (non-binding) Article 36 from the Town of Norwich 2019 ballot, which was passed by voters:
 - Shall the voters of Norwich direct all Town officials to take immediate and sustained efforts to gradually and continually*

reduce the Town's direct use of fossil fuels, beginning at a rate of no less than 5 percent per year starting in the 2019-20 fiscal year and continuing until they are eliminated entirely, and shall the Town Manager be charged with monitoring such efforts and reporting on them each year in the annual Town Report, and no capital expenditures shall be made that contradict or undermine this direction, absent a majority vote of the Selectboard?

- 3-3.g Ensure that the Zoning Administrator or their designee has the training and resources to both enforce state Residential Building Energy Standards and issue Certificates of Compliance on development projects greater than 800-sf.
- 3-3.h Provide residents with information on:
 - i. cold-climate heat pumps, and other non-fossil fuel heat sources in new construction and in existing homes and buildings;
 - ii. replacing fossil fuels powered vehicles with electric vehicles;
 - iii. managing forest land for long-term, sustainable harvesting of wood.
- 3-3.i Raise climate crisis and energy awareness.
- 3-3.j Work with community groups and others to support non-vehicular transportation options in Norwich.

3.4 Overview

We have understood for at least fifty years that human dependence on fossil fuels is not sustainable. Only now are we beginning to grapple with the climate crisis resulting from burning fossil fuels. We also need to develop community resiliency to better withstand the disruptions caused by the changing climate. There is an active grassroots effort in Vermont and around the world to act locally in addressing the climate crisis and in building resiliency.

This chapter details an energy plan for Norwich residents, businesses, and town government in the context of Vermont’s “90 percent renewable by 2050” energy goal. Policies and objectives focus on those decisions directly within the control of the town, assuming the current regulatory scope and commitment of resources. Opportunities for promoting changes in residential energy consumption with existing town volunteer resources are also identified. Assumptions made in the Vermont 2016 Comprehensive Energy Plan (CEP) and the shortcomings in available data are noted to encourage more rigorous planning at the state level, where the vast majority of decisions regarding energy markets (fossil fuel and renewable) are made.

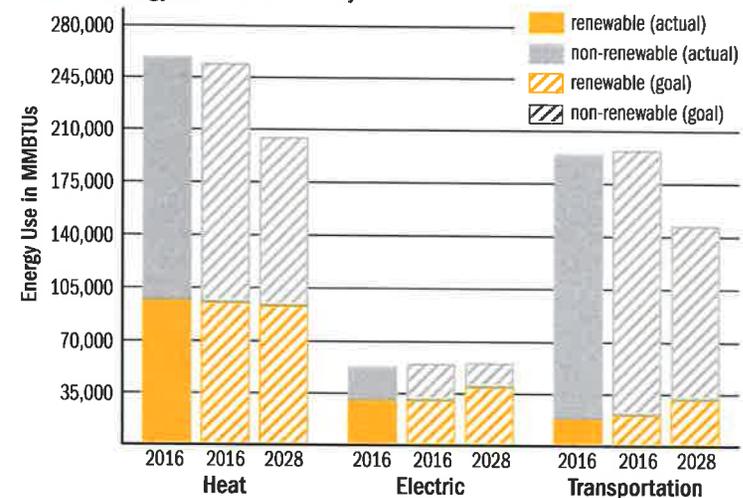
3.5 Current Energy Use

According to the 2018 Progress Report by the Energy Action Network, Vermont greenhouse gas emissions have been increasing despite significant reduction commitments. Transportation and thermal energy (heating and cooling) are the largest contributors to the state’s greenhouse gas emissions. This plan assumes that this state-level analysis applies to Norwich as well.

The accepted estimate of the total amount of energy being used in Norwich is from the Energy Action Network Community (EAN Energy Dashboard). This source suggests that in 2016 (the latest year actual use figures are available) Norwich consumed 508,115 MMBTUs (million BTUs) for electricity, thermal, and transportation (see [Figure](#)

11). Energy use in Norwich reflects the settlement pattern, which is dominated by low density residential lots, and little or no industrial or commercial activity.

Figure 11. Energy Use and Goals by Sector



Source: Brighter Vermont Community Energy Dashboard

In developing this chapter, the town relied upon:

- ▶ 2017 Two Rivers Ottauquechee Regional Commission (TRORC) [regional energy planning](#)
- ▶ The [EAN Energy Dashboard](#) which tracks the progress of each Vermont community towards the state’s goal of meeting 90 percent of local energy needs through efficiency and renewable energy by 2050.
- ▶ The Act174 Supplement prepared for Norwich by TRORC is incorporated into this plan and included in [Appendix B](#).

Data on electricity consumption is specific to Norwich and up-to-date because Green Mountain Power (GMP) as a

utility regulated by the VT Public Utilities Commission (PUC) provides detailed statistics about electricity generation and use as part of their license to operate. Approximately 60 percent of the **GMP portfolio** is made up of renewable energy, predominantly hydro-electric from Quebec. Current commercial transportation energy use and future trends were not assessed by TRORC as part of their Act 174 energy planning. The published figures for thermal and transportation energy are rough estimates, based on statewide averages and Census data. More reliable and accurate data is needed for town energy planning to be meaningful and effective.

3.6 Renewable Energy Resources

Vermont's Renewable Energy Goals

Greenhouse gas (GHG) emissions caused from human activities are driving the global climate crisis. In 2011 Vermont adopted a goal to obtain 90 percent of the total energy used in the state (primarily electricity, thermal, and transportation) from renewable sources by 2050. Advisory 2050 targets have been set for each Vermont municipality. The energy and conservation targets for Norwich are shown in **Figure 12**. Specific targets for renewable energy generation are included in **Appendix B**, Energy Targets and Conservation Goals.

Figure 12. Norwich Energy Targets

Year	Renewable	Nonrenewable	Efficiency	Total
2014 (baseline)	144.3	380.1	0	524.4
2016 (actual)	145.4	362.7	8.7	508.1
2025 (target)	160.1	273.8	47.9	434.0
2035 (target)	174.5	177.2	91.5	351.7
2050 (target)	196.1	32.3	156.8	228.4

All values expressed in thousand MMBTUs.

Source: Energy Action Network 2050 Energy Pathway Analysis

Town-level efforts to meet the State's '90 by 50' goal will focus on redirecting energy demand to renewable electric sources. These efforts will be challenged by the limited authority of municipalities to affect energy use outcomes. Energy products (including efficiency and renewables) are allocated via markets which are regulated by State and US governments. Municipalities are best understood as institutional consumers who have no jurisdiction over the structure and operation of energy markets. In the case of Norwich, the town is a very small consumer, even compared to local school districts and larger regional employers.

The powers that municipalities do have pertain mostly to regulation of land use (an authority granted to municipalities by state statute and case law). Because land use patterns in Norwich have been consistent for many decades, and the rate of development is exceedingly slow, changing land use patterns will not play a major role in achieving the targets within the timeframes identified by the VT CEP. Nevertheless, Norwich will use this opportunity to review the zoning and subdivision regulations to encourage future development patterns that reduce energy use and

preserve forest and agricultural lands for ecosystem services. These concerns are addressed in more detail in the Land Use, Housing and Transportation chapters.

Fifty seven percent of the electricity consumed in Norwich is from renewable sources (based on the GMP renewable portfolio and local generation), 0.5 percent below the 2016 EAN Community Dashboard target. Converting current electricity use to renewable sources has been relatively straightforward in response to state policies such as the Renewable Energy Standard, which required utilities to procure 55 percent of their electricity from renewable sources in 2017. That figure will increase incrementally to 75 percent by 2032. Conversion of transportation and thermal energy (most of the energy used in Norwich) to renewable sources are beyond the regulatory scope of the municipality, and thus the Town can only influence the outcome at the margins.

In summary, it is important to acknowledge that the town's ability to meet the ambitious and necessary state energy goals is limited. It falls primarily in 1) land use regulation, 2) modeling the adoption of energy conservation and renewable energy in Town facilities and equipment, and 3) ensuring local regulations are not a barrier to necessary change. Norwich is, nevertheless, determined to take concerted action to make progress.

Renewable Energy Generation Potential

Act 174 Maps. As required by the state under Act 174, TRORC has mapped areas of Norwich that have potential for renewable energy generation (see [Appendix B](#)).

The maps for solar potential rely heavily on analyzing aspect (south-facing landforms are most suitable for solar generation). The maps do not correct for features that will limit uptake of solar projects including: current land use and lot boundaries, extent of forest cover, proximity to roads, and distance to electric distribution (particularly 3-phase power and transmission infrastructure). Each of these factors presents serious limitations to utility scale (> 500 kW) solar energy development.

At present, the most salient factors for determining where non-residential renewable energy projects may feasibly be located is proximity to the existing power grid (3-phase power and transmission lines) and the capacity of the grid to accommodate additional load. As of 2019, the [GMP Solar Map 2.0](#) indicated that there were system limitations on the circuit along the Thetford-Norwich border and to the far west of Norwich near the Sharon town-line. Norwich operates on circuit 71G1 of the Wilder substation, which the utility lists as having 72 percent of its capacity remaining (approximately 10.2 MW). Therefore, installation of numerous 150-kW solar arrays is feasible. Three-phase power lines currently run along Main Street as far as Willey Hill Road, Route 5 South, and Route 5 North (to just south of Farrell Farm Road). Beyond these areas infrastructure upgrades would be required for larger projects.

SOLAR POWER. The Energy Action Network's Community Energy Dashboard identifies 190 small PV sites in Norwich, with a total capacity of almost 1,800 kW (approximately 11 percent of the generation goal). The Norwich Energy Committee tracks solar installations, including households

that have purchased shares of solar projects located in other towns. This count tallies 283 residences, businesses, or churches that have “gone solar,” — more projects of this scale and type are likely. The Energy Dashboard ranks Norwich 12th out of 250 towns in Vermont for the number of solar electric sites.

While large scale development of solar energy will require proximity to a substation and three phase power, the utility grid in Norwich is well-suited for projects of about 150kW or smaller. Using the Act 174 mapping methodology 6,341 acres out of a total 28, 620 acres in Norwich has solar potential (southern facing slopes). But, 22,116 acres (or 77 percent) of Norwich is forested. About 67 percent of the area identified as having solar potential is currently under forest. Aside from the economic cost of clearing, the release of carbon from cleared lands would diminish the climate benefits of solar development on these sites. The mapping of solar potential also includes the Right of Way (ROW) for interstate 191 and other lands not available for development.

About 16 MW of installed solar would be needed for Norwich to meet its renewable energy generation target of about 20,000 MWh per year (Appendix B, table 1Q). This is the town share of projected statewide energy demand in 2050, in proportion to its population. Based on current solar technology. 16 MW of solar generation would require about 160 acres total, or about 0.5 percent of the towns total land area. Assuming that solar panels continue to increase in efficiency, the area needed to meet Norwich energy demand will decrease as a result. Today 150kw

solar arrays typically require about of a third of an acre. To the extent that homes and businesses take up roof and parking lot installations the need for larger ground-based solar arrays will be reduced.

BIOMASS. It is not known how much wood is harvested for fuel in Norwich on an annual basis. Wood is a renewable source of thermal energy and technological improvements have greatly increased the efficiency and reduced the pollution associated with burning wood. A large percentage of homes in Norwich use wood as either a primary or secondary heating source. The State of Vermont is encouraging schools and municipal facilities to install high efficiency wood pellet or woodchip heating systems. More recently Dartmouth College (in neighboring Hanover, NH) is reconsidering a proposal for a biomass plant to replace existing fossil fuel fired heat system, due to concerns about the risk of increasing greenhouse gas emissions (including the impact of trucking woodchips) and local air quality effects. While the climate benefits of burning wood for heat are being reassessed Norwich will promote the clear path of solar electricity and switching to electric heat and transportation.

GEOHERMAL. There is one ground source heat pump installed at a residential property in Norwich, according to the Energy Dashboard. The feasibility of installing geothermal systems needs to be assessed on a site-by-site basis. As of 2019, the town is considering geothermal heat pumps for three town buildings (Tracy Hall, the Fire Department apparatus bay, and the Town Garage).

HYDRO POWER. There are no hydropower facilities currently located in Norwich according to the Energy Dashboard. Small, run-of-the-river generators would be the only likely future hydro generation, given current state and federal regulations regarding the damming of waterways. However, just over 60 percent of GMP electricity is provided by contracts with Hydro-Quebec, a public utility.

WIND POWER. According to the Energy Dashboard there are no wind energy projects installed in Norwich as of 2018. There is no meaningful potential for utility- or community-scale wind generation in Norwich given current turbine technology, which generally requires an average wind speed of at least 6 meters per second. Only two locations in Norwich are identified through the Act 174 mapping process with wind speeds at 6 meters per second or above (accessed via turbines set between 50 and 70 meters high). Both are off Chapel Hill Rd along the Sharon town-line. These sites are not currently accessible from roads suitable for this scale of development, nor to a power transmission line.

3.7 Energy Conservation and Efficiency

STRUCTURES. The scenario for meeting the state's renewable energy goal presented on the Dashboard shows that by 2050 Norwich will need to use a total of 296 MMBTUs of energy less than it did in the baseline year of 2014. Under the US and Vermont constitutions, the town has no role in shaping or regulating the market provision of energy conservation or efficiency products and services.

In addition, the annual rate of new construction, or even substantial improvement, is very low. Nevertheless, the town can still play a role by encouraging energy code compliance, modeling energy-efficiency in municipal facilities, supporting outreach and information-sharing with residents, and investigating how it could take on inspection and enforcement.

TRANSPORTATION. Of note here is the assumption that the town's total energy use for transportation will go from 205,793 MMBTUs in the baseline year of 2014 to 56,348 MMBTUs in 2050 (see [EAN Energy Dashboard, regional energy planning](#)). That is, the town's transportation energy use in 2050 will be 27 percent of what it was in 2014. It is also expected that fully 90 percent of the 2050 transportation energy budget will be provided from renewable sources. This is a major change from the town's current modes of transportation and entirely outside the control of (existing) municipal decision-making. Land-use policy, a clear area of town authority, will play an important role, as will town support for regional public transit and town infrastructure for walking, biking, and electric vehicles. Land use policy can help support reductions in the number and length of car trips — and thus greenhouse gas emissions — by encouraging future development to be located close to job and retail centers and public transit lines, and creating walkable neighborhoods.

3.8 Future Generation, Use and Conservation

Energy Targets

Future targets for energy generation, use and conservation have been set for all Vermont municipalities as part of the state’s enhanced energy planning under Act 174 (see [Figure 12](#)). The planning scenario presented on the [EAN Energy Dashboard](#) envisions that total energy consumption of Norwich will decrease from the 2014 baseline consumption of 524,4000 MMBTUs to 228,400 MMBTUs in 2050. A reduction to 44 percent of 2014 levels. Moreover, only 32,300 MMBTUs (or 14 percent of the total) will be from non-renewable sources. This reduction will primarily rely on the efficiencies of weatherization and electric transportation.

This plans land use, housing and transportation objectives and policies call for new housing and economic development to be focused in and adjacent to the village, and the existing Commercial-Industrial district. This is where people can live close to employment, shopping and services. A proximity that allows walking and biking as well as simplifying public transit, all of which reduce energy used for transportation. Encouraging such a development pattern through the Town’s land use regulations and public infrastructure are the most effective and direct measures Norwich as a municipality can take to move towards meeting the state’s energy goals.

The 2017 TRORC Energy Plan recognizes that Norwich is currently generating 2.2 GWh/year of electricity from solar and sets a target for a total of 20GWh/year of

renewable energy generation by 2050. This is based on Norwich’s fraction of the regional population. The portfolio of renewable energy generating sources includes both rooftop and ground-mounted solar, wind, and hydropower. The TRORC energy plan suggests that there is 81 times more ‘suitable land’ than is needed to host such renewable energy projects (primarily for solar) in Norwich.

