VILLAGE OF ESSEX JUNCTION TRUSTEES
TOWN OF ESSEX SELECTBOARD
SPECIAL MEETING AGENDA

81 Main Street
Essex Junction, VT 05452

Monday, June 3, 2019

7:30 PM (or immediately following Town of Essex Selectboard Meeting)

E-mail: manager@essex.org

www.essexjunction.org
www.essex.org

Phone: (802) 878-1341

The Selectboard and Trustees meet together to discuss and act on joint business. Each board votes separately on action items.

1. **CALL TO ORDER** [7:30 PM]
2. **AGENDA ADDITIONS/CHANGES**
3. **APPROVE AGENDA**
4. **PUBLIC TO BE HEARD**
   a. Comments from Public on Items Not on Agenda
5. **BUSINESS ITEMS**
   a. Recognition of Chelsea Mandigo for Stormwater Award from Green Mountain Environmental Association
   b. Recognition of Adriane Martin for Young Professional Award from Vermont Recreation & Parks
   c. Update from Champlain Water District and introduction of Joe Duncan as CWD General Manager—James Fay
   d. Planning for June 22 Strategic Advance work session—Jen Knauer
   e. Update of development fees—Dana Hanley & Robin Pierce
   f. Accept Town of Essex and Village of Essex Junction Housing Needs Assessment and Action Plan—Dana Hanley & Robin Pierce
   g. Accept Essex Community Enhanced Energy Plan—Dana Hanley & Robin Pierce
   h. Discussion of voting timeline for November 2020 vote on governance change—Evan Teich
   i. Hire marketing firm for public engagement around governance change—Greg Duggan
6. **CONSENT ITEMS**
   a. Approval of minutes: May 28, 2019
7. **READING FILE**
   a. Certificate of Merit to Village of Essex Junction from Vermont Planners Association
   b. Town of Essex/Village of Essex Junction Report for Calendar Year 2018: Progress on Implementation of All-Hazards Mitigation Plan
   c. Job Description: Merger Project Manager (Long-term, temporary, part-time)
   d. Board Member Comments
8. **EXECUTIVE SESSION**
   a. An executive session is not anticipated
9. **ADJOURN**

Members of the public are encouraged to speak during the Public to Be Heard agenda item, during a Public Hearing, or, when recognized by the Chair or President, during consideration of a specific agenda item. The public will not be permitted to participate when a motion is being discussed except when specifically requested by the Chair or President. This agenda is available in alternative formats upon request. Meetings, like all programs and activities of the Village of Essex Junction and the Town of Essex, are accessible to people with disabilities. For information on accessibility or this agenda, call the Unified Manager's office at 878-1341.

Certification: 05/31/2019 _____

Memorandum

To: Trustees; Selectboard; Evan Teich, Unified Manager

CC: Chelsea Mandigo, Stormwater Coordinator/Wastewater Operator; Adriane Martin, Parks & Recreation Program Coordinator; Jim Jutras, Water Quality Superintendent; Ally Vile, Parks & Recreation Director

From: Greg Duggan, Deputy Manager GSD

Re: Recognition for employee awards

Date: May 31, 2019

Issue

The issue is recognizing employees for awards.

Discussion

Two employees who recently received awards will be at the joint Trustee and Selectboard meeting on Monday night to be recognized for their achievements.

Chelsea Mandigo received the Stormwater Award from the Green Mountain Environmental Association, for outstanding performance in stormwater management and/or education, and significant contribution to the stormwater field.

Adriane Martin received the Young Professional Award from Vermont Recreation & Parks, given to individuals who exhibit leadership, creativity, and have made significant contributions to the field of parks and recreation over time.

Cost

N/A

Recommendation

This memo is for informational purposes.

Green Mountain
Water Environment
Association

May 8, 2019

Chelsea Mandigo
Essex Junction Village
2 Lincoln St.
Essex Jct., VT 5452

Dear Chelsea,

Congratulations! You have been nominated and selected by your peers to receive the Green Mountain Water Environment Association's **Stormwater Award**.

We hope you can join us to receive your award at the Spring Meeting at the Killington Grand Hotel and Resort, in Killington, Vermont on Thursday, May 24, 2018. The meeting starts at 8:30 a.m. with training sessions and a trade show followed by lunch, and our Annual Meeting. The Awards ceremony is set to follow the Annual Meeting and will begin at approximately 2:00 p.m. Please accept this complimentary registration and attend as our guest.

For your convenience, I have enclosed a registration flyer. If you have not already signed up for the meeting, please complete and return the enclosed to Lisa Goodell, at the address below or by fax to (802) 229-2211. You can also visit our website, www.gmwea.org to register (select pay by check but don't worry, you won't be invoiced)

You may contact Lisa directly at (802) 229-9111 or by email lisa.goodell@gmwea.org with any additional questions.

Sincerely,

Steve Crosby
GMEWA Awards Committee Chair

Tom DiPietro
GMWEA President

89 Main Street, Suite 4 ~ Montpelier, Vermont 05602-2948
Phone: 802-229-9111 ~ Fax: 802-229-2211
Web: www.gmwea.org ~ E-mail: lisa.goodell@gmwea.org

CHAMPLAIN WATER DISTRICT
Dedicated to Quality Water & Service

First In The Nation ~ Excellence In Water Treatment, Partnership For Safe Water

Date: May 28, 2019

To: Evan Teich, Town of Essex, Manager

From: Jim Fay, CWD General Manager

RE: Town of Essex Selectboard / Village of Essex Junction Trustees Meeting June 3, 2019 - 7:45 PM

General Champlain Water District (CWD) Information

As background on CWD, please find the following:

1) Stat Sheet
2) 10 Year Historical CWD Uniform Wholesale Rate Increase Impact on Average Family
3) Comparative Served Water Systems Retail Water Rates Survey – December 2018
4) Proposed FY 2019-2020 Uniform Wholesale Rate Increase on Served Municipal Water Systems
5) CWD Annual Water Sales History
6) CWD Chittenden County Water System Usage Demand Areas
7) CWD Historical and Projected Future Debt Service

Proposed 2019-2020 Fiscal Year Budget

CWD's publicly elected Board of Water Commissioners has finalized the fiscal year budget for July 1, 2019 to June 30, 2020 setting the uniform wholesale water rate at $2.23/1000 gallons from the existing $2.165/1,000 gallons. This is an increase of 6.5 cents per 1,000 gallons. Assuming this CWD wholesale increase is fully passed along in each retail rate within CWD's twelve served municipal water systems, the average family using 180 gallons per day will see a 36 cent per month increase ($4.27/year) in water costs. We have attached a table entitled "Historical CWD Wholesale Rate Increase Impact on CWD Served Systems" which summarizes that CWD's annual wholesale rate increase over the past ten years has averaged $4.17 per year for a family using 65,700 gallons/year.

Also please find attached a table titled "Comparative Retail Water Rates" which was just updated as of our December 2018 Survey of CWD served systems retail rates. Also attached is a table titled "CWD Wholesale Increase Impact on Served Municipal Systems". Please note that a family using 65,700 gallons/year (180 gallons/day), within CWD's twelve served municipal water systems in Chittenden County, has a present annual "average" water cost across CWD's served systems of $314.10 per year ($26.18/month). Of this $314.10/year, $142.24/year ($11.85/month) is paid to CWD under the uniform wholesale water rate, and the remaining $171.86/year ($14.32/month) is the average retained by the respective served CWD municipal water system. With CWD's rate increase from $2.165/1000 gallons to the proposed $2.23/1000 gallons, the average family using 65,700 gallons per year will see an increase of $4.27 per year. If this CWD increase of 6.5 cents per 1,000 gallons is fully passed on, the average Retail

403 Queen City Park Road ~ South Burlington, VT 05403
Telephone: (802)864-7454 ~Fax: (802)864-0435
www.cwd-h2o.org

water rate will increase an average of 1.36%, with a high of 1.99%, and a low of 0.98%, given the varying retail markups to the CWD uniform wholesale water rate across the twelve CWD served municipal water systems.

CWD's Ongoing Major Capital Projects Summary

Treatment Facility Site Baffled 1.0 MG Filtered Water Tank and Expanded Wet Well – This project is one of the last reliability/redundancy projects identified in CWD's 20 Year Master Plan authored in 2002. Historically, CWD has had only one baffled filtered water tank which is required by regulations to provide free chlorine disinfectant contact time at our treatment facility under EPA's Surface Water Treatment Rule. The existing tank, built in 1990, needs to be taken off line for maintenance and repairs, and a second tank was needed to maintain regulatory compliance. This second disinfectant contact tank went into service on December 18, 2017, and the expanded wet well chambers were completed on September 18, 2018. Both projects were funded under the State Revolving Fund (SRF) Program. At this time, we are working on the next phase installing six new filtered water pumping units, including all electrical/controls and associated required piping.

CWD 24" High Service (HS) Close-In Cross Tie – This project entails constructing +/-1300 LF of 24" ductile iron water main connecting CWD's "1973" HS1 transmission main to CWD's "1991" HS2 transmission main on Farrell Street in South Burlington. This project is another SRF loan approach that takes advantage of the lower federal interest rate available and the extra year of delayed payback. The timing of this project worked perfectly as the City of South Burlington is upgrading the wastewater service in this area allowing Farrell Street to be torn up and rebuild only once for both projects. Joint bids were opened on March 6, 2018 with the construction starting on May 1st and CWD's new water line placed into service on December 11, 2018. The City of South Burlington will be completing their portion on the wastewater side on this project this spring/summer.

Route 2/7 "Double Diamond Crossover" at Exit 16 – As part of the State's Agency of Transportation highway improvements at Interstate 89's Exit 16, related to new stormwater piping, CWD is required to relocate a 16" diameter water transmission main ("deeper") on Routes 2/7 to allow construction of the proposed "Double Diamond" interchange and related stormwater requirements. VTrans is currently planning to bid this project in January 2020 with the "utilities" portion starting construction later in 2020 depending on the results of ongoing lawsuits related to this roadway project.

Pipe Integrity Program (PIP) – CWD has 54 miles of water transmission mains in Chittenden County ranging in age from brand new (Close-in Cross-Tie on Farrell Street) to 47 year old "original" pipe installed in the early 1970s with many pipe ages in between these dates related to our various pipe installation contracts. Given the relatively "young" age of our transmission mains, CWD does not have a history of water breaks. Based on the unique nature of the transmission system we are being proactive in developing a Pipeline Integrity Program (PIP) to be completed in several phases: Risk Assessment (Phase I), Condition Assessment (Phase II), Remaining Asset Life Projections (Phase III) and Capital Improvement Plan (Phase IV). Risk Assessment (Phase I) uses the concept of determining the Likelihood of Failure (LoF) and Consequence of Failure (CoF) to help direct the Condition Assessment effort in Phase II. The ultimate project goal is to determine where to efficiently direct capital for redundancy, repair, and/or replacement of pipes in advance of any failures.

In 2018 we completed our initial Risk Assessment (Phase I) which identified that overall our water transmission system is in good shape with many years of expected life remaining. We will continue to focus on gathering data to identify our high-risk areas (Phase II) and attempt to proactively address these areas prior to leaks and failures given the critical nature of our wholesale transmission supply system.

CHAMPLAIN WATER DISTRICT

- Chartered by the Vermont Legislature in 1971 as a Municipal Consolidated Regional Water Supply District (Facility "online" April 1973).
- Each member Town/City elects one Commissioner to the CWD Board of Commissioners for a three year term.

	Present Elected Commissioners	Years of Service
Shelburne	Peter Gadue	5 Years
Williston	Liz Royer	3 Years
South Burlington	Dennis Lutz	5 Years
Winooski	Jonathan Stockbridge	2 Years
Essex	Aaron Martin	6 Years
Colchester	Karen Richard	20 Years
Milton	Ron Hubert	1 Year
Jericho Village	Robert M. Shand	30 Years

- Staff of 27 Employees Wholesale / 7 Employees Retail

- **CWD Source**
  - 2500 feet off shore at a depth of 75 feet in the cold, deep, underwater canyon within Lake Champlain's Shelburne Bay.

- **Water Treatment**:
  - Preoxidation/Zebra Mussel treatment
  - Primary Disinfection to inactivate pathogens
  - Coagulation/Flocculation with adsporption clarification as pre-filtration
  - Deep Bed Multimedia Filtration for particle and natural organic material removal
  - Fluoridation for Vermont Department of Health Dental Division recommendations
  - pH adjustment to consistent, neutral pH
  - Secondary disinfection to ensure safe, effective residual throughout the distribution system, and to reduce formation of disinfection by-products
  - Corrosion control treatment to reduce lead and copper leaching from home plumbing
  - Reliable Capacity - 20 Million Gallons Per Day (MGD)

    2017-2018 Average: 9.51 MGD
    Historical Peak Day: 13.50 MGD

- **Water Storage**:
  - Capacity – 15.5 MG in 19 separate storage tanks

- **Operating Budget:**
  - Wholesale: 2017-18 $ 7,604,550 / 2018-19 $ 7,856,412 / 2019-20 $ 8,083,274
    Retail: 2017-18 $ 987,242 / 2018-19 $ 1,056,950 / 2019-20 $ 1,111,923
- **Water Rate** .....FY 2018-19 - $2.165 / 1000 Gals.
  FY 2019-20 - $2.230 / 1000 Gals.

- **Population Served** - ± 75,000

HISTORICAL CWD WHOLESALE RATE INCREASE IMPACT ON AVERAGE FAMILY

The following list shows the CWD uniform wholesale water rate for the last ten years. It also shows the annual average family using 75 gallons per day per person for an average household usage of 65,700 gallons per year. Assumes Chittenden County average family of 2.4 people/home use 180 gallons/day (75 gpd/person) for a total of 65,700 gallons per year.

FISCAL YEAR ENDING	CWD Uniform Wholesale Water Rate $ Per 1000 Gallons	Annual Average Family Cost @65,700 Gallons/Year	Annual Family $ Increase Over Previous Fiscal Year
2011	**1.650**	$108.41	$3.55 (30 cents/month)
2012	**1.714**	$112.61	$4.20 (35 cents/month)
2013	**1.782**	$117.08	$4.47 (37 cents/month)
2014	**1.840**	$120.89	$3.81 (32 cents/month)
2015	**1.913**	$125.68	$4.79 (40 cents/month)
2016	**1.978**	$129.95	$4.27 (36 cents/month)
2017	**2.038**	$133.90	$3.95 (33 cents/month)
2018	**2.100**	$137.97	$4.07 (34 cents/month)
2019	**2.165**	$142.24	$4.27 (36 cents/month)
2020 (proposed)	**2.230**	$146.51	$4.27 (36 cents/month)

Note: CWD's ten (10) year annual average (2011-2020) increase is $4.16/family per year.

COMPARATIVE RETAIL WATER RATES
Survey Compiled December 2018

The following list represents the cost per 1000 gallons and the annual cost for the Chittenden County average household occupancy (2.4 people per home) multiplied by 75 gallons per day per person for an average household usage of 65,700 gallons per year. The annual cost of water reflects individual characteristics of the communities water rates, i.e. any base rate per quarter, incremental rates based upon usage, or any minimum charges.

Water System	Total Cost per 1,000 Gallons (Including any Base Rates)	Annual Cost Average Family
CWD Wholesale (Uniform Rate)	$2.165	$142.24
Village of Essex Junction	**$3.86**	$253.60
City of South Burlington	**$3.98**	$261.49
Colchester Town	**$4.45**	$292.37
Malletts Bay Water Company	**$4.45**	$292.37
Colchester Fire District #2	$4.58	$300.91
Colchester Fire District #3	**$5.01**	$329.16
City of Winooski	**$5.17**	$339.67
Town of Williston	**$5.18**	$340.33
Town of Essex	**$5.42**	$356.09
City of Burlington	$5.76	$378.43
Town of Milton	**$6.48**	$425.74
Town of Shelburne	**$6.65**	$436.91
****Village of Jericho**	**$3.27**	$214.84
*****Colchester FD#1**	**$3.45**	$226.67

***Bolded water systems are served by CWD**

Note: The annual average retail cost of water is $332.77 for **10** of the 12 above "**bolded**" CWD served municipal water systems for a family using 65,700 gallons per year. Of this $332.77 average annual family cost, $142.24 (43%) is paid to CWD for the uniform wholesale purchase price, and the remaining dollars is retained by the respective CWD served water system.

**Village of Jericho – Rate does not include Village Tax Rate assessment charge. Not included in average listed in above Note.

***Colchester FD#1 - Rate does not include bond special assessment charge. Not included in average listed in above Note.

CWD UNIFORM WHOLESALE INCREASE IMPACT ON SERVED MUNICIPAL SYSTEMS
FY 2019 - 2020

The following list represents the cost per 1,000 gallons and the annual cost for the Chittenden County average household occupancy (2.4 people per home) multiplied by 75 gallons per day per person for an average household usage of 65,700 gallons per year. The annual cost of water reflects individual characteristics of the communities water rates, i.e. any base rate per quarter, incremental rates based upon usage, or any minimum charges. Assumes average family uses 180 gallons/day (75gpd/person) for a total of 65,700 gallons per year. Therefore, "CWD" increase is: $2.165/1000 gallons to $2.23/1000 gallons = 0.065 cents/1000 @65,700 gallons/year = $4.27/year or 36 cents/month.

CURRENT WHOLESALE RATE			PROPOSED CWD RATE INCREASE		
$2.165/1000 Gallons			For New Wholesale Water Rate of $2.23/1000 Gallons		
Water System	December 2018 Retail Rate/1000 Gallons	Current Annual Average Family Cost	For New Wholesale Water Rate of $2.23/1000 Gallons	New Annual Average Family Cost	Estimate of Retail Rate Increase if CWD Increase Passed on 100%
Village of Essex Junction	**$3.86**	$253.60	**$3.93**	$257.87	1.68%
City of South Burlington	**$3.98**	$261.49	**$4.05**	$265.76	1.63%
Malletts Bay Water Company	**$4.45**	$292.37	**$4.52**	$296.64	1.46%
Colchester Town	**$4.45**	$292.37	**$4.52**	$296.64	1.46%
Colchester Fire District #3	**$5.01**	$329.16	**$5.08**	$333.43	1.30%
City of Winooski	**$5.17**	$339.67	**$5.24**	$343.94	1.26%
Town of Williston	**$5.18**	$340.33	**$5.25**	$344.60	1.25%
Town of Essex	**$5.42**	$356.09	**$5.49**	$360.36	1.20%
Town of Milton	**$6.48**	$425.74	**$6.55**	$430.01	1.00%
Town of Shelburne	**$6.65**	$436.91	**$6.72**	$441.18	0.98%
**Village of Jericho	**$3.27**	$214.84	**$3.34**	$219.11	1.99%
***Colchester Fire District #1	**$3.45**	$226.67	**$3.52**	$230.94	1.88%
Served System Annual Average	**$4.78**	**$314.10**	**$4.85**	**$318.37**	**1.36%**
CWD's Portion of Total Annual Average Retail Bill	**$2.165**	**$142.24**	**$2.230**	**$146.51**	

Proposed July 1, 2019 Annual average CWD Wholesale cost per family = $146.51/year @ 2.23/1000 gallons

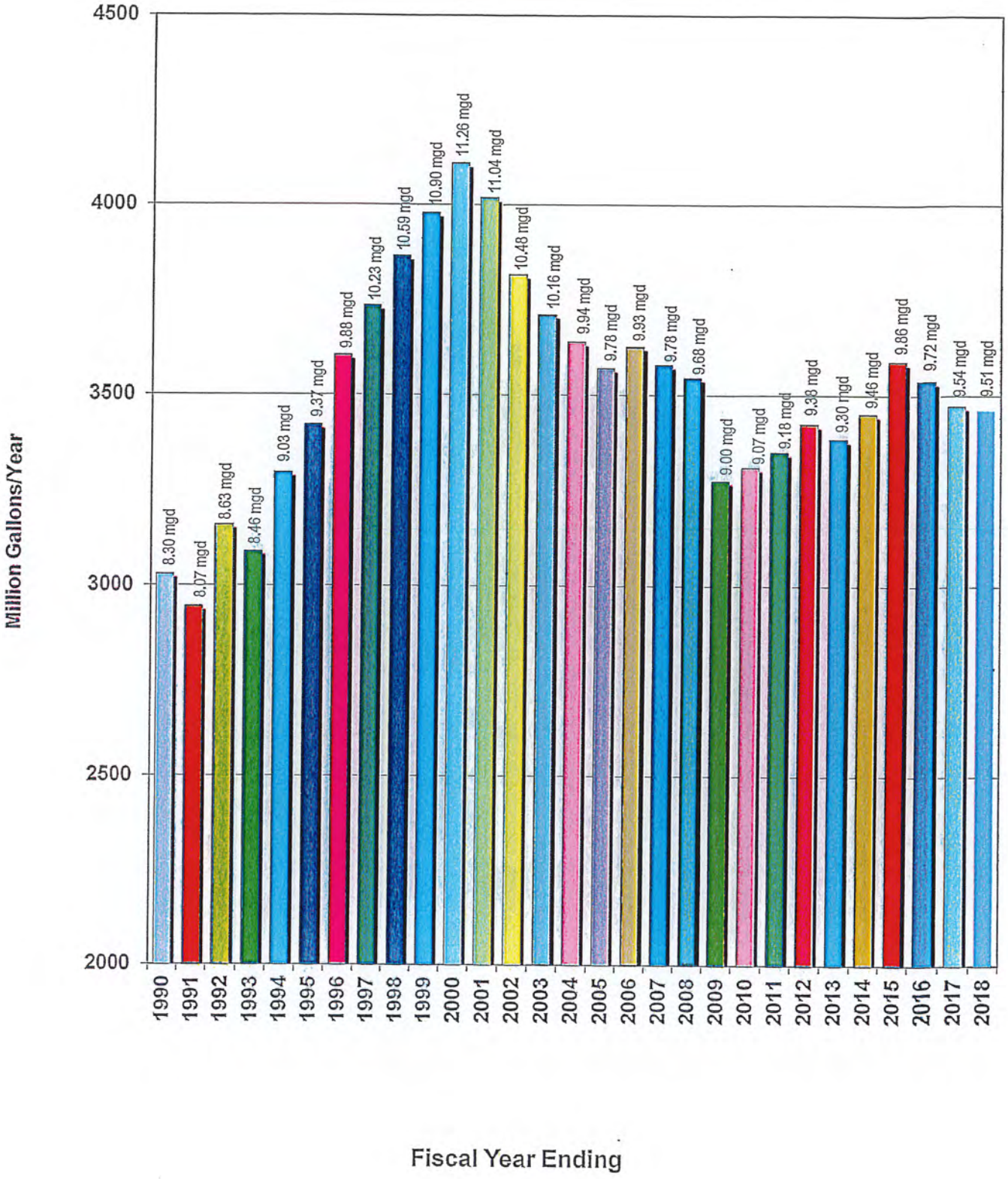
Proposed July 1, 2019 Annual percentage CWD Wholesale cost to average retail family cost of $318.37 year = 46%

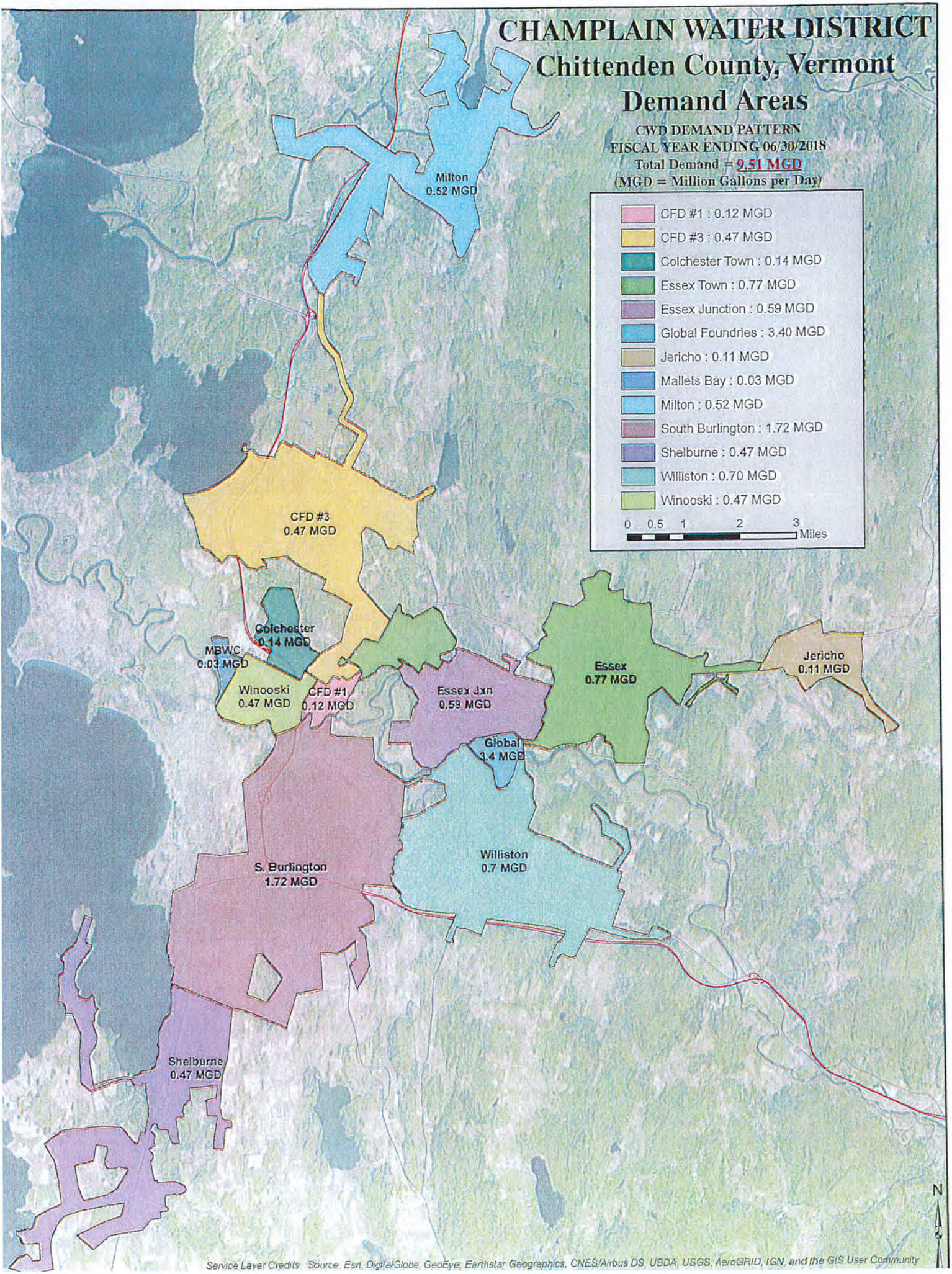
Proposed July 1, 2019 @ $2.23/1000 gallons increases average family cost an additional $4.27/year or 36 cents per month

****Village of Jericho – Rate does not include Village tax rate assessment charge**

*****Colchester Fire District #1 - Rate does not include bond special assessment charge**

Champlain Water District
Annual Water Sales




CHAMPLAIN WATER DISTRICT
Chittenden County, Vermont
Demand Areas
CWD DEMAND PATTERN
FISCAL YEAR ENDING 06/30/2018
Total Demand = 9.51 MGD
(MGD = Million Gallons per Day)
CFD #1 : 0.12 MGD
CFD #3 : 0.47 MGD
Colchester Town : 0.14 MGD
Essex Town : 0.77 MGD
Essex Junction : 0.59 MGD
Global Foundries : 3.40 MGD
Jericho : 0.11 MGD
Mallets Bay : 0.03 MGD
Milton : 0.52 MGD
South Burlington : 1.72 MGD
Shelburne : 0.47 MGD
Williston : 0.70 MGD
Winooski : 0.47 MGD
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Miles
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CFD #3
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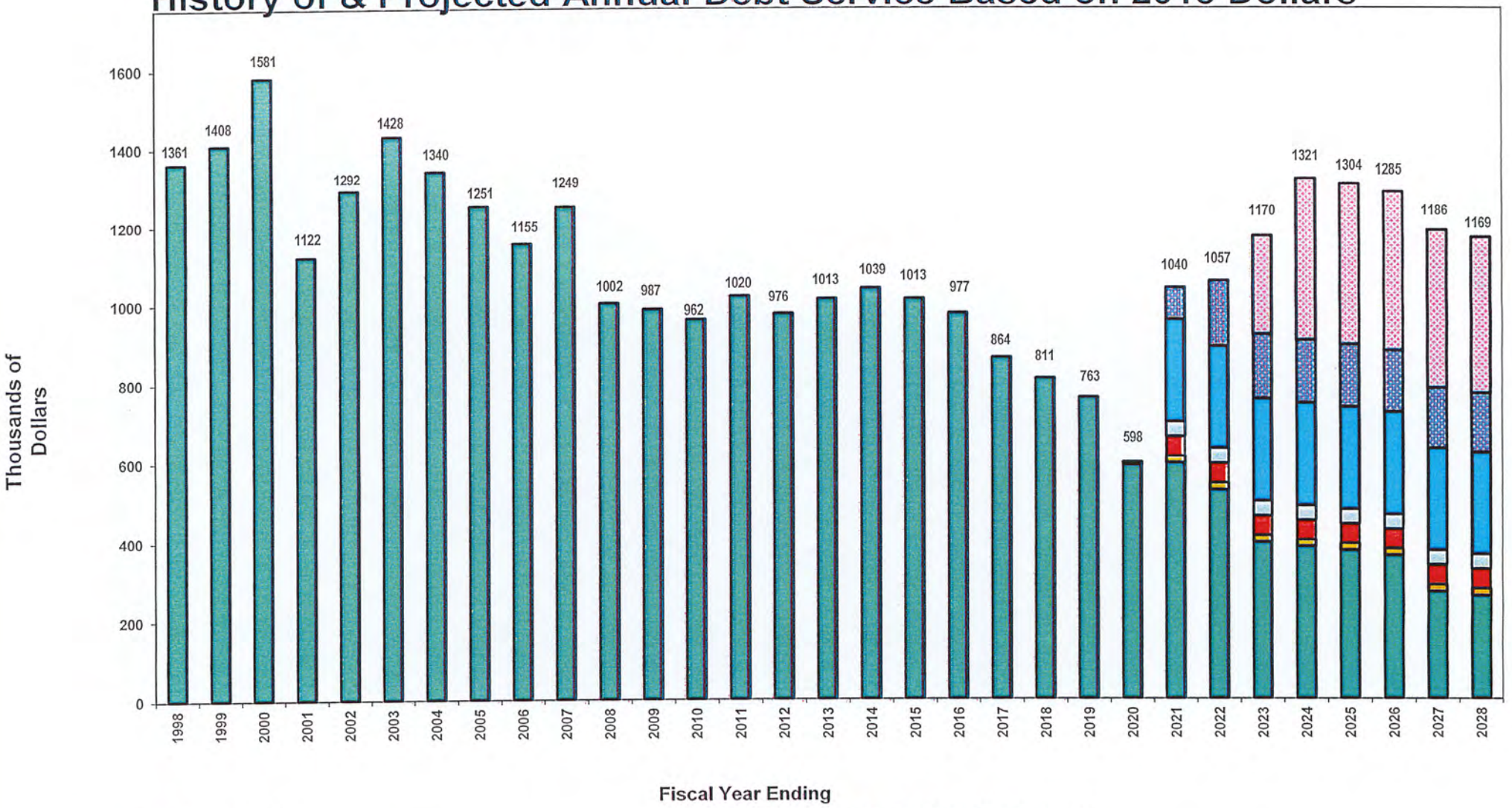
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Champlain Water District

History of & Projected Annual Debt Service Based on 2018 Dollars



Memorandum

To: Trustees; Selectboard

From: Evan Teich, Unified Manager; Sarah Macy, Finance Director/Assistant Manager; Greg Duggan, Deputy Manager GSD

Re: Planning for June 22 Strategic Advance work session

Date: May 31, 2019

Issue

The issue is for the Trustees and Selectboard to prepare, with Jen Knauer, for the Strategic Advance work session on June 22.

Discussion

Jen Knauer will moderate the Strategic Advance on June 22. She will also attend the June 3 meeting to prepare for the Strategic Advance with the Trustees and Selectboard, to make sure everyone has the same expectations and to ensure that the boards and staff can dive right into work on June 22. A draft agenda is attached for review and discussion.

Cost

N/A

Recommendation

This memo is for discussion purposes.

To: **Greg Duggan, Deputy Manager**
Essex Manager's Office
81 Main Street, Essex Jct., VT 05452
Gduggan@essex.org

From: **Jennifer Knauer**
Jennifer Knauer, LLC
50 Snowflake Drive, Jericho, VT 05465
jenknauer@gmail.com / 802.355.4468

Date: **30 May 2019**

Re.: **Preparation for Strategic Advance – for June 3rd Joint Board/Trustee Packet**

Menu of Potential Agenda Topics

A. Opportunity to hear from staff – current status & update from Department Heads, day-to-day experience. *Series of brief presentations, Q&A.*

B. Articulate shared rationale / vision for merger. Follow up as needed to understand interests and explore reservations. *Silent easel sheet activity, full group discussion, identification of trends & next steps.*

C. Define division of roles and responsibilities: staff (analysis & technical review), elected officials (guide, assess, inform). *Full group discussion.*

D. Map tasks, key decision points and time-line leading up to November 2020. *Managers office will provide framework to initially respond to – participants will actively make adjustments and suggestions, etc.. This work will inform the development of a more detailed work plan following June 22nd. Activities may include small group prep, large group discussion, and visuals.*

E. Determine how decisions will be made. How will input operate in this process? Who is making what decisions? Once a decision is made, what are the expectations for how each participant will represent it? What is the recourse/process if a participant does not like the decision or has second thoughts after it is made? *Full group discussion.*

F. Confirm communication plan, including role or media, spokespeople, source(s) of updated & reliable information. *Time-willing. This activity may need to be delegated to a small committee or to a joint meeting after the Advance.*

G. Board / Trustee Discussion to digest the activity of the day and clarify next steps. This will include a recap of support, resources and leadership coaching that will be available throughout merger process. *Open discussion. Facilitation available if needed.*

Potential Preparation for Participants – to consider in advance:

1. What can we achieve together if we merge? (Jot down a few key ideas from the perspective of your role – board or trustee member, department head, staff)
2. What sources of resistance to merging are you most concerned about? (Ex. Topics, dynamics, anticipated Q's from constituents, etc.)
3. Discuss how public comment periods should be handled on June 22nd: timing, method, written comment cards, etc.

Memorandum

To: Essex Selectboard, Village Trustees, Evan Teich, Unified Manager
From: Dana Hanley, Community Development Director
Cc: Greg Duggan, Sharon Kelley, Darren Schibler, Robin Pierce, Greg Morgan
Re: Town and Village Development Fee Alignment
Date: May 13, 2019

Issue

Town and Village Community Development Departments are considering the potential for aligning development fees. This will provide information to help the boards decide if this is an area the departments should further explore.

Discussion

Development fees are generally categorized as: 1) Administrative (building permits, certificates of occupancy); 2) Fees for review by a deliberative board or commission (site plan, subdivision); and 3) Impact fees, which are assessed on new development to cover incremental costs imposed on municipal services (recreation, schools, transportation, etc.).

The Town and Village fee schedules vary significantly. There are differences in how fees are calculated, as well as in the general rates for a given type of development. For example, the Town charges the builder of a 1,800 sq. ft. single family house $500.00 for a building permit; whereas in the Village this would only set the builder back $200.00. Similarly, the builder of a 12,000 sq. ft. commercial building in the Town pays $3,000 for a building permit; whereas in the Village this fee would only be $1,200. These disparities arise because the Town calculates fees based on construction costs, while the Village calculates them based square footage/ number of units. This can cause confusion for developers working in both municipalities. The fees could be aligned and streamlined to increase customer service and eliminate confusion and cost inequities.

Development fees are relatively low in both the Town and Village in comparison to other municipalities (see the comparison chart provided by Darren Schibler). There are two ways to look at this: 1) By having fees that are relatively low, Essex Town and the Village are both being 'customer-friendly' for economic development purposes; or 2) The community is failing to capture important revenues.

If the boards approve, staff could begin efforts to update and align the fees. It hasn't been done since 2006 in the Town and 2017 in the Village. Five years is generally considered a good interval for fee updates. Staff recommends a two-phase approach:

Phase 1: Align the administrative and deliberative fees. The Community Development Departments would create a proposal for parity between the two fee schedules, which would be considered by the two legislative bodies.

Phase 2: The second phase would examine impact fees. This is a whole different kettle of fish. A fully updated impact fee protocol across both municipalities and several departments, done in accordance with statutory requirements, will be both complex and costly. It will require a full study of capital costs based on total anticipated development, and an equitable distribution of those costs among all future development that will benefit from the various municipal services. If the two municipalities were to fully merge, or combine certain departments, new impact fee studies likely would be required, even for current fees. The studies and fees could be very different under the various governance structures being considered.

Cost

Phase 1 would involve no costs to the municipalities other than staff time.

Phase 2 would involve costs to pay for impact fee studies. The studies may reveal significant untapped sources of future municipal revenue.

Recommendation

Staff recommends that the boards authorize Phase 1, to align and update the administrative and deliberative development fees between the Village and the Town.

To avoid unnecessary spending, staff recommends that the boards postpone Phase 2, impact fee alignment, until the community's future governance structure is better defined.

Cheat Sheet for Abbreviations in Development Fees Matrix

ECC	Estimated Construction Cost
k	1,000 ($1k = $1,000)
res	Residential
com	Commercial
ind	Industrial
sf	Square Feet
DU	Dwelling Unit
SFH	Single-Family Home
MFH	Multi-Family Home
BR	Bedroom
admin	Administrative
PUD	Planned Unit Development
PC	Planning Commission
DRB	Development Review Board
ZBA	Zoning Board of Adjustment
ZA	Zoning Administrator

Administrative	Zoning Permit - Residential	*Typical new home (1,800 sq. ft., $200k)*	Zoning Permit - Commercial	*Typical new commercial (12k sq.ft., $1mil)*	Minimum permit	Addition/ Renovation	Accessory Dwelling	Site Plan - Admin	Peddler's license	Demolition	After-the-fact	Violation	Extension/ Renewal	Certificate of Occupancy
Bolton	$50-100 + $0.11-0.22/sf	*$248.00*	$250 + $0.05-0.15/sf	*$1,150.00*		Same for new	$50 + $0.11/sf	$100.00			2X permit fee	2X permit fee	50% of original	$50.00
Burlington[1,2]	$80.00	*$80.00*	$80.00	*$80.00*		Same for new		$80.00			2X permit fee	3X permit fee		$30 + 10% all app fees
Charlotte	$1000; $1500 for 5+ BR	*$1,000.00*		*$0.00*		$150-350	$250.00						$50.00	$150.00
Colchester	$75 + $0.50/sf	*$975.00*	$75 + $0.72/sf	*$8,715.00*	$75.00	$8 per $1k ECC	$150.00		$80.00	$110.00	2X permit fee	Civil penalty	$20.00	$75-175
Essex	$2.50 per $1k ECC	*$500.00*	$3.00 / $1k ECC	*$3,000.00*	$50.00 res; $100.00 comm	Same for new				Same as new		Civil penalty	$50.00	$85.00
Essex Junction	$200/unit	*$200.00*	> of $150 or $0.10/sf; $10k cap	*$1,200.00*	varies	$50-100	$100.00		$25.00	$150.00	2X permit fee	Civil penalty		$35.00
Hinesburg	$0.40/sf	*$720.00*	$0.50/sf	*$6,000.00*		Same for new	$0.30/sf				1.5X permit fee	2X permit fee	$25.00	$0.00
Huntington	$0.10/sf	*$180.00*		*$0.00*	$20.00	$0.10/sf living space, $15 other	$0.10/sf or $20 min							included in permit fee
Jericho	$450-700/Dwelling	*$700.00*	$500 + $5/100sf	*$1,100.00*	$35.00	> of $0.14/sf or $75/room	$150 + $5/100sf						$35.00	$75.00
Milton	$250/unit + $0.10/sf	*$430.00*	$250/unit + $0.20/sf	*$2,650.00*		$50.00		$100.00		$25.00			$25.00	$35-50 plus late fees
Richmond	$0.20/sf	*$360.00*	$0.30/sf	*$3,600.00*	$40.00	Same for new		$60.00			2X permit fee			$10.00
Shelburne	$0.40/sf	*$720.00*	$0.35/sf	*$4,200.00*	$400 res; $500 comm	> of $50 or $0.30/sf	> of $50 or $0.30/sf	$150.00	$15-$50				$40.00	$50.00
South Burlington	$0.45 per sf	*$810.00*	$0.35 per sf	*$4,200.00*	$30.00	$5.00 / $1k ECC		$140.00	$70+/mo; $700/yr	$50.00	permit fee + 50%	permit fee + 100%		$140.00
St. George	$520.00	*$520.00*	1% ECC	*$10,000.00*		Same for new	$170.00				permit fee + 25%	permit fee + 50%		$10.00
Underhill	$0.50/sf	*$900.00*	$0.50/sf	*$6,000.00*		Same for new		$100.00			2X permit fee	2X permit fee	$50.00	$75.00
Westford	$0.50/sf	*$900.00*	$0.50/sf	*$6,000.00*	$50.00	Same for new		$175.00			2X permit fee	2X permit fee		$75.00
Williston	$5.00 per $1k ECC	*$1,000.00*	$5.00 per $1k ECC	*$5,000.00*	$30.00	Same for new			$75/year; $25/quarter		1.5X permit fee	2X permit fee	$50.00	$100 - $200
Winooski[3]	$90 + $0.10/sf + $100-750 + $0.10/sf	*$950.00*	$90 + $0.15/sf + $100-750 + $0.12/sf	*$2,550.00*		Same for new		$90 + $0.25/sf	$25.00	$100.00				$100.00
Average		$621.83		$3,635.83										

Notes

1	Base fees used; other factors may trigger additional fees	3	Includes zoning (top line) and building (bottom line) permit fees
2	Some fees may be combined in calculating total		Fees may or may not include standard recording fees ($10-15)

Abbreviations

DU	Dwelling Unit	com	Commercial	sf	Square Feet
ECC	Estimated Construction Cost	ind	Industrial		
res	Residential	k	Thousand ($1k = $1,000)		

Administrative	Home Occupation	Sign	Temporary sign	Fence	Change of Use	Zoning Compliance	Abutter
Bolton		$50.00					$2.00/abutter
Burlington[1,2]		$80.00		$80.00	$80.00	$35.00	
Charlotte	$100.00			$150.00	$100.00	$75.00	
Colchester	$25.00	$75.00	$20/mo, $50/yr	$50.00		$15-100	Included in application fee
Essex	$85.00	$85.00			$85.00	$25.00	$6.56 per abutter
Essex Junction	$35.00	$25-35	$0.00		$150.00	$25.00	
Hinesburg		$25.00			$0.00	$50.00	
Huntington		$15.00			$20.00		
Jericho	$35.00	$50.00			$100.00		$75 + USPS rate/abutter
Milton		$35.00					
Richmond						$50.00	
Shelburne	$50.00	$50.00	$10.00			$50/hr	
South Burlington		$55.00	$5.00			$27.00	paid by applicant
St. George	see ZBA	$110.00	$120.00				
Underhill	$50.00	$25.00	$50.00	$15.00	$0.25/sf	$75.00	paid by applicant?
Westford	$65.00						
Williston	$30.00	$30 - $60				$30 - $50	
Winooski[3]		$75.00		$75.00			

Average

Notes			
1	Base fees used; other factors may trigger additional fees	3	Includes zoning (top line) and building (bottom line) permit fees
2	Some fees may be combined in calculating total		Fees may or may not include standard recording fees ($10-15)

Abbreviations					
DU	Dwelling Unit	com	Commercial	sf	Square Feet
ECC	Estimated Construction C	ind	Industrial		
res	Residential	k	Thousand ($1k = $1,000)		

PC/ DRB/ ZBA/ Subdivision	Planning Commission (PC)/Development Review Board (DRB)						Zoning Board of Adjustment (ZBA) /DRB				
	Site Plan	Site Plan Amendment	Simple Parceling	Boundary Adjustment	Other	Appeal PC/DRB	Conditional Use	Home Business	Variance	Appeal Zoning Administrator	Appeal ZBA
Bolton	$350 res; $500 com		see subdivision	see subdivision		$150.00	$350 res; $500 com		$150.00	$150.00	$150.00
Burlington[1,2]	$100 + $6.50 per $1k ECC	$100 + $6.50 per $1k ECC	see subdivision	$100 per lot	$150.00	$250.00	$200 + $1.10 per $1k ECC		$150.00	$250.00	$250.00
Charlotte	$500.00		see subdivision	$300.00	$100.00		$500.00		$500.00	$500.00	
Colchester	$230 res; $350 com	$120.00	see subdivision	$200.00			$140-280		$280.00	$280.00	
Essex	$230.00	$200.00	$150.00	$125.00	$125.00	$250.00	$150.00	$150.00	$150.00	$150.00	$250.00
Essex Junction	varies		see subdivision	$100.00		$100.00	$200.00		$100.00	$100.00	$100.00
Hinesburg	$300 + $100/dwelling; + $0.10-0.25/sf (com)	$300.00	see subdivision	$75.00	$200.00		$300.00		$200.00	$200.00	
Huntington	$60.00		see subdivision	$20.00		$175.00	$175.00		$175.00	$175.00	
Jericho	$150.00	$150.00	see subdivision	$100-150			$150.00	$150.00	$150.00	$150.00	
Milton[3]	$500.00	$200.00	see subdivision	$100.00		$250.00	$250.00		$250.00	$250.00	$250.00
Richmond	$140.00		$100.00	$80 admin; see subdivision			$340.00			$150.00	
Shelburne	$300.00	$300.00	see subdivision			$200.00	$300.00		$200.00	$200.00	
South Burlington	DRB: $275 + $100/DU, + $0.10/sf com		see subdivision	$100.00	$110.00		$165.00		$165.00	$220.00	per hour
St. George			see subdivision	see subdivision		$575.00	$575.00	$575.00	$575.00	$575.00	
Underhill	$150.00		see subdivision	see subdivision			$150.00		$150.00	$150.00	
Westford	$325.00	$325.00	see subdivision	$325.00			$325.00		$325.00	$325.00	
Williston	$350.00	$100.00	see subdivision	$100.00		$130.00		$30.00			
Winooski	$150-175 + $180 for public hearing	$150-175 + $180 for public hearing	see subdivision	see subdivision		$100 res; $150 com					

Notes

1	Base fees used; other factors may trigger additional fees
2	Some fees may be combined in calculating total (e.g., application & development review fee)
3	Milton's subdivision fees depend on the scale of the application; here, preliminary = minor and final = major

Abbreviations

DU	Dwelling Unit	com	Commercial	sf	Square Feet
ECC	Estimated Construction Cost	ind	Industrial		
res	Residential	k	Thousand ($1k = $1,000)		

PC/ DRB/ ZBA/ Subdivision	Subdivision								
	Conceptual/ Pre-application	Sketch - Base	Sketch - per lot/unit	Preliminary - base	Preliminary - per lot/unit	Final - base	Final - per lot/unit	Final Plan Amdmt - base	Final Amdmt - per lot/unit
Bolton				$350.00	$30.00	$600 PUD; $230 others	$30.00		
Burlington[1,2]		$250-300		$200.00	$5 per $1k ECC	$210.00	$5 per $1k ECC	$210.00	$5 per $1k ECC
Charlotte		$50.00	$0.00	Minor: $600	Minor: $300	Major: $1000	Major: $500	$300-500	$150.00
Colchester		$250.00		$350.00	$100 res; $125 com	$350.00		$350.00	
Essex	$125.00	$125.00		$125.00		$100.00 per unit	$100.00	$150.00	
Essex Junction	$50/lot (res), $0.10/sf (com)	$0.00	$50/lot (res), $0.10/sf	$0.00	$50/lot (res), $0.10/sf (com)	$0.00	$100/lot (res), $0.15/sf (com)	$200.00	
Hinesburg		$200.00	$0.00	$300.00	$100.00	$400.00	$200.00	$50-300	
Huntington		$0.00	$0.00	$75.00	$0.00	$175.00	$30 if over 3		
Jericho	$100.00	$250.00	$100.00	$500.00	$100.00	$250.00	$100.00	$150.00	
Milton[3]		$100.00		$600.00		$850.00		$250 minor; $300 major	
Richmond	$80 admin subdiv review	$0.00	$0.00	$340-440	$50.00	$340.00	$100.00	$140.00	
Shelburne		$200.00	$25.00	$500.00	$50.00	$400.00	$50.00	$400.00	$50.00
South Burlington		$350.00	$25-50 (res); $0.02/sf	$500.00	$50 (res); $0.03-$0.05/sf (comm)	$500.00	$25-50 (res); $0.02-$0.03/sf (com)		
St. George					PUD: $100/DU; $10/sf com		$550.00		
Underhill		$100.00			$100.00	$300.00	$100.00		
Westford		$175.00		$500.00		$800.00	$50 (minor); $100 (major)	$325.00	
Williston	$150.00	$350.00	$100 if> 3	$100.00		$350.00		$100.00	
Winooski						$180 for warning	$300 for 1-2; $150 for 3-9; $125 for 10+		

Notes

1	Base fees used; other factors may trigger additional fees
2	Some fees may be combined in calculating total (e.g., application & development review fee)
3	Milton's subdivision fees depend on the scale of the application; here, preliminary = minor and final = major

Abbreviations

DU	Dwelling Unit	com	Commercial	sf	Square Feet
ECC	stimated Construction Co	ind	Industrial		
res	Residential	k	Thousand ($1k = $1,000)		

Impact Fees	Roads			Recreation			School			Fire		
	Single-family residential	Multi-family residential	Commercial/ Industrial	Single-family residential	Multi-family residential	Commercial/ Industrial	Single-family residential	Multi-family residential	Commercial/ Industrial	Single-family residential	Multi-family residential	Commercial/ Industrial
Bolton	Road cut: $25; Curb cut: $50											
Burlington (per 1k sf)[1]	$196.00	$196.00	$676 com; $262 ind; $736 retail	$743.00	$725.00	$422 ind; $422 com	$961.00	$961.00	$0.00	$222.00	$222.00	$196 ind; $199 com
Charlotte												
Colchester[1]				$1,247.00	$923.00	$0.00	$600 / bedroom	$600 / bedroom	$0.00			
Essex[2]	Based on nearest intersection(s); generally $150-300/PM trip			$628.00	$473.00	$0.00						
Essex Junction												
Jericho	$2,498.00	$1,667.32	$0.00	$150.00	$150.00							
Hinesburg[2]										$3.20 / $1000 value		
Huntington												
Milton[3]	$968.66	$990.60	$0.00	$968.66	$990.60	$0.00	$1,320.90	$165.10	$0.00	$440.30	$330.20	$0.00
Richmond	$100-200	$100-200	$100-200							$218.00	$153.09	$0.11/sq.ft.
Shelburne[1,2]				$1,864.00	$1,017.00	$0.00	$3,015.00	$1,044.00				
South Burlington[2]	$1,009.86	$669.91	$999.86/PM trip	$1685.67 (if 1-3 dwellings)	$1179.97 (if >4 dwellings)	$0.00				$304.85	$192.96	$0.67 per $1,000 value
St. George	Road/curb access: $95											
Underhill												
Westford	$85 Curb cut fee											
Williston	$707.00	$546.00	$700/PM trip	$1,700.00	$1,343.00	$0.00	$4,076.56	$1,393.48				
Winooski												

Abbreviations

sf = square feet

res = residential

com = commercial

ind = industrial

k = 1,000 ($1k = $1,000)

	Notes
1	Waivers may apply for affordable housing, senior housing, conservation, etc.
2	Credits may be applied against impact fee
3	Milton's impact fees are charged as an aggregate, but are broken down here by category (except General Admin/Planning); also, single-family is used for 2+ bedroom DUs; multi-family is used for elderly and 1-bedroom DUs
	Commercial/Industrial fees are per 1,000 SF except where otherwise noted
	Residential fees are per dwelling unit except where otherwise noted
	Water & Sewer figures show connection and service fees for new development

Impact Fees	Police			Library			Water Connection			Sewer Connection		
	Single-family residential	Multi-family residential	Commercial/ Industrial	Single-family residential	Multi-family residential	Commercial/ Industrial	Single-family residential	Multi-family residential	Commercial/ Industrial	Single-family residential	Multi-family residential	Commercial/ Industrial
Bolton												
Burlington (per 1k sf)[1]	$44.00	$44.00	$351.00	$460.00	$460.00	$0.00						
Charlotte							$500.00			combined with water		
Colchester[1]												
Essex[2]							$1000 + $5.73 per gallon per day			$1000 + $10.30 per gallon per day		
Essex Junction							varies			$1000 per new unit		
Jericho												
Hinesburg[2]	$156.45/ bedroom	$156.45/ bedroom	$223.50 per 1000 sq.ft.				$2000 + $29.20 per gallon per day			$1000 + $29.20 per gallon per day		
Huntington												
Milton[3]	$352.24	$330.20	$0.00									
Richmond							$50.00			$1,000.00		
Shelburne[1,2]							$1,500.00	$1,500.00	$3,000.00	$50 + $16.31 per gallon per day		$75 + $16.31 / gallon per day
South Burlington[2]	$503.88 (if 1-3 dwellings)	$352.72 (if >4 dwellings)	$237.76 per 1000 sf				$329.56 (Dorset St. only, based on calculation for 2018)					
St. George												
Underhill												
Westford												
Williston												
Winooski												

Abbreviations

sf = square feet

res = residential

com = commercial

ind = industrial

k = 1,000 ($1k = $1,000)

	Notes
1	Waivers may apply for affordable housing, senior housing, conservation, etc.
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	Commercial/Industrial fees are per 1,000 SF except where otherwise noted
	Residential fees are per dwelling unit except where otherwise noted
	Water & Sewer figures show connection and service fees for new development

Memorandum

To: Essex Selectboard; Village Trustees; Evan Teich, Unified Manager
From: Dana Hanley, Community Development Director
Cc: Greg Duggan, Sharon Kelley, Darren Schibler, Robin Pierce, Greg Morgan
Re: Town and Village Housing Needs Assessment and Action Plan
Date: May 15, 2019

Issue

Review and accept the "Town of Essex and Village of Essex Junction's Housing Needs Assessment and Action Plan".

Discussion

The need for affordable housing in the Town and Village has been a top concern in both Community Development Departments. Action 4.1 in the Town's 2016 Town Plan directs us to do a "Comprehensive Housing Study", otherwise known as a Housing Needs Assessment. Objective 1.9 in the Village's draft 2019 Comprehensive Plan, currently under review, directs the Village to "work towards implementation of the issues identified in the "Housing Needs Analysis and Action Plan". Both departments are on the same page with regard to what needs to be tackled.

The joint "Housing Needs Assessment and Action Plan" was a unique collaboration between the Town and Village Community Development Departments, Regina Mahony at the Chittenden County Regional Planning Commission, and Maura Collins at the Vermont Housing Finance Agency. Because of this collaboration, we were able to do this "in-house" without the need to spend $20,000- $30,000 on expensive outside consultants.

Cost

N/A

Recommendation

Staff recommends that the boards 'accept' the "Town and Village Housing Needs Assessment and Action Plan". At the 'adoption' stage we recommend that the boards take the necessary action to create a joint Affordable Housing Committee.

Town of Essex and Village of Essex Junction
Housing Needs Assessment and Action Plan

Adopted _____, 2019

by the Essex Selectboard and the Essex Junction Board of Trustees

Prepared by the Essex and Essex Junction
Community Development Departments

With assistance from:
Vermont Housing Finance Agency
Chittenden County Regional Planning Commission

Contents

Cover photos, clockwise from top right:

- Highland Village Apartments, 61-69 Pearl Street, Essex Jct. Photo credit Patty Benoit.
- 603 Dalton Drive, condos formerly part of Fort Ethan Allen Officers' Row, Essex. Photo credit Sharon Kelley.
- Thoughtful Growth in Action Working Group. Photo by Greg Duggan.
- Plans for Essex Residences, 5 Freeman Woods. Designed by BlackRock Construction, O'Leary Burke Civil Engineers, and Wiemann-Lamphere Architects.
- 57 Park Street, Essex Jct., by Green Mountain Habitat for Humanity. Photo credit Kyle St. Peter.

1 Executive Summary

The availability of adequate and affordable homes is an important goal for members of the Essex Community (i.e., the entire Town of Essex, including the Village of Essex Junction). However, in recent years, the stock of available homes has not kept up with increases in population and changing demographics at a regional scale. Compared to previous decades, households are becoming smaller and composed of young individuals and couples or seniors. Those households' needs and budgets are mismatched to the homes available in the area, which are often larger and located further from popular destinations. On top of this, household incomes in Essex and Essex Junction suffered a sharp decline around the 2008 recession and have only just recovered, but housing costs have risen during the same time period.

These conditions have resulted in a constricted housing market, where intense competition for homes has inflated rents and sale prices beyond what most households can afford without cutting back on other areas of their budget. Many households feel paralyzed paying high rents for apartments that do not meet their needs, or are not able to save enough for a down payment on a home. Their challenge is compounded by the trend of households aging in place rather than downsizing to condominiums or apartments, further limiting the number of available homes. Households in need of subsidized housing may face long wait lists or limited rent assistance. There is also a shortage of supportive housing for those in need of social services, such as those fleeing domestic violence, struggling with substance abuse, or living with a mental or physical handicap, including those in need of assisted living and/or memory care.

The impacts of the region's housing shortage are not limited to individual household economics – the lack of financial stability and reliable living situations can limit local spending power, discourage investment in the area, and impact public health. In addition, many households have settled in homes further from the nexus of jobs and destinations in the Burlington metro area. This has not only increased traffic congestion and household commuting expenses, it has also contributed to urban sprawl and a lack of community connections.

Though local governments have limited ability to influence larger economic trends, there are several strategies Essex and Essex Junction can use to improve housing options. Public-private partnerships and changes to zoning can encourage a wider range of home sizes or types as well as incentivize development in concentrated urban centers to utilize land more efficiently and better serve the needs of today's households. This could be taken further through inclusionary zoning, which would require that a portion of new homes be made available at rents or prices affordable to specific income levels. However, inclusionary zoning generally works only when there is a sufficient offset to the lost revenue from units sold or rented below market rate. These offsets can include reduced development fees, public investment in certain infrastructure improvements, or grants from a local affordable housing trust fund. All of these strategies would be most effective if overseen by an affordable housing committee or community advocacy group, ideally working jointly at the Town and Village level in coordination with other housing advocates.

Recommended Actions

- **Form a Housing Committee or Commission**
- **Promote wider range of home sizes and types in growth centers**
- **Consider inclusionary zoning**
- **Reduce development fees for affordable housing projects**
- **Establish a housing trust fund**
- **Explore public-private partnerships**

2 Introduction

Housing is a basic need shared by every member of any community, and generally accounts for a large portion of a household's expenses. 24 V.S.A. §4302(c)(11) mandates that regional and municipal plans "ensure the availability of safe and affordable housing for all Vermonters."

In recent years, the lack of affordable housing has become a major issue in Chittenden County, as noted in the *2018 ECOS Regional Plan*. This is reflected in Essex as well, where rents and sale prices are higher than ever, but household earnings have not kept pace. There is a pervasive sense that many citizens struggle to afford homes that meet their needs. This has led to discussion of forming a housing committee. The 2016 Essex Town Plan calls for a study of the community's housing needs within the regional scope of housing that identifies strategies to reduce rising cost burdens for all residents.

This document undertakes a detailed analysis of current and projected trends in home availability and affordability in Essex. Based on that information, it then identifies existing barriers to the provision of affordable homes and provides an action plan with specific measures that the municipality can take to address the identified barriers and meet the goals of 24 V.S.A. §4302(c)(11) and the 2016 Town Plan.

2.1 Goals

It is difficult, if not impossible, for a municipality to control the housing market to meet each citizen's needs, as there are so many variables – construction costs, environmental constraints, financing complexities, income disparities, labor shortages, and demographic changes – that transcend local influence. Essex and Essex Junction cannot solve all of the issues surrounding housing and affordability within their borders. However, municipal programs and actions can make a significant difference in home availability for those in the most need. The Town of Essex and the Village of Essex Junction aspire to ensure that any resident (or aspiring resident) of Essex has access to a home that:

- Is affordable (no more than 30% of household income is spent on housing);
- Is a desirable type and size for their household;
- Is located with easy access to basic needs (jobs, schools, food, health care, and cultural experiences) via walking, biking, or public transit;
- Is of sufficient quality to ensure the health, safety, and enjoyment of its residents;
- Meets special needs, including senior care, ADA-accessibility, recovery housing, chronically homeless, impoverished, etc.
- Is made available regardless of race, religion, sex, sexual orientation, gender identity, age, national origin, pregnancy, disability, or status of citizenship, family, and military service

2.2 Driving Questions

Knowledge of the current conditions and major issues in the housing market is essential to understand how to meet the goals stated above. The Vermont Housing Finance Agency (VHFA) recently updated its HousingData.org website, which hosts data and resources on housing at the state, county, and municipal level. Generally, the housing market can be divided into two types: owner-occupied and rental housing. The following driving questions serve as a guide throughout the report to help navigate the wealth of information:

(A) Housing quantity: Are there enough homes available in Essex to meet the current and future needs of its population?

