CHITTENDEN COUNTY RPC
Communities Planning Together

CCRPC Long Range Planning Energy Sub -Committee

AGENDA

*=attached to agenda in the meeting packet

DATE: Tuesday, March 21, 2017

TIME: **5:00 p.m. to 7:00 pm**

PLACE: CCRPC Office, 110 West Canal Street, Suite 202, Winooski, VT.

1. **Welcome + Introductions** *(5 minutes)*

2. **Review Minutes*** *(5 Minutes)*
   The January 31st minutes were revised based on a committee members feedback. The Committee will review these changes and consider them for approval. The Committee will also review the February 21st minutes and consider them for approval.

3. **Presentation on New Public Service Department Guidance for Writing Enhance Energy Plans** (45 Minutes)
   CCRPC Staff will present the latest Department of Public Service guidance for regional energy planning. While the standards have not changed, this presentation will include an overview of new information provided in the guidance, as well as issues the committee needs to discuss further:

   - Utility-scale wind targets
   - Assigning an acreage equal to the production of 1MW of solar and wind energy, to be used in estimates (see table 1 attached)
   - Defining preferred locations for generation
   - Discussing energy planning pathways that CCRPC will meet with our own actions (ex. planning for reduced energy use) vs. those that we will meet through partnering with others (ex. promoting heat pumps)

   The new guidance can be found here:
   http://publicservice.vermont.gov/sites/dps/files/documents/Pubs_Plans_Reports/Act_174/Regional%20Guidance_Final.pdf

4. **Regional Solar + Wind Targets, Solar Town Targets** *(45 minutes*
   Staff will review the solar targets allocations to municipalities see table 2 and update the Committee on the status of mapping known local constraints see table 3. Staff will also show draft maps that have been developed. These will be made available at the meeting.

5. **Update on LEAP modeling** *(15 minutes)*

6. **Next Steps** *(5 minutes)*
Next Meeting April 18th

CCRPC Long Range Planning Energy Sub -Committee

~~Draft~~ Revised Meeting Summary

Tuesday, January 31, 2017

Attendees:
Irene Wrenner, Town of Essex
Robin Pierce , Essex Junction
Catherine McMains, Chair, Jericho
Matt Burke, Charlotte
Keith Epstein, South Burlington
Jeff Forward, Richmond
Karen Purinton, Colchester
Sharon Murray, Bolton

Staff:
Eleni Churchill, Transportation Program Manager
Marshall Distel, Staff Planner
Regina Mahony, Planning Program Manager
Melanie Needle, Senior Planner
Emily Nosse-Leirer, Staff Planner

1. Review Minutes from the December 20, 2016 meeting

Jeff Forward motioned and Karen seconded. The minutes were accepted with some name spelling corrections.

2. Review Regional Energy Plan Schedule* (*5 minutes)*

Melanie Needle discussed the schedule for the plan going forward, noting that there has been a significant delay in data analysis due to the raw data being unavailable from the State.

Jeff Forward asked how the committee intended to function on making key decisions in the future—if there are disagreements, is this a majority vote system or a process of working towards consensus? When the plan is done, how will the committee "approve" it? Melanie explained that this group is a subcommittee of the Long-Range Planning Committee, and the Energy Subcommittee will reach consensus on this document to the greatest degree possible, recommend it to the Long Range Planning

Committee and then the LRPC will recommend it to the Board, which will vote on it. Jeff reiterated that he feels strongly that the committee be able to have a serious discussion about the maps and generation allocations.

Sharon Murray asked how this plan will be incorporated into the ECOS plan, and Regina Mahony explained that the best way to do this will likely be to include the analysis as part of Chapter 4 in the ECOS Plan and to include relevant policies in Chapter 2 and 3.

Matt asked for clarification on the Energy Planning Training that will be held on May 11, 2017, and what its purpose is. Melanie explained that the training will present the full draft of the plan and that the training is late in the process to ensure that all local-level data will be available from VEIC. Keith Epstein asked who will be doing the training from VEIC, and Melanie said she would provide that information.

