

**NORWICH PLANNING COMMISSION
AGENDA**

Thursday, November 14, 2019, Tracy Hall-Meeting Room NOTE START TIME 7 pm

Regular Meeting:

1. Approve Agenda
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
4. Announcements, Reports, Updates & Correspondence
 - o Correspondence
 - o Announcements
 - o Updates
 - i. SB Meeting
 - o Reports
 - i. AHSC meeting November 4
5. Discuss Town Plan pre-hearing draft
6. Review and approve Minutes 10-24-19
7. Other Business
8. Future Meeting Schedule & Agendas
9. Comments from the Public (not related to plan draft)

Future Meetings:

**Friday, Dec 6, 3:15 pm Regular Meeting
Thursday, Jan 9, 7 pm Regular Meeting**

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Land Use

Objectives

1. Plan development to maintain the historic settlement pattern of compact downtowns and village centers separated by rural countryside (24 VSA §4302 (c) (1)).
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 §4302 (c) (1) (A)).
3. 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)).
4. 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)).
5. Encourage and strengthen Norwich forestlands by maintaining and improving forest blocks and habitat connectors (24 VSA §4302 (c) (6) (C), (9)).
6. Expand an interconnected system of trails for access to wilderness area and as potential alternate commuter paths for Norwich residents and visitors (24 VSA §4302 (c) (1) (D) (4), (8) (B)).
7. 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.

Policies

1. Increase the resilience of Norwich by avoiding, minimizing and mitigating conflict between land development and natural riparian functions along streams and rivers.
2. 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.
3. Guide development away from visually prominent locations on ridgelines and hills as viewed from public vantage points.
4. Guide development away from primary agricultural soils and encourage conservation of those soils for current and future agricultural use.
5. Guide development away from steep slopes and require appropriate erosion control and stormwater management practices to protect water quality and avoid increased downstream flooding.
6. Guide residential development in accordance with the objectives, policies and actions of this plan.

7. 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.
8. Encourage and support continued permanent conservation of farmland, forest land and natural areas.
9. Encourage landowners to maintain or establish riparian buffers with native woody plants.
10. Support the work of the Norwich Historical Society and Historic Preservation Commission.

Actions:

1. Implement the recommendations made in [this chapter section xx.x] when revising the Norwich Zoning and Subdivision Regulations to:
 - a. Maintain the rural character of Norwich by preserving working lands and forests
 - b. Recognize the important ecosystem services performed by forests
 - c. Facilitate appropriate scale mixed-use development in areas currently zoned commercial-industrial.
2. Participate in state, federal and other efforts to protect the Connecticut River, including basin plans provided for under 10 VSA §1253.
3. Develop a plan to address any potential conflicts between existing or proposed development on the edge of the village and mapped forest blocks.
4. Complete a historical assessment and Brownfield assessment of Lewiston in conjunction with Dartmouth College.
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.
6. Consider incentive programs to encourage adaptive reuse of historic structures.
7. Update the inventory of barns at risk, and support owners in obtaining state grants to offset rehabilitation costs.
8. Ensure the participation of the Historic Preservation Commission in any study of improving bike-ability and walkability in the village.

Norwich's current land use pattern (see map #) 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 Map #). 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 map #). 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). [*maybe 8? Farm to Plate, Hogwash Farm, Kildeer Farm, NOFA*]

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 municipalities 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 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 is adequate to serve the current (very low) level of development. 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, 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).

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 to 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. About 16 acres of solar panels (given current technology) 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 serviced by road and 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.

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. Measuring capability identifies landform attributes which can constrain future development. The following factors are some that influence future land use decisions.

Steep Slopes: are poorly suited to development. The landform of Norwich is dominated by narrow valleys and steep slopes (see map #). 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): These sensitive environments are 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, increasing conflict caused through loss of private property and public infrastructure due to flooding and erosion from severe storms is best resolved by avoiding continued development in these areas.

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 Norwich's 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, with 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 area is now largely owned by Dartmouth College. The railroad also owns 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 corridors it is bounded by (Route 5, I91). 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 mixed land use 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 land 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 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 the land through incremental, large-lot residential development.

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 of these forest lands perform a critical ecosystem service absorption and sequestration carbon dioxide — a greenhouse gas. Data tracking annual carbon dioxide emission by state suggest that each Vermonter is responsible for approximately 10.6 tons of carbon dioxide. This represents the need for approximately 3.7 acres of forest to offset the carbon dioxide load. The combined area of the mapped forest blocks in resource protection area is 17, 202 acres. There is considerably more forested land in other areas of town. Therefore the existing forest cover can treat the carbon dioxide load of 4,650 residents.

The Town of Norwich considers the mapped forest blocks that are 500 acres or more in area as shown in Map # to be priorities for protection through this plan and any implementing regulations. 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 rural 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.

Village Center Designation

Norwich village obtained center designation in 20xx (see map #). The designation expired in 2018. 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 in 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.

Compatibility

Norwich is part of the Claremont-Lebanon micropolitan area (as defined by the US Census Bureau) which takes in two counties in New Hampshire and two 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, 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 would 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 I91 (Lewiston neighborhood and lands to the east of Route 5 South) were identified as an 'interchange area'. In the draft 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.

Future Land Use Recommendations

Land Use Type		Recommendation
Village Business	1	Reapply for Village Designation
	2	Assess current wastewater conditions
	3	Improve public infrastructure downtown to improve walkability, access management and stormwater management
	4	Explore expanding the district boundaries (dependent on wastewater assessment)
	5	Assess current wastewater conditions

Rural	1	Review subdivision regulations role in low density residential development occurring in areas remote from village
	2	Explore creation of a rural district that would take in lands with forest blocks of 500 acres or more to reduce possibility of fragmentation
Commercial-Industrial	1	Explore changing this to a mixed use 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 mixed use district

ENERGY

OBJECTIVES

1. Reduce greenhouse gas emissions from Norwich municipal operations, businesses and residents
2. Reduce overall energy use in Norwich
3. Shift energy use in Norwich from non-renewable to renewable sources
4. 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

POLICIES

1. Establish a mechanism to collect and appropriate funds in support of projects that further the objectives of this Energy Plan
2. 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 a new Rural zoning district.
3. Support a new assessment of wastewater conditions and alternatives
4. Promote non-vehicular transport modes (bike and pedestrian) using best practices for traffic engineering (sidewalks and bike lanes) and dedicated trails
5. Consider lifecycle costs (initial construction and ongoing operation) when planning to construct or upgrade municipal facilities
6. Develop programs that assist low-income households with weatherizing and improving the efficiency of existing dwelling units
7. Expand the authority of the Zoning Administrator to require the issuance of a Certificate of Compliance on all new construction over 800sqft ensuring that such work meets the VT Residential Building Standards (VT-RBES)
8. Require large-scale commercial and institutional development to install solar panels on rooves and over any parking lots where feasible
9. For solar generation projects that generate between 15kW and 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
10. Support Advanced Transit to provide a range of commuter services to Norwich, connecting with locations where residents attend school, work and shop

ACTIONS

1. Advocate on behalf of non-vehicular road users before VTTrans for improved accommodations on state highways
2. Review hybrid and electric options for any municipal vehicle purchase or replacement
3. Encourage development projects to install solar collectors on rooftops and parking lots
4. Participate in Section 248 process before the Public Utility Commission to make decisions that further the goals, objectives and policies of this plan
5. 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?

6. Ensure that the Zoning Administrator or their designee has the training and resources to enforce the state Residential Building Energy Standards and will issue Certificates of Compliance on development projects greater than 600sqft
7. Provide residents with information on:
 - a. cold-climate weather heat pumps, and other renewable heat sources in new construction and in existing homes and buildings
 - b. replacing fossil fuels powered vehicles with electric vehicles
 - c. managing forest land for long-term, sustainable harvesting of wood
8. Raise climate crisis and energy awareness in Norwich
9. Work with community groups and other to support non-vehicular transportation options in Norwich

Energy use is essential in all aspects of daily life for lighting, heating and cooling buildings, transporting people and goods; nearly everything we do requires energy. 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 climate crisis resulting from burning fossil fuels and the need to develop community resiliency to better withstand the disruptions the climate crisis will cause. There is an active grassroots effort in Vermont and around the world to act locally in addressing climate crisis and building resiliency.

This chapter details an energy plan for Norwich residents and businesses and town government in the context of Vermont's 90 percent renewable by 2050 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 consumer behavior 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.

CURRENT ENERGY USE

According to the 2018 Progress Report by the Energy Action Network, Vermont's greenhouse gas emissions have been increasing despite significant reduction commitments. Transportation & thermal energy (heating and cooling) are the largest contributors to Vermont'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 (EAN) Community Energy Dashboard which suggests that in 2016 (the latest year actual use figures are available) 508,115 MMBTUs (million BTUs) were consumed town-wide for electricity, thermal, and transportation as shown in figure xx p xx).¹ Energy use in Norwich reflects the settlement pattern, which is dominated by low density residential lots, and little or no industry or commercial activity.

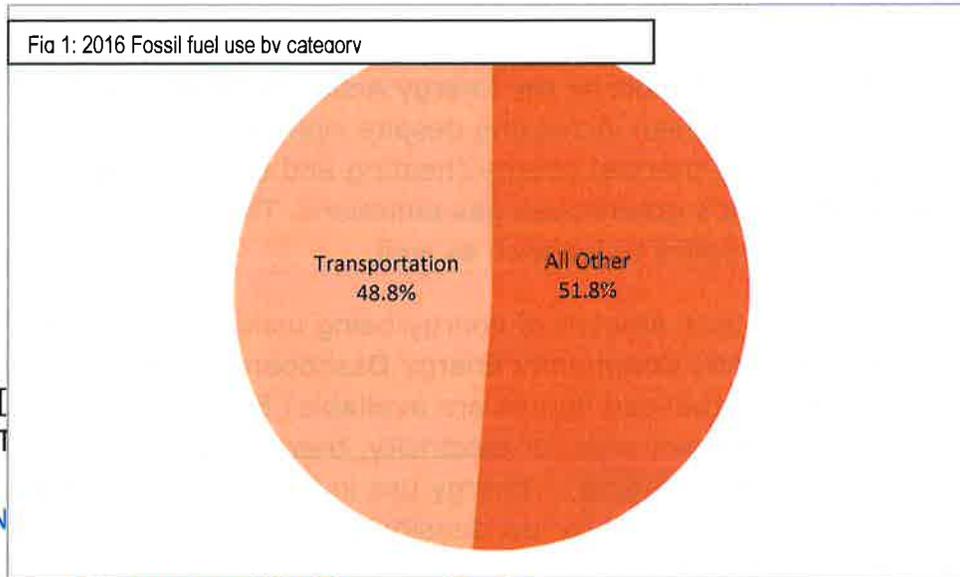
In developing this chapter, the town relied upon:

- 2017 Two Rivers Ottauquechee Regional Commission (TRORC) regional energy planning <https://www.trorc.org/programs/energy>
- Community 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. (<https://www.vtenergydashboard.org/my-community/norwich/progress>)
- The Act 174 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 fulfilling their license to operate. Approximately 60 percent of GMP's

¹ We expect new data in May and will update this section when the data is available.

portfolio is made up of renewable energy, predominantly hydro-electric from Quebec (see figure xx. x). Current commercial transportation energy use and future needs were not assessed by TRORC as part of Act 174 energy planning. The published figures for thermal and transportation energy use are rough estimates based on statewide averages and Census data. More reliable and accurate data about thermal and transportation energy use at the local level is needed for town energy planning to be meaningful and effective.



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REN

Vermont's Renewable Energy Goals.

