



CCRPC Long Range Planning Energy Sub -Committee

AGENDA

*=attached to agenda in the meeting packet

DATE: Tuesday, November 28, 2017
TIME: 5:00 p.m. to 7:00 pm
PLACE: CCRPC Office, 110 West Canal Street, Suite 202, Winooski, VT.

Wi-Fi INFO: Network = CCRPC-Guest; Password = ccrpc\$guest

- 1. Welcome + Introductions (5 minutes)**
- 2. Review October 17, 2017 Minutes* (5 Minutes)**
- 3. LEAP Analysis of the ECOS Plan MTP Scenario Presentation * (45 Minutes)**
VEIC Staff will present the LEAP Analysis of the MTP Scenario. Please see the presentation which describes the purpose and components of the MTP Scenario.
- 4. Review Municipal Comments on Local Known Constraints* (20 Minutes)**
The Energy Sub-Committee should discuss Bolton and Williston responses to the Committee's decision on including steep slopes as a possible constraint. Richmond has also made recommendations on including constraints in the ECOS Plan. Please see the comments from these towns in the comment table and attached emails.
- 5. Review Comments on the draft Energy Sections of the ECOS Plan* (20 Minutes)**
Please see the attached spreadsheet for the comments CCRPC has received on draft sections of the ECOS Plan between 10/31/2017 and 11/20/2017. The comment period is open until 11/22/2017 but staff wanted to share the comments to date. The comments highlighted in yellow are the comments which need committee input.
- 6. Municipal Generation Targets* (20 minutes)**
Please see the table which shows each municipality's generation target compared to prime and base solar energy potential.
- 7. Next Steps (5 minutes)**
Next Meeting 12/19/2017



CCRPC Long Range Planning Energy Sub -Committee

Meeting Summary

DATE: Tuesday, October 17, 2017
TIME: 5:00 p.m. to 7:00 pm
PLACE: CCRPC Office, 110 West Canal Street, Suite 202, Winooski, VT.

Attendees:

Jeff Forward, Richmond
Catherine McMains, Jericho
Will Dodge, Essex
Keith Epstein, South Burlington
Melanie Needle, CCRPC Senior Planner
Regina Mahony, CCRPC Planning Program Manager
Emily Nosse-Leirer, CCRPC Planner

1. Review September 19, 2017 Minutes

Jeff asked if all the language tweaks from last meeting made it into the latest draft. Melanie confirmed that they did. Will moved to accept the minutes, Keith seconded and the minutes were accepted unanimously.

2. Discussion of Siting Policy Statements

Melanie stated that the latest draft shows what was discussed at our last meeting, as well as comments and concerns from the board.

- The Department of Public Service appeared to find our action item of establishing a consistent energy code confusing. We will clarify this policy to communicate its intent, which is to standardize the application of stretch codes across development, not just for Act 250 projects or municipalities that have adopted the stretch code for all development. The committee discussed various ways that stretch codes can be implemented, either through Act 250, through municipal adoption of codes, or through linking the stretch codes with certificates of occupancy.
 - The committee discussed the difficulties of enforcing the stretch codes. Who completes the blow door test to make sure the codes are being met? Jeff said that in Richmond, there have been discussions about encouraging people to participate in Efficiency Vermont programs, which incentivize weatherization, instead of requiring codes at the municipal level. Efficiency Vermont also trains contractors very well.
 - Will suggested framing it as “In the absence of universal stretch energy codes...” we will work with municipalities.
 - Keith made the point that “consistent energy code” makes it sound like we would be happy with no energy codes across the board, so we need to clarify that we want a consistent and high level of energy code, or something similar. He also suggested stating the disincentives first.
 - Jeff suggested that we want to go beyond the statewide energy code with all our municipalities.
 - The issue of disincentivizing infill development is a separate issue that wanting all buildings to be high quality and energy efficient.

- The group discussed the policy stating, “encourage renewable energy generation to support publicly owned buildings.”
 - The question was raised as to why this only refers to publicly owned buildings.
 - Melanie explained that the point of this policy is to talk about how renewable energy is a smart fiscal move, and that there are policies explicitly encouraging rooftop solar later in this section.
- The group discussed the policy stating “Support in-place upgrades to existing facilities...”
 - Jeff asked whether we’re only supporting upgrades of existing facilities, or whether we support upgrades to the grid in general, even if that means new transmission lines. Could we say, “support upgrades to existing generation, storage, transmission, and distribution infrastructure” instead? For example, if a solar farm can expand its capacity within its existing footprint, then we would want to support that.
 - Keith mentioned that there is a problem being caused by recent changes to the net metering rules, because people who have existing net metered systems may want to upgrade, but if their rates have been grandfathered at a higher rate, they may end up losing money due to their expansion because they will get the new rates.
 - We may also add storage to our policy on supporting a wide variety of generation. Melanie mentioned that there will be guidance on planning for energy storage coming out from DPS soon that we can draw from.
- The committee agreed that this plan should not discuss policies on renewable energy credits and where they are sold or retired.
- Melanie explained that the introduction to the suitability policies and the suitability policies themselves have been edited to clarify how the policies relate to each other, and how they relate to one another. Will suggested that we use the word “preclude,” and say “inability to meet these guidelines does not preclude the ability to develop renewable energy generation.”
- The committee discussed how to frame policies around what types of wind energy we want in growth centers and areas planned for growth and discussed whether to express the hub height restrictions in meters or feet.
- Jeff raised concerns about whether saying that “field verified” constraints have to be avoided would increase the permitting barriers to small projects.
 - An applicant does not have to interact with the regional planning commission for anything under 15 kW.
 - We definitely don’t want our policies to require field verification if it doesn’t seem like a development will be affecting a constraint
 - The committee discussed whether this policy should be limited to applications that require review, for example under 15 kW under current rules.
 - Regina made the point that municipalities expect that the constraints they’ve added as local constraints will apply to all scales.
 - This problem may be fixed by describing these as “state and local constraints that have been field verified.”
- Melanie and Regina mentioned that we will be working on our policies for how we determine what to comment on, and this will be discussed in the future.

3. Review Municipal Comments

Melanie explained the various municipal comments that we have received from municipalities thus far.

- Hinesburg is seeking a finer level of detail in terms of renewable energy siting, but the committee agreed that these issues are better addressed at a local level.
- The committee decided that local preferred sites should not be specifically identified in the regional plan, because these issues are better addressed at a local level.
- The committee discussed steep slope regulations, and how large a road is needed to build and maintain a wind turbine. Melanie explained that the Bolton Planning Commission wants to keep constraints as known constraints, while staff feel that the constraints are possible constraints. The committee discussed that ski lifts are allowed on their steep slope areas, and these are significant pieces of machinery. Catherine made the point

that we can't have different standards of review for different municipalities, and steep slopes likely are only possible constraints. But Bolton's surface water setbacks are likely known constraints.

- Williston prohibits development on 30% slopes, but there is a variance procedure. The committee thought that this constraint was better suited to the local plan, but should be a possible constraint in the regional plan. Will made the point that the PUC has traditionally seen variances in constrained areas as a reason not to apply those constraints.

4. Generation Targets

- The table will be edited to make sure all the columns were added together appropriately.
- The committee requested that decimal points be eliminated.

5. Review Energy Summary

- Energy will be the first topic that we 'launch' for public outreach and feedback. Staff has summarized the energy planning work into a concise document that we'll use to garner feedback.
- The committee is fine with the draft plan being distributed to the public for comment.

6. Next Steps

- The next meeting will be November 28.



CHITTENDEN COUNTY RPC
Communities Planning Together

Metropolitan Transportation Plan Draft MTP Scenario

CCRPC Board Meeting

November 15, 2017

MTP Purpose

- Region's principal transportation planning document
- Sets regional transportation priorities
- Facilitate efficient intermodal movement of people and goods

MTP Requirements

- Federally-required Long range transportation plan
 - planning horizon of 20+ years
- Evaluate system performance and future needs
- Projects must be in the MTP to be included in the TIP and be eligible for federal funding

Demographic Forecasts

	2015	2050	2015 to 2050 % increase
Population	161,382	183,172	14%
Employment	135,511	182,688	35%
Household	63,498	79,151	25%