3. **Act 174 Technical Assistance Project + VEIC Transportation Energy Project Update**

Melanie mentioned that CCRPC staff will be working with several municipalities to provide technical assistance to help them comply with Act 174. General technical assistance will be breaking out the baseline energy data and targets by town, and a deeper level of analysis will be conducted for Shelburne, Colchester, and Winooski. The Act 174 training funding is only sufficient to cover the assistance for three towns. When we polled the communities through the Planning Advisory Committee these are three towns that expressed interest as they are starting an update to their town plans. ~~However, for other municipalities,~~ Northwest RPC will prepare a compendium of best practices from all the regions (ex: sections, maps and pathways) as a useful resource. This will be made available to all towns, especially those that were not able to take advantage of the Act 174 technical assistance. ~~.~~

Vermont Energy Investment Corp. (VEIC) will run 2 scenarios using the Long-range Energy Alternative Planning (LEAP) tool to model changes in mode shifting and the Metropolitan Transportation Plan projects ~~(mode shifting and MTP).~~ These two scenarios will allow for a better level of analysis to examine transportation energy use between now and 2050. The scenarios will incorporate the use of the population forecasts that are being developed for the regional plan, bringing important consistency to the analysis in the plan. VEIC will also analyze preferred scenarios from the MTP to see if those scenarios will get the region to 90% renewables by 2050. VEIC will also revise the natural gas use projections to make them more realistic compared to what Vermont Gas is planning.

4. **Regional Solar + Wind Targets, Solar Town Targets, Draft County Maps*, Update on Local Constraint Mapping Process *** *(40 minutes)*

Melanie explained that new statewide energy resource data and our regional targets was made available to us on 1/17. Those data were used to develop the draft solar targets at the municipal level for all towns (see table below). CCRPC staff determined the solar targets for each town by averaging each town's share of the county's population with each town's share of the "prime" resources. Melanie was only able to process the local constraints for ~~three test towns:~~ Colchester, Jericho and Essex to determine if the local constraints prevent a town from meeting their estimated target. ~~.~~

~~Determining the division of generation between municipalities was done by averaging each town's share of the county's population with each town's share of the "prime" resources.~~

	Population		Prime Solar												
Town Name (bold means local constraint received)	Population	County Share	Prime Solar (acres)	Prime Solar Resource Share	Average Pop + Resource Share	Low Range Solar MW	High Range Solar MW	Low Range Prime Target (Acres)	High Range Prime Target (Acres)	Local Known Constraints on Prime	Local Possible Constraints on Prime Solar (TD(	Preferred Area	Prime Solar - Local Constraints	Accommodate Constraints
Buels gore	39	0%	9	0%	0%	0	0	1	1					
St. George	764	0%	63	1%	0%	1	1	7	12					
Bolton	1,236	1%	197	2%	1%	2	4	17	29		14.46		182	
Huntington	1,875	1%	411	3%	2%	4	7	33	54					
Winooski	**7,223**	**5%**	**157**	**1%**	**3%**	**5**	**9**	**43**	**70**					
Richmond	4,115	3%	556	4%	4%	7	11	52	86					
Essex Junction	9,709	6%	168	1%	4%	7	11	55	91					
Underhill	3,061	2%	924	7%	5%	9	14	69	113					
Shelburne	7,566	5%	583	5%	5%	9	14	70	114					
Westford	2,013	1%	1,069	9%	5%	9	15	73	119					
Jericho	5,043	3%	918	7%	5%	10	16	78	128	211			707	YES
Charlotte	3,822	2%	1,051	8%	5%	10	16	80	131					
Williston	9,054	6%	1,011	8%	7%	13	21	102	167					
Milton	10,610	7%	961	8%	7%	13	22	107	175					
South Burlington	18,536	12%	339	3%	7%	13	22	107	175					
Hinesburg	4,472	3%	1,539	12%	8%	14	23	112	184					
Essex Town	10,710	7%	1,196	10%	8%	15	25	121	198	20,520		13.23	(9,810)	NO
Colchester	17,293	11%	836	7%	9%	16	27	131	213	479	7,613		357	YES
Burlington	42,570	27%	585	5%	16%	29	48	234	382					
Total	**159,711**		**12,573**	**100%**	**100%**	187	305	**1,494**	**2,443**					
Totals provided by DPS/BCRPC			12,578*			186.8	305.4		2,443					

Jeff asked whether issues such as 3-phase power availability was analyzed in these maps, and Melanie said that because these have been based on state analysis, it was not analyzed here but could be in the future.