Greenhouse gas (GHG) emissions caused by human activity are driving the global climate crisis. Vermont adopted a goal in 2011 to obtain 90 percent of the total energy used in the state (electricity, thermal, transportation) from renewable sources by 2050. Advisory targets have been set for each Vermont municipality to reduce overall fossil fuel use and transition to renewable sources by 2050. The energy use and conservation targets for Norwich are shown in Norwich's Energy Targets Figure xx. Specific targets for renewable energy generation are included in Appendix X, Energy Targets and Conservation Goals

[insert sidebar using info from EAN Progress Report re targets]

Town-level efforts to meet the state's 90 percent by 2050 goal will focus on redirecting thermal and transportation energy demand to renewable (primarily electric) sources, although they are challenged by the limited authority of municipalities to affect energy use outcomes. Energy products (including efficiency and renewable alternatives) are allocated via markets regulated by state and US governments. Municipalities are best understood as institutional consumers, they have no jurisdiction over the structure and daily operation of energy markets. In

the case of Norwich the town is a very small consumer even compared to the local school districts and large regional employers.

The powers that municipalities do have mostly pertain to regulation of land use (in VT an authority granted to municipalities by state statute and further constrained by 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 in town may not play a major role in achieving the targets within the timeframes identified by the VT CEP. Nevertheless, Norwich will use the 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.

57 percent of the electricity consumed in Norwich is from renewable sources (based on GMP's renewable portfolio and on-site local generation), 0.5 percent below the 2016 target (EAN Community Dashboard, the last year actual data [rather than estimates] is available). 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 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 make 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 as discussed in Appendix x, Energy Mapping, shown on page*-*.

The maps for solar potential rely heavily on analyzing aspect (south-facing landforms 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, distance to electric distribution (particularly 3-phase power and transmission infrastructure, or the

ability of the power grid to take additional load). 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 on the transformer (approximately 10.2 MW). 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).

<https://greenmountainpower.com/help/construction/3-phase-service-vermont/>
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) (Note: this excludes solar hot water systems). The Norwich Energy Committee tracks solar, 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 smaller projects of about 150kW. 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%) 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 crisis benefits of utility scale solar development. The mapping of solar potential 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, about 20,000 MWh Appendix x, table 1Q. This is the Town's share of projected statewide energy demand in 2050, in proportion to its population, using current solar power technology. 16 MW of solar arrays would require about 160 acres total, or about 0.5 percent of the Town's total land area. Solar panels continue to increase in efficiency, so the area of solar panels needed to

meet Norwich's energy demand will likely 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/parking lot installations the need for larger ground-based solar arrays will reduce.

Biomass. While 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 has decided to reconsider 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.

Geothermal. 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.

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. But just over 60 percent of GMP electricity is provided for by contracts with Hydro-Quebec, a public utility.

Wind Power. According to the Energy Action Network's Community 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.

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 VT 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: 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 (EAN Community Energy Dashboard, TRORC Energy Plan, 2017). 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, as usual, not entirely within the control of 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 green house gas emissions — by encouraging future development to be located close to job and retail centers as well as on public transit lines or creating walkable neighborhoods.

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 "Norwich Energy Targets"). The planning scenario presented on the Energy Action Network's Community Energy Dashboard envisions that total energy consumption in Norwich will decrease to 228,400 MMBTUs by 2050 from the 2014 baseline consumption of 524,400 MMBTUs. In other words, the goal is for energy usage in the Town of Norwich to be, in 2050, 44% of what it was in 2014. Moreover, only 32,300 MMBTUs (or 14 percent of the total) will be from non-renewable sources. If this transformation is achieved it will be in large part due to the efficiency of electric motors.

This plan's land use, housing and transportation goals, 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, and where it is more feasible to

provide public transit, which will reduce energy used for transportation. Encouraging such a development pattern through the town's land use regulations and provision of public infrastructure are the most effective and direct measures Norwich as a municipality can take to move towards meeting the state's energy goals.

[Add sidebar on how reduction in energy use will happen]

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 calculated on the current percentage share of the Norwich population as compared to the total 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 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 the 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.

HOUSING

OBJECTIVES

1. 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)).
2. Encourage new and rehabilitated housing conveniently located to employment and commercial centers and coordinated with the provision public facilities and utilities (24 VSA §4302 (c) (11) (B)).
3. Encourage intensive residential development primarily in the village and suitable adjacent areas and discourage strip development along highways, which will assist in the reduction of energy use and greenhouse gas emissions (24 VSA §4302 (c) (1) (A)).
4. 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)).
5. 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.

Policies

Advance four key strategies from the town's Housing Strategy including:

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.
4. Expand public understanding of housing issues.

Actions

1. Encourage the development of dedicated affordable housing by formalizing and growing the affordable housing revolving fund (currently \$45,000).
2. Encourage landowners to donate land for dedicated affordable housing.
3. Investigate the use of land owned or controlled by the town of Norwich for dedicated affordable housing.
4. Conduct outreach to encourage developers of affordable homes to focus on Norwich.
5. Implement the recommendations made in this chapter when revising the Norwich Zoning and Subdivision Regulations to:
 - a. Ensure the continued right to construct multi-family and manufactured homes in any district where housing is a permitted use.
 - b. Promote the construction of affordable housing through regulatory mechanisms such as:
 - i. Offering substantial density bonuses,

- ii. Using alternative density measurements to encourage smaller unit size,
 - iii. Requiring large projects to include affordable units,
 - iv. Allowing for combined commercial and residential uses in a single structure as a permitted use in the mixed use district.
 - c. Facilitate the creation of duplexes, triplexes and other “missing middle housing”.
 - d. 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.
6. Ensure that the new Norwich Zoning and Subdivision Regulations are clear, accessible and avoid any unnecessary barriers to developing housing.
7. Continue to encourage ADUs to increase Norwich’s stock of rental housing.
8. 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.
9. Develop educational materials that address frequently asked questions about affordable housing in Norwich.
10. Monitor the effect of short-term rentals (e.g. Airbnb).
11. Encourage broad-based participation in community conversations around housing, including low and moderate income households, younger residents and renters.

Regional Market

The major land use in Norwich is residential. 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 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 changes will be needed in the provision of housing in Norwich. Such changes will be most effective when coordinated with a region-wide push to address the estimated 6,000 housing unit shortfall (insert source). 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.

Local Housing Stock Characteristics

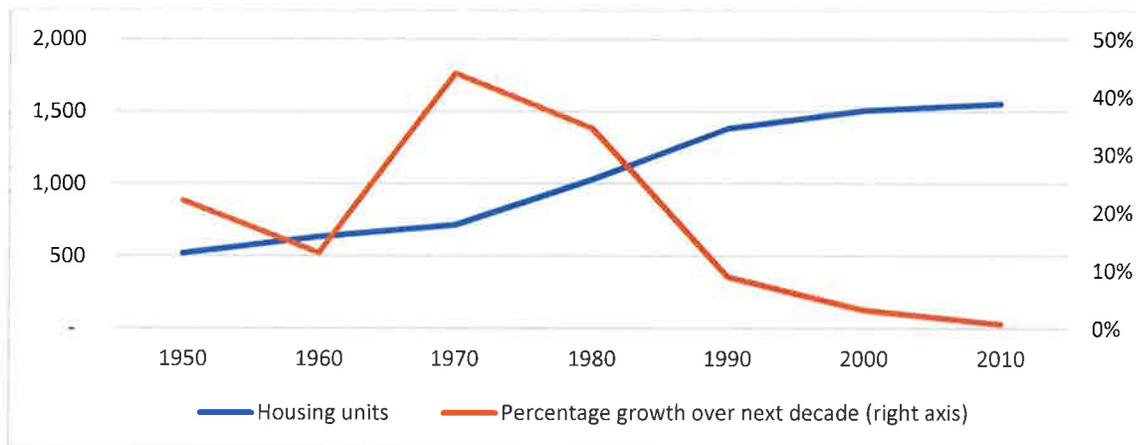
The total stock of single-family homes in Norwich has changed little in recent years (see map #, Table 1). From 2010 to 2018, just 29 housing units were built. Most of these homes were located a considerable distance from the village and on larger (more expensive) parcels. Not only has there been little new construction, the rate of property sales is also low, suggesting that entry into the Norwich housing market is challenging. From 2014 to 2018, **xxxx** single-family homes sold. This represents an annual average of approximately 2.6 percent of all homes changing handsⁱ.

Table 1: Year structure built for total housing units

Year of Construction	Norwich	Windsor County (non-Norwich)
2000 to 2013	9%	12%
1980 to 1999	36%	27%
1960-1979	24%	23%
1940-1959	12%	10%
1939 or earlier	19%	28%

Figure 1 below shows the total units at each decennial census (blue line), as well as the percentage growth during the ten-year period following each point on the graph (orange line)ⁱⁱ. 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 parcels in the 2019 Grand List.)

Figure 1: Decennial count of all housing units in Norwich



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

1. 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)
2. High construction costs due to high materials and labor prices (skilled labor is in short supply)
3. The high cost of providing wastewater systems for each development because there is no available access to municipal wastewater
4. The perception that Norwich residents will actively oppose development, making the development review and permitting process longer and more expensive
5. 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.

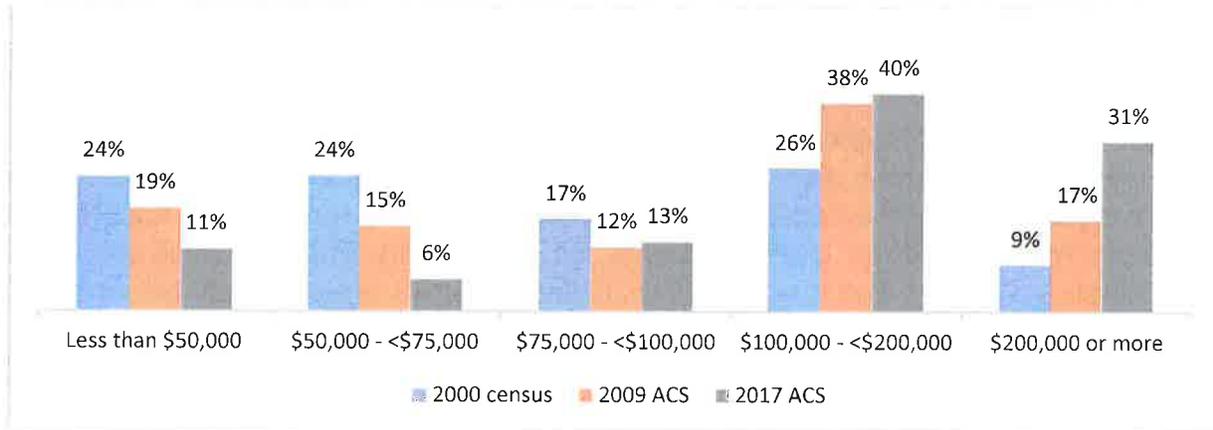
Most of the existing stock of housing in Norwich is used as the primary residence of the homeowner. According to estimates by the Census Bureau, in 2017 about 21% of occupied housing units in Norwich were rented, (or about 278 rental units, based on the grand list) [how was this figure arrived at? Census data and GL are not easily compared]. 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%) and the remainder of Windsor County (26%).

Affordability

Housing affordability has been a prominent concern in Norwich since at least 2002 when, following a [rigorous research study](#), the Planning Commission created an Affordable Housing Subcommittee. In 2019, the Affordable Housing Subcommittee prepared the town's Housing Strategy (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.