Board Approved, March 2017

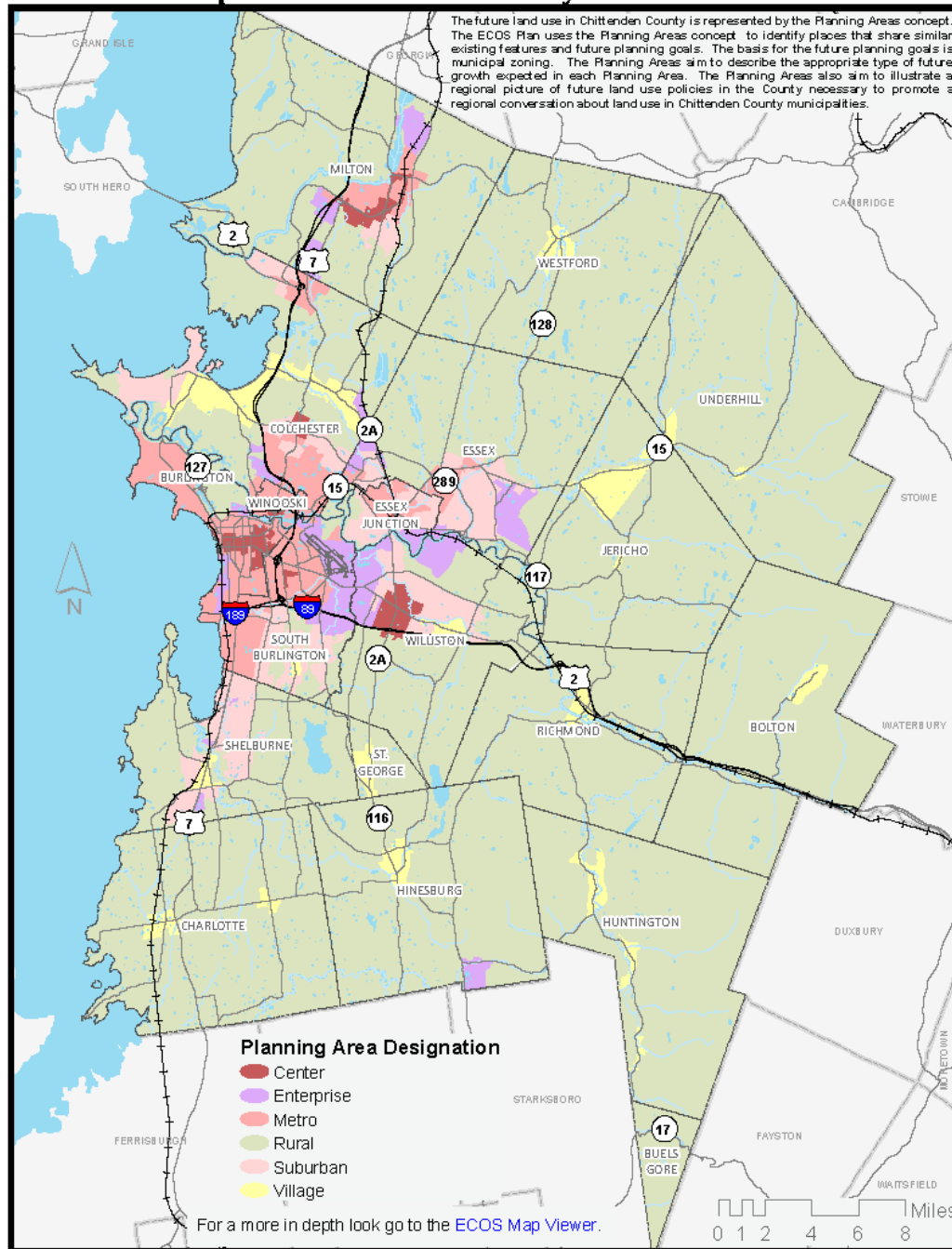
Draft MTP Scenario

- Achieve ECOS Plan Goals:
 - Provide accessible, safe, efficient, interconnected, secure, equitable and sustainable mobility choices for our region's businesses, residents and visitors.
 - Encourage future growth in the Center, Metro, Enterprise, Suburban, and Village Planning Areas to maintain Vermont's historic settlement pattern and respect working and natural landscapes.
- Analyzed several scenarios to achieve best results
- Balance between:
 - Reducing congestion
 - Fixing high crash locations
 - Increasing livability by investing in areas planned for growth

Draft MTP Scenario

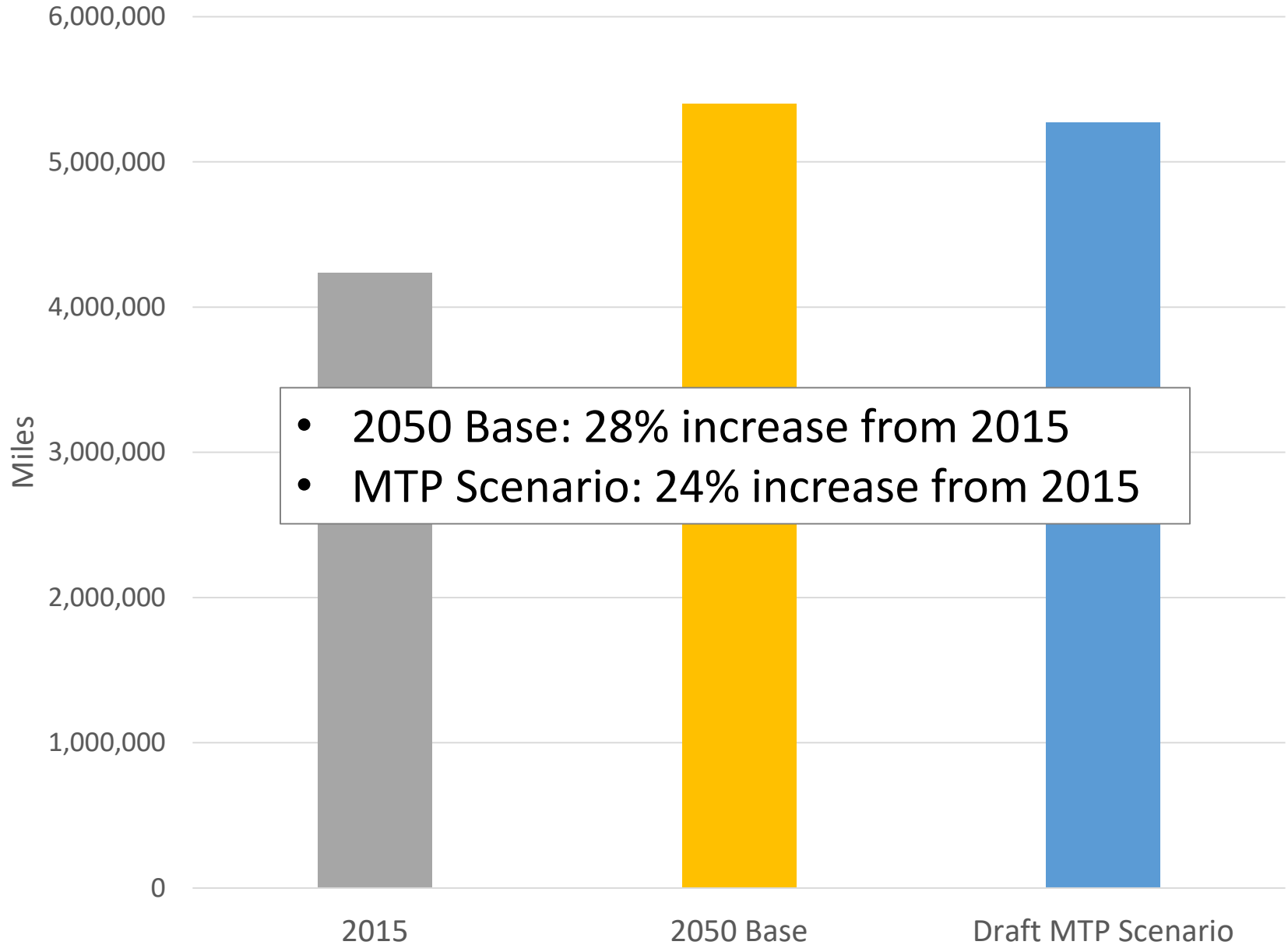
- All TIP Projects
- Third Lane on I-89 between Exits 14 and 15
- Exit 12B placeholder (14, 14N, other?)
 - Future I-89 Scoping Study (Exits 12 to 16?)
- ITS Investments
- Transit enhancements
 - 20 minute headways on all routes, every day
 - New Colchester loop
- Increases in walking/biking
- Land-use concentration
 - 90% of HH growth in areas planned for growth