(B) Housing affordability: Do the home prices or monthly rents match the income levels of the current (and future) population?

(C) Housing quality: Are there adequate, safe, and efficient facilities in the available homes?

(D) Municipal impact: What effects may current housing problems have on the tax base / municipal budget? What impact would solving those problems have?

(E) Barriers and Actions: What barriers currently exist to solving the housing problems in Essex? What actions could be taken to improve the quantity, affordability, and quality of homes in Essex?

2.3 Methods and Data Accuracy

This report generally follows the format of the VHFA's guide to housing needs assessments. Except where noted, data for this report was sourced from American Fact Finder – a clearinghouse for U.S. Census and American Community Survey (ACS) data – as well as from HousingData.org, a website maintained by VHFA that displays selected Census/ACS data for Vermont as well as other datasets not maintained by the Census Bureau. Appendix A contains a list of the Census/ACS table code used to source each dataset.

The Census is a complete count of population, housing, and jobs conducted every ten years. In contrast, the ACS is a survey of a portion (or "sample") of the population averaged over a one-, three-, or five-year survey period to reduce sampling error (at the municipal level in rural areas, 5-year averages are the most common). Because ACS data is an estimate, rather than an actual count like the Census, a margin of error (MOE) is reported with every ACS figure to denote the possible variation in the reported number due to sampling error. The MOE for Census and ACS data is reported at the 90% confidence interval, meaning that there is a 90% chance that the true figure for a given dataset falls within the reported margin of error.

Census, ACS, and VHFA data for the Town of Essex includes the Village of Essex Junction (collectively referred to "the Essex Community"), but in some cases counts the Village separately. This report generally presents the data at progressively larger geographic levels: Village of Essex Junction, Town of Essex (including the Village), and Chittenden County (which includes the Town of Essex and Village of Essex Junction as well as other municipalities).

This report analyzes data from the 2000 Census, the 2010 Census, and the 5-year ACS estimates as of 2010 and 2017 (the most recent available) to understand both long-term and recent trends. Though data for Essex and Essex Junction are generally reliable, accurate data may not be available for some sub-populations due to small sample size. Such instances are noted in the text. .

Some figures presented in this report are derived from ACS estimates, such as vacancy rate or percent of households that are renters vs. owners. All derived estimates, as well as comparisons between Census and ACS data presented in this report, have been tested for statistical validity using methods approved by the U.S. Census Bureau. When data reliability is suspect, it is noted in the text. Appendix B contains full documentation of statistical testing performed for this report.

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3 Population, Demographic, and Housing Stock Trends

Within a community, home availability is a balance between supply (housing stock) and demand (population, specifically number of households competing for housing). Generally, housing costs are high when there is not enough supply to meet demand, and vice versa, though housing cost is also strongly related to household incomes. It is also important to consider the regional context of the housing market, since there are other options for housing outside the municipality's borders.

3.1 Population

The *2018 ECOS Plan*, a regional plan for Chittenden County, reports that the county's population grew by 3% over the five years from 2010 to 2015; this is higher than the growth of the overall state (0.01%) but lower than the nation (4%) over the same time period. The ECOS Plan estimates that the county's population will increase to 172,596 by 2030, a 7.2% increase over 13 years, or 0.54% per year.

The population of Essex has grown steadily over the last 15 years at a slightly higher rate than the county as a whole. More than half of the new growth has been within the Village of Essex Junction, which has grown significantly faster than the county average. Assuming the population s grow at the same rate, by 2030 Essex would add 1,925 people for a total of 22,826; Essex Junction would grow by 1,362 people for a total of 11,494.

Note that these projections, while computed with reliable methods, are still only estimates; actual growth rates may differ due to a variety of factors.

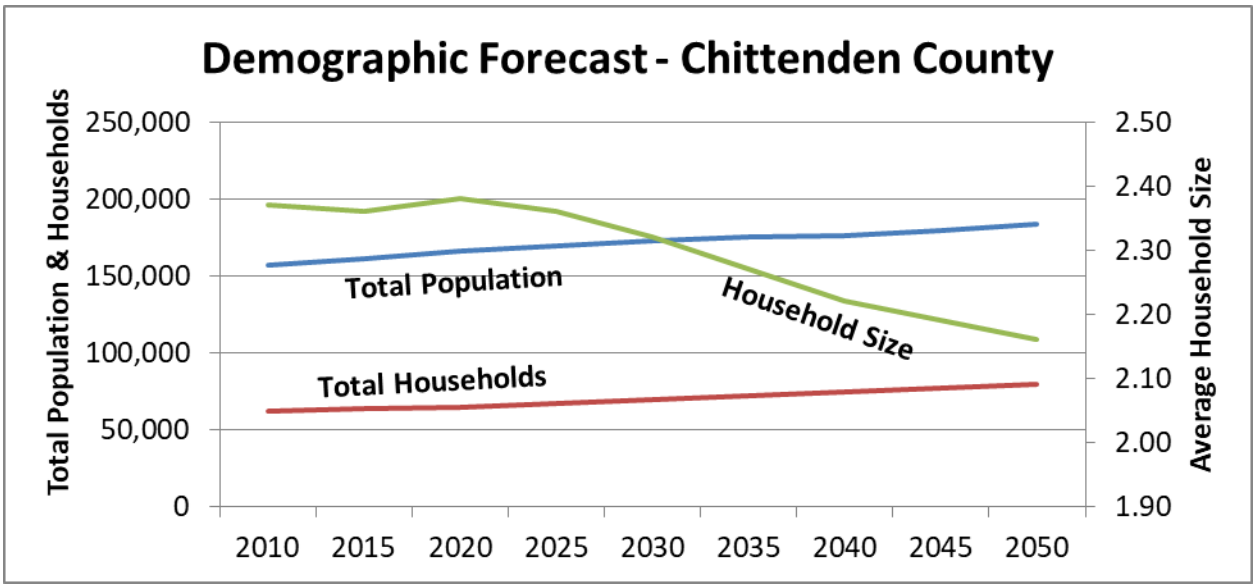
Population	2000	2010	2017	2017 MOE	Avg. Annual Change from 2000	% Change per Year
Chittenden County	145,571	156,545	160,985	N/A	907	0.59%
Essex	18,626	19,587	20,901	+/- 31	134	0.68%
Essex Junction Village	8,591	9,271	10,132	+/- 32	91	0.98%

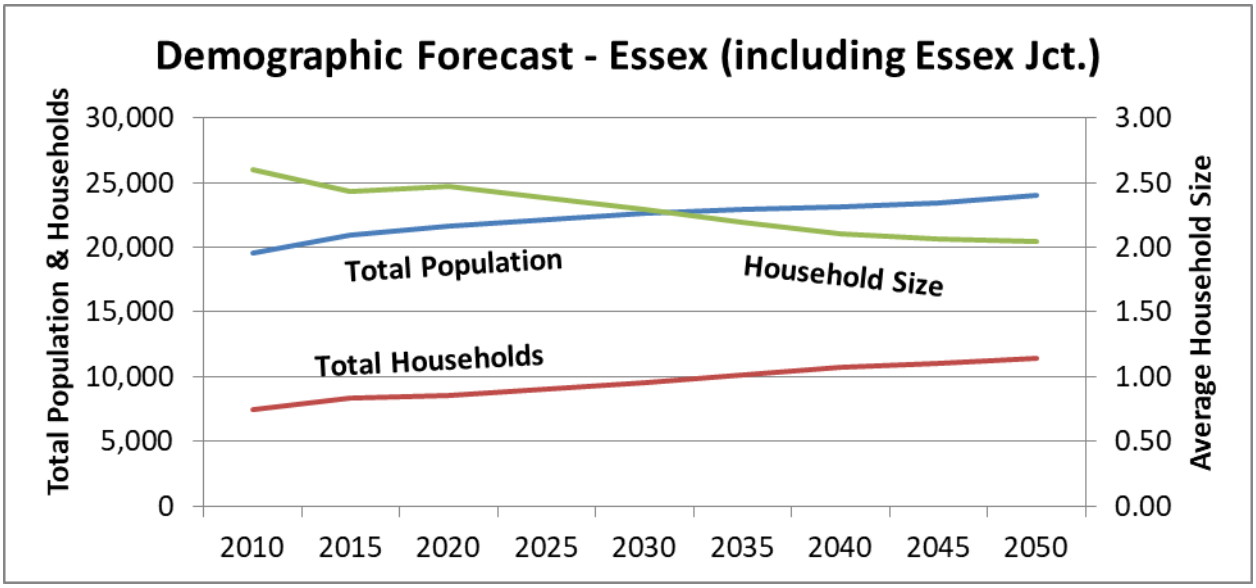
3.2 Households

The demand for homes created by this population increase is evident from an increase in the number of households (groups of people, not necessarily related, who occupy the same dwelling). Again in this metric, growth is higher in Essex, particularly Essex Junction, compared to the county as a whole. Assuming household growth continues at the same rates, the number of Chittenden County households would increase by 7,309 to approximately 72,215 by 2030. In Essex, this growth rate would result in an additional 1,547 households (total of 10,236), of which 852 (more than half) of which would be in Essex Junction for a total of 5,167.

3.3 Household Size

In some communities, an increase in the number of households may be due in part to shrinking household size (the average number of people in a household, including children and dependents). Since 2000, household size in the Village has declined much more significantly than in the county or the Town. Note that the MOE for 2017 data was too high to confirm statistical difference for all geographic areas, but comparisons were valid for 2016 for the county and Town of Essex, so those are used here.





Number of Households	2000	2010	2017	2017 MOE	Avg. Annual Change from 2000	% Change per Year
Chittenden County	56,452	61,827	64,906	+/- 552	497	0.82%
Essex	7,013	7,887	8,689	+/- 233	99	1.27%
Essex Junction	3,409	3,875	4,315	+/- 200	53	1.40%

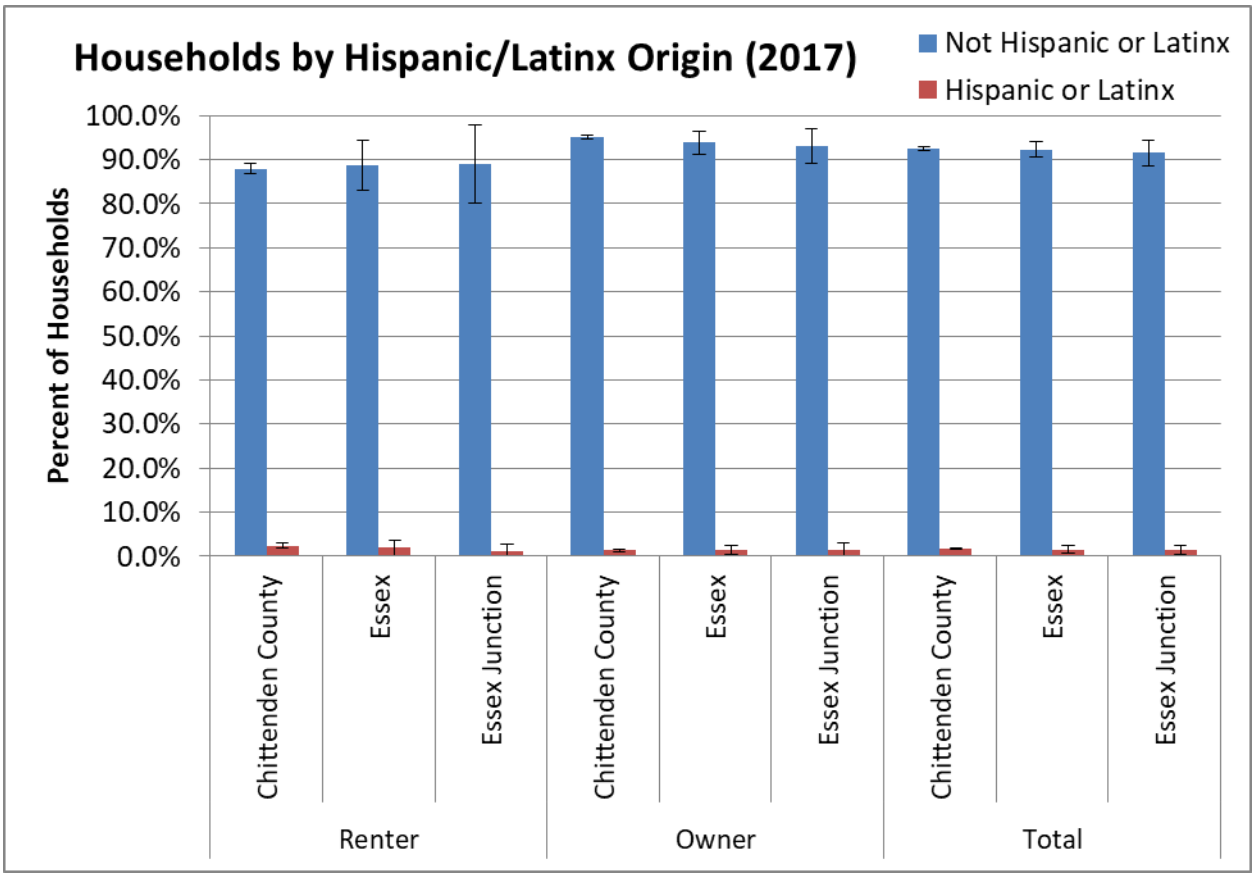
Average Household Size	2000	2016	2016 MOE	Avg. Annual Change from 2000	% Change per Year
Chittenden County	2.47	2.35	+/- 0.02	-0.01	-0.30%
Essex	2.62	2.44	+/- 0.07	-0.01	-0.43%
Essex Junction	2.48	2.38*	+/- 0.11	-0.01	-0.25%

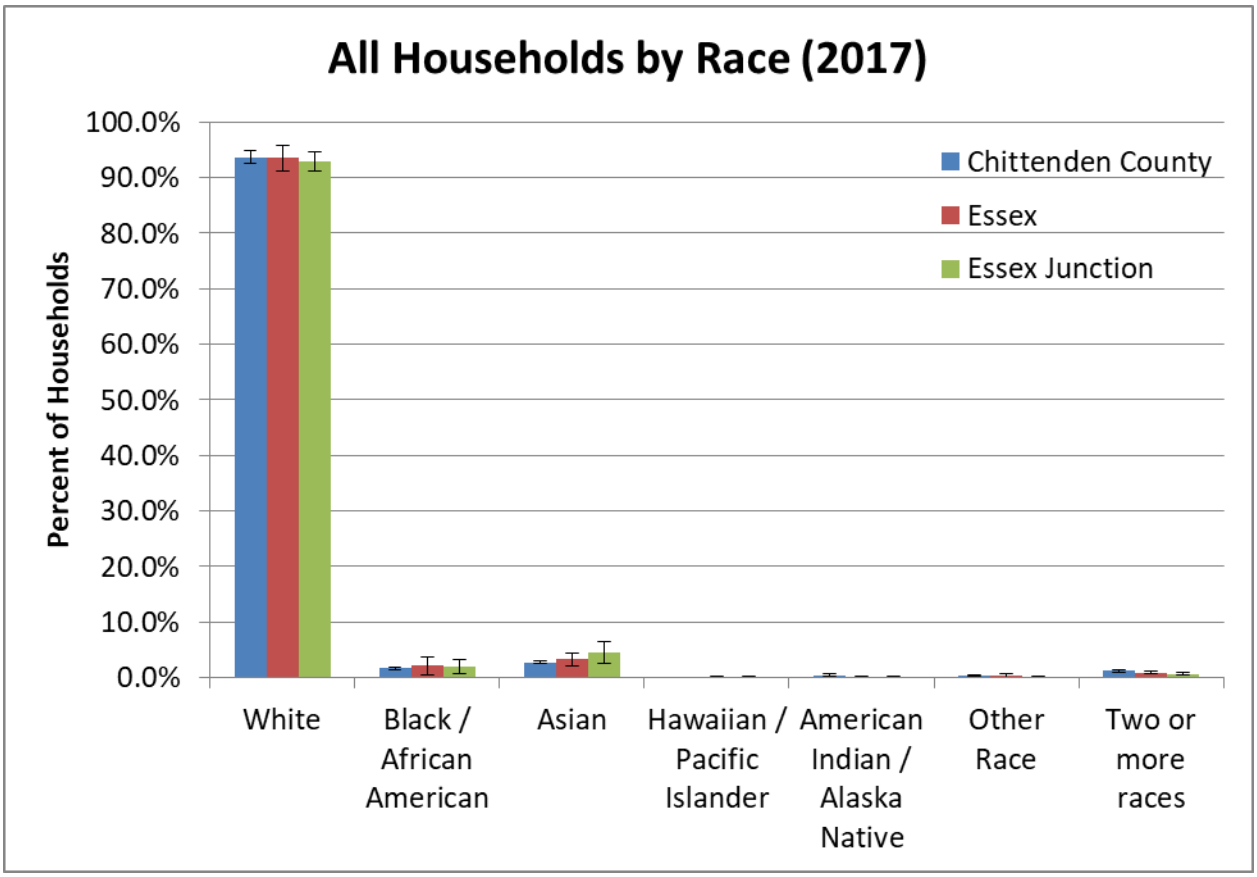
*MOE for this ACS estimate is too high to confirm a statistical difference; however, actual counts from the 2010 Census resulted in a comparable household size of 2.38.

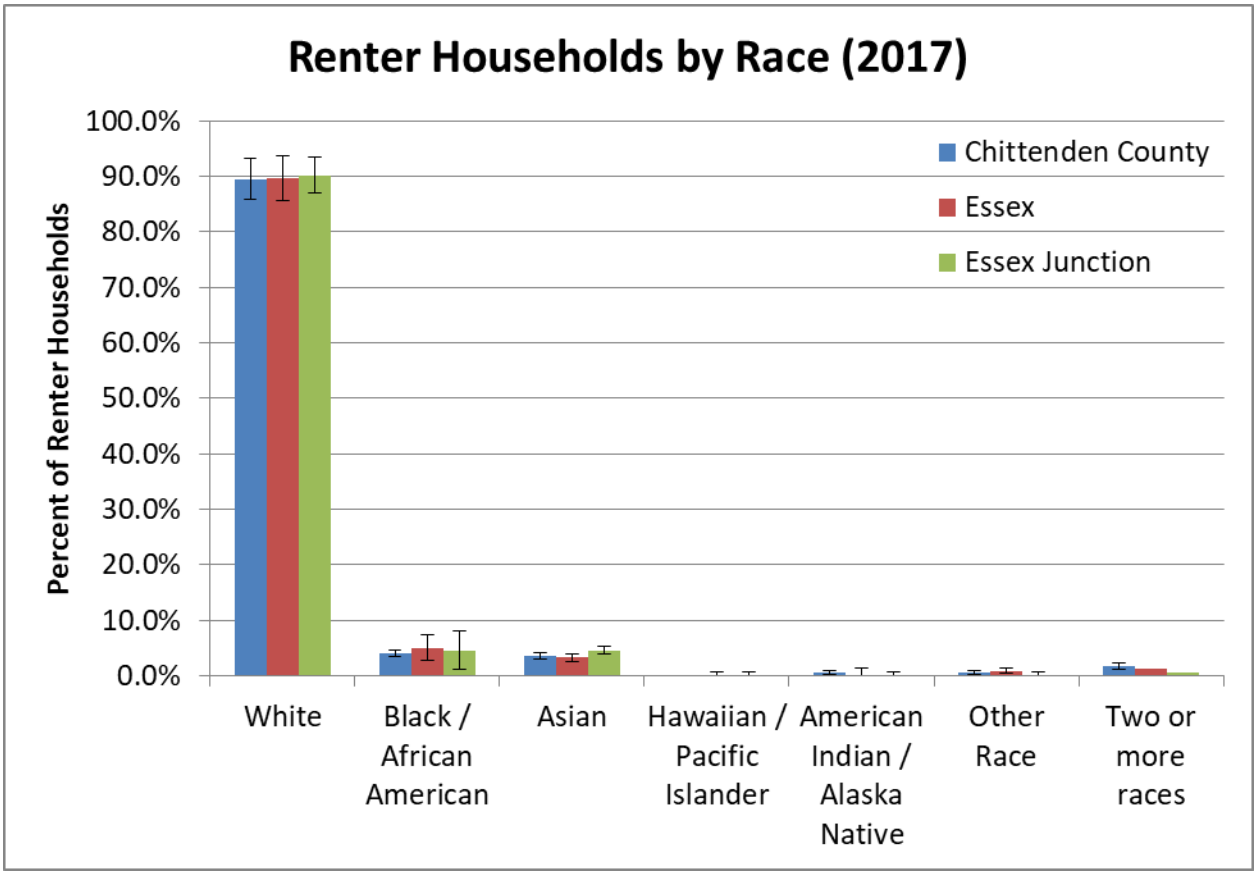
3.4 Race of Householder

Vermont's overall racial and ethnic diversity is quite low compared to most other states – in 2017, 96.3% of Vermont householders were white, with all other races making up the remaining 3.7%. Ethnic diversity is slightly higher in Chittenden County, Essex, and Essex Junction, with non-white races making up about 10% of all householders, primarily composed of people of black / African American or Asian descent (the *2018 ECOS Plan* notes that racial and ethnic diversity is growing in the county). However, the proportion of non-white households is slightly higher among renters than homeowners, which may be an indication of lower affluence among those groups.

The Census and ACS collect information on self-identified race separately from those who identify as Hispanic or Latino / Latina ("Latinx" is used as a collective, gender-neutral term); for example, an individual may identify as both black / African American and Hispanic / Latinx. The latter terms attempt to encompass both those from Spanish-speaking countries across the world ("Hispanic") as well as those specifically from Latin American countries ("Latinx"). In Chittenden County, Essex, and Essex Junction, those who identify as Hispanic or Latinx account for about 8-9% of all households, but again account for a higher proportion of renting households.



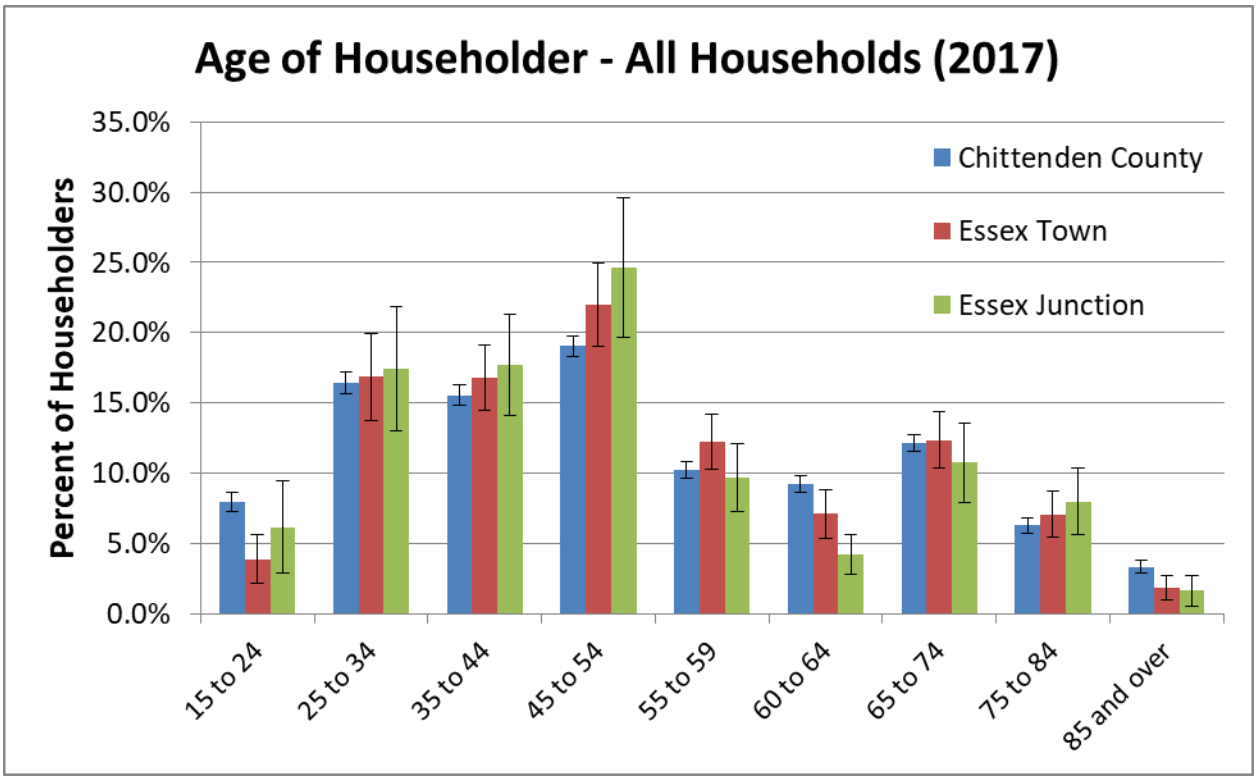

All Households by Race (2017)
Percent of Households
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Chittenden County
Essex
Essex Junction
White
Black / African American
Asian
Hawaiian / Pacific Islander
American Indian / Alaska Native
Other Race
Two or more races

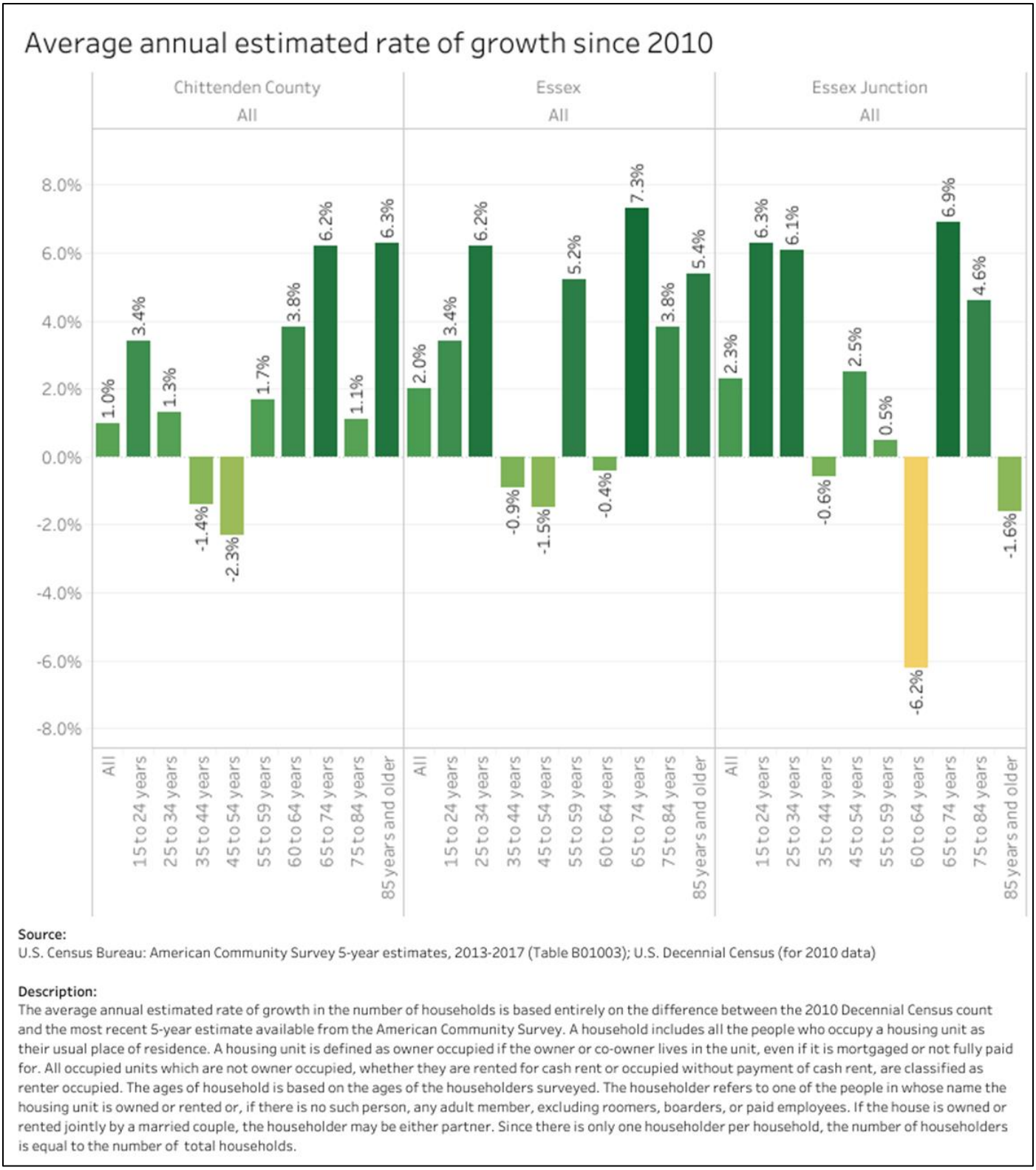

Renter Households by Race (2017)
Percent of Renter Households
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Chittenden County
Essex
Essex Junction
White
Black / African American
Asian
Hawaiian / Pacific Islander
American Indian / Alaska Native
Other Race
Two or more races

3.5 Age of Householder

The trends in household size may be explained in part by significant shifts in the age of householders since 2010. As the children of "baby boomers" (those born between the late 1940s and early 1960s) have grown up and moved out, they not only reduce the size of the household they leave but also form smaller households of their own. This also indicates why significant there has been significant growth in both young adult and senior households.

Though there has been a slight decrease in the number of middle-aged householders, the predominant household age group in the county, Town, and Village is still 45-54, and over half of all householders are between the ages of 25 and 54. As this cohort continues to age, there will be increasing demand for homes suitable for seniors, including those with lower maintenance obligations, greater accessibility, and greater on-site healthcare support.





Source:
U.S. Census Bureau: American Community Survey 5-year estimates, 2013-2017 (Table B01003); U.S. Decennial Census (for 2010 data)

Description:
The average annual estimated rate of growth in the number of households is based entirely on the difference between the 2010 Decennial Census count and the most recent 5-year estimate available from the American Community Survey. A household includes all the people who occupy a housing unit as their usual place of residence. A housing unit is defined as owner occupied if the owner or co-owner lives in the unit, even if it is mortgaged or not fully paid for. All occupied units which are not owner occupied, whether they are rented for cash rent or occupied without payment of cash rent, are classified as renter occupied. The ages of household is based on the ages of the householders surveyed. The householder refers to one of the people in whose name the housing unit is owned or rented or, if there is no such person, any adult member, excluding roomers, boarders, or paid employees. If the house is owned or rented jointly by a married couple, the householder may be either partner. Since there is only one householder per household, the number of householders is equal to the number of total households.

Chart designed by Vermont Housing Finance Agency, used with permission

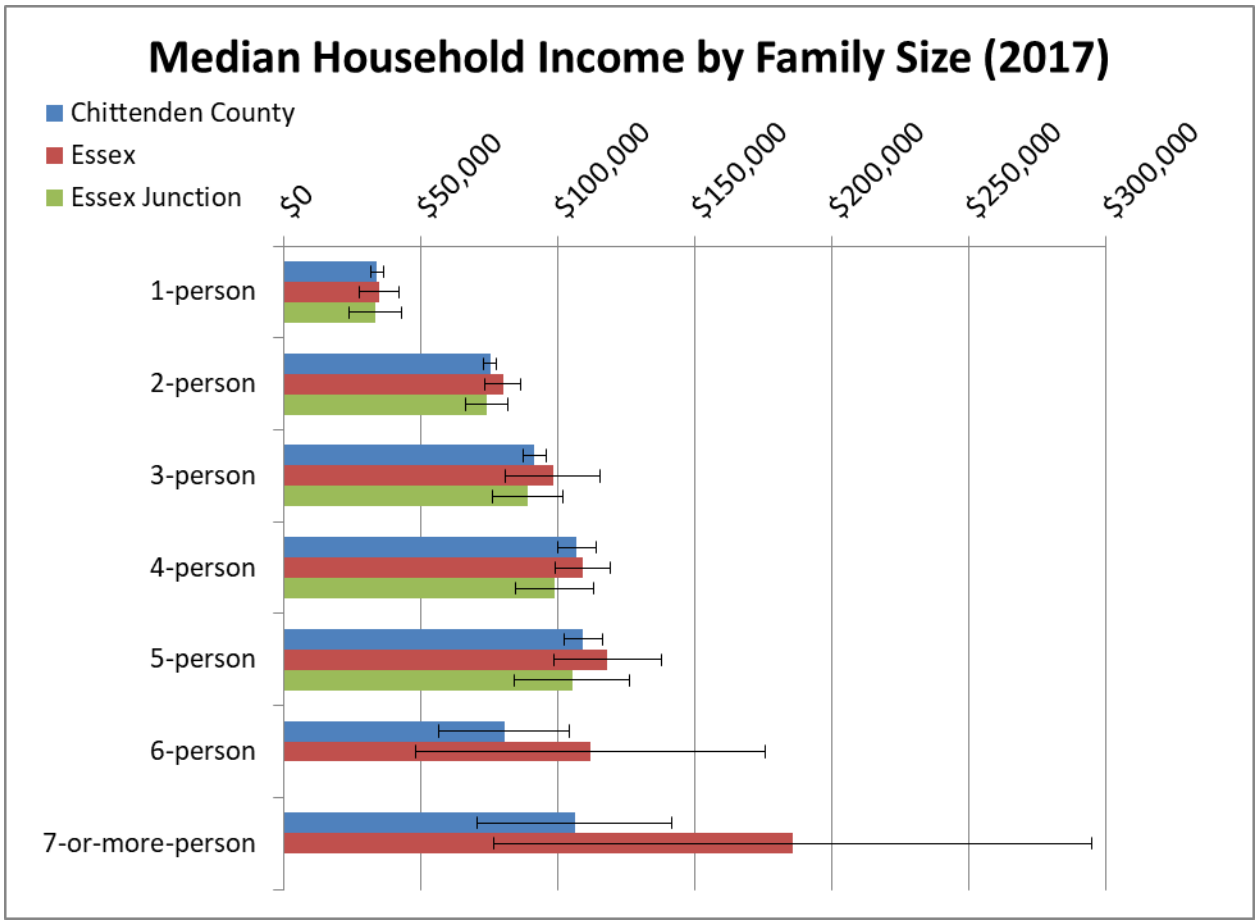
3.6 Median Household Income

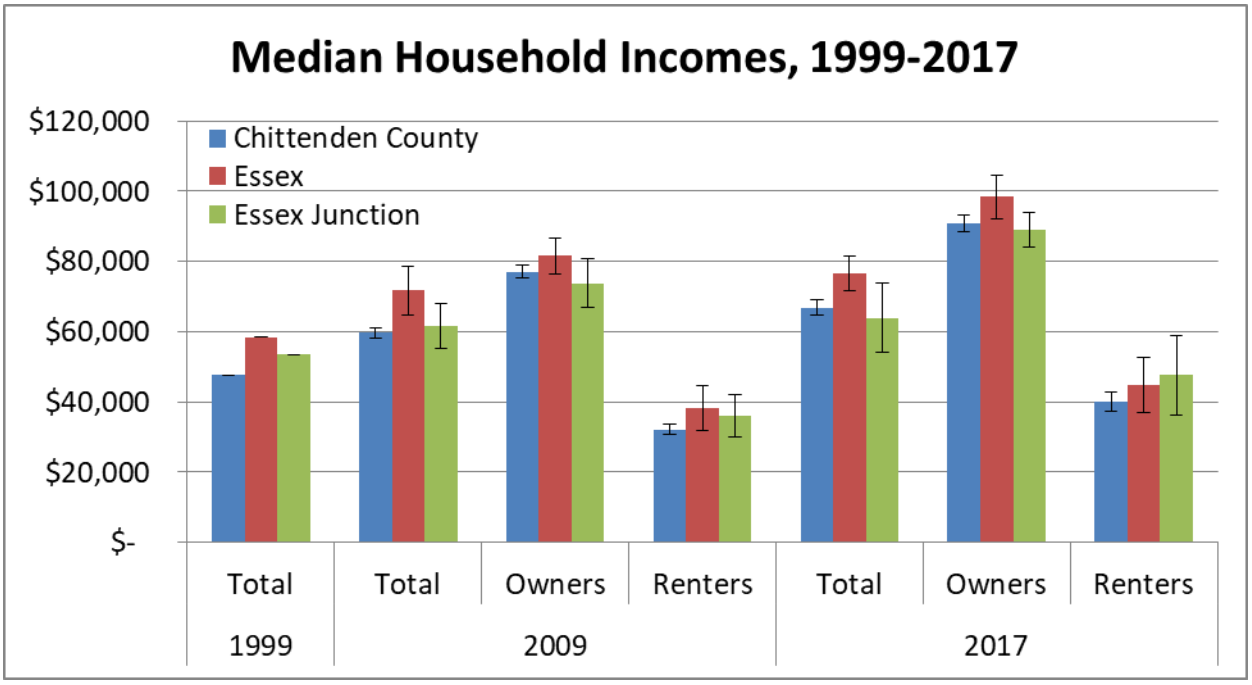
The most common indicator for incomes is household income, the total amount earned annually by all members of a household. Household income is typically reported using the median of all households or families, the value at the middle of all incomes arranged in order.

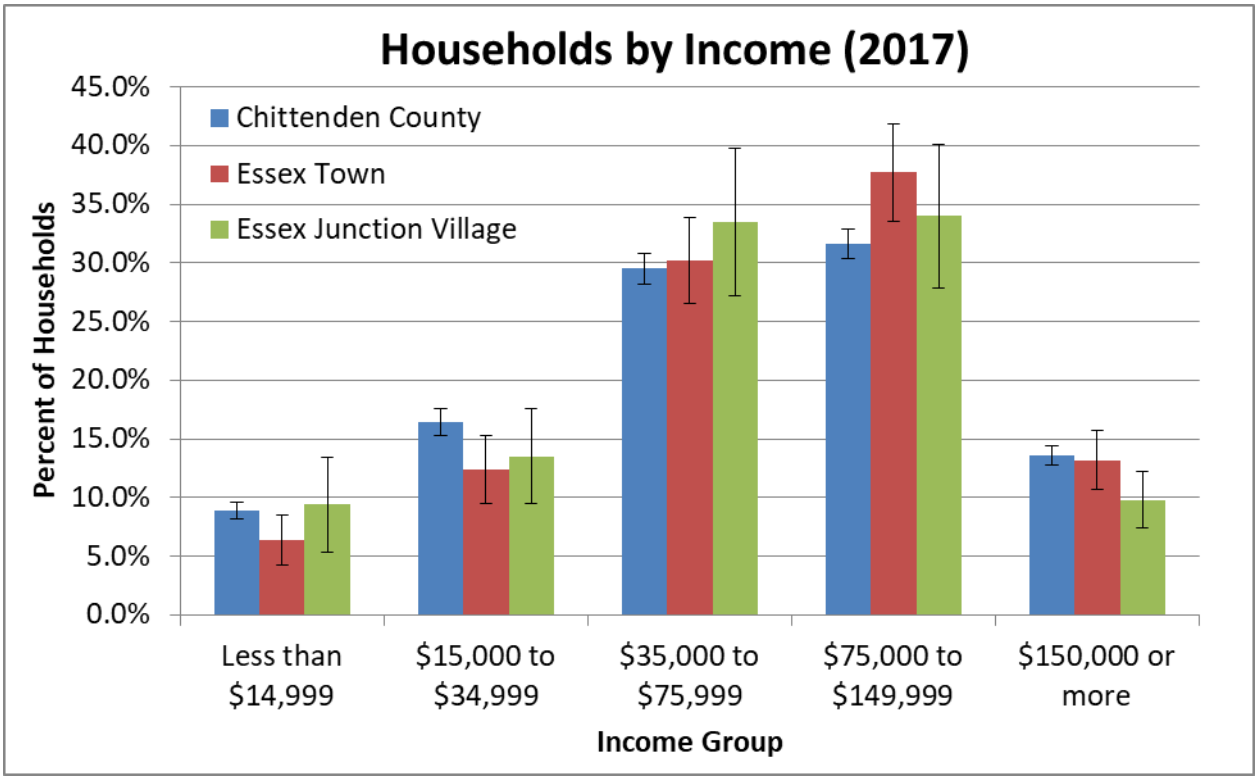
In 1999 (the closest year to 2000 that data was available), median household income was much higher in the Town and Village compared to the county overall. Since then, the county median household income has risen by 40%, while in the Town and Village, it has risen only 14% and 20%, respectively, so that in 2017, median income was fairly consistent across county, Town, and Village. Since 2009, overall household income has not changed significantly, but it has increased among owner households while renter household incomes have stayed stagnant in Essex and Essex Junction.

In 2017 one- and two-family households generally had lower median incomes than larger households. The smaller, lower-income households were likely associated with single householders with only one income earner, or pairs of young adults starting their careers in lower-wage jobs. These contrast with middle-aged, mid-career householders with higher incomes and retirees with lower incomes but potentially significant savings.

When broken down by income group, it appears that the majority of household incomes across county, Town, and Village fell just below or above the median income in 2017, though a significant number of households were spread among categories below the median income.




Median Household Incomes, 1999-2017
$120,000
$100,000
$80,000
$60,000
$40,000
$20,000
$-
Chittenden County
Essex
Essex Junction
Total
Total
Owners
Renters
Total
Owners
Renters
1999
2009
2017


Households by Income (2017)
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Percent of Households
Chittenden County
Essex Town
Essex Junction Village
Less than $14,999
$15,000 to $34,999
$35,000 to $75,999
$75,000 to $149,999
$150,000 or more
Income Group

3.7 Family Income

Family income is a similar measure to household income, but it only includes households where two or more individuals are related by birth, marriage, or adoption. This Census definition of family therefore excludes single-person households; for example, in Essex, there were 8,689 households but only 5,762 families in 2017. Median family income (MFI) is the threshold used to determine eligibility for federal rent subsidies (with adjustments based on family size). The MFI for a family of 4 was $84,000 in 2016 for the Burlington-South Burlington Metropolitan Statistical Area (MSA).

In comparison to households, family incomes were generally higher – only 10-20% had incomes below $35,000, and between a third and half of families earned more than $100,000. This is likely because most families had two wage earners, possibly in career jobs with moderate to high incomes.

3.8 Income by Age Group

Incomes also vary by the age of the householder. Accurate data for income by age group is only available for the county level, but it shows that middle-aged householders comprise most of the median and higher income groups, while age is more evenly distributed among lower-income householders. This reflects the general age distribution of the population, and also the fact that middle-aged householders likely have progressed more in their career and earnings than younger households. It is also likely that retirees have reduced incomes, but may still have significant savings.

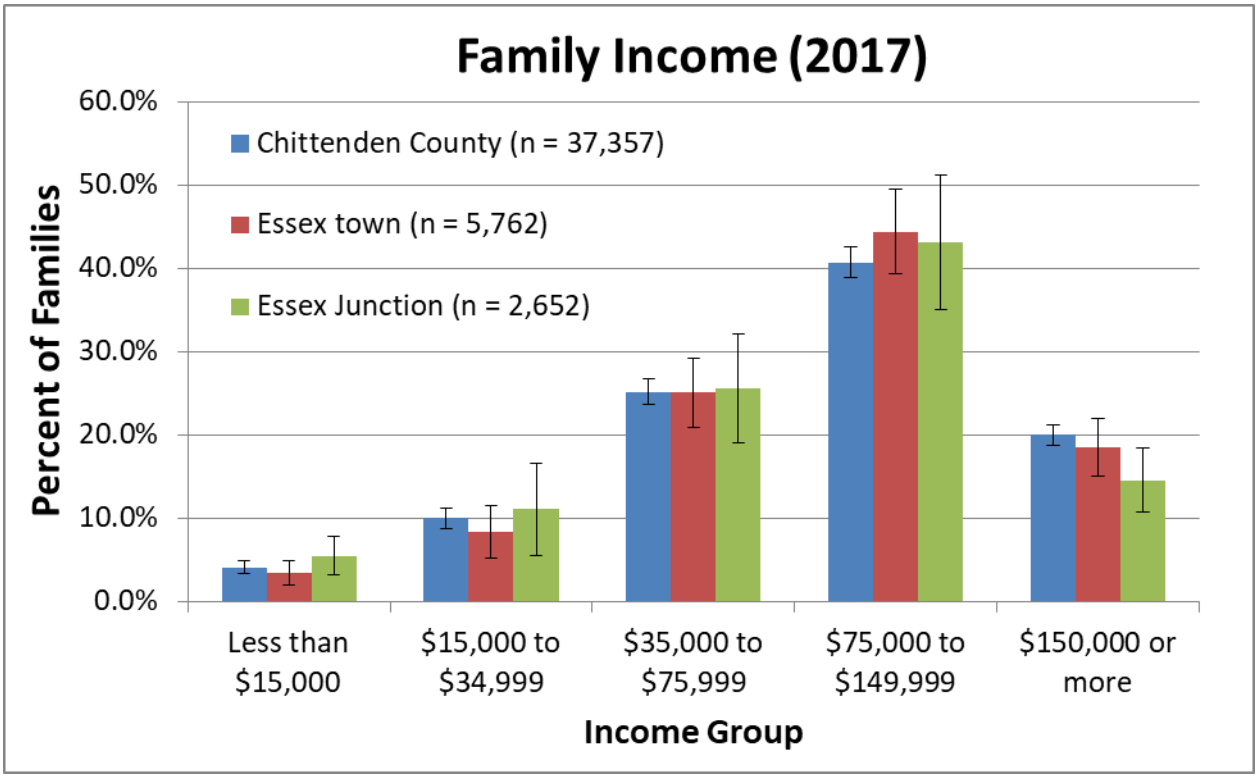
3.9 Poverty

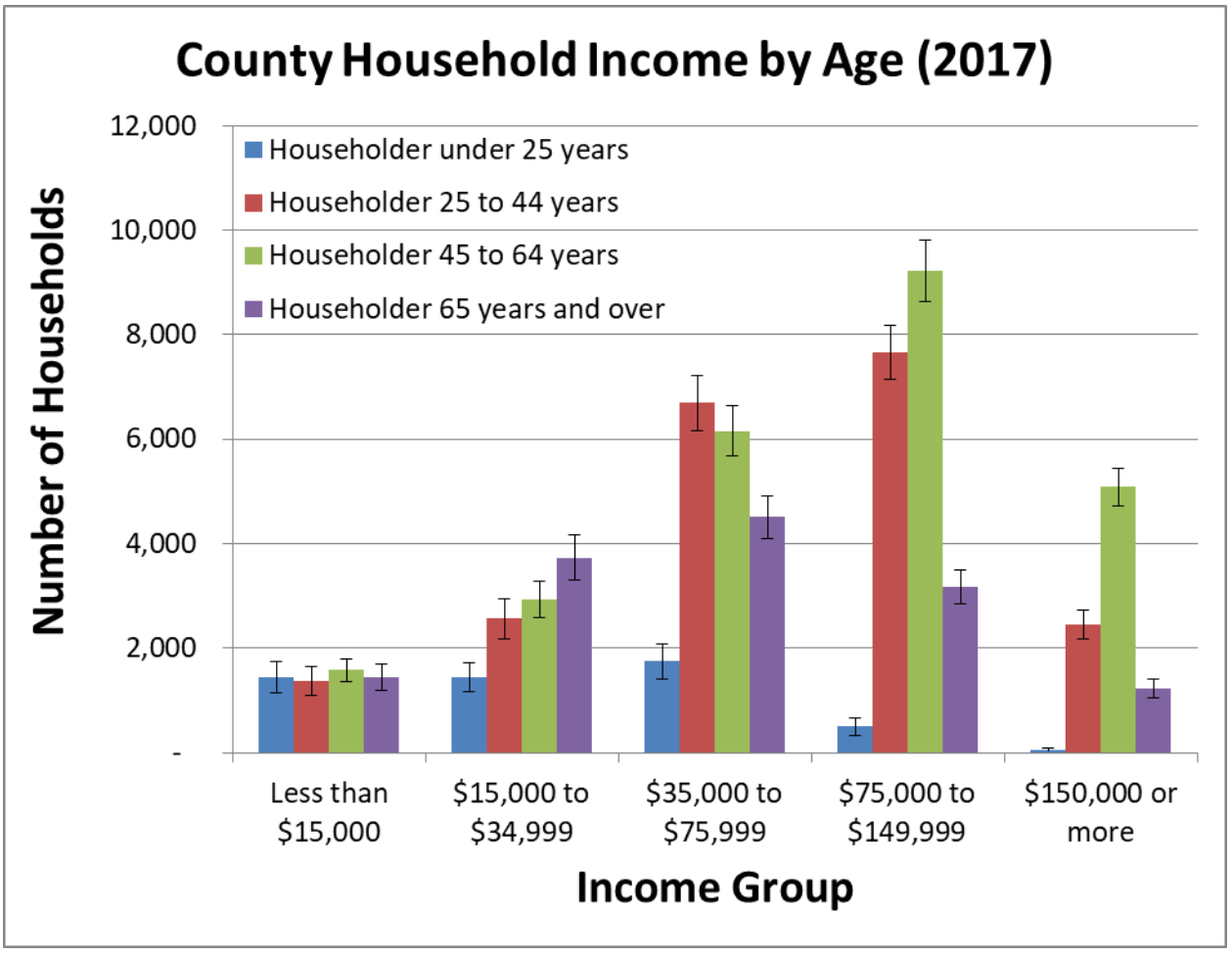
The federal poverty level is the income below which a household is considered to be "in poverty," and is determined annually on a complex formula that takes household size into account, but not geographic area. Poverty has increased significantly in the county, Town, and Village over the last 16 years. Within Essex and Essex Junction combined, there are between 727 and 1,527 people (one out of every twenty to one out of every ten) with incomes below the poverty line today.

Population in Poverty*	2000	2010**	2010 MOE	2017	2017 MOE	Avg. Annual Change
Chittenden County	12,267	15,789	1,174	17,057	1,078	299
% in poverty	8.8%	10.8%	+/- 0.8%	11.5%	+/- 0.7%	0.17%
Essex	484	869	316	1,127	400	40
% in poverty	2.6%	4.5%	+/- 1.6%	6.9%	+/- 1.4%	0.27%
Essex Junction	248	482	215	654	197	25
% in poverty	2.9%	5.3%	+/- 2.4%	7.9%	+/- 1.9%	0.31%

*Poverty calculations exclude those living in group quarters; percentages reported are of those counted

**Poverty was not counted in the 2010 Census, but is captured by 2010 5-year ACS estimates


Family Income (2017)
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Percent of Families
Chittenden County (n = 37,357)
Essex town (n = 5,762)
Essex Junction (n = 2,652)
Less than $15,000
$15,000 to $34,999
$35,000 to $75,999
$75,000 to $149,999
$150,000 or more
Income Group


County Household Income by Age (2017)
12,000
10,000
8,000
6,000
4,000
2,000
-
Number of Households
Householder under 25 years
Householder 25 to 44 years
Householder 45 to 64 years
Householder 65 years and over
Less than $15,000
$15,000 to $34,999
$35,000 to $75,999
$75,000 to $149,999
$150,000 or more
Income Group

3.10 Unemployment (Labor Force)

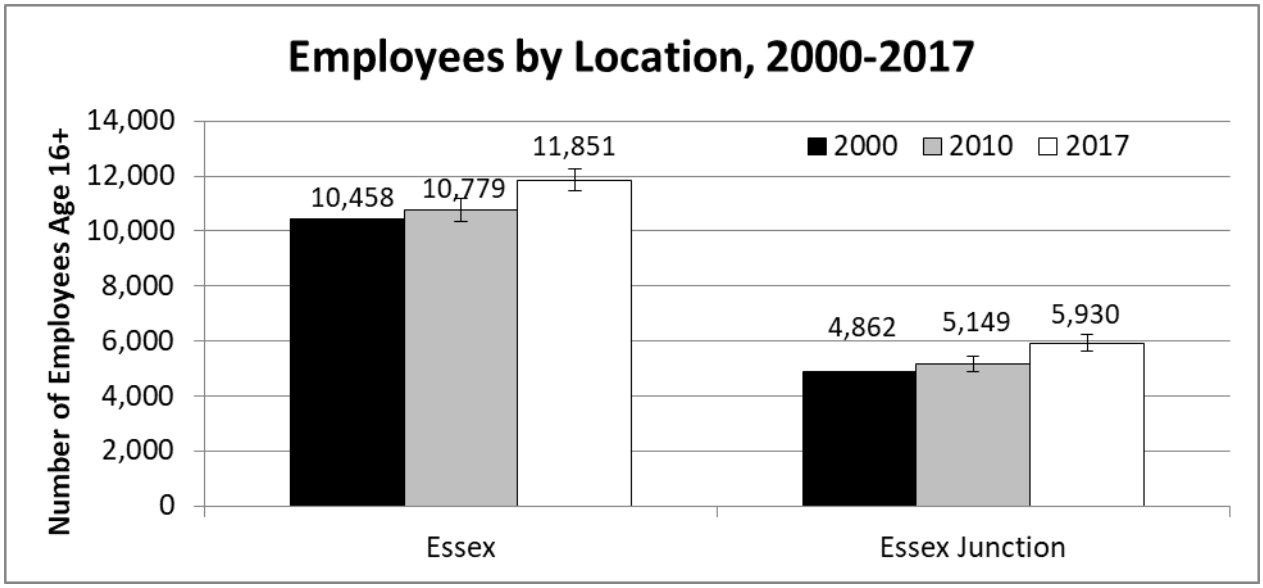
Unemployment is the number of people looking for work compared to the total available labor force (military and institutionalized workers are not included). The Vermont Department of Labor (VT DOL) tracks this data on a monthly basis, averaged annually. VT DOL only began tracking data in Chittenden County starting in 1990, and in Essex starting in 2016. VT DOL does not currently track unemployment within Essex Junction exclusively.

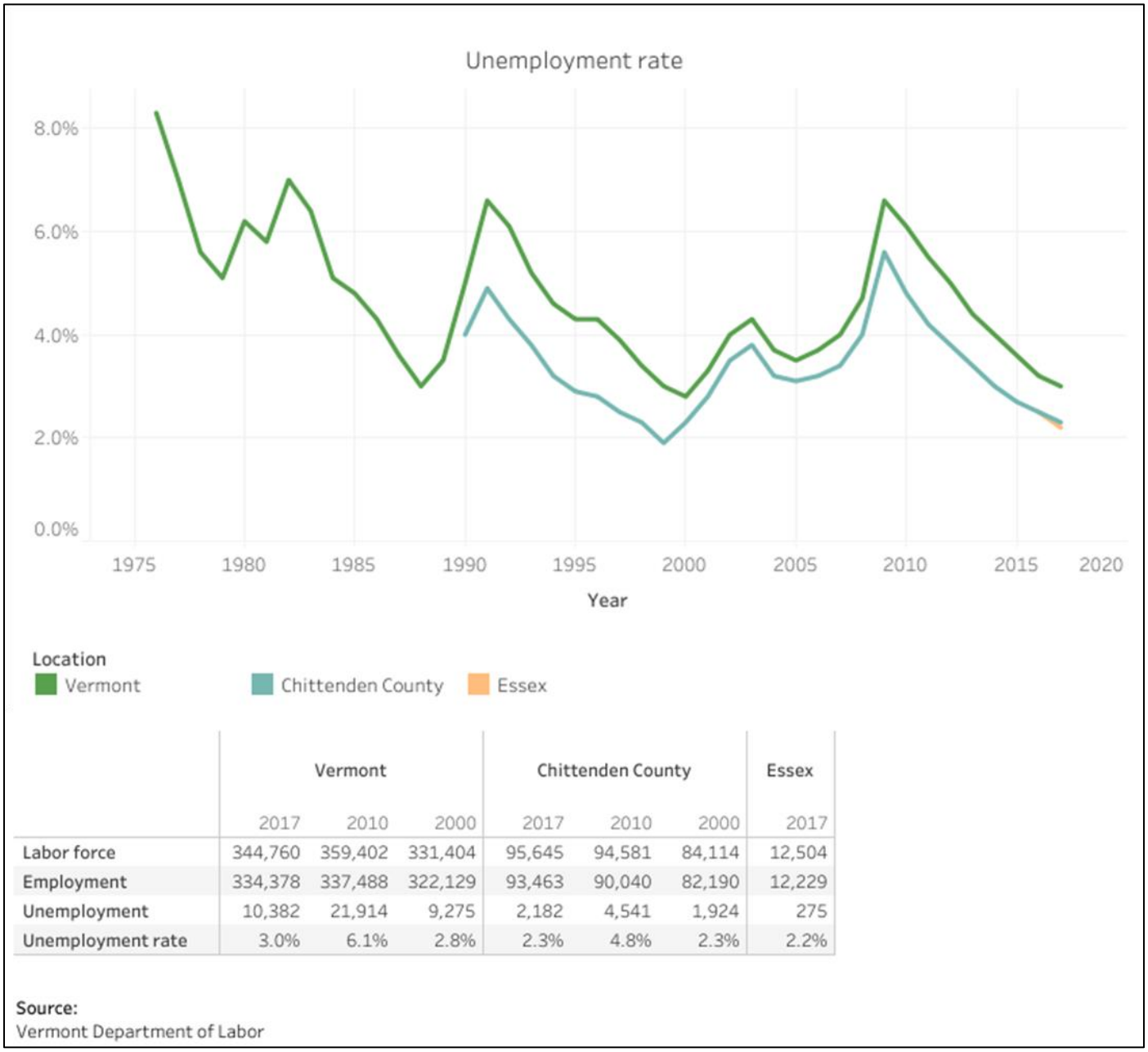
In general, unemployment has changed at very similar rates between the county and the state. It was at a low of 1.9% in 2000; between 2000 and 2010, there were two spikes in culminating at 5.6% 2009 (the height of the recession). Since then, unemployment has dropped steadily nearly back to 2000 levels (2.5%). In 2017, the 12,229 workers in the Essex community accounted for 13.08% of the county's total workers, and the unemployment rate in Essex (2.2%) was nearly the same as the county (2.3%) but lower than the State (3.0%).

Though low unemployment is generally a sign of a strong economy, it is possible that a local shortage of qualified workers (particularly in certain sectors) may have contributed to low unemployment rates, despite the fact that the total labor force has increased throughout this time. The worker shortage may in turn be due to a lack of available housing. Either way, the data indicate that, despite periodic instability in the labor market, the area has sustained steady job growth, which likely will continue in the near future. Those workers will create additional demand for homes in the county or nearby.

3.11 Employees by Location

The Census and ACS also track employment down to the Village level, but these figures tend to be far lower than those produced by the Vermont Department of Labor. Nevertheless, the Census and ACS figures can provide a glimpse at employment trends at the hyper-local level. These indicate that Essex Junction accounts for just over half of the employment of the Town as a whole, which is reflective of the population. The figures also indicate that employment trends between the Town and Village are very closely tied.





	Vermont			Chittenden County			Essex
	2017	2010	2000	2017	2010	2000	2017
Labor force	344,760	359,402	331,404	95,645	94,581	84,114	12,504
Employment	334,378	337,488	322,129	93,463	90,040	82,190	12,229
Unemployment	10,382	21,914	9,275	2,182	4,541	1,924	275
Unemployment rate	3.0%	6.1%	2.8%	2.3%	4.8%	2.3%	2.2%

Source:
Vermont Department of Labor

Chart designed by Vermont Housing Finance Agency, used with permission

3.12 Labor Force Wages and Earnings

Employment rates give a general sense of the labor market and the economic health of the area, but actual wages and earnings provide more insight about individuals' incomes. The following data from the Vermont Department of Labor is reported by employers, as opposed to employees and households, and serves as a different lens to examine incomes. Employer-reported wages and earnings are reported as an average annual wage – the total earnings by all workers divided by average annual employment – and therefore do not correspond to an individual's hourly or annual earnings, which vary widely. The data are reported by location of the employer (Village-level data are not available) and cover only hourly, salaried, and commission workers, but not workers who work for railroads, small agricultural enterprises, or are self-employed.

Prior to the recession, county wages were between 15% and 19% higher than the state as a whole in a given year, and Essex employees earned 21-27% more than the county average. Increases in earnings tracked closely among the three areas at about 3.5% per year for the State and county, and 2.7% per year in Essex. However, after the recession hit Vermont in 2009, earnings in Essex dropped sharply and have only just recovered to their pre-recession levels. As of 2017 the average annual wage in Essex was $54,884, which is still 4.8% higher than the county and 19.0% higher than the State, but this difference is the lowest it has been since 2000.