Keith mentioned that he thought the figure of 1 MW per 8 acres was too small, and thought it was closer to 1 MW per 3-5 acres. Melanie mentioned that 1 MW per 8 acres is based on Northwest's calculations, and that she would look into different estimate styles. After the meeting Keith followed up with a response saying that "the 8 acres per MW is in fact a good estimate" and he provided a reference: http://segroup.com/projects/ferrisburgh-solar-farm/

Sharon mentioned that the siting committee analysis may be useful.

Keith wanted to know whether renewable energy potential on rooftops and other impervious surfaces is analyzed here, and Melanie said it was not. The committee wants to see that analysis done here so that the plan can explain why it is impossible or not to meet the energy goals with rooftop solar only.

Melanie reiterated that existing wind and solar are based on where projects are sited, but does not consider where the electricity is used or where the RECs are sold. She will confirm that the existing capacity reported includes all types of projects, including net metered.

Keith mentioned that the capacity factor varies extremely in wind generation depending on location, and so the target should be measured by energy (KWh) rather than power (KW).

Melanie used the state methodology of averaging town share of population with town share of prime energy resource to develop a municipal generation target (see above table).

Jeff asked that in the future, it be reported what percentage of its goal each municipality is meeting.

The committee was concerned about this methodology, because the land mass of a municipality has nothing to do with its energy needs. However, the committee also agreed that to develop a methodology to weight things appropriately would be a difficult task.
Robin Pierce made the point that the raw numbers do not show the relatively value of different parcels of "prime solar" land. Regina Mahony said that these tables are intended to be viewed with the maps, which do "prioritize" different areas.

Committee members agreed that instead of the just averaging the population and solar/wind resource, electricity consumption should be added as well to account for towns that have higher energy demands. It could also be interesting to look at areas available within 1 mile of 3 phase power by town, or substation capacity if possible.

Melanie concluded by warning that not all towns will be able to meet their targets given the level of constraints that some towns proposed, and wanted to know the committee's opinion. Talking to the towns is a best first move, but it's important to look at all factors, and this is an issue that will need more discussion in the future.

5. **Review of draft Regional Energy Plan Strategies**
   Emily Nosse-Leirer reviewed the regional energy plan draft strategies with the Committee to identify what should be maintained, edited, and to identify any missing language.

   The Committee's discussion began with the suggested strategies that meet Act 174's energy compliance standard 6A. Matt Burke explained his suggestion for a strategy that enables aggregated procurement of renewable energy supplies. He told the Committee that this is an example implemented in California and will look into this in more detail for Vermont.

   The Committee had a lengthy discussion on the energy retrofit time of sale ordinance and its relevance to the Regional Plan. More clarity is needed to understand how town plans would be reviewed in light of the new enhanced energy plan requirements. Staff does not want to make the bar so high that towns can't achieve a positive determination and recognizes that a balance needs to be struck.

   Robin Pierce expanded the suggested strategy of developing a property owner and user conservation manual. He explained that this it could be a document that tells someone how to operate a home with energy efficiency in mind.

   Jeff Forward suggested that "Provide financial incentives for energy efficiency" be replaced with "encourage an uptake of incentives for energy efficiency" Keith Epstein introduced the idea of an Energy Service Company (ESCO) and wondered if one strategy could be CCRPC facilitating an ESCO contract to introduce opportunities for building energy efficiency. Sharon Murray added that this

aligns with town's ability to enter into inter municipal agreements with RPCs. McMains offered that the Jericho Energy Task Force is working on being a clearing house for the financial incentives available for residents to make their homes more efficient.

6. **Next Meeting February 21st, 2017**

CCRPC Long Range Planning Energy Sub -Committee

MINUTES

DATE: Tuesday, February 21, 2017

TIME: **5:00 p.m. to 7:00 pm**

PLACE: CCRPC Office, 110 West Canal Street, Suite 202, Winooski, VT.

Committee Members:
Irene Wrenner, Town of Essex
Robin Pierce , Essex Junction
Catherine McMains, Chair, Jericho
Keith Epstein, South Burlington
Jeff Forward, Richmond
Karen Purinton, Colchester
Sharon Murray, Bolton

Staff:
Eleni Churchill, Transportation Program Manager
Marshall Distel, Staff Planner
Regina Mahony, Planning Program Manager
Melanie Needle, Senior Planner
Emily Nosse-Leirer, Staff Planner

Presenters:
Dave Roberts, VEIC

1. **Welcome + Introductions** *(5 minutes)*

No changes were made to the agenda.