Map 2 - Chittenden County Future Land Use

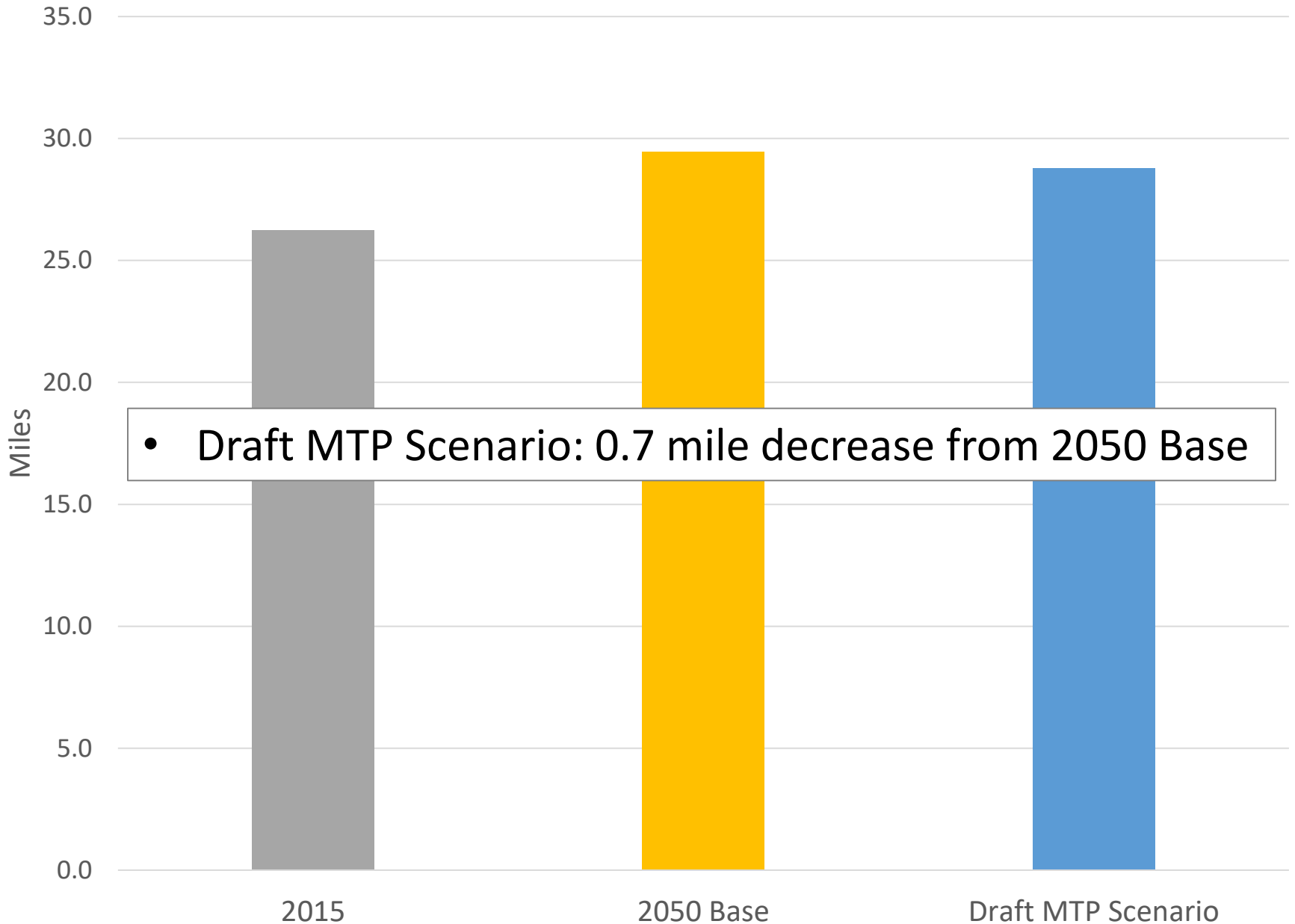


Proposed 2050 Program Allocations for New MTP Improvements			FY00-16 TIP Obligation Percentages
Program Category	Allocations	Percent	
Interstate and Interchange Projects	\$74,300,000	17.7%	73.6%
Multimodal Roadway Improvements: <i>New Facilities/ Major Roadway Upgrades/ Safety/ Traffic Operations/ ITS</i>	\$214,700,000	51.0%	
Bike/Pedestrian/ Enhancement	\$70,000,000	16.6%	14.1%
Transit Expansion	\$40,000,000	9.5%	4.9%
Park & Ride/ Intermodal	\$5,700,000	1.4%	3.5%
Rail	Outside our Fiscal Constraint		3.8%
Stormwater/ Environmental	\$16,000,000	3.8%	0.1%
New Improvements	\$420,700,000	100.0%	100.0%
Total Funding (2050): \$1,744.72 million			
Preservation Projects (Operate & Maintain Transit, Pavement, Bridges): \$1,221.30 million – 70%			
TIP/Capital Program Front of the Book Projects: \$ 102.72 million – 6%			
New Improvements (above): \$420.70 million - 24%			

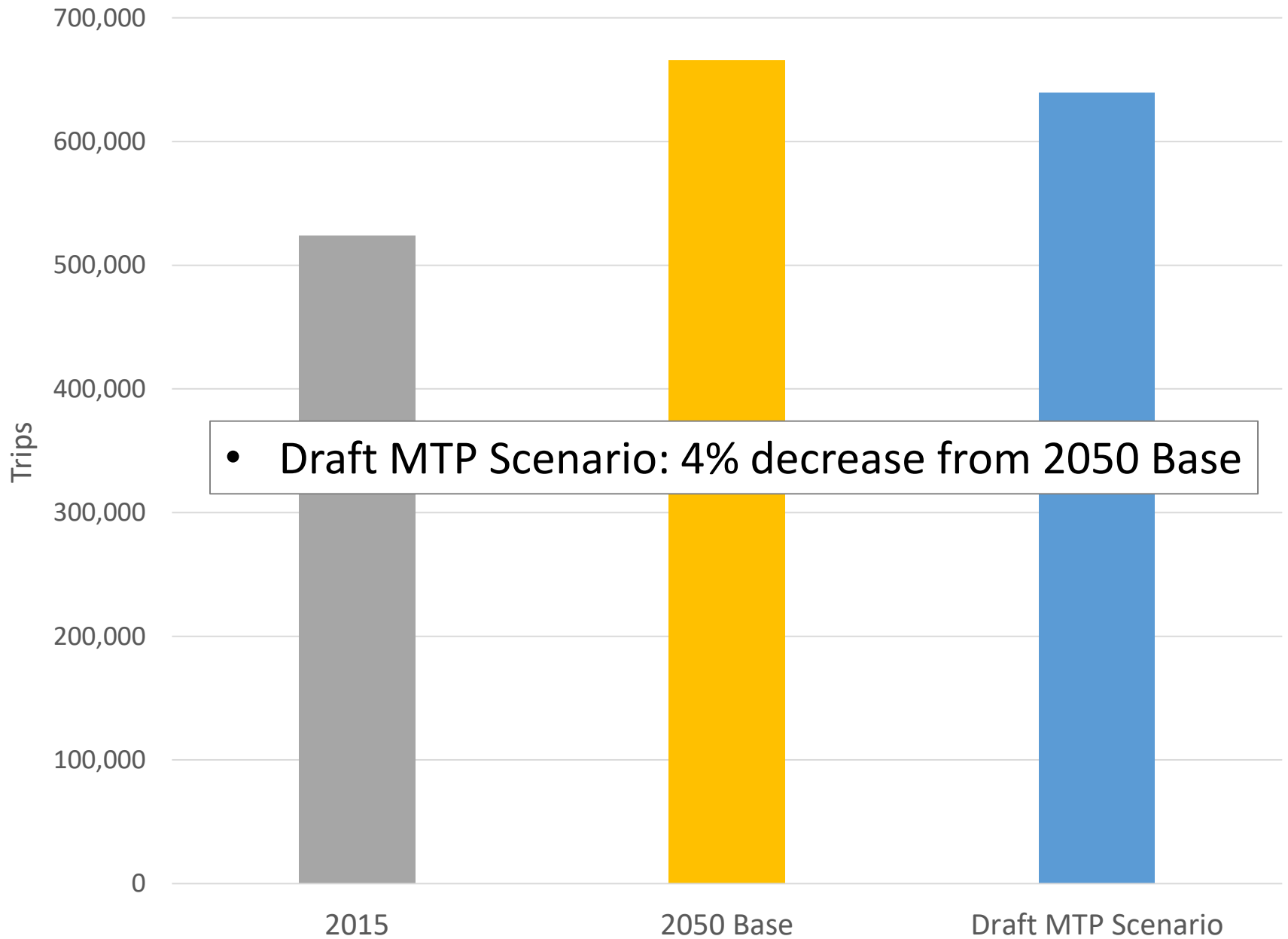
Countywide Daily Vehicle Miles Traveled (VMT)