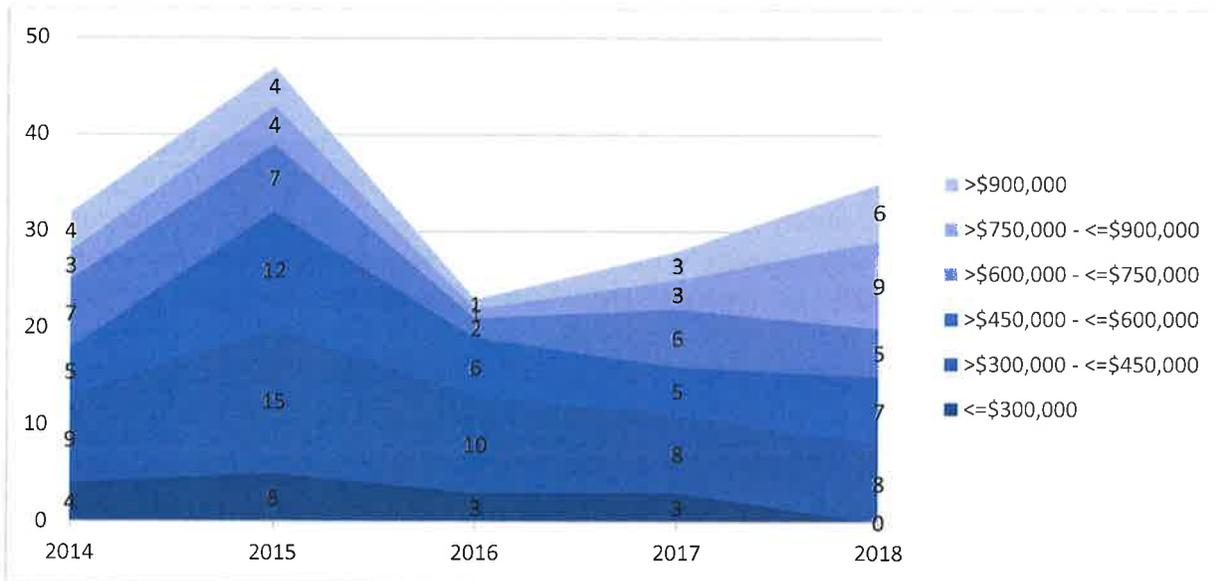
There has been a substantial shift in the town's income profile, as documented by Census Bureau data summarized in Figure 2. This figure shows the percentage of Norwich families in various income brackets as of the 2000 censusⁱⁱⁱ and the 2009^{iv} and 2017^v American Community Surveys. The share of the Norwich population with annual income below \$50,000 has dropped substantially since 2000, and the share of the population with annual income above \$200,000 has increased. [If these figures are not adjusted for inflation it is potentially misleading. H/holds and families are different categories. Households is the more appropriate and inclusive category].

Figure 2: Family income in the past 12 months in Norwich



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 3 below 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 3: Sales of single-family homes 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 [add Hanover, Leeb and Lyme]. These high sales prices mean that few low-, moderate-, or even middle-income households can purchase a home in Norwich.

Current rents are also high in Norwich, as high or higher than the county-wide estimates produced in the National Low Income Housing Coalition report. 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 these asking rents that are out of reach for many potential renters, local experts suggest that renting one's 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 so they can pass the property down to their children. 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.

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's 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 that the units will be affordable. Starlake Lane, is a neighborhood of 14 homes where Twin Pines Housing Trust owns the land, and the homeowners own the buildings. Twin Pines also makes grants to income-qualified homebuyers to assist with the initial purchase. When households decide to sell their homes, the return on their equity is shared with Twin Pines. Norwich Senior Housing consists of 24 one-bedroom units of dedicated affordable housing in the Village area in which tenants pay 30% 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.

ⁱ Real Estate Sales Data from Vermont Property Transfer Tax Public Records, accessed July 11, 2019.

ⁱⁱ U.S. Census Bureau, Census of Population and Housing, accessed October 11, 2019 at <https://www.census.gov/prod/www/decennial.html>.

ⁱⁱⁱ U.S. Census Bureau, Profile of Selected Economic Characteristics, Census 2000 Summary File 3, Table DP-3, accessed August 20, 2019 using <https://www.census.gov/census2000/sumfile3.html>.

^{iv} U.S. Census Bureau, 2005-2009 American Community Survey 5-Year Estimates, Table B19101 FAMILY INCOME IN THE PAST 12 MONTHS (IN 2009 INFLATION-ADJUSTED DOLLARS), accessed August 21, 2019 using the tools available at https://www2.census.gov/acs2005_2009_5yr/summaryfile/.

^v U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, Table B19101 FAMILY INCOME IN THE PAST 12 MONTHS (IN 2017 INFLATION-ADJUSTED DOLLARS), accessed July 13, 2019 using <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>. Note that this tool has since been replaced by "Explore Census Data," at <https://data.census.gov/cedsci/>.

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Economic Development

OBJECTIVES:

1. Provide a strong and diverse economy that provides satisfying and rewarding job opportunities and that maintain high environmental standards , and to expand economic opportunities (24 VSA §4302 (c) (1) (2)).
2. Ensure the economic vitality of the village business district, so residents can continue to access goods and services within proximity of their homes.
3. Expand opportunities for individuals and households on lower and middle incomes.
4. Encourage the manufacture and marketing of agricultural and forest industries (24 VSA §4302 (c) (9), (A), (B)).
5. Work to ensure that Norwich residents and businesses have adequate access to high-speed internet and mobile telephone services.
6. Explore ways to support businesses providing products and services that directly address the climate crisis such as solar energy design and installation.

POLICIES:

1. The town will encourage economic development by maintaining a strong relationship with the local business community.
2. Support proposed development projects that reflect the values and priorities expressed in this plan.
3. Assist businesses that require local or state permits to locate or expand operations in Norwich
4. Review Norwich land use regulations to facilitate appropriate scale mixed-use development in areas currently zoned commercial-industrial

ACTIONS:

1. Complete a study on how to maintain a strong and vibrant village center and consider recommended actions.
2. Study implications of improved wastewater management for the economic vitality of the village area.

3. Identify opportunities to foster economic development in the Commercial-Industrial district.
4. Work with Green Mountain Economic Development Corporation (GMEDC) to recruit appropriate businesses to Norwich.
5. Provide education on area services available for unemployed and lower income residents.
6. Support agricultural and forest industries by encouraging participation in the state use value appraisal (current use) program and conservation easements through the Upper Valley Land Trust.
7. 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.

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]

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's economic strength mostly lies 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

[Update Fig 6-5 Commuting Patterns; in town = 159 work in town, 1,458 commute out of town, 755 commute INTO town]

Between 1980 and 2000, the total number of establishments (employers) in Norwich increased from 72 to 136. In 2016 [update] the number of

employers fell back to 127, but the number of people employed in Norwich has risen. In 2016 [update], a total of 950 people were employed in Norwich, only 159 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 [find median too]. Most of these private businesses are in the service sector. However, King Arthur Flour continues to grow [employee #s?], and the retail and school location on Route 5 South has become a tourist destination.

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 (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.

TRANSPORTATION

OBJECTIVES

1. 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) (D) (4)*).
2. Reduce Greenhouse Gas Emissions (GGE) by encouraging access to mass transit, ride-sharing and EV use

POLICIES

1. 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.
2. Promote the construction of a variety of housing types in areas of town with good access to transit, employment, community facilities and retail opportunities.
3. Encourage mixed use and commercial development in the Commercial Industrial District where it can be served by existing transportation infrastructure and transit service
4. Encourage improved access management on state highways and other high-traffic roads
5. Seek improved accommodation for bicyclists and pedestrians on state highways and other high-traffic roads.
6. Ensure all private roads are constructed in accordance with town standards and any developer provide a maintenance agreement or equivalent for new private roads
7. Maintain town ownership of Class 4 roads and legal trails as a public recreation resource.
8. Continue to support Advance Transit
9. Continue to participate in the Transportation Advisory Committee facilitated by TRORC.

ACTIONS

1. Adopt Land Use Regulations with adequate standards for access management, curb cuts, driveways and roads to promote a safe and efficient transportation network
2. 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.
3. Accommodate bicycle and pedestrian safety when rebuilding and upgrading roads and bridges.
4. Create a long-range plan for construction and maintenance of sidewalks, bikeways, trails and park-and-ride lots.

ROADS IN NORWICH

Interstate 91

Interstate 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 the River Road to the Connecticut River to the east and the railroad, substantive 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.

[ADD TABLE]

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, town owned rights-of-way not open to vehicles.

[Add: % of town budget devoted to road maintenance]

[Add: do we know the total distance of private roads in town?]

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 TMDL or other water quality restoration effort. Norwich is [Add....]

PUBLIC TRANSPORTATION

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 Norwich's 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.

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. The Two Rivers-Ottawaquechee Regional Commission (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 they will fund and the priority of these projects.

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.

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COMMUNITY SERVICES AND FACILITIES

OBJECTIVES

1. Provide the community services and facilities necessary to sustain the quality of life in Norwich.
2. Meet the town's obligations under Vermont's Clean Water Act (Act 64).
3. 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.
- 4.

POLICIES

1. Focus development and any provision of utilities in areas of town already serviced by major roads and transit.
2. Ensure that stormwater run-off from all developed land is managed at the source, thus avoiding a burden on public infrastructure.
3. Seek solutions to the barrier that wastewater management presents to denser housing development in much of Norwich.
4. Support expanded service area for ECFiber or other high-speed internet providers.
5. Promote the development and use of a connected system of trails for recreation and enjoyment of natural and scenic areas in Norwich.
6. Support provision of quality childcare (pre-K through grade six), education and recreation services.
7. 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.

ACTIONS

1. Maintain a capital improvement program that is aligned with the goals and objectives of this plan.
2. 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.
3. Develop a Stormwater Management Plan.

4. Implement the strategic initiatives developed by the town's Trails Committee, including:
 - a. Identifying potential trail corridors to link existing trails with each other and with trail systems in neighboring towns
 - b. Developing a plan that identifies and promotes appropriate routes for different trail users, including those on foot, bicycle and horseback
 - c. Identifying and promote trails that relieve the burden on such popular trails as Gile Mountain
 - d. Identify how to expand visitor management and specifically parking at existing trailheads.
5. Take a leading role in promoting opportunities and choices for parents in need of childcare by, among other things:
 - a. 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
 - b. Reviewing existing land use controls to ensure that they do not present a barrier to home-based childcare providers
 - c. Exploring using existing town resources, such as the Norwich Police Department, to lower the costs of conducting background checks on childcare providers
 - d. 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.
6. Review existing land use controls to ensure that they do not present a barrier to home-based childcare providers.

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 and the Norwich Winter Farmers Market. The Public Safety building was completed in 2018 and houses the Norwich Police and Fire Departments. The Town Garage has been recently renovated; the Public Works Department is located there, and is adjacent to the town operated transfer station. The Buildings and Grounds department comprises one FTE position [fact check] 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.

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% 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.

ELECTRICITY INFRASTRUCTURE

Green Mountain Power (GMP) provides electricity to utility customers in Norwich (see Utilities and Facilities Map pxx). Norwich has limited three-phase power available. There is a substation located in nearby Wilder. A VELCO xxx kV transmission line passes through the western portion of town. As of 2018 there are no plans to significantly upgrade the electricity service to Norwich.

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 (see <https://map.ecfiber.net/>).

There is one cellular phone telecommunications tower in town located primarily to provide service in the I91 corridor. There is a small cellular phone repeater antenna in the Village. Mobile phone service remains poor and unstable.

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, such as 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.

Solid Waste Disposal Facilities and Services

Norwich is a member of the Greater Upper Valley Solid Waste Management District (GUVSWMD) 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 of along with recycled materials and trash. The district's Solid Waste Implementation Plan (SWIP) is incorporated into this plan by [reference](#).

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

Trails

Norwich hosts a 697acre 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 map #)

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.

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 American Community Survey 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 waitlists. By choice or necessity, some parents use the services of home daycare providers (i.e. not located in a dedicated facility), nannies or au pairs. 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 coordinate 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.

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 and covered 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 DPW maintaining Huntley Meadows, Barrett Playground/Bread Oven and Ballard Park.

Resilience

OBJECTIVES

1. 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)).
2. Prevent increased flood and erosion hazards resulting from inappropriate land use and development practices.
3. Protect and restore floodplains and upland forest areas that attenuate and moderate flooding and fluvial erosion (24 VSA § 4302 (c) (14) (B)).
4. Increase the use of flood insurance for structures within the Special Flood Hazard Area (SFHA).