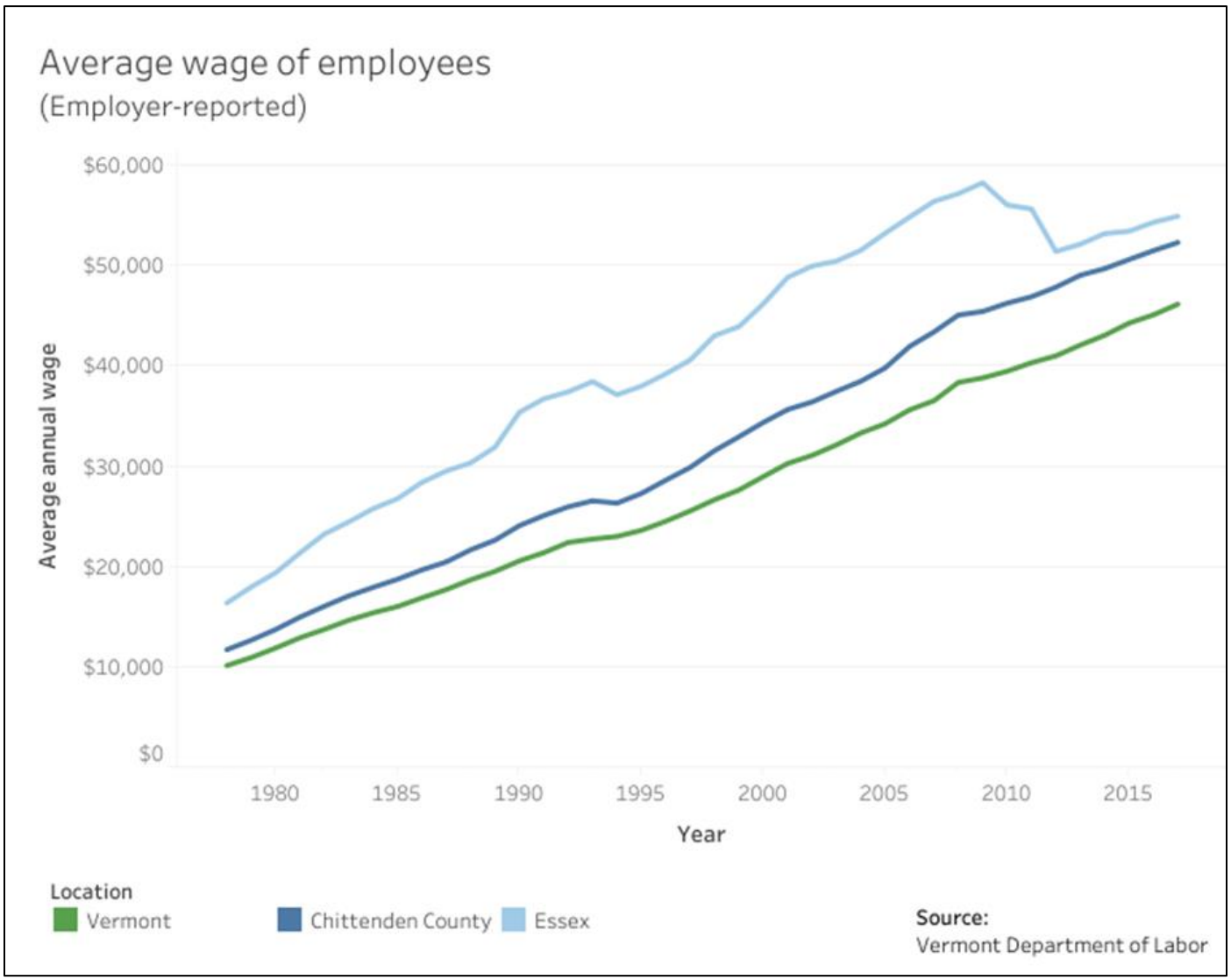


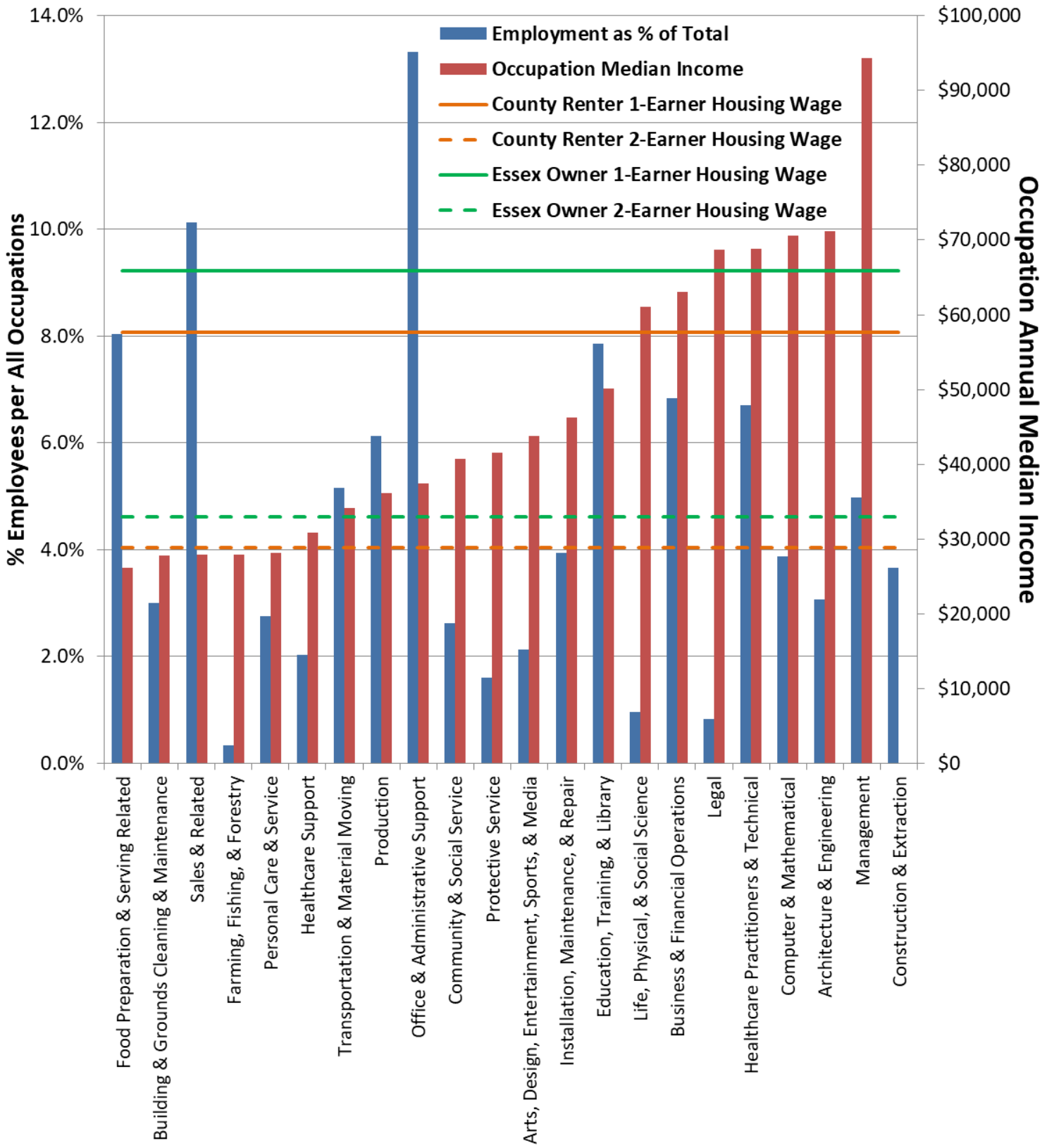
Chart designed by Vermont Housing Finance Agency, used with permission

3.13 Wages by Employment Sector

The Vermont Department of Labor tracks employment levels and incomes by occupation for the Burlington/South Burlington New England City and Town Area (NECTA). This is similar to the area covered by the Burlington-South Burlington Metropolitan Statistical Area (MSA) defined by the U.S. Census to include the greater Burlington area. The graph above shows the percent of employees in each sector relative to the total employees on one axis (blue bars), and the median income for each sector on the other axis (red bars). From this, it appears that a few sectors, such as office and administrative support, sales, and food preparation, account for a significant number of employees (31.5%), but wages for those jobs are relatively low.

The county's housing wage – the income needed to afford a 2-bedroom apartment at Fair Market Rent using no more than 30% of one's household income – is shown as a solid horizontal orange line ($57,680 for FY2018). Households earning less than this probably struggle to afford rental housing. Over two out of three employees (70.9%) earn incomes below the housing wage, meaning that most would be unable to afford a typical 2-bedroom apartment in the area on their own. However, a 2-bedroom apartment will likely be occupied by two wage earners, who would each need to earn $28,840 to meet the housing wage; this two-earner wage is shown as a dashed orange line. Still, 26.1% of employees earn less than this; unless they are paired in a household with a higher-salary employee, most apartments will be out of their reach, and they will seek a rent below the Fair Market Rent (the 40th percentile rent in the area).

Looking at homeownership in Essex through this lens, the salary needed to afford the median home sale price while paying no more than 30% of household income is $65,854 (solid green line), or $32,927 each (dashed green line) for two wage earners. This assumes a 5% down payment and average mortgage, insurance, and property tax rates. Only 21.3% of county workers can afford such a house on their own, but 71.9% could afford it with two incomes; again, the remaining 28.1% of workers will struggle to afford a median-priced home and will likely seek cheaper options. However, it is important to note that not all households in the area have two incomes, and not all workers in the county live in town or even in the county. Furthermore, many households have student loan debt that consumes significant portions of their income, requiring them to allocate less than 30% of their income to housing costs.

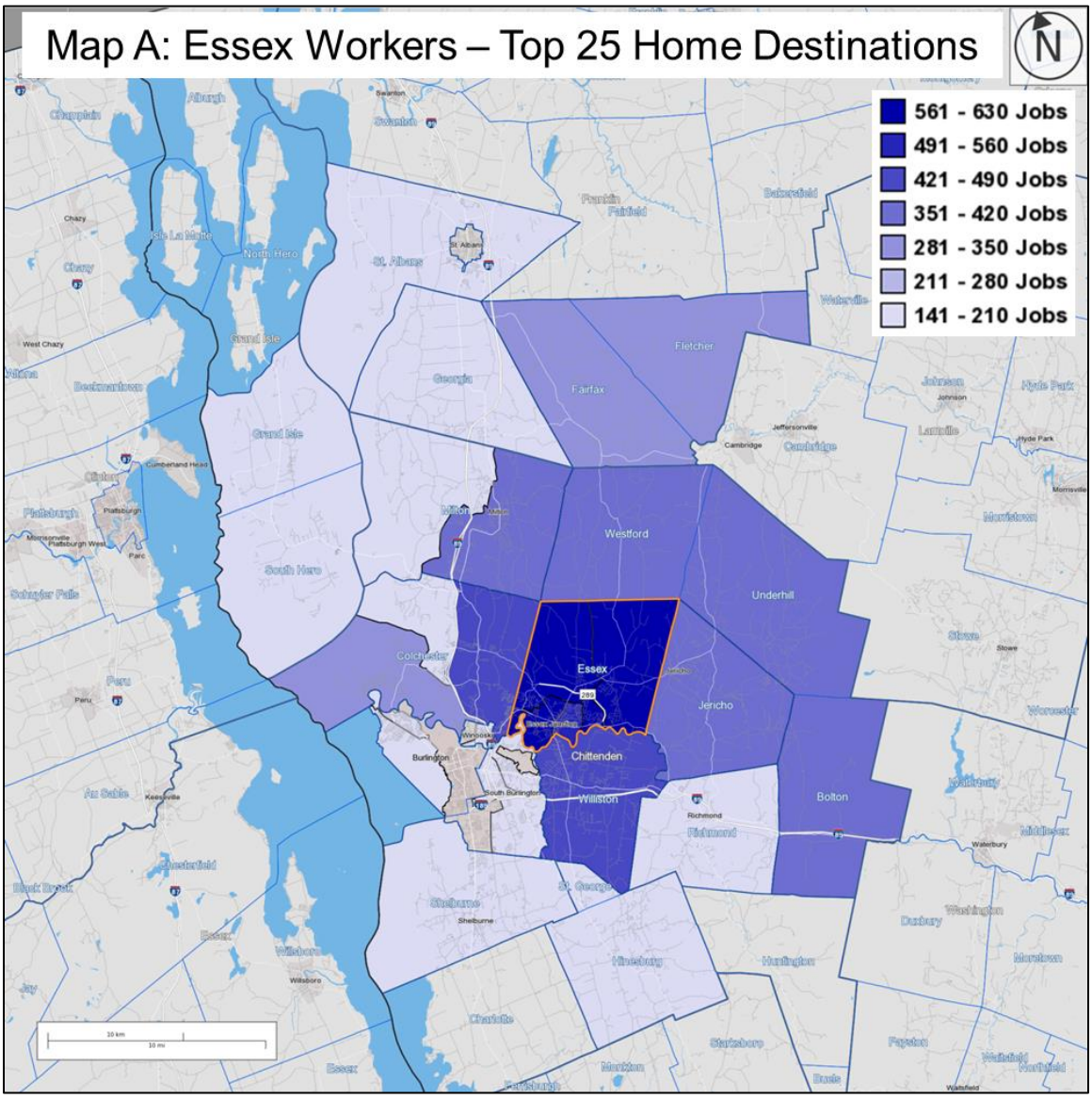


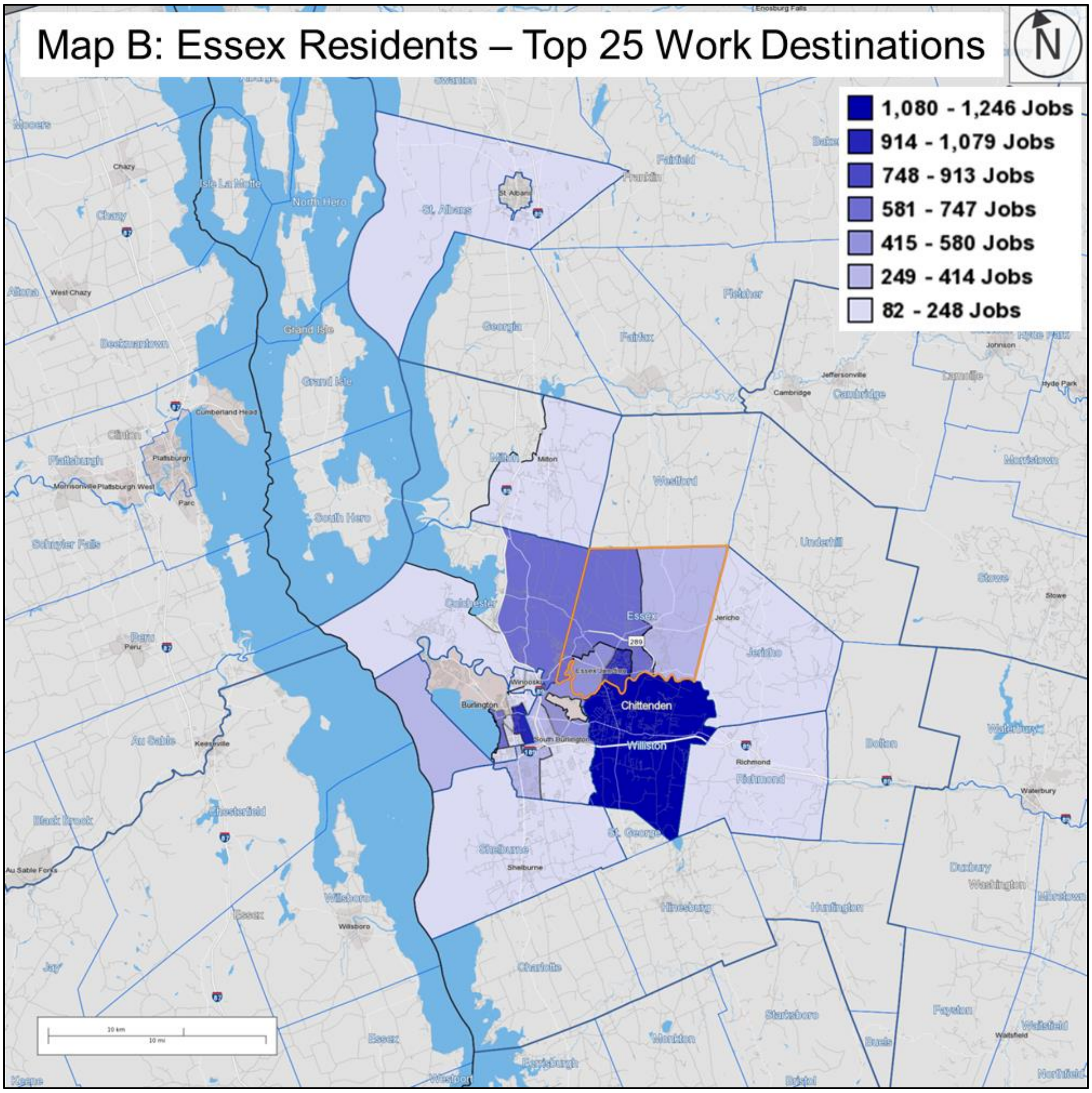
In this figure, the "housing wage" is the annual income a household needs to earn to afford their housing using no more than 30% of their income. For 2-earner households, the income each person would need is half the 1-earner income.

3.14 Commute to Work / Home

Commuting patterns can also provide insights into housing pressures, showing whether those who work in the municipality also live there, and vice versa. The Longitudinal Employer-Household Dynamics (LEHD) program combines Census data with state and federal labor data to determine commuting patterns down to the Census tract level. Map A below show the top 25 home origins of people who work in Essex (i.e., where are Essex workers commuting from); Map B shows the top 25 work destinations of people who live in Essex (i.e., where Essex commute).

One in five people who live in Essex commute to work within Essex; one in six commute to the University of Vermont; and one in ten people commute to Williston. The rest are dispersed throughout Essex and nearby towns.




Map B: Essex Residents – Top 25 Work Destinations
N
1,080 - 1,246 Jobs
914 - 1,079 Jobs
748 - 913 Jobs
581 - 747 Jobs
415 - 580 Jobs
249 - 414 Jobs
82 - 248 Jobs
Essex
Chittenden
Williston
Burlington
Winooski
Jericho
Richmond
Shelburne
St. Albans
Georgia
Fairfax
Milton
Westford
Underhill
Colchester
South Hero
Grand Isle
North Hero
Isle La Motte
Plattsburgh
Hinesburg
Charlotte
Huntington
Bolton
Stowe

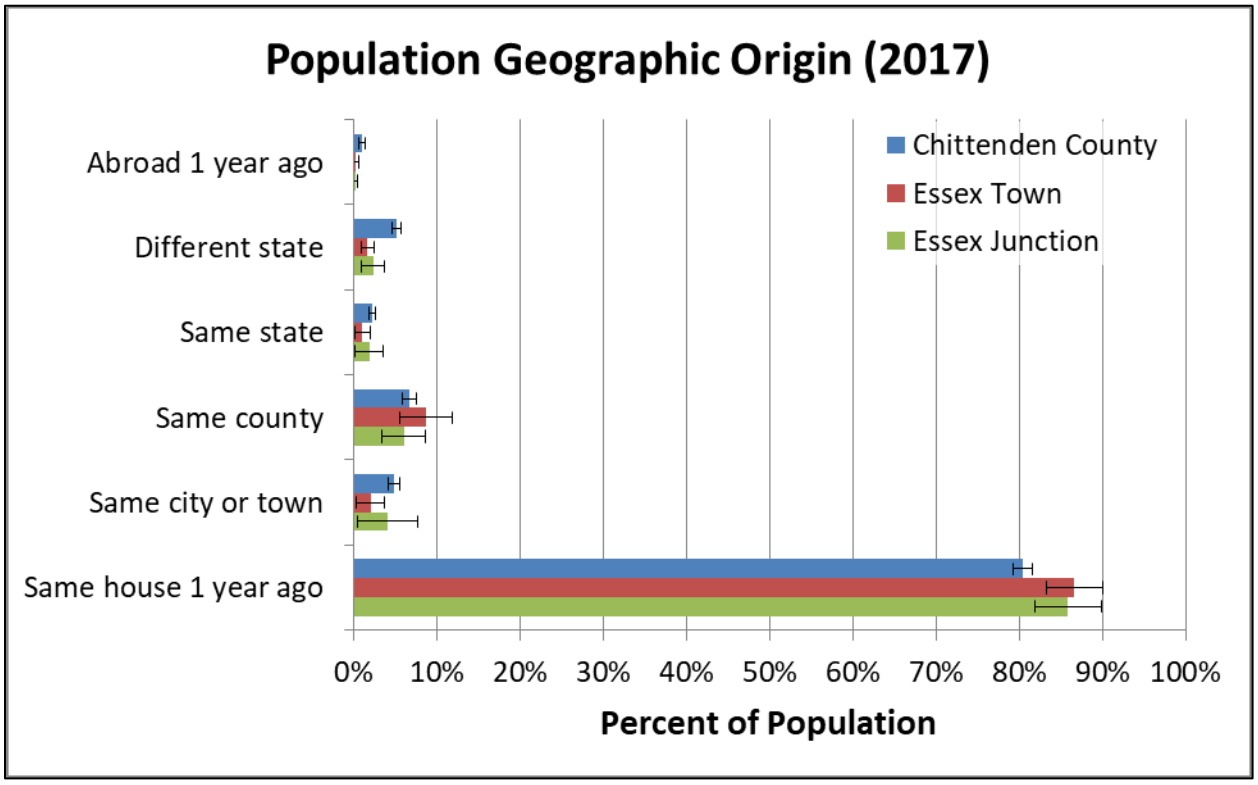
3.15 Length of Tenure

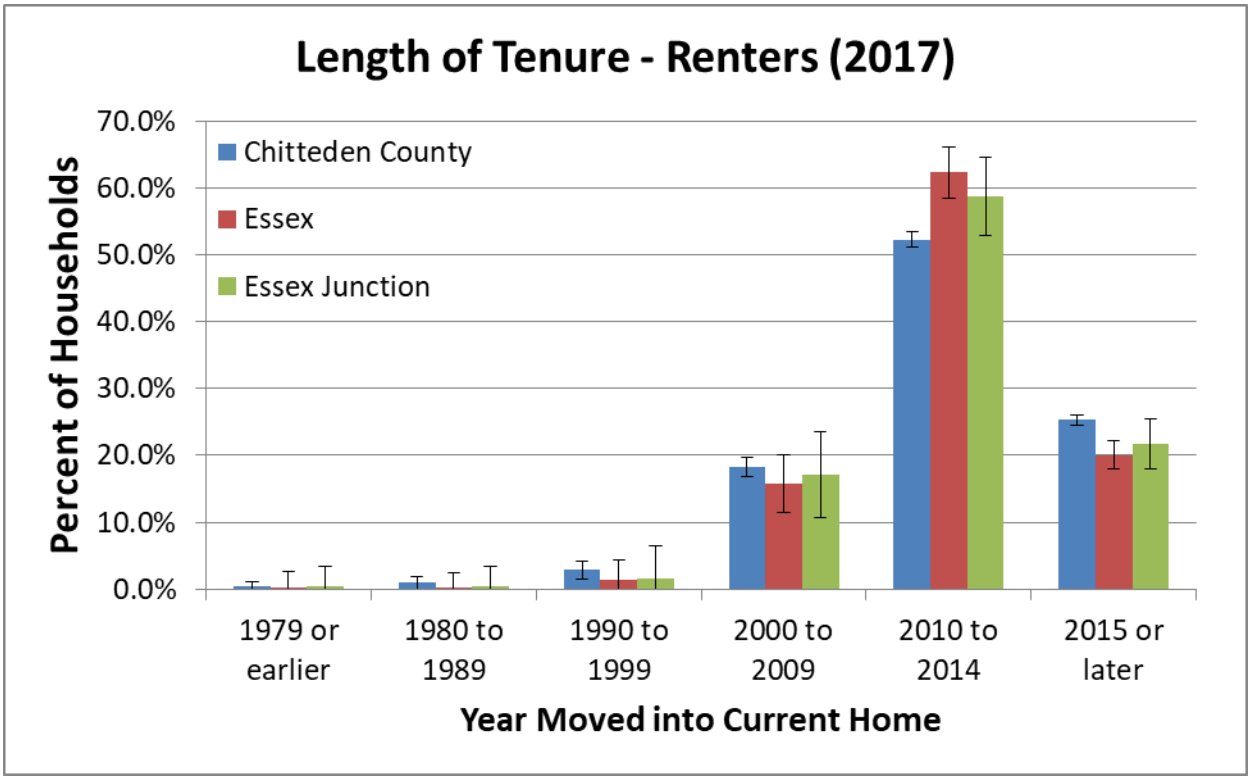
The length of time households have occupied their homes (owned or rented) indicates how much turnover there is in the housing market and how much the community may be in transition. Note that this does not indicate when a home was built – rather, how long the most recent occupant has lived in it. It also does not indicate when a resident moved to the area, only when they moved into their most recent home.

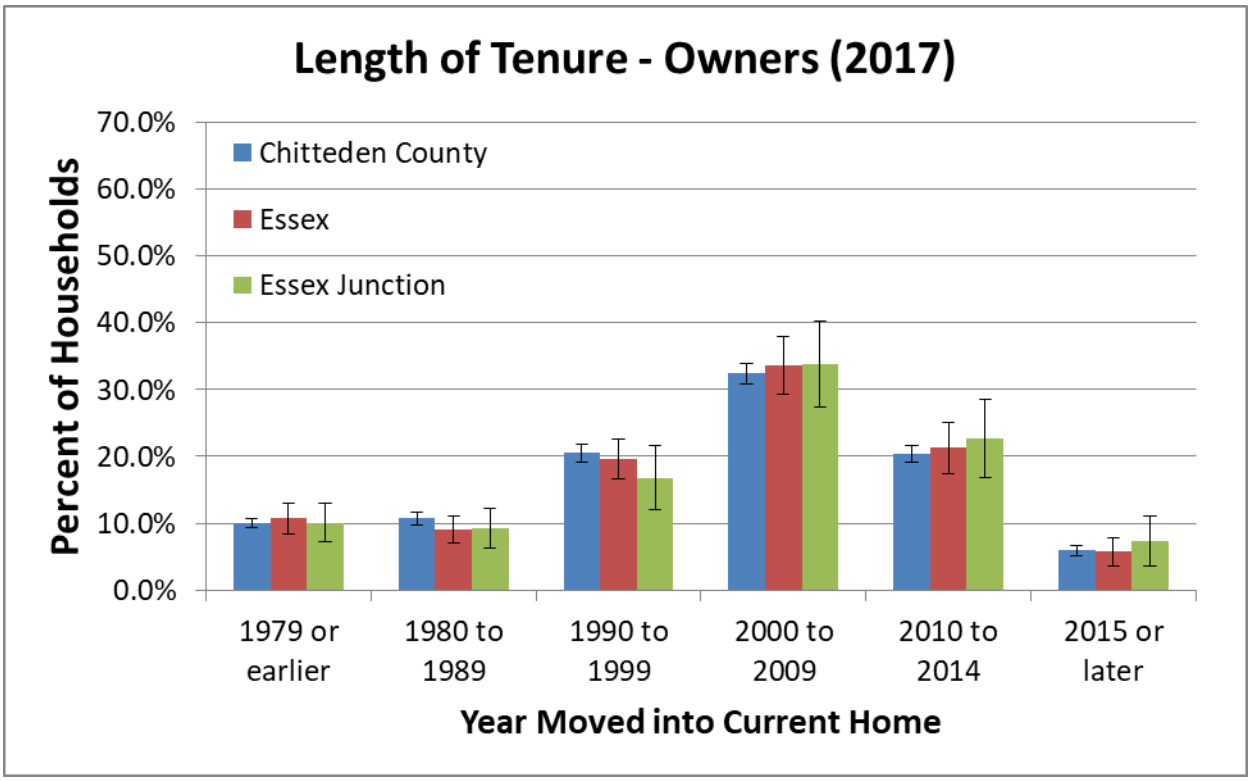
Length of tenure is relatively consistent across the county, Town, and Village. Most homeowners bought their home between 2000 and 2009 (in the lead-up to the recession), with most of the remainder just after or before that time. Nearly all renters began their leases in the last 6 years, and most of the remainder started after 2000. These patterns reflect state and national averages.

3.16 Movership

The U.S. Census tracks the origin of people who have moved to the area within the last year, providing a picture of "movership" or geographic mobility. Over 80% of county residents (over 85% of those in Essex and Essex Junction) have lived in the same house for at least a year (as noted in Section 3.13 above, most have lived in the same house for at least several years). Of those who moved recently, most have moved within the same county; fewer than 10% of the county and 5% of Essex residents moved from outside the county (from Vermont, other states, or other countries). However, these trends have persisted over several years, adding a significant number of new residents and households.




Length of Tenure - Renters (2017)
Percent of Households
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Chitteden County
Essex
Essex Junction
1979 or earlier
1980 to 1989
1990 to 1999
2000 to 2009
2010 to 2014
2015 or later
Year Moved into Current Home


Length of Tenure - Owners (2017)
Percent of Households
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Chitteden County
Essex
Essex Junction
1979 or earlier
1980 to 1989
1990 to 1999
2000 to 2009
2010 to 2014
2015 or later
Year Moved into Current Home

3.17 Tenure Type (Rental vs. Owned)

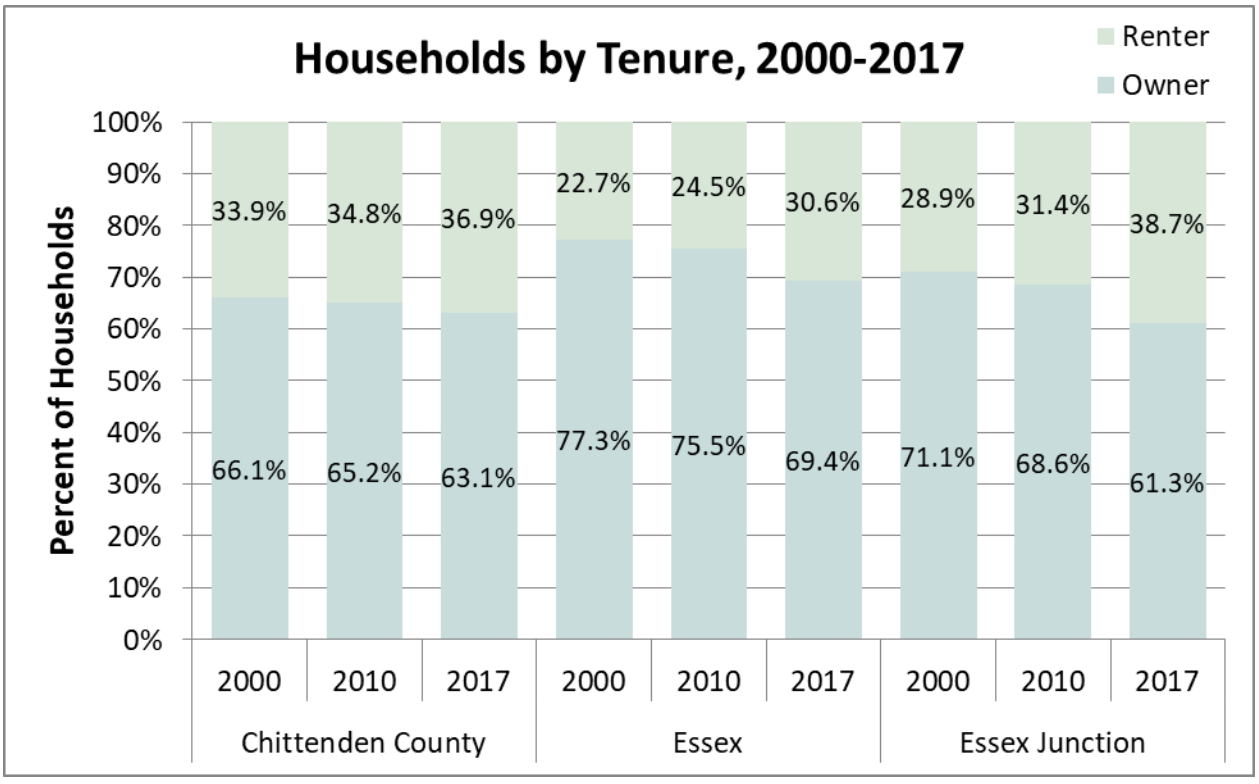
As noted earlier, the housing market is generally divided into two parts: ownership and rental. A healthy market should offer households the choice to rent or own, since a given household may prefer one tenure type over the other, or may be trying to move between them. Generally, young households who started renting are looking to own, and some senior householders seek renting as their needs change.

The number of renting households has increased since 2000, quite dramatically in the Town and Village. This reflects the increasing number of rental units that have become available, primarily in the Village, though owner-occupied homes still dominate the market in all areas and few are being converted to rental use. The rental rate across all of Vermont has remained steady.

Owner households	2000	2010	2017	2017 MOE	Avg. Annual Change since 2000	% Change per Year
Chittenden County	37,292	40,310	40,980	+/- 628	231	0.56%
Essex	5,418	5,955	6,029	+/- 274	38	0.63%
Essex Junction	2,425	2,658	2,643	+/- 214	14	0.51%

Renter households	2000	2010	2017	2017 MOE	Avg. Annual Change since 2000	% Change per Year
Chittenden County	19,160	21,517	23,926	+/- 707	298	1.32%
Essex	1,595	1,932*	2,660	+/- 234	67	3.05%
Essex Junction	984	1,217*	1,672	+/- 204	43	3.17%

*There is no statistical difference in renter households between 2010 and 2017 in these areas.



3.18 Total Housing Stock

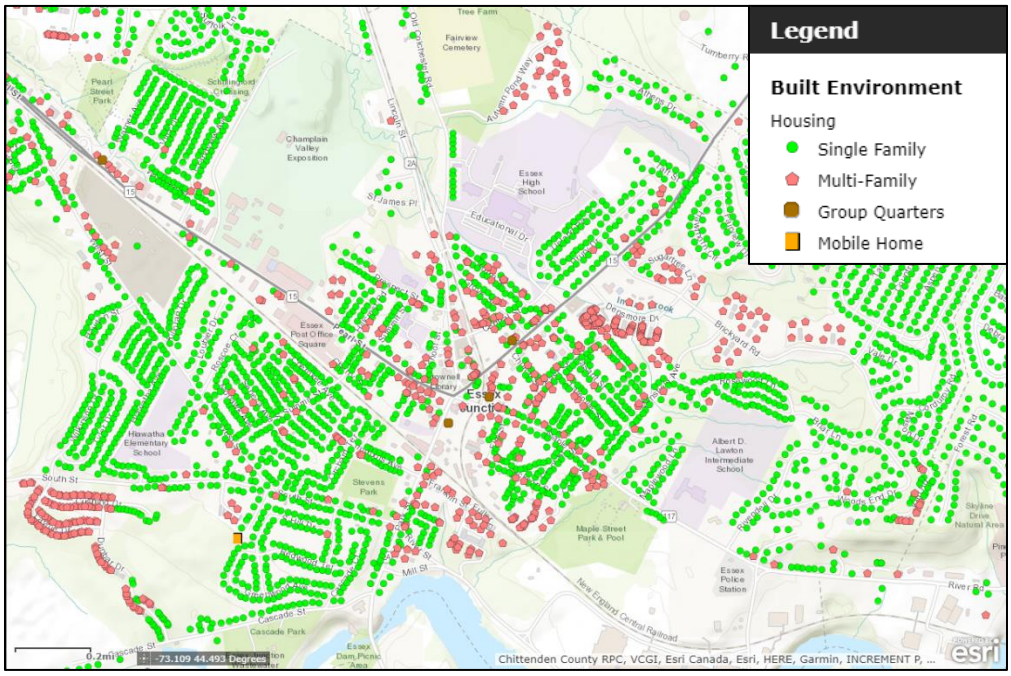
Data on certificates of occupancy ("CO's") from the Town of Essex and Village of Essex Junction reveal trends in home construction (only data pertaining to new dwelling units was analyzed, as opposed to remodels). CO's were used because they are issued when a dwelling is complete and ready to be occupied, rather than zoning permits, which are issued prior to the start of construction. Single-family dwellings refer to detached buildings on their own parcel that support one household. Multi-family dwellings include buildings with more than one dwelling (such as apartment buildings or duplexes) as well as condominiums, townhomes, or other detached buildings that share land with other buildings.

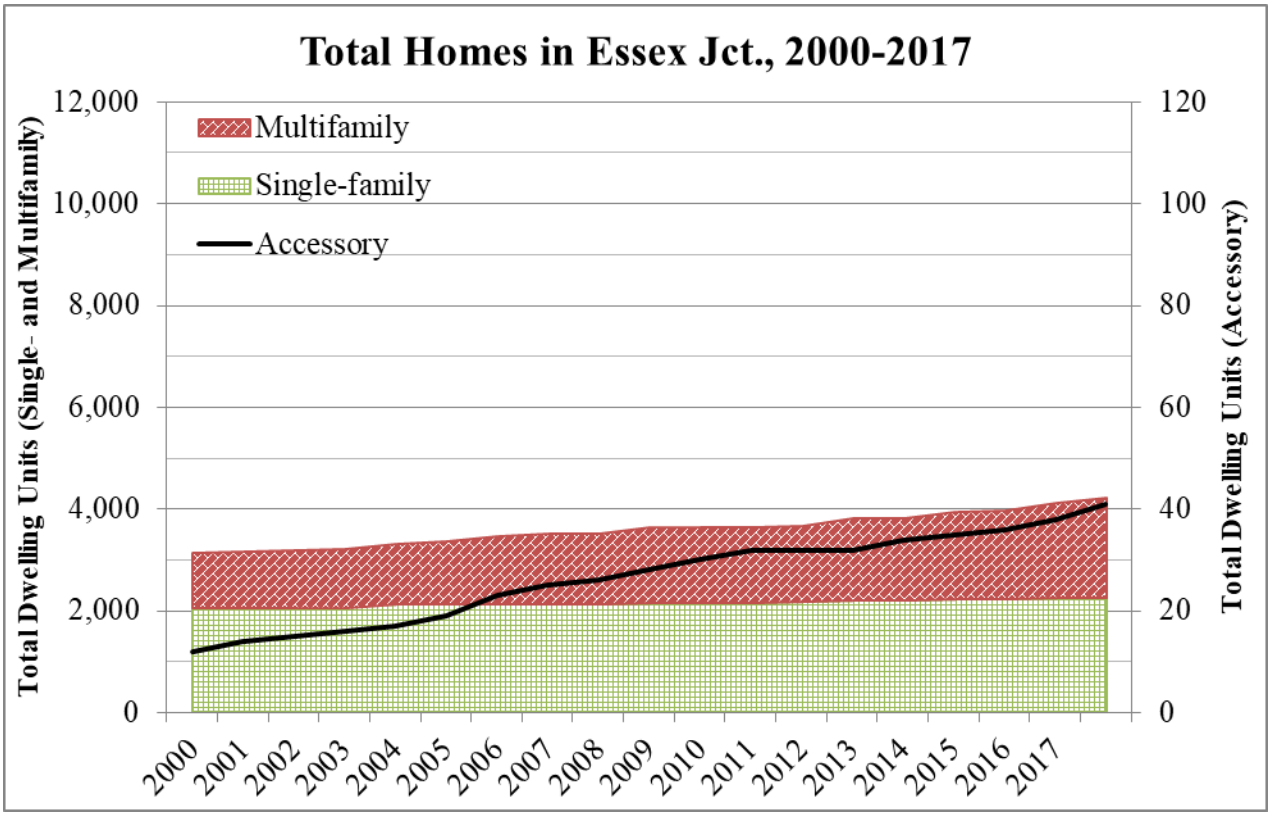
Based on local CO data, the number of newly-built homes in Essex has increased since 2000, with a slow period due to the economic downturn around 2007-2010, but a swift recovery thereafter. On average, about 100 new homes were added per year; most of those new homes were part of multi-family units, including condominiums, townhouses, and apartments, while construction of single-family homes has largely leveled off. Between all home types, there were a total of 8,870 homes as of 2017.

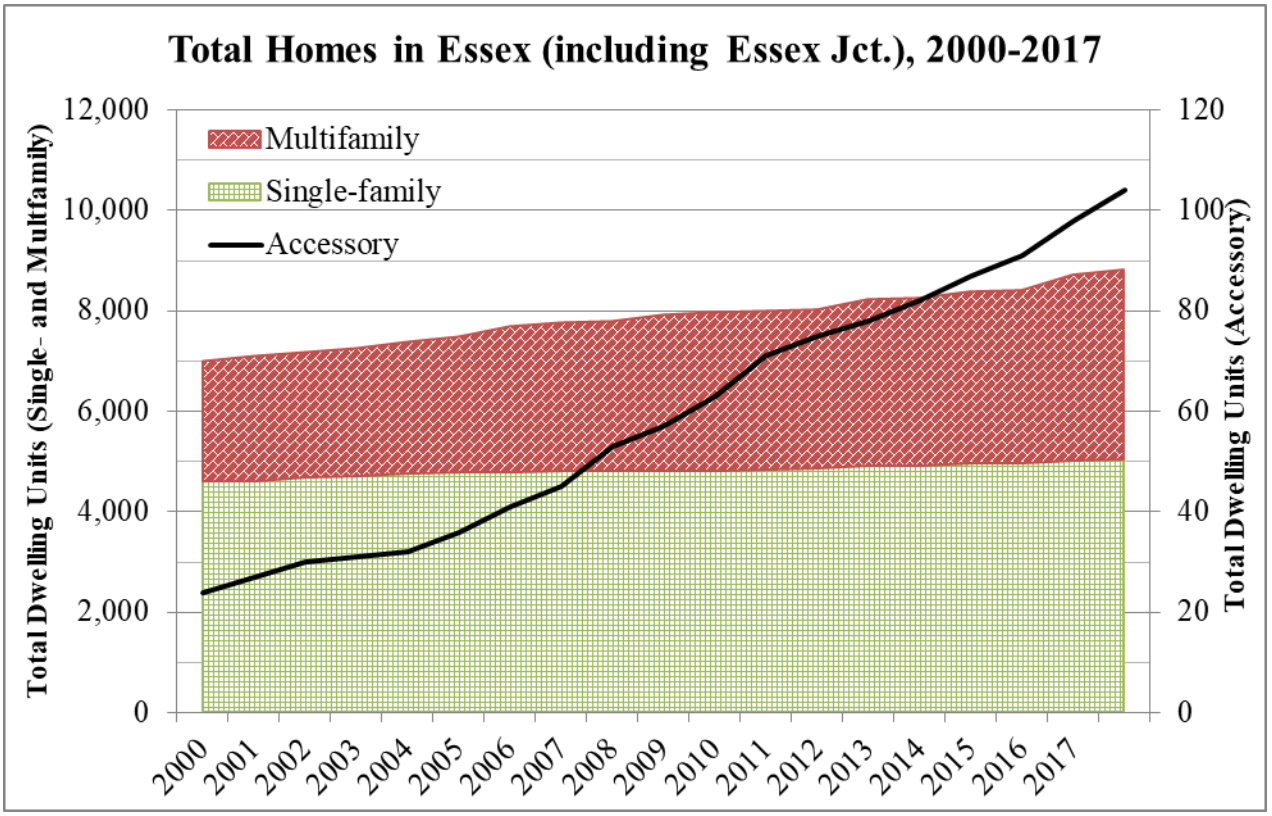
In Essex, new home development has shifted from single-family, owner-occupied homes to multi-family, renter-occupied dwellings, likely due to the gap of rental housing availability, a restricted supply of undeveloped land, and a new focus on infill development in the community. Also, conversations with permit applicants indicate that many current homeowners are downsizing and moving into units with lower property maintenance obligations.

Dwelling Units (as of 2017)	Single-family	Multi-family	Accessory	Total	Households (2017)	Households MOE
Essex	5,047	3,752	11	8,870	8,689	+/- 233
Essex Junction	2,254	1,969	1	4,262	4,315	+/- 200

The map below, developed by CCRPC, shows the housing stock by unit type in Essex Junction.




Total Homes in Essex Jct., 2000-2017
Multifamily
Single-family
Accessory
Total Dwelling Units (Single- and Multifamily)
Total Dwelling Units (Accessory)
12,000
10,000
8,000
6,000
4,000
2,000
0
120
100
80
60
40
20
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017

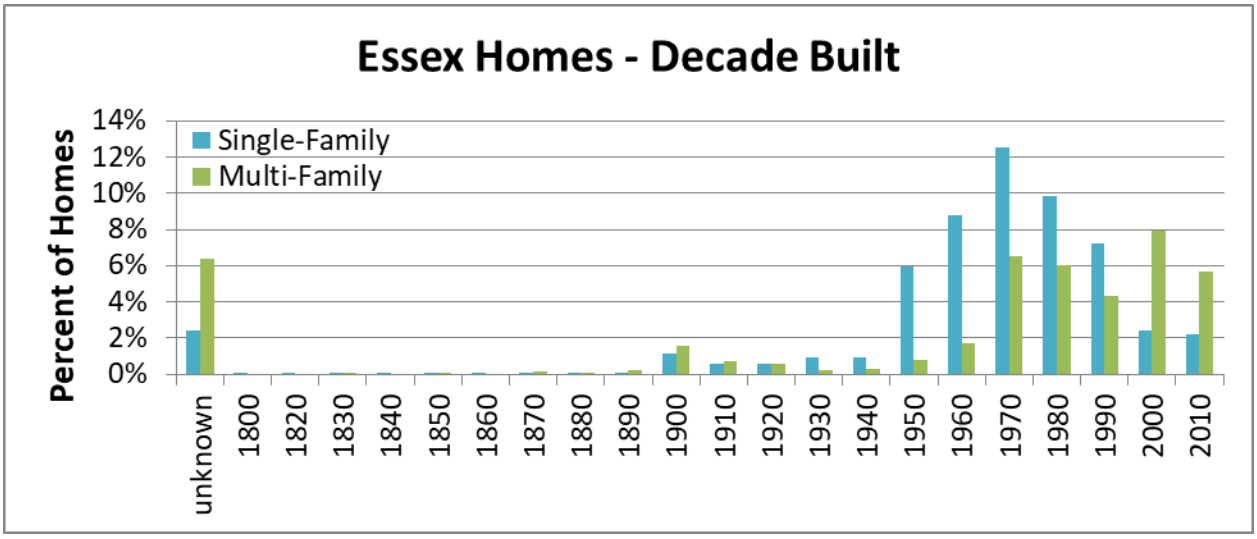

Total Homes in Essex (including Essex Jct.), 2000-2017
Multifamily
Single-family
Accessory
Total Dwelling Units (Single- and Multfamily)
Total Dwelling Units (Accessory)
12,000
10,000
8,000
6,000
4,000
2,000
0
120
100
80
60
40
20
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017

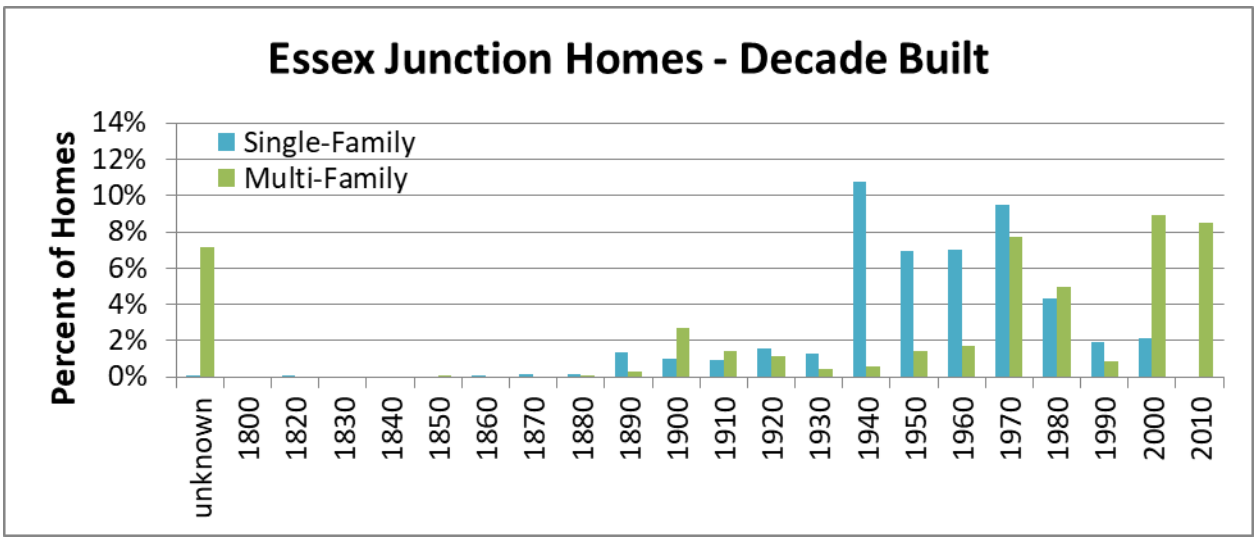
3.19 Age of Housing Stock

Older homes often are of poorer quality (unless significant renovation has been done), are less energy-efficient, and often have more lead paint and code violations. The Chittenden County Regional Planning Commission (CCRPC) maintains a database of housing structures, including year built.

The data indicate that most homes in Essex were built after World War II, though 11% homes in Essex Junction were built between 1890 and 1939, reflecting the historic development trends in each community. Notably, a vast majority of the post-war growth in the Village was in single-family homes, but since the 1980s, the majority of construction has been multi-family structures. In the Town, multi-family construction was minimal until 1970, and only since 2000 has it overtaken single-family construction. Overall, homes in Essex are much newer compared to the rest of Chittenden County.

The Town has required building permits and inspections since at least 1972, ensuring that new and renovated dwellings contain adequate plumbing, cooking, and sleeping facilities. However, it is likely that much of the older housing stock does not meet modern building codes and may have safety issues which are only discovered when the owner applies for a building permit. In addition, many older homes likely have inadequate or inefficient heating and insulation. The Essex Energy Committee supports homeowners in learning about home energy efficiency and how to make changes to greatly improve comfort and reduce utility costs.





4 Rental Housing

This section examines the current state of the rental market, including the availability and price of homes for rent as well as the specific needs of those seeking rental homes. In most housing markets, renters have lower incomes that prevent them from pursuing homeownership, and younger renters often aim to save money for a down payment. Renters also tend to occupy their homes for shorter periods of time, either due to changing job and family needs or to pursue better rents or conditions.

4.1 Rentership and Rental Housing Stock

As noted in Section 3, around a third of householders in the county, Town, and Village rent their homes, though there may be slightly more renters in Essex Junction. Though the Town and Village track the number of dwelling units built and permitted in their jurisdictions, there is no system to track whether these homes are renter- or owner-occupied. The ACS does track this, but overestimates the total number of units compared to municipal estimates shown in Section 3.15.

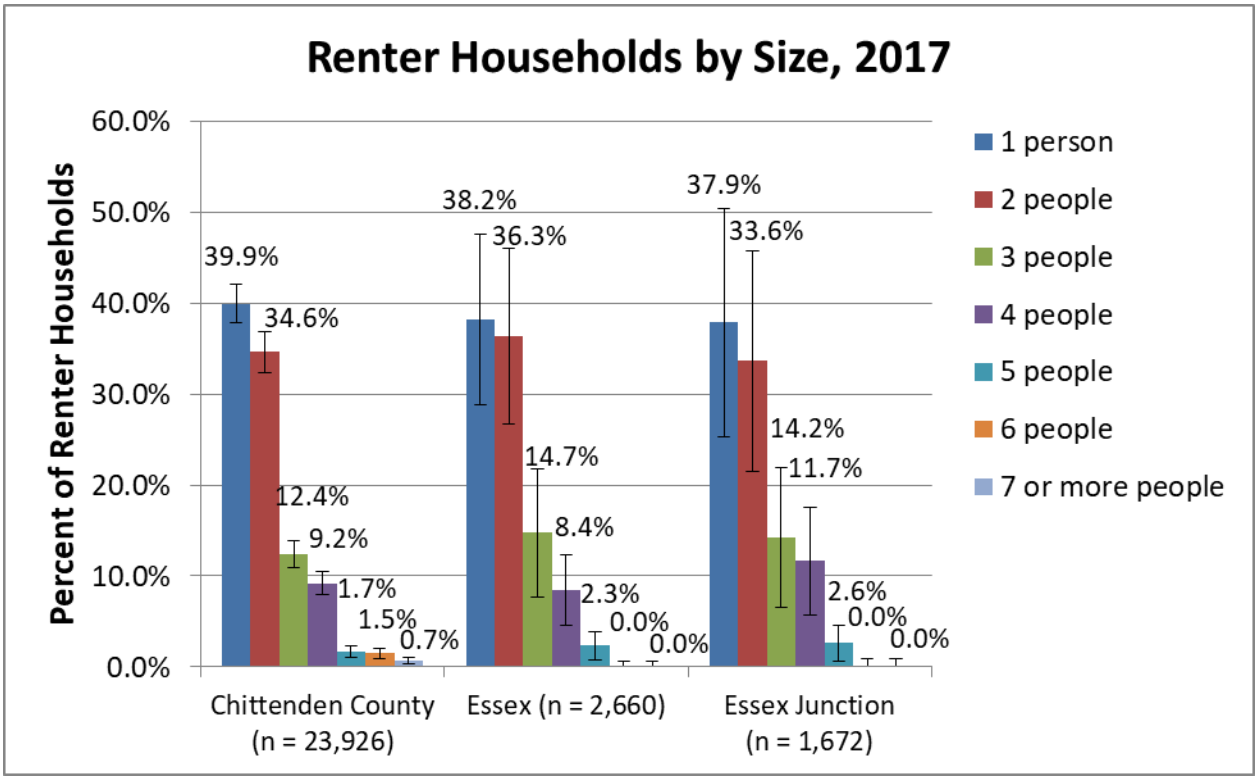
2017 Rentership	Renter Households		Total Households		% Renters	
	Estimate	MOE	Estimate	MOE	Estimate	MOE
Chittenden County	23,926	+/- 707	64,906	+/- 552	36.9%	+/- 1.0%
Essex	2,660	+/- 234	8,689	+/- 233	30.6%	+/- 2.6%
Essex Junction	1,672	+/- 204	4,315	+/- 200	38.7%	+/- 4.4%

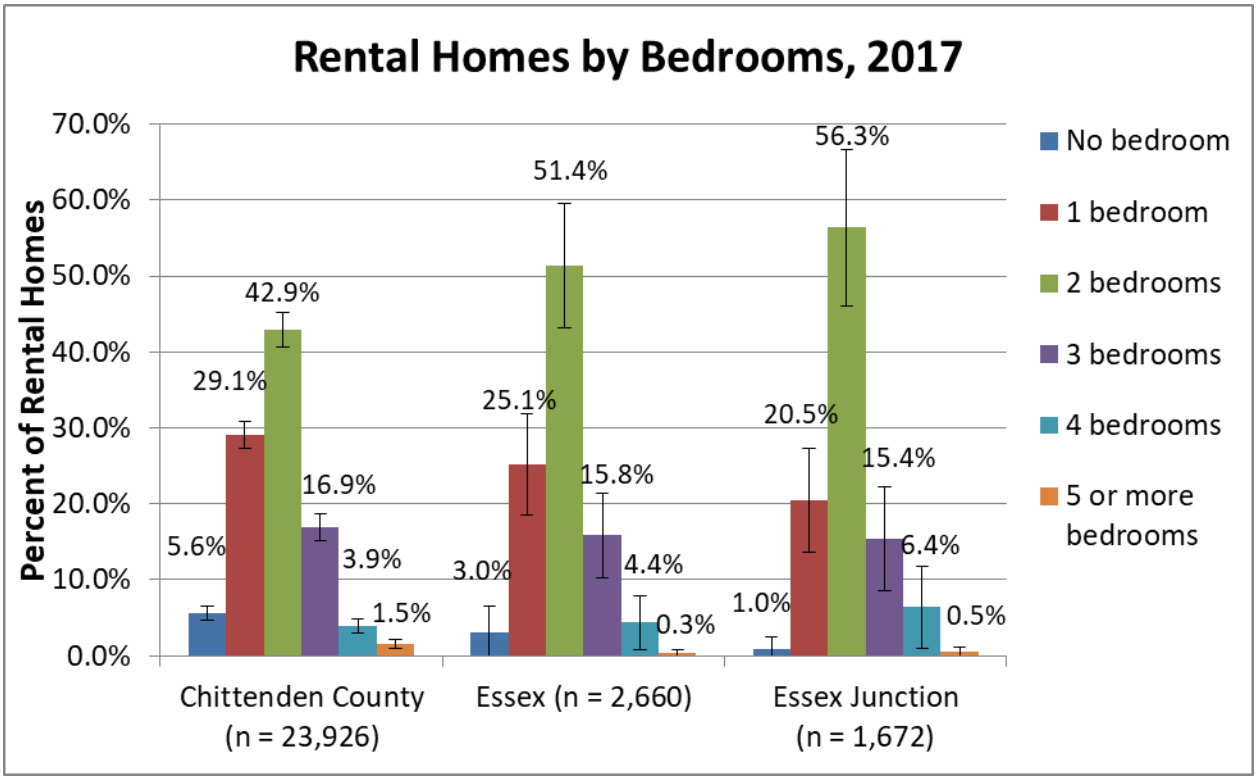
2017 Homes by Tenure	Rented Homes		Total Homes		% Renter-Occupied	
	Estimate	MOE	Estimate	MOE	Estimate	MOE
Chittenden County	24,604	+/- 746	65,949	+/- 624	37.3%	+/- 1.1%
Essex	2,695	+/- 240	8,872	+/- 270	30.4%	+/- 2.5%
Essex Junction	1,707	+/- 211	4,373	+/- 211	39.0%	+/- 4.4%

4.2 Renter Household Size vs. Rental Home Size

Homes available for rent may not match the size of the household (for instance, a family of 2 likely would not want to pay for a three-bedroom apartment, nor could a family of 5 comfortably fit in a studio or efficiency). The size of homes is generally tied to the number of bedrooms, which is tracked by the Census and ACS; dwellings categorized as having “no bedrooms” are studio or efficiency apartments where the sleeping area is contiguous with kitchen and/or living spaces.

When compared with the distribution of household size, it is clear that there are far more 1- and 2-person households than the rental market can bear, assuming that those households generally occupy studio, 1-bedroom, or 2-bedroom apartments. Furthermore, as noted in Section 3.5 (Median Household Income), smaller households have lower incomes than larger households and are likely even more cost-burdened in a tight market. For renters seeking to buy homes, these factors severely limit their ability to save for a down payment and reduce pressure on the rental market. The proportion of small households is expected to remain steady or continue increasing into the future (see Section 3.4, Age of Householder).