2. **Review Minutes from the January 31, 2017 meeting*** *(5 Minutes)*
A few small edits were made and the minutes were accepted.

3. **VEIC Presentation on Transportation Energy**
VEIC Staff presented their research findings on areas that are comparable to our region in terms of size, but which have seen a decrease in vehicle miles traveled. This research will inform how the LEAP inputs for transportation are revised to help us understand the impacts alternative transportation modes have on achieving the 90X2050 goal. The presentation can be accessed on the CCRPC website.

The purpose of reviewing this model again is to examine whether land use and transportation infrastructure choices in the future may lead to a decrease in Vehicle Miles Traveled (VMT) per capita between now and 2050.

Keith Epstein raised a question regarding whether the calculations regarding thermal energy use in the LEAP model anticipated the fact that Vermont's energy codes will continue to become more stringent over time. Dave Roberts suggested that Kate Desrochers would be a better person to answer that question.

Keith asked whether there are specific studies showing regional comparison of gas costs and VMT. Dave said that he is not aware of region-comparison studies, but that historical data show that higher gas prices lead to fewer VMT. However, Catherine raised the point that the alternate is also true, and that transit ridership drops and driving increase as gas prices go down.

Karen Purinton made the point that calling for efficiency in transportation first is important, because there are no guarantees that the electricity use that powers transportation will be from renewable sources (i.e. driving an electric car powered by electricity from a natural gas power plant is still using non-renewable energy). Dave agreed, and showed a slide showing that a VMT decrease leads to almost a 1-to-1 decrease in transportation energy use, even if no other fuel changes are modeled.

Dave asserted that Boulder, CO may be the best comparison for the Burlington area's aspiration, even though the Duluth MN area is closer in terms of population and other statistics.

Dave described that autonomous vehicles have potential to increase or decrease VMT due to various factors, but that many environmental groups have serious concerns about potential increases in VMT from automation.

Melanie Needle asked what the ownership model of autonomous vehicles is expected to be. Dave replied that it remains to be seen, but by 2050, there is potential for autonomous vehicle ownership by both individuals and ride-sharing companies. Discussion ensued.

Eleni Churchill mentioned that CCRPC staff will be presenting more transportation modeling in the future, and that one scenario will consider autonomous vehicle usage. Eleni also asked if the Long-range Energy Alternative Plan (LEAP) model will take into account the VMT reductions that are shown in CCRPC modeling, and Melanie confirmed that they would be. Dave said that he thought a 1/3 reduction in VMT (to be in line with Boulder CO) would be very aspirational. Later, Melanie asked whether modeling the MTP scenario in terms of VMT might be possible and useful for the energy plan. Discussion ensued regarding the non-coordinated deadlines for the MTP and the first draft of the energy plan.

Melanie asked how many EVs would be needed if VMT was decreased by 1/3. Dave said that there

might be a 1/6 reduction in EVs if there were a 1/3 reduction in VMT.

Melanie asked whether it makes sense to revise the LEAP model to be more consistent with the VMT per capita we are currently experiencing in Chittenden County. Dave said that is certainly feasible given that the VMT seen in the Boulder, CO example would be very aspirational.

Keith asked whether the model factors in where charging will take place. Dave replied that this depends greatly on EV mileage ranges, but almost all charging will take place at home, with some at work. A very small percentage of charging takes place in public places.

Melanie mentioned that it would be useful to see the predicted VMT reduction in comparison to the 90x2050 projections, since it might lead to changes elsewhere in the model.

A white paper on this subject will be available from VEIC within the week.

4. Regional Solar + Wind Targets, Solar Town Targets *(30 minutes)*

Melanie described how she created a new "share" of electricity production for each town based on an additional factor: electricity consumption. As anticipated, several cities (Burlington, South Burlington, and Williston) have larger proportions once consumption is included.

The committee discussed whether impervious surface should be removed from calculations of the solar share. Keith suggested that a useful approach might be to use different solar panel densities for developed/on-building versus undeveloped/open land, and to calculate solar potential accordingly. Regina Mahony reminded the committee that there is not unlimited time and effort to spend on coming up with estimates.

Melanie suggested that given time constraints, looking at solar production potential on buildings/impervious surface vs. land based energy potential may not be feasible. Melanie said she will include electricity consumption per capita in the municipal allocation formula. The Committee agrees with this approach.