POLICIES

1. Guide development of new structures and impervious areas away from surface waters and encourage landowners to maintain or establish riparian buffers
2. Site public and private critical facilities outside of floodplains where feasible
3. Ensure that any development within the Special Flood Hazard Area fully conforms to the National Flood Insurance Program (NFIP).
4. Provide support to Norwich property owners through membership in the Community Rating System (CRS) of the National Flood Insurance Program
5. 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
6. 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

ACTIONS

1. Continue to participate and meet the requirements of the National Flood Insurance Program, so that owners within floodplains are eligible for flood insurance
2. Complete the Community Rating System (CRS) certification process to qualify for maximum state reimbursement for flood events and assist homeowners
3. 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
4. Implement the hazard mitigation programs, projects and activities identified in Norwich's 2015 All Hazard Mitigation Plan and subsequently adopted plans

5. Adopt revised land use regulations that will implement the objectives and policies of this plan related to flood hazards, riparian areas and stormwater management

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 swept through Vermont, 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 if the following human activities were avoided:

- **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.
- **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

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 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 map #). 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.

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.

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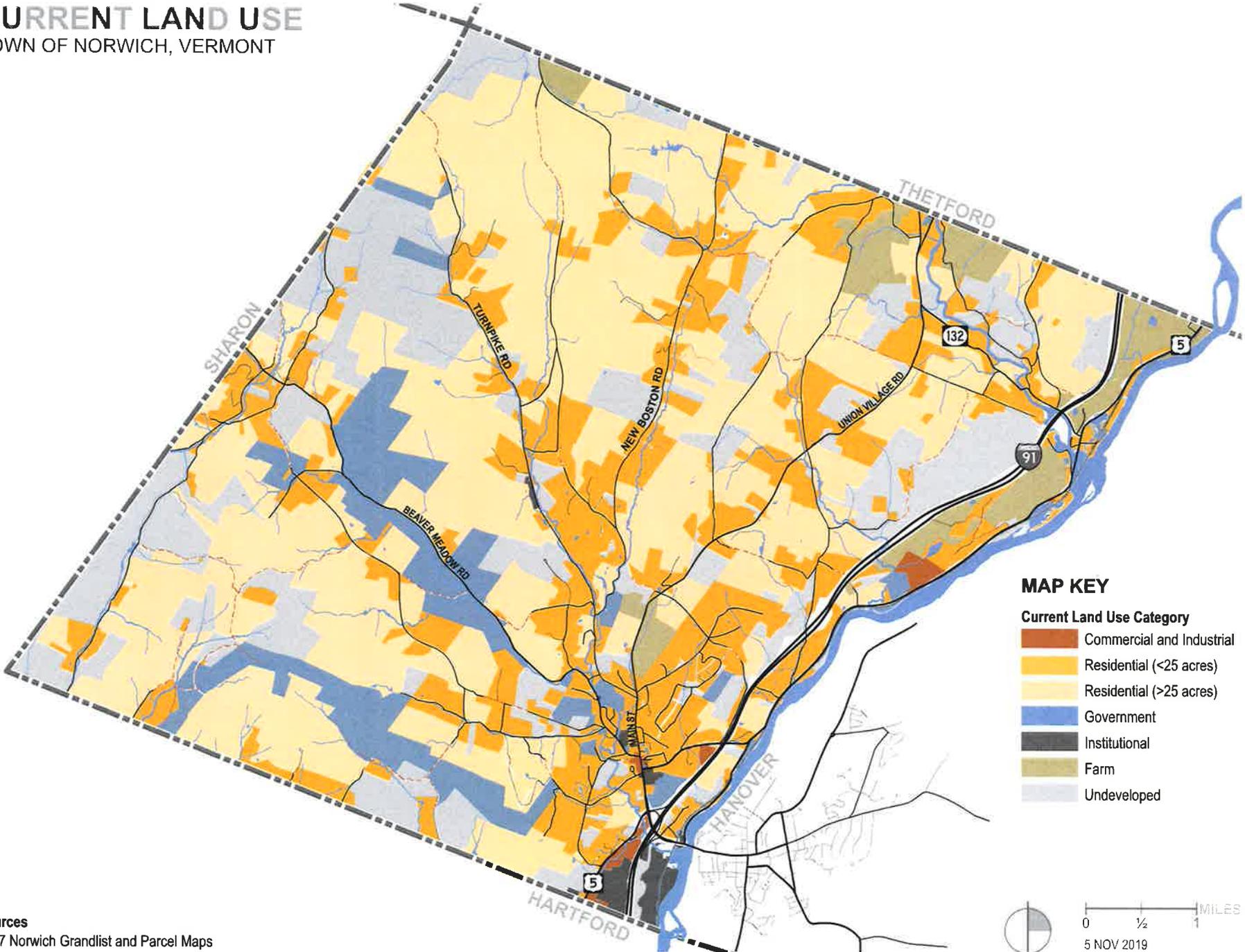
LIST OF MAPS

Chapter		Map	Statute Required? [Y/N]
Land Use	1	Current Land Use (+ inset, w/- vill. des.)	Y [Vill. Des]
	2	Future Land Use (+inset)	Y
	3	Forest Block ≥500 acres	
	4	Protected Lands (+ inset)	
Housing	1	Dwelling Unit Distribution 2010-2018	
Transportation	1	Transportation Map	Y
C F&S	1	Community Facilities (+ Education)	Y
Resilience	1	Flood Map	Y

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CURRENT LAND USE

TOWN OF NORWICH, VERMONT



MAP KEY

Current Land Use Category

- Commercial and Industrial
- Residential (<25 acres)
- Residential (>25 acres)
- Government
- Institutional
- Farm
- Undeveloped

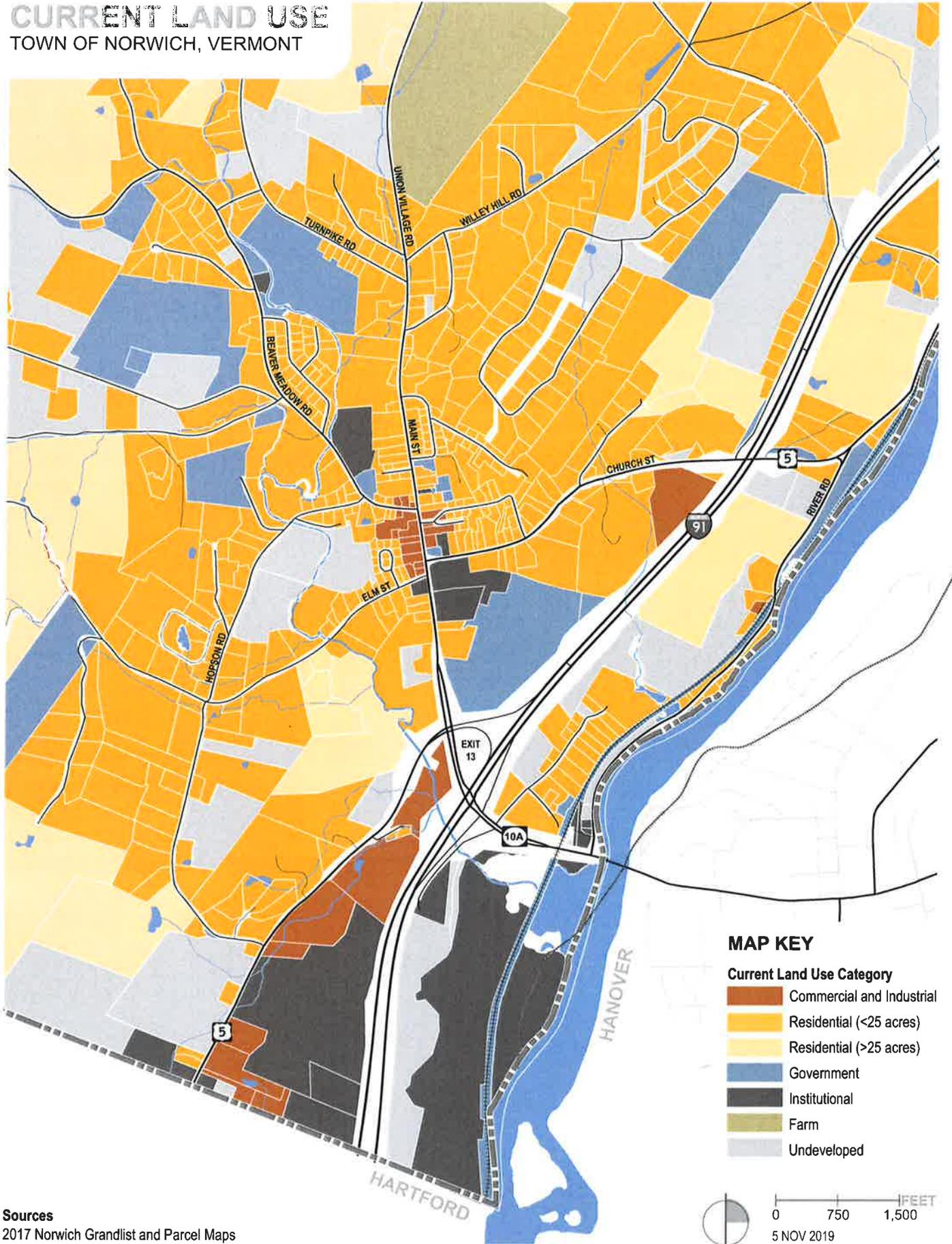
Sources
 2017 Norwich Grandlist and Parcel Maps

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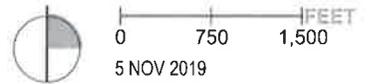
CURRENT LAND USE

TOWN OF NORWICH, VERMONT



MAP KEY

- Current Land Use Category**
- Commercial and Industrial
 - Residential (<25 acres)
 - Residential (>25 acres)
 - Government
 - Institutional
 - Farm
 - Undeveloped