Renter Households by Size, 2017
Percent of Renter Households
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
39.9%
34.6%
12.4%
9.2%
1.7%
1.5%
0.7%
38.2%
36.3%
14.7%
8.4%
2.3%
0.0%
0.0%
37.9%
33.6%
14.2%
11.7%
2.6%
0.0%
0.0%
Chittenden County (n = 23,926)
Essex (n = 2,660)
Essex Junction (n = 1,672)
1 person
2 people
3 people
4 people
5 people
6 people
7 or more people


Rental Homes by Bedrooms, 2017
Percent of Rental Homes
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
5.6%
29.1%
42.9%
16.9%
3.9%
1.5%
3.0%
25.1%
51.4%
15.8%
4.4%
0.3%
1.0%
20.5%
56.3%
15.4%
6.4%
0.5%
Chittenden County (n = 23,926)
Essex (n = 2,660)
Essex Junction (n = 1,672)
No bedroom
1 bedroom
2 bedrooms
3 bedrooms
4 bedrooms
5 or more bedrooms

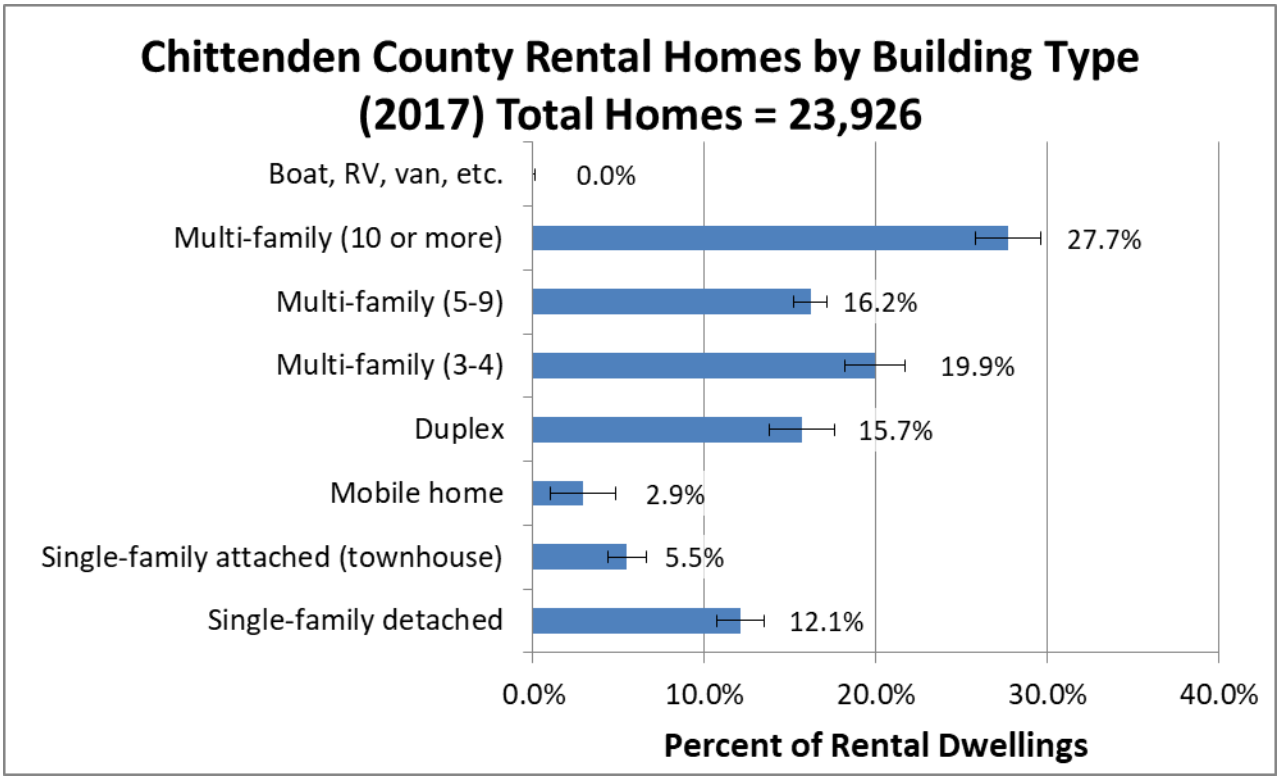
4.3 Rental Building Type

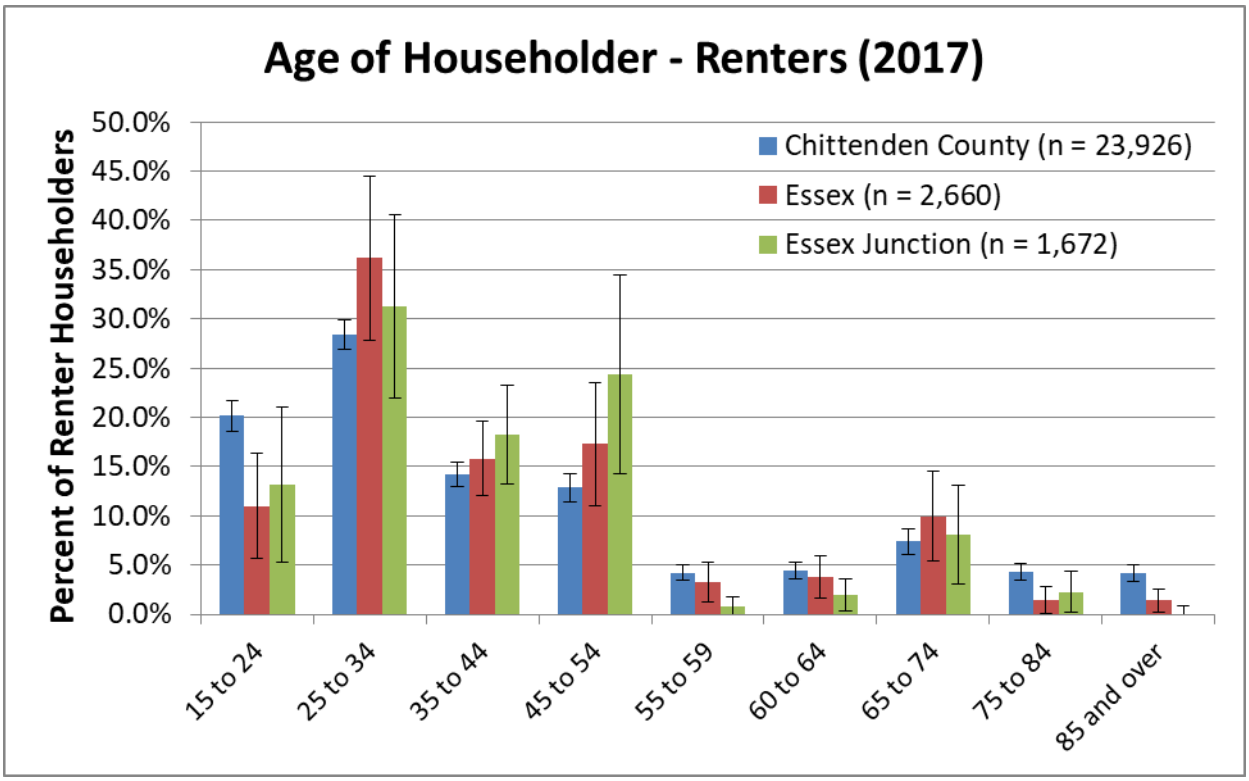
There are numerous different types of residential buildings, ranging from detached single-family homes, to townhouses, to multi-story apartment buildings. Each type can have dwelling units that are rented or owned, though smaller dwelling types without associated land such as apartments, condominiums, and mobile homes are usually less expensive and are generally rented instead of owned. Since households may prefer one building type to another, it is important to consider the mix of building types in a housing market.

Because there are relatively few rental homes in Essex and Essex Junction, when broken down by building type, the MOEs are too high to be reliable, so only county data are shown. Though most rental homes in the county are found in multi-unit apartment buildings, there are a significant number of other building types, including detached single-family homes, townhouses, and duplexes. The proportion of apartment buildings with 10-19 units is notably low. Lending practices and development laws that favor either small or very large buildings contribute to this this national trend of "missing middle" housing, which can provide sorely-needed workforce and middle-income housing.

4.4 Renter Age Distribution

Compared to the population as a whole, renting households are generally young: householders under age 35 account for nearly half of all renters, and those over age 60 account for about 20% or fewer of all renters. In the Town of Essex, there are approximately 526 renting households over the age of 55; approximately 218 of those live in the Village. These units are designed with amenities for the elderly or handicapped, but do not necessarily receive government subsidies.


Chittenden County Rental Homes by Building Type
(2017) Total Homes = 23,926
Boat, RV, van, etc.
0.0%
Multi-family (10 or more)
27.7%
Multi-family (5-9)
16.2%
Multi-family (3-4)
19.9%
Duplex
15.7%
Mobile home
2.9%
Single-family attached (townhouse)
5.5%
Single-family detached
12.1%
0.0%
10.0%
20.0%
30.0%
40.0%
Percent of Rental Dwellings


Age of Householder - Renters (2017)
Percent of Renter Householders
50.0%
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Chittenden County (n = 23,926)
Essex (n = 2,660)
Essex Junction (n = 1,672)
15 to 24
25 to 34
35 to 44
45 to 54
55 to 59
60 to 64
65 to 74
75 to 84
85 and over

4.5 Vacancy Rate

Compared to the number of renter households living in Essex and Essex Junction, at first glance there appears to be a sufficient number of rental homes overall; however, this metric does not indicate how many units are actually occupied. The rental vacancy rate (the number of unoccupied rental units as a percent of all rental units) provides data on one aspect of this.

Census data indicate that rental vacancies were low in Essex and Essex Junction compared to the county prior to the recession (5% is considered a "healthy" vacancy rate; below that, tenants struggle to find homes at a reasonable price. The inverse is true for landlords renting homes). During the recession, the inverse was true and the differences were wider, but still below the "healthy" threshold of 5%. As of 2017, ACS data indicate that vacancy rates for the county have dropped, but are still higher than prior to the recession. Vacancy rates at the municipal level have margins of error that are too high to be statistically valid, but even at the highest range of error, the vacancy rate is less than 3.5% for the Town and just over 5% for the Village. It is possible that the actual vacancy rate is lower than this, so it is reasonable to conclude that it is still a constrained market.

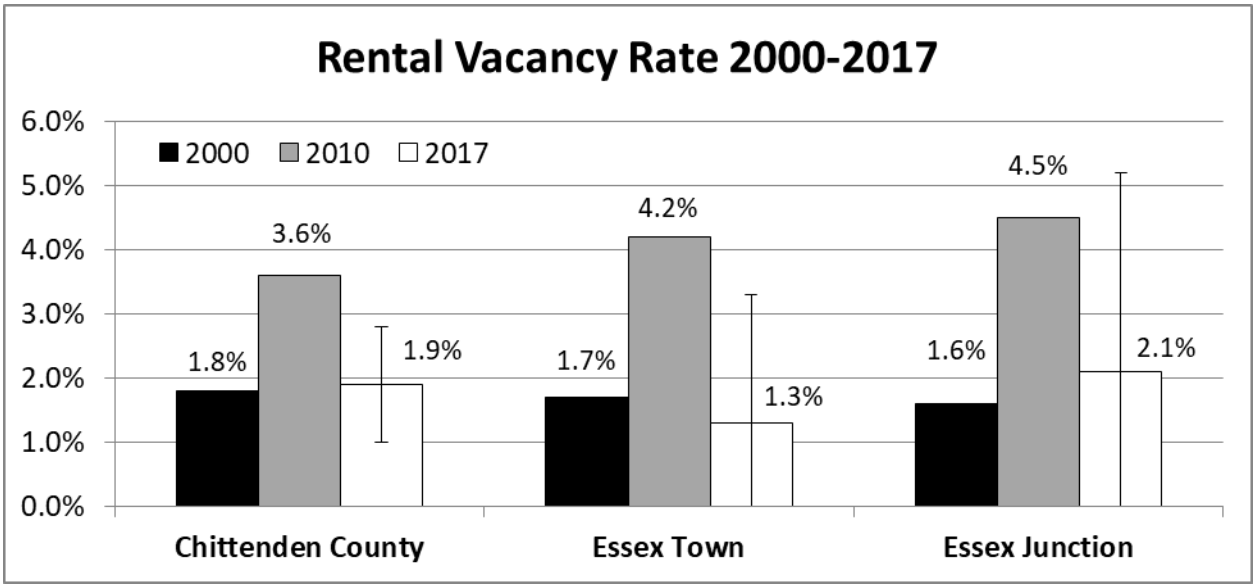
Rental Vacancy 2017	For Rent	For Rent MOE	Total Units	Total Units MOE	Vacancy Rate	Vacancy Rate MOE
Chittenden County	470	+/- 204	24,396	+/- 736	1.9%	+/- 0.9%
Essex Town	35	+/- 52	2,695	+/- 240	1.3%	+/- 2.0%
Essex Junction	35	+/- 52	1,707	+/- 211	2.1%	+/- 3.1%

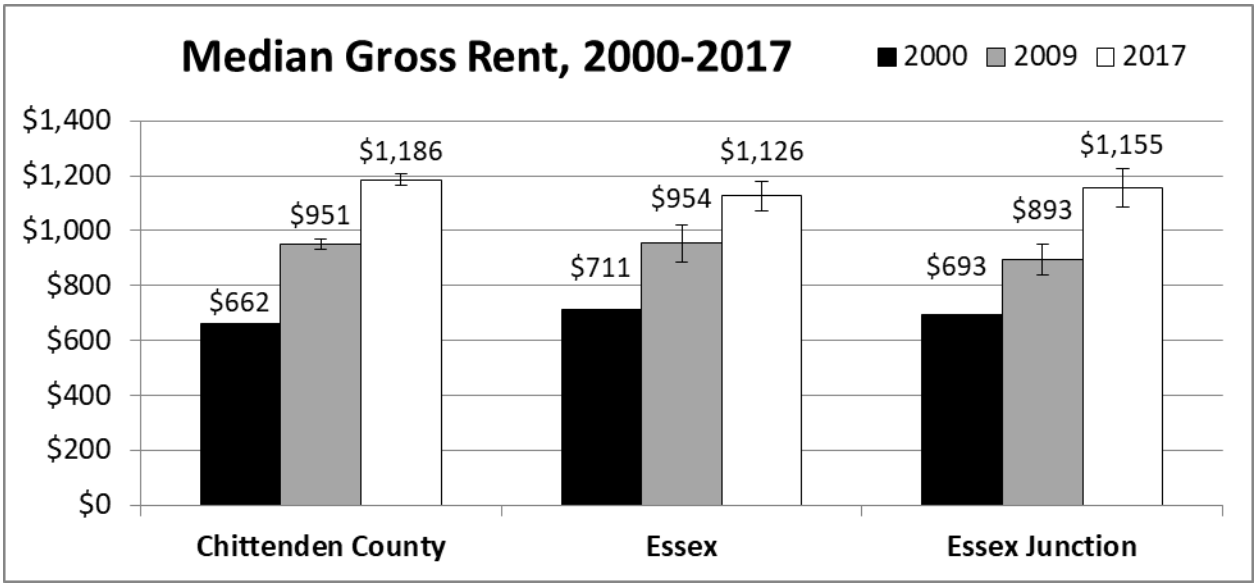
4.6 Median Gross Rent

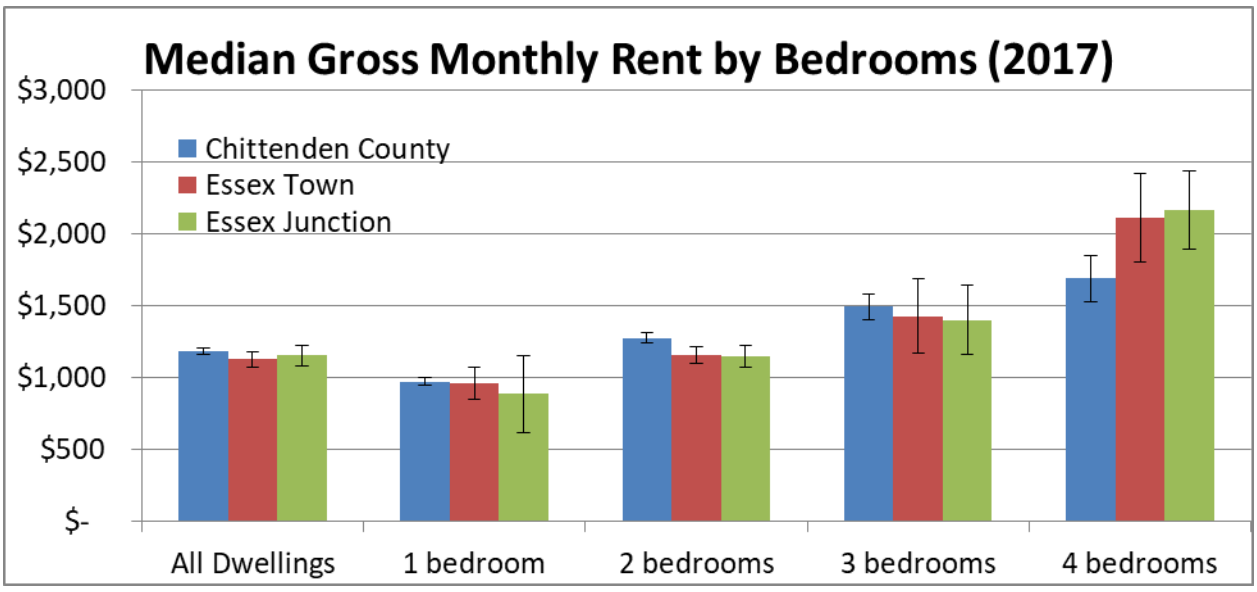
Gross rent refers to the amount that renters pay for their housing and any utilities or fuels associated with the rental. Median gross rent is the 50th percentile of gross rents across a community (with 50% paying more than the median and 50% paying less). Rents are fairly consistent across the county, Town, and Village, but all have risen significantly higher than inflation has over the last 17 years – the average annual rent increase ranges from 3.53% to 4.23%.

4.7 Median Gross Rent by Bedrooms

Median gross rent does not account for differences in price between rental homes of different sizes; the ACS provides a breakdown of median gross rent by number of bedrooms. The differences are consistent over each area. Rents are close to the median for 1 and 2-bedroom units, while larger units tend to be more expensive (though significantly less expensive on a per-bedroom basis).


Rental Vacancy Rate 2000-2017
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
2000
2010
2017
1.8%
3.6%
1.9%
1.7%
4.2%
1.3%
1.6%
4.5%
2.1%
Chittenden County
Essex Town
Essex Junction


Median Gross Rent, 2000-2017
2000
2009
2017
$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
$662
$951
$1,186
$711
$954
$1,126
$693
$893
$1,155
Chittenden County
Essex
Essex Junction


Median Gross Monthly Rent by Bedrooms (2017)
$3,000
$2,500
$2,000
$1,500
$1,000
$500
$-
Chittenden County
Essex Town
Essex Junction
All Dwellings
1 bedroom
2 bedrooms
3 bedrooms
4 bedrooms

4.8 Renter Household Income and Rental Housing Wage

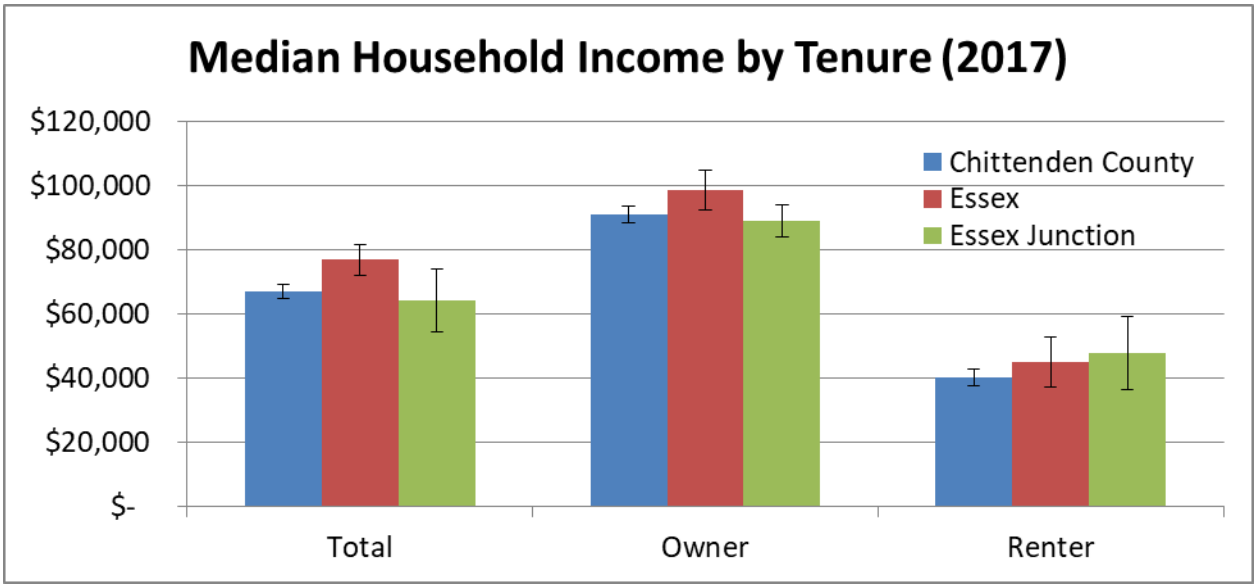
As noted in Section 3.5, median household incomes among renters are significantly lower than among owner households in the county, Town, and Village. That being said, renters in the Village have slightly higher incomes than those in the Town and the county as a whole.

The "rental housing wage" is the minimum income needed to afford a rental home at Fair Market Rent (FMR) using no more than 30% of one's income. Fair Market Rent is the 40th percentile of gross rent (including utilities) for typical, non-substandard rental units reported by recent movers. Rental housing wage can only be calculated at a regional level since the FMR applies an entire metropolitan statistical area (MSA), but the calculation can be broken down by number of bedrooms. The Burlington-South Burlington MSA includes most of Chittenden and Franklin Counties.

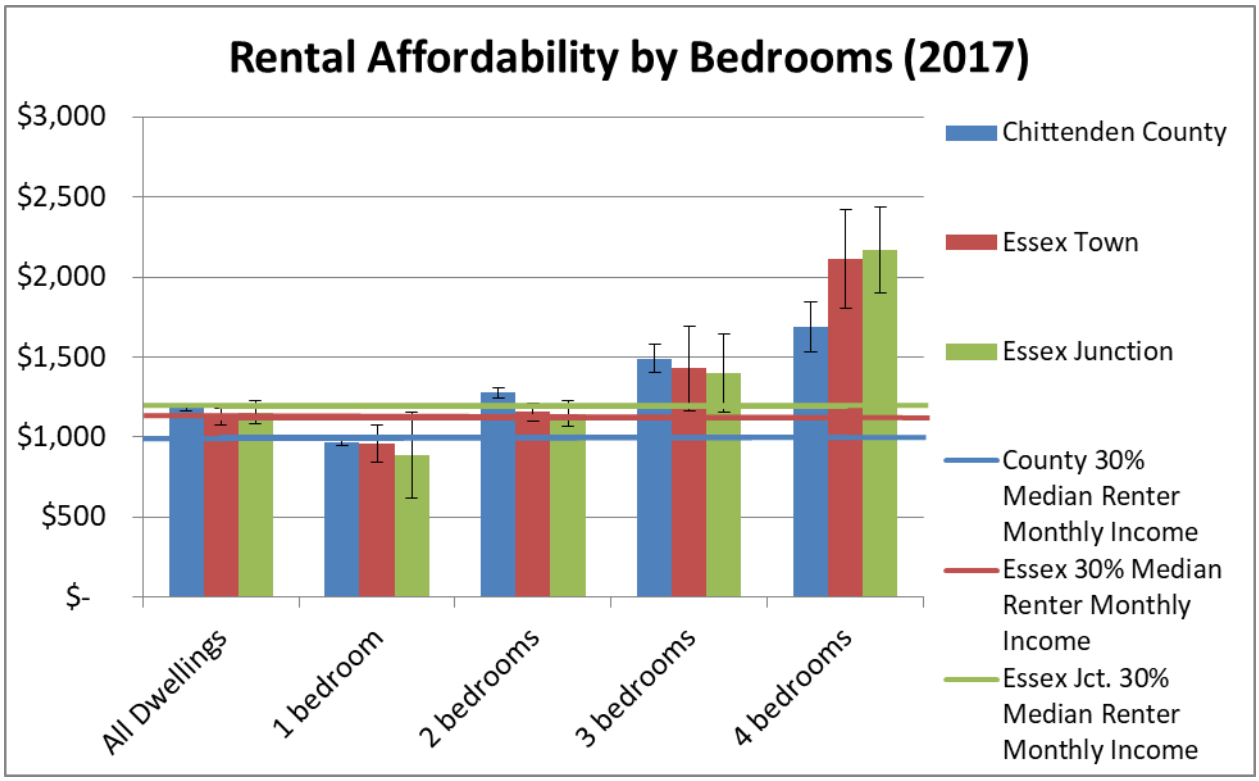
The rental housing wage for a 1-bedroom apartment in the Burlington-South Burlington MSA is over twice the minimum wage for the area. This means that two income earners at minimum wage can barely afford a rental home that meets their needs at median rent. Renting a larger dwelling, a highly likely scenario given the limited number of 1-bedroom or studio rentals, would create significant cost burden for these households.

For households at median incomes, a single wage-earner at median income would pay 30% or slightly more of their income for a 1-bedroom rental home at Fair Market Rent; 3- or 4-bedroom homes would likely require two wage-earners, even for Town and Village households despite their slightly higher incomes. However, the figures here represent median incomes and rents (or in the case of FMR, 40th percentile rents), and do not represent the real situations many renters face in a highly competitive market. The limited supply of lower-rent and smaller (studio and one-bedroom) rentals makes it clear why cost burden is high among over half of renters.

The rental housing wage for a 1-bedroom apartment is over twice the minimum wage for the area.



Renter Housing Wage, 2016 Chittenden County	Number of Bedrooms			
	One	Two	Three	Four
Hourly wage needed to afford FMR at 30% income	$21.56	$27.73	$36.94	$38.94
VT Minimum Wage (Hourly)	$10.50	$10.50	$10.50	$10.50
Housing Wage as % of Minimum Wage	205%	264%	352%	371%
Median Renter Income (Hourly)	$19.23	$19.23	$19.23	$19.23
Housing Wage as % of Median Renter Income	112%	144%	192%	203%



4.9 Renter Cost Burden

Households that spend more than 30% of their income on housing are considered "cost-burdened." These households often have difficulty affording food, transportation, healthcare, and other necessities. Cost-burdened households also are unlikely to be able to save for the future or emergencies, support dependents, or contribute significantly to the economy with their limited disposable income.

In general, cost burden among renters in the area has risen over the last 17 years. By 2017, around half of renters paid more than 30% of their income on rent, and between a quarter and a third paid more than 50% of their income on rent.

4.10 Rental Assistance Programs

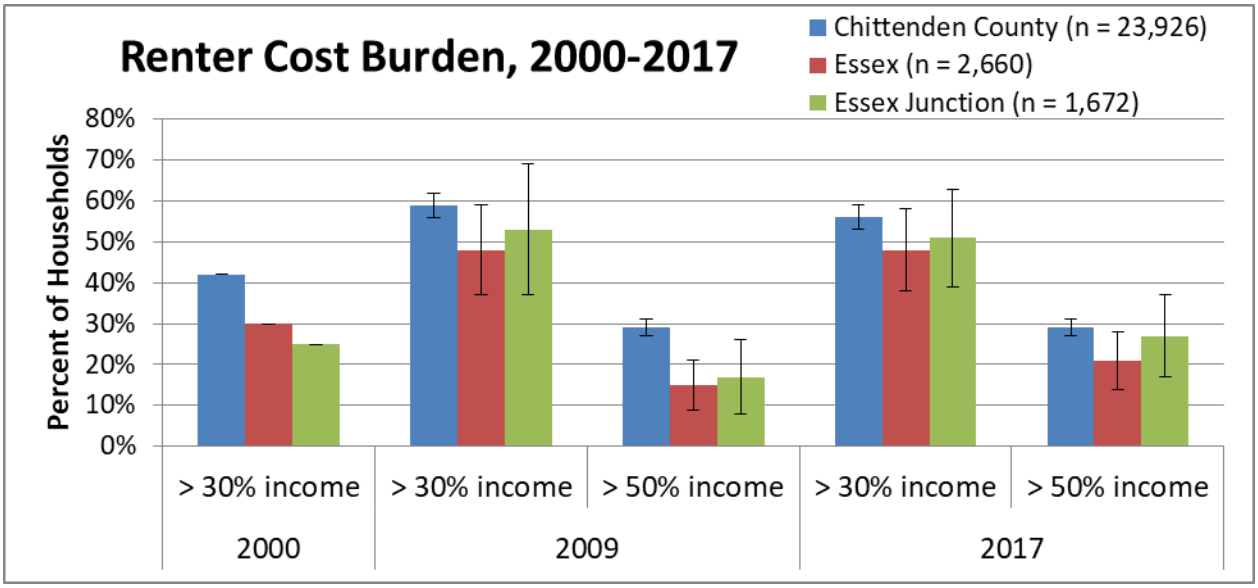
VHFA distributes federal subsidies to rental housing developments that provide units for low-income renters (project-based assistance). Most, if not all, of these affordable housing projects are restricted to tenants whose incomes are below a certain percent of the area median income (AMI), or for other qualifications specified in housing assistance programs. Though these developments represent permanent affordable housing available in the community, because there are so many households in need, the time spent on wait lists for these units ranges from several months to multiple years.

State and local housing authorities administer federal subsidies for another rental assistance program – the Housing Choice Voucher Program (Section 8), which bridges the gap between market-rate rents and what a qualifying low-income renter can afford. Households earning 60% or less of the county median income qualify for rent assistance.

Though project-based subsidies provide permanent, high-quality projects in desirable locations, the voucher program provides more funding and helps more households per dollar spent. However, there are long wait lists for the program (only one in four households in need ever receives a voucher), and it is difficult for renters to find landlords willing to accept the vouchers or who have appropriate units. Information on project-based subsidies and rent vouchers are shown for the Village and the Town including the Village, along with the specific characteristics of the renting populations served.

VHFA estimates that due to limited funding, up to two thirds of Essex households and up to three quarters of Essex Junction households who qualify for rent assistance do not receive it.

VHFA estimates that up two thirds of households in Essex and up to three quarters of those in Essex Junction who qualify for rent assistance are not receiving it. This severe gap in housing assistance is due to both the limited availability of funding for rent vouchers and an insufficient number of subsidized housing projects in Essex relative to the number of households in need. This estimate is based on several major assumptions: 1) that there is an even distribution of incomes through the ACS income brackets; 2) that the distribution of rent vouchers is proportional to the population of Essex and Essex Junction; and 3) half of all voucher holders live in a home with a project-based subsidy.



*Note: Comparison of estimates for Essex Town between 2000 and 2009 are not statistically significant due to high MOEs.

Subsidized apartments	Essex	Essex Jct.
Number of apartment complexes	7	3
Total apartments	285	114
Units limited to senior or disabled tenants	19	19
Units limited to tenants aged 55 and older	136	64
Units limited to disabled tenants	0	0
Accessible/adaptable units	71	25
Units with permanent supportive housing for the homeless	0	0
Units with permanent supportive housing for other types of tenants	0	0

Essex Rental Assistance*	Essex	Essex Junction
Households at or below 60% AMI	1092 (+/- 287)	697 (+/- 232)
Estimated households with vouchers in market-rate homes	77	49
Apartments with site-based subsidies	285	114
Unassisted low-income renter households	730	363
Percent of unassisted households	66.9%	76.6%

*Assumes 1) even distribution of household incomes in ACS data; 2) vouchers are distributed proportional to the municipality's population; and 3) half of all voucher-holders live in homes with project-based subsidies.

5 Homeownership

This section reviews owner-occupied homes, including home values and sales data, as well as the sizes and incomes of owning households, to understand the current state of homeownership in Essex and Essex Junction. In most housing markets, homeowners have higher incomes than renters, and are more likely to stay in the same home for long periods of time. Some homeowners, especially seniors or "empty-nesters," may seek rental housing that provides for special health care needs, such as senior housing, or that simply allows them to downsize.

5.1 Homeownership Rate and Owner-Occupied Housing Stock

As noted in earlier sections, around two thirds of households in the county, Town, and Village own their homes; however, ownership is somewhat higher in the Town overall than in the Village or county. Though the Town and Village track the number of dwelling units built and permitted in their jurisdictions, there is no system to track whether these homes are renter- or owner-occupied. The ACS does track this, but overestimates the total number of units compared to municipal estimates shown in Section 3.15.

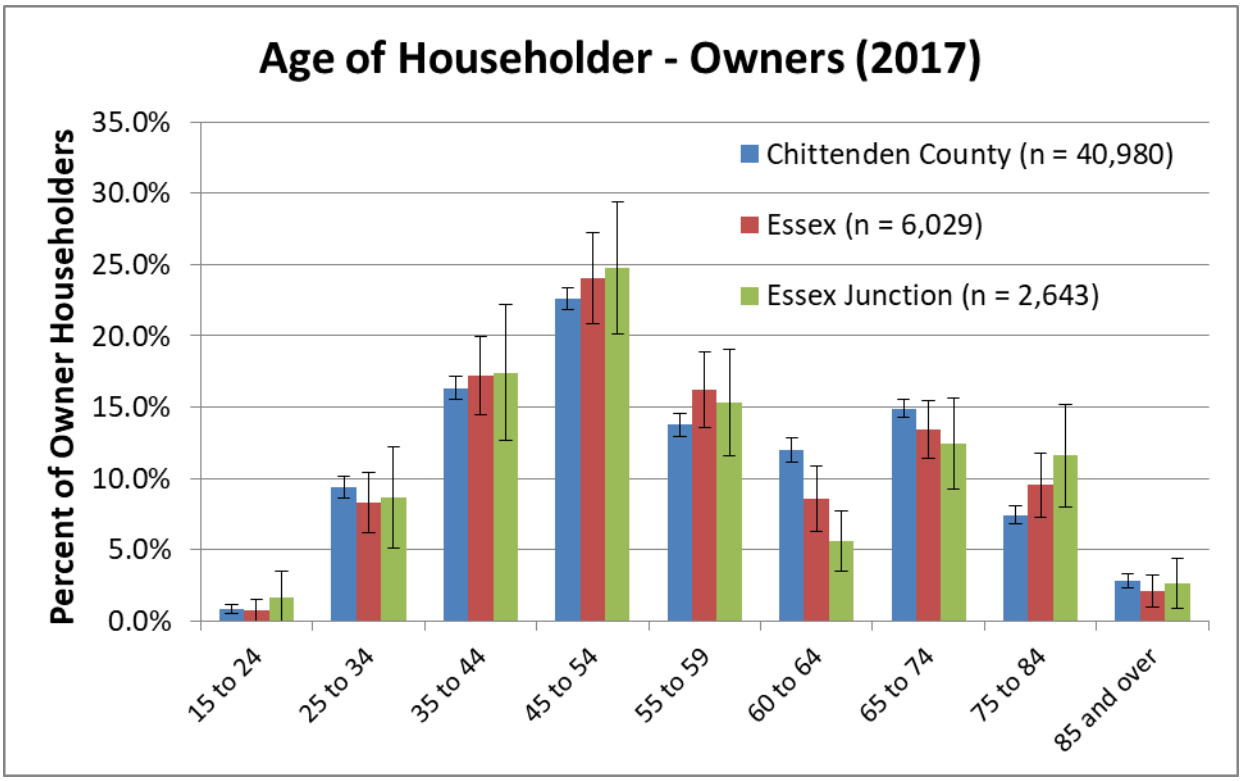
5.2 Homeowner Age

Most homeowners in the county, Town, and Village are between the ages of 35 and 59, though there are a significant number of elderly homeowners (age 65 or older) as well. Compared to the population as a whole, homeownership is skewed towards the middle of the age distribution. This is not necessarily unusual or problematic for householders aged 15 to 24, since they may not have enough savings for a down payment, or may choose not to make the long-term investment of homeownership. Most households who wish to purchase a home do so between the ages 25 to 34. However, in the county, Town, and Village, this age group, which represents about 15% of all households, accounts for less than 10% of owner households but over 25% of renter households.

Whether due to choice, financial circumstances, or limited homeownership choices, these households are staying in rental housing longer than is typical of a housing market. This can have repercussions on these households' long-term financial outlook and their ability to contribute to the local economy, not just the housing market. Though homeownership is more than a financial investment (and shouldn't be the only source of financial security), it does create equity for a household by replacing rent paid to a landlord, decreasing frequent moving expenses, and by the likely increase in home value over time. The Essex Community should encourage homeownership for those who choose to pursue it (though not at the expense of much-needed rental housing).

2017 Ownership	Owner Households		Total Households		% of Households	
	Estimate	MOE	Estimate	MOE	Estimate	MOE
Chittenden County	40,980	+/- 628	64,906	+/- 552	63.1%	+/- 0.8%
Essex	6,029	+/- 274	8,689	+/- 233	69.4%	+/- 2.5%
Essex Junction	2,643	+/- 214	4,315	+/- 200	61.3%	+/- 4.1%

2017 Housing Units by Tenure	Owner-occupied		Total Homes		% of Housing Stock	
	Estimate	MOE	Estimate	MOE	Estimate	MOE
Chittenden County	41,345	+/- 649	41,345	+/- 649	62.7%	+/- 0.8%
Essex	6,177	+/- 301	6,177	+/- 301	69.6%	+/- 2.7%
Essex Junction	2,666	+ /-218	2,666	+ /-218	61.0%	+/- 4.0%



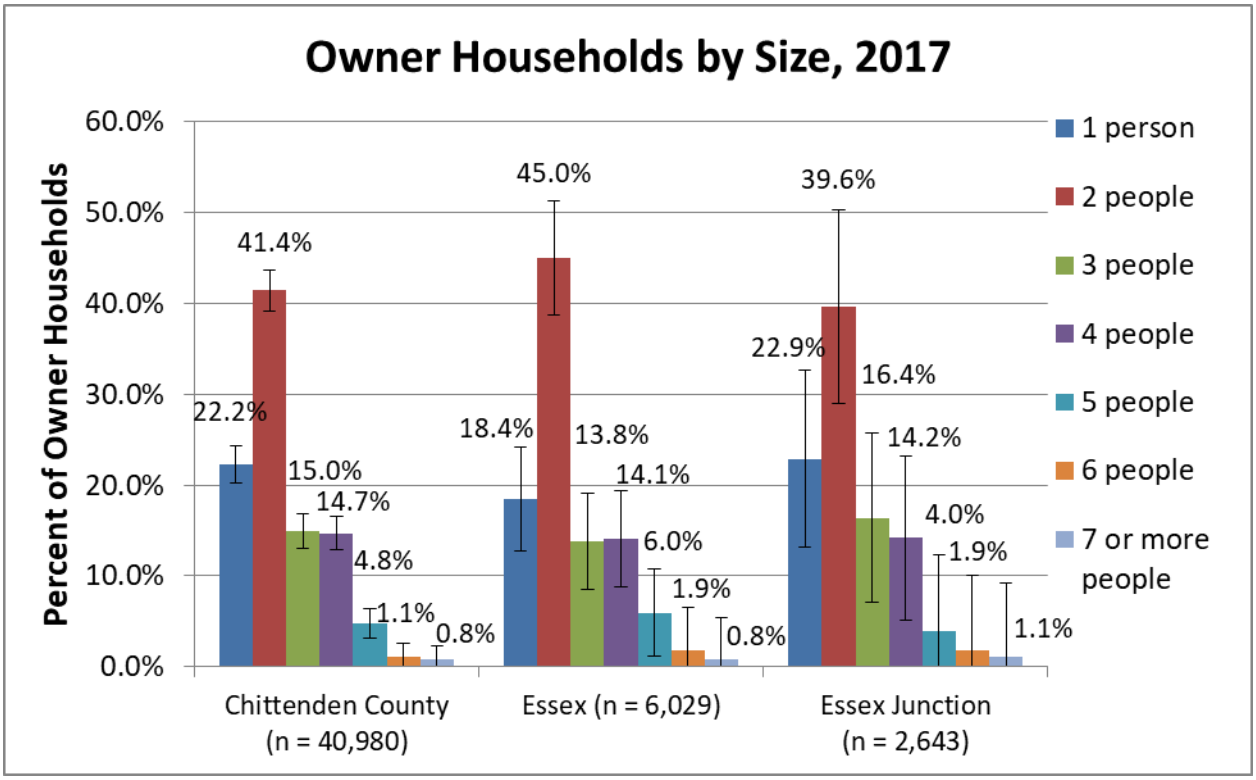
5.3 Homeowner Household Size vs. Owner-Occupied Home Size

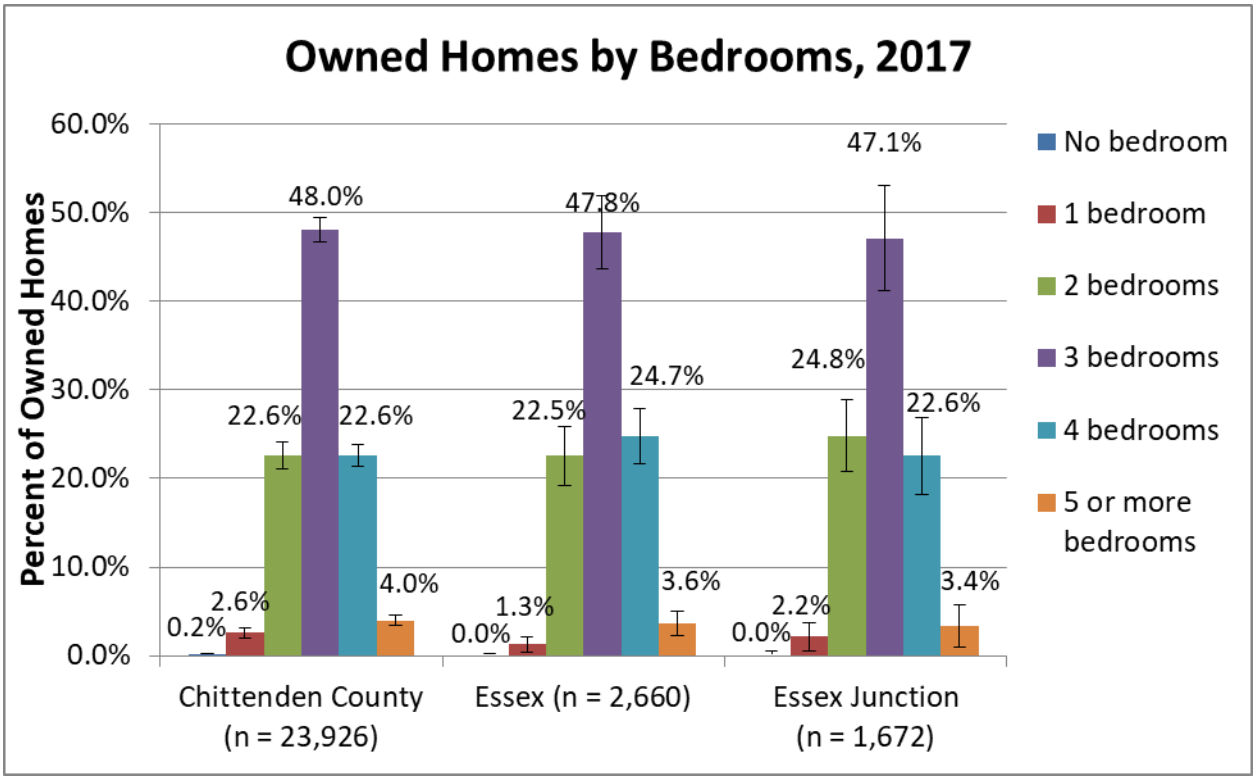
Household size among homeowners is generally higher than among renters, consisting primarily of 2-person households. There are also more 3- and 4-person households among homeowners, but still a significant number of homeowners who live alone.

The distribution of home size in terms of bedrooms is also on the larger side compared to rental homes. Most owned homes have three bedrooms, and nearly all of the rest are either 2- or 4-bedroom dwellings.

At a high-level view, home size appears well-matched to household size among homeowners, who generally won't find one extra bedroom unaffordable. Two-person households are likely comfortable in either a 2- or 3-bedroom home, assuming at least one room is shared and another is used for a child, parent, or guests. Some of these households may plan to grow or may have recently decreased in size.

However, if household size continues to decrease as it has over the last decade or so, the demand for homes with 3 or fewer bedrooms will likely increase, while demand for houses with 4 or more bedrooms will decrease. Depending on their design, these larger properties may eventually be converted to duplexes or rented out.


Owner Households by Size, 2017
Percent of Owner Households
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
22.2%
41.4%
15.0%
14.7%
4.8%
1.1%
0.8%
18.4%
45.0%
13.8%
14.1%
6.0%
1.9%
0.8%
22.9%
39.6%
16.4%
14.2%
4.0%
1.9%
1.1%
Chittenden County (n = 40,980)
Essex (n = 6,029)
Essex Junction (n = 2,643)
1 person
2 people
3 people
4 people
5 people
6 people
7 or more people


Owned Homes by Bedrooms, 2017
Percent of Owned Homes
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.2%
2.6%
22.6%
48.0%
22.6%
4.0%
0.0%
1.3%
22.5%
47.8%
24.7%
3.6%
0.0%
2.2%
24.8%
47.1%
22.6%
3.4%
Chittenden County (n = 23,926)
Essex (n = 2,660)
Essex Junction (n = 1,672)
No bedroom
1 bedroom
2 bedrooms
3 bedrooms
4 bedrooms
5 or more bedrooms

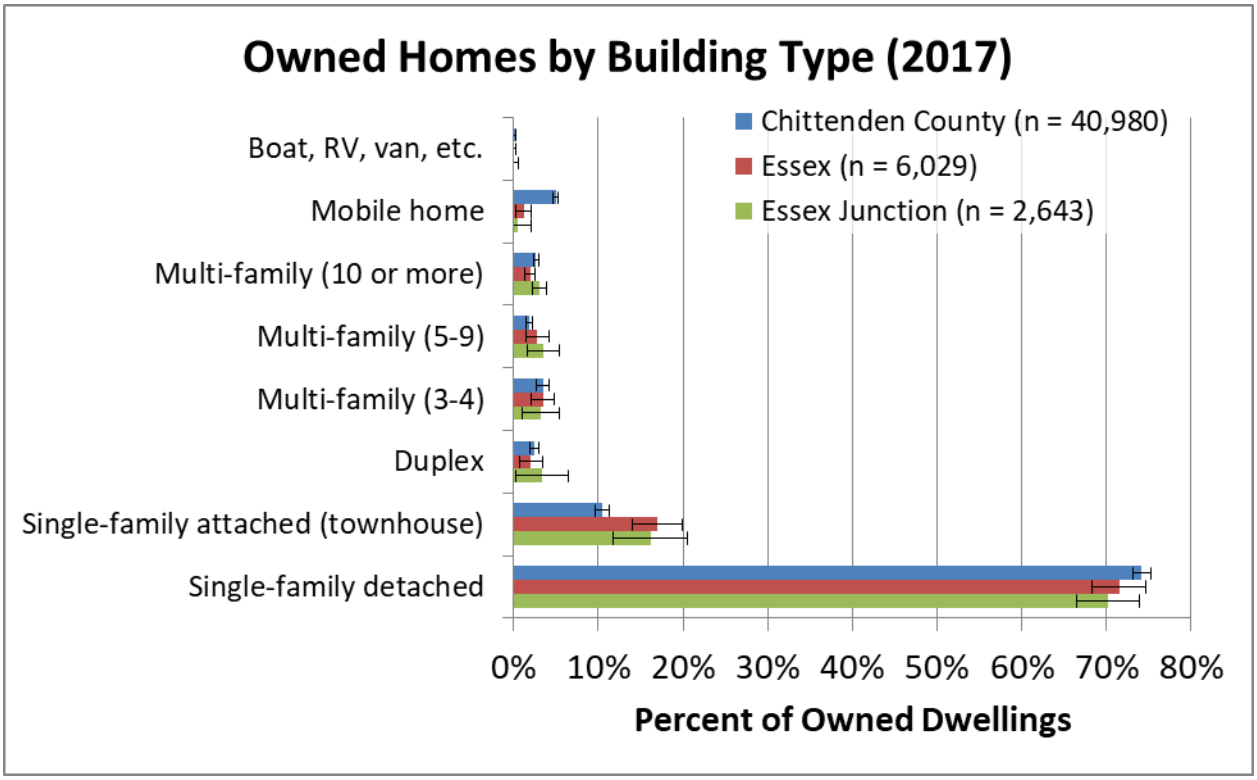
5.4 Owned Homes by Building Type

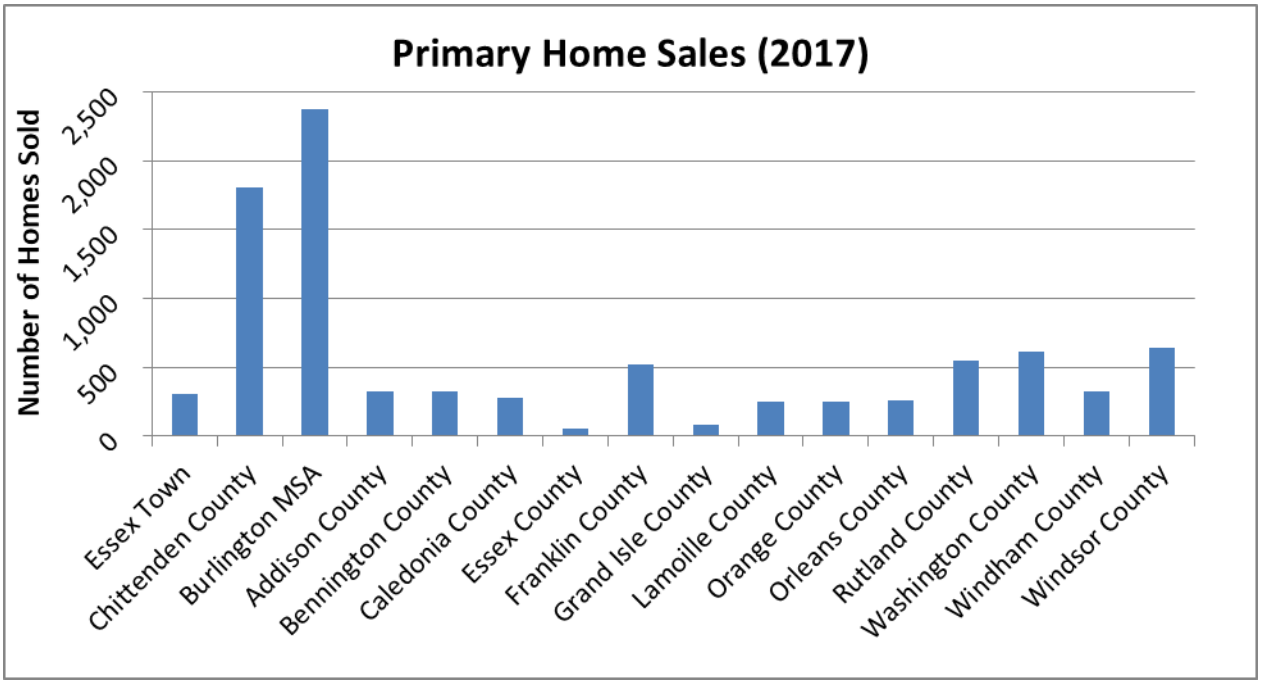
Owner-occupied homes can take on a variety of building types, from detached single-family houses to townhouse developments to multi-family apartment buildings. A vast majority (roughly 70%) of owner-occupied dwellings in the area are single-family detached houses. Most of the remainder are in the form of townhouses (individual homes with at least two floors in a building with two or more such homes), with a small number of duplexes, mobile homes, and multi-family buildings.

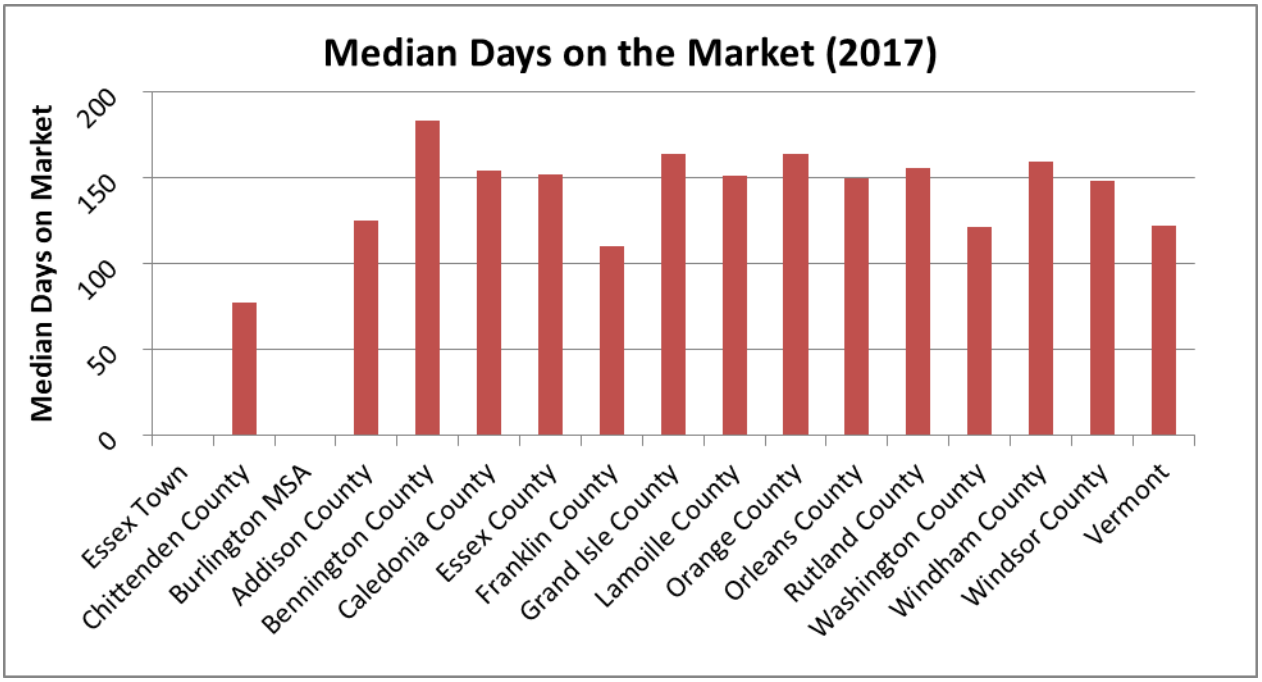
Townhouses and other multi-family homes are often less expensive because they are generally smaller and do not include the value of land surrounding them. These features better fit the needs of smaller households or those looking to downsize as well as first-time homeowners. Encouraging a greater diversity of housing types is stated as a goal in the 2016 Town Plan.

5.5 Demand for Homeownership

There it is possible to calculate a vacancy rate for owned homes (based on the number of homes listed for sale), it is a highly variable measure due to seasonal changes in the market, and the ACS data for small areas has very high margins of error. However, there are several other measures of demand for owner-occupied homes, including the number of primary home sales (not including vacation homes) and the median number of days a house is listed on the market. In a high-demand market, home sales are high and days on the market are low, and vice versa. In 2017, the number of home sales in Chittenden County and Essex Town were among the highest in Vermont by county and town, respectively. Chittenden County had the lowest number of days on the market by far. Both of these figures support the conclusion that homeownership is a highly competitive market in the area. The figures above represent an average of all building types (including single-family detached, condominium, and mobile homes).




Primary Home Sales (2017)
Number of Homes Sold
0
500
1,000
1,500
2,000
2,500
Essex Town
Chittenden County
Burlington MSA
Addison County
Bennington County
Caledonia County
Essex County
Franklin County
Grand Isle County
Lamoille County
Orange County
Orleans County
Rutland County
Washington County
Windham County
Windsor County

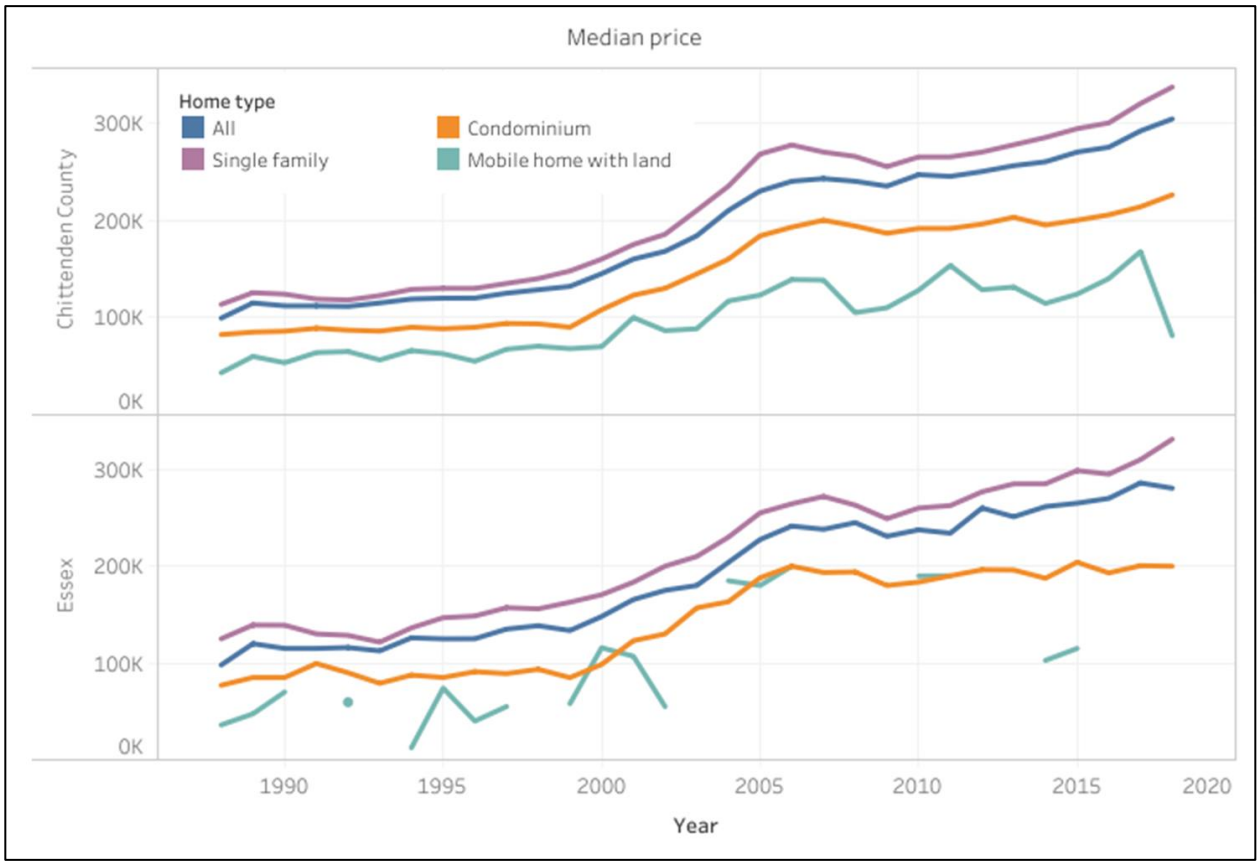

Median Days on the Market (2017)
Median Days on Market
0
50
100
150
200
Essex Town
Chittenden County
Burlington MSA
Addison County
Bennington County
Caledonia County
Essex County
Franklin County
Grand Isle County
Lamoille County
Orange County
Orleans County
Rutland County
Washington County
Windham County
Windsor County
Vermont

5.6 Median Home Sale Price

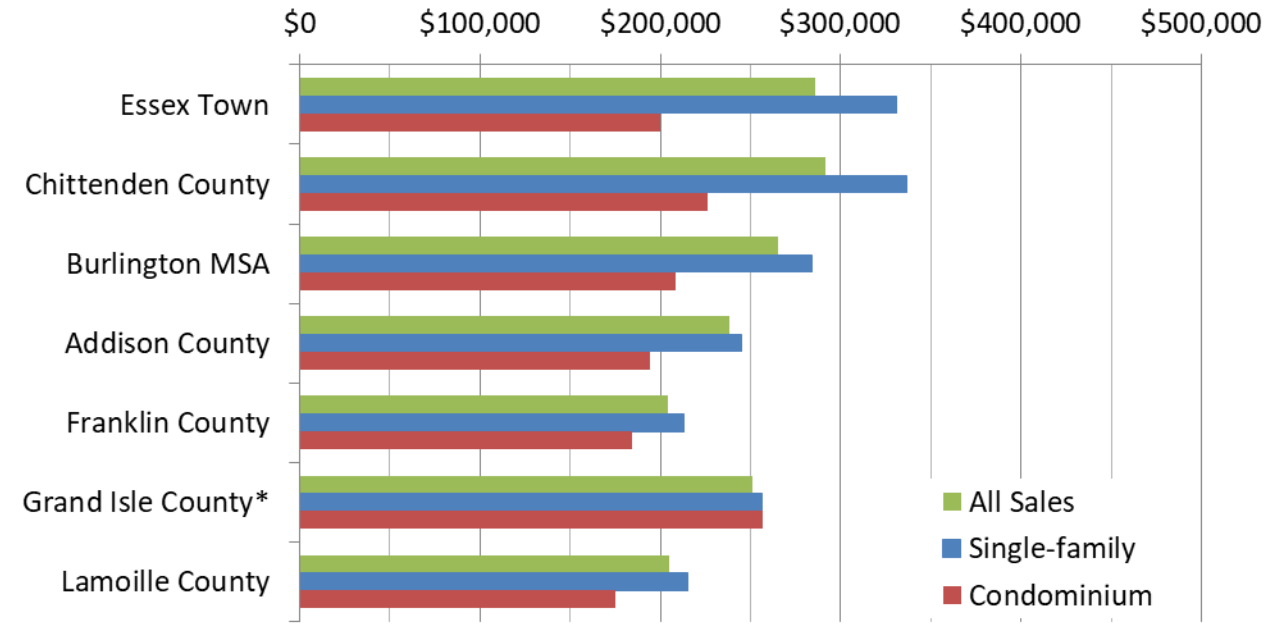
In addition to number of homes sold and days they spend on the market, demand for homeownership can be measured by the median home sale price. Home price depends on a variety of factors, including house size, type, design, location, quality, and many others. However, in general for a given home, prices are generally high in a high-demand market, and vice versa. The graphs below and to the right show data from the Vermont Property Transfer Tax records (sales data is not available at the Village level). Note that mobile homes are not always displayed due to a low number of sales (there were none in many towns), but mobile home sales are factored into the category "All Sales."

Sale prices for single-family homes in Essex and Chittenden County are currently higher than other areas of Vermont, though condominium prices are comparable to other areas. Still, the difference between single-family detached homes and condos is much higher than elsewhere in the state. Compared to other towns in Chittenden County, homes in Essex are relatively affordable, especially condos compared to single-family homes.

Overall, home prices have steadily risen in Essex and Chittenden County over the last two decades, with only a small dip during the recession with an immediate rebound. Economic forecasts predict a recession in the next year or so, but given the market trends in the last recession, it is unlikely that home prices will decrease significantly, and likely will only continue to increase. When broken down by home type, it is clear that single-family homes are mainly driving the increase in home price, while condominium sale prices are steadier, especially in Essex. There are not enough mobile home sales to provide reliable data (many mobile homes are rented rather than owned), but they have generally followed sales trends for other home types.