Renewable Energy Project Siting Standards

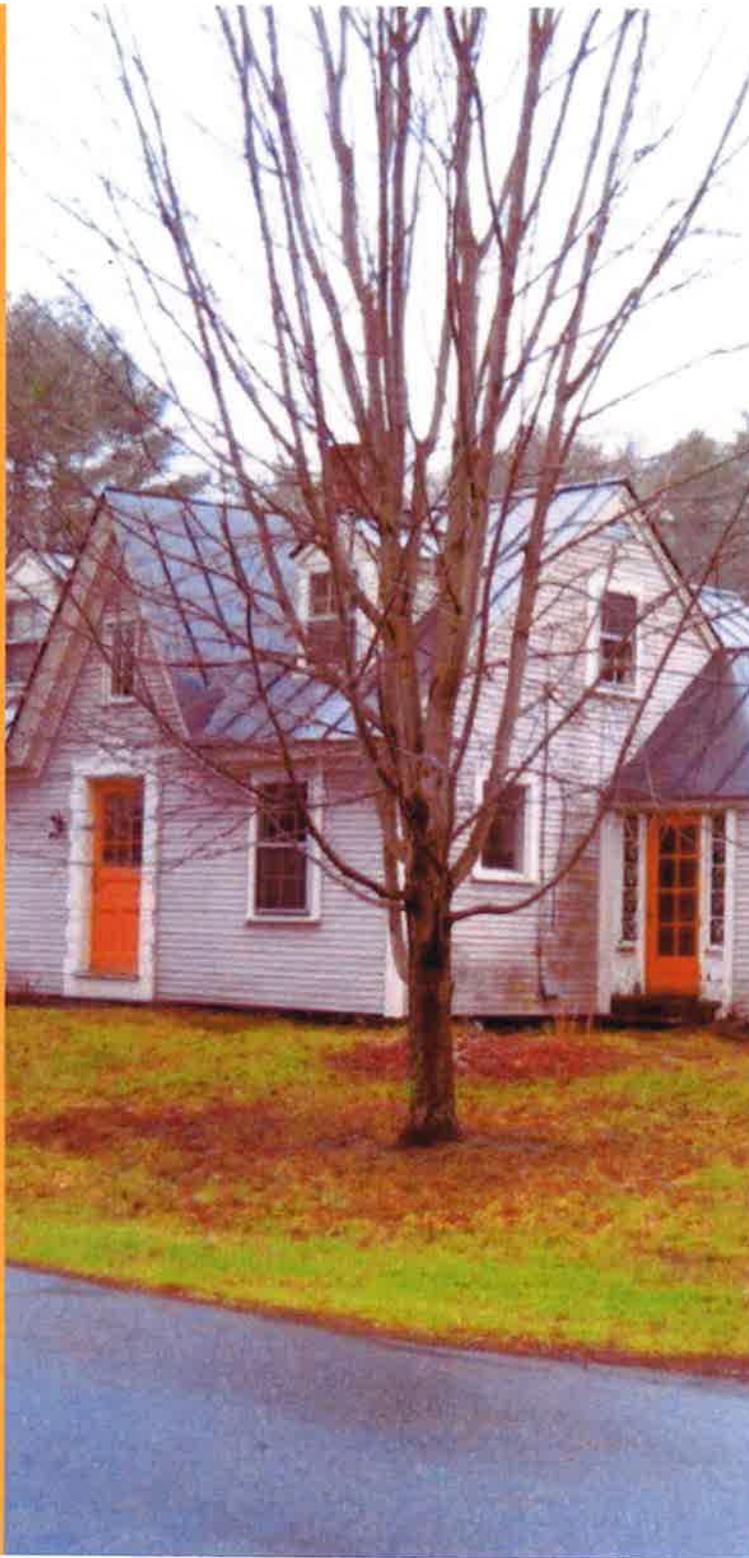
This plan supports renewable energy production in Norwich. For this policy to continue with broad community support it must be balanced with this plan’s policies related to:

- ▶ Protecting natural resources, environmental quality, scenic resources and rural character
- ▶ Maintaining viable farms and the working lands needed to sustain them
- ▶ Focusing development in those areas of town already served by existing public infrastructure
- ▶ Preserving cultural resources within Norwich village
- ▶ Preserving the recreational and natural value of those lands identified in the Ridgeline Protection Overlay Area, and Shoreline Protection Overlay Area
- ▶ Increasing the supply, diversity and affordability of housing in Norwich

This plan calls upon the Public Utility Commission to issue Certificates of Public Good for projects between 15kW and 500kW based on the presumption that lands in Norwich meet the so-called ‘preferred site criteria’, except in areas already mapped as Ridgeline Protection Overlay Area, the Shoreline Protection Overlay Area, and the designated

Village district. Renewable energy projects in Norwich are further conditioned on the following standards:

- ▶ For individual or group net metered renewable energy projects, the property owner must take reasonable measures to site and/or screen the installations to minimize any visual or noise impacts beyond the property line, particularly on sites where there are neighboring homes in close proximity.
- ▶ Projects larger than 150kW must meet existing standards for setbacks, site design (landscaping, screening, lighting, stormwater, etc.) as laid out in the Norwich Zoning and Subdivision Regulations.
- ▶ Projects larger than 500 kW must have a management and decommissioning plan that will ensure the land will be returned to its prior condition when no longer actively used for renewable energy generation. Wherever feasible, the energy generation use must be combined with continued agricultural use of the land or habitat management, such that soil health and fertility is maintained.
- ▶ Projects larger than 500kW must not clear land within a mapped forest block (see Ecological Resources Map) unless there is a management and decommissioning plan that will ensure the land will be re-forested and managed in accordance with a forest management plan, when no longer actively used for renewable energy generation.



4 | HOUSING

4.1 Objectives

- 4-1.a Ensure the availability of safe and affordable housing in Norwich which will meet the needs of diverse social and income groups, particularly for low and moderate income households (24 VSA §4302 (c) (11) (A)).
- 4-1.b Encourage new and rehabilitated housing conveniently located to employment and commercial centers, and coordinated with the provision of public facilities and utilities (24 VSA §4302 (c) (11) (B)).
- 4-1.c Encourage more intensive residential development primarily in the village and suitable adjacent areas and discourage strip development along highways, (24 VSA §4302 (c) (1) (A)).
- 4-1.d Allow for multi-family and manufactured housing in locations similar to those generally used for single-family conventional dwellings (24 VSA §4302 (c) (11) (C)).
- 4-1.e Increase the diversity of the housing stock in Norwich so that it includes a range of housing types suitable for people of different incomes and backgrounds and at different stages of their life. Increase the number of both rental and for-sale homes.
- 4-1.f Reduce energy use and greenhouse gas emissions by increasing housing in areas served by public transit and with easy access to employment and retail centers, as well as through the use of green building materials and practices.
- 4-1.g Implement the Norwich Housing Strategy (see [Appendix A](#)) to increase Norwich's housing stock within the first five years of the plan by 10 accessory dwelling units (ADUs), ten units of "missing middle" housing (duplexes, triplexes, etc.), and at least 25 units of dedicated affordable housing.

4.2 Policies

- 4-2.a Advance the following four key strategies included in the town's Housing Strategy:
- i. Encourage the development of dedicated affordable housing.
 - ii. Facilitate the development of lower-cost housing types.
 - iii. Reduce barriers to the development of new housing.
 - iv. Expand public understanding of housing issues.

4.3 Actions

- 4-3.a Encourage the development of dedicated affordable housing by formalizing and growing the affordable housing revolving fund (currently \$45,000).
- 4-3.b Encourage landowners to donate land for dedicated affordable housing.
- 4-3.c Investigate the use of land owned or controlled by the Town of Norwich for dedicated affordable housing.
- 4-3.d Conduct outreach to encourage developers of affordable homes to focus on Norwich.
- 4-3.e Implement the recommendations made in this chapter when revising the Norwich Zoning and Subdivision Regulations to:
- i. Ensure the continued right to construct multi-family and manufactured homes in any district where housing is a permitted use.
 - ii. Promote the construction of affordable housing through regulatory mechanisms such as:
 - ▶ Offering substantial density bonuses,
 - ▶ Using alternative density measurements to encourage smaller unit sizes,
 - ▶ Considering whether to require large projects to include affordable units,
 - ▶ Allowing for combined commercial and residential uses in a single structure as a permitted use in the mixed use district.

- iii. Facilitate the creation of duplexes, triplexes and other “missing middle housing”.
- iv. Require Certificate of Compliance inspections on all new dwelling units and major residential rehabilitations to ensure that the Vermont Residential Building Standards (VT-RBES) are met.

- 4-3.f Ensure that the new Norwich Zoning and Subdivision Regulations are clear, accessible and avoid any unnecessary barriers to developing housing.
- 4-3.g Continue to encourage ADUs to increase Norwich's stock of rental housing.
- 4-3.h Consider how to address barriers to development related to limitations on septic capacity, including a review of the findings of the 2005 study conducted by the Norwich Sewer Committee in light of current challenges and changes in wastewater management.
- 4-3.i Make it easier for developers and the public to understand Norwich's affordable housing policies by developing educational materials and conducting outreach.
- 4-3.j Develop educational materials that address frequently asked questions about affordable housing in Norwich and increase public understanding of how new development will affect town and school property taxes.
- 4-3.k Monitor the effect of short-term rentals (e.g. Airbnb).
- 4-3.l Encourage broad-based participation in community conversations around housing, including low and moderate income households, younger residents and renters.

4.4 Regional Market

The major land use in Norwich is residential (see Map xx). Situated just west of Hanover and Lebanon, New Hampshire, and north of Hartford, Vermont, Norwich is a predominantly rural residential bedroom community (with a vibrant village) for these employment and commercial centers. The housing situation in Norwich is best understood within the context of the Upper Valley

residential real estate market. This chapter is based on extensive outreach conducted over a period of 18 months with Norwich residents and professionals in the Upper Valley residential real estate market.

To meet the objectives and policies of this plan, consistent with state and regional policies, significant efforts will be needed, as outlined in Norwich’s housing strategy. In addition to local efforts in Norwich, it is important for towns in the region to coordinate their efforts in order to meet the 5,000 to 6,000 regional housing unit shortfall as identified by the [market analysis](#) commissioned by Vital Communities. This shortfall is a major cause for concern for employers in the area who struggle to attract and retain workers due to high housing costs. Norwich, through its membership in the Two Rivers Ottauquechee Regional Planning Commission (TRORC) is participating in Keys to the Valley — an initiative of three regional planning commissions (TRORC, Upper Valley Lake Sunapee and Southern Windsor Regional Planning Commissions), covering 67 communities centered on the Upper Valley. This work follows a 2012 Housing Needs Assessment, which called for additional housing in the region based on population growth and employment trends in the preceding decade and a 2015 study; *East Central Vermont: What We Want*, which integrated housing, land use, economic and workforce development, transportation and infrastructure.

4.5 Local Housing Stock Characteristics

According to the Norwich Grand List, at the end of 2018 there were 1,325 residential properties in Norwich, including single-family homes (98 percent), mobile homes (1 percent), and commercial apartments (0.5 percent). The total stock of single-family homes in Norwich has changed little in recent years (see [Housing Location Map, Figure 13](#)). From 2010 to 2018, just 29 housing units were built. Most of these homes were located a considerable distance from the village and on larger, (more expensive), parcels. Not only has there been little new construction, the rate of property sales is also low, suggesting that entry into the Norwich housing market is challenging. Real estate property transfer tax data collected by Vermont Department of taxes shows that from 2014 to 2018, 165 single-family homes sold as either a primary or secondary residence. This represents an annual average of approximately 2.6 percent of all homes changing hands.

Figure 13. Year Housing Unit Built

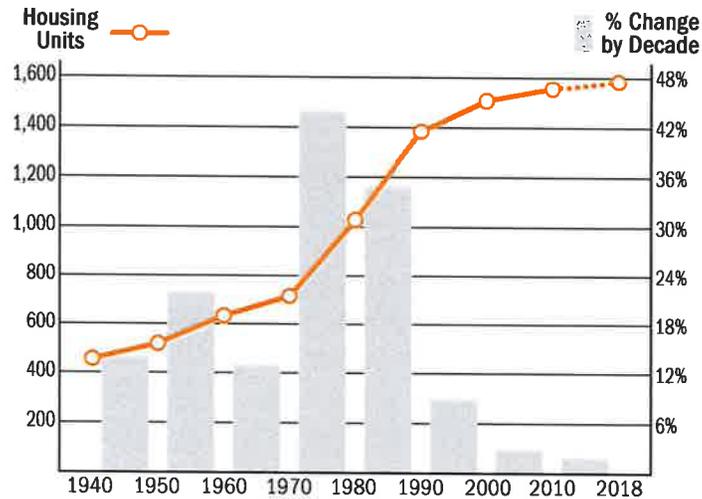
Construction Year	Norwich %	Windsor Cty %
2000 – 13	9	12
1980 – 99	36	27
1960 – 79	24	23
1940 – 59	12	10
1939 or earlier	19	28

Source: US Census Bureau

[Figure 14](#) below takes the total units counted at each US decennial census (orange line), as well as the percentage growth during that decade (gray bars). Norwich experienced

substantial growth in housing units during the 1970s and 1980s, but much slower growth in the 2000s and 2010s. Growth in the decade following 2010 is estimated using the number of new E911 residential addresses (dotted line).

Figure 14. Change in Housing Units 1940 – 2018



Source: US Decennial Census. 2018 estimated based on town E911 data.

Regional real estate development professionals cite five reasons to explain the low level of housing development in Norwich.

- ▶ New Hampshire is perceived to have less stringent environmental and development review for projects of ten units or more (the threshold for the Vermont Act 250 review process)
- ▶ High construction costs due to high materials and labor prices (skilled labor is in short supply)

- ▶ The high cost of providing wastewater systems for each development because there is no available access to municipal wastewater
- ▶ The perception that Norwich residents will oppose development, making the development review and permitting process longer and more expensive
- ▶ There are relatively few parcels for sale in Norwich. Local developers have evaluated those well-located with regard to public transit, employment and commercial centers, and found them not economically feasible to develop.

Most of the existing stock of housing in Norwich is used as the primary residence of the homeowner. According to estimates by the Census Bureau, in 2017 about 21 percent of occupied housing units in Norwich were rented. These units are, according to industry experts, largely in single-family homes, either in a primary residence or a secondary unit on the same property — an ADU. The proportion of rental units is lower than Hartford (34 percent) and the remainder of Windsor County (26 percent).

4.6 Affordability

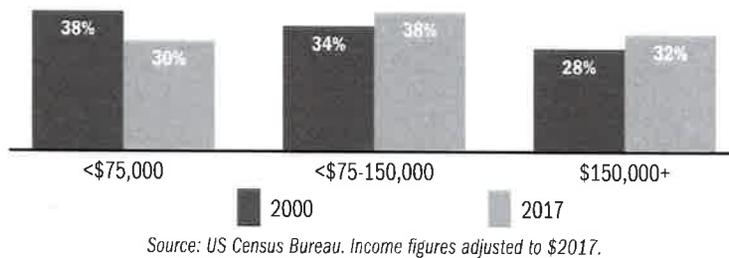
Housing affordability has been a prominent concern in Norwich since at least 2002, when the Planning Commission created an Affordable Housing Subcommittee. In 2019, the Affordable Housing Subcommittee, based on input provided during multiple listening sessions, prepared a draft of the town's Housing Strategy. After subsequent revisions to address further public input, the Strategy was adopted by the Planning Commission in December 2019 (see [Appendix A](#)). The issues and proposals in the Strategy

echo the work of the preceding decades, demonstrating the persistence of housing challenges in Norwich. In November 2018, Norwich voters overwhelmingly approved the re-instatement of a \$45,000 revolving fund for affordable housing.

Household Income

In the last two decades, the average income of Norwich households has increased. Moreover, there has been a marked increase in the share of Norwich households that have very high incomes, as documented by Census Bureau data summarized in Figure 15. This figure shows the percentage of Norwich families in various income brackets using the 2000 census and then the 2017 American Community Survey (ACS). The share of the Norwich population with annual income below \$75,000 has dropped substantially since 2000, and the share of the population with annual income above \$150,000 has increased.

Figure 15. Change in Household Income 2000-2017

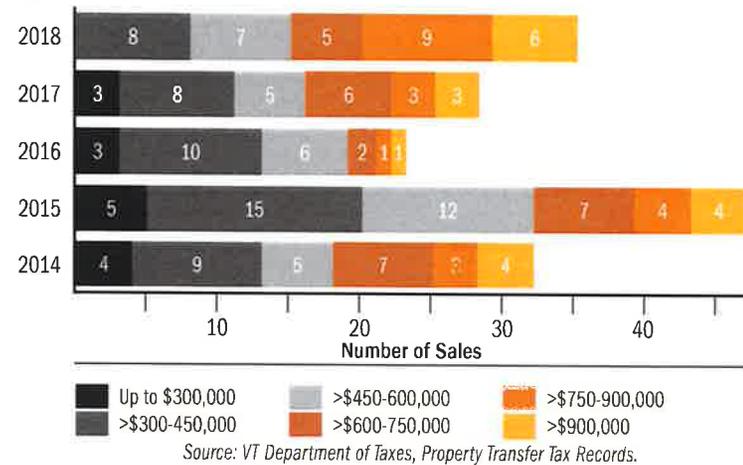


Home Prices

In 2018, the median sales price of a single-family home in Norwich was \$649,000, a jump from \$564,500 in 2014,

\$480,000 in 2015, \$431,000 in 2016, and \$500,000 in 2017. As Figure 16 shows, in four out of the five most recent years, more than half of sales each year have been for \$450,000 or more.