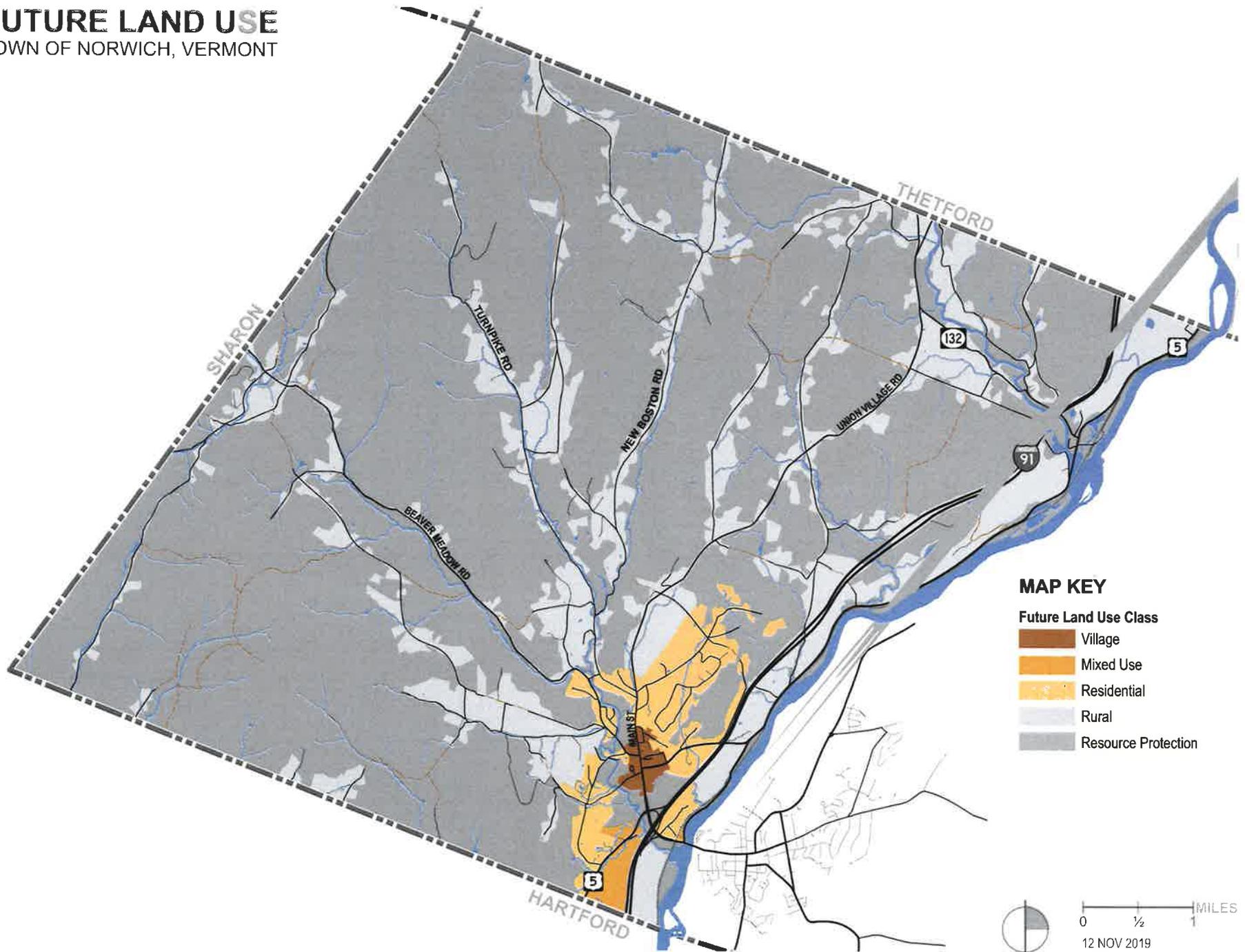


Sources
2017 Norwich Grandlist and Parcel Maps

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FUTURE LAND USE

TOWN OF NORWICH, VERMONT



MAP KEY

Future Land Use Class

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

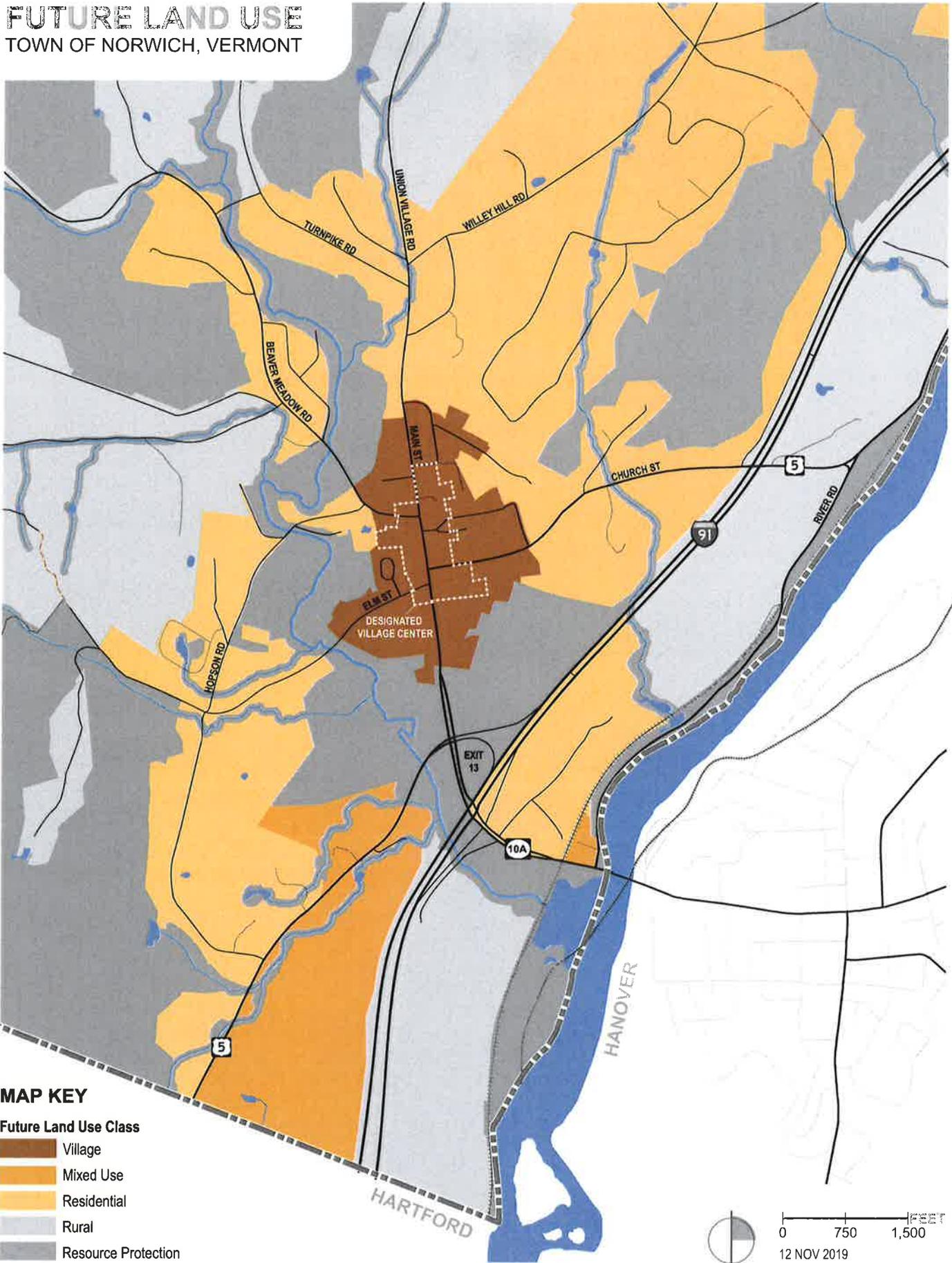
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FUTURE LAND USE

TOWN OF NORWICH, VERMONT



MAP KEY

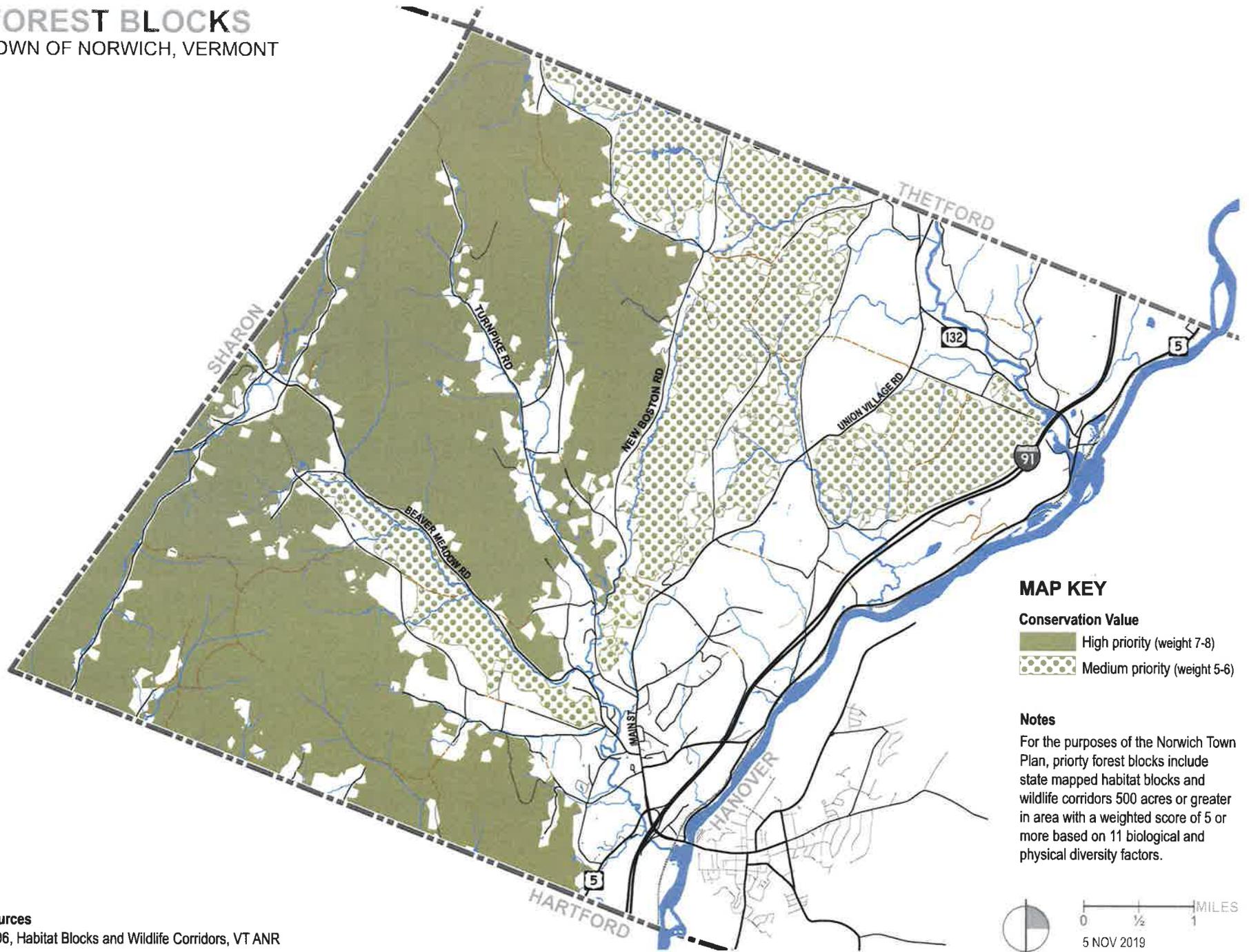
- Future Land Use Class**
- Village
 - Mixed Use
 - Residential
 - Rural
 - Resource Protection

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FOREST BLOCKS

TOWN OF NORWICH, VERMONT



MAP KEY

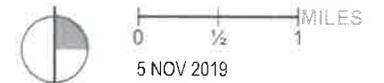
Conservation Value

- High priority (weight 7-8)
- Medium priority (weight 5-6)

Notes

For the purposes of the Norwich Town Plan, priority forest blocks include state mapped habitat blocks and wildlife corridors 500 acres or greater in area with a weighted score of 5 or more based on 11 biological and physical diversity factors.