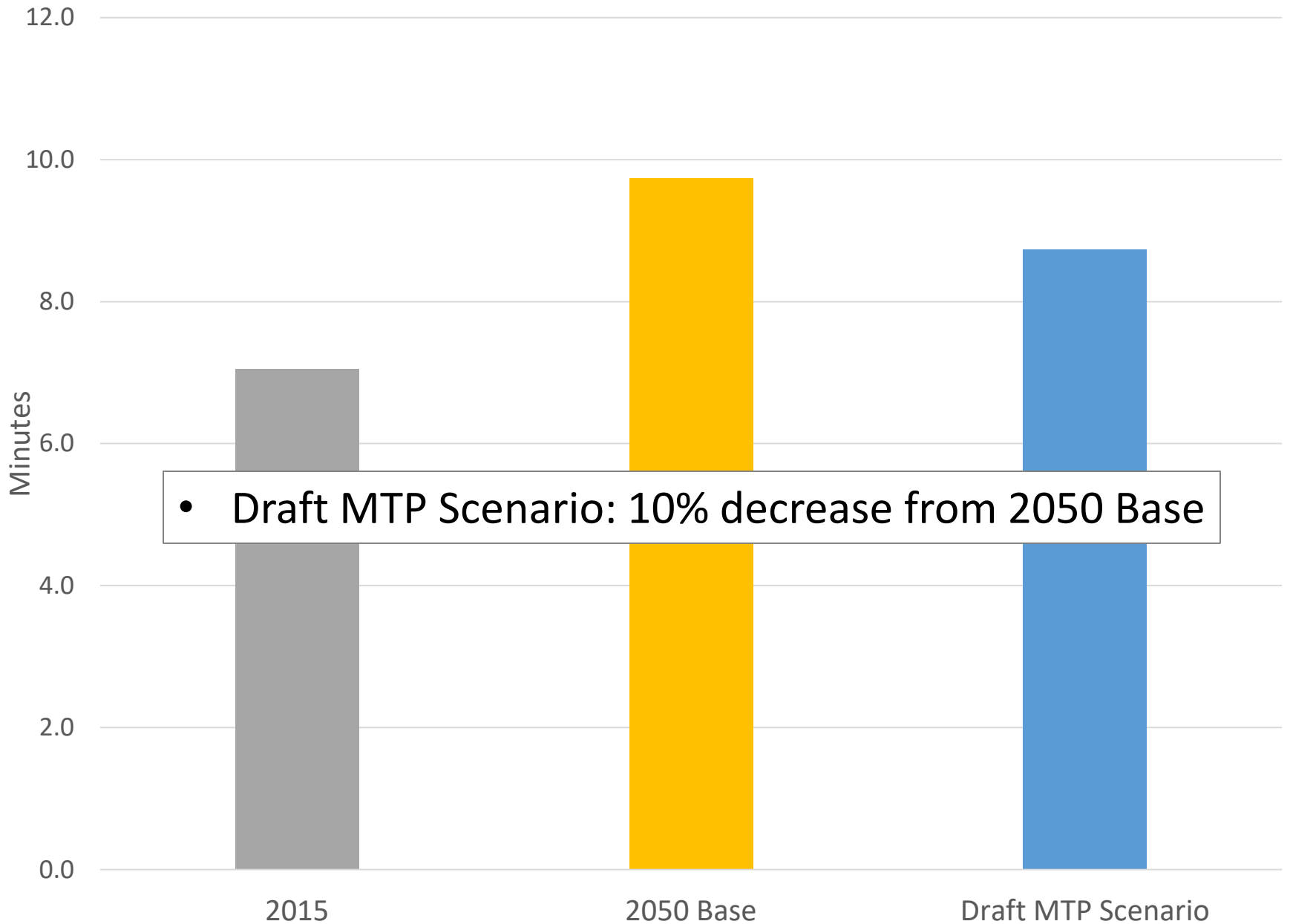
Countywide Daily Vehicle Miles Traveled (VMT) per Capita