Figure 16. Single-Family Home Sales in Norwich by Price



During 2014-2018, the average annual median sales price of single-family homes in Norwich was the highest of any town in Windsor County. The Norwich median sales price between 2014 and 2018 was \$500,000 and significantly more than any other town in the county. The next highest was Woodstock, where over the five-year period the average was \$397,000. In Hartford, the five-year average was \$240,000. These high sales prices mean that few low-, moderate-, or even middle-income households can afford to purchase a home in Norwich. In addition to Norwich, several other towns in the Dresden School District and with proximity to job centers in Hanover and Lebanon, NH and White River Junction, VT, have housing sales prices that

are high relative to the regional average. For example, the median purchase price of a single-family home in Hanover was \$620,000 in 2018.

As documented in the Norwich Housing Strategy, only a small share of Norwich home sales are affordable to families at the median income for the county. For example, of the 35 single-family homes sold in 2018, just 5 were sold at a price that would be affordable for a family earning \$76,454.

Rental Market

Current rents are also high in Norwich, as high or higher than the county-wide estimates produced in *Out of Reach*, a report by the National Low Income Housing Coalition. There is no centralized listing of rental properties in Norwich, so various websites from the college and the town listserv were reviewed.

On a day in June 2019, typically a period of high volume in the area rental market, seven single-family homes were listed for rent in Norwich, as well as six apartments on the property of a single-family home. The median asking rent for the houses was \$2,250 per month, and for the apartments, \$1,075. Again, this may miss some of the available inventory. But it suggests that house rentals are currently oriented more toward groups of graduate students or young professionals, and that many households likely struggle to find enough space that they can afford. Those that are able to stretch their budgets to afford renting in Norwich may be extremely vulnerable to changes in employment or unexpected financial needs.

Despite rents that are out of reach for many potential renters, local experts suggest that renting out a single-family home in Norwich is rarely profitable. Instead, many homeowners are motivated to rent their property as a way of retaining ownership and offsetting holding costs, so they can move back into the home in the future, or pass the property down to their family. This helps explain why few rental properties in Norwich are professionally managed (there is not sufficient revenue to pay a management firm), and why there is no evidence for widespread purchase-and-rent activity in the town.

Affordable Housing Need and Supply

In addition to the limited supply of affordable housing in Norwich, many existing residents struggle to afford their ongoing housing costs. Census Bureau Community Survey ACS data reveal that among homeowners with a mortgage in Norwich in 2017, 31 percent paid 30 percent or more of their household income for housing, 38 percent of renters paid 30 percent or more of their household income in gross rent.

The staff and school board for the Marion Cross School report that, each year, families that rent in Norwich must leave the school, and likely the wider Dresden School District, as well, because their rent rises beyond what they can afford. Some residents even struggle to afford the costs of food. The Upper Valley Haven, the area's principal service provider for individuals and families who are homeless or are at risk of homelessness, serves Norwich residents. In 2018, the Haven's food shelf, which provides

free healthy food options, served 32 Norwich households (approximately 80 residents). Households can only visit the food shelf once a month, and on average they come four times per year. In the same year, eight Norwich households received case management services from the Haven. And in recent years, the Haven shelters for homeless individuals, families, and those with seasonal (i.e. winter) needs have housed between one and three households that had lived most recently in Norwich.

Two developments in Norwich meet the definition of “dedicated affordable housing”, with long-term, binding instruments to ensure the units remain affordable. Starlake Lane (built in 1992) is a neighborhood of 14 for-sale homes kept affordable through a shared equity model that strives to balance the community’s interest in long-term affordability with individual asset building. The development’s steward, Twin Pines, also makes grants to income-qualified homebuyers to assist with the initial purchase. Norwich Senior Housing (built in 1981) consists of 24 one-bedroom units of dedicated affordable housing in the Village area in which tenants pay 30 percent of their adjusted gross income in rent. The demand for affordable senior housing in the area is such that there is an eight- or nine-year waiting list. The board of directors that oversees Norwich Senior Housing has in the past explored options for expansion on site but found that the infrastructure needs would make that infeasible.

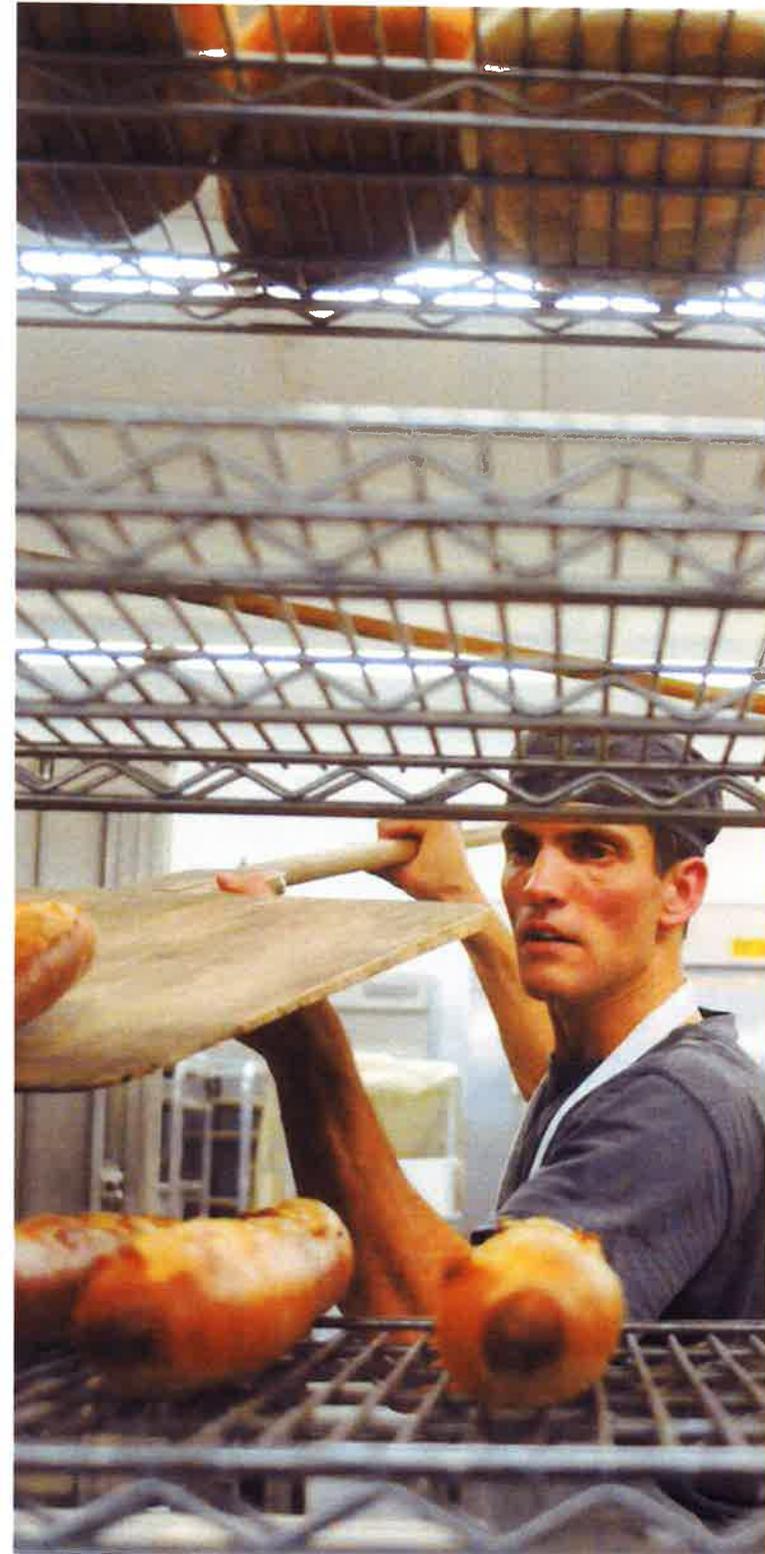
5 | ECONOMIC DEVELOPMENT

5.1 Objectives

- 5-1.a Plan development to maintain the historic settlement pattern of compact downtowns and village centers separated by rural countryside (24 VSA §4302 (c) (1)).
- 5-1.b Provide a strong and diverse economy that provides satisfying and rewarding job opportunities, maintains high environmental standards, and expands economic opportunities (24 VSA §4302 (c) (1) (2)).
- 5-1.c Ensure the economic vitality of the village business district, so residents can continue to access goods and services within proximity of their homes.
- 5-1.d Expand opportunities for individuals and households on lower and middle incomes.
- 5-1.e Encourage the manufacture and marketing of agricultural and forest industries (24 VSA §4302 (c) (9), (A), (B)).
- 5-1.f Work to ensure that Norwich residents and businesses have adequate access to high-speed internet and mobile telephone services.
- 5-1.g Explore ways to support businesses providing products and services that directly address the climate crisis, such as solar energy design and installation.

5.2 Policies

- 5-2.a The town will encourage economic development by maintaining a strong relationship with the local business community.
- 5-2.b Support proposed development projects that reflect the values and priorities expressed in this plan.
- 5-2.c Assist businesses that require local or state permits to locate or expand operations in Norwich



- 5-2.d Review Norwich land use regulations to facilitate appropriate scale mixed-use development in areas currently zoned commercial- industrial

5.3 Actions

- 5-3.a Complete a study on how to maintain a strong and vibrant village center and consider recommended actions.
- 5-3.b Study implications of improved wastewater management for the economic vitality of the village area.
- 5-3.c Identify opportunities to foster economic development in the Commercial-Industrial district.
- 5-3.d Work with Green Mountain Economic Development Corporation (GMEDC) to recruit appropriate businesses to Norwich.
- 5-3.e Provide education on area services available for unemployed and lower income residents.
- 5-3.f Support agricultural and forest industries by encouraging participation in the Vermont Use Value Appraisal (UVA) Program, (current use) and conservation easements through the Upper Valley Land Trust.
- 5-3.g Consider how to address barriers to development related to limitations on septic capacity, in particular through reviewing the findings of the 2005 study conducted by the Norwich Sewer Committee in light of current challenges and changes in wastewater management.

5.4 Background

Data available to describe economic conditions in Norwich are difficult to obtain because of our small size. Most of the relevant data is collected at the county level. Data available to describe economic performance of the County can still provide some context. Unemployment in Windsor County was 2.3 percent in 2018, compared to a statewide average of 2.7 percent. The average wage was \$50,850 compared to a state average of \$47,635.

[Update Fig 6-1 from 2018 plan with data from VT Labor Market Information]

Figure 17. Establishments, Employees and Wages

	1980	1990	2000	2010	2018
NORWICH					
Establishments	72	100	136	133	145
Employees	556	670	814	861	981
Ave. Wages	32,100	33,800	38,600	44,100	50,800
WINDSOR COUNTY					
Ave. Wages	37,800	36,800	39,800	42,600	45,800
VERMONT					
Ave. Wages	35,900	39,300	42,000	45,200	47,600

Source: VT Department of Labor. Wages adjusted to \$2018.

According to the most recent Department of Taxes data the median family income in Norwich for 2017 was \$141,660, compared to a statewide median of \$70,500 [check].

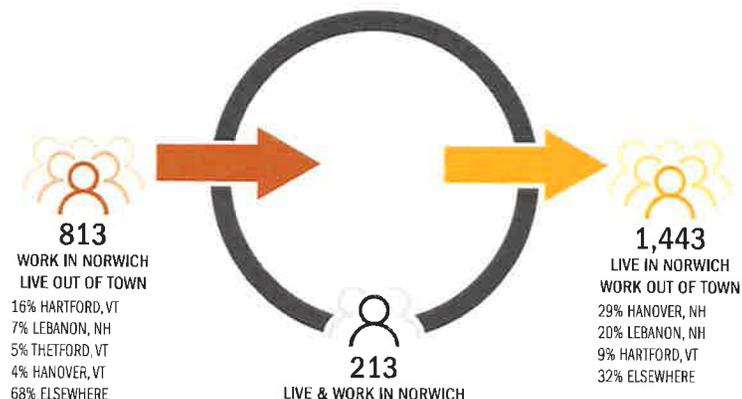
The source of Norwich economic strength lies mostly outside the town. The major employers in the region include Dartmouth Hitchcock Hospital, Hypotherm, Veterans Affairs Hospital and Dartmouth College. Only about 10 percent of Norwich residents who work do so in Norwich.

Between 1980 and 2000, the total number of employers (establishments) in Norwich increased from 72 to 136. In 2018 the number of employers increased further to 145, and the number of people employed in Norwich rose by 120. In 2018, a total of 981 people were employed in Norwich, approximately 213 of whom were residents. While accounting for a small percentage of employers, the public sector provides more than 10 percent of all jobs

in town. Businesses in Norwich are generally very small, with an average of seven workers. Most of these private businesses are in the service sector. However, King Arthur Flour continues to grow, and their retail and school located on Route 5 South has become a tourist destination.

Figure 18. Commuting Patterns 2017

Source: US Census Bureau On the Map (all jobs)



5.5 Barriers To Economic Growth

Housing

The high cost, limited variety of stock, and strong competition for rental dwelling units holds back economic growth in Norwich. A greater diversity of housing types (size, location, accessibility) at a wider range of price points is needed if more people are to be able to work and live in Norwich (see Housing, Land Use chapters).

Labor Market Characteristics

The dominance of Dartmouth Hitchcock, Veterans Affairs Hospital and Dartmouth College suggests that dual income households, where a worker is not in the medical or educational field, may face challenges building a rewarding career in the region. The Upper Valley is close enough to large metropolitan areas that skilled labor and a range of professions can commute into larger labor markets. A commitment to supporting spin-offs and start-ups in the region could increase viable career paths for all residents.

Land Use

Approximately 97 percent of Norwich is zoned Rural Residential. While this may reflect the town's character and development limitations (e.g. wastewater challenges), it raises questions about how and where new business opportunities could be supported.

The generally high land rents ensure that lands currently used for agriculture are under pressure from other more profitable uses (e.g. high-end estate-style residential development). Supporting local agriculture and forestry may require finding ways to reduce the economic pressure on these businesses.

More thought should be given to ensuring existing Commercial-Industrial lands are in fact capable of supporting more intense development. A full review of Norwich Land Use Regulations is needed to ensure that enough land is zoned to support local economic development that reflects the direction of regional growth and sustains local character.



6 | TRANSPORTATION

6.1 Objectives

- 6-1.a 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 (VSA 24 §4302 (c) (4)).
- 6-1.b Reduce Greenhouse Gas Emissions (GGE) by encouraging access to mass transit, ride-sharing and EV use (VSA 24 §4302 (c) (7) (A)).

6.2 Policies

- 6-2.a Plan, maintain and provide for safe, efficient, sustainable roads and other facilities, such as bus shelters and bike racks to serve the town and connect to the region.
- 6-2.b Promote the construction of a variety of housing types in areas of town with good access to transit, employment, community facilities and retail opportunities.
- 6-2.c Encourage mixed use and commercial development in the Commercial Industrial District, where it can be served by existing transportation infrastructure and transit service.
- 6-2.d Encourage improved access management on state highways and other high-traffic roads.
- 6-2.e Seek improved accommodation for bicyclists and pedestrians on state highways and other high-traffic roads.
- 6-2.f Ensure all private roads are constructed in accordance with town standards and any developer provide a maintenance agreement or equivalent for new private roads
- 6-2.g Maintain town ownership of Class 4 roads and legal trails as a public recreation resource.
- 6-2.h Continue to support Advance Transit.

- 6-2.i Continue to participate in the Transportation Advisory Committee facilitated by TRORC.

6.3 Actions

- 6-3.a Adopt Land Use Regulations with adequate standards for access, management, curb cuts, driveways and roads, to promote a safe and efficient transportation network.
- 6-3.b Develop a master plan for future trails, paths, sidewalks, and bikeways. Use the master plan as a basis for pursuing grants and other funding for design, right-of-way acquisition, and construction of planned improvements.
- 6-3.c Accommodate bicycle and pedestrian safety when rebuilding and upgrading roads and bridges.
- 6-3.d Create a long-range plan for construction and maintenance of sidewalks, bikeways, trails and park-and-ride lots.