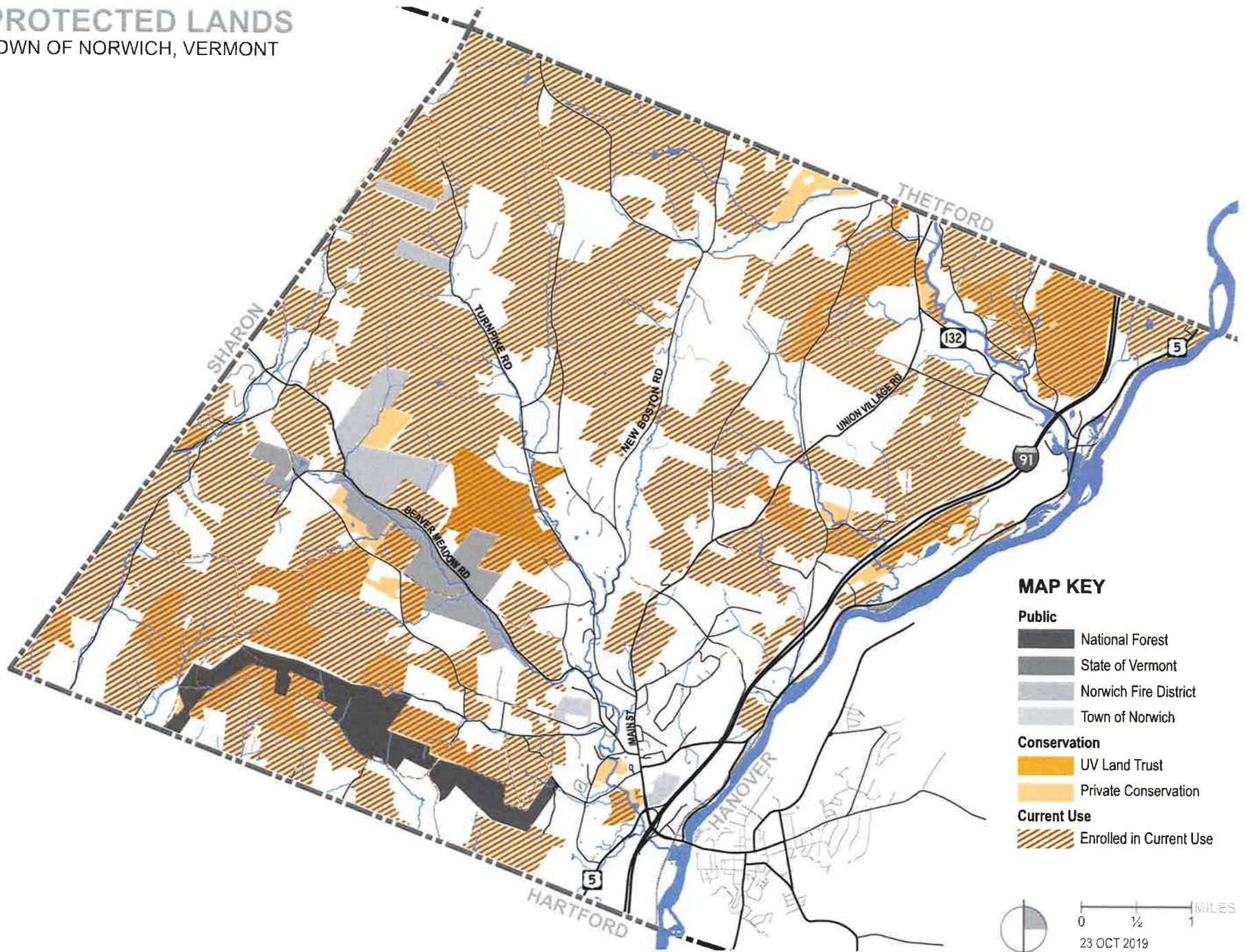
Sources
2006, Habitat Blocks and Wildlife Corridors, VT ANR