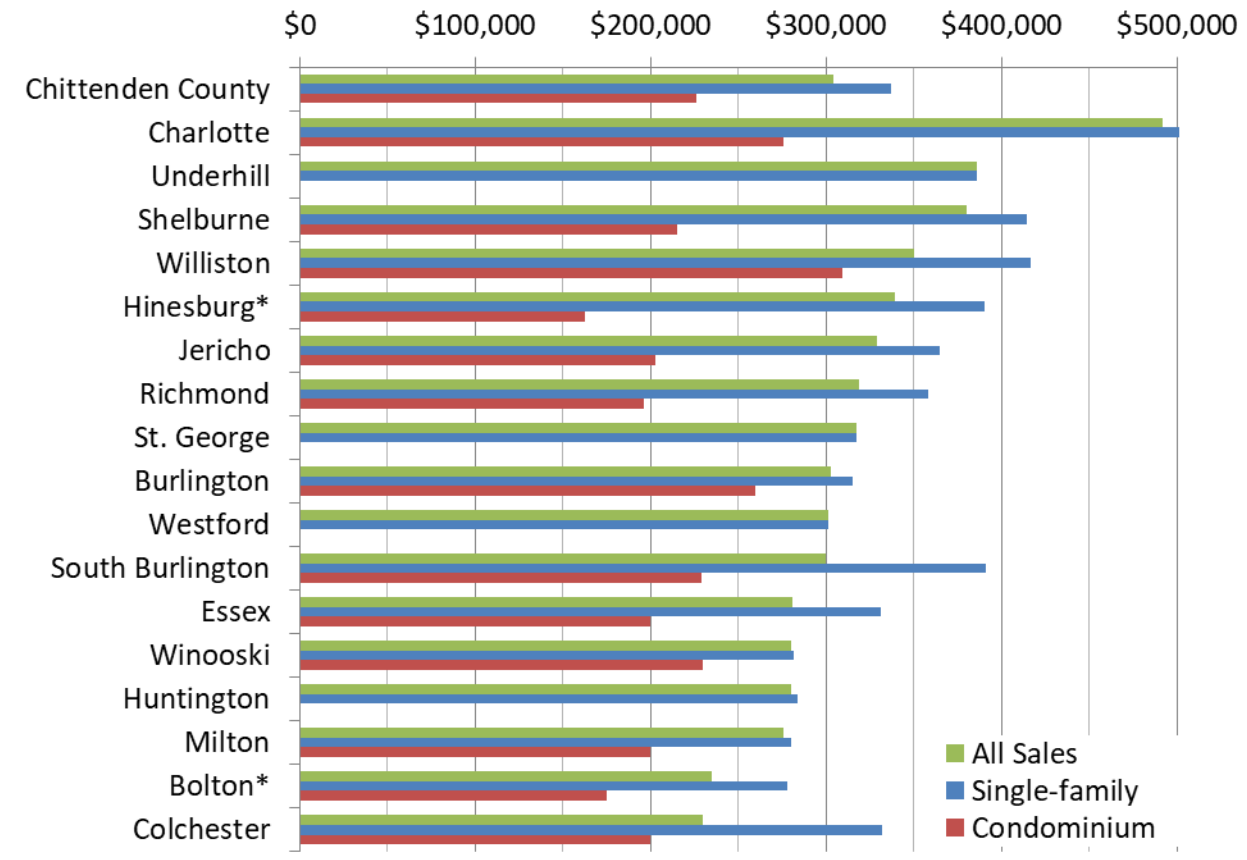


Median Home Sale Price (2017), Selected Counties



*Low reliability, number of condo sales fewer than 10

Median Home Sale Price (2017), Chittenden County Towns



*Low reliability, number of condo sales fewer than 10

5.7 Assessed Home Value

Though it is a good measure of the current market conditions, home sale price only captures a small portion of the value of all homes. Furthermore, market conditions can make home sale prices more volatile compared to the assessed value, the value of a home as judged by the municipality for tax assessment purposes. Though data are not available at the county level due to the differing assessment methods by municipalities, the Essex Assessor's Office provides assessment data for the Town and Village.

As calculated here, the median assessed value of homes includes only residential properties that have declared a homestead on their taxes (as opposed to rental properties), and also removes the value of farm, business, or small rental uses on properties (this applies to a very small portion of homes in Essex). The median assessed value was $250,500 in the Village and $260,400 in the Town as a whole. Looking at the distribution of home values shows that most homes in Essex lie within the range of $200,000 to $300,000 in assessed value, and a large portion are between $200,000 and $260,000. The assessed values of homes in the Village are distributed similarly, though there are more in the range of $250,000 to $300,000.

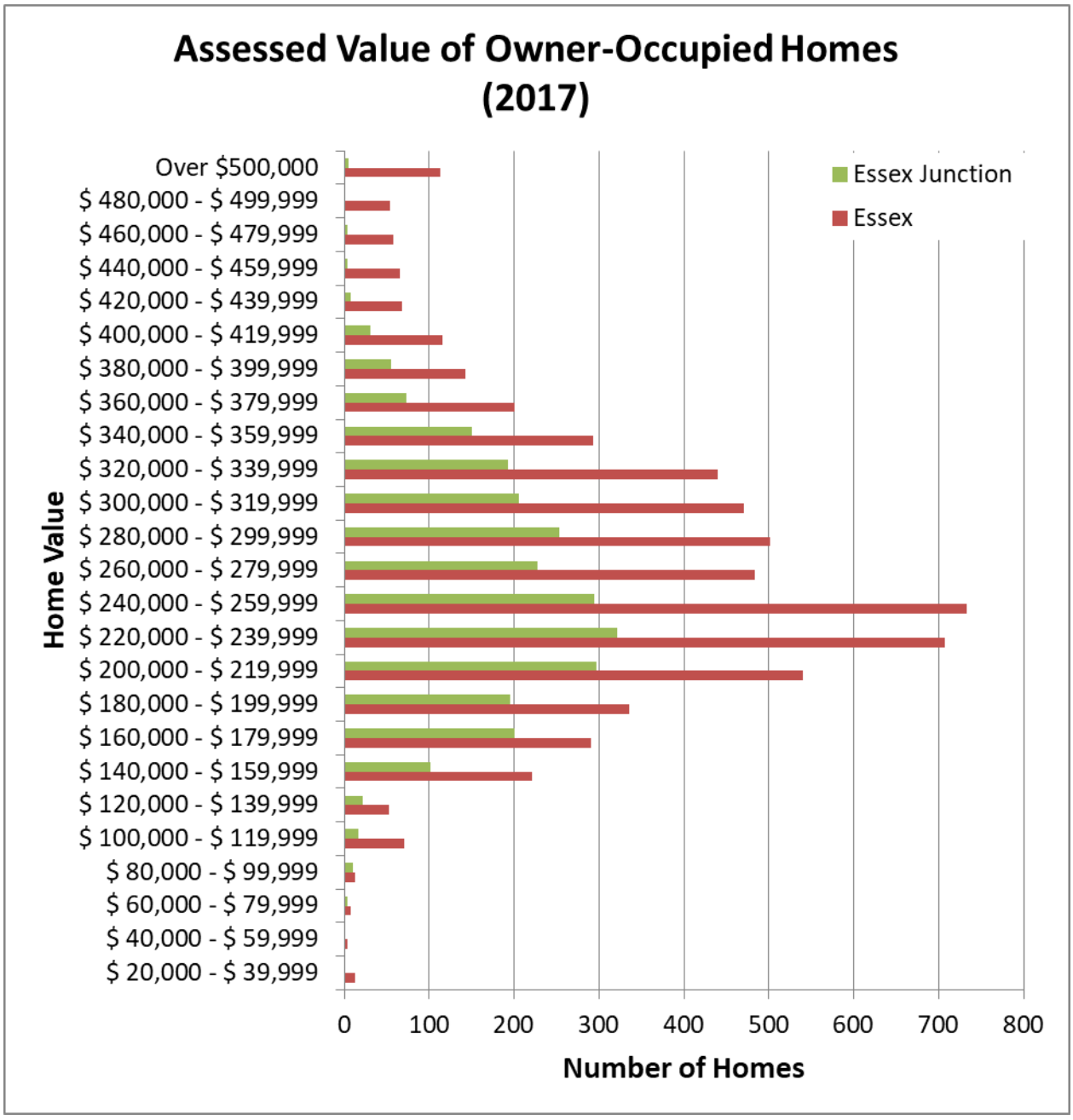
Currently, these are the ranges that households with incomes close to the median can afford. Such naturally-occurring affordable housing represents a significant asset to the Essex community because it allows citizens to build equity and avoid homes with a high cost burden, leaving more disposable income to contribute to the local economy. However, these assessed values are significantly lower than the median sale price for Essex; in other words, homes on the market generally are being sold for higher than the assessed value.

Assessed Home Value	Essex	Essex Junction
Median Assessed Value	$260,400	$250,500
Average Assessed Value	$274,960	$257,447

5.8 Price-Related Differential

Because current sale prices (or market values) often differ from assessed values, the Department of Taxes and municipalities calculate an adjustment to their assessed value for tax equalization purposes known as the Price-Related Differential (PRD). This is also useful in understanding the trends in home sales at the local level. For a given timeframe (generally a 3-year period), the PRD is calculated as the average ratio (for all sales, the average of sale price divided by assessed value for each sale) divided by the aggregate ratio (the sum of all sale prices divided by the sum of all assessed values). A PRD value greater than 1.0 (100%) means that homes are selling for more than their assessed value, an indicator of a high-demand market (the inverse is also true). PRD values presented here do not remove the value of farm, business, or small rental uses as calculated for median assessed value above.

The PRD for the Village indicates that homes are selling for just above their assessed value, but in the Town as a whole, they are selling for a fair amount higher than the assessed value. This may be due in part to the larger size of properties in the areas of the Town outside the Village (since areas of land without a house site are not factored out of these sale prices). However, it may also be due in part to recent construction of new luxury homes in areas of the Town outside the Village. A third possibility is that demand is higher in the Town outside the Village than for comparable homes in Village.



Price-Related Differential (April 2015-May 2018)	Essex	Essex Junction
Average Sale Price	$279,984	$272,694
Average Assessed Value	$263,833	$256,587
Mean Ratio	95.19%	81.13%
Aggregate Sale Price	$321,981,122	$142,346,108
Aggregate Assessed Value	$303,407,700	$133,938,200
Aggregate Ratio	94.23%	94.09%
Price-Related Differential	101.02%	100.86%

5.9 Home Price Affordability Calculator

Similarly to the rental housing wage, one can calculate the income needed to afford a home at the median sale price for a given area. The VHFA maintains a "Home Price Affordability Calculator" into which a user can enter a home price to determine the income needed to afford it, or a household income to determine what sale price a household can afford. The assumptions used in this calculation include the following:

- 5% down payment
- Average mortgage interest rates
- Average property taxes
- Average closing costs
- Average property and private mortgage insurance premiums
- Allocation of no more than 30% of household income to housing costs

The calculator shows that, for the Town and the county, the median sale price for single-family homes is far above what a median income household can afford. Though households at higher incomes may be able to afford these homes, the majority cannot, and very few renting households could purchase such a home. Condominiums are more within reach for the average household, but are still expensive to most renting households. Considering that roughly half of renting households in the area are cost-burdened, they also likely are unable to save enough cash for closing costs.

5.10 Home Price Affordability Index

The ratio of home sale price to county median household income is termed the Home Price Affordability Index (HPAI), and should be no more than 3.15 for a given area (above that, households likely spend more than 30% of their income on their home). In Chittenden County, the HPAI has hovered around 4.0 for the last 10 years; when indexed to the median income among renters, the county HPAI is 8.42 for a single-family home and 5.65 for a condominium. This means that homes for sale are already unaffordable for most households, but certainly out of reach for most renting households.

When 2017 home prices in Essex are indexed to 2017 median incomes for Essex, HPAIs were lower than for the county as a whole due to higher local incomes, but the differences are consistent across home types. Even so, most households (renter or overall) can only reasonably afford a condominium. The HPAI is not calculated at the Village level because sales data is not available at that level.

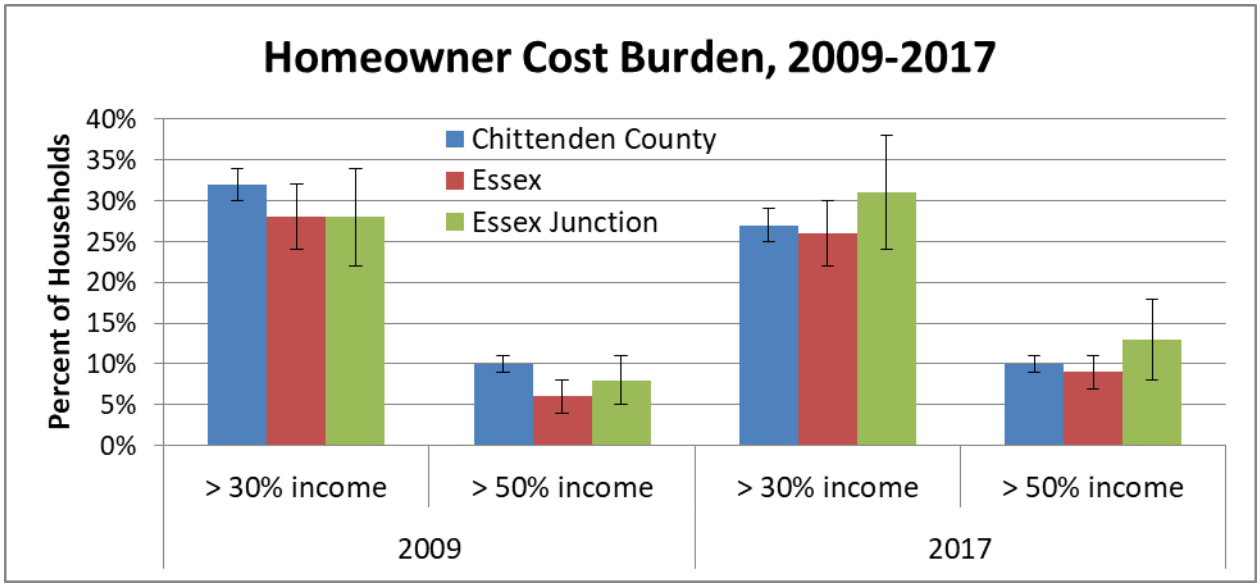
5.11 Homeowner Cost Burden

Though not as high as renter cost burden, homeowner cost burden in the area is still significant – nearly a third of homeowners in the county, Town, and Village pay more than 30% of their income on housing. Around 10% of those in the county and Town pay more than half of their income on housing, but in the Village, that is true for 8-21% of homeowners. Furthermore, the number of homeowners with >30% cost burden have decreased at the county level since 2009, but the number with >50% cost burden has increased within the Town (other comparisons between 2009 and 2017 are not statistically significant). This suggests that many homeowners are purchasing homes above their means. This could be partly because home prices have risen, while incomes for area residents have not kept pace. Another possible explanation is that the limited savings of cost-burdened renters forces them into a low down-payment on their first home, which results in a higher mortgage than they would prefer. In either case, the root cause is a misalignment of household incomes and homeownership costs.

Home Affordability Calculator Chittenden County (2017 data)	Median income approach		Median sale price approach	
	Total (Renter and Owner)	Renter	Single-Family Home	Condo
Annual Household Income	$66,906	$39,989	$105,929	$71,318
Home sale price	$212,000	$126,000	$336,750	$226,000
Cash needed at closing	$20,247	$13,238	$30,414	$21,388

Home Affordability Calculator Town of Essex (2017 data)	Median income approach		Median sale price approach	
	Total (Renter and Owner)	Renter	Single-Family Home	Condo
Annual Household Income	$66,906	$44,848	$104,121	$63,113
Home sale price	$212,000	$141,250	$331,050	$199,950
Cash needed at closing	$20,247	$14,481	$29,946	$19,269

Home Price Affordability Index (2017)		Median sale price	All households		Renting households	
			Median income	HPAI	Median income	HPAI
All homes	Chittenden County	$304,000	$66,906	4.54	$39,989	7.60
	Town of Essex	$280,500	$76,677	3.66	$44,848	6.25
Single-family	Chittenden County	$336,750	$66,906	5.03	$39,989	8.42
	Town of Essex	$331,050	$76,677	4.32	$44,848	7.38
Condo	Chittenden County	$226,000	$66,906	3.38	$39,989	5.65
	Town of Essex	$199,950	$76,677	2.61	$44,848	4.46



*Between 2009 and 2017, the number of homeowners spending more than 30% of their income on housing is not statistically different in Essex and Essex Junction; for those spending more than 50%, it is not statistically different in Chittenden County and Essex Junction.

6 Housing for the Elderly and Supportive Housing

Having a reliable, comfortable place to call home is crucial to a stable lifestyle – without that, challenges that some perceive as minor can severely disrupt a person's physical, mental, and financial well-being. For instance, someone with a mobility issue may need to find adapt a unit to meet ADA standards. Another person afflicted with dementia may need to find a memory care facility or home help aide as the disease progresses. Someone with substance abuse issues exiting a treatment program may need recovery housing to help them transition back to regular housing. And someone who is recently evicted or fleeing a domestic violence situation may need temporary and safe shelter until a long-term home can be found.

These circumstances typically require different types of housing than are normally found in the market, and often require involvement of non-profits and governments. This section examines the demand for these types of housing in Essex and the availability of programs to serve those needs.

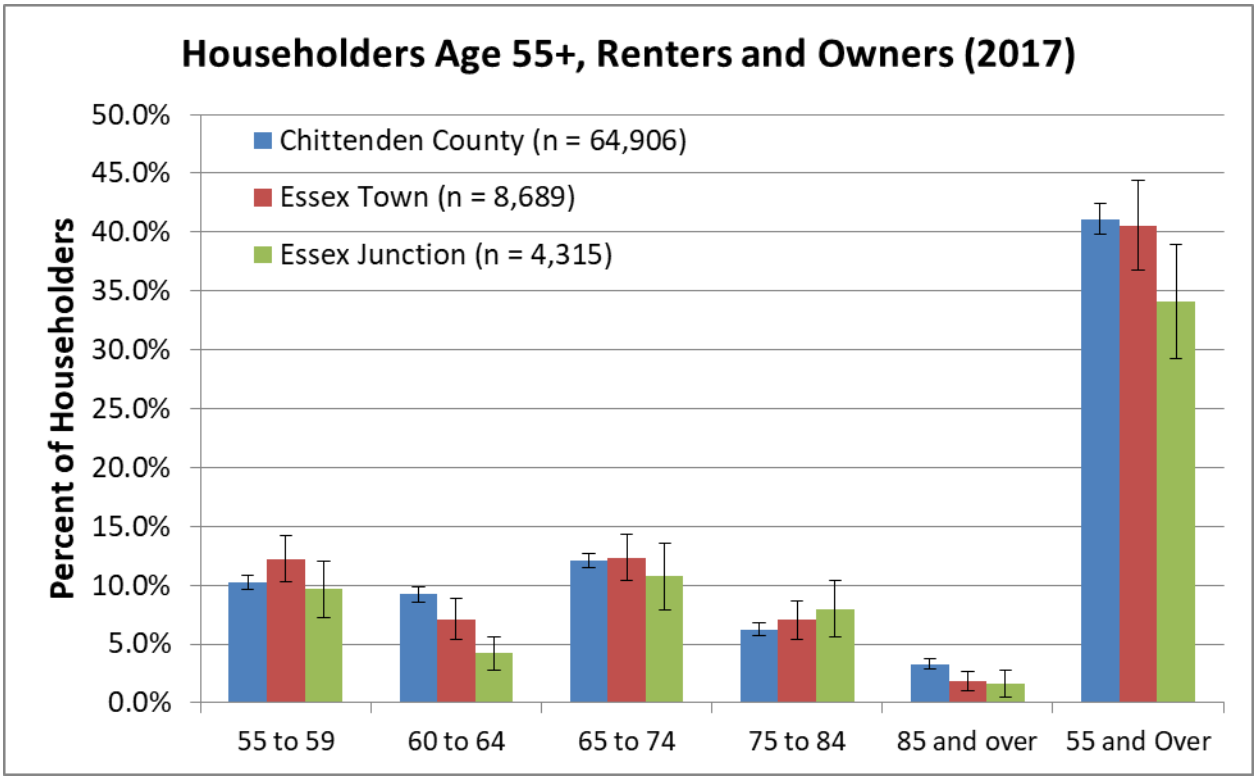
For the purposes of this assessment, the population considered elderly will be those eligible to live in congregate housing. Also sometimes referred to as senior housing, congregate housing is generally limited to occupants aged 62 years or older, or persons with disabilities. Federal, state, and Essex housing regulations also state that congregate housing developments may be occupied by those as young as age 55 as long as 80% of the dwelling units are occupied by someone at least age 55 or older, or someone with a disability. Congregate housing may be market rate, but are usually subsidized by federal and state housing programs. Congregate housing may be designed with fully independent living quarters for each dwelling unit, or with shared meal or other communal areas; however, congregate housing does not include assisted living, nursing, or memory care facilities.

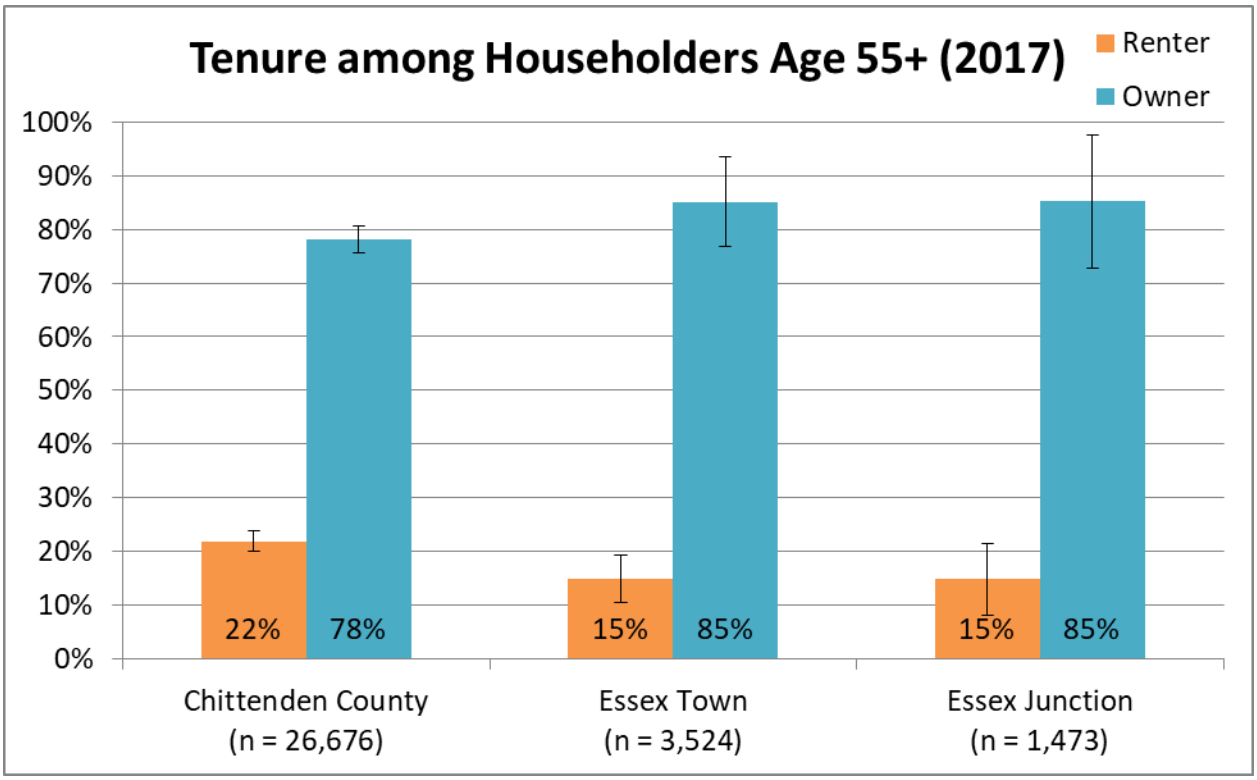
6.1 Elderly Households and Tenure

It is useful to consider the cohort of those aged 55-62 when analyzing elderly populations because even if such individuals do not currently need or qualify for certain congregate housing developments, many will within the next 5-10 years.

In 2017, roughly 40% of all households in Chittenden County and Essex Town were age 55 or over (the figure is closer to 35% in Essex Junction). This amounts to 3,524 (+/-332) households in the Town and 1,473 (+/-209) in the Village. In Essex and Essex Junction, 85% of these householders own their home rather than rent.

Depending on personal preference, health condition, financial resources, and limited availability of congregate rental housing (discussed further in Sections 6.3 and 6.4), many of those homeowners will choose to age in place rather than move into senior living communities. Some homes may require alterations and upgrades, such as ramps, lifts, or relocated entrances, to ensure comfort and safety as mobility issues arise for homeowners. It is difficult to know how many of these households are in need of financial or other forms of assistance because the ACS and VHFA do not specifically collect such information, and small sample sizes would skew the results if they did. Nevertheless, the Essex Community should support outreach and services such as home sharing, home health aides, and senior transportation, to ensure these households remain safe, comfortable, and as self-sufficient as possible as they continue to age.


Householders Age 55+, Renters and Owners (2017)
Percent of Householders
50.0%
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Chittenden County (n = 64,906)
Essex Town (n = 8,689)
Essex Junction (n = 4,315)
55 to 59
60 to 64
65 to 74
75 to 84
85 and over
55 and Over


Tenure among Householders Age 55+ (2017)
Renter
Owner
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
22%
78%
15%
85%
15%
85%
Chittenden County
(n = 26,676)
Essex Town
(n = 3,524)
Essex Junction
(n = 1,473)

6.2 Household Income among the Elderly

ACS statistics for income among householders aged 65 or older have high MOEs for Essex and Essex Junction, but county figures show that incomes are somewhat evenly distributed. However, financial stability among elderly households can vary widely depending on income (including wages, retirement savings, and social security), medical and household expenses, and the portion of income actually spent on housing.

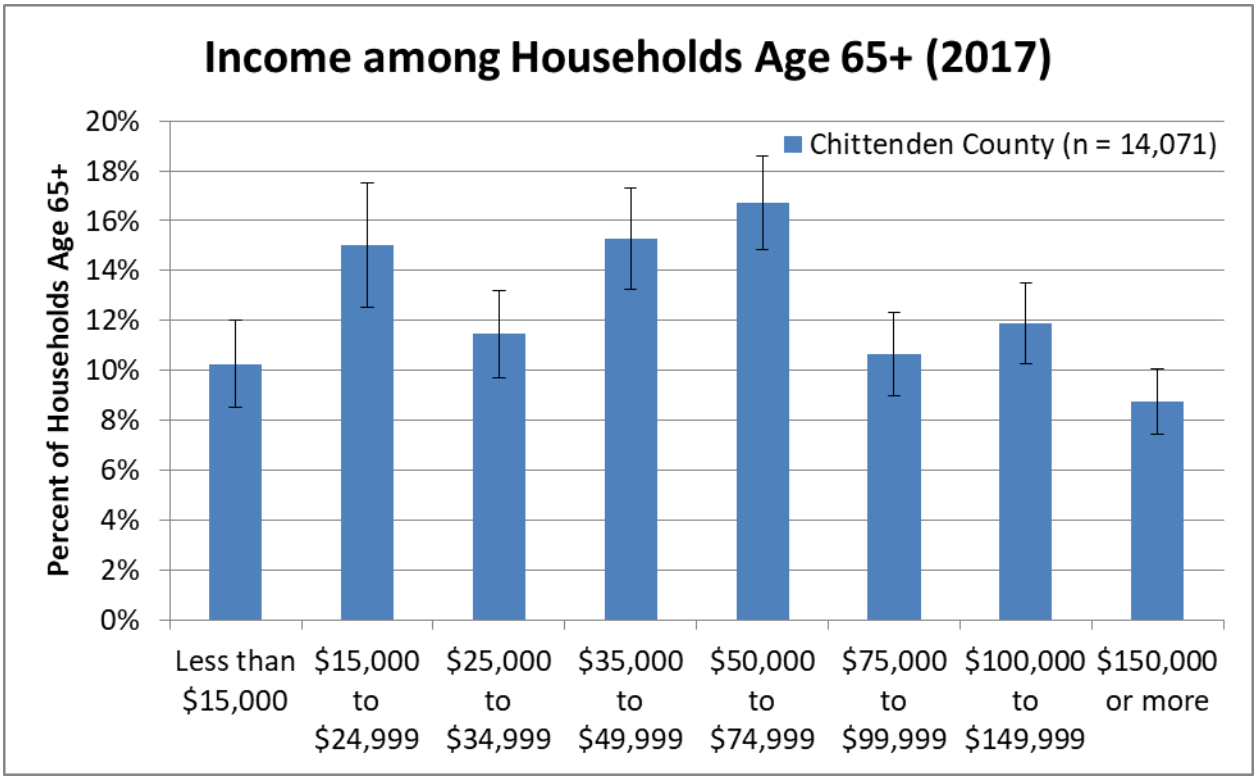
Elderly households who spend more than 30% of their income on housing are generally eligible to live in subsidized rental homes. In Chittenden County, this represents roughly 60% (+/-1.5%) of all householders aged 65 years or older. Again, Essex and Essex Junction figures have high MOEs, but assuming that the proportion of cost-burdened elderly households is the same, about 130 elderly households in Essex and 59 in Essex Junction pay more than 30% of their income on housing, and likely would be eligible for subsidized housing.

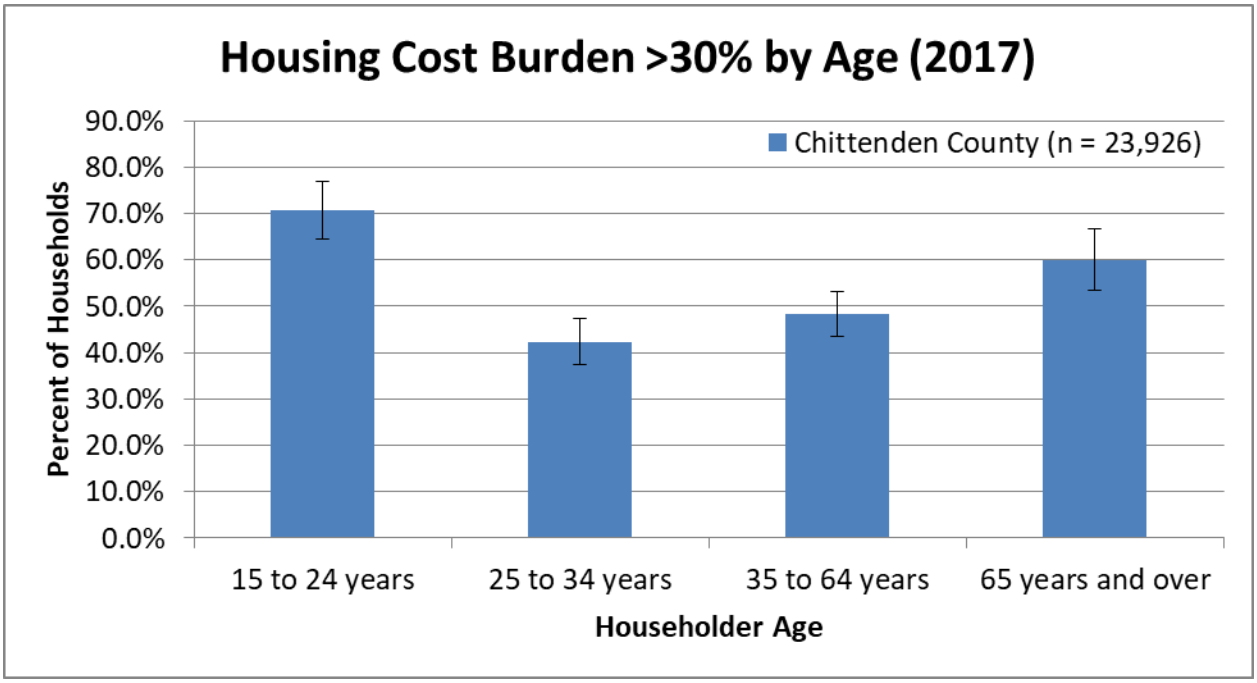
6.3 Senior Housing Stock

As noted in Section 4.10 (Rental Assistance Programs), there are 136 VHFA-subsidized apartments limited to those aged 55 and older in Essex, of which 64 are in Essex Junction. In order to provide affordable homes for the cost-burdened households (which do not currently occupy the subsidized units), Essex and Essex Junction would need to more than double the number of subsidized units available to this age group without displacing households in apartments not limited by age. As noted in Section 4.10, the wait lists for subsidized apartments are several months to a year, and sometimes multiple years for larger units.

Subsidized apartments	Essex	Essex Jct.
Number of apartment complexes	7	3
Total apartments	285	114
Units limited to senior or disabled tenants	19	19
Units limited to tenants aged 55 and older	136	64
Units limited to disabled tenants	0	0
Accessible/adaptable units	71	25
Units with permanent supportive housing for the homeless	0	0
Units with permanent supportive housing for other types of tenants	0	0

In addition to the 285 apartments subsidized by VHFA, there are also several market-rate apartment buildings designed for seniors that are recently-built or under construction which do not limit potential occupants by age or qualification for subsidies. These include a 43-unit building at 15 Park Street planned to open in 2019; and a 27-unit building located at 5 Freeman Woods and planned to open in 2020. There is also a 50-bed memory care facility located at 6 Freeman Woods, and a 71-bed assisted living facility has received approval for development at 2 Freeman Woods but has not started construction yet. A 100-bed assisted living facility located at 18 Carmichael Street was completed in 2014.

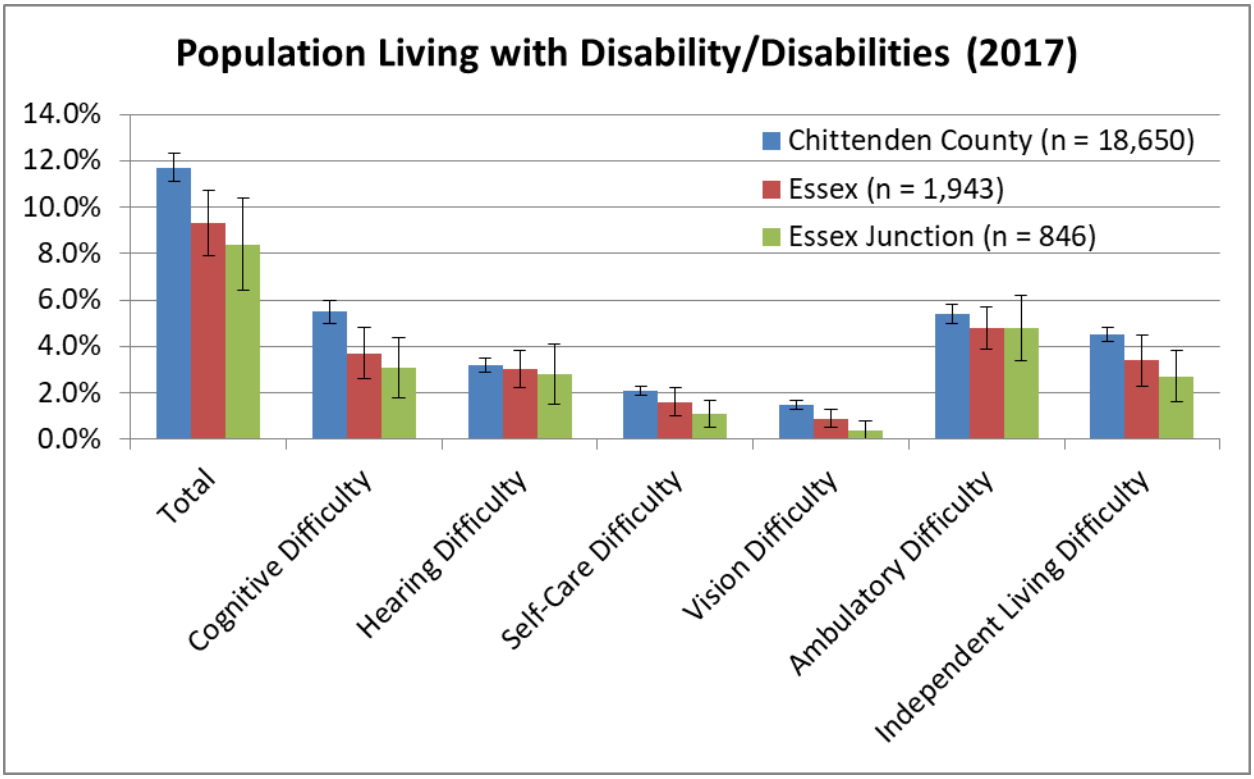

Income among Households Age 65+ (2017)
Percent of Households Age 65+
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
Chittenden County (n = 14,071)
Less than $15,000
$15,000 to $24,999
$25,000 to $34,999
$35,000 to $49,999
$50,000 to $74,999
$75,000 to $99,999
$100,000 to $149,999
$150,000 or more


Housing Cost Burden >30% by Age (2017)
Percent of Households
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Chittenden County (n = 23,926)
15 to 24 years
25 to 34 years
35 to 64 years
65 years and over
Householder Age

6.4 Population Living with Disabilities

The ACS estimates that around 8% of the population of Essex and Essex Junction live with some sort of disability. The prevalence of different types of documented disabilities is shown alongside the total portion of those with disabilities, but note that some individuals may have multiple disabilities.

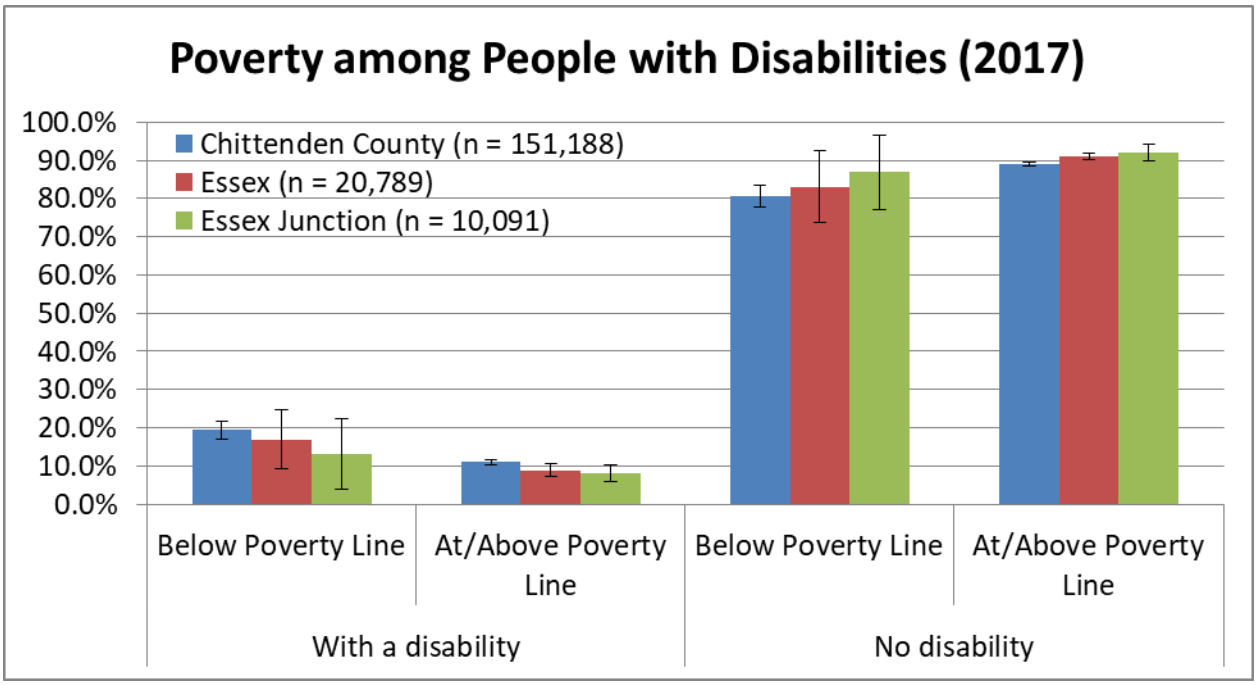
These individuals and their households may require unique housing arrangements similar to those who are elderly. In fact, there is significant overlap in those populations – about 36% of Chittenden County residents with a disability are age 65 or older, and another 36% are age 35 to 65. Due to low sample size, figures for Essex and Essex Junction have high margins of error and are not presented here.

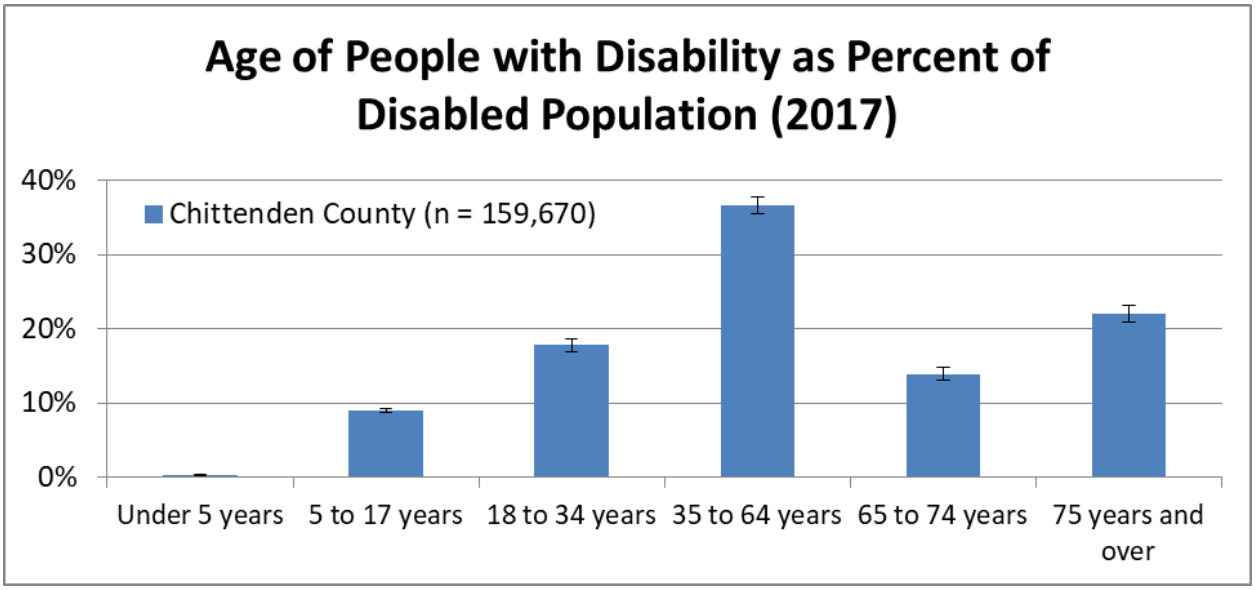


6.5 Poverty among People with Disabilities

The ACS does not collect data on income specific to people living with disabilities; however, it does calculate the ratio of their incomes compared to federal poverty thresholds, which is used to determine eligibility for federal funding programs. The poverty threshold income varies by family size and household expenses; further information about how it is calculated can be found from the U.S. Department of Health and Human Service webpage on poverty.

Though figures for Essex and Essex Junction again have high MOEs, it is clear that at least in Chittenden County, a person living with a disability is more likely to have an income below the poverty threshold, and vice versa. This may indicate that such individuals face difficulty in finding an affordable home, and that up to a quarter of subsidized housing could be occupied by someone with a disability. This is roughly in line with the proportion of ADA-accessible or adaptable subsidized apartments in Essex (25%) and Essex Junction (22%).


Poverty among People with Disabilities (2017)
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Chittenden County (n = 151,188)
Essex (n = 20,789)
Essex Junction (n = 10,091)
Below Poverty Line
At/Above Poverty Line
Below Poverty Line
At/Above Poverty Line
With a disability
No disability


Age of People with Disability as Percent of Disabled Population (2017)
40%
30%
20%
10%
0%
Chittenden County (n = 159,670)
Under 5 years
5 to 17 years
18 to 34 years
35 to 64 years
65 to 74 years
75 years and over

6.6 Homelessness

In any community, there are some people who do not have a stable home situation – whether due to emergency circumstances, financial challenges, physical or mental health conditions, domestic abuse or violence, or substance abuse problems. In Chittenden County, there are services and programs available to serve these individuals, but often they are overburdened and have trouble connecting with the individuals in need, either because they don't know who is in need or don't have a way to reach them. Furthermore, most of the temporary shelters available are located in or near Burlington, posing a further barrier of distance to those located in Essex or Essex Junction.

Data on homelessness or other special needs is difficult to obtain because individuals do not have a fixed address, or such information may need to remain confidential. However, the Vermont Coalition to End Homelessness undertakes a "point-in-time" (PIT) count of households who are homeless, whether in shelters or unsheltered, in each Vermont county on one night in January. This count does not include households or individuals at risk of homelessness or living with friends or family ("couch surfing"). VHFA notes that the PIT count vastly underestimates the number of homeless individuals, and that those receiving services for homeless throughout 2017 was three times the number of those in the PIT count. Given population size of Essex and Essex Junction and the potential risk of homelessness in the community, there is likely a need for a temporary shelter located within the municipalities.

Point-in-Time Count 2018 – Chittenden County	
Type of Shelter	**Number of households**
Emergency Shelter	124
Publicly-Funded Hotel	105
Transitional Housing	38
Unsheltered	15

6.7 Supportive Housing

Supportive housing refers to programs (sometimes specific housing developments) that, in addition to providing a place for people to live, also provide social services to support their physical, mental, and social well-being. The services provided can vary widely and can include treatment for substance abuse, HIV/AIDS, or mental health conditions; job and life skills training; family and foster care support; and many others. People with such challenges are often at risk of homelessness, and compared to temporary shelter programs, supportive housing can provide enough stability to help overcome those challenges in the long term.

The 2019 Community Health Needs Assessment (CHNA) for Chittenden and Grand Isle Counties identified affordable housing as the third most important community health issue, after mental health and substance use disorder. However, the report notes that housing is foundational to many other community health issues, and meeting housing needs can reduce stress, family violence, and adverse childhood events as well as other quality of life and health measures. Further information, including a directory of existing health care facilities and resources, can be found in the CHNA at https://www.uvmhealth.org/medcenter/Documents/CHNA-March2019-web-approved.pdf.

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7 Conclusions

This section reviews the wealth of information presented above to identify trends and connections in the data that shed light on the housing needs of the Essex Community.

7.1 Analysis of Population and Demographic Trends

The population of Essex Junction, the Town of Essex, and Chittenden County are growing faster than the rest of the state. However, household size in these growing areas is decreasing, and the age of householders is shifting from mostly middle-aged to young adult or senior. Since the region's current housing stock is predominantly composed of larger single-family detached homes, there is a growing disparity between household size and home size. Though household incomes have risen along with housing costs, household cost burden and poverty have increased substantially in the same time period. In particular, household income among those in the service industry (including food preparation and serving; cleaning and maintenance; sales; and personal or health care) are generally lower than what is needed to afford homes in the area. Also, though racial and ethnic diversity is quite low compared to the state and nation, Chittenden County and Essex / Essex Junction are becoming more diverse.

Major Demographic Trends

- **Shrinking household size**
- **More seniors, young adults**
- **Increasing ethnic diversity**
- **Stagnant incomes**
- **Increasing cost burden**

7.2 Analysis of Rental Housing Trends

Renters in the area, which represent about a quarter to a third of households, are generally young (more than half are less than 35 years old), though renters over the age of 55 account for about a quarter of renters in the county and about a fifth of those in the town. Compared to the number of 1- and 2-person households, there is a very limited supply of studios and 1- and 2-bedroom rental dwellings. There are more 3- and 4-bedroom rental dwellings available than households of a commensurate size. Given that demand is greater than supply for some types of units, it is not surprising that rental vacancy rates are very low in Essex and the county. Cost burden is high among a significant portion of the renting market, since a majority of renters' incomes are too low to afford the homes that are available, or demand for desirable units has caused rents to rise.

Only a third of Essex households who qualify for rent assistance receive it; in Essex Junction, it is less than a quarter.

There is limited subsidized housing available for cost-burdened renters, either through project-based subsidies or the Housing Choice Voucher Program. In Essex overall, only a third of renters who qualify for assistance are receiving it; in Essex Junction, it is less than a quarter. Though creating more subsidized housing in Essex would help these households, better long-term solutions include actions that promote higher incomes for renters and increasing the number of smaller rental homes available at a reasonable rent without subsidies.

7.3 Analysis of Homeownership Trends

In contrast to renters, homeowners in the area are generally middle-aged and have larger households and higher incomes. Though home sizes are better matched to current homeowner household size, there is a lack of choice for different types of homes, such as condominiums, apartments, and mobile homes. Since renting households are smaller and have lower incomes, this presents a significant barrier to becoming homeowners. This is compounded by high demand for homes, as evidenced by the increase in the number of home sales and sale prices along with a decrease in days on the market are low. Again, it is no surprise that homes are not affordable compared to household incomes, and homeowner cost burden is high (though not as high as renter cost burden).

High home sale prices, low diversity of home types, and lower income among renters prevents them from becoming homeowners.

7.4 Analysis of Elderly and Supportive Housing Needs

The populations of Essex and Essex Junction are aging (though there are more young people here than elsewhere in the state). Though their incomes vary widely compared to other age groups, at least half of them pay more than 30% of their income on housing. Most of these elderly households are currently homeowners, and due to changing lifestyle needs and levels of independence, many of them may struggle to stay in their homes as they age. There are also a significant number of community members who live with a disability, many of whom are seniors, and these individuals may struggle to find homes adapted to their needs.

Many elderly households are choosing to age in place rather than enter senior communities.

Though there are a number of new housing options for seniors and those with disabilities in Essex and Essex Junction, they may not be affordable for certain households or provide the support services they need. In the Essex Community, subsidized housing developments limited to seniors or those with disabilities currently can only serve about half of the population in need.

Homelessness is likely an issue in Essex and Essex Junction, but it is difficult to track data on this issue at the local level. Furthermore, there are few, if any, supportive housing resources based in the Essex Community, so most people in need are receiving assistance elsewhere, if they are receiving supportive services at all. Finding ways to keep people in stable, safe housing can make a significant difference in the overall health and wellness of the community.

8 Municipal Action Plan

The Town and Village cannot directly control factors contributing to housing need, such as household incomes, sale prices and rents, or the balance of rental and owner-occupied housing. However, local governments can establish regulations, collaborate with housing developers, and/or provide local funding for housing programs to work toward the goals identified in Section 2.1. This section outlines actionable next steps for the municipal governments of Essex and Essex Junction to help meet the identified housing needs in the community.

8.1 Establish a Joint Housing Commission

Similar to other boards, committees, and commissions appointed by municipal legislative bodies, a housing committee would be charged with monitoring local housing needs and advising the legislative body and other boards on housing issues. If managing a local housing trust fund were part of its duties, the body would be established as a housing commission (distinguished from a committee, which only serves in an advisory role).

Essex and Essex Junction have both supported forming a housing committee or commission, and given how closely tied the municipalities' housing markets are, it would be logical to form a joint body. Such a committee or commission could be composed of local housing developers, non-profit advocates, and community members at large, and could help oversee advancement of all the strategies outlined in this section.

8.2 Revise the Land Use Regulations

Land use regulations – sometimes known as Zoning Regulations, Subdivision Regulations, Development Bylaws, etc. – are the means by which municipalities manage the location, design, and type of development in their community. Generally, regulations identify zoning districts and specify whether housing is an allowed form of development and what type of housing is allowed (single-family detached, multi-family, townhouse, etc.). Though these regulations are intended to prevent conflicts of land uses, promote good community design, and manage growth to a level that municipal services can support, they can sometimes limit (intentionally or unintentionally) the availability of affordable housing.

The Chittenden County Regional Planning Commission recently completed an audit of the *Zoning* and *Subdivision Regulations* for the Town outside the Village to determine barriers to affordable housing development and recommended changes to address those barriers. That document is included here as Appendix C. Though its scope was limited to the Town outside the Village, certain elements are applicable to the Village's *Land Development Code*, and other opportunities to promote affordable housing may exist in the Village's regulations.

The recommendations include increasing the use of accessory dwelling units, reducing the required amount of parking for new developments, and making the development review process simpler and less discretionary (which reduces

Inclusionary Zoning

Advantages

- Ensures integration of market-rate and affordable units
- Can specify affordability levels
- Can apply to specific area

Disadvantages

- May slow total housing production
- May discourage smaller projects
- Slow implementation
- High administrative cost

the cost of development, a savings that is passed on to residents). One major change discussed in the audit is the use of inclusionary zoning, which would require that a certain portion of residential development be sold or rented at a rate affordable to area residents. This could be applied to all residential development or only to certain areas or zoning districts, and it would guarantee at some level that affordable housing will be accommodated in new development.

However, because developers are required to sell or rent at below market rate, inclusionary zoning can make certain projects not economically viable – i.e., developers would have a loss on their investment, rather than a return, and would not be able to secure project financing. Given this, inclusionary zoning is more effective when it includes some other incentive or relief commensurate to the added cost of affordable units. Such tradeoffs can include a density bonus, reduced development fees, or a mitigation option where a development is allowed to not include affordable units, but them in a different area or pays into a housing trust fund proportionally to the number of units not built. This fund could also be used to subsidize units in other developments that might not otherwise be built. The Grounded Solutions Network has developed an Inclusionary Zoning Calculator that models viability of projects based on numerous variables, including different types of regulatory requirements and market factors.

8.3 Reduce Development Fees for Affordable Housing Projects

As noted in Section 8.2 above, reduced development fees are a potential incentive to promote affordable housing development. These fees can include standard development fees, such as those for zoning permits and development review processing fees. They can also include local impact fees, which are charged when the project requires the municipality to add capacity to its infrastructure and services to serve the development (such as extending water and sewer lines), proportional to the development's share of that cost. This strategy is essentially a local subsidy activated at the time of development that does not require the municipality to establish and manage a housing trust fund. Revenues that would otherwise go into the municipality's general fund or, in the case of impact fees, capital funds for specific projects, are instead used to offset the cost of developing affordable units.

Reduced Development Fees

Advantages

- Easy to implement
- Low cost to municipality

Disadvantages

- Lost revenue to municipality for important infrastructure costs
- May not produce enough affordable units

The advantage of this strategy is that it allows the municipality and developer to negotiate project outcomes and costs in a way that serves both best. However, development fees in Essex and Essex Junction are relatively small compared to the total project costs, and reducing or removing them likely would not be enough of a cost saving to a developer to make affordable units viable.

8.4 Apply for Neighborhood Development Area Designation(s)

The Vermont Agency of Commerce and Community Development (ACCD) administers a designation program for downtowns, village centers, new town centers, growth centers, and neighborhood development areas (NDAs). These designations, which are applied for by municipalities and intended to encourage compact development, provide technical planning

assistance for municipalities, priority for infrastructure grants, and eligibility for tax incentives for developers, including reduction of fees for Act 250 (state-level land use review).

The Village of Essex Junction currently has both Village Center and Neighborhood Development Area designation for the Village Center district, which includes the area within about 1/8 to 1/4 mile around Five Corners. The NDA designation could be extended to 1/4 mile beyond the Village Center boundary to extend incentives for development and eligibility for state affordable housing funds to those areas. Pursuing Downtown designation for the Essex Junction Village Center area would leverage further incentives, but would require additional planning and municipal initiatives such as creation of a downtown board or special improvement district.

State Designations

Advantages

- Leverages other funding sources
- Aligned with comprehensive and capital plans
- Promotes resource protection and good urban design

Disadvantages

- Limited applicability
- No guarantee of affordability without other strategies

An additional Village Center or possibly Downtown designation could be pursued for the Essex Town Center, located along VT-15 between VT-289 and the intersection of Towers Road, VT-128, and VT-15. This would allow for NDA designation within a significant portion of the Town's planned growth area. As noted above, applying for these designations would require some additional municipal planning and financing programs, but those are in line with current efforts in those planning areas.

8.5 Establish a Housing Trust Fund

As noted above, creation of a local Housing Trust Fund (HTF) would provide a dedicated source of subsidies for affordable housing projects, in addition to providing a source of local match funds to leverage larger funding sources. If the community establishes inclusionary zoning or sets a payment-in-lieu option for density bonuses, such payments would be directed to the HTF. A HTF could also be supported through local property taxes or fees on property transfers, a common practice in many states and municipalities. If it accumulated enough money, a HTF could also be used to purchase land for or underwrite construction of affordable housing projects by non-profit developers, such as Housing Vermont.

Another key role of a HTF could be to preserve existing owner-occupied housing at affordable levels, such as through Champlain Housing Trust's (CHT's) shared equity program. In this program, CHT purchases single-family homes and then sells just the building to low- and moderate-income first-time homebuyers. The homeowner retains the equity on any improvements they make to the home, while CHT holds the increase in equity from rises in property value. Thus, when the home is resold (to another qualified first-time homebuyer), the first homeowner has built equity to purchase a home on their own, while CHT has derived revenue from the property that is used for other housing programs. An Essex HTF could help underwrite initial purchases of such shared equity homes, especially in strategic areas that provide other community benefits to

Housing Trust Fund

Advantages

- Leverages other funding sources
- Can be used for varied purposes
- Proven effectiveness
- Municipal control of how resources are allocated

Disadvantages

- Potentially high cost
- Requires board to administer

low- and moderate-income residents, such as access to public transportation, local jobs, and social services.

Further research would be needed to determine how a HTF should be established, funded, and managed, as well as the funding levels that would make a HTF effective in Essex. This research could be undertaken by a housing committee or commission, which could also manage and approve expenditures from the fund. Alternatively, the Selectboard and/or Trustees could perform these functions with recommendations from municipal staff.

8.6 Partner with Housing Developers and Non-Profits

Partnerships between municipalities and housing developers, both for-profit and non-profit, on affordable housing projects can achieve affordable housing goals at a lower cost than through municipal regulation. Such partnerships can range from cooperative purchase and/or development of land for housing projects to cost-sharing of infrastructure to mutual technical assistance in project scoping and development. Such partnerships require a degree of flexibility and trust on both sides to be successful, and should be guided by clearly-defined principles, desired outcomes, timelines, and budgets.

Public-Private Partnerships

Advantages

- Very flexible
- Ability to negotiate outcomes and tradeoffs
- May plug into other municipal goals and projects

Disadvantages

- High investment of time
- Less predictable outcomes
- Opportunistic; may not advance housing goals effectively

Examples of recent successful housing partnerships between municipalities and developers include Allard Square, a new senior housing development in South Burlington's City Center brought about by a partnership with Cathedral Square. Another example is the French Block and Taylor Street rehabilitation projects in Montpelier, a partnership between the City and Housing Vermont. Though not a municipal partnership, a recent Habitat for Humanity project at 57 Park Street in Essex Junction involved rebuilding a fire-damaged single-family house into a four-unit apartment building just outside the Village Center.

8.7 Closing Thoughts

As noted in the introduction, none of these actions or even all of them combined will completely eliminate housing needs in the Essex Community. However, they are important first steps to begin addressing those needs. Each person helped by such initiatives will help strengthen the economic and social resilience of the community and show that it is dedicated to ensuring everyone has a safe, comfortable, and affordable place to call home.

9 Appendices

9.1 Appendix A: Census / American Community Survey Table References

Section Number	Section Title	Page	Census Table		ACS Table	VHFA Page
			2000	2010	2010/2017	
1	Executive Summary	1	N/A	N/A	N/A	N/A
2	Introduction	2	N/A	N/A	N/A	N/A
2.1	Goals	2	N/A	N/A	N/A	N/A
2.2	Driving Questions	2	N/A	N/A	N/A	N/A
2.3	Methods and Data Accuracy	3	N/A	N/A	N/A	N/A
3	Population, Demographic, & Housing Stock Trends	5	N/A	N/A	N/A	N/A
3.1	Population	5	P001	P1	B01003	Population & Households > Population
3.2	Households	5	J007	HCT7	B25003	Population & Households > Households by Tenure
3.3	Household Size	5	H016	H16	B25010	Population & Households > Household Size
3.4	Race of Householder	7	N/A	N/A	B25003A-I	Population & Households > Tenure by Race
3.5	Age of Householder	9	N/A	N/A	B25007	Population & Households > Householder by Age
3.6	Median Household Income	11	HCT012	N/A	B25119, S1901	Income & Employment > Median Household Income
3.7	Family Income	13	N/A	N/A	S1901	Income & Employment > Median Family Income
3.8	Income by Age Group	13	N/A	N/A	B19037	N/A
3.9	Poverty	13	PCT049	N/A	B17001	N/A
3.10	Unemployment (Labor Force)	15	N/A	N/A	N/A	Income & Employment > Labor Force
3.11	Employees by Location	15	P029	N/A	B08009	Income & Employment > Workers by Place of Work
3.12	Labor Force Wages and Earnings	17	N/A	N/A	N/A	Income & Employment > Wages
3.13	Wages by Employment Sector	19	N/A	N/A	N/A	Income & Employment > Wages
3.14	Commute to Work / Home	21	N/A	N/A	N/A	N/A
3.15	Length of Tenure	23	N/A	N/A	N/A	B25038

Section Number	Section Title	Page	Census Table		ACS Table	VHFA Page
			2000	2010	2010/2017	
3.16	Movership	23	N/A	N/A	B27034	N/A
3.17	Tenure Type (Rental vs. Owned)	25	H007	HCT7	B25003	Population & Households > Households by Tenure
3.18	Total Housing Stock	26	H007, H008	N/A	B25003, B25004	N/A
3.19	Age of Housing Stock	28	N/A	N/A	N/A	N/A
4	Rental Housing	29	N/A	N/A	N/A	N/A
4.1	Rentership and Rental Housing Stock	29	H007, H008	N/A	B25003, B25004	Population & Households > Households by Tenure
4.2	Renter Household Size vs. Rental Home Size	29	N/A	N/A	B25009, B25042	Housing Stock > Housing Stock
4.3	Rental Building Type	31	N/A	N/A	B25032	Housing Stock > Residential Building Type
4.4	Renter Age Distribution	31	N/A	N/A	B25007	Population & Households > Age of Householder
4.5	Vacancy Rate	33	H007, H008	N/A	B25003, B25004	Housing Stock > Vacancies
4.6	Median Gross Rent	33	N/A	N/A	B25064	Rental Housing Costs > Median Rent
4.7	Median Gross Rent by Bedrooms	33	N/A	N/A	B25031	Rental Housing Costs > Median Rent
4.8	Renter Household Income and Rental Housing Wage	35	HCT012	N/A	B25119	Income & Employment > Median Household Income
4.9	Renter Cost Burden	37	N/A	N/A	B25070	Rental Housing Costs > Renter Cost Burden
4.10	Rental Assistance Programs	37	N/A	N/A	N/A	Housing Programs > Apartments with Project-Based Public Subsidies, Households Receiving Rental Assistance
5	Homeownership	39	N/A	N/A	N/A	N/A
5.1	Homeownership Rate and Owner-Occupied Housing Stock	39	H007, H008	N/A	B25003, B25004	Population & Households > Households by Tenure
5.2	Homeowner Age	39	N/A	N/A	B25007	Population & Households > Age of Householder

Section Number	Section Title	Page	Census Table	ACS Table	VHFA Page	Section Number
			2000	2010	2010/2017	
5.3	Homeowner Household Size vs. Owner-Occupied Home Size	41	N/A	N/A	B25009, B25042	Housing Stock > Housing Stock
5.4	Owned Homes by Building Type	43	N/A	N/A	B25032	Housing Stock > Residential Building Type
5.5	Demand for Homeownership ("For Sale" Vacancy)	43	H007, H008	N/A	B25003, B25004	Housing Stock > Vacancies
5.6	Median Home Sale Price	45	N/A	N/A	N/A	Homeownership Costs > Primary Home Sales
5.7	Assessed Home Value	47	N/A	N/A	N/A	N/A
5.8	Price-Related Differential	47	N/A	N/A	N/A	N/A
5.9	Home Price Affordability Calculator	49	N/A	N/A	N/A	Homeownership Costs > Home Price Affordability Calculator
5.10	Home Price Affordability Index	49	N/A	N/A	N/A	Homeownership Costs > Home Price Affordability for Area Residents
5.11	Homeowner Cost Burden	49	N/A	N/A	B25091	Homeownership Costs > Homeowner Cost Burden
6	Elderly and Special Needs Housing	51	N/A	N/A	N/A	N/A
6.1	Elderly Households and Tenure	51	N/A	N/A	B25007	N/A
6.2	Household Income among the Elderly	53	N/A	N/A	S1810	N/A
6.3	Senior Housing Stock	53	N/A	N/A	N/A	Housing Programs > Apartments with Project-Based Public Subsidies, Households Receiving Rental Assistance
6.4	Population Living with Disabilities	55	N/A	N/A	B19037, B25072	N/A
6.5	Poverty among People with Disabilities	55	N/A	N/A	C18131	N/A
6.6	Homelessness	57	N/A	N/A	N/A	N/A
6.7	Supportive Housing	57	N/A	N/A	N/A	N/A

9.2 Appendix B: Statistical Testing for Year-to-Year Comparisons of ACS/Census Data

9.3 Appendix C: Affordable Housing Audit of Essex Town Land Use Regulations

Statistical Testing Tool

Statistical Testing for Two Estimates

Purpose

This spreadsheet determines whether
there is statistical evidence to conclude
that two estimates are different from each another.