6.4 Roads In Norwich

Interstate 91

Interstate 91 (I-91) was completed through Norwich in the early 1970s and runs north-south along the town's eastern boundary. Its intersection with I-89 five miles south at White River Junction provides Norwich with direct interstate highway access to Boston, Montreal, New York City, and points between and beyond.

State Highways

U.S. Route 5 parallels the Connecticut River along much of the 8.5 miles it travels through Norwich. U.S. Route 5 is part of the bi-state Connecticut River Scenic Byway and a popular bicycle route. Vermont Route 10A is a 0.9-mile connector between I-91 Exit 13 southbound and the

Ledyard Bridge over the Connecticut River that links Norwich to downtown Hanover, New Hampshire. River Road is a 0.8-mile state highway connector between Vermont Route 10A at the Ledyard Bridge and U.S. Route 5 North along the Connecticut River. It does not have a state route number but is a designated state highway. Due to the proximity of River Road to the Connecticut River to the east and the railroad, significant changes to the road are not possible.

VTrans last updated highway sufficiency data in 2008. There is no reliable, current information available concerning the condition or capacity of state and federal highways servicing Norwich. A review of the Average Annual Daily Traffic Statistics reveals that all the figures are estimates interpolated from nearby counters. Therefore, actual changes are not identified.

Figure 19. Traffic Counts

	1990	2000	2010	2018
I-91				
Exit 12-13			16,700	20,100
Exit 13-14		11,700	11,900	12,500
ROUTE 5				
Hartford line to Hopson Rd	3,385	5,200	5,000	4,700
Hopson Rd to Exit 13	4,790	5,700	4,200	7,200
Exit 13 to Main St	5,450	8,000	5,700	8,700
Main St to Norwich SH	1,125	920	1,300	1,800
Norwich SH to Route 132	1,635	1,700	1,700	1,500
Route 132 to Thetford line	1,305	1,300	1,300	1,200
ROUTE 10A				
Exit 13	10,540	11,900	12,400	11,400
Exit 13 to Norwich SH	12,370	12,800	13,700	13,000
Norwich SH to Hanover line	14,770	13,700	14,500	13,800

Source: VT Agency of Transportation

Town Roads

There are 96 miles of town roads. There are 14.5 miles of Class 2 roads (heavily traveled paved roads allowing travel from one town to another). There are 61.2 miles of Class III roads, passable by a regular passenger vehicle year round (11 miles are paved). There are 19.1 miles of Class 4 roads which are non-town maintained roads (bridges and culverts are maintained by the town). Some of these roads are trails. Norwich has 3.5 miles of legal trails, which are town owned rights-of-way not open to motorized vehicles.

Since 2018 towns in Vermont have been required to comply with Act 64, The Vermont Clean Water Act, by obtaining a Municipal Roads General Permit. This permit is intended to achieve significant reductions in stormwater-related erosion from municipal roads, both paved and unpaved. Municipalities will implement a customized, multi-year plan to stabilize their road drainage system. The plan will include bringing road drainage systems up to basic maintenance standards, and additional corrective measure to reduce erosion as necessary to meet a Total Maximum Daily Load (TMDL) or other water quality restoration effort.

Norwich residents’ access to public transportation includes taxis, a regional bus system (Advance Transit), a van for seniors based at the senior center in White River Junction, and a district school bus system. There is also inter-city bus service to major cities and airports (Vermont Transit and Dartmouth Coach), train service (Amtrak), and a regional airport in West Lebanon.

The current Advance Transit bus system connects the Norwich village area with hospitals, employment centers, and retail shopping areas throughout the Upper Valley. Advance Transit makes several stops in the Norwich village area, in downtown Hanover and around the Dartmouth campus, with service approximately twice an hour between 6:30 a.m. and 5:30 p.m. on weekdays. During peak commuting hours this includes a stop at the Norwich park-and-ride lot at Huntley Meadow. Bus ridership has been growing in Norwich for many years. The decision to make Advance Transit service free for riders spurred transit use. In 2016, 11,354 passengers boarded Advance Transit buses in Norwich. This compared to 2,168 in 1992.

A van operated by the White River Council on Aging provides transportation for seniors to the Bugbee Senior Center in White River Junction, medical appointments and shopping trips. Although donations are accepted, this service is largely supported by local and federal funding.

Directing future development in Norwich into the Village Business and Village Residential Districts or other areas to be designated for future growth (e.g., Commercial-Industrial District) would facilitate the future expansion of public transportation by creating population and business-related centers within walking or bicycling distance to pick-up points.

Park-and-Ride Lots

Norwich built its first park-and-ride in 2009 at Huntley Meadow, off Turnpike Road, with 20 parking spaces served by Advance Transit. This has recently been improved with

the addition of an EV charging station serving two parking spaces, and a bike fix-it station.

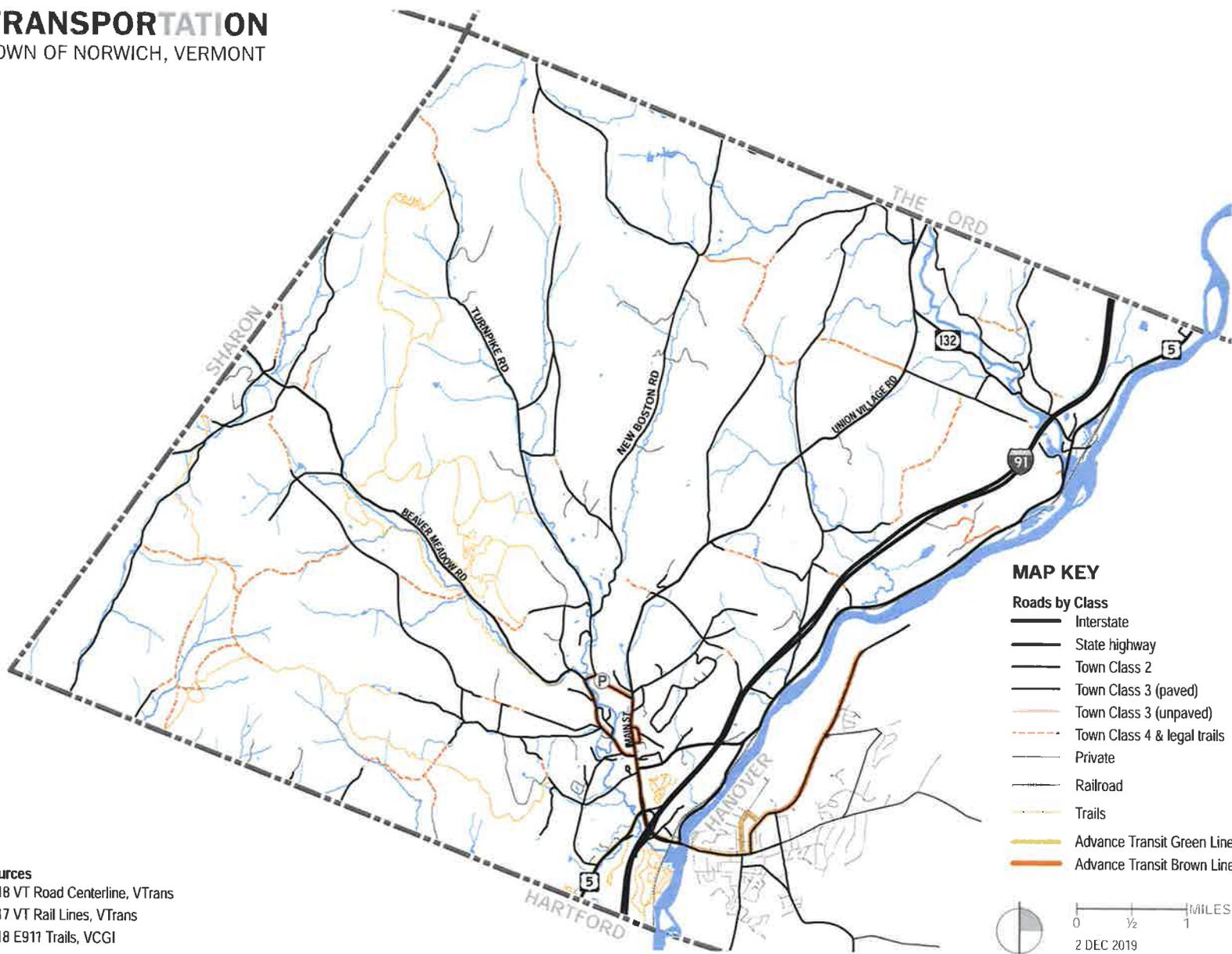
6.5 Regional Transportation Planning Issues

Regional transportation planning in Vermont is now increasingly the responsibility of the Regional Planning Commissions rather than state highway engineers in Montpelier. TRORC has a Transportation Advisory Committee (TAC) with representatives from its member towns. The TAC creates a Regional Transportation Plan that is coordinated with land use planning and is responsive to local needs and concerns. The Vermont Agency of Transportation will use the Regional Transportation Plan for determining which projects to fund.

In addition to TRORC, Vital Communities, a regional nonprofit organization based in White River Junction, hosts the Upper Valley Transportation Management Association (UVTMA), which is sponsored by the Upper Valley towns, major Upper Valley employers and both regional planning commissions. The mission of the UVTMA is to provide leadership and education to promote planning, development, and implementation of transportation initiatives to mitigate traffic congestion and reduce reliance on single-occupant vehicle commuting. The UVTMA provides information about alternative transportation, researches transportation issues, and works with towns and businesses on transportation issues and solutions.

TRANSPORTATION

TOWN OF NORWICH, VERMONT



Sources
2018 VT Road Centerline, VTrans
2017 VT Rail Lines, VTrans
2018 E911 Trails, VCGI

7 | FACILITIES AND SERVICES

7.1 Objectives

- 7-1a Provide the community services and facilities necessary to sustain the quality of life in Norwich.
- 7-1b Meet the town's obligations under Vermont's Clean Water Act (Act 64).
- 7-1c Coordinate strategic planning among town stakeholders, including the Recreation Department, the Marion Cross School and the Norwich Library, to develop cohesive approaches for early childcare through sixth grade.

7.2 Policies

- 7-2a Focus development and any provision of utilities in areas of town already serviced by major roads and transit.
- 7-2b Ensure that stormwater run-off from all developed land is managed at the source, thus avoiding a burden on public infrastructure.
- 7-2c Seek solutions to the barrier that wastewater management presents to compact development in much of Norwich.
- 7-2d Support expanded service area for ECFiber or other high-speed internet providers.
- 7-2e Promote the development and use of a connected system of trails for recreation and enjoyment of natural and scenic areas in Norwich.
- 7-2f Support provision of quality childcare (pre-K through grade six), education and recreation services.
- 7-2g Support the viability of high-quality infant and toddler care as a mechanism to make Norwich accessible for families of a wide range of income levels.



7.3 Actions

- 7-3.a Maintain a capital improvement program that is aligned with the goals and objectives of this plan.
- 7-3.b Consider how to address barriers to development related to limitations on septic capacity, in particular through reviewing the findings of the 2005 study conducted by the Norwich Sewer Committee in light of current challenges and burdens.
- 7-3.c Develop a Stormwater Management Plan.
- 7-3.d Implement the strategic initiatives developed by the town's Trails Committee, including:
 - i. Identifying potential trail corridors to link existing trails with each other and with trail systems in neighboring towns
 - ii. Developing a plan that identifies and promotes appropriate routes for different trail users, including those on foot, bicycle and horseback
 - iii. Identifying and promote trails that relieve the burden on such popular trails as Gile Mountain
 - iv. Identify how to expand visitor management and specifically parking at existing trailheads.
- 7-3.e Take a leading role in promoting opportunities and choices for parents in need of childcare by, among other things:
 - i. Creating a standing community committee to regularly convene stakeholders and experts on childcare and make formal policy recommendations to the Selectboard to improve the coordination and provision of childcare services in town
 - ii. Exploring how to lower the costs of childcare provider background checks such as using the Norwich Police Department
 - iii. Presenting to Town Meeting a proposal to support scholarships for low-income Norwich children at local childcare providers and ensure a living wage for teachers that care for Norwich children.
- 7-3.f Review existing land use controls to ensure that they do not present a barrier to home-based childcare providers.

7.4 Town Government Facilities

Norwich town government is based at Tracy Hall, located on Main St. Most recently renovated in 1995, Tracy Hall comprises town offices, a gymnasium/auditorium and two meeting rooms. Parking is shared with the Marion Cross School. The facility is a focus of community activity including several Women's Club events, the Norwich Winter Farmers Market, and many others. The Public Safety building was completed in 2018 and houses the Norwich Police and Fire Departments. The Town Garage, adjacent to the town transfer station, has been recently renovated. The Department of Public Works (DPW) is located there. The Buildings and Grounds department comprises one FTE position, which reports to the Public Works Director. This department maintains Tracy Hall and other town buildings, in addition to extensive town-owned recreation facilities at Huntley Meadows.

7.5 Water Supply Infrastructure

The Town of Norwich currently has no direct role in public water supply. All properties, except for those within the Norwich Fire District, obtain potable water from on-site wells or small, state-regulated water systems. The District, managed by its Prudential Committee, operates a public water system serving the historic village center and some adjacent areas, roughly 20 percent of the parcels in Norwich. A 1988 well rehabilitation program resulted in substantial water capacity beyond current needs. The water service area has undergone only minor geographic expansions over the past 20 years. The last major

expansion in the water service area was the addition of the McKenna Road properties.

7.6 Electricity Infrastructure

Green Mountain Power (GMP) provides electricity to utility customers in Norwich (see [Figure 21](#), [Figure 22](#)). Norwich has limited three-phase power available. There is a substation located in nearby Wilder. A VELCO 115kV transmission line passes through the western portion of town. As of 2018, there are no plans to significantly upgrade the electricity service to Norwich.

7.7 Telecommunications Infrastructure

Consolidated Communications operates the landline phone service, DSL and internet in Vermont. Comcast provides phone, internet and cable television service throughout Norwich. [ECFiber](#) provides high-speed internet and phone service over fiberoptic cable along several connector roads in Norwich, and plans to add more in the coming year.

There is one cellular phone telecommunications tower in town located primarily to provide service in the I-91 corridor. There is a small cellular phone repeater antenna in the village. Mobile phone service remains poor and unstable.

7.8 Stormwater Infrastructure

Stormwater runoff management is a growing area of municipal operations due to the onset of the climate

crisis and the increased awareness of damage to waterbodies and their ecosystems caused by sediment and contaminants. Over the next decade Norwich will be required to meet state clean water and road general permit requirements (Act 64). Over the same time increased attention will need to be paid to nitrogen laden run-off making its way to the Connecticut River. This will increase the need for town roads to have effective stormwater infrastructure. This includes swales, culverts and other engineered interventions designed to filter out sediment and contaminants and contain peak flows to avoid costly damage to public roads and private property.

Norwich has detailed requirements in its subdivision regulations preventing unmanaged stormwater from leaving the developed property. Nevertheless, the slow rate of development and the legacy of poorly regulated development will continue to impact the watershed for a long time.

7.9 Wastewater Provision

The private provision of on-site wastewater adds substantially both to the cost of development and ongoing operating expenses for all Norwich property owners. This acts as a brake on future economic development and residential growth. Examples of appropriate scale development that are currently constrained include converting large homes in the village into seniors apartments or operating existing food service businesses for longer hours. The proximity of two municipal wastewater

treatment systems to Norwich may provide cost-effective opportunities to ensure the ongoing viability of the existing village and possible new development nearby.

7.10 Solid Waste Facilities and Services

Residents may elect to use the transfer station operated by the town and/or contract with a local trash hauler.

Norwich is a member of the Greater Upper Valley Solid Waste Management District (GUVSWMD). This provides residents with additional options for disposing of hazardous waste at special collections in the District, and access to the Hartford Solid Waste/Recycling Transfer Center, where construction and demolition waste may be disposed, along with recycled materials and trash. The district's Solid Waste Implementation Plan (SWIP) is incorporated into this plan by reference.

7.11 Trails

Norwich hosts a 697-acre reserve under the control of the National Park Service surrounding a segment of the Appalachian Trail. The trail follows the ridgelines of the Blood Brook watershed and is maintained by the Dartmouth Outing Club. In addition to this trail there is a significant network of trails on public and private land throughout town. The Norwich Trails Committee works with regional partners, including the Upper Valley Land Trust, the Upper Valley Trails Alliance, and the Upper Valley Mountain Bike

Association, and town staff to promote the appropriate use and maintenance of town trails (see [Figure 20](#))

7.12 Educational Facilities

The Norwich school system is made up of two school districts. The Norwich School District is responsible for educating children from kindergarten through grade six at the Marion Cross School in Norwich. The Dresden School District, which includes the towns of Norwich and Hanover, New Hampshire, serves Norwich children from grades seven through twelve in the Richmond Middle School and the Hanover High School, both in Hanover.