Melanie also added in proximity to 3-phase power to the calculation of solar production potential for several example towns. Colchester and Jericho would be able to meet their low target for the town's solar production but not the high targets. The committee discussed the pros and cons of expanding 3-phase power. For the next meeting, Melanie will complete this analysis and create a corresponding map, and the committee will continue to discuss. Robin Pierce made the point that looking at a mile within 3-phase power does not take into account the proximity of generation to load. However, Keith made the point that there may not be significant gains in efficiency for proximity when distances are about 50 miles or less.

Regina reiterated that we need to avoid analysis paralysis.

5. Updating the ECOS Plan to meet Act 174 Standards* (30 minutes)

Melanie explained that staff is proposing that we shift away from thinking about developing a standalone Regional Energy Plan and move towards identifying how we need to enhance the current ECOS Plan to meet the Act 174

standards. She added that staff is also proposing that the Climate Action Guide be the resource for providing towns examples of actions they can consider in their planning. However, Regina mentioned that it may be difficult to make edits to the full climate action guide. The committee was supportive of this strategy.

The Climate Action Guide can be found here: http://www.ccrpcvt.org/wp-content/uploads/2016/01/Chittenden-County-Climate-Action-Guide-2014.pdf

Robin reiterated his belief that all energy production should ideally take place on the parcel on which it is used.

6. Next Steps *(5 minutes)*

By April 2017, CCRPC must have municipal energy analysis and targets set. The draft plan is due to DPS in May 31, 2017.

Table 1 MW to Acres Conversion Factor (1 MW per 8 Acres, 1 MW per 60 Acres)

	Average Pop. + Resource Share	Low Range Solar MW	High Range Solar MW	Low Range Prime Target (Acres) 1 MW per 8 Acres	High Range Prime Target (Acres) 1 MW per 8 Acres	Low Range Prime Target (Acres) 1 MW per 60 Acres	High Range Prime Target (Acres) 1 MW per 60 Acres	Prime Solar Acres	Known Local Constraints On Prime Solar	Meet Target with 1 MW per 60 Acres
Buels gore	0.05%	0.1	0.2	1	1	6	9	9.3	0	No
St. George	0.49%	0.9	1.5	7	12	55	90	62.9	0	No
Bolton	1.17%	2.2	3.6	17	29	131	214	196.7	14	No
Huntington	2.22%	4.2	6.8	33	54	249	407	411.4		No
Winooski	2.88%	5.4	8.8	43	70	323	529	156.8		Yes
Richmond	3.50%	6.5	10.7	52	86	392	641	556.3		No
Essex Junction	3.71%	6.9	11.3	55	91	416	679	168.0		Yes
Underhill	4.63%	8.7	14.1	69	113	519	849	923.7	82	No
Shelburne	4.69%	8.8	14.3	70	114	525	859	582.6		No
Westford	4.88%	9.1	14.9	73	119	547	895	1069.1		No
Jericho	5.23%	9.8	16.0	78	128	586	958	918.4	211	No
Charlotte	5.38%	10.0	16.4	80	131	603	985	1051.4		No
Williston	6.86%	12.8	20.9	102	167	768	1,256	1011.0		No
Milton	7.14%	13.3	21.8	107	175	801	1,309	961.1	15	No
South Burlington	7.15%	13.4	21.8	107	175	801	1,310	338.9	7	Yes
Hinesburg	7.52%	14.0	23.0	112	184	843	1,378	1538.7	594	No
Essex Town	8.11%	15.1	24.8	121	198	909	1,486	1195.9	437	No
Colchester	8.74%	16.3	26.7	131	213	979	1,601	836.0	479	Yes
Burlington	15.65%	29.2	47.8	234	382	1,754	2,868	584.9		Yes
Total	100%	186.81	305.4	1494	2443	11,208	18,323	12573.0		