Results

Yes	Estimates are statistically different.
No	Estimates are NOT statistically different (or are statistically tied).
N/A	Statistical testing is not applicable for one or both of the estimates.

Overview Instructions Statistical Testing for Multiple Estimates Worked Example

	Label	First Estimate	First Margin of Error (MOE)	Second Estimate	Second Margin of Error (MOE)	Statistically Different?
1	Population Growth 2010-2017 (B01003, P001)					
2	Chittenden County	156,545	0	160,985	0	Yes
3	Essex (including Essex Jct.)	19,587	0	20,901	31	Yes
4	Essex Junction Village	9,271	0	10,132	32	Yes
5						
6	Growth of Households 2010-2017 (B25003, HCT7, H007)					
7	Chittenden County	61,827	0	64,906	552	Yes
8	Essex (including Essex Jct.)	7,887	0	8,689	233	Yes
9	Essex Junction Village	3,875	0	4,315	200	Yes
10						
11	Household size 2000-2017 (B25010, H16, H016)					
12	Chittenden County	2.47	0	2.48	0.03	No
13	Essex (including Essex Jct.)	2.62	0	2.56	0.08	No
14	Essex Junction Village	2.48	0	2.48	0.12	No
15						
16	Household size 2010-2017 (B25010, H16, H016)					
17	Chittenden County	2.37	0	2.48	0.03	Yes
18	Essex (including Essex Jct.)	2.48	0	2.56	0.08	No
19	Essex Junction Village	2.39	0	2.48	0.12	No
20						
21	Household size 2000-2016 (B25010, H16, H016)					

22	Chittenden County	2.47	0	2.35	0.02	Yes
23	Essex (including Essex Jct.)	2.62	0	2.44	0.07	Yes
24	Essex Junction Village	2.48	0	2.38	0.11	No
25						
26	Median Household Income (Total) 1999-2009 (HCT012, B25119)					
27	Chittenden County	47,673	0	59,634	1,372	Yes
28	Essex (including Essex Jct.)	58,441	0	71,963	6,791	Yes
29	Essex Junction Village	53,444	0	61,670	6,319	Yes
30						
31	Median Household Income (Total) 2009-2017 (HCT012, B25119)					
32	Chittenden County	59,634	1,372	66,906	2,119	Yes
33	Essex (including Essex Jct.)	71,963	6,791	76,677	4,885	No
34	Essex Junction Village	61,670	6,319	63,948	9,756	No
35						
36	Median Household Income (Total) 2000-2017 (HCT012, B25119)					
37	Chittenden County	47,673	0	66,906	2,119	Yes
38	Essex (including Essex Jct.)	58,441	0	76,677	4,885	Yes
39	Essex Junction Village	53,444	0	63,948	9,756	Yes
40						
41	Median Household Income (Renters) 2009-2017 (HCT012, B25119)					
42	Chittenden County	32,169	1,486	39,989	2,644	Yes
43	Essex (including Essex Jct.)	38,259	6,351	44,848	7,768	No
44	Essex Junction Village	36,000	5,906	47,656	11,321	No
45						
46	Median Household Income (Owners) 2009-2017 (HCT012, B25119)					
47	Chittenden County	77,130	1,943	90,924	2,477	Yes
48	Essex (including Essex Jct.)	81,570	4,996	98,381	6,276	Yes
49	Essex Junction Village	73,798	7,025	88,913	4,928	Yes
50						
51	Poverty 2000-2010 (B17001, PCT049)	12,267	0	15,789	1,174	Yes
52	Chittenden County - below poverty	484	0	869	316	Yes
53	Essex Town - below poverty	248	0	482	215	Yes
54	Essex Junction - below poverty					
55						
56	Poverty 2010-2017 (B17001, PCT049)	15,789	1,174	17,057	1,078	No
57	Chittenden County - below poverty	869	316	1,127	289	No
58	Essex Town - below poverty	482	215	654	197	No
59	Essex Junction - below poverty					
60						
61	Poverty 2000-2017 (B17001, PCT049)	12,267	0	17,057	1,078	Yes

62	Chittenden County - below poverty	484	0	1,127	289	Yes
63	Essex Town - below poverty	248	0	654	197	Yes
64	Essex Junction - below poverty					
65						
66	Employees by Location 2000-2010 (B08009)					
67	Essex (including Essex Jct.)	10,458	0	10,779	426	No
68	Essex Junction Village	4,862	0	5,149	279	Yes
69						
70	Employees by Location 2010-2017 (B08009)					
71	Essex (including Essex Jct.)	10,779	426	11,851	395	Yes
72	Essex Junction Village	5,149	279	5,930	316	Yes
73						
74	Employees by Location 2000-2017 (B08009)					
75	Essex (including Essex Jct.)	10,458	0	11,851	395	Yes
76	Essex Junction Village	4,862	0	5,930	316	Yes
77						
78	Households by tenure (total) 2000-2017 (B25003, HCT7, H007)					
79	Chittenden County	56,452	0	64,906	552	Yes
80	Essex (including Essex Jct.)	7,013	0	8,689	233	Yes
81	Essex Junction Village	3,409	0	4,315	200	Yes
82						
83	Households by tenure (total) 2010-2017 (B25003, HCT7, H007)					
84	Chittenden County	61,827	0	64,906	552	Yes
85	Essex (including Essex Jct.)	7,887	0	8,689	233	Yes
86	Essex Junction Village	3,875	0	4,315	200	Yes
87						
88	Households by tenure (own) 2000-2017 (B25003, HCT7, H007)					
89	Chittenden County	37,292	0	40,980	628	Yes
90	Essex (including Essex Jct.)	5,418	0	6,029	274	Yes
91	Essex Junction Village	2,425	0	2,643	214	Yes
92						
93	Households by tenure (own) 2010-2017 (B25003, HCT7, H007)					
94	Chittenden County	40,310	0	40,980	628	Yes
95	Essex (including Essex Jct.)	5,955	0	6,029	274	No
96	Essex Junction Village	2,658	0	2,643	214	No
97						
98	Households by tenure (rent) 2010-2017 (B25003, HCT7, H007)					
99	Chittenden County	21,517	0	23,926	707	Yes
100	Essex (including Essex Jct.)	1,932	0	2,660	234	Yes
101	Essex Junction Village	1,217	0	1,672	204	Yes

102						
103	Renter Cost Burden > 30% 2000-2009 (VHFA)					
104	Chittenden County	7,905	0	10,866	556	Yes
105	Essex (including Essex Jct.)	746	0	678	157	No
106	Essex Junction Village	239	0	429	126	Yes
107						
108	Renter Cost Burden > 30% 2009-2017 (VHFA)					
109	Chittenden County	10,866	556	12,681	793	Yes
110	Essex (including Essex Jct.)	678	157	1,235	282	Yes
111	Essex Junction Village	429	126	808	220	Yes
112						
113	Renter Cost Burden > 50% 2009-2017 (VHFA)					
114	Chittenden County	5,359	389	6,620	592	Yes
115	Essex (including Essex Jct.)	213	80	536	185	Yes
116	Essex Junction Village	136	73	427	173	Yes
117						
118	Owner Cost Burden > 30% 2009-2017 (VHFA)					
119	Chittenden County	32%	2%	27%	2%	Yes
120	Essex (including Essex Jct.)	28%	4%	26%	4%	No
121	Essex Junction Village	28%	6%	31%	7%	No
122						
123	Owner Cost Burden > 50% 2000-2009 (VHFA)					
124	Chittenden County	10%	1%	10%	1%	No
125	Essex (including Essex Jct.)	6%	2%	9%	2%	Yes
126	Essex Junction Village	8%	3%	13%	5%	No

Essex Land Use Regulation Housing Audit

Developed by CCRPC for the Town of Essex
July, 2018

CHITTENDEN COUNTY RPC
Communities Planning Together

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The following report includes a variety of recommendations for the Town of Essex Zoning Regulations to eliminate barriers to affordable housing. Some of these recommendations are broad in scope while others are simple housekeeping changes. The broader recommendations go beyond a text edit in the zoning regulations and, while complex, may produce a more beneficial result than the minor housekeeping recommendations. The broader recommendations should be considered within the context of a housing needs assessment, and perhaps by a housing committee if and when established. This report should also help as a guide when implementing changes from the Town Center visioning work.

Here is a summary of the overarching broad recommendations:

- Consider a Development Review Board form of review so projects can be reviewed with just one combined Site Plan and Conditional Use review rather than the time and money associated with two different Boards and two hearings.
- Consider a Growth Center or New Town Center and Neighborhood Development Area Designation from the State to alleviate Act 250 review and permitting.
- Continue to allow Accessory Dwelling Units (ADUs) in all residential areas with more relaxed standards.
- Overall, the base dimensional requirements do not allow for the level of density needed to help accommodate additional housing, let alone affordable housing. Therefore, it is recommended that the regulations be amended, particularly in the Town Center to accommodate more density in a smart growth manner.
- Overall, the standards and process for a density bonus and a Planned Unit Development are too complex to gain the benefit of the increased density. Within the areas planned for growth, define the density and/or form of development you'd like to see and simplify the review process so that vision can be achieved. Eliminate the overly complicated PUD and density bonus provisions.

- Inclusionary zoning (a mandatory requirement for a portion of a housing development to be affordable) can be an effective mechanism for achieving housing affordability in areas where growth is happening. It is not a tool that addresses the cost of building affordable housing, as this mandatory requirement simply passes the cost on to developers. However, as changes are considered in the Town Center, it is a tool that should be looked at, along with a local housing trust fund.
- Overall, consider whether minimum parking requirements are too high and whether maximum parking or no parking requirements would be a better method.

BACKGROUND

By way of background, the Essex 2016 Town Plan includes:

Action 4.1 Undertake a comprehensive housing study, including recommendations for regulatory and non-regulatory methods of increasing the stock of affordable housing.

Action 4.2 Develop regulations to promote affordable housing and/or remove barriers to it, if this initiative is recommended in the comprehensive housing study.

The Town is not undertaking a comprehensive housing study at this time, largely because the VHFA's website has not been updated with the necessary housing data. It is expected that the housing data website will be updated sometime in 2018. VHFA's Maura Collins has also recommended that the Town form an Affordable Housing Committee to tackle the issue.

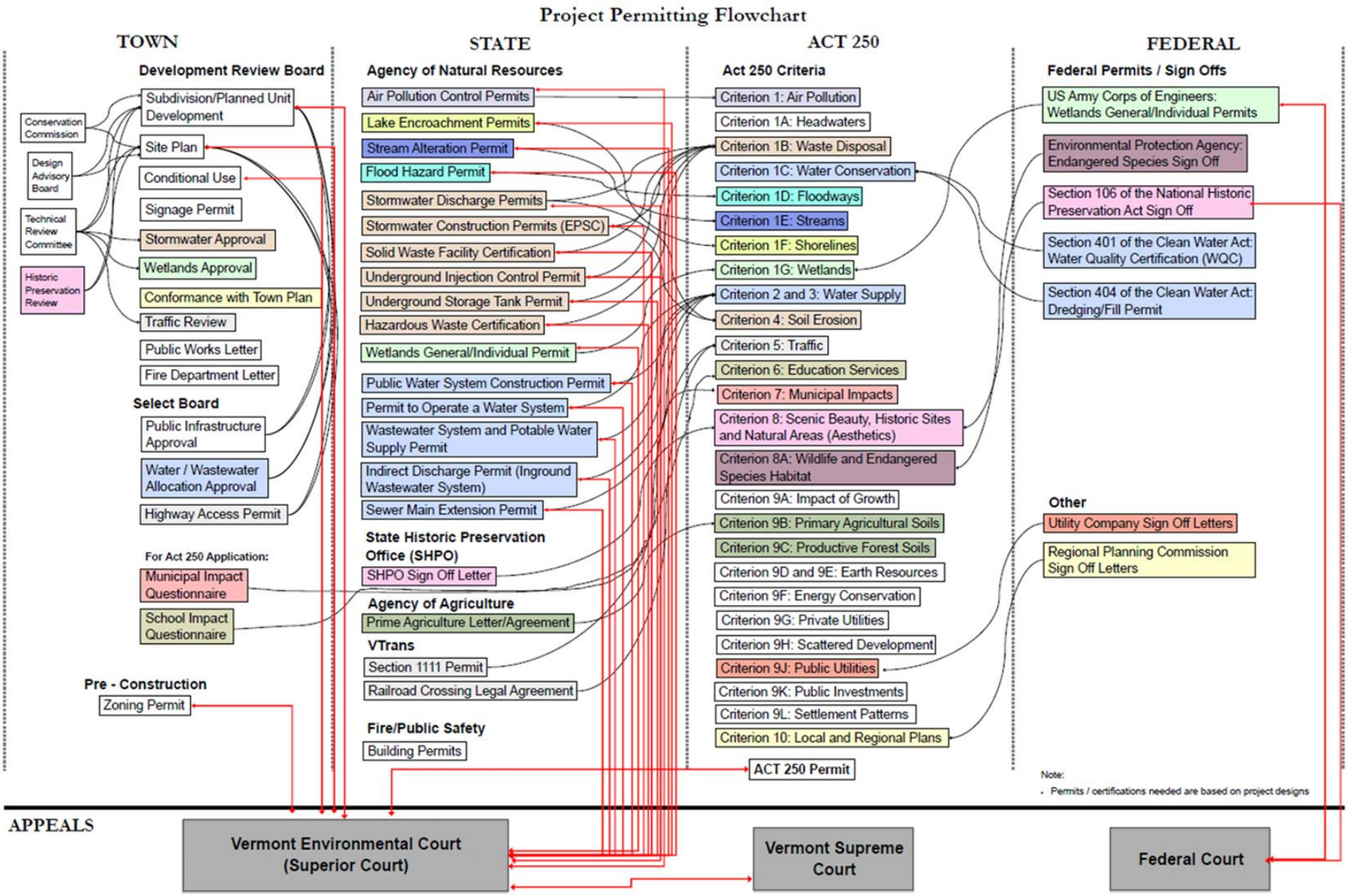
In the meantime, the Town of Essex requested CCRPC to do a comprehensive review, or "audit", of the Town's zoning and subdivision regulations. The audit would determine the obstacles to affordable housing that may be embedded in the regulations and prepare suggested zoning and subdivision amendments to promote affordable housing and/or remove barriers to it.

The timing of this study is appropriate from a regional perspective as there is a total housing and affordable housing shortage that exists in the region.

- One of the biggest challenges identified in the ECOS Plan is our housing shortage[i].
- Housing is unaffordable: 33% of homeowners and 56% of renters spend more than 30% of their income on housing[ii].

- Less workers live in the County: 68% of employees live here, compared to 75% in 2002[iii].
- Household size is shrinking: 2.4 persons/household, compared to 3.5 in 1960[iv]; and we are growing at the same time (by approximately 900 people per year over the last six years[v]).
- Rental vacancy rate is anemic: 2.6% in 2017; 1.8% long term average[vi]

The cost of building more housing is a challenge, and it's particularly challenging to build housing to an affordable price point for many reasons. One reason is the lengthy and unpredictable permitting process in Vermont as demonstrated by the flowchart on the following page from Ernie Pomerleau. While this is not the only cost factor, it is significant for a municipality because streamlining and improving efficiency is within your purview.


Project Permitting Flowchart
TOWN
Development Review Board
Conservation Commission
Design Advisory Board
Technical Review Committee
Historic Preservation Review
Subdivision/Planned Unit Development
Site Plan
Conditional Use
Signage Permit
Stormwater Approval
Wetlands Approval
Conformance with Town Plan
Traffic Review
Public Works Letter
Fire Department Letter
Select Board
Public Infrastructure Approval
Water / Wastewater Allocation Approval
Highway Access Permit
For Act 250 Application:
Municipal Impact Questionnaire
School Impact Questionnaire
Pre - Construction
Zoning Permit
STATE
Agency of Natural Resources
Air Pollution Control Permits
Lake Encroachment Permits
Stream Alteration Permit
Flood Hazard Permit
Stormwater Discharge Permits
Stormwater Construction Permits (EPSC)
Solid Waste Facility Certification
Underground Injection Control Permit
Underground Storage Tank Permit
Hazardous Waste Certification
Wetlands General/Individual Permit
Public Water System Construction Permit
Permit to Operate a Water System
Wastewater System and Potable Water Supply Permit
Indirect Discharge Permit (Inground Wastewater System)
Sewer Main Extension Permit
State Historic Preservation Office (SHPO)
SHPO Sign Off Letter
Agency of Agriculture
Prime Agriculture Letter/Agreement
VTrans
Section 1111 Permit
Railroad Crossing Legal Agreement
Fire/Public Safety
Building Permits
ACT 250
Act 250 Criteria
Criterion 1: Air Pollution
Criterion 1A: Headwaters
Criterion 1B: Waste Disposal
Criterion 1C: Water Conservation
Criterion 1D: Floodways
Criterion 1E: Streams
Criterion 1F: Shorelines
Criterion 1G: Wetlands
Criterion 2 and 3: Water Supply
Criterion 4: Soil Erosion
Criterion 5: Traffic
Criterion 6: Education Services
Criterion 7: Municipal Impacts
Criterion 8: Scenic Beauty, Historic Sites and Natural Areas (Aesthetics)
Criterion 8A: Wildlife and Endangered Species Habitat
Criterion 9A: Impact of Growth
Criterion 9B: Primary Agricultural Soils
Criterion 9C: Productive Forest Soils
Criterion 9D and 9E: Earth Resources
Criterion 9F: Energy Conservation
Criterion 9G: Private Utilities
Criterion 9H: Scattered Development
Criterion 9J: Public Utilities
Criterion 9K: Public Investments
Criterion 9L: Settlement Patterns
Criterion 10: Local and Regional Plans
ACT 250 Permit
FEDERAL
Federal Permits / Sign Offs
US Army Corps of Engineers: Wetlands General/Individual Permits
Environmental Protection Agency: Endangered Species Sign Off
Section 106 of the National Historic Preservation Act Sign Off
Section 401 of the Clean Water Act: Water Quality Certification (WQC)
Section 404 of the Clean Water Act: Dredging/Fill Permit
Other
Utility Company Sign Off Letters
Regional Planning Commission Sign Off Letters
Note:
- Permits / certifications needed are based on project designs
APPEALS
Vermont Environmental Court (Superior Court)
Vermont Supreme Court
Federal Court

METHODOLOGY

KICK-OFF MEETINGS

Regina Mahony, Planning Program Manager at CCRPC, met with Dana Hanley and Darren Schibler on 2/2/2018 to discuss the parameters of this project, and verify the scope. It was decided that CCRPC will focus their review on the following provisions: base density, density bonus, parking requirements, and the development review process in the zoning districts in the sewer service area. In addition, CCRPC will review the accessory dwelling unit provisions, as they are applicable to all zoning districts both inside and outside of the sewer service area. CCRPC will only do a cursory review of the Agricultural-Residential, Conservation, Floodplain, Industrial/Residential, and Fort Ethan Allen districts as they are not within the Town's sewer service area and not likely candidates for additional housing.

It is important to note that this study does not include an analysis of the affordable housing needs for Essex – including what price points Essex may want to target. This will come from the comprehensive housing study.

Regina Mahony and Essex planning staff reviewed the scope of work with the Planning Commission on 2/22/2018. Regina Mahony answered preliminary questions and gathered feedback from the Planning Commission.

Regina Mahony provided Essex planning staff with a draft report, and subsequently incorporated Staff comments. The draft report was then provided to the Essex Planning Commission in advance of the June 28, 2018 presentation. Regina Mahony subsequently incorporated comments from the Commission in the Final Report. Lastly, Regina Mahony provided the Selectboard with a presentation on July 9, 2018.

CCRPC RESEARCH & RECOMMENDATIONS

Following the preliminary review, CCRPC conducted a literature review for best practices where relevant; reviewed Essex's regulations; reviewed regulations in surrounding municipalities; and developed a list of recommendations. These results are presented by regulatory provision category below.

REVIEW & RECOMMENDATIONS

DEVELOPMENT REVIEW PROCESS

Before getting into specific zoning provisions, it is beneficial to review the development review process and make some overarching recommendations on the existing procedures.

Reason for Review from Affordable Housing Perspective

Time and uncertainty can add to the cost of a development project and minimize the ability to accommodate affordable housing. The basis of this review is focused on the distinction between by-right (i.e. objective) and discretionary approvals (i.e. subjective), and other review/approval aspects that can reduce time-consuming, costly, uncertain, inconsistent, and unpredictable decisions.

> "Elected officials want zoning to achieve specific goals. Citizens want to know what can happen next to their home. Developers want to read the zoning code and prepare a plan that meets the standards and can be approved. Discretionary approvals fail all these desires, and it stands to reason that a failed zoning tool should be abandoned." By Lane Kendig[vii]

In the *By-Right Zoning*, Zoning Practice report, Lane Kendig describes both conditional use and Planned Unit Developments as highly discretionary approval processes. Conditional uses were originally added to use tables to address uses that are necessary and sometimes needed in residential areas or downtowns (e.g. emergency services, wastewater treatment plants, electrical sub-stations), likely to cause a nuisance, and were difficult to classify as simply permitted or prohibited. Over time common uses have been added to this list because only under certain conditions may a particular use be a good fit in some districts. The challenge is that the conditional use standards are highly discretionary (e.g. "character of neighborhood") and can lead to unpredictable results. The issues that are usually of concern (e.g. unsightly appearance, traffic, signs, lighting, etc.) can and should be addressed through clear, objective standards and not under the context of a conditional approval. In addition, many of these provisions are covered under a Site Plan review process. Planned Unit Developments (PUDs) are also highly discretionary as the concept is to allow for flexibility from the standards, and therefore results in unpredictable results.

Comparison to Other Regional Municipalities

Municipalities have been working to make their regulations more objective for a few reasons, including the current subjective review processes do not result in predictable outcomes, J.A.M. Golf LLC and other VT decisions clarify the requirements for more specific and objective standards[viii], and developments have not met the vision hoped for in the municipal plans. Form Based Codes are a tool that has been used to establish more objective standards to achieve predictable outcomes and developments that meet the communities vision. Some municipalities have an administrative review process associated with these (i.e. approved by the Zoning Administrator), while others are approved by the Development Review Board. There are many aspects to a Form Based Code, but it is not necessary to make use of all the provisions depending on the objectives of the municipality. The key benefit is more objective standards. There are also other tools that can be used as well, including improvements to existing standards within the regulations (e.g. switch from setbacks to build-to lines).

The following table includes four municipalities in Chittenden County that have adopted a form based code and describes their review process and subjectivity. Other municipalities in Chittenden County with form based codes include Shelburne, Jericho and Westford (many components of form based code type zoning, though they don't call it that).

Form Based Code Provisions in Chittenden County Communities				
	Winooski (Gateways)	**South Burlington (City Center)**	**Burlington (Downtown & surrounding district)**	**Colchester (Severance Corners)**
Review Type - Small projects	**Administrative Approval**	**Administrative Approval**	**Administrative Approval**	**Development Review Board**
Review Type - Large projects	**Administrative Approval**	**Administrative Approval**	**Administrative Approval & DRB depending on height**	**Development Review Board**
Does the Code allow for staff or DRB discretion?	**Yes, within objective limits: "Administrative Adjustment Standards"**	**None except DRB for doorway spacing**	**Fixed criteria for administrative; some discretion for DRB**	**No**

Recommendations for Essex Regulations

Process 1. The overall recommendation is to adjust the zoning regulations to a more by-right, objective process. This includes making multi-family housing a permitted use, and not requiring PUD approval.

Process 2. Table 2.1: Make multi-family housing is a permitted use rather than conditional use in the districts where the Town would like to see more housing. Currently there are only four districts where multi-family housing is a permitted use, and two of those districts aren't likely to be used for additional multi-family housing (i.e. R3 is essentially built-out and in B1 housing isn't a

component of the purpose statement). Secondarily there is a provision where multi-family dwellings are permitted but only under PUD approval; therefore, the benefit of it being permitted by-right is negated by requiring a complicated, subjective review process.

Process 3. Consider a Development Review Board form of review so projects can be reviewed with just one combined Site Plan and Conditional Use review rather than the time and money associated with two different Boards and two hearings.

Process 4. Consider a Growth Center or New Town Center and Neighborhood Development Area Designation from the State to alleviate Act 250 review and permitting.

Process 5. 5.5(A): Amendments – Approved as consent agenda. For many Chittenden County municipalities, these types of things are approved administratively by staff. Consider following this practice as it can eliminate time and uncertainty for applicants.

Process 6. 8.1: Subdivision Definition – Amend the subdivision definition so a multi-family building on one lot does not need to be approved as a subdivision (review it instead as a Site Plan only). Look to the Essex Way 70 decision, and other multi-family approvals to understand if there is anything from the subdivision review process that is necessary for an effective review of these types of projects. If so, incorporate those elements within a Site Plan provision specific to multi-family projects, rather than subjecting these developments to a 2- or 3-hearing process.

Process 7. The table below attempts to compare the relative ease of the process changes to the benefit. The more difficult changes may likely produce the greatest benefit. However, within each of these options there are small changes that can be made with less difficulty.

OPTIONS FOR PROCESS CHANGES	EASE OF CHANGE	RELATIVE BENEFIT OF CHANGE	SPECIFIC EXAMPLES
ADDITIONAL "BY RIGHT" APPROVALS (MEANING PERMITTED WITHOUT A NEED FOR DISCRETIONARY DECISION MAKING AND APPROVED BY STAFF)	**DIFFICULT**	**HIGH**	**ELIMINATE CU REVIEW FOR ADUS IN NEW ACCESSORY STRUCTURES AND ADDITIONAL FLOOR AREA**
FEWER DISCRETIONARY APPROVALS (I.E. CONDITIONAL USE, PUDS AND SUBDIVISION REVIEW WHERE NO LAND IS BEING SUBDIVIDED)	**EASY**	**HIGH**	**NO SUBDIVISION REVIEW FOR MULTI-FAMILY ON ONE LOT, ONLY SITE PLAN REVIEW. ALSO MULTI-FAMILY AS PERMITTED USE RATHER THAN CONDITIONAL**
DEVELOPMENT REVIEW BOARD STRUCTURE RATHER THAN PLANNING COMMISSION & ZONING BOARD OF ADJUSTMENT	**DIFFICULT**	**MEDIUM**	**ELIMINATE REPETITIVE REVIEW PROCESS BY TWO DIFFERENT BOARDS FOR THE SAME APPLICATION**
ADDITIONAL CONSENT AGENDA APPROVALS	**EASY**	**LOW**	

ACCESSORY DWELLING UNITS

Vermont recognizes the benefits that Accessory Dwelling Units (ADUs) can have on overall housing stock and housing affordability and requires municipalities to allow these units wherever single family homes are allowed. However, ADUs haven't been built in significant numbers despite their relative low cost in comparison to other new housing development in infill areas. This section describes the benefits of ADUs, successful incentive programs in the West, comparison to other Chittenden County municipalities, and recommendations for Essex to consider for greater use of ADUs.

Reason for Review from Affordable Housing Perspective

Benefits of Accessory Dwelling Units[ix]:

- Increases a community's housing supply without significant further land development
- Facilitates efficient use of existing housing stock & infrastructure
- An affordable housing option for many low- and moderate-income residents
- Improves homeowner cash flow
- Helpful to aging and/or people with disabilities (or caregivers, empty nesters, young adults, etc.) who may want to live close to family members.

Despite these benefits, ADUs have not been built in a significant way. However, there has been more recent success in the West, specifically in Vancouver, Seattle, Portland and California. *Jumpstarting the Market for Accessory Dwelling Units: Lessons Learned from Portland, Seattle and Vancouver* helps to explain the market in these cities and the key takeaways that helped enable their success[x]:

- Reform zoning for minimum lot size and floor area. Minimize design review and relax owner occupancy requirements. Homeowners appreciate flexibility and use them for a variety of reasons; the majority are used for affordable housing (not short-term rentals as some expected).

- Work with local banks to allow homeowners to borrow against the future value of the ADU. Otherwise, only those with cash can afford to build them despite them costing the lowest of any new housing construction in already built-up areas (because they are small, can be built quickly and efficiently, and there is no land cost). Reduction of permit fees and utility fees can spur homeowners to build, though it likely won't impact the cost of construction significantly.
- Educating landowners and providing technical assistance will likely produce good results for relatively little cost. This played a big role in Portland's success over the last decade. As an example, this is a great website geared toward property owners and developers: www.accessorydwelling.org.

Of note is Portland's success (2,000 ADU permits issued since 2010) which can be attributed to these factors[xi]:

- Regulatory: no owner occupancy requirement, no design review, a by-right process, and fee waivers.
- Financial: eliminated impact fees (called System Development Charges) which are on average 7% of the cost of construction.
- Social: green building and ADU advocates hosted tours to educate other residents on the benefits and the process in building.

California made sweeping changes to their enabling statute for ADUs in an attempt to help deal with their housing shortage crisis. The law that went into effect on January 1, 2017 makes a wide variety of changes including but not limited to administrative approval, limitation of parking requirements, and elimination of some utility connection fees[xii].

Comparison to Other Regional Municipalities

	Occupancy Requirement		Relation to Principal Dwelling		Total Floor Area	Required Parking	Bedrooms	Other
	Principal Dwelling	Either Principal or ADU	Within	Attached with Expansion or New Detached[1]				
Essex		X	P	CU	30%	1/unit	efficiency or 1 bedroom	
Essex Junction (Section 721)	X		P	CU	30%	1/unit		not in residential garage unless there is adequate separation between the residential unit and garage and is compliant with the Vermont Fire Prevention Code
Burlington (Section 5.4.5)		X	P	CU	30%	1/unit	efficiency or 1 bedroom	
Colchester (Section 2.09(B))		X	P	CU	30% or 900 ft^2 whichever is greater	1/bedroom	up to 2 bedrooms	unit whether attached or detached shall have the external appearance of a single-family residence; and compatible (including scale, fenestration, roof & siding materials, color & design) with the principal dwelling
South Burlington (Section 3.10.E.)	X		P	CU	30%	2/unit[2]	efficiency or 1 bedroom	
Williston (Section 20.1)	X		P	CU	30%[3]	1/unit for efficiency & 1 bedroom, 2/unit for 2 bedrooms	up to 2 bedrooms	Detached accessory dwellings in the Village must comply with the Village design standards.
Winooski (Section 5.1)		X	P	CU	30%	1/unit	efficiency or 1 bedroom	
CCRPC Recommendation for Essex	Consider no owner occupancy requirement		Allow both by right so long as lot coverage and setbacks are met[4]		Relax floor area size[5]	Consider no off-street parking in areas with transit.		

[1]While there are some distinctions, Essex and most of these municipalities require a CU for additions or new accessory structure, increase in building height or habitable floor area, or increase in dimensions of parking area

[2] South Burlington - if deed restricted for a disabled person, no additional parking required.

[3] Williston - "…or where the parcel is larger than one-half acre, but too small to subdivide in the zoning district in which it is located, no more than 50% of the total floor area of the dwelling to which it is accessory, with a maximum size for any accessory dwelling of 1,500 square feet."

[4]Essentially no one can do an ADU by right if they can't fit it within the existing structure of their home.

[5]Portland allows 75%, up to a maximum of 800 ft^2.

Recommendations for Essex Regulations

ADU 1. The overall recommendation is to continue to allow ADUs in all residential areas with more relaxed standards.

Opportunities for Improvement:

ADU 2. 4.1(A)(2): Owner occupancy. While it is helpful that either the single family unit or the accessory unit can be owner occupied, consider removal of the owner occupancy requirement altogether. There is a question about whether this is enabled in statute. 24 VSA §4412 (1)(E) is the enabling statute for accessory dwelling units and includes the language "no bylaw shall have the effect of excluding as a permitted use one accessory dwelling unit that is located within or appurtenant to an owner-occupied single-family dwelling." §4412 (1)(F) states "Nothing in subdivision (1)(E) of this section shall be construed to prohibit: (i) a bylaw that is less restrictive of accessory dwelling units". Since (1)(F) refers to the entirety of (1)(E), I interpret this to mean that a municipality can relax any provision within (1)(E), including "owner-occupied". However this is debatable and if Essex were interested, legal counsel should be sought. An associated issue to be resolved, if the Town removes the owner occupancy requirement is the distinction between an ADU and a duplex. The main differences between ADUs and duplexes are the size limitation and owner occupancy requirement. If the owner occupancy component is removed from ADUs it challenges the system in determining what use it actually is. That is a real challenge that would need to be worked out, but if the end goal is more housing units and more units that would fall into an affordable category both ADUs and duplexes are

valuable uses that the Town should encourage. There is no real need to make the permitting process for one more complicated than the other.

ADU 3. 4.1(A)(5): Shall not exceed 30% in size. Consider relaxing this size maximum by one or both of the following: 1. Allow the 30% to be calculated with the ADU rather than just the single family dwelling prior to construction; 2. Allow for 30% or up to a maximum size (examples include 800ft^2 from Portland, OR; and 900ft^2 from Colchester). Based on Essex's 30% max, only a fairly large home over 2,600 ft^2 could have an ADU around 800 ft^2; a 2,000 ft^2 home could only have a 600 ft^2 ADU; and a traditional home around 1,200 ft^2 could only have a 360 ft^2 ADU which some may find too small. There is some value in holding the 30% size limitation if it is truly producing smaller units that are filling an affordable housing gap, but it is recommended to allow some flexibility in how the 30% is calculated.

ADU 4. 4.1(A)(6): Parking. See parking review section for more details.

ADU 5. 4.1(B): Conditional Use Review. As written Section 4.1(B) requires Conditional Use review for additions or new structures ("…that increases the height *or floor area* of the existing single family dwelling…"). In practice, it is rare for an applicant to go to the ZBA for an accessory apartment either because the single family home is so large the 30% floor area for the accessory apartment can be easily accommodated within the existing floor area, or because a zoning permit is pulled for an addition first and then a second permit is pulled for an accessory apartment. The latter comes with some risk, and while minimal, it is not a risk that a landowner with limited means would likely take. Additionally, in practice, conditional use review is only invoked when the ADU itself exceeds the 30% floor area limitation; however, the wording in 4.1(B) is not limited to only that. Consider an amendment to 4.1(B) that would eliminate the need for Conditional Use review for an addition to accommodate an ADU, so long as the addition and parking fit within lot coverage, setbacks and height. This could be accomplished by simply deleting "or floor area" from Section 4.1(B). This would increase the opportunity for ADU development by right. Also, from a land use perspective a duplex is a more "intense" use than an ADU; and currently, duplexes are a

permitted use in all residential districts except MXD where it is a conditional use, and C1 where it isn't allowed at all. Therefore, if the more intense duplex is a permitted use in most circumstances, this is an argument for ADUs as permitted uses even when done in an addition.

ADU 6. 4.1(B): Conditional Use Review. To further expand on the opportunities for ADU development by right, consider allowing ADUs in a new accessory structure without Conditional Use review so long as the new structure and parking fit within lot coverage, setbacks and height. Because new accessory structures may be placed further back in the yard than the existing single family home, it may be appropriate to establish some basic design standards associated with this by right ADU development. For example, a standard that the 2nd story can only be 60% of the floor area of the 1st story to avoid obtrusive height and sight lines directly into a neighboring back yard (this is an example from Vancouver, and they have others. Winooski's residential form-based code district has some simple standards that could help with the preservation of privacy in back yards as well). Another example is this provision from Colchester: "unit whether attached or detached shall have the external appearance of a single-family residence; and compatible (including scale, fenestration, roof & siding materials, color & design) with the principal dwelling." Ensure that these standards are clear and specific so the Zoning Administrator can approve them without discretion via a zoning permit.

BASE DENSITY

Reason for Review from Affordable Housing Perspective

While there are many factors that impact the cost of construction, the number of homes that can be built on a given lot is a critical piece of the puzzle. The base thresholds that CCRPC used for comparison in this study include the following:

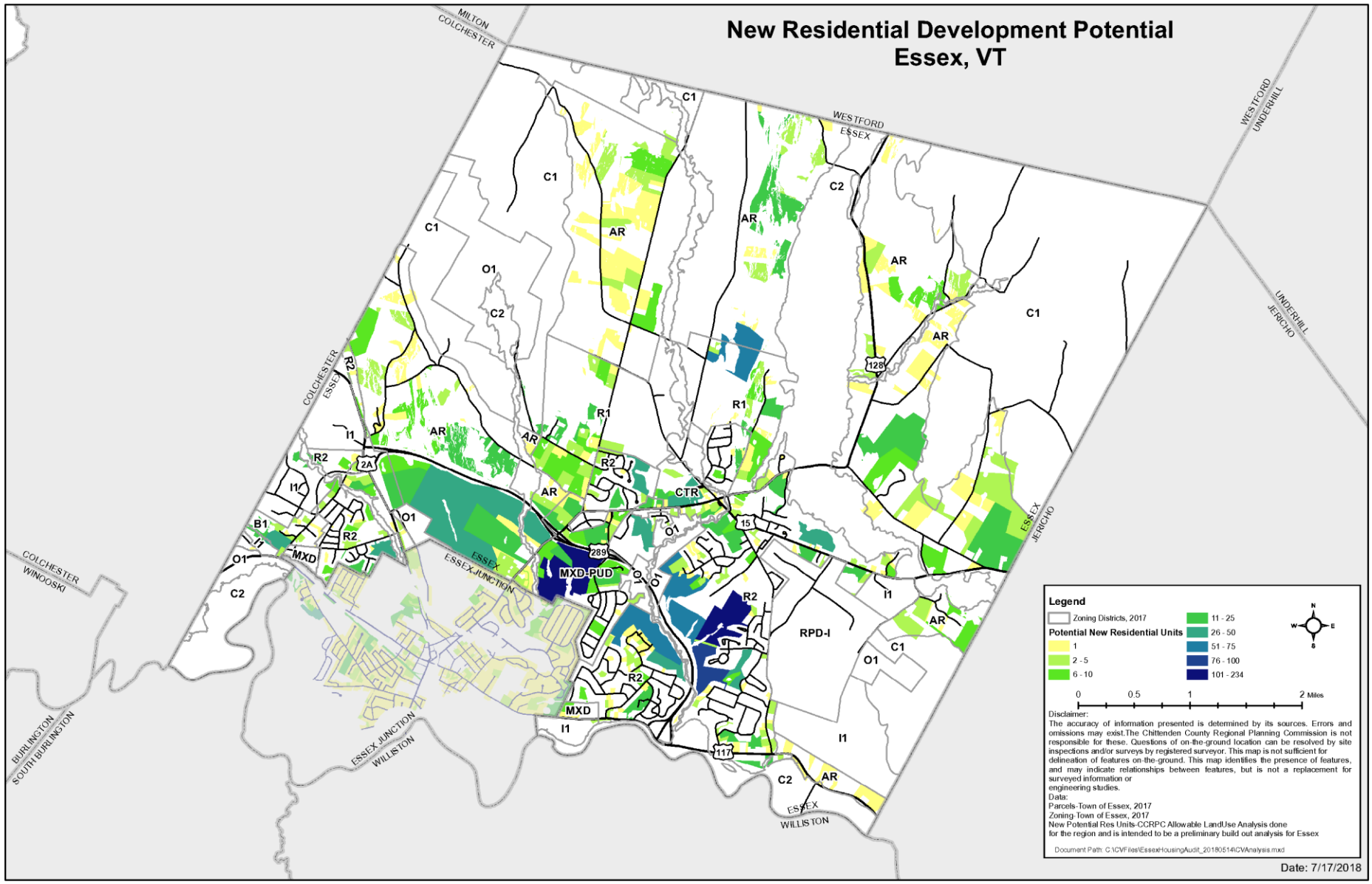
- 4 units per acre is the minimum density threshold for Vermont's Growth Center and Neighborhood Development Area designations.
- 7 units per acre is the minimum density needed to support transit with a frequency of 1 bus every 30 minutes[xiii].
- 5,000 ft^2 is the recommended minimum lot size for single family residential from Vermont's Growth Center and Neighborhood Development Area designations. It is presumed that this can promote infill development and creates a neighborhood scale development that is walkable.
- Another factor to consider is flexibility in unit sizing. The market for micro apartments is being driven by millennials and the retirement of baby boomers. These units are commonly understood to be smaller than 400ft^2, and can be as small as 220ft^2, according to the International Code Council's International Building Code. "Tiny homes" are also typically 400ft^2 or smaller.

Also, because the densities in each zoning district are related to limited sewer service area allocations, density increases to accommodate a more affordable housing unit cost in one area may involve a reduction in density in another area. To understand the future growth allocation based on existing zoning densities, CCRPC mapped Essex's potential future growth from the 2050 population forecasts (established for the *2018 ECOS Plan* and prepared by Economic & Policy Resources, Inc. in 2017). The 2050 population and household forecasts for Essex include the Junction and are listed below:

Essex (with the Junction)	Population Forecast	Household Forecast
2015	20,946	8,360
2050	24,020	11,429

Prepared by Economic & Policy Resources, Inc. 2017

The following map depicts a build-out based on potential new residential development from the forecast, current zoning parameters and development constraints removed (meaning natural resources that can't be developed, such as wetlands, have been accounted for).



Prepared by CCRPC, 2018

Comparison to Density Thresholds

Zoning District in Sewer Service Area	Meet NDA min. 4 du/acre density?	Type of Housing Permitted?	Type of Housing CU?	Allow at least 3 stories?	Allow for smaller (approximately 5,000 ft2) minimum lot sizes for SF?	Allow for relaxed dimensional requirements for infill?	7 units/acre for 30 min. bus service?
MXDC	Yes, smallest at 7,000ft^2	two and multi-family	congregate	Yes, but only 40'	This district doesn't allow SF homes.	Yes, 70% lot coverage for multi-family residential; 36' front setback at minimum (larger on Rte. 15 and Main St.); no side or rear setbacks	No
CTR	Yes, 10,000ft2	single and two family	multi-family and congregate	Yes, but only 40'	Not sure this is prohibited. The purpose statement indicates moderate to high density development.	Allows for up to 4 units within existing historic structures which is useful for existing structures. But standards for new construction is limited. Only allows for 40% lot coverage for multi-family residential.	No
R3	Yes, 10,000ft^2	single, two and multi	congregate	Yes, but only 40'. Maybe OK here.	Ratio in PUD getting slightly better but still a square lot with a required 75' min frontage (100' regular) would be 66' depth.	Not really. Slightly better setbacks in PUDs but not really encouraging infill. Though this zone is built-out.	No
RB	Yes, 10,000ft^2	single and two family	multi-family and congregate	Yes, but only 40'. Maybe OK here.	Doesn't prevent it, but with 100' minimum frontage it really isn't workable (you'd only have a 50' depth).	Not really, and PUDs not allowed.	No
B1	No, 20,000ft^2	multi-family and congregate		Yes, but only 40'. Maybe OK here.	Does not allow single family	Allows 70% lot coverage for multi-family; though 150' frontage might be large even for multi-family (urban v. suburban style)	No
R2	No, 20,000ft^2	single and two family	multi-family and congregate	Yes (40', but okay here)	Ratio in PUD getting slightly better but still a square lot with a required 75' min frontage (100' frontage otherwise) would be 66' depth.	Not really. Slightly better setbacks in PUDs but not really encouraging infill. Though density increases for congregate housing at 10,000ft^2/du.	No
HP-DC	No, 20,000ft^2	single, two and multi	congregate	Yes, but only 40'	No, minimum lot size is too large. No frontage and no setbacks is helpful.	No frontage, no setbacks, but only 40% lot coverage for multi-family.	No

MXD	No, 20,000ft^2	two family in PUD	two and multi-family and congregate	Yes, but only 40'. Maybe OK here.	Ratio in PUD getting slightly better but still a square lot with a required 75' min frontage (100' regular) would be 66' depth.	Not really. Slightly better setbacks in PUDs but not really encouraging infill.	No

Recommendations for Essex Regulations

Overall, the base dimensional requirements do not allow for the level of density needed to help accommodate additional housing, let alone affordable housing. Therefore, it is recommended that the regulations be amended, particularly in the Town Center to accommodate more density in a smart growth manner. Look to the R2 district, particularly east of 289 for additional sewer allocation if needed to bolster the development potential in the Town Center.

Opportunities for Improvement:

Base Density 1. 8.1: Dwelling Unit Size in Definitions - Essex's current definition for dwelling unit size allows for 350ft^2 usable floor area in any two-family, multi-family or mobile home configuration; and the minimum size for single family units is 500ft^2. The multi-family size could be reduced to allow for smaller units to accommodate the micro unit apartments. However, according to a recent Burlington Free Press article[xiv] on smaller units in the region, the smallest studios reported are 360ft^2 -- so perhaps 350ft^2 is small enough. Regarding the single family unit size of 500ft^2, it is limiting the use of "tiny homes" which are typically[xv] referred to as 400ft^2 or less.

Base Density 2. Article II: Minimum Lot Area - Generally the minimum lot area is the basis for density, and the associated base density for most of the zoning districts in the sewer service area is very low. Density increases largely require PUD approval which is an incredibly complicated review process (see below for more details).

Base Density 3. Article II: Lot Frontages - Generally the minimum lot frontages for many of the zoning districts in the sewer service area are too large to create small in-fill residential lots of 5,000ft^2 or less. A 50' frontage can help pave the way for a 5,000ft^2 (or 1/8 acre) lot. While 10,000ft^2 (or ¼ acre) lots are compatible with 75' to 100' frontages, lots should be smaller in sewer service areas where multi-modal, walkable neighborhoods are the goal.

Base Density 4. Consider form over traditional use and density based zoning. Increasing density can be a hard sell when the public doesn't have visuals to help them understand the changes proposed. Focusing visuals on the human experience within the streetscape can help residents understand what the changes will feel like, rather than fear the greater height or density that goes along with the change. See pages 17 and 20 in the Winooski Gateway Corridors Vision Plan as an example (credit to

Urban Advantage for the visuals). Form Based Code (or similar tools) processes start with a robust visioning exercise that aims at consensus over the look and feel of a place. That vision is then coded and standardized in a by-right, objective zoning regulation to help create a predictable approval process on the back-end. Along with this planning process it is important to educate residents on the high cost of expanding infrastructure into greenfields rather than concentrating development in areas planned for growth that are already served by existing infrastructure.

DENSITY BONUS & PUDS

Reason for Review from Affordable Housing Perspective

As discussed in the previous section, some of the zoning districts have low base densities and dimensional requirements that are likely barriers to increased housing and affordable housing. Because Planned Unit Development is the only method for increased density through the density bonus provisions, this provision was analyzed as part of this study.

Comparison to Burlington's Inclusionary Zoning Ordinance

While affordable housing is not a requirement in Essex's regulations, it is helpful to look at inclusionary zoning parameters as a frame of reference for the 'get something to give something' concept as the intent is the same for density bonus provisions associated with incentivizing affordable housing development.

The sidebar from the Burlington Inclusionary Zoning report eloquently captures the challenge of cost shifting to developers. In addition, the report identifies the importance of a consistent and predictable development review process and public funds to support the system in full. The following explains some of the basic provisions of Burlington's inclusionary ordinance and the report's recommendations[xvi]:

1. Required for projects with 5 or more residential units; and 10 or more units for rehabs. The study finds that 5 units may be too small in Burlington's market, and recommends increasing this to 10 or more units.
2. The percent affordable is based on the average market value of the units:

The following is a screen shot from the *Evaluation of the City of Burlington's Inclusionary Zoning Ordinance* by czb, LLC. Jan. 2017

Cost shifting from the public to developers:

The public has a right to set high standards for development in Burlington. After all, careful stewardship of the city's assets has created tremendous value that would be silly not to leverage. But that does not mean developers should be expected to provide a public good without incentive or compensation of some kind – that is why cost offsets are a fundamental part of any inclusionary zoning ordinance. Developers are no less rational than other economic actors and need to obtain a return comparable to any risk-taking entity; expecting them to do otherwise will limit the realization of community goals that mandate their participation as partners.

Average price range of units	% of units to become perpetually affordable
At or below 139% Area Median Income (AMI)	15%
Between 140 – 179% AMI	20%
180% + of AMI, or on waterfront	25%

Income targets: 65% AMI for rental; 75% for ownership. The study recommends switching this to ranges, and notes that 75% is low for ownership. When Essex does a housing needs assessment and research to understand the right income targets, page 32 of this report can be helpful for more specifics on these range recommendations.

3. Cost offsets: Developers are entitled to density and lot coverage bonuses of between 15% and 20%; 50% parking requirement waiver; and waiver of a portion of impact fees for the inclusionary units. However, the study reports that the give and get that should work here to cover the developers costs of complying is not working. Interviews with the for-profit and non-profit developers found these bonuses are not being realized and in fact developments end up coming in under the base allowable density. The study recommends revamping these because cost offsets are fundamental to inclusionary zoning to help offset the costs that developers incur in building to an affordable price point.

Because of this study, the City has been considering amendments to the ordinance. While they are still in process, the Inclusionary Zoning Working Group has produced this recommendations report on 6/4/2018: https://www.burlingtonvt.gov/sites/default/files/IZWG%20Draft%20Recommendations%206.4.18_0.pdf. It would be beneficial for Essex to follow the results of this work to assist with improvements to the existing density bonus provision, or for considering an inclusionary zoning provision.

Recommendations for Essex Regulations

Density Bonus & PUD 1. Overall, the standards and process for a density bonus and a Planned Unit Development are too complex to gain the benefit of the density bonuses. Within the areas planned for growth, define the density and/or form of

development you'd like to see and simplify the review process so that vision can be achieved. Eliminate overly complicated PUD and density bonus provisions.

Density Bonus & PUD 2. Inclusionary zoning (a mandatory requirement for a portion of a housing development to be affordable) can be an effective mechanism for achieving housing affordability in areas where growth is happening. It is not a tool that addresses the cost of building affordable housing, as this mandatory requirement simply passes the cost on to developers. However, as changes are considered in the Town Center it is a tool that should be looked at, along with a local housing trust fund.

Strengths:

Density Bonus & PUD 3. 6.8(A): Purpose of PUD-R – Inclusion of "provide greater housing opportunities" is very helpful in the purpose statement.

Opportunities for Improvement:

Density Bonus & PUD 4. 8.1: Affordable Housing Definition – allow for up to 100% area median income (AMI) as a range as suggested at the Economics of Housing workshop. A housing needs assessment will help Essex define the correct range for its goals, but a range can be much more workable than a set target.

Density Bonus & PUD 5. 6.3(A)(1): PUD, Review Process – As suggested elsewhere in this report, change the subdivision definition so that multi-family residential projects on one lot do not need to be reviewed as a subdivision as there is no actual subdivision of land. Also, another bullet is likely needed in Section 6.3(A) to define the review process for this situation. If PUDs remain as the only method for increased density, a more simplified PUD approval process should be established (potentially site plan only). Though the overall recommendation is to set a higher base density by right and review it as a Site Plan.

Density Bonus & PUD 6. 6.4(E): Density Calculations – while not uncommon, this provision requires the unbuildable land to be subtracted from the allowable density calculation. If the remaining buildable land can accommodate the full density (water, sewer, parking, etc.) of the entire project parcel, why not allow the full density on the buildable portion? The unbuildable land will be protected; this provision does not protect it further.

Density Bonus & PUD 7. 6.4(K): Residential Density Bonus – this provision is requiring at least two extra amenities (energy efficiency), in return for the one added benefit of 25% more density. Because an increase in housing is a municipal goal, consider allowing it by right within the appropriate parameters, rather than using it as a carrot for other good behavior. Also, 25% more density as the 'get' for building more density may not be enough of a benefit to make the finances work.

Density Bonus & PUD 8. 6.4(K): Residential Density Bonus – The energy efficiency requirement reads: "All units in any development that is granted a density bonus must meet the Energy Star standards as defined by Efficiency Vermont." In talking with Efficiency Vermont to determine whether this requirement is above and beyond the current VT Residential Building Energy Standards (RBES), it became clear that the provision in Essex's regulation is not well defined. This provision should be amended to clarify exactly what standard developers are being required to meet. There are four standards (not including 'net zero' which is above and beyond these):

1. EPA's Energy Star standards. Defined by the federal Environmental Protection Agency and certified by third parties. Efficiency Vermont conducts those rating certifications in VT, but they don't define these standards. According to Steve Spatz of Efficiency Vermont, they don't see a lot of Vermont developers seeking this standard and it can be very difficult to meet if they aren't intending it from the start since it includes other provisions like water usage and onsite water run-off.

2. Efficiency Vermont Certified Home. This is an Efficiency Vermont program and they conduct final building verifications to issue these certifications. The standards are above and beyond the base RBES requirements since 2018, and the stretch energy code that is required under Act 250 review.

3. Stretch Energy Code under Act 250 Review. This is more stringent than the base RBES requirements largely due to higher insulation value for foundations (R15 to R20).

4. VT Residential Building Energy Standards. This is the base requirement for all new residential construction in VT. Establishing this as the standard would not be imposing an additional burden on developers, which is recommended for the purposes of this report. Considering additional requirements do not improve the bottom line for the goal of achieving more affordable housing.

Density Bonus & PUD 9. 6.4(K)(2): Residential Density Bonus – It doesn't sound like the provision for contribution to the municipal conservation fund in an amount at least 50% of the current assessed lot value has been used. Essex Staff has run this through on some conceptual projects and found that it doesn't seem to make financial sense. This is similar to a fee in lieu provision in an inclusionary zoning ordinance. Monitor the work in Burlington's inclusionary zoning ordinance, as an example, to set a more reasonable fee for contribution.

Density Bonus & PUD 10. 6.4(K)(3): Residential Density Bonus – while density bonuses are not the best tool for achieving the right density, it is good that only a portion of the bonus units (25%) need to be affordable. That is likely more workable for a developer than requiring 25% of the total units to be affordable, and seemingly more workable than the 25% total affordable in the 400% bonus provision. A Housing Committee with input from the development community can help define the specific percentage that is right for Essex, as well as understanding where Burlington ultimately lands on their inclusionary zoning ordinance.

Density Bonus & PUD 11. 6.6: PUD-Commercial – Within this review process congregate and 1- and 2-bedroom multi-family residential uses can be built without the restrictions that are in PUD-Mixed Use. Namely the 10 du/acre maximum restriction doesn't come into play here, so the allowance of up to 400% density bonus appears to be a real incentive. However, there are several confusing provisions to try to settle here. It appears that this is only allowed in the B1 district with a base density of 20,000 ft^2, which equates to a low number of units – making the 400% density bonus appealing. However, though the B1 district isn't intended for housing (even though congregate housing is allowed). In addition, Table 2.9(F)(2) states that the maximum density is 25 units/acre, a very different density than defined by 20,000ft^2.

Example Density: PUD-C, B1 District, 3 acre lot (the minimum required for a PUD-C)	Calculated Units	Comments
Base Density of 20,000ft^2 (though it isn't clear how the 25 units/acre maximum comes into play):	6 units	Very low.
400% Density bonus (Section 6.4(K)):	+ 18 units = 24 total units	Seemingly useful incentive. However, this translates to 1 du/5,000 ft^2 (or 8 units/acre), an arguably good base for a walkable single family neighborhood, but still low for a multi-family project?
25% Required Affordable:	6 units	While 24 total is better than 6, 18 units is not enough to recover the cost of the 6 units affordable. Consider a lower proportion of affordable, just like the 25% density bonus (which requires only 25% of the bonus units to be affordable).

Density Bonus & PUD 12. 6.7: PUD-Mixed Use – There are some scenarios where the density bonuses allowable with a PUD-Mixed Use are workable, however Section 6.7(E) sets a maximum density of 10 du/acre which undermines the intent of the 400% density bonus.

Example Density: PUD-MU, MXD-C district, 5 acre lot (the minimum required for PUD-MU)	Calculated Units	Comments

Base Density of 7,000ft^2:	28 units	Better base density
400% Density bonus (Section 6.4(K)):	+ 84 units = 112 units	A much more logical density for multi-family in an concentrated growth is desired. 1 du/1,785ft^2 or 22 units/acre (frame of reference: in DT Burlington the cost of land at $500,000/acre translates to a minimum of 20 units/acre to make a project work financially).
25% Required Affordable:	28 units	With 112 units total, there is room to recover some affordable units (though 25% may still be too high).
Max 10 units/acre:	Only 50 units with 12 affordable	While this is greater than the base density, it is significantly lower than 112, so the 400% bonus is meaningless. Consider a lower proportion of affordable, just like the 25% density bonus (which requires only 25% of the bonus units to be affordable).

Example Density: PUD-MU, MXD district, 5 acre lot (the minimum required for PUD-MU)	Calculated Units	Comments
Base Density of 20,000ft^2:	10 units	Very low for a mixed-use area that is planned for growth in the sewer service area.
400% Density bonus (Section 6.4(K)):	+ 30 units = 40 units	Seemingly useful incentive. However, this translates to 1 du/5,000ft^2 (or 8 units/acre), an arguably good base for a walkable single family neighborhood, but still low for a multi-family project on a 5 acre lot.
25% Required Affordable:	10 units	While 40 total is better than 10, 30 units may not be enough to recover the cost of the 10 units affordable.
Max 10 units/acre:	Not triggered.	

Density Bonus & PUD 13. 6.7(D)(2): PUD-Mixed Use – Non-residential density. Why not use this same, simple concept for residential densities as well? It's more of a form-based approach and allows for development of the lots as appropriate for the space rather than setting and defining arbitrary densities.

Density Bonus & PUD 14. 6.7(D)(3): PUD-Mixed Use – This section describes that areas devoted to commercial only buildings be subtracted out and added back in as 2/3 when calculating total density. The intent is unclear and the approach is convoluted. Consider adding an intent so applicants know what the aim is, and establishing a more simple method for achieving the intent.

Density Bonus & PUD 15. 6.7(D)(4): PUD-Mixed Use – Additional 2 units/density. This seems like a good incentive because it doesn't have any associated requirements with it; however, it isn't allowed beyond the 25% bonus, so it really isn't adding anything. In addition, it is unclear how this relates to the 400% density bonus.

Density Bonus & PUD 16. 6.7(F): PUD-Mixed Use – Doesn't allow any construction in a subsequent phase until the previous phase is complete and seems quite restrictive from an infrastructure standpoint. While the intent is sound (infrastructure should not get too far ahead of the project itself in case something goes wrong), it seems the PC could allow some flexibility here. Particularly when it comes to the opportunity to establish street connections; there may be a benefit in those connections even if all the phases of development aren't fulfilled.

Density Bonus & PUD 17. 6.8(E)(2): PUD-R – Suggest that you include a reference to provision 6.4(K) as a reminder that density bonuses can be approved here. For an example of how the density bonus works in the PUD-R (to compare to the above PUD example tables):

Example Density: PUD-R, R2 district, 5 acre lot (to compare to the other scenarios)	Calculated Units	Comments

Open Space (Section 6.8(J):	1 acre	The density from this acre can be used in the density calculation which is helpful (but only if it can be reasonably adapted to recreational use), unlike undevelopable land.
Base Density of 20,000ft2:	10 units	Very low for a 5 acre lot.
400% Density Bonus (Section 6.4(K)):	+ 30 units = 40 units	Seemingly useful incentive, and it translates to 1 du/5,000 ft2 (or 8 units/acre), an arguably good base for a walkable single family neighborhood.
25% Required Affordable:	10 units	While 40 total is better than 10, 30 units may not be enough to recover the cost of the 10 units affordable. Also, considering undevelopable land needs to be subtracted, it is unlikely you'd even get to 40 total units in this scenario.