The Dresden School District was formed in 1965 and was the first interstate school district in the country. Before that time, Norwich educated students through eighth grade and high school students were tuitioned to other towns, primarily Hanover. The School Districts have their own boards, budgeting authority, and long-term planning processes as provided for by state statute. They present budgets and report on progress at Town Meeting each year.

The Marion Cross School, located adjacent to the Town Green on Church Street, has an enrolled population for the 2019-2020 academic year of 309 students. The Norwich School District is currently investigating solutions to a long-standing failure of the wastewater system leach-field (the Town Green), which is unsanitary. Voters can expect to be presented with information at Town Meeting 2020 or in a special election later that year.

Major capital programs at both the Richmond Middle School and Hanover High School were completed in the 2000s. The Richmond Middle School, which was formerly located on the same campus as the high school, moved to a new building on Lyme Road in 2005. A renovation of Hanover High School was completed in 2007.

7.13 Childcare

Most Norwich parents are employed, and they depend on childcare services for their infants, toddlers, preschool-age children, and children enrolled in kindergarten through sixth grade during the after-school hours, holidays and summer vacations. According to the 2011-15 ACS data from Norwich, only 8 percent (55 of 687) of school-age children and 49 percent (50 of 102) of preschool-age children live in a household that includes a parent who is out of the labor force.

The Marion Cross School offers a half-day preschool program, and an all-day kindergarten program. Marion Cross School also provides special education services to children starting at age three.

There are several childcare providers located in Norwich and many more in neighboring communities. The Childcare Center in Norwich serves children beginning when they are infants. The Norwich Nursery School has programs for toddlers and preschoolers during the school year. Other nearby daycare facilities serving Norwich families include FitKids Childcare at River Valley Club in Lebanon, New Hampshire; the Children's Center at Kendal at Hanover (a

senior-living community); La Petite Creche in Hanover, New Hampshire; and childcare centers at Dartmouth College and at Dartmouth-Hitchcock Medical Center, which enroll children of employees of those institutions.

At all of these facilities, open enrollment spaces are severely limited. Norwich parents report waiting months or even years on multiple wait lists. By choice or necessity, some parents use the services of home daycare providers (i.e. not located in a dedicated facility). The Family Place, located on the border of Norwich and Hartford, offers referrals to licensed providers in the area. Websites maintained by area employers, including Dartmouth College, provide other helpful resources.

The Marion Cross School coordinates a small after-school program operated by the Child Care Center in Norwich, though open spaces rarely turn over. The town's Recreation Department is in the process of expanding its own after-school offerings ahead of the 2020-21 school year.

Across age levels, demand consistently outstrips supply, presenting an opportunity for the town to explore deepening its own role and commitment to the issue.

7.14 Recreation

The Recreation department organizes and facilitates programming for residents of all ages in Norwich. This includes adult programs for yoga, table tennis, basketball, pickleball, fencing, volleyball and bagua. Youth programs

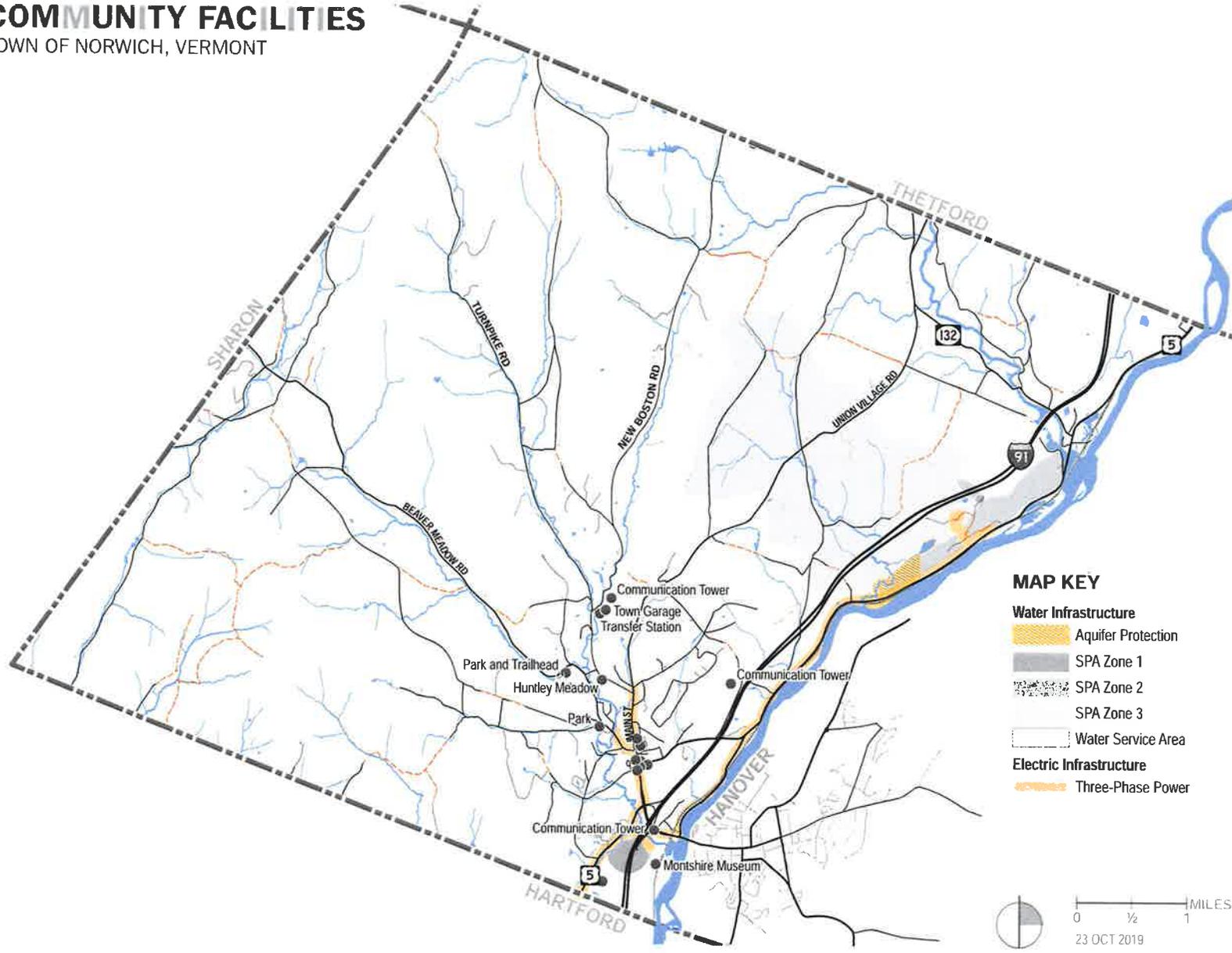
include baseball, basketball, lacrosse, mountain biking, soccer and trail running.

Summer camps spanned the full summer break this year, covering a normal work week to ensure that parents had access to full-day affordable camps. In the past year the Weekday Wind Down pilot program was added for children in the down time between the end of school and commencement of organized afternoon activities and programs.

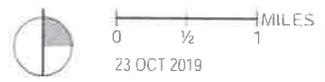
In addition to these offerings, the Recreation Department works collaboratively with the DPW maintaining Huntley Meadows, Barrett Playground/Bread Oven, and Ballard Park.

COMMUNITY FACILITIES

TOWN OF NORWICH, VERMONT

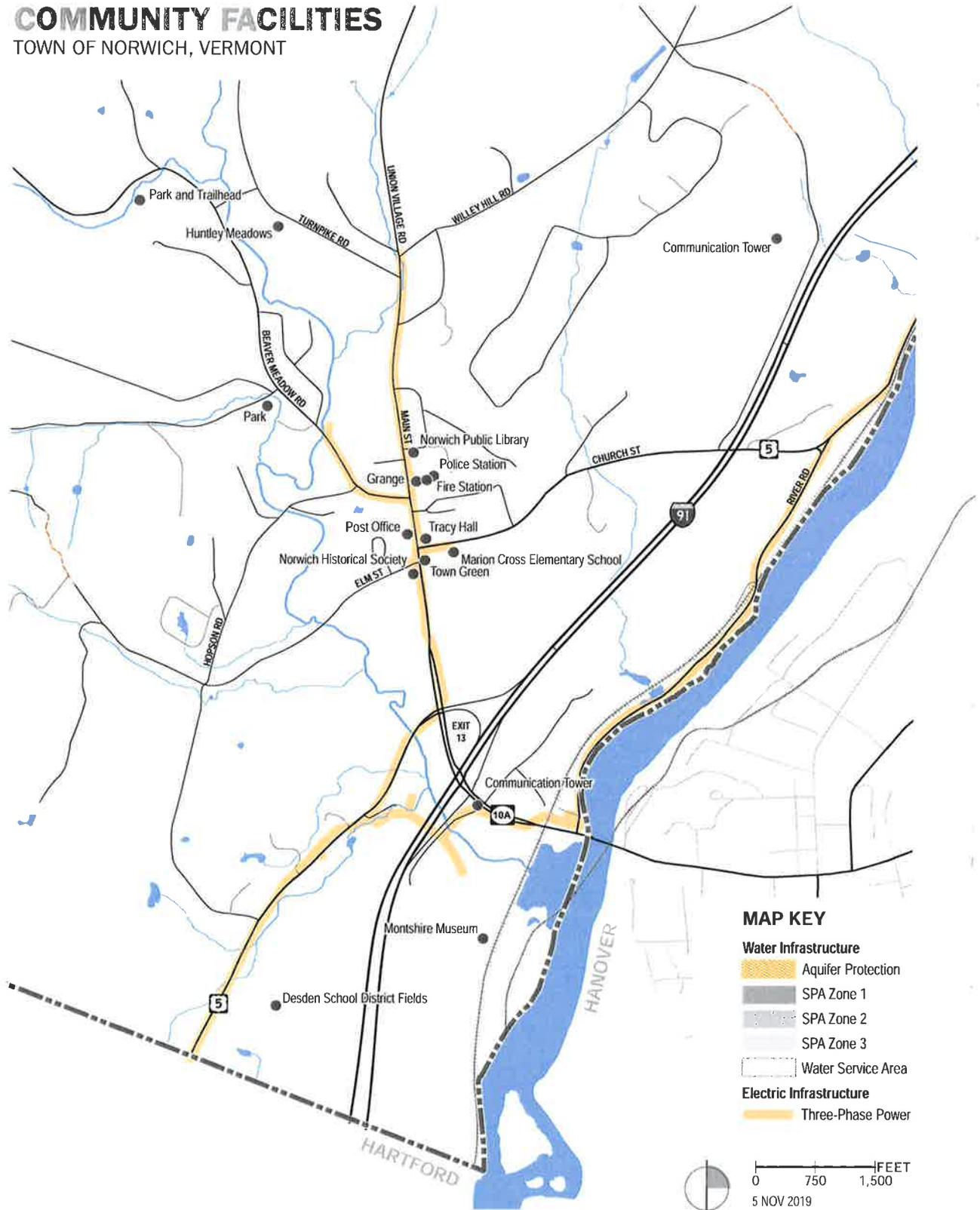


- MAP KEY**
- Water Infrastructure**
- Aquifer Protection
 - SPA Zone 1
 - SPA Zone 2
 - SPA Zone 3
 - Water Service Area
- Electric Infrastructure**
- Three-Phase Power



COMMUNITY FACILITIES

TOWN OF NORWICH, VERMONT





8 | RESILIENCE

8.1 Objectives

- 8-1.a Mitigate potential flood and erosion hazards, and increase the community's resilience to flooding and other disasters through hazard mitigation planning (24 VSA § 4302 (c) (14) (C)).
- 8-1.b Prevent increased flood and erosion hazards resulting from inappropriate land use and development practices.
- 8-1.c Protect and restore floodplains and upland forest areas that attenuate and moderate flooding and fluvial erosion (24 VSA § 4302 (c) (14) (B)).
- 8-1.d Increase the use of flood insurance for structures within the Special Flood Hazard Area (SFHA).

8.2 Policies

- 8-2.a Guide development of new structures and impervious areas away from surface waters and encourage landowners to maintain or establish riparian buffers.
- 8-2.b Site public and private critical facilities outside of floodplains where feasible.
- 8-2.c Ensure that any development within the Special Flood Hazard Area (SFHA) fully conforms to the National Flood Insurance Program (NFIP).
- 8-2.d Provide support to Norwich property owners through membership in the Community Rating System (CRS) of the National Flood Insurance Program.
- 8-2.e Ensure that stormwater runoff from developed land is managed at the source so it will not place an undue burden on public infrastructure, increase flood hazards or reduce water quality.
- 8-2.f Support efforts to reduce the severity of future floods, such as allowing rivers to access their floodplains, providing compensatory flood storage, and replacing/removing infrastructure constricting water flow.

8.3 Actions

- 8-3.a Continue to participate and meet the requirements of the National Flood Insurance Program, so that owners within floodplains are eligible for flood insurance.
- 8-3.b Complete the Community Rating System (CRS) certification process to qualify for maximum state reimbursement for flood events and assist homeowners.
- 8-3.c Update and re-adopt the Norwich All Hazards Mitigation (HMP) and the Emergency Operations Plan (EOP), and ensure consistency with the goals, objectives, and policies of this plan.
- 8-3.d Implement the hazard mitigation programs, projects and activities identified in the Norwich 2015 All Hazard Mitigation Plan and subsequently adopted plans.
- 8-3.e Adopt revised land use regulations that will implement the objectives and policies of this plan related to flood hazards, riparian areas and stormwater management.

8.4 Floodplains

The landform of Norwich is similar to many other communities in the Upper Valley – featuring winding streams draining narrow valleys, and backwater riparian features created as a result of flood control/energy generation dams installed in the early twentieth century. Roads and development compete with streams for space on valley floors introducing inevitable conflict. It is expected that this conflict will increase in magnitude and frequency as the climate crisis advances.

On August 28, 2011 Tropical Storm Irene moved through Vermont, and the resulting damage to public infrastructure in Norwich exceeded \$1 million. On July 1, 2017, a severe storm impacted Norwich and caused an estimated \$3

million in damage. Both events impacted roads, bridges and culverts.

Flooding while frequently portrayed as a disaster, is better understood as a natural process that would occur with less damage to public infrastructure and private property where the following human activities are avoided:

- ▶ Development in floodplains conflicts with natural forces, which in turn leads to engineered protections of the poorly located investments. Such ‘protections’ include stream straightening, berming, and bank armoring to prevent erosion. These measures increase volume and velocity of flood waters causing even greater damage because floodwaters can no longer slow through meanders and access their floodplains, dissipating energy naturally.
- ▶ Undersized bridges and culverts contribute to ice jams, debris jams and blocked flow, causing unanticipated localized flooding
- ▶ Unnecessary and poorly planned tree clearing, compaction of soil, and addition of impervious surfaces all cause higher volumes and velocities of stormwater runoff. This increases the scouring of stream banks and sediment load, ultimately leading to more rapid downstream flooding.

Flood damage can be avoided by conscious human action. The principles of mitigation require understanding natural processes and forces at work in a stream or river, so that development in flood-prone areas can be appropriately sited and designed to avoid damage and contributing to flooding downstream.

Norwich is a member of the National Flood Insurance Program (NFIP) a federal program operated by the Federal Emergency Management Agency (FEMA). The purpose of

the program is to improve floodplain management, and to assist communities and property owners when severe flooding occurs. Property owners in Norwich can purchase flood insurance because the town is enrolled in the NFIP. To maintain eligibility, Norwich must continue to regulate development in the mapped floodplain, according to federal standards.

Norwich has 56 structures in the Special Flood Hazard Area (SFHA) (see [Figure 7](#)). 25 percent of these structures have flood insurance. Approximately 50 of these structures are dwelling units. There are no repetitive loss properties identified by the NFIP in Norwich. There are no critical or public facilities located in the SFHA.

The Community Rating System (CRS) is a program that recognizes communities for exceeding the minimum NFIP standards. Participation in this program earns insurance policy holders a five percent discount on flood insurance products. Belonging to CRS would also qualify Norwich for a higher state contribution through the Emergency Relief Assistance Fund (ERAF) in the case of a federally declared disaster, thus reducing the local pay-out for damage to public infrastructure. Joining the CRS is a key action of this plan.