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PROTECTED LANDS

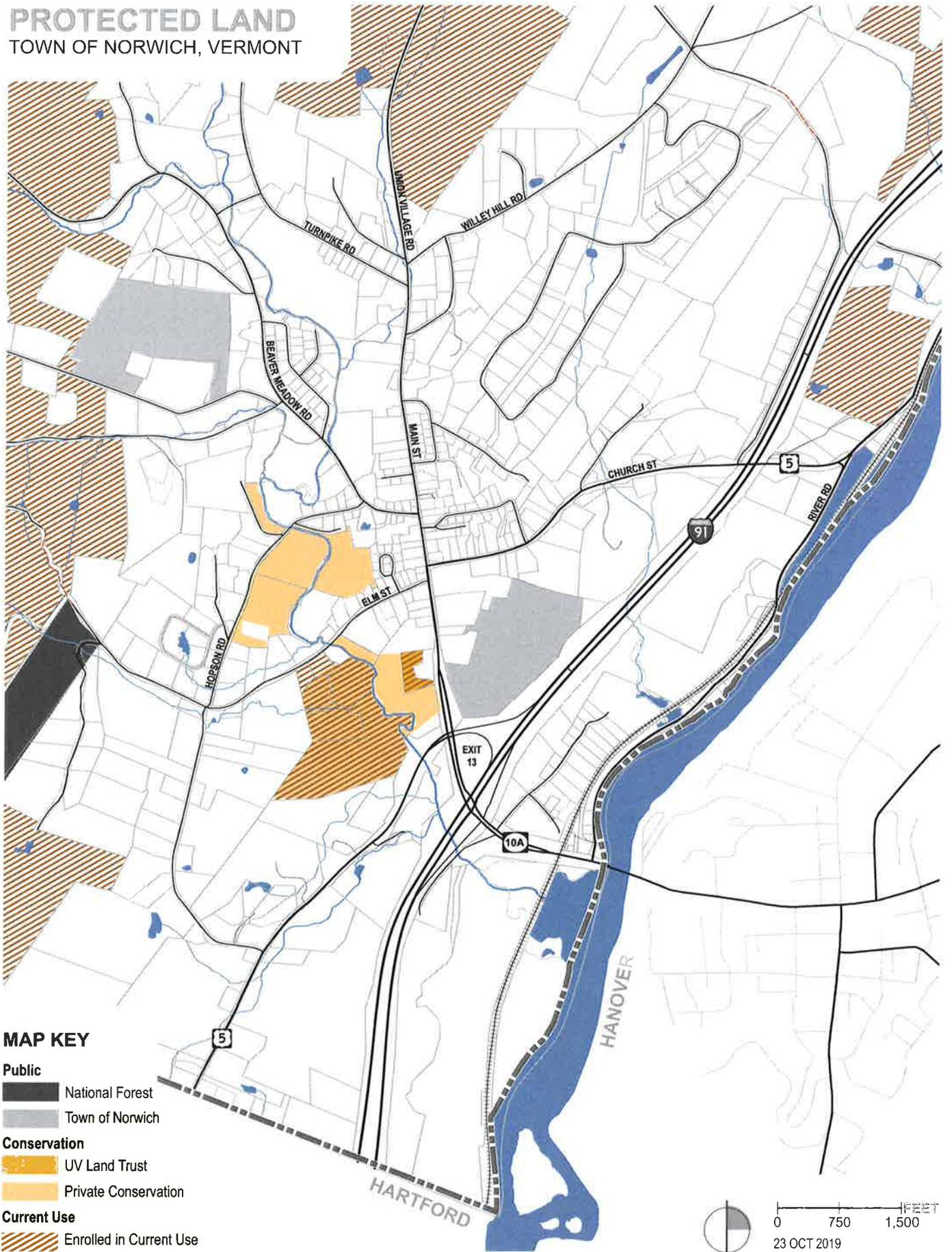
TOWN OF NORWICH, VERMONT



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PROTECTED LAND

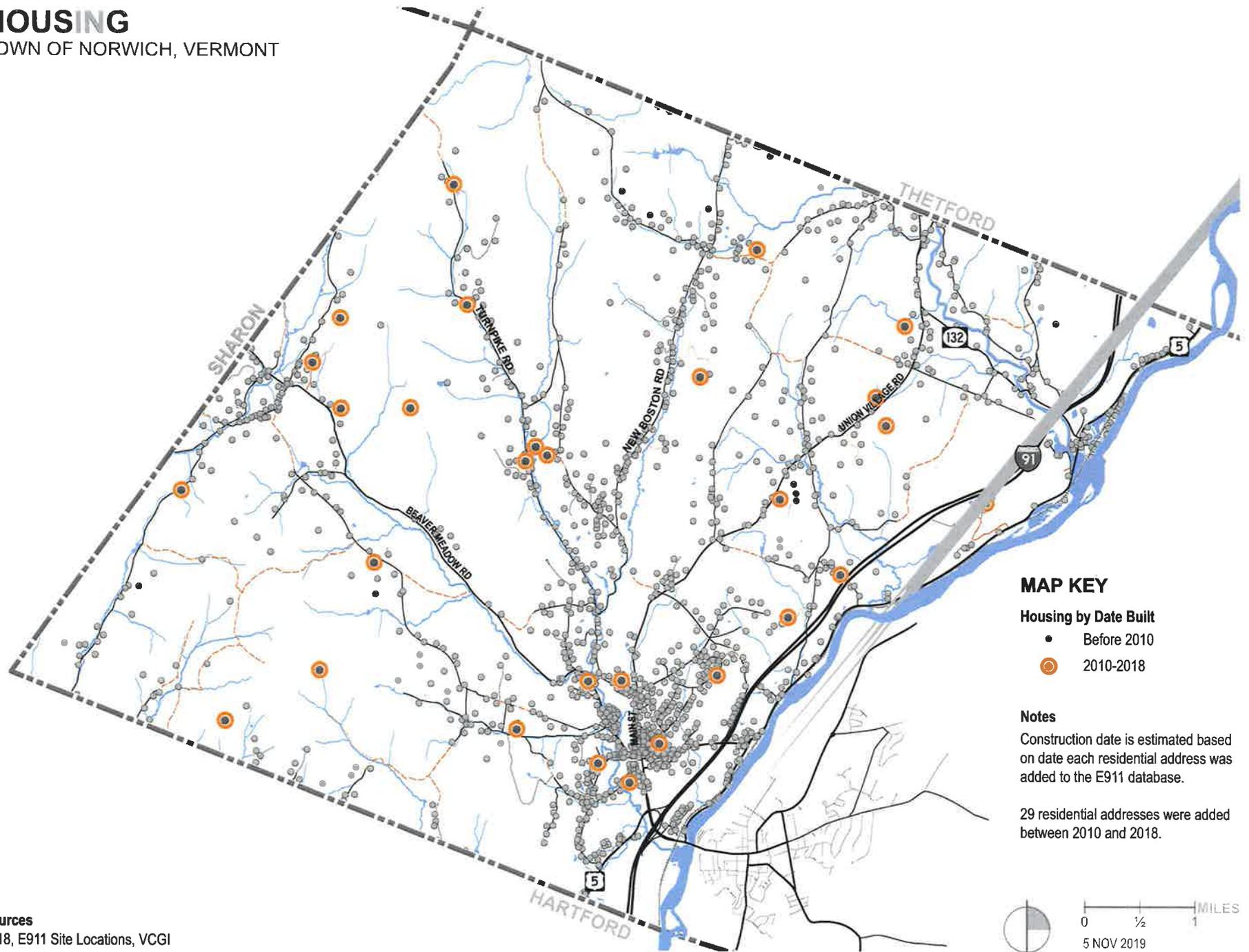
TOWN OF NORWICH, VERMONT



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HOUSING

TOWN OF NORWICH, VERMONT



MAP KEY

Housing by Date Built

- Before 2010
- 2010-2018

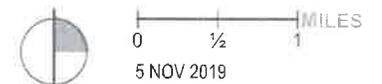
Notes

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

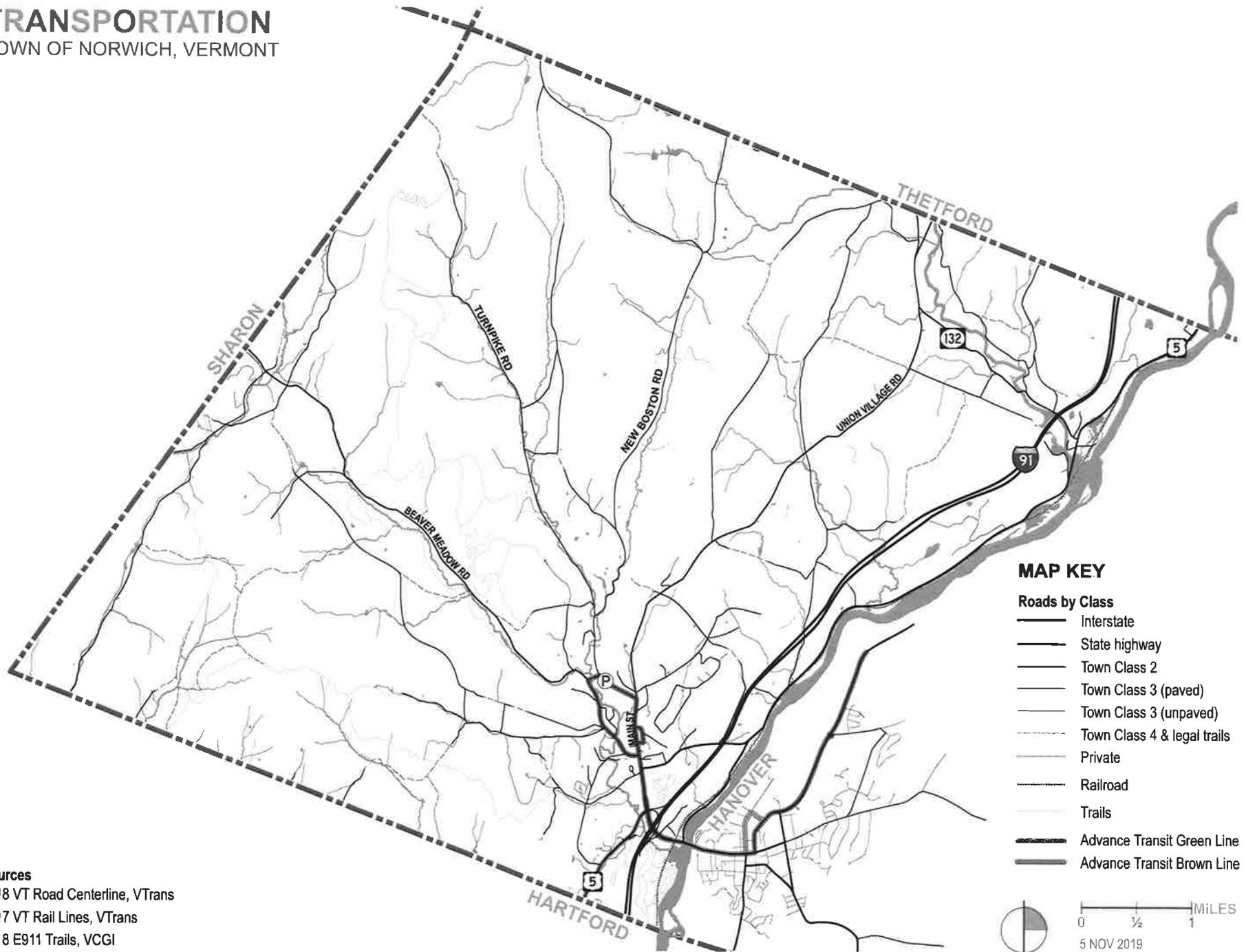
2018, E911 Site Locations, VCGI



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TRANSPORTATION

TOWN OF NORWICH, VERMONT

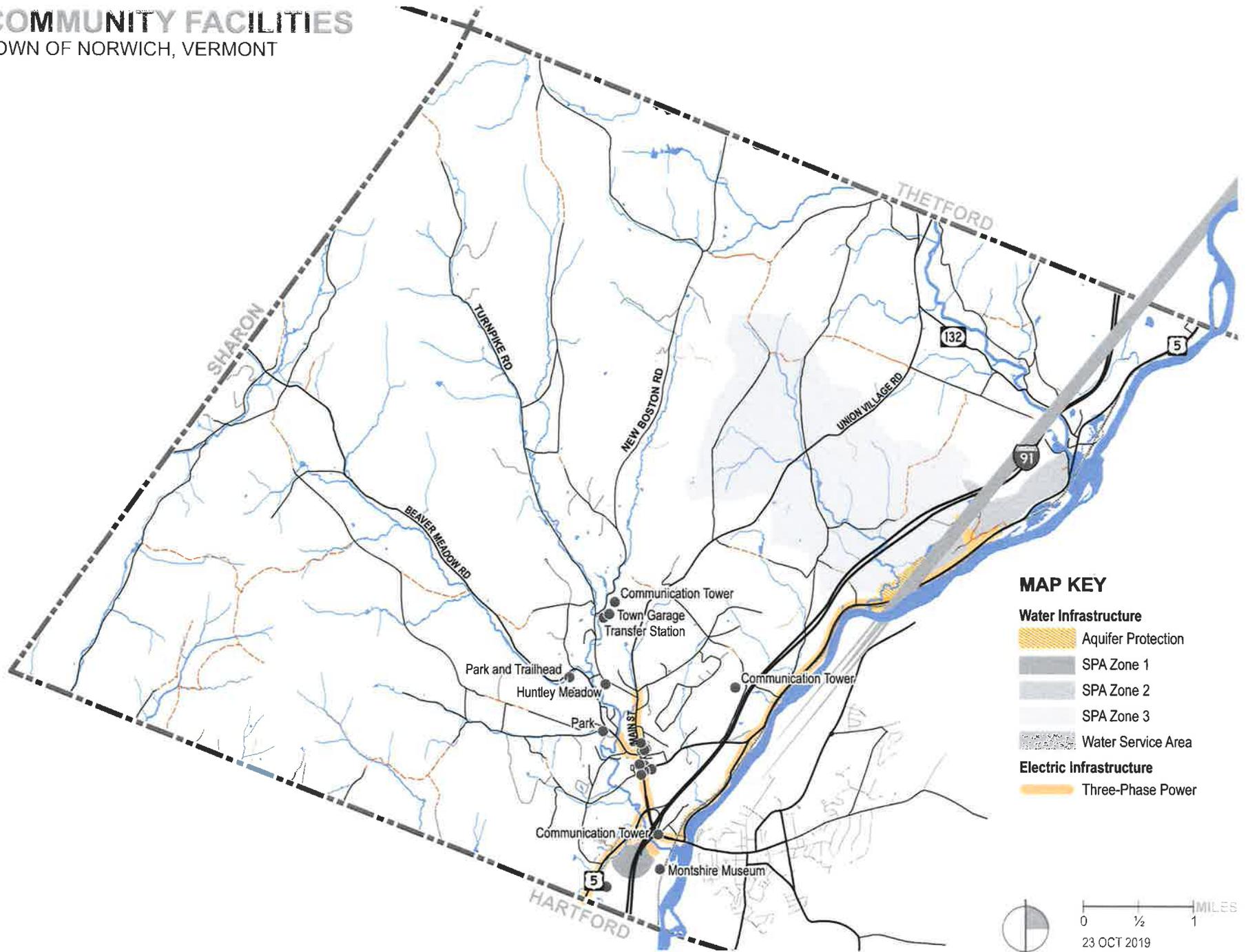


Sources
 2018 VT Road Centerline, VTrans
 2017 VT Rail Lines, VTrans
 2018 E911 Trails, VCGI

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COMMUNITY FACILITIES

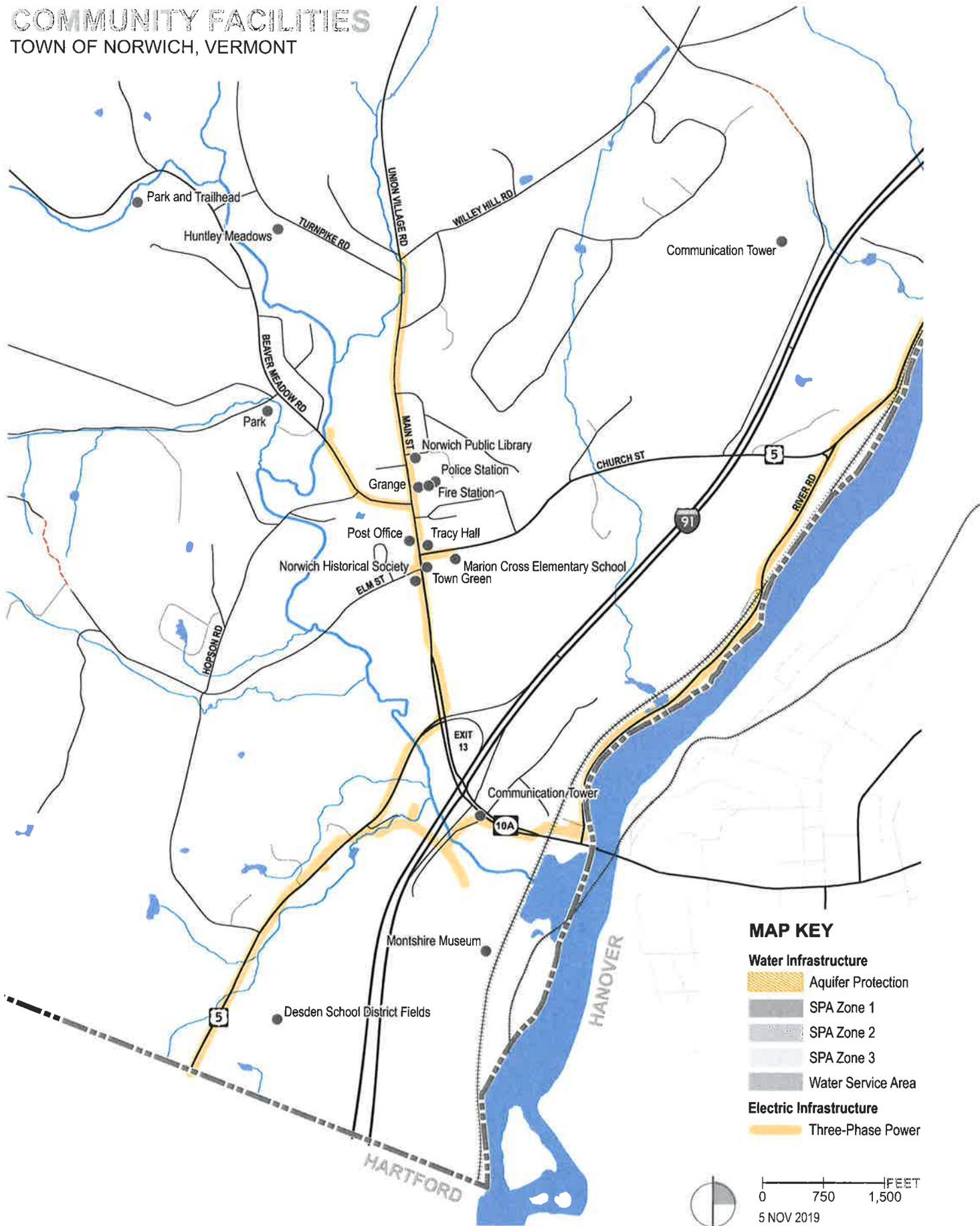
TOWN OF NORWICH, VERMONT



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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



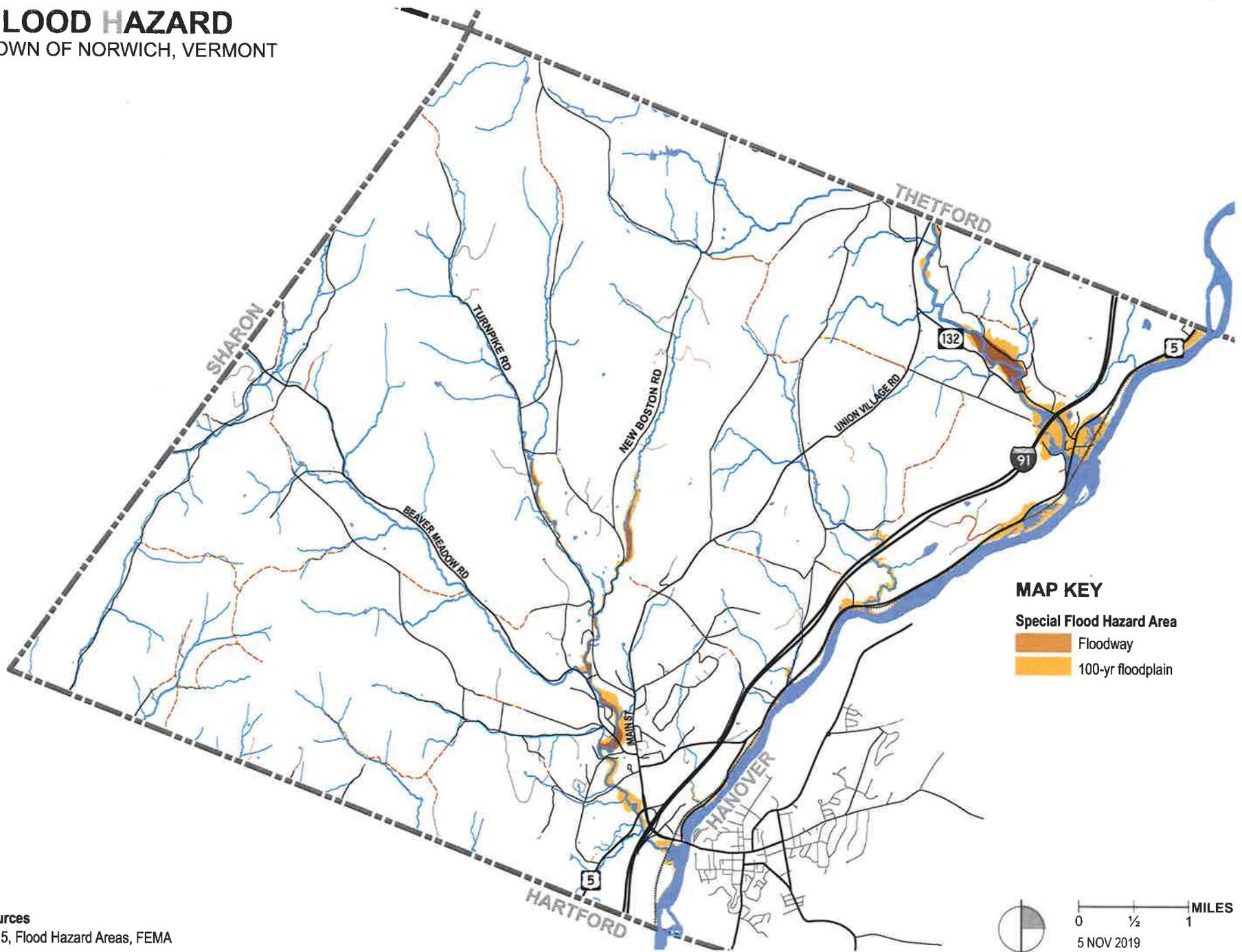
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FLOOD HAZARD