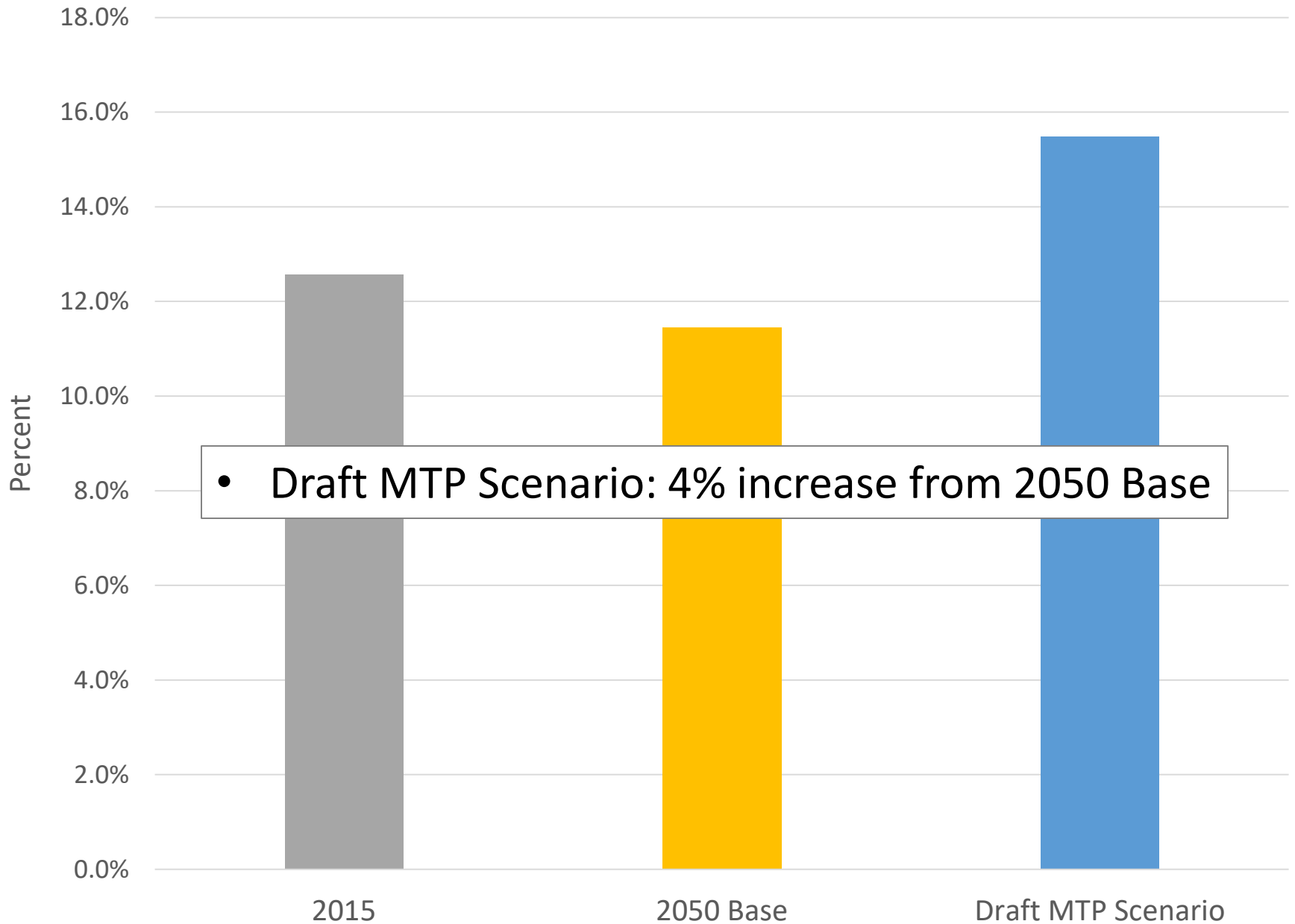
Countywide Daily Total Vehicle Trips



Countywide Daily Delay per Capita



Countywide Daily Transit, Walking & Biking Mode Split

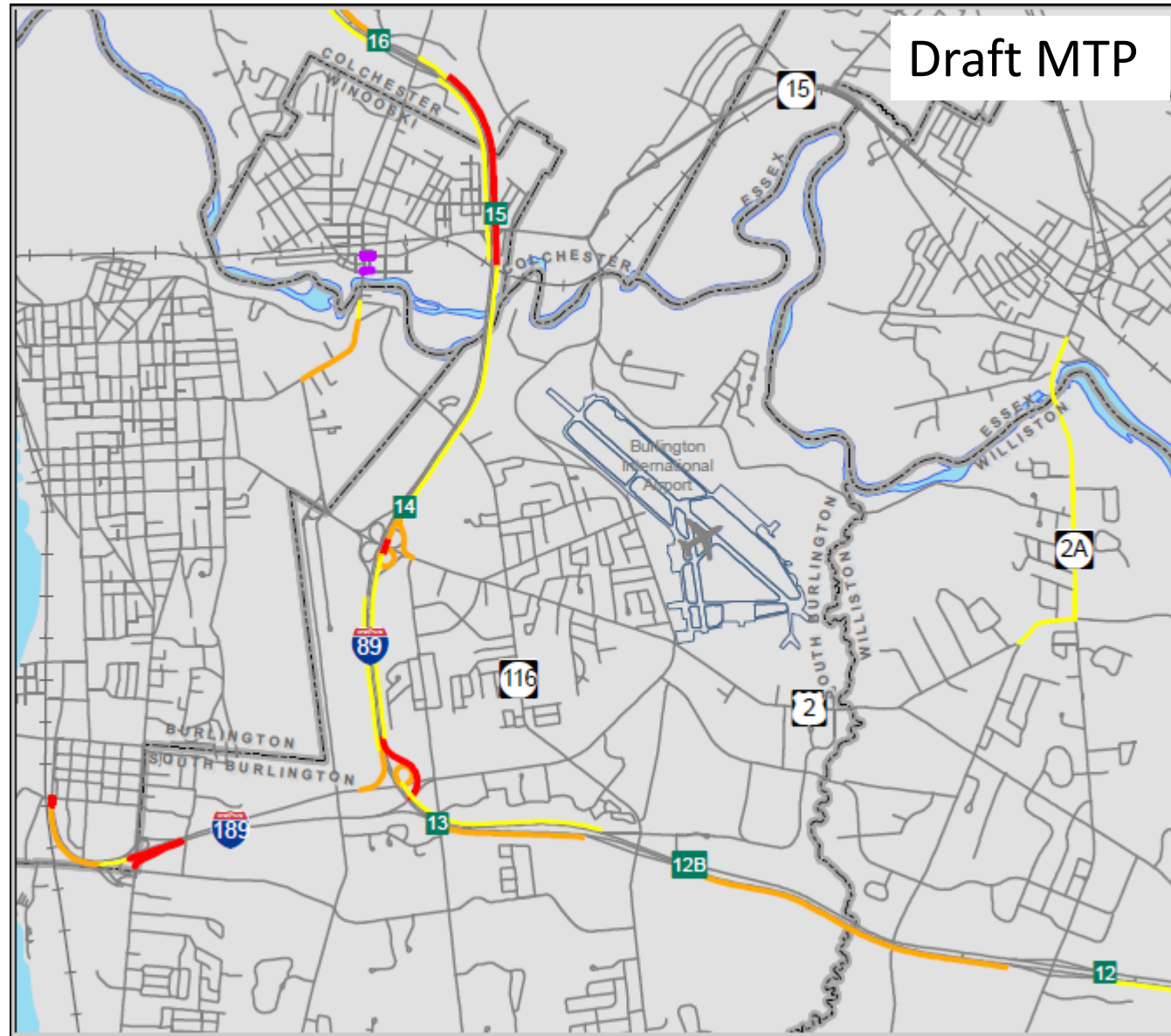


Roadway Capacity

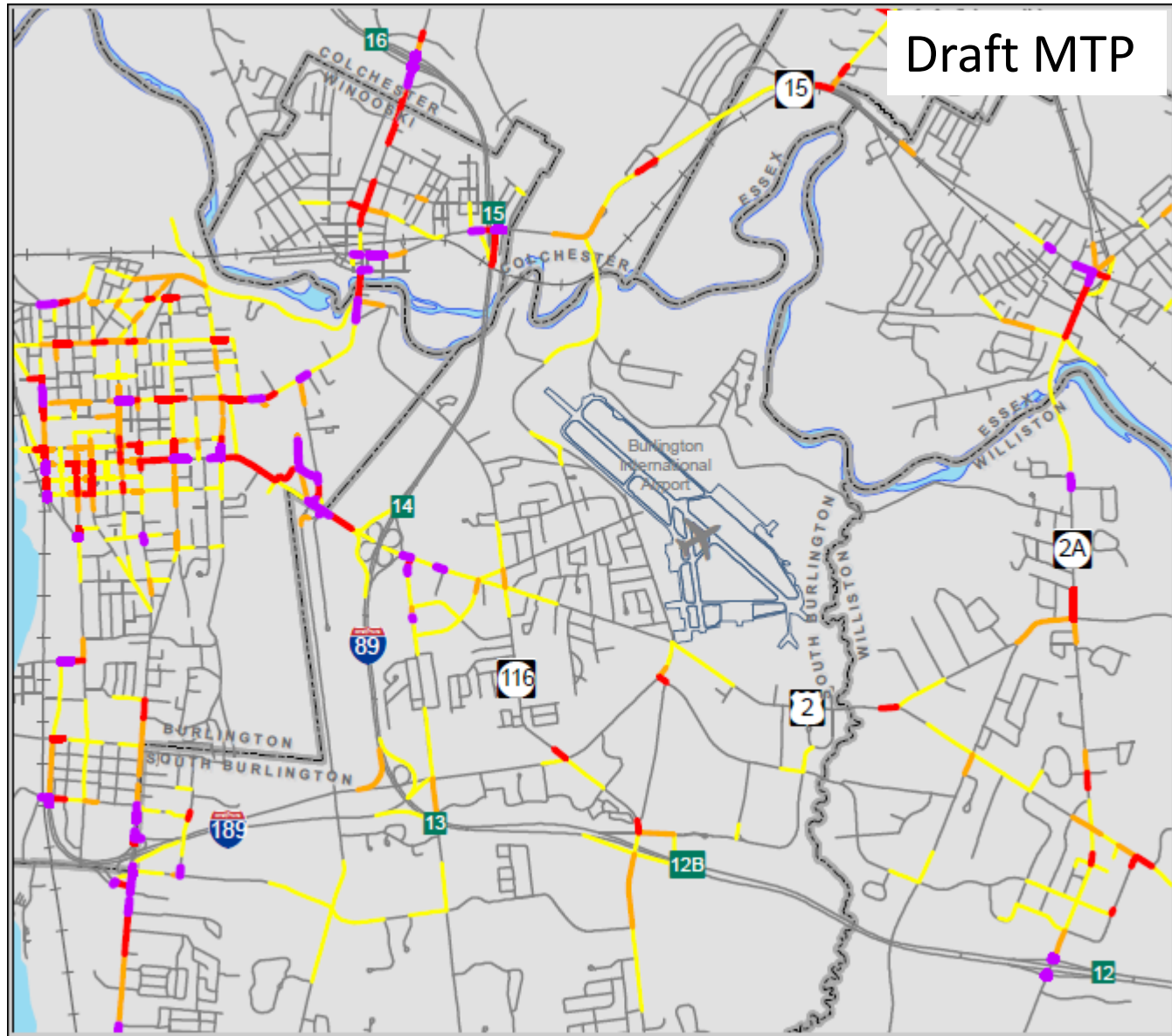
Draft MTP

Congestion Levels (v/c ratio)

- Light Congestion (0.70 - 0.79)
- Moderate Congestion (0.80 - 0.89)
- Severe Congestion (0.90 - 1.00)
- Over Capacity (> 1.00)



Roadway Delay

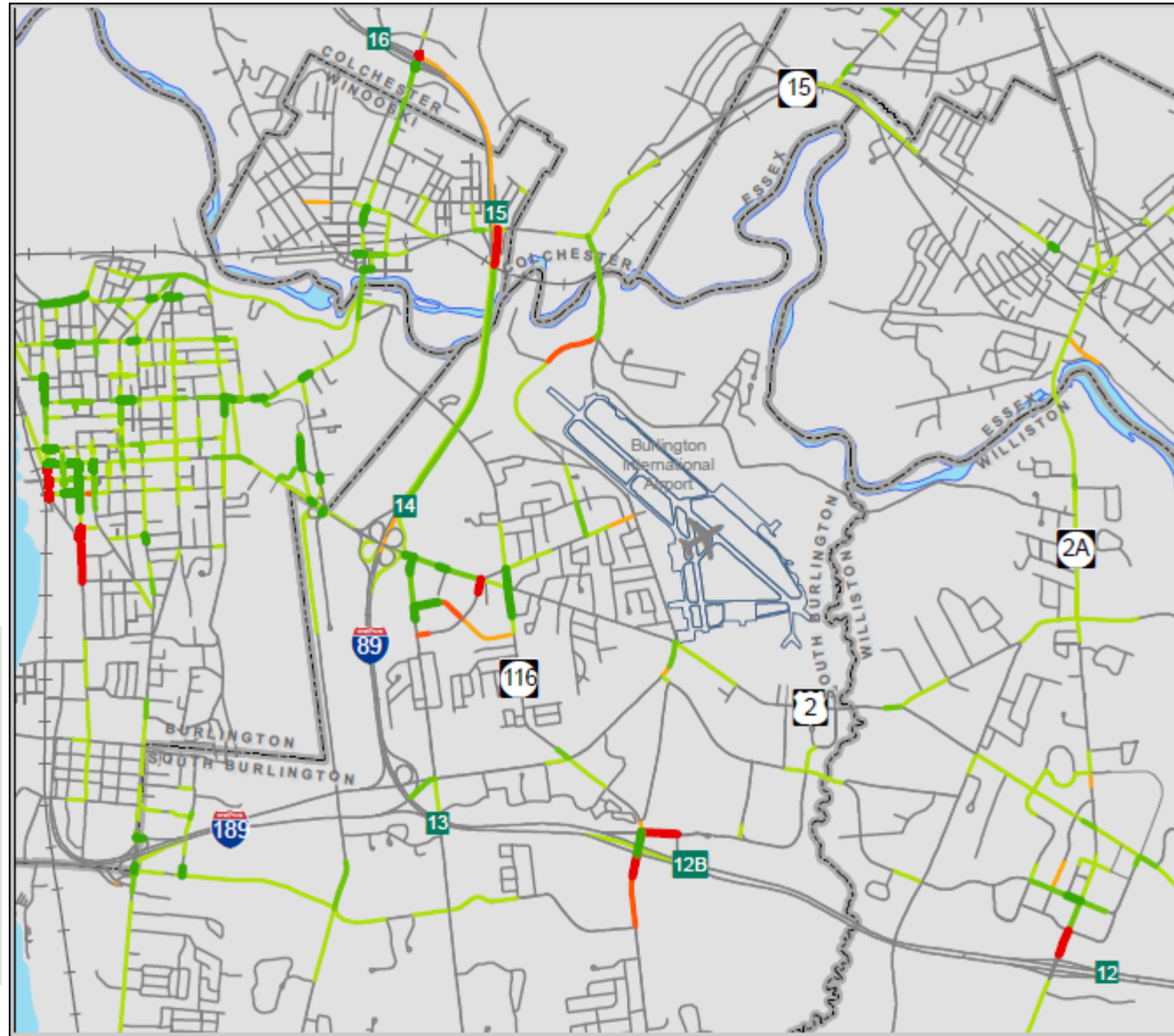


Delay Changes

- 2050 Base to Draft MTP

Decreases (green) & Increases (red)