Table 2 Allocating Solar Targets to Municipalities

	Method 1: Allocation based on population and resource share					Method 2: Method 1 + Share of Electricity Consumption					
	Average Pop. + Resource Share	Low Range Solar MW	High Range Solar MW	Low Range Prime Target (Acres)	High Range Prime Target (Acres)	Average Pop. + Resource Share + Electricity Consumption	Low Range Solar MW	High Range Solar MW	Low Range Prime Target (Acres)	High Range Prime Target (Acres)	Difference Between Method 2 and Method 1
Buels gore	0.05%	0.1	0.2	1	1	0.03%	0	0	0	1	-0.02%
St. George	0.49%	0.9	1.5	7	12	0.40%	1	1	6	10	-0.09%
Bolton	1.17%	2.2	3.6	17	29	0.96%	2	3	14	23	-0.21%
Huntington	2.22%	4.2	6.8	33	54	1.66%	3	5	25	40	-0.57%
Winooski	2.88%	5.4	8.8	43	70	3.11%	6	9	46	76	0.22%
Richmond	3.50%	6.5	10.7	52	86	2.83%	5	9	42	69	-0.67%
Essex Junction	3.71%	6.9	11.3	55	91	4.05%	8	12	61	99	0.34%
Underhill	4.63%	8.7	14.1	69	113	3.39%	6	10	51	83	-1.24%
Shelburne	4.69%	8.8	14.3	70	114	4.51%	8	14	67	110	-0.17%
Westford	4.88%	9.1	14.9	73	119	3.46%	6	11	52	85	-1.42%
Jericho	5.23%	9.8	16.0	78	128	4.07%	8	12	61	99	-1.17%
Charlotte	5.38%	10.0	16.4	80	131	4.08%	8	12	61	100	-1.30%
Williston	6.86%	12.8	20.9	102	167	7.72%	14	24	115	189	0.87%
Milton	7.14%	13.3	21.8	107	175	6.65%	12	20	99	163	-0.49%
South Burlington	7.15%	13.4	21.8	107	175	10.87%	20	33	162	266	3.72%
Hinesburg	7.52%	14.0	23.0	112	184	5.59%	10	17	84	137	-1.93%
Essex Town	8.11%	15.1	24.8	121	198	7.43%	14	23	111	181	-0.68%
Colchester	8.74%	16.3	26.7	131	213	9.44%	18	29	141	231	0.71%
Burlington	15.65%	29.2	47.8	234	382	19.74%	37	60	295	482	4.08%
Total	100%	186.81	305.4	1494	2443	100%	187	305	1494	2443	0%

Table 3 Local Constraints Mapping Process

	Population		Prime Solar														
Town Name (bold means local constraint received)	Population	County Share	Prime Solar (acres)	Prime Solar Resource Share	Average Pop + Resource Share	Low Range Solar MW	High Range Solar MW	Low Range Prime Target (Acres)	High Range Prime Target (Acres)	Local Known Constraints on Prime	Local Possible Constraints on Prime Solar	Prime Solar on Preferred Area	Prime Solar minus Local Constraints	Accommodate Constraints	Prime Solar (w/local known constraints) 1 mile from 3 Phase Power	Staff Comments
Buels gore	39	0%	9	0%	0%	0	0	1	1	0						
St. George	764	0%	63	1%	0%	1	1	7	12	0						
Bolton	1,236	1%	197	2%	1%	2	4	17	29	14.46			182	YES	4.5	
Huntington	1,875	1%	411	3%	2%	4	7	33	54							
Winooski	7,223	5%	157	1%	3%	5	9	43	70							
Richmond	4,115	3%	556	4%	4%	7	11	52	86							
Essex Junction	9,709	6%	168	1%	4%	7	11	55	91							
Underhill	3,061	2%	924	7%	5%	9	14	69	113	82			842	YES	119	
Shelburne	7,566	5%	583	5%	5%	9	14	70	114							only provided possible c
Westford	2,013	1%	1,069	9%	5%	9	15	73	119							
Jericho	5,043	3%	918	7%	5%	10	16	78	128	211			707	YES	85	
Charlotte	3,822	2%	1,051	8%	5%	10	16	80	131							
Williston	9,054	6%	1,011	8%	7%	13	21	102	167							
Milton	10,610	7%	961	8%	7%	13	22	107	175	15			946	YES	288	
South Burlington	18,536	12%	339	3%	7%	13	22	107	175	7			332	YES	140	
Hinesburg	4,472	3%	1,539	12%	8%	14	23	112	184	594	201		944	YES	418	
Essex Town	10,710	7%	1,196	10%	8%	15	25	121	198	437		13.23	759	YES	289	
Colchester	17,293	11%	836	7%	9%	16	27	131	213	479	7613		357	YES	177	need to add slope, propo
Burlington	42,570	27%	585	5%	16%	29	48	234	382							
Total	**159,711**		**12,573**	**100%**	**100%**	187	305	**1,494**	**2,443**							
Totals provided by DPS/BCRPC			12,578*			186.8	305.4		2,443							