Density Bonus & PUD 18. 6.8(F): PUD-R, Minimum Lot Size & Lot Area – This provision requires the applicant to prove the benefit of these reductions. If the intent of the PUD-R is more efficient use of the land, the lot sizes and lot area must be reduced because at its base it creates an inefficient, suburban layout. Consider allowing these reductions by right, rather than waiver. This might mean changing the base dimensional requirements rather than allowing for by right exceptions in the PUD provision, but it could be the latter. This may be appropriate in some districts and not others.

Density Bonus & PUD 19. 6.8(G)(2)(c): PUD-R, Side Yard – Allowing a zero feet setback on one side of a single family lot is challenging for maintenance of that lot (house painting, etc.). Perhaps this would be better suited by relaxing the total frontage, and allowing 5' side setbacks?

Density Bonus & PUD 20. 6.8(G)(4): PUD-R, Frontage – While the 100' frontage might make sense for the AR and R1 districts, a 50' frontage may be more effective at creating a walkable neighborhood which might be more logical in some of the R2 district locations. In addition, 5,000ft^2 is a good marker for a walkable, single family neighborhood. 75' of frontage creates an inefficient lot pattern (75' wide, and 66' deep).

Density Bonus & PUD 21. 6.8(G)(5): PUD-R, Townhouse – Very useful to allow for these with waivers to frontage, setback and size provisions; however, consider allowing these by right in some districts. A form-based code style code can help enable this, though it isn't necessary.

Density Bonus & PUD 22. 6.8(H): PUD-R, Buffers – This buffer concept can unintentionally create a separation of uses, and can reinforce suburban style, non-walkable areas. This may make sense in some districts, but consider a different method in the districts where you want to influence a more walkable neighborhood.

Density Bonus & PUD 23. 6.8(I): PUD-R, Mobile Home Parks - The specific site standards for a new mobile home park is more on par with a walkable neighborhood pattern, except for 30' front setback as it is too deep. I'd suggest using this for all areas where the goal is a walkable neighborhood with detached style developments (the homes themselves could be single, duplex or more).

Density Bonus & PUD 24. 6.8(J)(1)(a): PUD-R, Open Space – If a multi-family, single parcel project needs to go through PUD review to get a density bonus, this provision then requires them to set aside 1 acre for open space. Depending on the site and size of the overall parcel, this could be a non-starter for a multi-family project. This provision makes sense for a larger detached neighborhood style development where the 1 acre would abut existing open space or could be used for a neighborhood park, but for a multi-family project in the MXD, MXDC or CTR districts this could be a challenge. It may be better to identify urban open spaces within the Town Center in a master plan/form-based code type of structure rather than requiring every project to set aside an acre.

Density Bonus & PUD 25. 6.8(J)(1)(c): PUD-R, Open Space - Only acreage associated with open space used for recreation purposes can be used in the allowable density calculation. There are other natural resource benefits of open space protection, and the acreage associated with all of them should be used in the allowable density calculation. Protect the natural resources

and set aside open space, but don’t penalize the applicant by not allowing the density from that open space acreage to be used in the overall density calculation.

PARKING

Reason for Review from Affordable Housing Perspective

Parking is a significant cost of development, and therefore raises housing prices. There are a variety of factors that influence the cost of constructing parking, but some of the average costs cited by parking researchers include:

- Donald Shoup, professor of urban planning at the University of California, Los Angeles, and the author of The High Cost of Free Parking, finds: "the average cost per space for parking structures in the U.S. is about $24,000 for aboveground parking and $34,000 for underground parking."[xvii]
- Carl Walker's annual Parking Structure Cost Outlook for 2017 reports: "As of March 2017, our statistical data indicates that the median construction cost for a new parking structure is $19,700 per space and $59.06 per square foot."[xviii] These costs do not include land acquisition, permitting and engineering, and other soft costs. Since New England's construction costs are generally higher than the U.S. average, Boston's median cost may be a better surrogate for Vermont than the U.S. median. Boston's median cost/space is $22,591 and $67.74 per square foot[xix]. Compare that to a typical cost of construction of a home in Chittenden County of $250,000 (Housing Vermont example from the Chittenden County Economics of Housing Workshop on 1/29/18), a $22,591 parking space is 9% of that total cost.

Donald Shoup's work identifies the significance of this cost particularly on affordable housing – the cost of the parking can negate the affordable housing subsidy.[xx] In addition to the impact on housing prices, other reasons to examine parking requirements found in municipal land use regulations include the impact it has on inducing automobile traffic rather than multi-modal, walkable neighborhood patterns, and causing inefficient use of land and degradation of the built environment. For these reasons, many municipalities are considering alternatives to the traditional approach of minimum parking requirements so that only the necessary amount of parking is built[xxi].

Comparison to Other Regional Municipalities

Required Residential Parking	Essex	Essex Junction	Burlington	Colchester	South Burlington	Williston	Winooski
These are all minimum parking requirements unless stated otherwise							
Residential (single family and duplex)	2.3 spaces per DU	2 spaces per DU	2 spaces per DU; except 1 space per DU in Downtown	2 spaces per DU Plus 1 space for every four units for two-family DUs	2 spaces per DU	2 spaces per DU	2 spaces per DU
Residential, multiple family	1.67 spaces per 1 & 2 bedroom DUs	2 spaces per multi-family DU Plus 1 space for every 10 DUs	2 spaces per DU in neighborhood districts 1 space per DU in Shared Use and Downtown districts	2 spaces per DU Plus 1 space for every 4 DUs	1 space per studio and 1-bedroom DUs 2 spaces per DU for all other DUs Plus 1 space for every 4 DUs	1.75 spaces per DU	1 space per studio, 1 & 2 bedroom DUs 1.5 spaces per 3 bedroom or larger DUs Plus 1 space for every 4 DUs (calculated at increments of 4)
Residential, accessory dwelling	1 space per DU	1 space per DU	1 space per DU	1 space/ bedroom	1 space, but 2 when w/o occupancy restriction on lots of ½ acre or more	1 space per efficiency & 1 bedroom DU 2 spaces per 2 bedroom DU	1 space per DU
Other			Many special residential use parking minimums. Maximum total spaces shall not exceed 125% of the minimum number of required spaces (Sec. 8.1.9)	Congregate Housing: 1.2 spaces per DU Plus 1 space for every 4 units	In City Center/Form Based Code District: **Maximum** 2 spaces per DU		

A local parking reform example: A few years ago South Burlington researched actual parking needs at residential developments on Farrell Street and a few other locations. Based on these data they reduced the minimum required parking for studio and 1 bedroom units from 2 spaces to 1 space. In the Form Based Code district they set a maximum of 2 spaces/unit. In addition, they are now re-thinking their parking regulations citywide. Staff have had discussions with the Planning Commission about doing one of the following:

- Eliminating parking minimums altogether
- Switching the parking "minimums" to being "maximums" and eliminating minimums
- Eliminating minimums and setting something akin to the current minimum as a "maximum without DRB approval"

South Burlington has found that most if not all single and two-family homes have far more than the minimum parking requirements. On the multi-family side, they've not experienced a situation where the number of parking spaces they've required has been too little (except for a student housing building that was more of a management issue).

Also, Burlington is now considering removing minimum parking requirements in the Downtown.

For more examples of municipalities that have reduced minimum parking requirements, switched to maximum parking requirements, or done away with them altogether see this national map from Strong Towns: https://www.strongtowns.org/journal/2016/11/22/our-parking-minimums-map-updated

Additional resources that may be helpful include: a City Lab interview with Donald Shoup: https://www.citylab.com/transportation/2018/05/parking-is-sexy-now-thank-donald-shoup/560876/; and his new book: https://www.routledge.com/Parking-and-the-City/Shoup/p/book/9781138497122

Recommendations for Essex Regulations

Parking 1. Overall, consider whether minimum parking requirements are too high and whether maximum parking or no parking requirements would be a better method.

Room for Improvement:

Parking 2. Table 3.3: Residential Parking – 2.3 parking spaces per dwelling unit for single family and duplexes is higher than the surrounding municipalities. Consider decreasing this requirement. Particularly considering the addition of 1 unit for an ADU - a single family house would then need 3.3 parking spaces, rounded up to 4 parking spaces, which could be prohibitive in some circumstances.

Parking 3. Table 3.3: Multi-family Residential Parking – Depending on the size of the unit the Essex minimum parking requirements are over or under South Burlington's (a comparison made due to their current work on this topic):

	1 Bedroom Multi-Family, 8 unit project	2 Bedroom Multi-Family, 8 unit project
Essex	**14 parking spaces**	**14 parking spaces**
South Burlington	**10 parking spaces**	**16 parking spaces**

Consider researching current parking usage and demand and adjust accordingly to minimize any unnecessary parking requirements. Also consider alternative methods (i.e. maximum parking requirements, or no requirements). Developers at the Economics of Housing Workshop advocated for no parking requirements as they know what parking needs they have and will accommodate those to effectively market the units.

Parking 4. 3.9(E): Recommended New Section on Parking Reductions – The shared parking and off-site lot are helpful provisions. Considering the high cost of parking spaces and the impact on housing prices, it may be beneficial to allow for a reduction in required residential parking based on proximity to bus stops and bike facilities (and perhaps car-share if that expands in the future). Typical walking distance to a transit stop is about 0.25 to 0.50 mile (5 to 10 minutes)[xxii].

SUMMARY/CONCLUSION

This study includes several recommendations that can be used by the Town to remove barriers to affordable housing within the land use regulations. While regulations and permitting are not the only factor impacting the high costs of construction, it is a significant factor that is within the control of the Town. If Essex conducts a comprehensive housing study, this study should be a helpful companion document for any regulatory recommendations. This study can also be used more immediately as land use amendments are considered, such as amendments to the Town Center.

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[i] Chittenden County, VT Competitive Assessment*, 2012 – An ECOS Plan Analysis Report*
[ii] American Community Survey, 1-year estimates.
[iii] U.S. Census Bureau Longitudinal Employer-Household Dynamics. 2002 and 2015.
[iv] U.S. Decennial Census.
[v] American Community Survey, 1-year estimates.
[vi] Allen, Brooks & Minor Report, December 2017.
[vii] *By-Right Zoning: Minimizing Reliance on Discretionary Approvals*. By Lane Kendig. Zoning Practice, April 2016. A publication of the American Planning Association.
[viii] *Interpreting and Applying Development Standards*. Vermont Land Use Education and Training Collaborative. Development Review Training Modules. August 2010. http://vpic.info/Publications/Reports/DevelopmentReviewModules/Interpreting.pdf
[ix] *Big House, Little House, Back House…ADU?* American Planning Association Webinar. Presented by Ben Frost, NNECAPA member. https://youtu.be/yt9U208YW6M

[x] *Jumpstarting the Market for Accessory Dwelling Units: Lessons Learned From Portland, Seattle And Vancouver*. Karen Chapple, Jake Wegmann, Farzad Mashhood, and Rebecca Coleman. Prepared for and funded by the San Francisco chapter of the Urban Land Institute. http://ternercenter.berkeley.edu/uploads/ADU_report_4.18.pdf

[xi] *Jumpstarting the Market For Accessory Dwelling Units: Lessons Learned From Portland, Seattle And Vancouver*. Karen Chapple, Jake Wegmann, Farzad Mashhood, and Rebecca Coleman. Prepared for and funded by the San Francisco chapter of the Urban Land Institute. http://ternercenter.berkeley.edu/uploads/ADU_report_4.18.pdf

[xii] *ADU Update: Early Lessons and Impacts of California's State and Local Policy Changes*. By David Garcia, December 2017. Terner Center at Berkeley. http://ternercenter.berkeley.edu/uploads/ADU_Update_Brief_December_2017_.pdf

[xiii] Visualizing Density Website: Investigating the density challenge facing the United States. Lincoln Institute of Land Policy. Contributors: Julie Campoli of Terra Firma Urban Design, Alex MacLean of Landslides, and Lincoln Institute Staff: Armando Carbonell and Dennis Robinson. http://datatoolkits.lincolninst.edu/subcenters/visualizing-density/glossary.aspx#threshold

[xiv] *Developers Offer Small Units as Answer to Burlington's Workforce Housing Crunch.* Joel Banner Baird. Burlington Free Press. April 2, 2018. https://www.burlingtonfreepress.com/story/news/2018/04/08/micro-apartments-planned-south-burlington-larkin/478030002/

[xv] *Making Space for Tiny Houses*. David Morley, AICP. A Publication of the American Planning Association, PAS QuickNotes No. 68

[xvi] *Evaluation of the City of Burlington's Inclusionary Zoning Ordinance.* By czb, LLC. January 2017.

[xvii] *Putting a Cap on Parking Requirements: A Way to Make Cities Function Better.* Donald Shoup. Planning May 2015.

[xviii] *Parking Structure Cost Outlook for 2017.* By Gary Cudney, P.E., President/CEO of Carl Walker. Can be found: http://denver.streetsblog.org/wp-content/uploads/sites/14/2017/10/2017-Cost-Article.pdf

[xix] *Parking Structure Cost Outlook for 2017.* By Gary Cudney, P.E., President/CEO of Carl Walker. Can be found: http://denver.streetsblog.org/wp-content/uploads/sites/14/2017/10/2017-Cost-Article.pdf

[xx] *Putting a Cap on Parking Requirements: A Way to Make Cities Function Better.* Donald Shoup. Planning May 2015.

[xxi] *Eliminating Parking Minimums*. By Ben LeRoy. American Planning Association. Zoning Practice June 2017.

[xxii] Pedestrian Safety Guide for Transit Agencies. Federal Highway Administration. https://safety.fhwa.dot.gov/ped_bike/ped_transit/ped_transguide/ch4.cfm

Memorandum

To: Essex Selectboard; Village Trustees; Evan Teich, Unified Manager
FROM: Dana Hanley, Community Development Director
CC: Greg Duggan, Sharon Kelley, Darren Schibler, Robin Pierce, Greg Morgan, Will Dodge
RE: *Essex Community Enhanced Energy Plan*
DATE: May 29, 2019

Issue

The issue is whether the Trustees and Selectboard will review, and whether the Selectboard will accept, the *Essex Community Enhanced Energy Plan.*

Discussion

The Vermont Public Service Department released its *Comprehensive Energy Plan* in 2011. Among the plan's many goals is for the state to obtain 90% of its energy from renewable sources by 2050.

In 2016, with the passage of Act 174, towns were given the opportunity to do "enhanced" energy planning and to receive a "determination of energy compliance" from their respective regional planning commissions. When enhanced energy planning is incorporated as an element of municipal plans, towns receive "substantial deference" from the Public Utilities Commission (PUC) in the Act 248 permitting process which regulates most renewable energy generation facilities. "Enhanced" energy planning means that towns have met a higher standard of planning with regard to electricity, thermal energy, transportation, and land use than in their current municipal plans. The PUC will then give "substantial deference" to the land conservation measures and specific policies within the municipal plan.

The state provided funding for regional planning commissions to offer technical assistance to towns wanting to do enhanced energy planning. Melanie Needle with the Chittenden County Regional Planning Commission (CCRPC) contacted both Town and Village Community Development Departments with an offer to help develop a joint plan. The resulting plan is an effort involving the CCRPC, the Community Development Departments, the Planning Commissions, and the Essex Energy Committee.

The Village has incorporated the *Essex Community Enhanced Energy Plan* into the draft 2019 municipal plan currently under review. After receiving an affirmative vote on the 2019 municipal plan in August, it will be eligible for "substantial deference" from the PUC. The Town will incorporate its enhanced energy planning the next time it amends

its municipal plan. This work will begin no later than 2022, possibly sooner. Until the Town incorporates the *Essex Community Enhanced Energy Plan* into its municipal plan, it will not be entitled to "substantial deference" in the Act 248 permitting process.

Cost

N/A

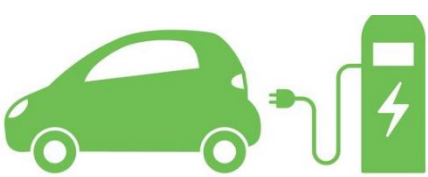
Recommendation

Staff recommends that the *Essex Community Enhanced Energy Plan* be accepted by the Selectboard. After the August vote by the Village on its 2019 municipal plan (the time at which the Trustees will adopt the energy plan), staff recommends that the Selectboard adopt the energy plan.

Essex Community Enhanced Energy Plan

Prepared by Chittenden County Regional Planning Commission, in coordination with Town and Village Community Development staff, the Essex Energy Committee, the Village of Essex Planning Commission, and the Town of Essex Planning Commission, with support from the Vermont Department of Public Service.

May 29, 2019



Adopted by the Village of Essex Junction August 2019

Adopted by the Town of Essex ___ 2019

Table of Contents

Purpose

This energy plan is a vision for the Essex Community to advance the State of Vermont's Comprehensive Energy Plan and to align energy planning with local land use policies. This plan is incorporated by reference in the 2019 Essex Junction Comprehensive Plan and will be incorporated by reference in the next update of the Essex Town Plan. This plan was developed according to the Department of Public Service's energy planning standards for municipal plans. When this plan is given a determination of energy compliance from the Chittenden County Regional Planning Commission it will have substantial deference in the Public Utility Commission's (PUC) review of whether an energy project meets the orderly development criterion in the Section 248 process. The Section 248 process is not easily summarized. For an in-depth discussion of the Section 248 process see the guide on Municipal Enhanced Energy Planning in Vermont here. See the energy compliance section in this plan for more information, as well.

For the purpose of this plan, the Town of Essex and the Village of Essex Junction is referred to as the Essex Community

Introduction

Since releasing a *Comprehensive Energy Plan* in 2011, Vermont has been working toward a goal of obtaining 90 percent of its energy from renewable resources by 2050. Renewable energy, as defined by 24 V.S.A. §4303(24), "means energy available for collection or conversion from direct sunlight, wind, running water, organically derived fuels, including wood and agricultural sources, waste heat, and geothermal sources." As of 2017, Vermont only obtains 20% of its overall energy from renewable resources. The electricity sector is the most renewable at 43% source energy or 53% site energy[1]. The thermal sector is 20% renewable and the transportation sector is the least renewable sector at 5% renewable[2]. As of October 2018, the Essex Community generates 27,799 MWh annually of renewable electricity, which is 3.4% of the electricity consumed in 2017.

The state's *Comprehensive Energy Plan* makes many policy recommendations to move toward the goal of 90 percent renewable. The recommendations aim to foster economic security and independence, safeguard environmental legacy, drive in-state innovation and job creation, and increase community involvement and investment. The plan prioritizes improvements in energy conservation and efficiency and the development of renewable, local sources of energy.

The *Comprehensive Energy Plan* also aims to reduce total energy consumption per capita by 15% by 2025, and by more than 33% by 2050; to weatherize 25% of all homes by 2020; and to reduce greenhouse gas emissions from within the state to 50% of 1990 levels by 2028, and to 75% of those same levels by 2050. The challenges set forth in the Comprehensive Energy Plan are not easily met. Data showing the current trend of total energy consumption is not available. The status of housing weatherization as of 2017 statewide is about 7.6% of the state's housing stock. Greenhouse gas (GHG) emissions estimates in Vermont continued to rise for calendar year 2015, increasing from 9.45 million metric tons CO2 equivalent (MMTCO2e) in 2014 to 9.99 MMTCO2e in 2015. This increase puts Vermont approximately 16% above the 1990 baseline value of 8.59 MMTCO2e and adds to the difficulty of reaching the statewide

[1] Source energy includes all energy generated, transmitted, and consumed. Site energy is the energy directly consumed in buildings and vehicles.

[2] 2017 Energy Action Network Annual Report

goal of 50% below 1990 emissions levels by 2028. Without greater participation and mobilization at a local level, these goals are unlikely to be achieved.

This plan describes how the Essex Community intends to act to implement the state energy goals outlined above. Meeting these goals will require ambitious action to transform the way the Essex Community uses, stores, and produces energy.

The following are transformations needed for the Essex Community, as the most likely pathway to meet these goals by 2050, given current technologies:

- Site 211,386 to 353,629 MWh of additional renewable energy generation to meet the Essex Community's renewable energy generation targets[3].
- Increase electric vehicles to 89% of passenger vehicles registered in the Essex Community
- Fuel 96% of heavy-duty vehicles with biodiesel or other renewable carbon free fuel.
- Weatherize 100% of homes and 38% of commercial and industrial establishments
- Heat 60% of homes with electric heat pumps and 14% of homes with wood
- Heat 38% of businesses with electric heat pumps and 11% with wood

Led by its Energy Committee, the Essex Community is striving to match the state's 90 percent goal. The Essex Energy Committee has taken the position that, "For the Essex Community to achieve the 90 percent renewables level of success for the overall betterment of our community, we must develop and implement plans which aggressively change the way in which we view energy from the standpoint of cost, use and conservation." The Town of Essex Selectboard also adopted the Vermont Climate Pledge Coalition by virtue of a resolution voted on November 2, 2017, recognizing the goal of reducing greenhouse gas emissions by 26 to 28 percent from 2005 levels by 2025 in addition the 90 percent goal. The Village of Essex Trustees have not adopted the Vermont Climate Pledge Coalition.

To meet these goals, the Essex Community has prioritized multiple actions under the following general categories: (i) Land Use Implementation; (ii) Transportation, (iii) Thermal and Electric Energy Conservation and Efficiency; and (iv) Renewable Energy Generation and Storage. See the implementation section for additional information.

Energy Compliance

In 2016, Act 174 established a process for "enhanced energy planning" for municipalities. Enhanced energy planning sets up the framework for municipalities to update their **Municipal Plans** according to a set of energy standards developed by the Vermont Department of Public Service. If a **Municipal Plan** meet these standards, the **Municipal Plan is** given a determination of energy compliance from the regional planning commission. The detailed standards for **Municipal Plans** are available here.

[3] The renewable energy target is expressed in MWh because the target is intended to be technology neutral. The Essex Community's target takes into account both electricity used in the commercial, industrial, and residential sectors. The target is modeled based on population and electricity usage. The Essex Community makes up 43% of electricity used in Chittenden County; therefore, the community's target is among the highest in the County.

A determination of energy compliance means that the PUC will give the **Municipal Plan** substantial deference. This means that a land conservation measure or specific policy shall be applied by the PUC in determining whether a jurisdictional energy siting project meets the orderly development criterion in the Section 248 process, unless there is a clear and convincing demonstration that other factors affecting the general good of the State outweigh the application of the measure or policy. This is a higher standard of review than a **Municipal Plan** would otherwise receive in the Section 248 siting process.

At present, the Essex Community municipalities will seek their own affirmative determination from CCRPC to amend or supplement an existing **Municipal Plan.** This is being done with the understanding that the two plans may eventually be combined for the Essex Community in the future.

Siting

The Essex Community can have input over the siting of renewable generation facilities in a few ways through the policies contained in this plan. The community can define preferred sites for net-metering facilities and by including policies to identify the scale and type of renewable energy generation facilities to occur in specific areas within the community. Also, the Essex Community can restrict renewable generation facilities where appropriate.

Vermont's Net Metering Rules (Rule 5.100, effective 7/1/2017) defines preferred sites for renewable energy development (any renewable technology besides hydroelectric). Compared to non-preferred sites, net metering on preferred sites can be larger (up to 500 kW instead of 150 kW) and such projects receive financial benefits in the net metering rates. See the latest Vermont Public Utility Commission Rule Pertaining to Construction and Operation of Net-Metering Systems for details on the financial and scale benefits of preferred sites. Systems up to 15kW and rooftop solar systems up to 500kW go through a registration process rather than the full Public Utilities Commission process. However, all other projects do not have an expedited review process and must meet the same requirements as any other system. Preferred sites as defined under the PUC rule include:

- On a pre-existing structure
- Parking lot canopies over permitted paved areas
- Previously developed land
- Brownfields
- Landfills
- Gravel pits
- Superfund sites
- Municipal-designated sites

ACT 174 AND SUBSTANTIAL DEFERENCE

In 2016, Act 174 established a process for "enhanced energy planning," which encourages municipalities to write plans that are "energy compliant." This plan meets the standards for energy planning established by Act 174 and outlined in 24 V.S.A. §4352. Therefore, the policies of this plan will receive substantial deference in §248 proceedings. The Public Utility Commission shall apply the land conservation measures or specific policies in accordance with their terms unless there is a clear and convincing demonstration that other factors affecting the general good of the State outweigh the application of the measure or policy. This is a higher standard of review than "due consideration," which the municipal plan's policies would otherwise receive.

- On the same parcel or directly adjacent parcel as a customer taking 50% or more of the output

The Essex Community strongly encourages the siting of net-metered systems on parking lots. Municipally designated preferred sites can be identified in a duly adopted municipal plan or through a joint letter of support by the Town and/or Village planning commissions, Town and Village legislative bodies and regional planning commission. Project developers are encouraged to reach out the Energy Committee, the Planning Commission(s), and the Essex Community staff to discuss projects in advance of submitting a petition.

Constraints

Some areas are not appropriate for any type of development, including types of renewable energy generation facilities existing as of the date of this plan. The State of Vermont has defined certain resources as known and possible constraints, which are protected by the ECOS Regional Plan and state agency review during the Public Utility Commission review process. The Essex Community have added additional constraints based on local policy. In determining whether known or possible constraints are present, on-site field verification should be conducted.

Known constraints are areas in which development, including renewable energy generation, is not appropriate. See Map 2 for the location of known constraints within the community. Known constraints are:

State Known Constraints

- FEMA Designated Floodway
- DEC River Corridors
- National Wilderness Areas State-significant Natural Communities
- Vernal Pools (confirmed and unconfirmed)
- Class 1 and 2 wetlands (VSWI and advisory layers)

Local Known Constraints

- Slopes of 20% and steeper
- Recreation/Conservation areas within the Resource Preservation-Industrial District

Possible constraints are areas in which the effects of development, including current types of renewable energy generation facilities, may need to be mitigated. See Map 3 for the location of possible constraints in the community. Possible constraints are:

State Possible Constraints

- Agricultural Soils (*While the State will review agricultural soils, it is not the intent of the Village of Essex Junction to protect primary agricultural soils from development considering agricultural operations (outside of community gardens) are not feasible on small parcels isolated from more intact open agricultural areas. Further, mitigation of*

Local Possible Constraints

- Industrial designated areas of the Resource Preservation-Industrial District (see siting policy 8)
- Designated Village Center Historic District in the Village, Town Center and Design Control Districts in the Town
- Scenic Resource Protection Overlay District (including portions of Bixby Hill Road, Browns River Road, Chapin Road, Colonel Page Road, Jericho Road/VT Route 15, Naylor Road, North Williston

these soils through state development approval processes does not seem appropriate in such an urban environment).

- Hydric Soils
- Act 250 Agricultural Soil Mitigation Areas
- FEMA Special Flood Hazard Areas
- Protected Lands
- Deer Wintering Areas
- Vermont Conservation Design Highest Priority Landscape Scale Components. These include highest priority interior forest blocks, surface water and riparian areas, and connectivity blocks, and wildlife crossings.

Road, Old Stage Road, Pettingill Road, River Road/VT Route 117, Towers Road, Upper Main Street/VT Route 15, Weed Road, and Woodside Drive

- Slopes 15% to 20%
- Vermont Conservation Design Priority Landscape Scale Components. These include priority forest blocks, connectivity blocks, surface water and riparian areas, and physical landscapes).
    - Forest blocks are areas of contiguous forest and other natural communities and habitats, such as wetlands, ponds, and cliffs that are unfragmented by roads, development, or agriculture (Sorenson and Osborne 2014).
    - Connectivity Blocks are the network of forest blocks that together provide terrestrial connectivity at the regional scale.
    - Physical landscapes (often referred to as enduring features) are the parts of the landscape that resist change. They are the hills and valleys, the underlying bedrock, and the deposits left behind by glaciers.
    - Surface Waters and Riparian Areas

Siting Polices

The policies in this section are the land conservation measures to be applied in the Section 248 decision making process with respect to the PUC's review of a petition for a renewable generation facility. The Essex Community will use the following siting policies to determine support for identifying a municipally designated preferred site and in the review of Section 248 applications.

1. The Essex Community strongly encourages development of renewable energy generation facilities on rooftops, parking lots, on parcels or directly adjacent parcels to a customer that has been allocated more than fifty percent of the net-metered system's electrical output, previously-developed sites, brownfields, landfills, former mineral resource extraction areas, and municipally designated sites. In the state designated Village Center in the Village of Essex Junction, the Essex Town Center, and the Historic Preservation and Business Design Control Districts design control best practices must be applied to integrate development into the built environment to the extent feasible. (See Appendix A for these standards).

2. Locate ground-mounted solar and wind turbines outside of the state designated Village Center in the Village of Essex Junction, the Essex Town Center, and the Business and Historic Preservation Design Control Districts.

3. Development of renewable energy generation facilities shall not take place in areas with known constraints and shall first explore alternatives to and then mitigate adverse impacts in areas with possible constraints, as identified in the constraints section of this plan. In determining whether known or possible constraints are present, on-site field verification should be conducted.

4. With the exception of preferred sites listed in policy 1, development of large-scale renewable energy generation facilities (capacity greater than 500kW) shall be located only within industrial zones, including the industrial zoned portion of the Resource Preservation District, in the Town of Essex.

5. Locate energy generation proximate to existing distribution and transmission infrastructure with adequate capacity and near areas with high electric load (See Green Mountain Power's Solar Map) to reduce the need for new distribution and transmission extensions.

6. Avoid or minimize the adverse impacts of development (including renewable energy development and associated transmission and distribution infrastructure) on identified scenic resources, viewsheds and roadscape corridors in the Town of Essex Scenic Resource protection overlay district (See Map 3) through appropriate site planning and design practices. See Appendix A for appropriate planning guidance on siting or site development design standards

7. Apply the Design Control Best Practices (see Appendix A) when locating roof-mounted photovoltaic net metering systems in the Village Center, Town Center, and the Town's Historic Preservation and Business Design Control Districts

8. Within the Resource Preservation Industrial - Industrial, the following policies apply:

    a. 200-foot vegetative buffer shall be maintained along adjacent residential areas and streets, including VT Route 15, Sand Hill Road and Saxon Hill Road and where development abuts a residential property not located in a residential district.
    b. A 100-foot vegetative buffer shall be maintained along Allen Martin Drive. Parking areas, components of stormwater management systems may not be located within the 100- or 200-foot buffer in this district.
    c. Underground utility easement crossings are permitted only within the 200 ft. and 100 ft. buffer. Utility easements are permitted if ledge, underground water or other conditions make underground installation infeasible. Areas cleared for utility crossings shall be re-vegetated.

9. Development (including renewable energy generation facilities and associated transmission and distribution infrastructure) is discouraged on slopes of 15 percent to 20% due to the likelihood of erosion and stormwater runoff problems. Development shall be prohibited on slopes of 20 percent and steeper due to the likelihood of environmental damage.
10. Development (including renewable energy generation and associated transmission and distribution infrastructure) will not destroy or significantly imperil wildlife habitat identified on Map 3 as highest priority and priority landscape scale components) or all reasonable means of minimizing the destruction or imperilment of such habitat or species will be utilized.
11. Where feasible, pair renewable energy generation with electrical energy storage to ensure energy is utilized to the fullest potential, to increase resiliency/reliability of electricity during outages and decrease fossil fuel usage during peak periods. Renewable energy generation projects that can accommodate energy storage are strongly encouraged.

Implementation

Land Use and Development Policies

The relationship between transportation, land use and energy consumption is extremely important and is an area in which the community can have a large impact through development regulations and infrastructure. According to the Vermont Total Energy Study, "more than one third of the state's energy consumption, and nearly half of its greenhouse gas emissions, are tied to the transportation sector." Therefore, a reduction in vehicle miles traveled by passenger vehicles can have a big impact on energy consumption.

In recent years communities are realizing the important connection between transportation and land use, which impacts energy use. Certain land use patterns can reduce dependency on the automobile by providing greater transportation options through compact mixed-use developments where people can choose to walk, bike, use public transportation or drive an automobile.

For new construction and building renovations, the State of Vermont has an energy building code, the VT Residential and Commercial Building Energy Standard. Compliance with the energy code is necessary to ensure that new development and alterations to existing buildings are using all types of energy efficiently. To meet the code, the zoning administrator is responsible for providing the energy code to land use permit applicants and must see a completed energy certificate that certifies that the applicant has complied with the code before issuing a certificate of occupancy. Even though a certificate of occupancy may not be needed for all types of buildings, all buildings must comply with the State energy code. Additionally, the Community should consider incorporating language into zoning ordinances requiring new homes and commercial buildings to be built to higher levels of efficiency.

To improve the thermal efficiency of existing commercial and residential buildings, a municipality could implement a time of sale energy retrofit ordinance for rental housing. Time of sale retrofits target older buildings, particularly multi-family housing, that aren't being reached by voluntary incentive programs. Building energy retrofits offer multiple benefits that include saving money on utility bills, improved safety and maintenance, and comfort. Additionally, the money saved from doing energy improvements gets recirculated into the community instead of being exported out of the region. As an example, the City of Burlington has a time of sale energy retrofit ordinance.

Goal: The Essex community is committed to development patterns and building energy use that result in the efficient use of energy.

General Policy: The Town Center in the Town is a focus of concentrated growth and community life intended to encourage energy efficient development and travel. (See the Land Use and Development section of the Essex Town Plan for more detail). Higher density infill and redevelopment is supported in the core areas of the Village to reduce demand on energy. (See the Land Use section of the Essex Junction Comprehensive Plan for more detail).

Actions

1. Consider including the Vermont Building Energy Stretch Code to cover all development in the Zoning Regulations for the Town(including the ETC Next Plan) and in the Village of Essex Junction Land Development Code.
2. Consider implementing a time of sale policy to ensure existing buildings, especially older rental housing, is in compliance with the State of Vermont Building Energy Code.

3. Review the zoning regulations and associated parking standards and sign regulations to encourage installation of electric vehicle charging stations.
4. Adopt a municipal screening requirement for solar generation facilities in accordance with 30 V.S.A. §248(b)(I)(B).
5. Consider reviewing the process for LEED density bonuses to increase utilization, in the Town.
6. Evaluate a process for incentivizing the creation of energy efficient buildings in the Essex Community.
7. Explore the idea of an energy fee or revolving loan fund that would fund public improvements to renewable energy infrastructure, such as rooftop solar and electric vehicle charging stations, with waivers for development that meets energy goals, such as installing electric vehicle charging infrastructure and providing ride-sharing options.
8. Continue to require energy efficient street lighting for new developments and when replacing existing lamps
9. Refer to the land use sections of both the 2019 Village of Essex Junction Comprehensive Plan and the 2016 Essex Town Plan for more information related to land use in the Community.

"Stretch code" means a building energy code that achieves greater energy savings than the base code. All development subject to Act 250 must follow the energy stretch code. Efficiency Vermont offers an incentive-based program to improve insulation/air-sealing and heating systems to support energy projects.

Transportation

The Community has a relatively unique opportunity within the county to support greater transportation choice and reduce automobile dependency since it is a relatively compact community with an extensive sidewalk network, especially in the Village, where local services are within walking distance to residences. The Community is also served by public transportation and rail. Residents have more transportation choices than many neighboring communities that have a more suburban/rural land use pattern. Further support of higher density infill and redevelopment in core areas of the Village may reduce demand on energy.

Goal: The community should be served by varied modes of transportation with automobile use balanced by increased availability of public transit, sidewalks, and multi-use trails to reduce transportation energy demand.

General Policy: Transportation systems shall be integrated with land use policy in such a way that improvements are compatible with the overarching settlement pattern of compact settlement surrounded by a productive rural countryside.

Actions

1. Design and construct pedestrian/bike paths on VT Route 2A, Pinecrest Drive, and Towers Road.
2. Construct a new multi-use path from Susie Wilson Road to the City of Winooski.
3. Reduce single-occupancy vehicle trips by establishing strategic park-and-ride locations, and by partnering with ridesharing, car-sharing, and public transit organizations.
4. Partner with Drive Electric Vermont, nonprofit organizations, vehicle dealers, and/or state agencies to organize high-visibility events where people can see and test drive EVs, such as energy fairs and summer festivals. Particular attention should be made to electric pickup trucks and motorcycles, since these represent nearly ½ the existing non- electric vehicle stock in the community. Events should also leverage local newspaper and public access coverage to showcase residents and organizations that are helping to propel the transition to EVs.

5. Promote the Drive Electric Vermont webpage, which connects users to financial incentives, dealers, and recharging stations for EVs. Promote the Go Vermont webpage, which provides ride share, vanpool, public transit, and park and-ride options.
6. Support employer programs to encourage transit use, telecommuting, carpooling, vanpooling, walking, and biking for employees' commute trips. Encourage employers to offer such programs and provide information on tax benefits that may be available for doing so.
7. Assess current access to public and workplace charging (to the extent known) and identify strategic locations in busy areas (large employers or areas of high visitation in the Village and Town Centers) where charging stations should be added or expanded.
8. Provide charging stations at prominent publicly owned locations such as municipal or school parking lots, as well as parking areas near public transportation and park and rides. Municipalities may develop their own charging stations, or work with private companies.
9. Lead by example by replacing the Town's vehicle fleet with electric or biodiesel fuel vehicles as fossil fuel-burning vehicles reach the end of their useful life.
10. Assess the number of park-and-ride spaces and explore opportunities to expand the number of spaces and provide greater connectivity between public transit and park and ride locations.
11. Work with the school district to maximize ridership for public school busses and minimize use of private vehicles for student transport. Explore working with a bus company who is converting its bus fleet to electric.
12. Present annually to the public, staff, and municipal officials an overview of public transit available in the Town and the Village including information about Green Mountain Transit and the major routes they offer.
13. Continue to work with Local Motion to make the Essex Community safe and welcoming for bicycling.
14. Continue to identify issues and opportunities for walk-bike improvements and connections.
15. Refer to the transportation sections of both the 2019 Village of Essex Junction Comprehensive Plan and the 2016 Essex Town Plan for more information related to transportation in the community.

Thermal and Electric Energy Conservation and Efficiency

Building weatherization is the most cost-effective way of modifying a building to reduce electricity and heating fuel consumption, as well as greenhouse gas (ghg) emissions. Weatherization includes air sealing, insulation, and upgrading heating system and can dramatically reduce a home's heating bills. However, the initial upfront capital to make weatherization improvements on a home can be difficult for some households and businesses. Various organizations like Efficiency Vermont and financial institutions provide incentives and low financing to make thermal and electric efficiency retrofits possible. A critical step to ensuring thermal and electric efficiency in all buildings is implemented is educating residents and businesses about the programs and technologies available. The actions in this section provide a plan for how the community can work with energy vendors and the public to raise awareness about these issues.

Goal: The Essex Community's energy goals and targets shall be met primarily through energy conservation, efficiency, and fuel switching while transitioning away from fossil fuels.

General Policy: The Essex Community shall support regulatory and non-regulatory initiatives that result in decreased greenhouse gas emissions, reduced energy consumption, and increased renewable energy generation.

Actions

1. Fund an Energy Coordinator position to develop energy implementation plans, coordinate efforts for both the Town and the Village and encourage residential and commercial energy conservation. As an initial step, make this goal a priority for the new Building Manager.
2. Continue to explore energy efficiency and renewable energy options for all Town and Village-owned and Town/Village-sponsored facilities, from buildings to street lighting. Findings and recommendations should be based on an audit of all municipally owned and municipally sponsored facilities and a subsequent cost-benefit analysis for upgrading or replacing those facilities
3. Host education programs and collaborate with Efficiency Vermont, utilities, and energy vendors to encourage energy efficiency in existing residential and commercial buildings and to educate residents and businesses about heating pumps, advanced wood heating, geothermal heating, renewable natural gas, and other renewable technologies. Provide residents with information on heating assistance programs on an annual basis to make those in need aware of the programs.
4. Promote wood stove change-out programs that take older non-EPA certified stoves out of service and replace them with more efficient and lower emitting cord and pellet stoves.
5. Facilitate a workshop and/or conduct building walk-throughs for owners of rental housing to encourage implementation of energy efficiency measures.
6. Through the Building Manager, monitor energy used by the Town and Village buildings annually to describe progress towards energy goals, working closely with the Energy Committee
7. Work towards a plan to replace existing municipally owned-streetlamps with solar-generating lamps, provided that these can be harmonized to the extent feasible with design constraints.

Renewable Energy

Goal: Generate 183,587 -325,830 MWh of new renewable energy by 2050.

General Policy: The Essex Community shall support regulatory and non-regulatory initiatives that result in decreased greenhouse gas emissions, reduced energy consumption, and increased renewable energy generation.

Actions

1. Identify and map specific preferred sites for renewable energy generation to send a message to potential developers that these are the locations where the Town and Village would like to see renewable energy generation development.
2. Promote community solar net metering.
3. Encourage and support renewable energy projects consistent with the siting policies of this plan through letters of support to the Public Utilities Commission.
4. Explore possible municipally owned sites for renewable energy generation, such as the Town landfill, rooftop solar on municipal buildings, and parking lot canopies on public lots.
5. Study the capabilities of existing buildings to support roof-mounted solar PV systems in zoning districts where it is deemed appropriate for a better estimate of this potential.

Existing + Future Estimates of Energy Consumption

The data included in this section show one path the Essex Community could take to meet State of Vermont's energy goals. The targets are intended to be a demonstration of one possible scenario to reach 90% renewable by 2050 and are not intended to prescribe a single future path. To meet the goals, the Essex Community must plan for a major shift away from fossil fuels in the transportation and heating sectors to renewable sources of energy, as well as efficiency in transportation, heating and electricity, and an increase in renewable energy generators sited in the Essex Community. However, the actions or technology changes that the Essex Community will take will very likely change between now and 2050, as new and improved technologies become available.

The analysis in this section estimates current energy use and provides targets for future energy use across all sectors (transportation, heating, and electricity). These targets represent the amount of renewable energy that the community should aspire to produce to meet the 90% by 2050 goal. The Essex Community's targets represent the amount of renewable energy generation that the community should aspire to achieving to advance the amount of local renewable energy generation. Please note that these data are a starting point for considering a renewable energy future. This information should provide the framework for a discussion about changes that will need to occur within the Essex Community to ensure that State energy goals are met.

The data in this section are intended to provide an overview of current energy use and a sense of the trajectories and pace of change needed to meet the State's energy goals. Targets for each sector are also provided to demonstrate milestones along the way toward meeting 90% of total energy needs with renewable energy.

Targets for future energy use are drawn from the Long-Range Energy Alternatives Planning (LEAP) analysis for Chittenden County, completed by the Vermont Energy Investment Corporation (VEIC). The LEAP model is an accounting framework that shows one possible path for Chittenden County and its municipalities to meet the state energy goals. See the 2018 Chittenden County ECOS Plan Supplement 6 for information about the methodology.

To achieve these targets a concerted effort in the Essex Community is needed, including residents, businesses, community groups, and government, to conserve energy and transition to renewable sources. The Energy Committee has recommended multiple projects in each area. Completing the projects will lead to energy savings and an improved quality of life for all residents of the Essex Community through financial savings, improved air quality, and reduced greenhouse gas emissions.

Total Energy Use Per Capita

The LEAP model indicates that total energy use will continue to grow over the next 30 years, even as energy savings increase. This is partly due to overall population increase, but also due to fuel switching from fossil fuels to renewably-sourced electricity, including uses within the transportation and heating sectors. As shown in Table 1, total energy use increases but total energy use per capita will decrease because of transformations in the heating and transportation sectors needed to reach the state's energy goals. Although the state goal is to reduce per capita energy by 1/3, modeling was unable to demonstrate this reduction. The uncertainty lies in the model at the local level. The reduction is achievable at the County and state level.

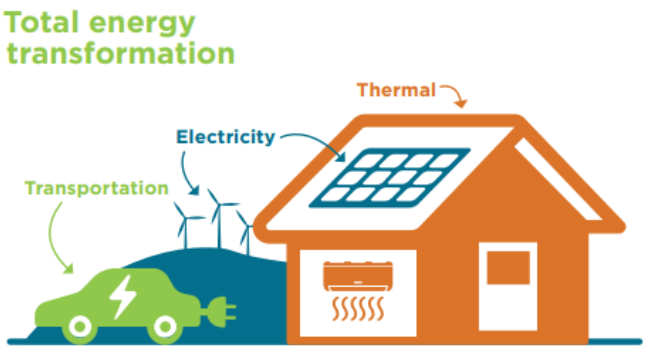


Table 1 Estimated Future Total Energy Use per Capita (excluding industrial electricity use), 2015-2050

	2015	2025	2035	2050
Total energy use (MMBtu)	4,136,978	4,240,447	4,240,447	4,669,525
Population	20,946	22,137	22,895	24,020
Total energy use per capita (MMBtu)	198	192	192	194
Reduction in total energy use per capita since 2015	N/A	-3%	-3%	-2%

***Source: CCRPC LEAP model* *, CCRPC Demographic Forecast (2017)**

Heating

The building inventory in the Essex Community includes government/commercial buildings and homes. Municipally owned structures range from the new, energy efficient Town Municipal Building, to historic inefficient buildings such as Memorial Hall. With a goal of saving tax dollars by improving energy efficiency of Municipal-owned structures, the Essex Energy Committee has conducted an overall energy assessment and is developing a retrofit plan for all municipally-owned properties. Examples of these include the Village Wastewater Treatment Facility's combined heat and electric power system, which uses methane captured from anaerobic digestion to feed the water treatment process and provide service to the facility's buildings. The Town offices at 81 Main Street were renovated in 2016 with a modern HVAC system as well as motion-sensitive lighting, which have reduced heating and electricity use. Improvements to other municipal buildings, such as Lincoln and Memorial Halls, face financial, design, and permitting challenges that will require more resources than other improvements due to their age. However, these investments will save energy and money in the long run and showcase energy efficiency renovations for historic buildings.

According to the American Community Survey, in 2016 about 86% percent of homes in the Essex Community use fossil fuels for heating (see Table 2); this does not account for the fossil fuels in the electricity supply mix for homes heating with electricity. The remaining portion of homes heat with renewable sources of either electricity or wood. It is difficult to know the type of electrical equipment used in homes heated with electricity. Homes heated with electricity could be using electric resistance heat or cold climate heat pumps. Historically, electric heating (through electric resistance) has been expensive and inefficient, but new technology such as heat pumps (which heat and cool air using a refrigerant process) and weatherization of homes will make heating with electricity viable from both a financial and energy planning perspective. The efficiency of wood heating has also improved with the advent of wood pellets and high-efficiency stoves. Further improvements in home heating, such as combined air and water heating with heat storage systems, will also benefit new construction.

Residential energy costs are often overlooked due to the current low cost of natural gas and the stable cost of electricity. Residential incentives, improvements in zoning regulations, and energy education should be at the forefront of

residential energy planning in the Essex Community. Through regulations and incentives, the Essex Community should also encourage rental housing property owners to invest in energy conservation measures, rather than letting heating, cooling, and lighting costs fall to tenants. The state has Residential Building Energy Standards and Commercial Building Energy Standards that establish a minimum level of energy efficiency in new and renovated buildings. The community should investigate incentives. For example, a time sale ordinance would encourage builders and property owners to meet or exceed the basic energy standards by leveraging additional funding for energy efficiency so that housing affordability is not reduced by passing those additional costs to renters or homeowners.

The costs and long-term savings of heating efficiency improvements and switching from equipment dependent on fossil fuels to those using renewable energy will largely be borne by building owners. Efficiency Vermont provides technical assistance, rebates, and referrals to ENERGY STAR®-certified contractors and low-interest energy efficiency loans for homeowners, landlords, and business owners. The Essex Energy Committee also conducts outreach and collects information for the community on such improvements.

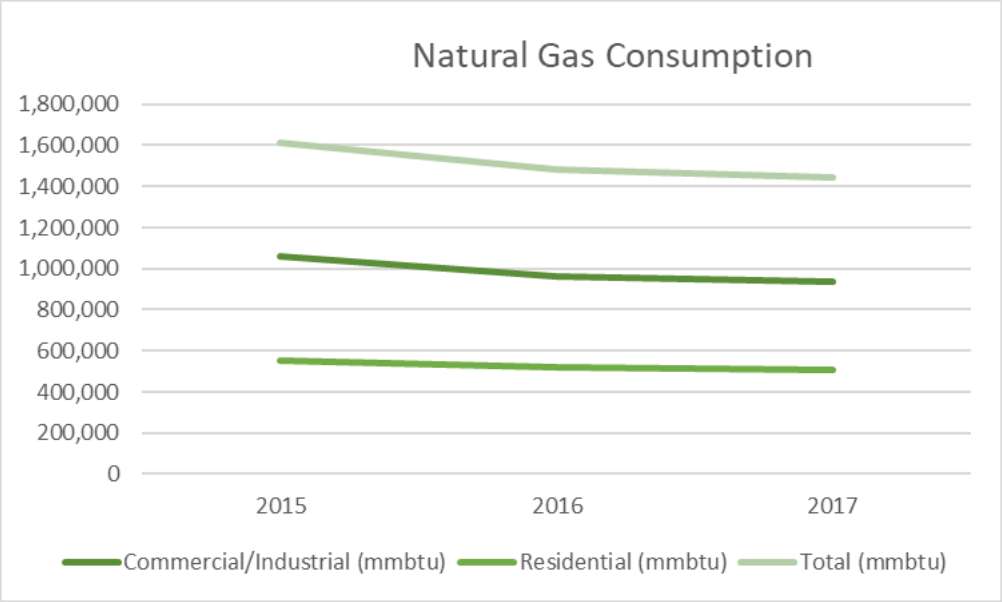
Table 2 Home Heating Fuel Type

Type	Estimate (# of homes)	Percentage	Margin of Error
Total	**8,453**	**100%**	**+/-252**
Utility gas	5,435	64%	+/-375
Propane	437	5%	+/-171
Electricity	845	10%	+/-246
Fuel oil, kerosene	1,408	17%	+/-253
Coal or coke	0	0%	+/-16
Wood	247	3%	+/-87
Solar energy	0	0%	+/-16
Other fuel	66	1%	+/-47
No fuel used	15	0%	+/-24

Source: 2012-2016 American Community Survey 5-Year Estimates

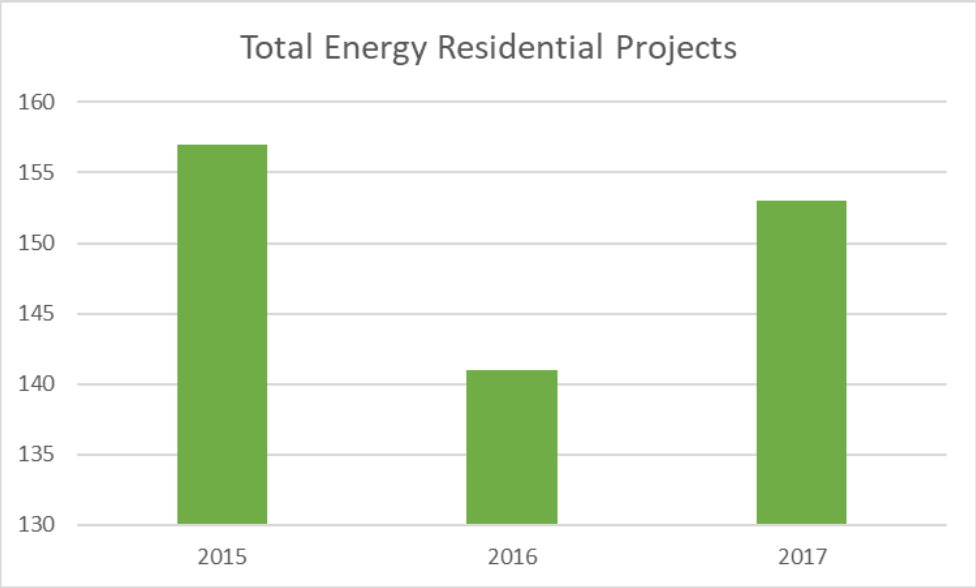
Weatherizing buildings (sealing air leaks and improving insulation), using more efficient heating and cooling systems such as heat pumps, and installing smart thermostat systems to avoid peaks and troughs in heat output are all important steps building owners should take to help reduce heating energy use between now and 2050 (see Table 3 and Table 4). As seen in Figure 1, natural consumption has declined for both residential and commercial/industrial users. Additionally, there has been a steady trend of residential projects undertaking energy efficiency measures which include improvements to the thermal shell, installed efficient appliances and heating equipment (see Figure 2). Keep in mind that data on building weatherization is difficult to track and the data below is not a measure of the homes weatherized to date.

Figure 1 Natural Gas Consumption (2015-2017)



Source: Vermont Gas

Figure 2 Residential Energy Retrofits (2015-2017)



Source: Efficiency Vermont

Table 3 Essex Community Future Estimated Residential Thermal Energy Use (2025-2050)

	2025	2035	2050
Total residential thermal energy use (MMBtu)	743,710	630,580	436,586
Percent of residences weatherized	14%	36%	100%
Residential energy saved by weatherization (MMBtu)	1,262	3,448	10,793
Residences using heat pumps (%)	18%	37%	60%
Residential thermal energy use from heat pumps (MMBtu)	48,202	99,170	145,397
Percent of residences using wood heating	14%	14%	14%
Residential thermal energy use from wood heating (MMBtu)	136,573	136,705	120,110

Source: CCRPC LEAP Model, Vermont Department of Public Service

Table 4 Essex Community Future Estimated Commercial Thermal Energy Use (2025-2050)

	2025	2035	2050
Total commercial / thermal energy use (MMBtu)	393,515	374,823	331,537
Percent of commercial establishments weatherized	19%	22%	38%
Commercial energy saved by weatherization (MMBtu)	21,154	29,330	70,685
Commercial establishments using heat pumps (%)	21%	34%	38%
Commercial thermal energy use from heat pumps (MMBtu)	31,909	63,078	94,247
Commercial establishments using wood heating (%)	9%	10%	11%
Commercial thermal energy use from wood heating (MMBtu)	47,615	65,583	96,017

Source: CCRPC LEAP Model, Vermont Department of Public Service, Vermont Department of Labor

Electricity

Total electrical energy use within the Essex Community has decreased since 2015, though the number of residential premises has increased. This is primarily due to energy efficiency appliances and smart technologies. Additionally, utilities are measuring savings from estimated reductions in electricity realized by installed efficiency measures in the commercial sector. The Essex Community has saved 7,644 MWh of electricity from 2015-2017 from commercial and industrial users. The Community should consider working with businesses to accelerate the pace of energy efficiency savings, given that the commercial/industrial sector makes up 90% of electricity consumption. Residential users make up 10% of electricity use in the community. Like the commercial/industrial sector, residential users saved nearly 50% of the electricity saved between 2015-2017. The LEAP model (see Table 7) has estimated future electricity demands and intermediate targets for electricity savings and renewable generation in line with the Vermont CEP to demonstrate the importance of maintaining and accelerating this momentum.

Table 4 Electricity Consumption (2015-2017)

Sector	2015	2016	2017
Commercial & Industrial (MWh)	491,868	485,004	480,218
Residential (MWh)	55,341	54,407	52,836
Total (MWh)	**574,209**	**539,411**	**533,054**
Count of Residential Premises	8,353	8,516	8,593
Average Residential Usage (KWh)	6,625	6,389	6,149

Source: Green Mountain Power, Efficiency Vermont

Table 5 Electricity Consumption (2015-2017)

	2015	2016	2017	Total
Total Electric Savings (MWh)	**4,395**	**4,456**	**5,766**	**14,617**
Residential	2,250	2,213	2,511	6,973
Commercial & Industrial	2,145	2,243	3,255	7,644

Source: Green Mountain Power, Efficiency Vermont

Table 6 Estimate Future Electricity Usage (2025-2050)

	2025	2035	2050
Total electrical energy use (MWh)	859,118	1,098,896	1,436,730
Total electrical energy savings (MWh)	14,092	28,447	53,207
Percent of Residences that should increase their electric efficiency	30%	58%	98%
Percent of Commercial and Industrial Establishments that should increase their electric efficiency	30%	58%	98%
Source: CCRPC LEAP Model, Vermont Department of Public Service			

Within the Essex Community there are currently 432 sites that generate 27,799MWh of electricity from renewable sources, with a total capacity of 12 megawatts (MW). Green Mountain Power's Essex #19 hydroelectric dam on the Winooski River at VT-2A accounts for 18,300 MWh, or 66% of this total. The energy generated from the hydro dam is split between the Essex Community and the Town of Williston because the jurisdictional boundaries split the centerline line of the Winooski River. The next largest producer is the wastewater treatment facility's combined heat and power system, which provides 760 MWh of electricity to the facility (in addition to heat). The remaining 8 MW/8,739 MWh come from 430 roof-mounted or ground-mounted photovoltaic ((PV) solar systems scattered throughout the community. By securing a power purchase agreement with Green Lantern Solar, LLC, which supplies 80% of municipal buildings' electricity needs from a 500 kW PV facility on River Road, the Essex Community has demonstrated leadership in deployment of renewable energy resources. These sources supply approximately 3.4% of the current (2017) electric energy used within the community.

Table 7 Existing Renewable Energy Generation

	Sites	Power (MW)	Energy (MWh)
Solar	430	8	8,739
Hydro	1	4	18,300
WWTP	1		760
Total	432	12	27,799

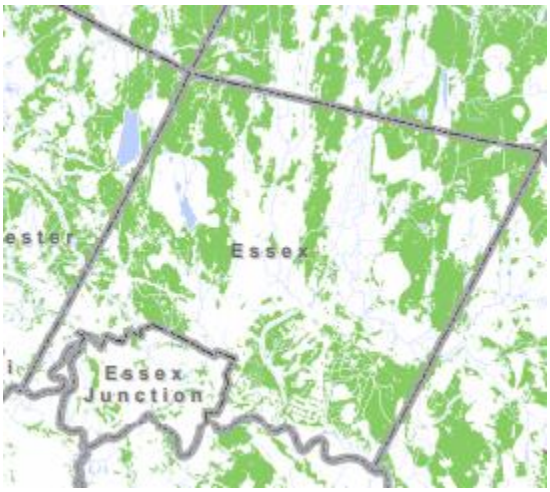
Source: Community Energy Dashboard, 10/23/2018

Renewable Energy Generation Targets

Regardless of ultimate use, the transformation to renewable sources of electricity will require increased generation from a variety of sources including biomass, hydro, solar, and wind. Additionally, electricity storage technologies such as batteries, fuel cells, pumped hydroelectric, and compressed air systems store excess power generated by intermittent renewable sources. These will become more important as the technology develops and the proportion of generation from renewable sources increases. The community should work with electric utility companies to support these infrastructure needs.

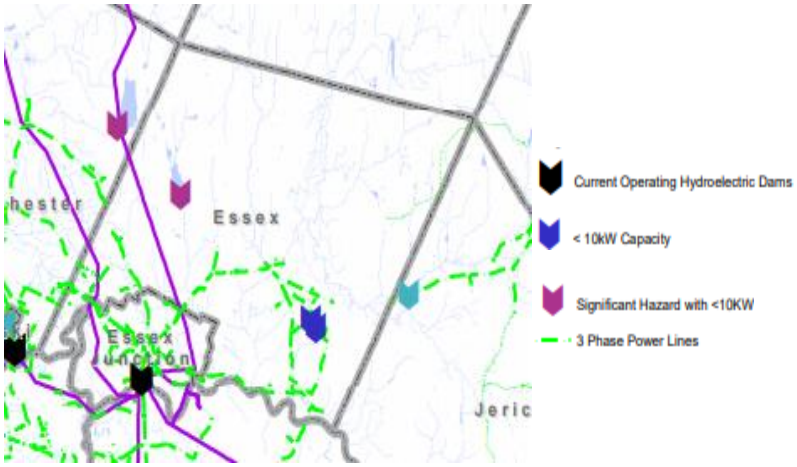
Electricity generation potential from woody biomass is difficult to model, but woody biomass resource areas are shown in Figure 3. These are areas are generally privately-owned forest lands and demand for saw timber and other forest products will compete with firewood, wood chips, and wood pellets. Furthermore, electric generation efficiency from woody biomass is low—around 25% at most—compared to other sources (2016 CEP, p. 339). Woody biomass would be better used for heating or combined heat and power.

Figure 3 Woody Biomass



Hydroelectric generation is unlikely to increase significantly in the community for several reasons. There are few additional sites for large facilities, and smaller facilities have limited generation potential. Furthermore, site design and permitting are extremely challenging due to the significant impacts on stream geomorphology and aquatic habitats. That said, there are several potential sites for micro-hydro in Essex and Essex Junction, shown in Figure 4. The Energy Committee wholeheartedly supports development of micro-hydro and will seek to work with stakeholders to investigate the feasibility.