TOWN OF NORWICH, VERMONT



Sources
2015, Flood Hazard Areas, FEMA

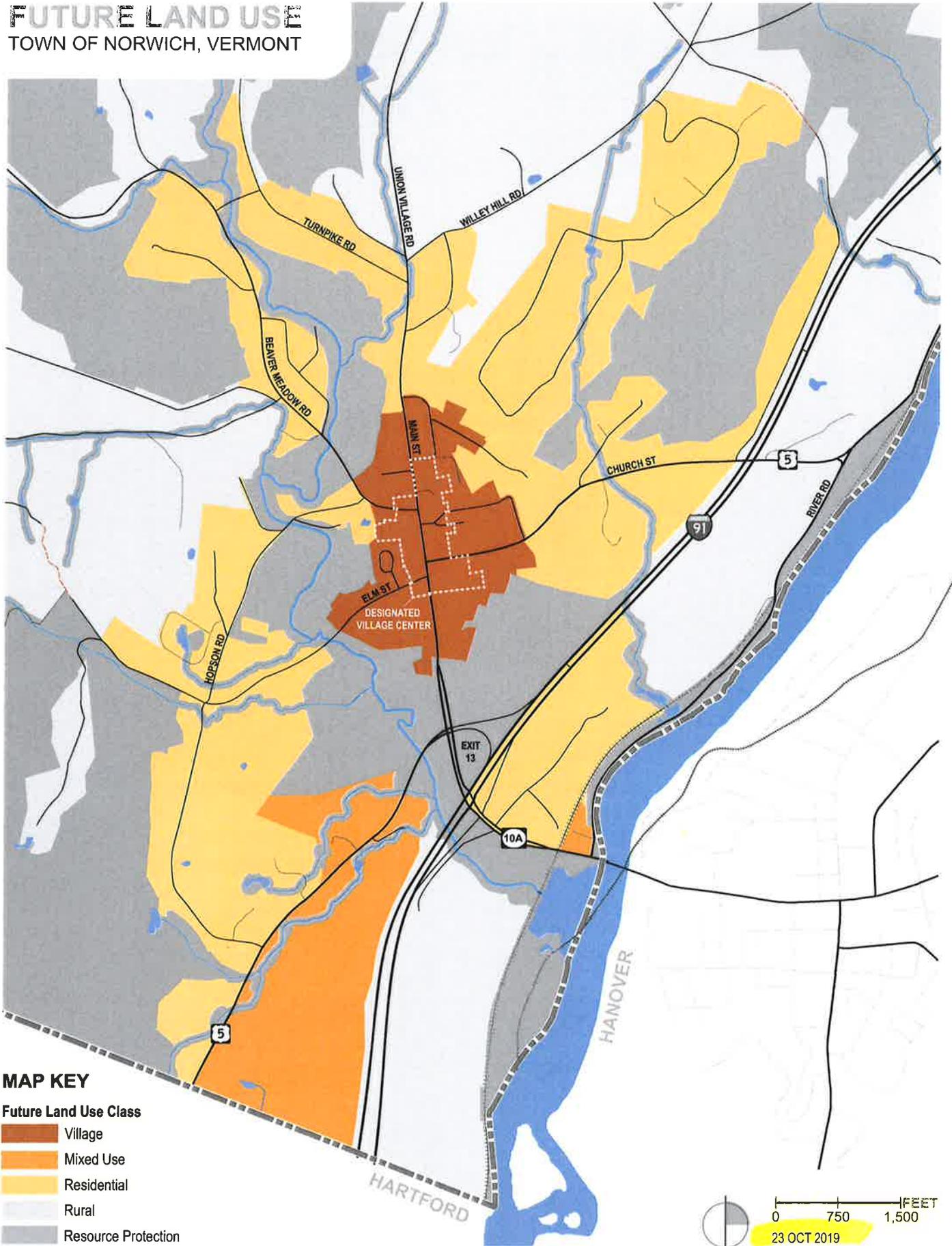


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FUTURE LAND USE

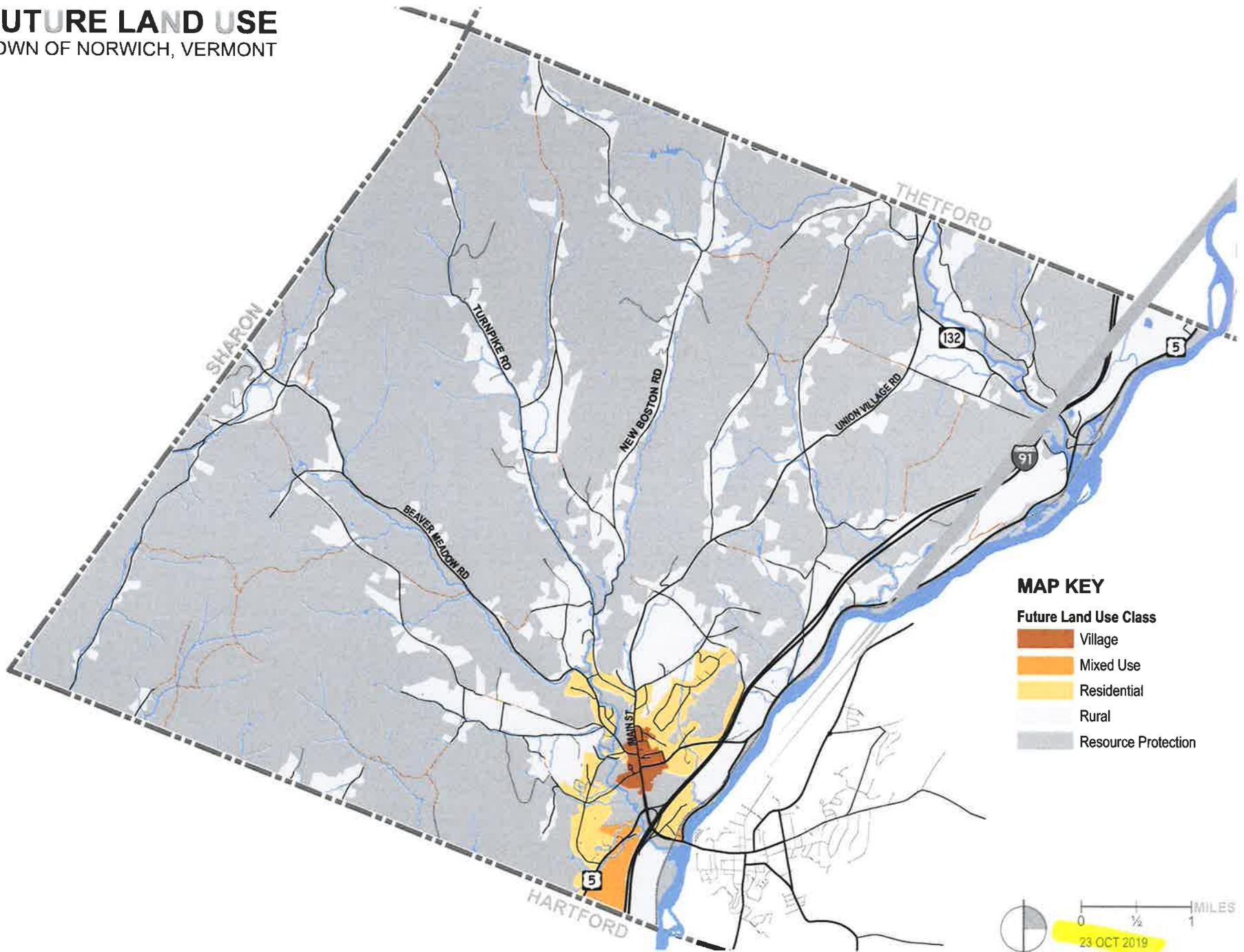
TOWN OF NORWICH, VERMONT



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FUTURE LAND USE

TOWN OF NORWICH, VERMONT



MAP KEY

Future Land Use Class

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



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**NORWICH PLANNING COMMISSION
REGULAR MEETING
DRAFT MINUTES**

Thursday, October 24, 2019, 7:00PM
Tracy Hall-Meeting Room

Members Present: Jaci Allen (Chair), Melissa Horwitz (Vice Chair), Brian Loeb, Susan Brink, Leah Romano, Ernie Ciccotelli (7:15)

Members not Present: Jeff Goodrich,

Public: Linda Cook, Aaron Lamperti

Staff: Rod Francis

Jaci Allen (Chair), called the meeting to order at 7:02pm

- 1) Approve Agenda: Loeb moved and Romano seconded a motion to approve the agenda. Motion carried 5 — 0
- 2) Meeting Objectives:
 1. Discuss Public event feedback, and next steps
 2. Discuss Town Plan chapters and next steps
- 3) Comments from the Public: None
- 4) Announcements, Reports, Updates & Correspondence
 - o Correspondence
 - o S Richards email: Questions concerning MCS wastewater systems
 - o Rebecca McKenzie email: Claremont Climate Strike Report
 - o Updates
 - o SB (at their meeting of 10/9) decided to keep membership of PC at nine
 - o TRORC Regional Plan will have a public hearing October
- 5) Discuss public event feedback, and next steps
Commissioners discussed the consistency of feedback from various public outreach events including the Land Use workshops and the discussion of *Re-peopling Vermont* at the library. The view frequently expressed by participants is that the continued viability of the village (and any expansion) will require addressing wastewater provision, and that, development in and adjacent to the village, and along Route 5 South will help preserve the rural character and offer the most resource protection to the town overall.
- 6) Draft Town Plan Chapters
Francis sought comment on chapters circulated (land Use and Resilience). He then presented a series of maps from the Land Use chapter including Protected Lands and Future Land Use. Commissioner feedback will aid further edits.
- 7) Review and approve Minutes 8-29-19
Loeb moved and Ciccotelli seconded a motion to approve the minutes of 9-26-2019. Motion carried 6 — 0
- 8) Future Meeting Schedule & Agendas
For November 14 Agenda
 - Event feedback

- Draft of ALL chapters for review:

Meeting Adjourned 9:25pm

Future Meetings:

Thursday, Nov 14, 7pm Regular Meeting*

Thursday, Dec 12, 7pm Regular Meeting*

Thursday, Jan 9, 7pm Regular Meeting*

*Note: Adjusted holiday schedule dates