- High
- Medium
- Low
- Neutral
- Low
- Medium
- High



Summary

- TDM and concentrating land-use reduces auto travel and increases viability of non-auto modes
 - Benefits: Stronger centers, improve health, mobility to underserved populations
- Roadway improvements mainly address localized congestion and safety issues

Committee Discussion

- Increase length of I89 widening vs. local road improvements
- Pursue alternative ways to reduce congestion
 - Transit, HOV lane, Connected Autonomous Vehicles
- Increase funding share for alternative modes

Next Steps

- December/January TAC & LRPC
- VTrans Coordination
- January CCRPC Board
 - Warn Draft ECOS Plan/MTP Public Hearing
- Public Hearings March & May

Comments & Questions

Regina—

Thanks for the clarification from your end... We discussed this again briefly last night (reps from the PC, DRB, CC and SB) and from our perspective ski lifts, though also structures, are not equivalent forms of development in siting, scale or impact to much larger commercial wind towers or telecom towers – especially given that ski lifts aren't accessed/serviced by service roads. Ski lifts by definition aerially traverse/cross pretty steep terrain, but their support structures and pads are small and generally sited on fairly level spots. No service roads are required to install or maintain them. Because of our slopes, most of this type of infrastructure in Bolton has been installed with air/helicopter support; the lifts are then also used more generally to access the upper mountain. There is one grandfathered service road at higher elevation at the ski area— as later approved for improvement by the PSB/PUC to allow for the installation of a met/telecom tower, without input from the town. This can be used/accessed by some off-road vehicles. There is no other vehicular access to our ridgelines.

That said, in recent years we've also dealing with a significant increase in stormwater coming off the mountain from the ski area—it's impacting our roads, neighboring properties and Joiner Brook. I've been told, but have not confirmed that the Joiner Brook basin is the steepest, developed watershed in the state... For this reason we remain firm in our opposition to development on very steep slopes in town (>25%). Most of our ridgelines are topographically inaccessible (cliffs). We've also had two deaths in recent years resulting from people running equipment on steep slopes.

If commercial wind physically could be installed without service roads or significant stormwater infrastructure, I think many in town would support it—there's generally a lot of support for renewables, and it would sure help our tax base—but there's a reason that Bolton remains largely undeveloped. Unfortunately, the state does not yet directly address steep slopes in Act 250 or Section 248 (or in its stormwater regs)—an issue that Bolton and our District Commission has struggled with in the past (e.g., in relation to 4x4 ORV use of ski trails). Ultimately whether our steep slopes are identified in the plan as “known” or “possible” constraints, they're very real physical constraints.

At some point, we'll likely amend our energy plan and regs accordingly, if further clarification is needed for Section 248, etc. The Planning Commission may also submit comments on the CCRPC draft energy plan, but I'm not sure they'll be meeting in December... I've asked them to review the plan in advance of our RPC board vote.

Will keep you posted on our end...
Sharon

From: Regina Mahony [<mailto:rmahony@ccrpcvt.org>]

Sent: Tuesday, November 07, 2017 8:23 AM

To: front porch

Cc: Emily Nosse-Leirer; 'Steve Diglio'; Melanie Needle; 'Linda Baker'; 'Carol Devlin'; Charles Baker

Subject: RE: Bolton's Local Constraints in the ECOS Plan

Sharon,

In your 2010 BLUDRs, Section 3.16 (B) reads:

- (B) All development is specifically prohibited on very steep slopes in excess of 25% except for the following which may be allowed by the Development Review Board subject to conditional use review and the requirements of Subsection (A):
- i. **ski lifts** and ski trails associated with an approved alpine or Nordic ski facility,
 - ii. hiking and rock climbing trails, and
 - iii. development on pre-existing lots legally in existence as of the effective date of these regulations for which the Board determines that there is no portion of the lot on which the slope does not exceed 25% and, as such, that the total prohibition of development on slopes in excess of 25% would unduly preclude reasonable use of the lot.

That is where we are getting ski lifts from. Let us know if we are missing something.

We will definitely make the change to “setback” rather than “buffer”.

I know this is a frustrating process, but when all of this is aggregated up to a regional scale we only have 3 to 8x the amount of land area needed to meet our target. Which is not a lot of wiggle room, and I’m afraid, may not be enough for some Board members. So we are trying to find a middle ground here.

Thanks for your help,

Regina Mahony

Planning Program Manager

Chittenden County Regional Planning Commission

110 West Canal Street, Suite 202

Winooski, VT 05404

*(802) 846-4490 ext. *28 or direct: (802) 861-0116*

www.ccrpcvt.org



From: front porch [<mailto:frontporch@gmavt.net>]

Sent: Wednesday, November 01, 2017 8:33 PM

To: Melanie Needle <mneedle@ccrpcvt.org>; 'Linda Baker' <lindabaker8847@gmail.com>; 'Carol Devlin' <assistbolton@gmavt.net>

Cc: Emily Nosse-Leirer <enosse-leirer@ccrpcvt.org>; Regina Mahony <rmahony@ccrpcvt.org>; 'Steve Diglio' <steved1980@yahoo.com>

Subject: RE: Bolton's Local Constraints in the ECOS Plan

Melanie—

I’m sorry I missed the last couple of meetings, but we also discussed this at our DRB meeting.

Please note that under our regulations:

Development on very steep slopes (>25%) is limited to hiking and ski trails—other ski area or telecom facilities/structures and access roads are prohibited on very steep slopes. Hiking and ski trails are not equivalent to wind towers or access roads with respect to forms of development. The telecom tower on Robbins Mt is accessed only via helicopter, per local permits—no service road was allowed. I therefore ask that you reconsider...

Also, surface water *setbacks* (not buffers) should be referenced--we differentiate between the two under our regulations. No construction is allowed within required setbacks or buffers. One-half of the setback distance must be maintained as an undisturbed, vegetated buffer.

Sharon

From: Melanie Needle [<mailto:mneedle@ccrpcvt.org>]

Sent: Wednesday, November 01, 2017 2:22 PM

To: Linda Baker; Carol Devlin

Cc: Emily Nosse-Leirer; Charles Baker; Regina Mahony; Sharon Murray - Bolton .

Subject: Bolton's Local Constraints in the ECOS Plan

Linda and Carol,

On October 17, 2017 the CCRPC Energy Sub-Committee reviewed your recommendation to include Bolton's Land Use and Development Regulations language on very steep slopes 25% or more and surface water buffers as local known constraints to development in the draft 2018 ECOS Plan. The Energy Sub-Committee decided to keep the very steep slope language as a local possible constraints. The major determining factor for this interpretation is that other types of development are allowed in these areas, in particular alpine ski facility and telecommunication towers. However, the Energy Sub-Committee does accept Bolton's recommendation to include surface water buffers as a local known constraint in the draft 2018 ECOS Plan.

Please refer to the county map attached to see what the state/local constraints to development look like for Bolton.

Best,

From: Linda Baker [<mailto:lindabaker8847@gmail.com>]

Sent: Monday, November 20, 2017 12:40 PM

To: Regina Mahony <rmahony@ccrpcvt.org>

Subject: Energy/Steep Slopes in Bolton

Hi Regina,

The PC has discussed many times the placement of energy projects on our steep slopes. We were so very pleased when it looked like the State was finally going to give us some input into placement. Now, however, we find it ironic that what started out as prohibited is now in the constraint column.

Using our regs about ski areas as a reason to okay power development in the same areas is faulty reasoning at best. Ski lift towers have a very small base and are generally installed using helicopters for the pads and the towers and there are no service roads necessary to maintain them.

We are already having major problems with run-off affecting our roads and our stream beds, which of course, all run in to the Winooski. As severe weather "events" increase in severity and frequency, we find that we must ever be more and more vigilant in prohibiting development that will exacerbate these problems.

Furthermore, allowing increased development on our steep slopes may make it even more difficult for Bolton to comply with the stormwater and road permitting regulations that the state is expected to issue in the not too distant future.

While there are limited options for energy siting in Chittenden County, bear in mind that there are legitimate reasons for limiting, preferably prohibiting, development on steep slopes. Service roads are a form of development that are decidedly not appropriate or safe (either for people or the environment) on Bolton's steep slopes.