Figure 4 Potential Hydro Power



Supplying the community's electricity needs primarily through local PV solar systems and wind turbines will require a significant portion of land area. According to CCRPC's mapping analysis, there is enough suitable land for development of renewable energy generation to meet the community's targets. Figure 5 indicates that there is about 13% of the community's land area capable of accommodating solar energy generation facilities to meet the low target (see Table 10 for targets). However, the community only needs about 1,198 acres or 4.75% of the Community's land area to meet the low target for renewable electricity generation. Given that the Essex Community cannot meet its low target solely with 883 acres of prime solar, the remaining 325 acres must be developed in areas of base solar. Because the actual development potential of base solar is uncertain, CCRPC's methodology assumes a generation density of 1 MW per 60 acres when calculating land are required to meet the community's overall generation targets. Therefore, once all constraints are accounted for, the actual area occupied by solar development would still be only 1,198 acres in total. Developing this amount of acreage is just one pathway for meeting the target. The are many other technologies (i.e. Hydro, district heating, and biomass) that could be used to offset the need to utilize some of the 1,198 acres. Additionally, the policies on siting renewable energy generation facilities should be reviewed and adjusted as steps are taken towards the goal of 90% renewable energy use by 2050. The community should revisit the concept of a community net metering solar array by conducting an engineering study for the former town dump located near the intersection of VT Route 2A and VT Route 289.

Map 4 and Map 5 show the areas in the community where conditions are appropriate for solar and wind energy generation, such as slope, aspect, elevation, and modeled wind speed. These are classified into prime areas (appropriate conditions and no known or possible development constraints) and base areas (appropriate conditions, but with possible constraints to avoid or mitigate). Table 8 describes the land available for renewable energy generation based on the acreage of prime and base areas. Table 9 shows the generation potential (capacity or power in MW, total annual energy output in MWh) based on these prime and base resource areas.

Table 8 Land available for Renewable Energy Generation

	Prime Potential	Base Potential
Solar (acres)	883	7,716
Solar (% of land area)	9%	64%
Solar generation density (MWh/acre)	153	20
Wind (acres)	125	3,307
Wind (% of land area)	0.6%	15%
Wind generation density (MWh/acre)	122	123
Source: CCRPC, Vermont Department of Public Service, Vermont Center for Geographic Information		

Table 9 Potential Renewable Energy by Technology

	Power (MW)	Energy (MWh)
Rooftop Solar	15	18,262
Ground-Mounted Solar – Prime	110	135,323
Ground-Mounted Solar – Base	129	157,707
Wind – Prime	5	15,278
Wind – Base	132	405,570
Source: CCRPC, Vermont Department of Public Service		

Figure 5 Land Area Available to Reach Low Target

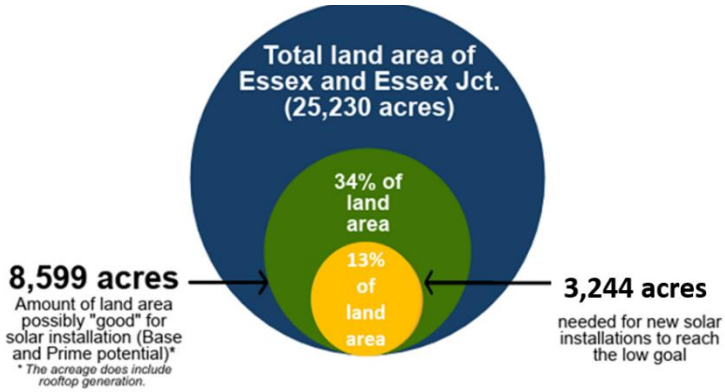


Table 10 Renewable Energy Generation Target

	Low	High
Additional Target (Mwh)	183,587	325,830
Existing (Mwh)	27,799	
Total (Mwh)	211,386	353,629
Additional Acres Needed to Meet Target	1,198 (5% of Community)	2,125 (8% of Community)

Of the total solar generation potential, 15 MW (18,262 MWh) could be located on existing impervious surfaces, such as rooftops and paved areas. Because these sites are already developed, solar generation may be compatible with other land uses if developed in a way that is in harmony with existing development patterns and existing aesthetic norms especially in the Village Center District and the Town's Historic Preservation and Business Design Control Districts. Preferred sites should be the focus of renewable energy development over undeveloped land, or historic districts. The Essex Energy Committee has partnered with solar developers to promote adoption of rooftop solar in the community by hosting informational events for both residential and commercial building owners.

Other preferred sites for net metering systems include brownfields, landfills, and former mineral resource extraction areas. For instance, the Town strongly supported Green Mountain Power's 4.5-MW photovoltaic array and battery storage facility at River Road on the site of a reclaimed sand and gravel extraction area. Wind turbines may also be located on previously-developed sites, but wind generation efficiency drops exponentially with turbine size, and only small-scale turbines should be sited near developed areas, so the generation potential for these sites would be limited. There are nevertheless good reasons to consider small-scale wind on municipal lands as a means of reducing electrical costs and setting an example of the small-but-important steps residents and businesses can take to work towards Essex's goals.

Renewable energy generation facilities should be carefully designed to avoid undue adverse impacts to known constraints; if impacts to possible constraints cannot be avoided, they shall be mitigated. Renewable energy installers should be encouraged to develop in tandem with other uses that could occur on a given site to add value in a way that speaks to holistic development patterns rather than a standalone facility. This type of development could also locate renewable energy installations on the same site as high energy users and reduce the need for distribution and transmission line upgrades.

Facilities with a generation capacity greater than 500kW are considered utility-scale and shall be located in designated industrial or commercial zones, where constraints are less numerous, impacts are more easily mitigated, and there is less competition for other land uses than in other areas. Other areas would have to be considered on a case by case basis, with developers encouraged to interact directly with Essex's municipal planners and committees in advance of issuing an advance notice under Section 248.

Within the Town of Essex's Scenic Resource Protection Overlay District**,** the designated Village Center District**,** the Town of Essex's Historic Preservation Design Control District, and the Business Design Control District, all renewable energy generation facilities shall follow the siting, design, and screening standards/best practices as other forms of development to avert or minimize undue adverse impact on scenic resources.

Transportation

As noted in the Transportation section of the Essex Community has-been**,** and continue to be**,** a transportation hub. The only Amtrak station in Chittenden County exists in the Village, an active bus terminal, and five state highways are also present. Promoting compact development, providing more options for walking, biking, and public transit, and reducing single-occupancy vehicle trips can reduce energy use in the transportation sector. The park and ride on Landfill Lane provide one option to carpool and reduce single-occupancy vehicle use; the community should explore other strategic locations for park and ride lots.

The Essex Community relies almost exclusively on fossil fuels for its transportation energy. In 2015, there were 15,114 fossil-fuel burning light-duty vehicles registered in the community, in addition to heavy-duty vehicles and locomotives. Heavy-duty vehicles will still rely on internal combustion engines due to power demands, but these can transition to renewable biofuels with changes to vehicle design and fueling systems.

The LEAP model indicates that, to reach 2050 targets, total transportation energy use in the community (including light-duty and heavy-duty vehicles) must decrease significantly and steadily. In addition, light-duty vehicles will create a significant demand for electricity by transitioning from fossil fuels, while heavy-duty vehicles will likely transition to using biodiesel almost exclusively.

Table 11 Estimated Future Transportation Energy Use, 2025-2050

	2025	2035	2050
Total light duty transportation energy use (MMBtu)	890,049	563,787	245,721
Electricity used for light duty transportation (MMBtu)	11,869	81,813	172,669
Light duty electric vehicles (% of vehicle fleet)	94%	59%	11%
Biofuel blended* energy used for light duty transportation (MMBtu)	878,180	481,974	73,052
Biofuel blend* light duty vehicles (% of vehicle fleet)	94%	59%	11%
Heavy-duty transportation energy use from biodiesel (% of total)	33%	58%	96%
Heavy-duty transportation energy use from fossil fuels (% of total)	67%	42%	4%
***This measures biofuels blended with fossil fuels. A common example is gasoline with ethanol mixed in.**			
Sources: VTRANS, CCRPC/VEIC LEAP model			

The technological improvements and decreasing price of hybrid and all-electric vehicles ("EVs") will allow for a steady transition from fossil fuel to renewable sources for light-duty vehicles; in 2017, there were already 49 light-duty EVs registered in the community The community can become "electric vehicle ready" by requiring that buildings (including residences and places of work) are built and retrofitted with EV charging infrastructure, while also encouraging development of public charging stations. Drive Electric Vermont has information on the use of EVs.

Because of the urgent need to make progress towards these goals, the Essex Community should actively pursue both incentive-based and regulatory strategies to encourage conservation and efficiency, such as a revolving loan fund for energy efficiency upgrades, or an energy fee that funds public energy improvements (such as EV charging stations and rooftop solar grants or loans), with waivers or reduced rates for those who make their own improvements.

Government

As the primary source of regulation and enforcement in the community, as well as a source of guidance, the Town and Village governments can champion energy reform and efficiency.

The community needs to prepare for energy-related issues beyond its control. As the community and state take steps to improve efficiency, reduce consumption, and incorporate more renewable energy into the mix, large-scale renewable energy sites such as solar farms may wish to locate in the Essex Community. Though the community could take pride in locally-produced, renewable energy, other Vermont towns can attest to the controversy that can arise when wind turbines are placed atop ridgelines or solar arrays fill previously-undeveloped fields.

The Vermont Public Utilities Commission(PUC), rather than the community, issue permits for electric transmission and electric generation facilities. As a result, energy projects are not subject to direct municipal land use regualation, though the changes made by Act 174 of 2016 provide new means of local control through solar setbacks, site designation, and this plan. Moreover, the community can rely on this plan to engage in the Section 248 process to ensure that local land use policies are considered and enforced in the orderly development criterion of the permitting process conducted by the PUC.

Appendix A

The standards in this section shall apply to all development (including renewable energy generation) located in the specified areas identified.

Design Control Best Practices

This section outlines the best practices for locating net-metered roof-mounted solar facilities up to 500 kW in the the Village of Essex Junction's Designated Village Center/historic district and the Town of Essex's Business and Historic Preservation Design Control Districts. The best practices in this section are intended to preserve character-defining features of these areas while accommodating the need for renewable energy generation to the extent practical.

1. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
2. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
3. Utilization of low-profile solar panels is recommended. Panels shall be within ten percent (10%) of the average height of existing adjacent buildings and not be visible from the public right of way. Solar shingles laminates, glazing, or similar materials should not replace original or historic materials. Use of solar systems in windows or on walls, siding, and shutters should be avoided.
4. Panels should be installed flat and not alter the slope of the roof. Installation of panels must be reversible and not damage ~~to~~ the historic integrity of the resource and district.
5. Solar panels should be positioned behind existing architectural features such as parapets, dormers, and chimneys so they are not visible from the public right of way.
6. Use solar panels and mounting systems that are compatible in color to established roof materials. Mechanical equipment associated with the photovoltaic system should be unobtrusive~~.~~
7. Solar panels should be installed on rear slopes or other locations that are not visible from the public right-of-way. Panels should be installed flat and not alter the slope of the roof. Installation of panels must be reversible and not damage the historic integrity of the resource and district.
8. Flat roof structures should have solar panels set back from the roof edge to minimize visibility. Pitch and elevation should be adjusted so they are not visible from public right-of-way.
9. Use of solar systems in non-historic windows or on walls, siding, or shutters should not be visible from the public right of way.

Scenic Resource Protection Standards

The scenic resource protection standards should be applied to the Town of Essex's Scenic Resource Protection District. The purpose of these standards is to avert or minimize the adverse impacts of development (including renewable energy generation) on identified scenic resources, viewsheds and roadscape corridors through appropriate siting and design practices. A proposed development along any of the scenic road segments identified in this section shall address any impacts on scenic resources as seen from public roads using these standards.

SCENIC STREETS

Portions of the following streets are included in the Scenic Resource Protection Overlay District. To see which portions of the streets are in the district, refer to the SRPO map.

- Bixby Hill Road
- Browns River Road
- Chapin Road
- Colonel Page Road
- Jericho Road/VT Route 15
- Naylor Road
- North Williston Road
- Old Stage Road
- Pettingill Road
- River Road/VT Route 117
- Towers Road
- Upper Main Street/VT Route 15
- Weed Road
- Woodside Drive

1. To minimize the loss of scenic character renewable energy generation facilities shall be designed and located to minimize the intrusion of incompatible and unharmonious development into existing scenic vantage points as viewed from public vantage points identified in the list of scenic streets.
2. Renewable energy generation facilities shall be positioned so that views to distant mountains remain as natural as possible.
3. Renewable energy generation facilities should be arranged in a manner that protects a significant portion of open space.
4. The use of vegetation to screen renewable energy generation facilities and associated fencing in all seasons is strongly encouraged. Plantings shall be of sufficient height, density and maturity to serve as a visual barrier from buildings and the roadscapes identified in this section
5. Shorter structures may be more appropriate in certain spaces than taller structures to keep the project from obstructing public vantage points identified in this section.

Avoid locating a renewable energy generation facility in a location which diminishes the visual impact of the array from the owner's property but places the array immediately within their neighbor's or the public's viewshed. Locate facilities in a manner designed to reduce impacts

6. n neighbors or public viewsheds.

Map 1.
Existing Renewable Energy Sites & Preferred Sites
Essex Community, Vermont

Existing Site Type

- Roof-Mounted Solar
- Ground-Mounted Solar
- Solar Canopy
- Hydropower
- Combined Heat and Power System

State Designated Preferred Sites*

- Closed Landfill
- Sand or Gravel Pit
- Brownfield
- Parking Lot
- 3 Phase Power Lines
- Transmission Lines

*Additional state designated preferred sites not shown on this map include roof-tops, parking lot canopy,a previously developed site, or a parcel or adjacent parcel to a customer that has been allocated more than 50 percent of the net-metered output.

This map and the corresponding data is intended to be used to inform energy planning efforts by municipalities and regions. They may also be used for conceptual planning or initial site identification by those interested in developing renewable energy infrastructure. They should NOT take the place of site-specific investigation for a proposed facility and should not be used as "siting maps".

0 0.5 1 2 Miles

N

Sources:
Closed Landfill-ANR
Sand or Gravel Pit--ANR
Parking Lots-CCRPC,2008
3-Phase Power-VCGI, BED
Existing Sites-EAN, 11.2018
Major Roads and Railroad - VTrans
Town Boundary and Water Body - VCGI
Map produced with ArcGIS,
State Plane Coordinate System NAD83.

Date: 3/28/2019

Disclaimer:
The accuracy of information presented is determined by its sources. Errors and omissions may exist. The Chittenden County Regional Planning Commission is not responsible for these. Questions of on-the-ground location can be resolved by site inspections and/or surveys by registered surveyor. This map is not sufficient for delineation of features on-the-ground. This map identifies the presence of features, and may indicate relationships between features, but is not a replacement for surveyed information or engineering studies.

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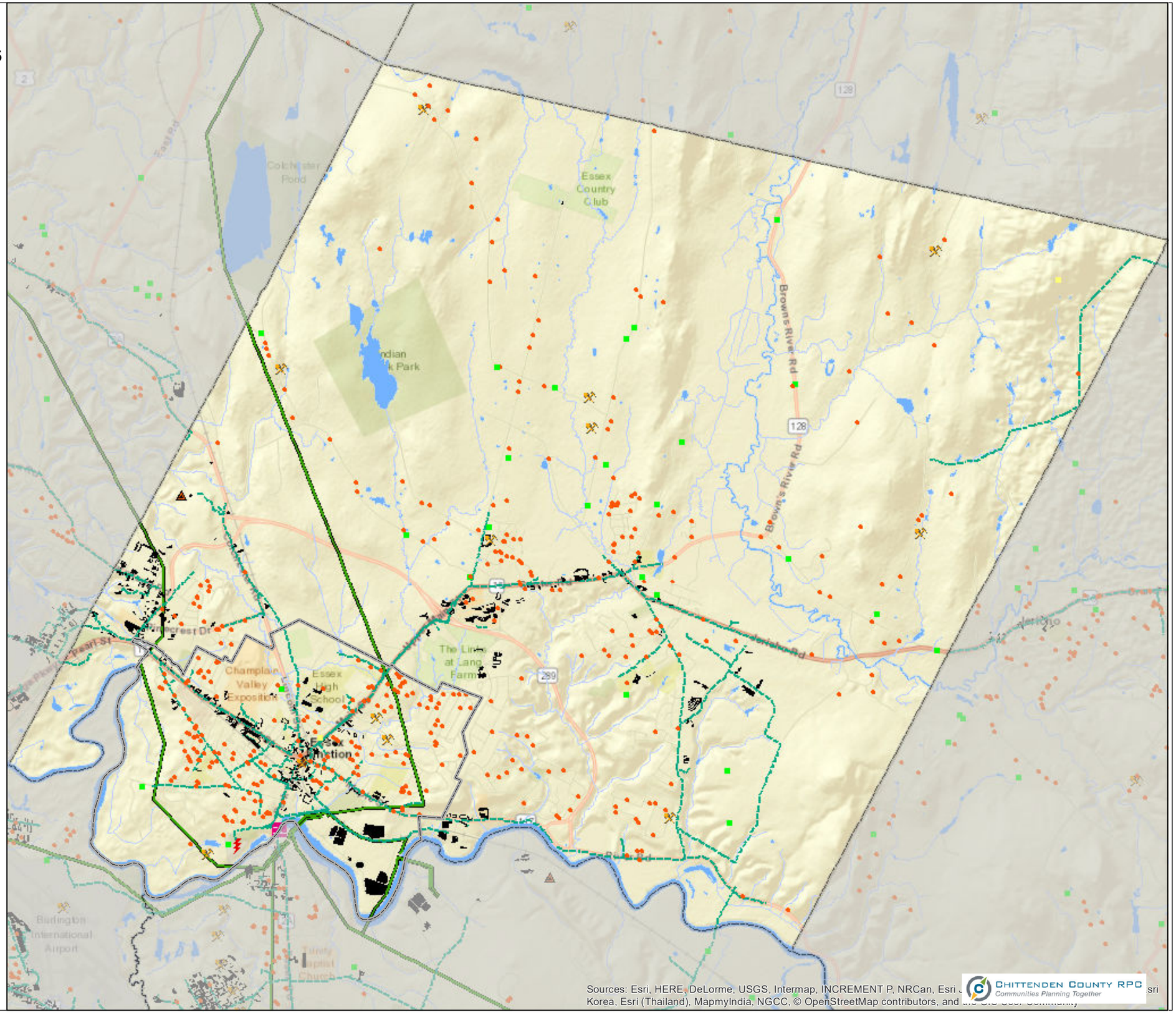


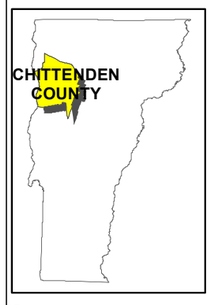
CHITTENDEN COUNTY RPC
Communities Planning Together

Map 2.
Known Constraints
Essex Community,Vermont

State and Local Constraints

- Vernal Pools (Confirmed and Unconfirmed)
- FEMA Designated Floodway
- Vermont Department of Environmental Conservation River Corridors*
- State-significant Natural Communities & RTE Species
- Wetland (Vermont Significant Wetlands Inventory and Advisory Layer)
- Recreation/Conservation Area within Resource Preservation-Industrial Zoning District
- Slopes of 20% and steeper
- Stream Centerline
- Water Body

0 0.5 1 2 Miles



*Note: River corridors are comprised of meander belt and riparian buffer components for the purpose of achieving and maintaining stream equilibrium conditions. Small streams draining 0.5 to 2 square miles and a 50 ft. buffer are also included.

Sources:
Vernal Pools; VCGI, 2017
DEC River Corridors;VCGI, 2019
FEMA DFIRM Floodways;VCGI,2017
RTE + Sig.Natural Comm;VCGI,2017
Wetlands;VSWI Wetlands Class Layer, VSWI Advisory Layer, 2017

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Date: 3/28/2019

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Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, M
Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

CHITTENDEN COUNTY RPC
Communities Planning Together

Map 3.
Possible Constraints
Essex Community, Vermont

State and Local Constraints

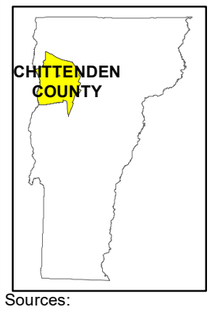
- Stream Centerline
- Water Body
- FEMA Special Flood Hazard Areas
- Agricultural Soils
- ACT 250 Ag Mitigation Parcel
- Hydric Soils
- Deer Wintering Areas
- Protected Lands
- Slope 15% to 20%
- Resource Preservation Industrial District
- Areas where design control best practices apply
- Scenic Resource Overlay

Vermont Conservation Design - Landscape Scale Components

PRIORITY

- HIGHEST PRIORITY
- PRIORITY

0 0.5 1 2 Miles



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Sources:
Agricultural Soils; VCGI, 2017
FEMA Special Flood Hazard Areas; VCGI, 2017
Protected Land; VCGI
Act 250 Mitigation Areas; VCGI, 2017
Deer Wintering Areas; VCGI, 2017
Priority Forest Blocks,Vermont Conservation Design
Hydric Soils; VCGI, 2017

Disclaimer:
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Date: 4/4/2019

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Westford
Colchester
Essex
Essex Junction
Jericho
South Burlington
Williston

CHITTENDEN COUNTY RPC
Communities Planning Together

Map 4.
Potential Solar Energy Resource Areas

Essex Community, Vermont

Prime Solar: Areas with high solar potential and no state/local known & possible constraints

Base Solar: Areas with high solar potential and a presence of state/local possible constraints

3 Phase Power Lines

Transmission lines

This map and the corresponding data is intended to be used to inform energy planning efforts by municipalities and regions. They may also be used for conceptual planning or initial site identification by those interested in developing renewable energy infrastructure. They should NOT take the place of site-specific investigation for a proposed facility and should not be used as "siting maps"

0 0.5 1 2 Miles

Sources:
Solar Energy Resource Areas;VCGI,2017
Disclaimer:
The accuracy of information presented is determined by its sources. Errors and omissions may exist. The Chittenden County Regional Planning Commission is not responsible for these. Questions of on-the-ground location can be resolved by site inspections and/or surveys by registered surveyor. This map is not sufficient for delineation of features on-the-ground. This map identifies the presence of features, and may indicate relationships between features, but is not a replacement for surveyed information or engineering studies.

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Date: 3/28/2019

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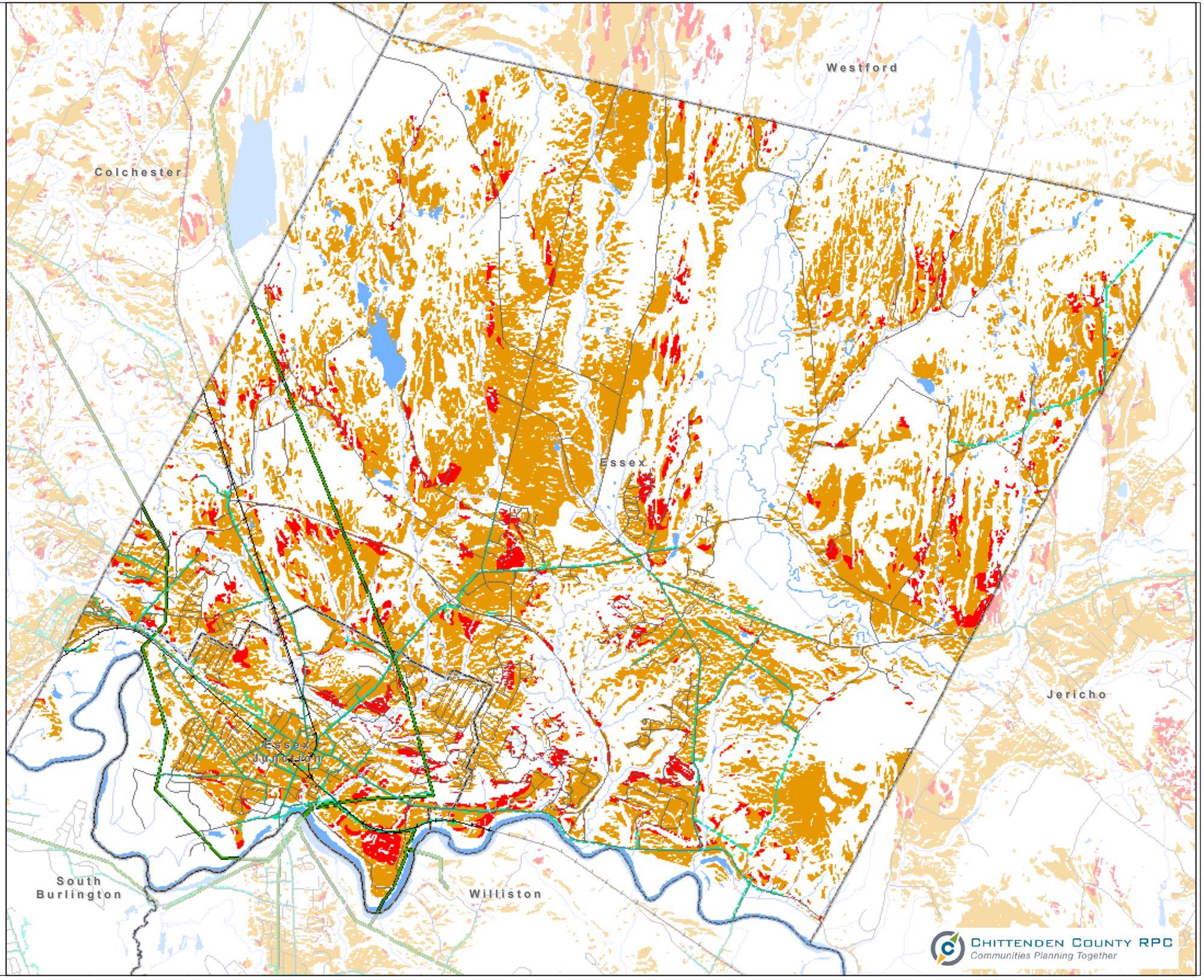

Chittenden County RPC
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Map 5.
Potential Wind Energy Resource Areas
Essex Community, Vermont

Prime Wind: Areas with high wind potential and no state/local known & possible constraints

Base Wind: Areas with high wind potential and a presence of state/local possible constraints

3 Phase Power Lines

Transmission Lines

This map and the corresponding data is intended to be used to inform energy planning efforts by municipalities and regions. They may also be used for conceptual planning or initial site identification by those interested in developing renewable energy infrastructure. They should NOT take the place of site-specific investigation for a proposed facility and should not be used as "siting maps".

0 0.5 1 2 Miles

N

Sources:
Wind Energy Resource Areas;VCGI,2017
Disclaimer:
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Date: 3/28/2019

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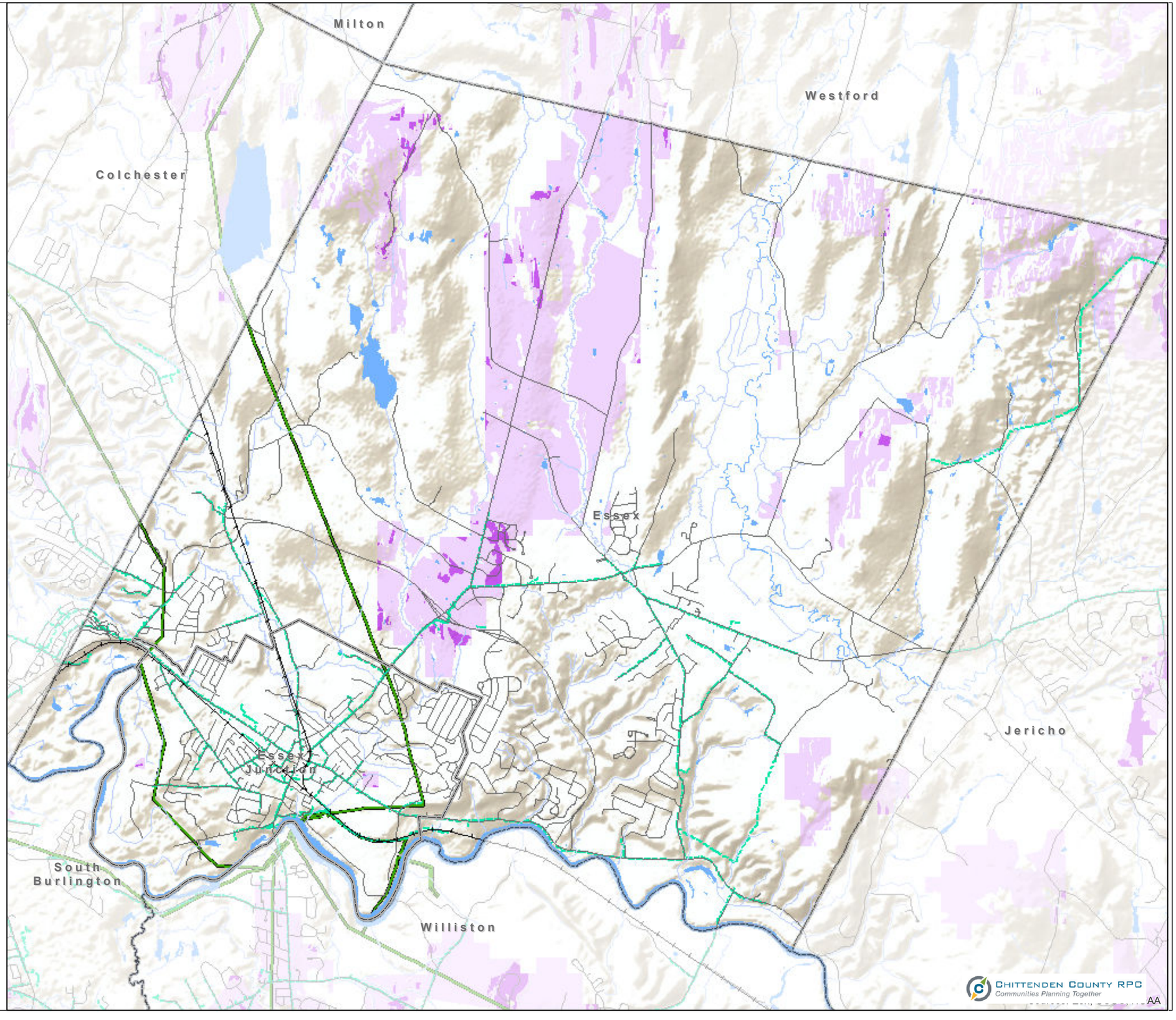

Chittenden County RPC
Communities Planning Together

AA

MEMO

To: Evan Teich, Unified Manager
From: Susan McNamara-Hill, Clerk
Date: May 23, 2019
Re: Plan of Merger

According to VSA Title 24, Chapter 49, Merger of Municipalities, the two legislative bodies must approve a Plan of Merger before the proposed merger is publicized.

If the vote were to occur during the next Presidential vote November 3, 2020, we would want to have the question ready to send to the state to have it printed on the state ballot. This will save time and the expense of having to print separate ballots (although the village will still have a separate ballot). In addition, by having the ballots ready when the state ballots are ready, we can include the early/absentee ballots at the same time and will not have to do another mailing. State ballots will need to be ready to send to overseas and military voters by September 18, 2020. In order to meet this deadline the state asks that any local questions be sent to them no later than August 31st.

It should be made clear that each municipality votes separately on the merger. This means that voters in the Village of Essex Junction vote twice; once as town residents and once as village residents.

Below is the schedule that would need to be followed for a merger vote on November 3, 2020:

Before any of the following can start, the Plan of Merger must be approved by a majority of each legislative body (VSA Title 24 §1482).

August 21, 2020: Get wording to Sec. of State for printing on ballot (TOWN)

August 24, 2020: Order ballots for Village vote (VILLAGE)

September 8, 2020: Warn Public hearings at a regular or special board meeting.

October 4, 2020: Deadline to post copies of Plan of Merger in 3 or more public places in each municipality (VSA Title 24 §1484)

Each municipality has their 1st public hearing at least two weeks before the second public hearing – I have suggested two separate dates, but they could probably do it on the same date (different times).

October 12, 2020: First Public hearing (TOWN) (VSA Title 24 §1484)
NOTE- THIS DATE IS A TOWN HOLIDAY

October 13, 2020: First Public hearing (VILLAGE) (VSA Title 24 §1484)

October 1, 8, 15, 2020: Notice of Public hearings published in Essex Reporter (§1484)

Each municipality has their 2nd public hearing no less than five days before the vote – I have suggested two separate dates, but they could probably do it on the same date (different times).

October 26, 2020: Second Public hearing (TOWN) (VSA Title 24 §1484)

October 27, 2020: Second Public hearing (VILLAGE) (VSA Title 24 §1484)

November 3, 2020: Vote on Plan of Merger (TOWN & VILLAGE)

November 13, 2020: Clerk of each municipality to notify Secretary of State by this date (§1486)

Please see below for a summary of Title 24, Chapter 49 regarding Merger of Municipalities:

UNDER MERGER OF MUNICIPALITIES

TITLE 24, CHAPTER 49

1. PREPARE PRELIMINARY PLAN OF MERGER APPROVED BY MAJORITY OF TRUSTEES AND SELECTBOARD
    a. CONTENTS
        i. Provisions relating to structure, organization, functions, operation, finance, property,
        ii. Could contain special provisions contained in existing charters;
        iii. Special services not common to all could be provided and taxed to those receiving the services
2. FINAL PLAN OF MERGER TO BE POSTED NO LESS THAN 30 DAYS BEFORE VOTE
3. TWO PUBLIC HEARINGS TO BE HELD IN EACH AREA AT LEAST TWO WEEKS APART – LAST HEARING TO BE NO LESS THAN FIVE DAYS BEFORE THE VOTE
4. HEARING NOTICES IN NEWSPAPER FOR THREE WEEKS PRIOR TO PUBLIC HEARINGS, LAST PUBLICATION NO LESS THAN 3 DAYS BEFORE FINAL PUBLIC HEARING
5. CLERK OF MUNICIPALTIES NTOFIES SECRETARY OF STATE WITHIN TEN DAYS FOLLOWING VOTE
6. AFTER APPROVAL BY GENERAL ASSEMBLY, FINAL PLAN OF MERGER BECOMES NEW CHARTER

Memorandum

To: Trustees; Selectboard; Evan Teich, Unified Manager

From: Greg Duggan, Deputy Manager; Tammy Getchell, Assistant to the Manager; Darby Mayville, Community Relations Assistant

Re: Selection of a firm to conduct public engagement about governance change

Date: May 31, 2019

Issue

The issue is for the Trustees and Selectboard to select a firm to conduct public engagement about governance change.

Discussion

The Selectboard, Trustees, and Governance Subcommittee want to hire a firm to do public engagement about governance change. The public engagement will entail surveys and focus groups.

By the end of Friday, May 31, staff will have received proposals from the following six marketing/market research firms:

Brandthropology (Burlington, VT)
KSV (Burlington, VT)
Marketing Partners (Burlington, VT)
Matrix Marketing (Burlington, VT)
OCM (Shelburne, VT)
Red Sapphire (Burlington, VT)

Staff is interviewing the firms on Monday, June 3, and will be prepared to recommend a firm that night for the boards to hire for public engagement.

Cost

The cost is estimated to range from $20,000 to $60,000, depending on the scope of work.

Recommendation

It is recommended that the Trustees/Selectboard select a firm to conduct public engagement about governance change.

VILLAGE OF ESSEX JUNCTION TRUSTEES
TOWN OF ESSEX SELECTBOARD
DRAFT SPECIAL MEETING MINUTES
Monday, May 28, 2019

SELECTBOARD: Elaine Haney, Chair; Max Levy; Patrick Murray; Annie Cooper

TRUSTEES: Andrew Brown, President; George Tyler; Raj Chawla; Amber Thibeault

ADMINISTRATION: Evan Teich, Unified Manager; Greg Duggan, Deputy Manager; Sarah Macy Finance Director/ Assistant Manager;

OTHERS PRESENT: Liz Gamache; Jennifer Knauer; Emerson Lynn; Jim O'Rourke; Margaret Smith; Irene Wrenner

1. CALL TO ORDER/ PLEDGE OF ALLEGIANCE TO THE FLAG

Andrew Brown called the Trustees back to order from their recess, and Elaine Haney called the Town of Essex Selectboard to order at 7:30 PM, for the Special Joint Meeting of the Village of Essex Junction Trustees with the Town of Essex Selectboard.

2. AGENDA ADDITIONS/ CHANGES

There were no changes to the agenda.

3. AGENDA APPROVAL

With no changes to the agenda, no motion to approve was required.

4. PUBLIC TO BE HEARD

a. **Comments from Public on Items Not on Agenda**

There were no comments from the public

5. BUSINESS ITEMS

a. **Preparation for Strategic Advance—Liz Gamache**

Ms. Gamache, former Mayor and interim City Manager of St. Albans City, introduced Mr. Lynn, long-time, former owner and manager of the St. Albans Messenger newspaper, and Mr. O'Rourke, who is currently running the Messenger. In preparation for the Village of Essex Junction and Town of Essex's work on unification, Ms. Gamache and Mr. Lynn shared their experiences from St. Albans City's downtown revitalization efforts. They offered this information to identify parallels in their efforts that could help guide how Essex may want to manage their own large, municipal change effort. Ms. Gamache explained that St. Albans began from a place of potential downtown decay and stagnation, then developed a shared vision, effective planning strategies and achieved revitalization. She gave credit to strategies that built strong civic engagement, a transparent communication strategy, intentional community trust-building and formal as well as informal teaming for success. Mr. Lynn shared his insights into St. Albans' revitalization efforts and outcomes. He mentioned that there has been a 65% increase in revenue and $52 million dollars added to the grand list since revitalization efforts began 6 years ago. Mr. Lynn described the connection between the vision of revitalization and core efforts dealing with existing landowners and landlords. Important community dynamics included the move of St. Albans' largest employer, Mylan, downtown, and enforcing a requirement that Walmart would revitalize two downtown buildings. He said transparency of all efforts was essential, and public trust was built through consistent, weekly Public Relations (PR) about the value of work being done, updates on issues and activities,

and opportunities for engagement. He said the buy-in established resulted in a 3:1 margin of votes for each step of their revitalization process.

Ms. Gamache and Mr. Lynn offered key suggestions for Essex as they move forward with unification. Mr. Lynn encouraged Essex staff, Trustees and Selectboard members to utilize the Essex Reporter for consistent public relations. Ms. Gamache encouraged elected officials to maintain visibility with accomplishments along the way. She said it is important to remember that their messaging will be received by people who are at many stages of the change process (awareness, knowledge, action) so opportunities for multiple levels of discussions should be planned and information sharing should be scaffolded to meet people where they are. She said staff should provide accurate analysis and technical information while creating a space for constructive conversations around tensions or conflict to help shape the direction. She stressed the importance of a clear communications plan, with an understanding of who will be communicating what, and that space should be intentionally embedded for people to process what they are learning. She encouraged officials to empathize with the fact that each individual will go through a process of change through this unification.

Ms. Cooper asked for suggestions about how to get started with the work Ms. Gamache described. Ms. Gamache illustrated the importance of beginning by identifying what shared values exist in the community around the issue. She said that the staff and elected officials' ideas and plans should be communicated and reviewed by community members, stakeholders and public officials. They should be ready to articulate why they are pursuing this change including the details, content and rationale. She said staff and the board members should listen carefully and become clear on what people feel like they are losing as well as what they hope for or might gain- this can help shape direction. Mr. Lynn described the importance of establishing buy-in with core stakeholders who believe in the importance of unification. He said they can build community trust by ensuring that all interpretations of the issues are open for honest discussion.

Ms. Haney asked for suggestions on what the roles of staff and elected officials should be. Ms. Gamache said that they should have designated spokespeople for specific efforts, to ensure consistent messaging. She suggested that the board and staff be disciplined about finding internal agreements to challenging questions. She encouraged everyone to consistently share what questions are being asked from all areas and understand the answers being provided. Mr. Lynn said that staff and elected officials need to find clarity about why they want to merge municipalities, create an engaging vision and definition of "Greater Essex". He said that forward movement should be built on optimism and cautioned that when the vision is not clear it might be filled in with negativity.

Mr. Murray asked for suggestions for how to address resistance to the idea of unification and Mr. Brown wondered how to avoid misinformation. Ms. Gamache explained that it can help to identify if the resistance is from a place of "I don't get it; I don't like it; or I don't like you", each of which are progressively harder to address. She said that "I don't get it" can often be resolved with clarifying information; "I don't like it" should be carefully discussed to determine specifically what elements are not liked; and "I don't like you" signifies lack of confidence in leadership, which can be hard to overcome. Ms. Gamache suggested that they establish official sources of information, such as the newspaper, website, and official social media sites in order to combat misinformation.

Mr. Tyler expressed concern that some elements of unification may not be exciting enough for news stories because they involve things like board leadership structures and policy consolidation. Ms. Gamache reminded everyone that because this change will touch everyone, space should be created to discuss the "consolidation story". She explained that things will surface that need to be heard and addressed in order to stay the course. She and Mr. Lynn both suggested that it would be helpful for staff and the board members to identify stages or specific decision points that need community approval prior to moving into the next things. Mr. Lynn also encouraged that they identify some exciting, visible, ancillary examples of how people will be better off by the two municipalities working together in a unified model.

Mr. Teich wondered if there was anything St. Albans would do over in their revitalization efforts. Ms. Gamache said it is important to answer emotional questions with empathy not necessarily more data. She said overall the effort far exceeded expectations.

Ms. Haney invited community in attendance to share comments.

Ms. Wrenner asked how history informed the process of St. Albans Revitalization. Mr. Lynn explained that the trajectory of not doing anything would have resulted in downtown decay, which people agreed was not an option. He said they looked at the history of the town and amplified it. For example, in the past there were hotels in St. Albans downtown and now there is one again. CCV is considering relocating back into downtown. He explained that it is important to engage people at multiple levels by including historical and visual contexts in order to generate buy in.

Mr. Wrenner commented that many people do not receive the Essex Reporter and asked that this be addressed with the post office so community members can remain informed. Mr. Teich invited extra copies of the Essex Reporter be delivered to the Village Offices at 2 Lincoln Street and the Town Offices at 81 Main Street and staff will deliver them to some of the local municipal buildings for people to pick up.

The board members and staff thanked Ms. Gamache, Mr. Lynn and Mr. O'Rourke for their time and said they plan to utilize the suggestions to inform their upcoming Strategic Advance and efforts toward unification.

b. **Update from Governance Subcommittee—George Tyler**

Mr. Tyler updated the Trustees and Selectboard about insight shared by Barb Higgins, who attended the most recent Governance Subcommittee meeting. Ms. Higgins pointed out that a long-term result of consolidation may be a negative impact on Economic Development, if business retention and development is hindered due to the tax increase in the Town Outside the Village. Mr. Tyler requested that staff generate accurate financial information related to this. He said the subcommittee would like to hear from businesses on the issue and be prepared with accurate information. He also requested that staff provide a list of businesses who currently receive tax abatements for the discussion. Mr. Chawla suggested feedback should be solicited from the Economic Development Committee because individuals in this group could become core leaders in the consolidation efforts.

Mr. Duggan explained that staff will be ready to recommend a community engagement contractor for the Trustees and Selectboard to hire to host a series of focus groups and surveys on consolidation issues. Ms. Haney and Ms. Cooper pointed out that a similar, previous strategy called Heart & Soul had difficulty reaching their target audience and they hope this new strategy will be more robust and more successful. Ms. Cooper suggested that

subcommittees should be mobilized to engage greater awareness of consolidation, and stressed the importance of this community engagement effort. The boards also discussed the possibility of providing incentives, such as in-kind access to Recreation programs, to people so they will more readily participate in the focus groups and return surveys. Mr. Duggan mentioned that if the contract ends up being $40,000 or more, a waiver may be needed to enter into the agreement. This should be determined by Monday, June 3rd.

6. CONSENT ITEMS

a. Approval of minutes: May 6, 2019

GEORGE TYLER made a motion, seconded by AMBER THIBEAULT, that the Trustees approve the consent agenda. The motion passed 4-0.

MAX LEVY made a motion, seconded by PATRICK MURRAY, that the Selectboard approve the consent agenda. The motion passed 4-0.

7. READING FILE

a. **Board Member Comments**

- Ms. Haney and Mr. Teich expressed gratitude for Ms. Gamache's presentation. Ms. Haney shared her impression that the Selectboard, Trustees and Staff will need to increase effort and work hard on the unification effort.
- Mr. Teich announced the passing of active Essex Junction Firefighter, Charles "Chuck" Barry, who served the Essex Junction Fire Department for the past 34 years. He shared fond memories of this dedicated man's service and contribution to Essex. Mr. Teich noted that he would forward the service arrangements to board members.

b. **Stormwater Award for Chelsea Mandigo from Green Mountain Water Environment Association**
Ms. Cooper and Ms. Haney expressed congratulations to Ms. Mandigo for her award.

c. **Recreation Award for Adriane Martin**
Ms. Cooper and Ms. Haney expressed congratulations to Ms. Martin for her award.

d. Brownell Library Staff and Director's Report March 2019

e. "Garbage disposals vs. composting", Burlington Free Press

f. Memo from Rob Paluba and Greg Duggan re: website updates

8. EXECUTIVE SESSION

There was no executive session.

9. ADJOURN

RAJ CHAWLA made a motion, and AMBER THIBEAULT seconded, that the Trustees adjourn the meeting. The motion passed 4-0, at 8:58 PM.

MAX LEVY made a motion, seconded by PATRICK MURRAY, that the Selectboard adjourn the meeting. The motion passed 4-0, at 8:58 PM.

Respectfully Submitted,
Cathy Ainsworth
Recording Secretary

VERMONT PLANNERS ASSOCIATION

Certificate of Merit

This certificate is awarded to

VILLAGE OF ESSEX JUNCTION

as a nominee for the

Vermont Planners Association

2019 Plan of the Year

award for the preparation of a holistic plan for transportation improvements in

DESIGN FIVE CORNERS

Mark Kane, President
Vermont Planners Association

3/26/19
Date

TOWN OF ESSEX / VILLAGE OF ESSEX JUNCTION
Report: Calendar Year 2018: Progress on Implementation of All-Hazards Mitigation Plan

Date: **May 2019**

To: **Town Selectboard & Village Trustees**

From: **Rick Garey, Town & Village Emergency Management Director**

Information collected by: **Chittenden County RPC in partnership with municipal staff**

Town of Essex and Village of Essex Junction Mitigation Actions: Implementation Monitoring Worksheet

CATEGORY A: Improve capabilities of existing road and stormwater management infrastructure to address identified vulnerable infrastructure to mitigate Severe Rainstorm, Flooding, Fluvial Erosion and Water Pollution and their associated vulnerabilities of: • Damage to new/existing public infrastructure and buildings • Temporary road and bridge closure • Budgetary impacts • Temporary loss of power and/or telecommunications • Temporary isolation of vulnerable individuals	
Action **(Primary Responsible Entity)**	**Report on Progress since Plan adoption** *See Section 5.4 for details on locations identified during Plan development.*
<u>Action A-1: Stormwater Management</u> (Town and Village Public Works)	-note any grants or funding source investigated -note any grants applied for/obtained -note progress on stormwater management projects <u>Town/Village reports progress in 2018 as follows:</u> • See attached "Awarded Stormwater Grants" spreadsheet for all stormwater related grants in both the Village and Town. Project status is included in the table.
<u>Action A-2: Plan for Repair of Vulnerable Infrastructure</u> (Town and Village Public Works)	-note progress on repairs and upgrades <u>Town reports progress in 2018 as follows:</u> • The Town actively assesses and prioritizes infrastructure repairs and upgrades. With the CCRCP, the Town has developed road infrastructure priorities through the APWA Paver program, has completed a system wide sewer study, annually inspects, cleans and repairs its storm water systems, performs daily and weekly pump station maintenance and inspects, flushes and operates it water valves one to 2 times per year. • The Village actively assess and prioritizes infrastructure repairs and upgrades. With the CCRCP, the Village has developed road infrastructure priorities through the APWA

	Paver program, has televised its sewer system and prioritized repairs, annually inspects, cleans and repairs its storm water systems, performs daily and weekly pump station maintenance and inspects, flushes and operates it water valves one to 2 times per year.
Action A-3: Erosion Mitigation (Town and Village Public Works)	-note progress on erosion mitigation projects Town/Village reports progress in 2018 as follows: • Town reports contract work to begin on Brigham Hill Road in early spring 2019 to ditch and stone line area identified under road management plan; see also list of *Better Roads* grants reported under item 1A. • Village reports that two *Better Roads* grants were obtained to stabilize six eroded outfalls in the Village. Five of these projects completed to date; see also list of storm water grants under 1A, which address erosion; added erosion measure taken at pedestrian bridge project on Main Street.
Action A-4: Fluvial Erosion Hazard Mitigation Implementation (Town and Village Public Works, DEC)	-note progress on FEH mitigation projects Town/Village reports progress in 2018 as follows: • Town reports no progress in 2018. • Village reports no progress in 2018.
CATEGORY B: Operate an effective Stormwater Management System to mitigate Severe Rainstorm and Water Pollution and their associated vulnerabilities of: • Damage to new/existing public infrastructure and buildings • Temporary road and bridge closure • Budgetary impacts	
Action **(Primary Responsible Entity)**	**Report on Progress since Plan adoption** *See Section 5.4 for details on locations identified during Plan development.*
Action B-1: Mitigate impacts of runoff such as excessive flow, sediment load and excessive phosphorus discharge. (Town & Village Public Works)	-annual # basins cleaned -annual # street miles swept -note any progress on improvements to zoning bylaws to reduce excess flow, sediment loading or excess phosphorus discharge Town/Village reports progress in 2018 as follows: • Town reports for calendar year 2018 to be submitted by April 1, 2019. For last reporting year, 960 catch basins inspected, 160 cleaned, 28 storm drains repaired or replaced, 240 outfalls inspected, 55 miles of roadway swept with 1084 cy of street cleaning debris collected and properly disposed of. One contractor violation of erosion control measures identified and corrected.

	• Village reports for calendar year 2018 to be submitted by April 1, 2019. For last reporting year: 119 basins cleaned removing 20.5 cubic yards of material. Street sweeping: 54.01 miles swept removing 282 cubic yards
Action B-2: Begin implementation of Flow Restoration Plans for Indian Brook and Sunderland Brook (Essex Public Works Director)	-project types and locations and year constructed/installed Town/Village reports progress in 2018 as follows: • Town reports that Sydney Drive project design completed and construction to begin in 2019 to implement; LDS church project in design at 60% design complete level; completion of these two projects with two in the Village will meet the required FRP goal for Indian Brook. • Village reports that Village FRP projects for Fairview Drive and Mansfield Ave will be under construction in 2019; completion of these two projects with two in the Town will meet the required FRP goal for Indian Brook. • Sunderland Brook FRP projects: No projects have been constructed/installed as both Town and Village are currently meeting and exceeding the requirements of the Sunderland Brook TMDL.
Action B-3: Develop Phosphorus Control Plan (Town & Village Public Works)	-progress on development of plan and filing to State Town/Village reports progress in 2018 as follows: • Town & Village report that that the Village & Town have received a VTRANS HIGHWAY & STORMWATER MITIGATION grant to develop a joint PCP. The PCP has been awarded to Stone Environmental Group with work scheduled to be completed by April 2020.

Awarded Stormwater Grants

On track to be completed in 2019 but have more time given funding deadline

Must be completed in 2019

Municipality	Project Location	ID #	Grant Program	Granting Agency	Grant $	Local Share %	Local Share $	Local Funding Source	Total Project $	Project Description	Permit Requirement	Person Coordinating	Project Status	Project Construction Date	Funding Deadline	Expense Account(s)	Engineering Firm Hired	Construction Estimate
Town	Sydney Drive	Agreement #: CA0459 Grant Ref ID: Essex TAP TA16(5)	VTRANS TAP	VTRANS	$ 243,953.46	20	$ 60,988.36	Town Stormwater Capital Fund	$ 304,941.82	Detention pond with underground stone storage and infiltration gallery	FRP Top 4	Annie Costandi/ Dennis Lutz	Project Definition - Draft plans to VTRANS	Spring 2019	2/1/2021	130-46820.001 (100%)	Dubois & King Inc.	
Village	Brickyard Mansfield	Essex Junction TAP TA 16(7)	VTRANS TAP	VTRANS	$ 142,455.94	20	$ 35,613.99	Town Stormwater Capital Fund	$ 178,069.93	Gravel Wetland	FRP Top 4	Chelsea Mandigo/ Jim Jutras	Row completed, final drawings to VTRANS	Spring 2019	2/4/2021	130-46820.002 (20%) 230-46801.710 (80%)	Dubois & King Inc.	
Village	Fairview Main Street	2017-ERP-M-11	ERP	DEC	$ 133,069.00	50	$ 133,069.00	Town Stormwater Capital Fund	$ 266,138.00	gravel wetland phase 1) engineer &construct gravel wetland 2) upsize culvert under Main St; increase catchment	FRP Top 4	Chelsea Mandigo/ Jim Jutras	90% construction drawings, Phase 2 scope narrowed	Summer 2019	11/1/2019	130-46820.005 (50%) 230-46801.715 (50%)	Aldrich & Elliott Water Resource Engineers	
Village	Phosphorus Control Plan	CA0530	VTRANS HIGHWAY & STORMWATER MITIGATION	VTRANS	$ 40,000.00	20	$ 10,000.00	Town Stormwater Capital Fund	$ 50,000.00	Develop a phosphorus control plan for Village/Town using FRP project as basis	2018 MS4	Chelsea Mandigo/ Jim Jutras	Data collection by contractor	Spring 2020	5/12/2022	130-46820.009 (20%) 230-46801.725 (80%)	Stone Environmental	
Town	LDS Church	Agreement #: CA0514 Grant Ref ID: Essex Town STP MM18(9)	VTRANS HIGHWAY & STORMWATER MITIGATION	VTRANS	$ 1,076,948.00	20	$ 269,327.00	Town Stormwater Capital Fund	$ 1,346,275.00	Retrofit 2 ponds into underground storage & infiltration galleries	FRP Top 4	Annie Costandi/ Dennis Lutz	Field work completed, conceptual design in progress	TBD	5/1/2022		VHB	
Village	Juniper Ridge Road	BR0453	BETTER ROADS	VTRANS	$ 11,566.00	20	$ 2,892.00	Town Stormwater Capital Fund	$ 14,458.00	Stabilize outfall 1154	Road Erosion Inventory	Chelsea Mandigo/ Jim Jutras	ACOE non-jurisdiction request; PW will construct project	Spring 2019	6/30/2019			
Town	Cul-De Sac Retrofit	CA0536	VTRANS TAP	VTRANS	$ 271,138.38	20	$ 67,785.00	Town Stormwater Capital Fund	$ 338,923.38	Cul-de-sac Retrofit with infiltration systems, phosphorus removal in both Town/Village	FRP based project	Annie Costandi/ Dennis Lutz	Alternatives chosen based on cost & P removal estimates		12/31/2022		Stantec/Stone	
Village	Vacuum Truck	Not Assigned yet SFY2018	VTRANS TAP	VTRANS	$ 283,000.00	20	$ 56,600.00	Village Rolling Stock	$ 339,600.00	Replace Vacuum truck with one has larger capacity tank. To be used in both Village/Town	NO	Chelsea Mandigo/ Jim Jutras	Awarded Agreement Pending					
Town	Road Management Plan	BR0566	BETTER ROADS	VTRANS	$ 8,000.00	20	$ 1,600.00	Town Stormwater Capital Fund	$ 9,600.00	Develop Road Management Plan based on CCRPC road erosion inventory	MRGP	Annie Costandi/ Dennis Lutz	Sub grant agreement signed, need to draft RFQ		12/31/2019			
Town	Brigham Hill Road	N/A	Grants-in-Aid Program	DEC/CCRPC	$33,375.00	20	$8,344.00	Town Stormwater Capital Fund	$41,719.00	Implement BMPs on HCR segments to meet compliance with the MRGP standards	MRGP	Annie Costandi/ Dennis Lutz	Project Location: Brigham Hill. Contractor requested winter shutdown. Amendment to contract ensures work will be completed prior to June 1, 2019	Spring 2019	6/30/2019		Blue Mountain Excavating	
Village	Densmore Drive Culvert Assessment	N/A	Unified Planning Work Plan FY19	CCRPC	$12,448	20	$3,112	Village Capital Fund	$ 15,560.00	Analysis of culvert size replacement of 2 culverts on Densmore Dr. that Indian Brook passes through	No, Capital Fund Road Rebuild Project	Chelsea Mandigo/ Jim Jutras	30% design completed for review	N/A	6/30/2019		Watershed Consulting Engineers	

MERGER PROJECT MANAGER
(Long-term, temporary, part-time)

FLSA STATUS: **Hourly**

UNION: **Non-union**

LEVEL: **Management**

REPORTS TO: **Unified Manager**

SALARY RANGE: **$30-$40/hour**

WORK HOURS:

In general, the regular work hours per week are between the hours of 7:30 a.m. to 4:30 p.m. Monday through Friday. However, hours may vary depending upon needs of the municipality. Attendance at Village Board and Selectboard meetings as required. This position will be based out of the Village Offices at 2 Lincoln Street.

OBJECTIVE/PURPOSE:

This is a long-term, temporary part-time position with a primary focus on merger related project work. This is an executive level position in the Manager's department for the purpose of specific project work related to the merger of the Town of Essex and the Village of Essex Junction.

This position is established for twelve months in June 2019 and will be re-evaluated in May 2020 for a possible six month extension through November 2020. The position will then be re-evaluated in November 2020 at which time the result of the merger vote will be known.

ESSENTIAL FUNCTIONS:

- Project manager for merger related projects. Maintain, and assist in creation of, the master merger plan, which includes all of the organization's discrete projects in process or in the queue related to merger. Track and manage the status, timeline and progress of each project on the list.

- Coordinate and oversee merger related projects. Including, but not limited to, researching past Essex merger efforts, creating talking points and fact sheets, community outreach and engagement, working with the Governance Subcommittee, and drafting official documents.

- Develop, implement, and oversee new and existing methods for community outreach to include social media, local news and media outlets, community events, and Town and Village websites.

- Serve as a backup for the Unified Manager, Deputy Manager and Finance Director/Assistant Manager as needed. Assist with the preparation of agendas and packet materials for various board meetings as needed. Assist the Human Resources Director with tasks requiring confidentiality and discretion.

- Prepare reports, studies and legislative research as directed by the Unified Manager; attend meetings and presents reports as required.

- Plan, design and supervise studies and the preparation of reports on various major organizational, operational or policy problems as assigned.

- Other duties as assigned.

KNOWLEDGE, SKILLS, AND ABILITIES

- Working knowledge of municipal operations, including budgeting.
- Knowledge of state law as it pertains to municipalities.
- Ability to communicate with tact and patience, both orally and in writing, with a wide range of interests including the general public, the media, state and federal agencies, other municipal governments, and all members of the municipal departments and officials.
- Ability to control a wide range of confidential information. Skill in computer applications, particularly the Microsoft Office suite.
- Must be able to accept constructive criticism and have the ability to communicate and work well with others.

EDUCATION AND EXPERIENCE

- Bachelor's degree in political science, public administration or related field; master's of public administration desirable.
- Two years in management-related field.
- Experience in municipal government in Vermont desirable.

PHYSICAL AND MENTAL DEMANDS:

Physical Demands

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Inability to meet one or more of these physical or mental requirements will not automatically disqualify a candidate or employee from the position. Upon request for a reasonable accommodation, the organization may be able to adjust or excuse one or more of these requirements, depending on the requirement, the essential functions to which it relates, and the proposed accommodation.

* Note: In terms of an 8 hour workday, "occasionally" equals 1% to 33%, "frequently" equals 34% to 66%, and "continuously" equals 67% to 100%.

Physical Effort	Never	Occasionally	Frequently	Continuously
1. Work in a Stationary Position				X
2. Move/Traverse		X		
3. Bending Over		X		
4. Operate, Activate, and Use objects, equipment, etc.				X
5. Ascend/Descend stairs, equipment, etc.		X		
6. Position self (to) move		X		
7. Reaching Overhead		X		
8. Pushing or Pulling		X		
9. Communicate/Converse with other individuals				X
10. Detect/Perceive/Identify				X
11. Repetitive use of hands/arms				X
12. Grasping			X	
13. Move, Transport, Position, Remove				
10 lbs. or less				X
11 to 25 lbs.		X		
26 to 50 lbs.		X		
51 to 75 lbs.	X			
76 to 100 lbs.	X			

Mental Demands

Mental Effort	Never	Occasionally	Frequently	Continuously
1. Thinking analytically				X
2. Communication				
Using effective verbal communication				X
Using effective written communication				X
3. Handling stress & emotions				X
4. Concentrating on tasks				X
5. Remembering details				X
6. Making decisions			X	
7. Adjusting to changes			X	

8. Examining/observing details				X

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- The noise level in the work environment is typical of the modern office, and is generally quiet to moderately noisy.
- The work environment is typically moderate in temperature. Some outside work is required.

DISCLAIMERS

- The above information is intended to describe the general nature of this position and is not to be considered a comprehensive statement of duties, activities, responsibilities and requirements. Additional duties, activities, responsibilities, and requirements may be assigned, with or without notice, at any time.
- This job description is not an employment contract nor is it a promise of work for any specific length of time.

EQUAL EMPLOYMENT OPPORTUNITY

The Town of Essex is an Equal Employment Opportunity employer.

EMPLOYEE ACKNOWLEDGEMENT

I have received and understand the requirements, essential functions and duties of this position.

_____ _____

Employee Signature Date

_____ _____

Supervisor Signature Date