8.5 Mitigation Plans

The risk to life and property associated with flooding in Norwich can be reduced through hazard mitigation. Norwich has an adopted Local Hazard Mitigation Plan (developed with TRORC) most recently approved in August 2015. The

[Local Mitigation Plan](#) is adopted into this plan by reference, including the Hazard Mitigation Strategies: Programs, Projects and Activities on p38-39 of the 2015 plan. Persevering with the implementation of this plan will make Norwich more resilient, more adaptive to climate crisis changes and more responsive to disasters and disruptions, thus minimizing hardship.

9 | IMPLEMENTATION PROGRAM

The actions identified in each chapter are the means by which the Town of Norwich will implement the goals and objectives of this plan. This chapter presents in table form each of the actions by chapter, the entities responsible for implementation or monitoring of the action, and what (if any), budgetary implications there are in pursuing the action. Actions that relate to a revision of land use regulations are identified. Some actions may be ongoing, and therefore not be completed within the eight years this plan runs. Where actions are likely to be completed within eight years an estimated year of completion is included. Some actions are repeated in multiple chapters, they appear in this table once.

action	responsibility	year	resource commitment			land use regs
			general fund	capital budget	grant	
1 Ensure that the Zoning Administrator or their designee has the training and resources to enforce state Residential Building Energy Standards and issue Certificates of Compliance on development projects greater than 800-sf.	Selectboard Town Manager	2020	✓			✓
2 Investigate the use of land owned or controlled by the Town of Norwich for dedicated affordable housing.	Planning Director Town Manager Selectboard	2020		✓		
3 Make it easier for developers and the public to understand Norwich's affordable housing policies by developing educational materials and conducting outreach.	Planning Commission	2020				
4 Develop educational materials that address frequently asked questions about affordable housing in Norwich and increase public understanding of how new development will affect town and school property taxes.	Planning Commission	2020				
5 Take a leading role in promoting opportunities and choices for parents in need of childcare by, among other things: <ul style="list-style-type: none"> ▶ Creating a standing community committee to coordinate the provision of childcare services in town ▶ Exploring how to lower the costs of childcare provider background checks such as using the Norwich Police Department 	Selectboard Town Manager	2020	✓			
6 Complete the Community Rating System (CRS) certification process to qualify for maximum state reimbursement for flood events and assist homeowners.	Planning Director Selectboard Town Manager	2020				✓

action	responsibility	year	resource commitment			land use regs
			general fund	capital budget	grant	
7 Update and re-adopt the Norwich All Hazards Mitigation (HMP) and the Emergency Operations Plan (EOP), and ensure consistency with the goals, objectives, and policies of this plan.	Planning Director Selectboard Town Manager	2020				
8 Develop a plan to address any potential conflicts between existing or proposed development on the edge of the village and mapped forest blocks.	Planning Commission Planning Director Conservation Commission	2021				✓
9 Consider how to address barriers to development related to limitations on septic capacity, including a review of the findings of the 2005 study conducted by the Norwich Sewer Committee in light of current challenges and changes in wastewater management.	Planning Commission Planning Director Selectboard Town Manager	2021			✓	✓
10 Study implications of improved wastewater management for the economic vitality of the village area.	Planning Commission Planning Director Historic Preservation Commission	2021			✓	
11 Create a long-range plan for construction and maintenance of sidewalks, bikeways, trails and park-and-ride lots.	Selectboard Town Manager	2021	✓		✓	
12 Implement the recommendations made in [this chapter section xx.x] and throughout this plan when revising the Norwich Zoning and Subdivision Regulations to: <ul style="list-style-type: none"> ▶ Maintain the rural character of Norwich by preserving working lands and forests ▶ Recognize the important ecosystem services performed by forests ▶ Facilitate appropriate scale mixed-use development in areas currently zoned commercial-industrial Recs from other chapters	Planning Commission Planning Director Selectboard	2022	✓		✓	✓
13 Implement the recommendations made in the housing chapter when revising the Norwich Zoning and Subdivision Regulations.	Planning Commission Planning Director	2022				✓
14 Ensure that the new Norwich Zoning and Subdivision Regulations are clear, accessible and avoid any unnecessary barriers to developing housing.	Planning Commission Planning Director	2022				✓
15 Complete a study on how to maintain a strong and vibrant village center and consider recommended actions.	Planning Commission Planning Director Historic Preservation Commission	2022			✓	✓
16 Identify opportunities to foster economic development in the Commercial-Industrial district.	Planning Commission Planning Director	2022				

action	responsibility	year	resource commitment			land use regs
			general fund	capital budget	grant	
17 Adopt Land Use Regulations with adequate standards for access, management, curb cuts, driveways and roads, to promote a safe and efficient transportation network.	Planning Commission Planning Director	2022				✓
18 Adopt revised land use regulations that will implement the objectives and policies of this plan related to flood hazards, riparian areas and stormwater management.	Planning Commission Planning Director Selectboard	2022				✓
19 Develop a master plan for future trails, paths, sidewalks, and bikeways. Use the master plan as a basis for pursuing grants and other funding for design, right-of-way acquisition, and construction of planned improvements.	Planning Commission Planning Director Trails Committee Energy Committee	2023			✓	
20 Develop a Stormwater Management Plan.	Planning Director Selectboard Town Manager	2023			✓	
21 Participate in state, federal and other efforts to protect the Connecticut River, including basin plans provided for under 10 VSA §1253.	Planning Commission Planning Director	ongoing				
22 Continue to advocate for the preservation and adaptive reuse of historic Lewiston.	Planning Commission Planning Director Historic Preservation Commission	ongoing				✓
23 Consider incentive programs to encourage adaptive reuse of historic structures.		ongoing	✓		✓	
24 Update the inventory of barns at risk, and support owners in obtaining state grants to offset rehabilitation costs.		ongoing			✓	
25 Ensure the participation of the Historic Preservation Commission in any study of improving bike-ability and walkability in the village.	Historic Preservation Commission	ongoing			✓	
26 Advocate before VTrans on behalf of non-vehicular road users for improved accommodations on state highways.	Planning Commission Planning Director Energy Committee	ongoing				
27 Review hybrid and electric options for any municipal vehicle purchase or replacement.	Selectboard Town Manager Energy Committee	ongoing		✓		
28 Encourage development projects to install solar collectors on rooftops and parking lots.	Planning Director Energy Committee	ongoing				✓

action	responsibility	year	resource commitment			land use regs
			general fund	capital budget	grant	
29 Participate in the Section 248 process before the Public Utility Commission to make decisions that further the goals, objectives, and policies of this plan.	Planning Director Energy Committee	ongoing				
30 Implement to the best of our abilities the (non-binding) Article 36 from the Town of Norwich 2019 ballot.	Energy Committee Planning Commission	ongoing	✓	✓		
31 Provide residents with information on: <ul style="list-style-type: none"> ▶ cold-climate heat pumps, and other non-fossil fuel heat sources in new construction and in existing homes and buildings; ▶ replacing fossil fuels powered vehicles with electric vehicles; ▶ managing forest land for long-term, sustainable harvesting of wood. 	Energy Committee	ongoing				
32 Raise climate crisis and energy awareness.	Energy Committee	ongoing				
33 Work with community groups and others to support non-vehicular transportation options in Norwich.	Energy Committee	ongoing				
34 Encourage the development of dedicated affordable housing by formalizing and growing the affordable housing revolving fund (currently \$45,000).	Planning Commission Selectboard	ongoing	✓			
35 Encourage landowners to donate land for dedicated affordable housing.	Planning Commission Selectboard	ongoing				
36 Conduct outreach to encourage developers of affordable homes to focus on Norwich.	Planning Commission Planning Director	ongoing				
37 Continue to encourage ADUs to increase Norwich's stock of rental housing. Monitor the effect of short-term rentals (e.g. Airbnb).	Planning Commission Planning Director	ongoing				✓
38 Encourage broad-based participation in community conversations around housing, including low and moderate income households, younger residents and renters.	Planning Commission	ongoing				
39 Work with Green Mountain Economic Development Corporation (GMEDC) to recruit appropriate businesses to Norwich.	Planning Director Town Manager Selectboard	ongoing				
40 Provide education on area services available for unemployed and lower income residents.		ongoing				
41 Support agricultural and forest industries by encouraging participation in the Vermont Use Value Appraisal (UVA) Program, (current use) and conservation easements through the Upper Valley Land Trust.	Planning Commission Conservation Commission	ongoing				

action	responsibility	year	resource commitment			land use regs
			general fund	capital budget	grant	
42 Accommodate bicycle and pedestrian safety when rebuilding and upgrading roads and bridges.	Planning Director Selectboard Town Manager	ongoing		✓		
43 Maintain a capital improvement program that is aligned with the goals and objectives of this plan.	Selectboard Town Manager	ongoing		✓		
44 Implement the strategic initiatives developed by the town's Trails Committee	Trails Committee Town Manager Selectboard	ongoing				
45 Continue to participate and meet the requirements of the National Flood Insurance Program, so that owners within floodplains are eligible for flood insurance.	Planning Director Selectboard Town Manager	ongoing				✓
46 Implement the hazard mitigation programs, projects and activities identified in the Norwich 2015 All Hazard Mitigation Plan and subsequently adopted plans.	Planning Director Selectboard Town Manager	ongoing	✓	✓		

10 | APPENDICES

A. Affordable Housing Strategy

B. TRORC Act 174 Supplement

Norwich Housing Strategy 2020-2024

Approved November 21, 2019
Norwich Planning Commission

This document is based on a draft developed by the Affordable Housing Subcommittee of the Norwich Planning Commission in 2019:

Ralph Hybels (Chair)
Jeff Goodrich
Brian Loeb
Jeff Lubell
Paul Manganiello
Creigh Moffatt
Kathleen Shepherd

Summary

This document describes the housing strategy for the town of Norwich for the five-year period beginning January 1, 2020 and ending December 31, 2024. The strategy articulates the town's interest in this important issue and provides guidance to town officials on how to advance the town's housing objectives.

This strategy has been adopted by the Norwich Planning Commission based on a draft developed by the Affordable Housing Subcommittee. It was informed by input from a series of Affordable Housing Listening Sessions, an Affordable Housing Education Series, town surveys, stakeholders, and the Selectboard. Its adoption fulfills an action item specified in Norwich's 2018 town plan.

To achieve the three core housing objectives of affordability, diversity, and environmental sustainability, this document outlines a series of action items to advance four strategies:

1. Encourage the development of dedicated affordable housing;
2. Facilitate the development of lower-cost housing types;
3. Reduce barriers to the development of new housing; and
4. Expand public understanding of housing issues.

To facilitate tracking of the town's progress in achieving its goals, the strategy has identified the following numeric goals for the five-year period of 2020 - 2024:

- Construct at least 10 Accessory Dwelling Units;
- Construct at least 10 units of "missing middle" housing (duplexes, triplexes, etc.); and
- Construct at least 25 units of dedicated affordable housing

These goals will be revisited from time to time to ensure they remain relevant and appropriate.

Background

Housing affordability is on the minds of many Norwich residents. Families that have lived here for decades or even generations express nostalgia for the greater economic diversity that once characterized the town. Newer arrivals know what a scramble it was to put an offer in for the one suitable house that came on the market or respond to the one listserv post advertising a rental with enough bedrooms. And the school community understands how climbing housing costs threaten families' ability to remain in Norwich and keep others out of Norwich altogether. A

more robust, dynamic housing market – serving a range of housing needs and income levels – is essential to the sustainability and vibrancy of the town.

The Norwich Selectboard has identified housing affordability as a high priority for the town, as did a majority of the town in a 2018 town survey. To inform the strategy, the subcommittee sought out broad public input during subcommittee meetings and in five affordable housing listening sessions:

- Two of the sessions (on May 5 and May 10, 2018) were public meetings, held at Marion Cross Elementary School and Tracy Hall
- Two of the sessions involved joining previously planned meetings of the Norwich Business Roundtable (January 12, 2018) and Energy Committee (February 27, 2018).
- The fifth session was hosted by the Congregational Church on April 15, 2018.

The roundtables helped identify topics for a speaker series on affordable housing held in the fall of 2018, which in turn informed the development of this strategy. The speaker series included sessions on Government funding of Affordable Housing (August 7, 2018), Developing Housing by the Private Sector (September 17, 2018), and Alternative Septic Systems to Facilitate Affordable Housing (October 22, 2018)

The planning commission held a public meeting on September 12, 2019 to consider input on this draft strategy before it was finalized, followed by a publicly-advertised teleconference on October 8, 2019.

Objectives

Through this housing strategy, the town seeks to advance the following objectives:

- **Affordability** -- Ensure that people of all incomes can find quality housing they can afford in Norwich.
- **Diversity** – Increase the diversity of the housing stock so that it includes a range of housing types suitable for people of different incomes and backgrounds and at different stages of their life. Increased numbers of both rental and for-sale homes are needed in Norwich. Among other needs, housing efforts should support:
 - **Older adults who wish to age in place** in a safe and energy-efficient home as well as those who want or need a communal living environment.
 - **Families with children** who are in the market for rental housing or homeownership.

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- **The town workforce**, including teachers, police, and other employees of the town.
 - **Environmental sustainability** – Reduce energy use and greenhouse gas emissions by increasing housing in areas served by public transit and with easy access to employment and retail centers, as well as through the use of green building materials and practices.

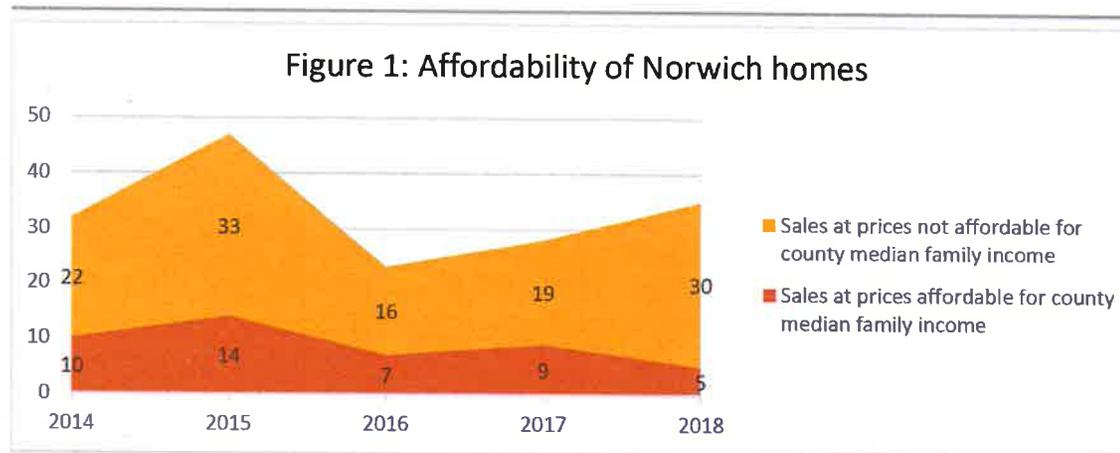
Some housing plans or strategies provide strict definitions of affordable housing, sometimes distinguishing between “affordable” and “workforce” housing, and breaking out the population that cannot afford market-rate into a number of different segments, such as low-income, very low-income, and extremely low-income. While definitions are necessary to implement specific policies, in this broad housing strategy document, the town prefers to focus on the full spectrum of housing needs. The strategies proposed in this document are designed to encourage the development of housing at a range of different price points to meet the needs of people with a range of different incomes. The ultimate goal is to ensure that people of all incomes can find housing they can afford in Norwich.

Housing Needs

Very few homes come on the market in Norwich every year, and those that do tend to sell for prices that far exceed what the typical household in Windsor County can afford. In 2018, just 35 single family homes were sold (to be used as either primary or secondary residences), and the median value for those homes was \$649,000. This price was a sharp jump from the medians in 2015 (\$480,000), 2016 (\$431,000), and 2017 (\$500,000),¹ but even the 2015-2017 levels were largely unaffordable to the typical household in the region. As shown in Figure 1, only about a quarter of the homes sold in Norwich over the past five years – and no more than one-third in any given year – sold at levels affordable to a family at the median income for Windsor County.² Since older homes in Norwich are often upgraded at the time of sale, these home sale data provide a more realistic yardstick of the affordability of home purchases than Norwich’s Grand List, which is based on current property values.

¹ These statistics do not include property sold as open land, and they do not include condominiums or mobile homes. In other areas, these other forms of homeownership may be significant components of the housing stock, but they are not in Norwich. In the period 2014-2018, just 9 condominium units sold, and zero mobile homes sold.