In light of the above concerns, it is hoped that the deciding bodies will take our concerns in to account when writing the new regulations.

Thanks you,
Linda Baker
Chair, Bolton Planning Commission

Chapter 19

Density Transfer of Development Rights

This chapter provides background information for the zoning districts created in this bylaw by explaining how the density or intensity of development is defined, measured, and regulated. This chapter also establishes a voluntary transfer of development rights program.

19.1 Applicability – Definitions

19.1.1 Do the definitions and standards adopted here apply throughout the town? Yes.

19.1.2 What is “density?” Density is the general term used to describe how intensively a parcel of land is, or may be, used. Density is measured differently for different uses and in different situations.

19.1.3 How is density measured? The density of residential development in Williston is measured in the number of dwelling units per acre. For example, the Chelsea Place development has 6.31 dwellings per acre (6.31 du/A). Acreage encompasses everything within the platted boundaries of the development. It includes buildings, streets, sidewalks, stormwater detention ponds, all other improvements, and most types of open space. There are some exceptions, which are explained in WDB 19.1.3.1 and 2.

What is a dwelling unit? A dwelling unit is a building (typically a single-family home) or a separate space within a larger building (typically an apartment, townhouse , or the like) that contains complete housekeeping facilities for one household.

19.1.3.1 Accessory Dwellings. Accessory dwellings permitted by WDB 20.1 are not counted as dwellings when calculating density.

19.1.3.2 Acreage Exceptions. There are three exceptions from the acreage used as a basis for calculating density and one partial exception. These exceptions apply in all zoning districts.

- The acreage on a proposed development site that is included within the watershed protection buffers required by Chapter 29 of this bylaw will not be included in the gross acreage of that site for the purposes of calculating the permitted density.
- The acreage on a proposed development site that has a average slope of 30% or more will not be included in the gross acreage of that site for the purposes of calculating the permitted density.
- The acreage on a proposed development site that has an average slope of 15-30% will be included in the gross acreage of that site, but only at the rate established for development on slopes in the applicable zoning district. That rate is one dwelling unit for every 10 acres in the ARZD (see WDB 31.7.2.6) and one dwelling unit per acre in the RZD and VZD zoning districts (see WDB 39.4.2.2 and WDB 42.4.1).

19.1.3.3 **Rounding.** Residential density calculations often result in fractions. For example, a 17-acre parcel in the ARZD is permitted to have 7.62 dwellings. Does that mean it can have eight? No. Conventional mathematical rounding rules are not used for the density calculations required by this bylaw. A parcel must contain ALL of the acreage required for an additional unit. In the ARZD, a parcel has to contain at least 17.69 acres to be permitted eight dwellings.

19.1.4 How is density measured for nonresidential developments? There is no universally useful measure of the density or intensity of nonresidential developments. The density of nonresidential developments is limited and determined by the standards of this bylaw. There IS a practical minimum area for any given nonresidential development, but that area must be determined case-by-case, based on what is required to comply with the applicable standards. See WDB 19.3.

19.2 Residential Densities. Policies 3.5 and 3.6 of the *Town Plan* provide background materials that you might want to read before going on to the rest of this chapter.

19.2.1 What is the purpose of these residential density standards? The definitions and standards adopted in this chapter are intended to:

- ... implement the open space policies adopted in the *Town Plan*, especially Policies 3.5 and 3.6 and Appendix C, the *Open Space Plan*;
- ... help implement the affordable housing policies adopted in the *Town Plan* (see Chapter 5); and
- ... give landowners and developers the flexibility needed to protect open space while creating compact and amenable neighborhoods.

To achieve these purposes, Williston requires open space residential development, which is defined in WDB 19.2.2. Because it can be difficult to design an open space development on smaller parcels, Williston also permits infill development, which is defined at WDB 19.2.3.

19.2.2 What is an open space development? An open space development is a residential subdivision in which a specified area of open space is protected as a condition of approval. How much open space is required varies with the zoning district. Open space development is required on parcels larger than 10.5 acres in the ARZD and RZD. Parcels in the VZD and smaller parcels in the ARZD and RZD may also be developed using an open space pattern, but where this is proposed, it must be approved by the DRB during pre-application review.

19.2.3 What is an infill development? Some parcels of land are too small to effectively use for open space development. Specifically, all residential developments that include 10.5 or fewer acres and all residential developments within the VZD will be treated as infill developments for the purposes of this bylaw, except where an exception is permitted by the DRB, as provided in WDB 19.2.2. All other residential developments must be open space developments.

19.2.4 So, how do I know how many homes I can build on my land? Each residential zoning district has both a permitted net density and a minimum area per dwelling unit. These standards are shown in Table 19.A.

19.2.4.1 Net Density. The average density column in Table 19.A tells you the maximum number of homes that can be built. It applies to both open space and infill developments. Applicants may make choices that reduce the average density permitted (see, for example, WDB 15.2.3.1), but the standards of Table 19.A. are the starting point.

For example, if you have a 40-acre parcel in the ARZD that includes no watershed protection buffers and no slopes of 15% or more, Table 19.A shows that you can build 22 dwelling units. See WDB 19.1.3.2 for an explanation of how having watershed protection buffers or slopes on your property affects the permitted density.

19.2.4.2 Minimum Area. The minimum area per dwelling unit may be different for open space and infill developments and is applied in different ways to different types of development. See WDB 19.2.5

Table 19.A - Permitted Residential Densities

zoning district	Net* density	minimum area per dwelling in an open space development	minimum area per dwelling in an infill development
ARZD	1 dwelling per 80,000 SF (.55 DU/A)	15,000 SF (.344 A)	80,000 SF (1.84 A)
RZD	open space developments: 3.00 DU/A	5,445 SF (0.125 A)	14,520 (.33 A)
VZD	2.00 du/A	6,534 SF (0.15 A)	6,534 SF (0.15 A)

*The net density given here is for development on slopes of less than 15%. Development on slopes of 15-29% is permitted only at the lower average densities established in WDB 19.1.3.2. Slopes of 30% or more are not included in the acreage base for development.

19.2.5 But how can I build that many homes if I am required to protect buffers along streams, conservation areas, slopes, wetlands, and other resources? This is where the minimum area per dwelling unit comes in. The combination of an average density with a minimum area per dwelling unit gives landowners and developers the flexibility to protect open space while meeting the demand for housing. It will also help make new residential neighborhoods more compact, and thus more affordable and pedestrian-friendly.

Is this “cluster” development? Yes. The approach the town is taking toward most residential development has been called “cluster” development. ‘Open space development’ is used in the *Town Plan* and this bylaw because it emphasizes the goal of open space protection.

19.2.5.1 Minimum Area, Individual Lots. The minimum area per dwelling unit can be interpreted as a minimum lot size in developments where buyers will get a lot. No lot can be smaller than the minimum area per dwelling unit. Do note, however, that WDB 31.8.3 prohibits developments with uniform lot sizes.

Imagine, **for example**, a 40-acre parcel in the ARZD. This parcel has no slopes or watershed protection buffers, so 22 dwelling units are permitted. But WDB 31.4.1 requires that 75% remain in open space. Can the owner still plat 22 lots? If he or she is willing (and the site is favorable) to install community sewerage systems for each cluster of lots (there is generally a limit of seven home sites per cluster), 22 lots could be approved on the 10 acres that are not set aside as open space. The shape and size of the lots must vary with the terrain, but the smallest lot/s can be as small as 15,000 SF, allowing some flexibility in the proposed subdivision's design.

19.2.5.2 Minimum Area Without Lots. Where the proposed development will be an apartment building or complex that will remain in one ownership or a condominium where the land will be held in common by the homeowners, the minimum area per dwelling unit determines the smallest area that can be used for buildings, parking, and other improvements.

Imagine, **for example**, an 80-acre parcel in the RZD that includes extensive (30 acres) wetlands and a rare plant community (10 acres). Table 19.A permits 240 dwelling units on that site (80 X 3). But given the natural constraints, it would be difficult to plat even that many conventional residential lots. Further, unless the wetlands and rare plants happen to be located in one corner of the parcel, adjacent to another open space) conventional development will have a fragmenting impact on those resources. Better resource protection and better utilization of land and infrastructure, can be achieved by shrinking the footprint of the housing. Using the minimum area per unit of 5,445 SF, this bylaw would permit all 240 units to be placed on less than 40 acres. This leaves ample space for a development that could take the form of flats, town homes, or other attached housing types. Placing 240 units on, say, 37.5 acres results in roughly the same density as many of Williston's existing condominium developments: 6.4 DU/A. **How does all this really work?** Landowners who are unsure about how to comply with the open space development requirements of this bylaw are encouraged to make an appointment with a staff person at Williston Planning. You may also want to seek the advice of an experienced design professional.