² Income data are from five-year averages of American Community Survey data, inflated to the end year, accessed using <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml> on May 30, 2019. The American Community Survey is an annual survey administered by the U.S. Census Department and is a replacement for the long form previously administered every ten years. The most recently available American Community Survey data as of July 1, 2019 are for the 2013-2017 period. Homeownership affordability calculations assume a family can afford to spend 30% of monthly income on mortgage payments, a 30-year fixed-rate mortgage at 4.5%, and down payments of 10% of purchase price. County income estimates are not available yet for 2018 from the American Community Survey, so the 2017 figure has been adjusted for inflation for 2018. To illustrate the methodology, in 2017, the median family income in Windsor County was \$74,662, which under the assumptions specified here would allow for the purchase of a home of about \$409,316.



While the cost of entering the town through homeownership is high, the cost of remaining a homeowner is also high. Much of the housing stock is aging (55 percent of units were built in 1970 or before), with implications for septic systems, weatherization and heating, and general maintenance that can present tough choices for households struggling with mortgage payments (31% of homeowners in Norwich with a mortgage spend 30% or greater of their household income on housing).³

Rental housing in Norwich is more affordable than for-sale housing, with an estimated 43 percent of units renting for less than \$1,000 per month (including utilities). Rental housing in Norwich is still more expensive than in Windsor County, however, where an estimated 59 percent of units rent for this level. Moreover, only about one in five (21.3 percent) households in Norwich are renters, which means that most households who wish to live in Norwich will need to purchase a home. Renters make up a modestly higher share of occupied households (28.3 percent) in the County.⁴

According to the 2013-2017 American Community Survey, an estimated 16.5 percent of the 3,341 individuals in Norwich are 65 years of age or older. This is up from 11.0 percent as of the 2000 census, tracking a broader U.S. trend toward the aging of the population.⁵

³ 2013-2017 American Community Survey, accessed [on June 25, 2019](https://factfinder.census.gov/bkmk/table/1.0/en/ACS/17_5YR/DP04/0600000US5002752900), https://factfinder.census.gov/bkmk/table/1.0/en/ACS/17_5YR/DP04/0600000US5002752900.

⁴ 2013-2017 American Community Survey Tables B-25063 (Gross Rent) and DP-04 (Selected Housing Characteristics), accessed using <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml> on June 23, 2019. Tables

⁵ 2013-2017 American Community Survey Table DP-05 (Demographics and Housing Estimates) and 2000 Census Table DP-1 (Profile of General Demographic Characteristics), accessed using <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml> on June 23, 2019.

For additional background on housing in Norwich, see the Housing Chapter of the 2020 Town Plan.

Strategies

Over the five-year period from 2020 to 2024, the town will work to advance its housing objectives through four strategies:

1. Encourage the development of dedicated affordable housing;
2. Facilitate the development of lower-cost housing types;
3. Reduce barriers to the development of new housing; and
4. Expand public understanding of housing issues.

This section provides a brief overview of these four strategies. The next sections specify the action items the town will undertake to advance each of these strategies.

Overview

There are two main ways to increase housing affordability. The first is to expand the stock of housing that is reserved over the long-term for people with low or moderate incomes. These homes are known as “dedicated affordable housing” because they come with legal covenants that regulate the rent or sales prices of the units in order to ensure they are and remain affordable over time, even as the rents and sales prices of market-rate units increase. Norwich currently has two developments that provide dedicated affordable housing: Norwich Senior Housing, a 24-unit development of rental homes for seniors in the village center and Starlake, a 14-unit development of for-sale homes kept affordable over time through a “shared equity” arrangement.⁶ The first of Norwich’s four housing strategies focuses on encouraging the development of more homes that provide dedicated affordable housing.

The second way to expand housing affordability is to increase the overall supply of housing, and in particular the supply of lower-cost housing types, such as duplexes, triplexes, and multifamily housing developments. The second and third of Norwich’s four strategies focus on these approaches.

To make these efforts possible, Norwich land owners and the region’s housing developers need to be aware of the town’s interests in developing a diverse and affordable housing stock as well as the incentives Norwich provides to encourage this outcome. The fourth and final strategy focuses on expanding public understanding of housing issues.

⁶ In “shared equity” housing, a for-sale home is kept affordable to future buyers through provisions specifying for the sharing of home price appreciation. Typically, upon sale, a portion of the appreciation is retained by the owner while the balance stays in the home to keep it affordable to subsequent homebuyers.

Strategy #1. Encourage the development of dedicated affordable housing

The most common approach for developing dedicated affordable housing is to use subsidies provided by the federal or state government. In Vermont, most housing subsidies are obtained by nonprofit housing developers through applications to the state (most notably, for an allocation of federal Low-Income Housing Tax Credits). Municipalities may also apply for grants from the state, which typically are used to supplement the larger subsidies that nonprofits obtain. Another way to create dedicated affordable housing is to require that a share of newly developed housing units be provided at a price or rent that is affordable for a certain income level, or to create incentives for this outcome.

Norwich's strategy focuses on both of these approaches. Specifically, Norwich will do the following to encourage the development of dedicated affordable housing:

A. Formalize and grow the affordable housing revolving fund. In November 2018, Norwich voters approved the re-instatement of Norwich's \$45,000 revolving fund for housing⁷, which had lapsed. The town encourages applications for use of the funds to produce dedicated affordable housing under the terms approved by the Norwich Selectboard on April 24, 2019. While the fund amount is modest, it provides a tangible signal to developers that the town is interested in the development of dedicated affordable housing. In addition to maintaining and administering this fund, the town will conduct outreach to advise developers of its availability and to solicit contributions from private citizens to grow the fund. To donate to the fund, contact the town planner at planner@norwich.vt.us.

B. Review Norwich's density bonus. A density bonus allows a property owner to develop more homes or housing units on a particular parcel than would otherwise be permitted. Norwich's Zoning Code provides a density bonus of 25 percent (i.e., ten units instead of eight) for planned developments in which at least 20 percent but less than half of the units are affordable, and a density bonus of 50 percent (i.e., twelve units instead of eight) for developments in which at least half of the units are affordable. (A larger bonus applies to the Village Residential II district). To date, this provision has not been used. During the period covered by this housing strategy, the Planning Commission and its Affordable Housing Subcommittee will review the town's density bonus policy to determine whether and if so how it should be adjusted to increase the likelihood that it is used to produce dedicated affordable housing. The town will also conduct outreach to advise owners and developers of its availability.

C. Consider whether developments of a certain size should be required to include affordable units. For such requirements to be effective, they need to be structured in a way that does not undermine the financial feasibility of new development. Therefore, they are typically adopted in conjunction with density bonuses or other provisions that make development more financially feasible. In addition, they generally only apply to developments over a certain size, such as 10 or 15 units. The current version of the regional plan for the Two Rivers Ottauquechee Regional

⁷ Specifically, a majority of voters answered "yes" to this question: "Shall the voters of the Town of Norwich re-establish a revolving Affordable Housing Reserve Fund with previously appropriated funds approved by Norwich voters to be distributed and administered according to a process adopted by the Selectboard in consultation with the Town Manager, the Norwich Planning Commission, and the Affordable Housing Subcommittee?"

Commission requires that a share of homes in developments of 10 or more units be affordable, but does not provide specific details on how this requirement can be satisfied. During the period covered by this housing strategy, the Planning Commission and Affordable Housing Subcommittee will consider whether Norwich should adopt its own affordable housing requirement and how best to implement the provision of the regional plan, should it be included in the final adopted plan.

D. Investigate the use of land owned or controlled by the town of Norwich for dedicated affordable housing. The high cost of land is widely understood to be a key obstacle to the development of dedicated affordable housing in Norwich. Accordingly, the town will investigate whether and to what extent land owned or controlled by the town might be used for this purpose. The town will develop an inventory of all publicly owned land in Norwich, including land owned by the town as well as by the Norwich Fire District, Dresden School District and any other governmental bodies. The town will also explore the mechanisms by which it could make land available for the development of affordable homes.

E. Encourage the donation of land for dedicated affordable housing. The town encourages residents to donate suitable parcels, either vacant or with homes, for use as affordable housing. Property sales at below-market levels can also help facilitate the development of affordable homes, as the reduced cost of acquisition can be passed along to buyers or renters. In some cases, such donations can be made as part of an effort to preserve open space – for example, housing units may be clustered in one section of a larger parcel. To explore donating or selling land at a below-market-price for purposes of developing dedicated affordable housing, contact the town planner at planner@norwich.vt.us.

F. Conduct outreach to encourage developers of affordable homes to focus on Norwich. The development of dedicated affordable housing will require an organization or business to assemble the land, apply for public subsidies, identify and manage the construction of the development, and operate the development as affordable housing. The town will conduct outreach to encourage developers to develop affordable homes in Norwich.

Strategy #2: Facilitate the development of lower-cost housing types

The overwhelming majority of structures in Norwich are single-family homes. These homes provide a considerable amount of privacy, but tend to rent or sell at levels higher than other forms of housing, such as duplexes, triplexes or multifamily housing. These alternative housing types typically rent or sell at levels that fall below that of single-family homes but above that of dedicated affordable housing. While the town is not a developer and cannot construct these types of lower-cost housing directly, there are a number of steps it can take to promote their development.

To facilitate the development of lower-cost housing types, the town will do the following:

A. Facilitate the creation of Accessory Dwelling Units. Accessory Dwelling Units (or ADUs) are housing units located on the same parcel as a principal unit. Familiar names for ADUs include “granny flats” and “in-law suites.” An ADU may take the form of an apartment in or over a

garage, barn or other outbuilding. Vermont state law requires municipalities to allow ADUs, and Norwich’s zoning rules expressly permit them. When not used to house a relative, ADUs are often rented out to members of the public. Because they tend to be small, ADUs often rent for levels below that of other rental homes, providing a source of lower-cost housing and increasing the stock of rental housing. ADUs also provide a stream of revenue to their owners, which can help defray the costs of property taxes and building maintenance.

There is no list of ADUs currently being rented or available for rent within Norwich. It is likely, however, that the number of ADUs can be increased. To help promote the development of ADUs, the Affordable Housing Subcommittee will work to educate residents about ADUs and the process for obtaining financing and contractor services to make an ADU possible. The Subcommittee will also investigate the potential barriers to the development of ADUs and consider how they could be addressed by town action.

B. Facilitate the creation of duplexes, triplexes and other “missing middle housing.” Missing middle housing is a term for the many different forms of housing that fall in between single-family housing and mid-rise construction.⁸ These include, among other housing types, duplexes, triplexes, quadraplexes, town homes, and garden style apartments. Historically, these housing types were included within the mix of housing in many towns around the U.S., but in recent decades, housing construction has tended to focus either on single-family development or (in larger communities) larger multifamily structures. Duplexes are already permitted on all parcels in Norwich, but this may not be well understood by property owners and developers. The Planning Commission will examine the town’s zoning code to determine whether there might be opportunities for zoning changes that facilitate the development of triplexes, quadraplexes and other missing middle housing types. And it will conduct outreach to educate property owners and developers about these housing options.

C. Ensure that zoning rules permit the development of multifamily housing. Multifamily housing is an important part of the housing stock in all communities, including Norwich. Multifamily housing is an important source of rental housing and tends to rent or sell at lower levels than single-family housing. It can also be useful for meeting the services needs of older adults and persons with disabilities who prefer a congregate living environment. Under Vermont state law, all municipalities must ensure the town’s bylaws “designate appropriate districts and reasonable regulations for multiunit or multifamily dwellings” and not have the effect of excluding multiunit or multifamily dwellings from the municipality (24 V.S.A. § 4412). Norwich’s zoning code already permits the development of multifamily housing in all zoning districts. The town will increase efforts to educate residents and potential partners that this is the case.

Strategy #3. Reduce barriers to new development

The Upper Valley has a shortage of housing units, which has led to low vacancy rates and rising rents and home prices. While the high demand for housing in Norwich means that most new development in Norwich will likely continue to be fairly expensive, new development in Norwich may free up spaces in older homes that rent or sell at prices that are affordable to more people. New development in Norwich also helps to expand the supply of housing in the Upper Valley, which is important for improving housing affordability in the region.

⁸ More information on the concept of missing middle housing may be found here: <https://missingmiddlehousing.com/>.

The town will work to reduce barriers to new development by doing the following:

A. Reduce the cost of developing new housing. The Planning Commission will take a number of steps to investigate options for reducing the cost of developing new housing, including: (a) considering whether there might be appropriate areas in town in which to increase the allowable density⁹ and (b) inviting input from the public, the Development Review Board, and from area developers on whether there are changes the town should consider to the regulations governing new development that might reduce development costs without undermining the objectives underlying these regulations.

B. Consider how to address barriers to development related to limitations on septic capacity. Many sites in Norwich have limited septic capacity due to their underlying geology. This can make development difficult at the densities needed for new projects to be financial feasible. One option to address this limited capacity is to take advantage of shared septic systems, including alternative systems that allow more people to be served. Norwich has already held a forum on alternative septic systems and will take further steps during the period covered by this strategy to educate property owners and developers about the available options.

While alternative systems can be helpful, they will not be sufficient to meet the wastewater needs of many of the properties that are needed to advance the town's housing objectives. Therefore, in consultation with the Dresden School District, area businesses and other stakeholders, the Planning Commission will re-examine the feasibility of providing community wastewater service to the village and adjacent areas, updating an investigation of this issue completed in 2005 and make recommendations to the Selectboard.

Strategy #4 Expand public understanding of housing issues

Increased public understanding of Norwich's housing challenges and planned approach for meeting them is important for building support for this housing strategy and dispelling misperceptions that may arise. Increased understanding of Norwich's goals and housing policies by developers and residents is also important for ensuring that the different participants in the housing market are aware of the available opportunities to take action to increase the diversity of Norwich's housing stock, such as developing more affordable homes or adding an ADU.

To advance this strategy, Norwich will:

A. Make it easier for developers and the public to understand Norwich's zoning rules and affordable housing policies. Publication of this housing strategy as a stand-alone document will help to improve understanding of Norwich's housing objectives and policies. In addition, the affordable housing subcommittee will prepare a series of educational materials related to different aspects of Norwich's housing strategy, including a guide to creating an ADU and a guide for developers underscoring Norwich's interest in a diverse and affordable housing stock

⁹ The allowable density in a zone determines how many housing units can be built on a given parcel. It applies to all housing that is developed, and not just to housing that includes dedicated affordable housing. By contrast, the affordable housing density bonus increases density only for properties that include affordable homes.

that meets the needs of people of different incomes, older adults, families and others, and the policy options available for facilitating this outcome. The materials will also reference Norwich's interests in promoting sustainability through energy-efficient building practices and the prioritization of development locations close to retail and job centers. The subcommittee will also conduct personal outreach to area developers to make them aware of these materials and encourage them to develop a diverse mix of housing in Norwich.

- B. Develop educational materials that address frequently asked questions about affordable housing in Norwich.** Participants in the September 12, 2019 public session identified a number of questions they would like to see addressed in these educational materials, including the following: How do we define affordability in the Norwich and regional context? What stops us from building affordable housing? Is it true that septic and other infrastructure needs represent the most problematic barrier? Are there sufficient builders in the area who could or would take on projects that address affordability? What is the menu of legal mechanisms that can preserve housing affordability over the long-term? How do you ensure that those who are in affordable housing eventually have the means to move on, either in Norwich or elsewhere? What could affordable housing in Norwich look like, in terms of building design and scale, given today's practices and known constraints?
- C. Increase public understanding of how new development will affect town and school property taxes.** To reduce confusion about the implications of new development for property taxes in Norwich, the affordable housing subcommittee will produce educational materials on this topic. Among other points, these materials will highlight the fact that most of the property taxes paid by Norwich residents are for school taxes, rather than municipal taxes; for example, in FY 2018, approximately 77% of the property taxes paid by Norwich residents went for school taxes, rather than municipal taxes.¹⁰ The materials will also highlight the unique formula in Vermont for setting school property taxes in which the school property tax rate is based on the level of per-pupil spending. Under this formula, decreases in per-pupil spending lead to a reduction in the property tax rate while increases in per-pupil spending lead to an increase in the property tax rate. As a result, increases in the number of children in the school can actually lead to reductions in property taxes by allowing the school district to amortize fixed expenses over a larger student body. The relationship between the school population and the education tax rate is not perfectly linear, since some increases can require the addition of new teachers, but in general, a larger student body helps to keep school taxes from rising, and may even allow taxes to be reduced, so long as the physical limits of the Marion Cross building are not reached. With enrollment at Marion Cross below capacity and projected to decline, the capacity limits of the building are not expected to be reached any time soon.
- D. Investigate models for improving public understanding of the housing stock.** The subcommittee will also seek to learn about successful models implemented elsewhere for improving public understanding of the housing stock and housing issues generally. In particular, the subcommittee is interested in policy options – such as rental registries – that can help increase knowledge of the town's rental market and

¹⁰ Norwich Annual Report for Fiscal Year 2018.

encourage all owners of residential rental property to provide safe and well-maintained homes for their tenants. Such learning will be shared with the Planning Commission for consideration as future actions.

- E. **Undertake research to better understand the town’s housing challenges and how best to address them.** Among other issues, the subcommittee will:
- a. Research the current status and potential impact of short-term rentals and consider whether to recommend the adoption of a town policy on this issue.
 - b. Research the needs of owners of manufactured housing or mobile homes (that predate HUD building codes) in Norwich and explore options for supporting rehabilitation and/or replacement.
 - c. Compile information on new building techniques (e.g. tiny homes) and materials that could lower the costs of homeownership and make housing in Norwich more environmentally sustainable and make the results available to builders, developers and others in the housing industry.
- F. **Encourage participation in community conversations around housing from groups that are less well represented, such as low-income families and renters generally.** The more inclusive the town’s conversations about housing, the more complete and informative they will be. It is important to hear from as many segments of the Norwich population as possible as well as from individuals who would like to live in Norwich but cannot afford to do so.

Goals

Specific, measurable goals are an important part of any strategy as they help ensure that progress can be measured and a determination made of whether the strategy is on track. For the five-year period of 2020 – 2024, Norwich’s housing goals are as follows:

Outputs

- Complete the policy actions specified in this strategy
- Complete the educational materials and outreach specified in this strategy

Outcomes

- Construct at least 10 Accessory Dwelling Units;

- Construct at least 10 units of “missing middle” housing (duplexes, triplexes, etc.); and
- Construct at least 25 units of dedicated affordable housing

These goals will be revisited from time to time to ensure they remain relevant and appropriate.

Discussion

These goals are informed by a number of factors, including the 2018 town survey and the practical realities associated with developing housing in Norwich.

In the 2018 survey, a majority (56 percent) of respondents identified affordable housing as a high (or the highest) priority for the use of tax dollars, but a majority (53 percent) also expressed a desire to see the population remain relatively stable, as opposed to “grow[ing] some” (42 percent). When asked how many units of affordable housing should be built in the next five years, the top two responses were 8-16 units (22 percent) and 17-25 units (22 percent), followed by 26-100 units (16 percent) and 8 units or less (12 percent). 11 percent said no units of affordable housing should be built, while 4 percent said 100 or more units should be built and 12 percent were not sure.

These survey results, together with the strong vote in favor of restoring funding for the housing trust fund, confirm the town’s desire to make progress in expanding the affordability of housing. At the same time, the results suggest a desire for incremental rather than transformative change. While annual housing development in Norwich in the 2005-2007 period ranged from 14 to 18 units per year, fewer than 10 units a year have been developed since that time. Achieving the goals specified in this Plan would likely mean restoring development in Norwich to the development level seen in the 2005-2007 period, or perhaps slightly higher, but would not take Norwich back to the level of development seen in the 1990s, when Norwich’s population grew by 15 percent, or in the 1980s, when the population grew by 29 percent.

According to a local developer of affordable housing, the economics of developing housing with low-income housing tax credits in Vermont means that a project in Norwich would generally need to have around 25-30 units to be viable. While more difficult, it may also be possible to combine somewhat smaller developments into a single “project.” The goal for the five-year period is to complete at least one development providing at least 25 units of dedicated affordable housing.

The goals for ADUs and missing middle housing have been set at modest levels that reflect the challenges associated with developing housing in Norwich and the limited options available to the town for facilitating it.

During the September 12, 2019 public session, some of the participants felt the goals were ambitious but achievable during the five-year life of the strategy, while others felt they would be difficult to achieve within this time frame as it will take time for the actions specified in the plan to be implemented. In other venues, some residents have advocated for bolder goals to help address a larger share of the regional need. While acknowledging that the achievement of these goals will require concerted action on the part of the affordable housing subcommittee and other

town officials and committees, the planning commission believes the goals are appropriate for marking the achievement of meaningful progress during the 2020-2024 period.

Conclusion

There is a significant need for a more diverse housing stock in Norwich that includes housing options affordable to people of all incomes and promotes environmental sustainability through energy-efficient construction and the location of housing near job and retail centers.

Implementation of this Housing Strategy will help the town make progress towards achieving these goals.

Municipal Template - Energy Data

The following is an explanation of the information displayed in the Municipal Template for Norwich.

The intent of the Municipal Template is to provide the municipality with data that can be used to ensure compliance with the requirements of Act 174 and "Enhanced Energy Planning" (24 V.S.A. 4352). The spreadsheet contains data that estimates current energy use and provides targets for future energy use across all sectors (transportation, heating, and electricity). It also sets a target for renewable energy generation within the municipality.

This data is meant to be a starting point for the municipality to begin planning its energy future and to talk about the changes that may need to occur within the municipality to ensure that local, regional and state energy goals are met. This includes the goal that 90% of all energy demand be met by renewable sources by 2050.

Estimates of current energy use consist primarily of data available from the American Community Survey (ACS), the Vermont Agency of Transportation (VTrans), the Vermont Department of Labor (DOL), and the Vermont Department of Public Service (DPS). Targets for future energy use are reliant upon the Long-range Energy Alternatives Planning (LEAP) analysis for the region completed the Vermont Energy Investment Corporation (VEIC). Targets for future energy generation have come from the regional planning commission and DPS. Targets for both future energy use and energy generation have been generally developed using a "top down" method of disaggregating regional data to the municipal level. This should be kept in mind when reviewing the template. It is certainly possible to develop "bottom up" data. For those municipalities interested in that approach, please see the Department of Public Service's Analysis and Targets Guidance.

There are some shortcomings and limitations associated the data used in the Municipal Template. For instance, assumptions used to create the LEAP analysis are slightly different than assumptions used to calculate current municipal energy use. Regardless, the targets established here show the direction in which change needs to occur to meet local, regional and state energy goals. It is important to remember that the targets established by LEAP represents only on way to achieve energy goals. There may several other similar pathways that a municipality may choose to take in order to meet the 90x50 goal.

Figure 1 - Data Sources

American Community Survey (ACS)
Vermont Department of Labor (DOL)
Vermont Department of Public Service (DPS)
Energy Information Administration (EIA)
Efficiency Vermont (EVT)
Long-range Energy Alternatives Planning (LEAP)
Vermont Energy Investment Corporation (VEIC)
Vermont Agency of Transportation (VTRANS)

Below is a worksheet by worksheet explanation of the Municipal Template spreadsheet:

1. Municipal Summary

The Municipal Summary worksheet summarizes all data that is required to be in the Municipal Plan if the plan is to meet the "determination" standards established by the Vermont Department of Public Service.

1A. Current Municipal Transportation Energy Use

Transportation Data	Municipal Data
Total # of Vehicles (ACS 2011-2015)	2,258
Average Miles per Vehicle (VTrans)	11,356
Total Miles Traveled	25,641,848
Realized MPG (VTrans)	18.6
Total Gallons Use per Year	1,378,594
Transportation BTUs (Billion)	166
Average Cost per Gallon of Gasoline (RPC)	2
Gasoline Cost per Year	3,184,552

This table uses data from the American Community Survey (ACS) and Vermont Agency of Transportation (VTrans) to calculate current transportation energy use and energy costs.

1B. Current Municipal Residential Heating Energy Use

Fuel Source	Municipal Households (ACS 2011-2015)	Municipal % of Households	Municipal BTU's	Municipal BTU (in Billions)
Natural Gas	69	5.1%	6,606,900,000	7
Propane	243	18.0%	26,523,600,000	27
Electricity	61	4.5%	5,494,800,000	5
Fuel Oil	713	52.9%	79,729,500,000	80
Coal	14	1.0%	1,680,000,000	2
Wood	227	16.8%	25,566,900,000	26
Solar	0	0.0%	0	0
Other	11	0.8%	1,320,000,000	1
No Fuel	11	0.8%	762,300,000	1
Total	1349	100.0%	147,684,000,000	148

This table displays data from the ACS that estimates current municipal residential heating energy use.

1C. Current Municipal Commercial Energy Use

	Commercial Establishments in Municipality (VT DOL)	Estimated Thermal Energy BTUs per Commercial Establishment (in Billions) (VDPS)	Estimated Thermal Energy BTUs by Commercial Establishments in Municipality (in Billions)
Municipal Commercial Energy Use	111	0.725	80

The table uses data available from the Vermont Department of Labor (VT DOL) and the Vermont Department of Public Service (DPS) to estimate current municipal commercial establishment energy use in the municipality.

1D. Current Electricity Use *

Use Sector	Current Electricity Use
Residential (kWh)	11,791,614
Commercial and Industrial (kWh)	3,865,801
Total (kWh)	15,657,415

* This table displays the current electricity use as of 2016 within the municipality with data from Efficiency Vermont's customer information and monthly usage.

1E. Residential Thermal Efficiency Targets

	2025	2035	2050
Residential - Increased Efficiency and Conservation (% of municipal households to be weatherized)	33%	67%	100%

This table displays targets for thermal efficiency for residential structures based on a methodology developed by DPS using data available from the regional Long-range Energy Alternatives Planning (LEAP) analysis and ACS. The data in this table represents the percentage of municipal households that will need to be weatherized in the target years.

1F. Commercial Thermal Efficiency Targets

	2025	2035	2050
Commercial - Increased Efficiency and Conservation (% of commercial establishments to be weatherized)	6%	9%	18%

This table shows the same information as Table 1E, but sets a target for commercial thermal efficiency. Information from the VT DOL is required to complete this target.

1G. Thermal Fuel Switching Targets (Residential and Commercial) - Wood Systems

	2025	2035	2050
New Efficient Wood Heat Systems (in units)	0	0	0

This target was calculated using data from LEAP and ACS. This table provides a target for new wood heating systems for residential and commercial structures in the municipality for each target year. Due to the LEAP model forecasting a large decrease in wood use resulting in a negative number of targets we have put zero in for this section. Towns are encouraged to use efficient wood heat.

1H. Thermal Fuel Switching Targets (Residential and Commercial) - Heat Pumps

	2025	2035	2050
New Heat Pumps (in units)	137	363	761

This table provides a target for new heat pump systems for residential and commercial structures in the municipality for each target year. This target was calculated using data from LEAP and ACS.

1I. Electricity Efficiency Targets

	2025	2035	2050
Increase Efficiency and Conservation	-0.6%	5.7%	9.9%

Data in this table displays a target for increased electricity efficiency and conservation during the target years. These targets were developed using regional LEAP analysis. Towns are encouraged to consider increased efficiency targets.

1J. Use of Renewables - Transportation

	2025	2035	2050
Renewable Energy Use - Transportation	9.6%	23.1%	90.3%

This data displays targets for the percentage of transportation energy use coming from renewable sources during each target year. This data was developed using the LEAP analysis.

1K. Use of Renewables - Heating

	2025	2035	2050
Renewable Energy Use - Heating	51.3%	63.4%	92.2%

This data displays targets for the percentage of heating energy use coming from renewable sources during each target year. This data was developed using information from the LEAP analysis.

1L. Use of Renewables - Electricity

	2050
Renewable Energy Use - Electricity (MWh)	19,167- 23,426

This data displays the target for electricity generation coming from renewable sources within the municipality for 2050. This data was developed using information from the regional planning commission and DPS. This data is the same as the data in Table 1Q.

1M. Transportation Fuel Switching Target - Electric Vehicles

	2025	2035	2050
Electric Vehicles	209	1482	3083

This tables displays a target for switching from fossil fuel based vehicles (gasoline and diesel) to electric vehicles. This target is calculated on Worksheet 2 by using LEAP and ACS data.

1N. Transportation Fuel Switching Target - Biodiesel Vehicles

	2025	2035	2050
Biodiesel Vehicles	368	692	1168

This tables displays a target for switching from fossil fuel based vehicles to biodiesel-powered vehicles. This target is calculated on Worksheet 2, by using LEAP and ACS data.

1O. Existing Renewable Generation		
Renewable Type	MW	MWh
Solar	0.615	754
Wind	0.00	0
Hydro	0.00	0
Biomass	0.00	0
Other	0.00	0
Total Existing Generation	0.615	754

Table 1O shows existing renewable generation in the municipality as of Sept. 2016, in MW and MWh, based on information available from the Vermont Department of Public Service.

1P. Renewable Generation Potential		
Renewable Type	MW	MWh
Rooftop Solar	2	2,335
Ground-mounted Solar	793	972,075
Wind	250	766,500
Hydro	0	151
Biomass and Methane	0	0
Other	0	0
Total Renewable Generation Potential	1,045	1,741,061

Renewable generation potential is based on mapping completed by the regional planning commission that is based on the Municipal Determination Standards and associated guidance documents developed by DPS. The renewable generation potential is expressed in MW and MWh by the type of renewable resource (solar, commercial wind, hydro, etc.).

1Q. Renewable Generation Target	
	2050
Total Renewable Generation Target (in MWh)	19,167- 23,426

Renewable generation target for municipalities was developed by the town's population percentage within the region.

1R. Sufficient Land	
	Y/N
Renewable Sources	Y
Surplus of Generation	8075%

This table shows whether or not there is sufficient land in the municipality to meet the renewable generation targets based on the renewable generation potential in the municipality.

**NORWICH PLANNING COMMISSION
REGULAR MEETING
DRAFT MINUTES**

Thursday, November 14, 2019, 7:00PM
Tracy Hall-Meeting Room

Members Present: Jaci Allen (Chair), Melissa Horwitz (Vice Chair), Brian Loeb, Susan Brink, Leah Romano, Ernie Ciccotelli, Jeff Goodrich, Jeff Lubell

Members not Present:

Public: Linda Cook, Jonathan Frishtick, Holly Glick, Sarah Reeves, Mary Layton

Staff: Rod Francis

Chair Allen called the meeting to order at 7:01pm

1. Agenda approved by consent.
2. Meeting Objectives:
 - o Discuss public event feedback and next steps
 - o Discuss Town Plan final draft and next steps
3. Comments from the Public: none.
4. Announcements, Reports, Updates & Correspondence
 - o Updates
 - i. SB Meeting. The Board decided to continue with the number of planning commissioners at 9. No applications for the advertised vacant position have been received.
 - o Reports
 - i. AHSC meeting November 4. The subcommittee reviewed the latest version of the housing chapter and housing strategy. They approved Loeb and Lubell to make changes in the strategy as necessary.
5. Discuss Town Plan pre-hearing draft commissioners and staff discussed line-item edits for plan chapters.
6. Brink moved and Horwitz seconded a motion to approve minutes of 10-24-19. Motion carried 6 — 0 — 1.
7. Other Business
8. Future Meeting Schedule & Agendas
9. No Comments from the Public (not related to plan draft) were received.

Meeting Adjourned 10: 16pm by consensus

Future Meetings:

Friday, Dec 6, 3:15 pm Regular Meeting

Thursday, Jan 9, 7 pm Regular Meeting

**NORWICH PLANNING COMMISSION
SPECIAL MEETING
DRAFT MINUTES**

**Thursday, November 21, 2019, 5:00PM
Tracy Hall-Meeting Room**

Members Present: Jaci Allen (Chair), Melissa Horwitz (Vice Chair), Brian Loeb (by phone), Leah Romano (by phone), Ernie Ciccotelli, Jeff Goodrich (leaves 5:40pm), Jeff Lubell

Members not Present: Susan Brink

Public: Linda Cook, Mike Kiess, Tim Camerato, Stuart Richards, John Farrell, Buff McLaughry

Staff: Rod Francis

Chair Allen called the meeting to order at 5:03pm

1. Ciccotelli moved and Goodrich moved to approve the Agenda. Motion carried 6 — 0
2. Meeting Objectives:
 - o Discuss Town Plan final draft and next steps
3. Commissioners discussed the Town Plan pre-hearing draft of the Housing Chapter. Lubell introduced the work by explaining the nexus between the Housing Strategy (an appendix to the plan) and the Housing Chapter. The Strategy must also be approved by the Planning Commission. Lubell and Francis highlighted the areas of text and diagrams that were amended.

Goodrich moved and Horwitz seconded a motion to approve the Housing chapter as presented with the addition of the word "more" as a modifier to the descriptor "intensive residential development..." in Objective 3. Motion carried 6 — 1.
4. Lubell moved and Horwitz seconded a motion to approve the Housing Strategy. Motion carried 5 — 1.
5. Public discussion of the Housing chapter was received by the Planning Commission.
6. Meeting adjourned 6:30pm

Future Meetings:

Friday, Dec 6, 3:15 pm Regular Meeting

Thursday, Jan 9, 7 pm Regular Meeting