19.3 Nonresidential Densities

19.3.1 Are minimum lot sizes required for the nonresidential uses that permitted in the ARZD, RZD, and VZD? Yes.

19.3.1.1 In the ARZD. A minimum lot size of 80,000 SF is required for nonresidential uses in the ARZD.

19.3.1.2 In the RZD and VZD. A minimum lot size of 20,000 SF is required for nonresidential uses in the RZD and VZD.

19.3.2 Are there minimum lot sizes for nonresidential development in the other zoning districts?

There is no minimum lot size for nonresidential uses in the other zoning districts. The density or intensity of nonresidential development that is permitted in those districts will be a function of the standards of this bylaw, as applicable.

19.4 Mixed-Use Densities. Williston's *Town Plan* emphasizes the desirability of mixed-use development in the growth center, and mixed-use development is permitted, or even required, in the BPZD, GZDS, MUCZD, MURZD, and TCZD. Each zoning district has its own standards for which uses may be mixed and how. Those standards are summarized in Table 19.B. Mixed-uses are also permitted in the VZD, in compliance with the standards established in Chapter 42 of this bylaw.

19.4.1. Is the mix of uses regulated? The mix of residential and nonresidential space may be limited. See the first column in Table 19.B for a summary of the standards adopted in the chapters establishing each zoning district.

19.4.2 How many dwelling units are permitted in a mixed-use development? The net permitted density of the residential component of a mixed-use development is shown in Table 19.B. That table also imposes a minimum density of five dwelling units per acre on residential development in most of the mixed-use zoning districts and shows that the net permitted density may rise to 10 or 15 DU/A with the transfer of development rights. The transfer of development rights is explained in WDB 19.5.

19.4.3 How much nonresidential development is permitted in a mixed-use development? The density of the nonresidential component of a mixed-use development will be a function of the limit, if any, on the mix of uses in the zoning district, the space that remains after the residential component is established, and the standards of this bylaw.

Table 19.B - Mixed Use Residential Densities

All numbers are DU/A

zoning district	residential/commercial mix	net density	density with TDR	minimum density*
BPZD	Residential uses are permitted, but not required.	5	not allowed	--
GZDS	Residential uses are permitted, but not required.	7.5	10	5
MUCZD	Residential uses are encouraged but not required.	7.5	15	5
MURZD	Must be predominantly** residential.	7.5	15	5
TCZD	Residential uses may be required.	7.5	15	5

* Where provided. This does not mean that residential uses have to be built where they are not required. ** 'Predominantly residential' is defined at WDB 38.1.3.1.

19.5 Transfer of Development Rights

19.5.1 What is the transfer of development rights? A transfer of development rights occurs when the right to develop on one parcel of land is used on a noncontiguous parcel. The parcels involved may be in the same or different ownerships.

19.5.2 Is the transfer of development rights permitted in Williston? Yes. Residential development rights may be voluntarily transferred from lands in the ARZD or from conservation areas shown in the *Open Space Plan* in other zoning districts to lands within the growth center. Development rights may be transferred one-to-one up to the maximum density permitted in the receiving zoning district by Tables 19.A and 19.B.

19.5.3 Is special permission required for a transfer of development rights? No. Transfers are permitted within the density limits established in Tables 19.A. and 19.B. The resulting development must, of course, comply with all requirements of this bylaw.

19.5.4 What are the mechanics of a transfer of development rights? A transfer of development rights is a private transaction. While it is enabled and encouraged by this bylaw, the town does not require TDRs.

19.5.4.1 TDRs at Pre-Application. An applicant who proposes to use TDRs in a development must make this clear in the pre-application materials.

19.5.4.2 TDR's and Growth Management. A TDR does not exempt the proposed dwelling units from growth management review, as required by Chapter 11 of this bylaw.

19.5.4.3 TDR's at Permit Review. Drafts of the instruments of conveyance for the TDR must accompany the application for a discretionary permit.

19.5.4.4 TDR's in Final Plans. The signed instruments of conveyance for the TDR must accompany the final plans. They must be recorded after approval of the final plans and before an administrative permit for any work on the site is approved.

Can you give me an example of how the transfer of development rights works? Yes. Suppose that you have a small farm in the ARZD. You could, if able to comply with all requirements of this bylaw, create 22 home sites on 40 acres. But really, you only want to build a home for yourself. Can you use the other 21 development rights in another way? Possibly. Suppose that a developer in the Tafts Corners area wants to build a mixed-used project on 10 acres. Without a transfer of development rights, Table 19.B says that this project can have 7.5 du/A, or 75 total units. With a transfer, however, it can have as many as 150 units (15 du/A). The developer could, if you name a reasonable price, purchase your 21 development rights and build 96 of the 150 units permitted with a TDR. This moves development into the growth center in accord with town policy, while helping protect the character of rural Williston.

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1	2018 ECOS Plan Public Comments										
2	Category	Page #	Comment	Comment Type	Comment Rec'v By	Commentor	Municipality	Contact	Date	Response	Date Response Sent & by Whom
4	Energy	N/A	Thanks for updating me on this - I'm very interested, especially in conservation in this area. Let me know if there will be meetings open to the public.	Email	Emma	Paula DeMichele	Essex	somethinglikeastar@yahoo.com	10/2/2017	Thank you for your reply to our Front Porch Forum post in late September regarding Chittenden County's ECOS Plan update, and specifically the energy component. I'm very sorry for the delay in getting back to you! To answer your specific question - yes, there are working meetings where the energy content will be further refined. The Energy sub-committee will be working on this exclusively, while the Long Range Planning Committee will be working on the entire ECOS Plan update, including economic development and transportation. The Energy sub-committee will meet next on Nov. 28th from 5pm to 6:30pm; and their agenda will be posted before the meeting here. The Long Range Planning Committee (LRPC) will meet next on November 9th from 8:30am to 10am; and their agenda will be posted before the meeting here. I don't anticipate much energy content on the LRPC's November agenda, but likely at their December meeting (December 14th at the same time). Melanie Needle is leading this effort and is cc'd here. Please let her know if you have any questions/comments. Also, we will be posting a summary and a draft of the energy plan content next week, and it will be posted here when it is ready.	10/27/17, Regina
5	Energy Overview	2	What about natural gas heating? How does that cost compare to the cold climate heat pump cost?	CiviComment	CiviComment	Anonymous			11/1/2017	Staff will research data on cost comparisons for each fuel type.	Not yet responded
6	Energy Overview	2	[Reply to the above comment] Great question! Here's a complimentary one: assuming natural gas heating is "cheaper", how might we find ways to make heat pumps (local and clean energy) the go-to choice?	CiviComment	CiviComment	Anonymous			11/1/2017	Heat pumps do provide air conditioning and the energy which powers a heat pump is "greener" than natural gas. However, in VT Gas's territory heat pumps are a tough sell as saving money with a cold climate Heat Pump (CCHP) is highly unlikely, even if the system you purchased displaces 75% of the natural gas your building consumes during a typical year. In fact, current natural gas prices would need to double in order for most CCHP systems to generate enough savings to pay back your initial investment of between \$3500 and \$5000 in 9 years.	Not yet responded
7	Energy Overview	2	Where does this data come from, the DPS fuel price report? http://publicservice.vermont.gov/content/retail-prices-heating-fuels	CiviComment	CiviComment	Wayne Maceyka			11/3/2017	Thanks for providing the data reference!	Not yet responded
8	Energy Draft	7	Perhaps this should be saved for the Transportation section, but a reference to electric transit buses (as demoed in Burlington) might be in order here.	CiviComment	CiviComment	Anonymous			11/01/2017 - 9:47	We will add language which references adoption of electric school buses.	Not yet responded
9	Energy Draft	10	Smart Grid without price signals to allow customers to share in the value of shifting their demand to optimal times (such as those with lower demand or when the sun is shining) will not work. Protections need to be in place for those vulnerable populations who can not shift demand, but transparency in the price of energy at certain times is paramount for Smart Grid to work.	CiviComment	CiviComment	Anonymous			11/1/2017	Staff will add price signals to this key issue	Not yet responded
10	Energy Draft	10	Vermont pioneered the energy efficiency model that has been replicated around the globe. Now, let's put the same Market Transformation mechanism to work for transportation!	CiviComment	CiviComment	Anonymous			11/1/2017		Not yet responded
11	Energy Draft	10	As with Burlington Electric's "Net Zero Burlington" initiative, no one wants to talk about the elephant in the room: natural gas. Can we call out specific steps to get us off the addiction of "cheap" (but costly to the environment) natural gas?	CiviComment	CiviComment	Anonymous			11/1/2017	The draft plan already acknowledges that we are challenged with meeting the 90X2050 goal being in VTGAS's territory. I'm not sure there is anything else we can say on this issue.	Not yet responded
12	Energy Draft	11	YES! Heat local (biomass or PV-fueled heat-pumps) and fuel your car locally (PV-fueled cars) to keep money in the local economy!!!	CiviComment	CiviComment	Anonymous			11/1/2017	Thank you. Perhaps we can connect keep our energy dollars local with cold climate heat pumps as we move towards more in-region renewables.	Not yet responded
13	Energy Draft	11	Don't pellet stoves produce more greenhouse gases than natural gas heating systems?	CiviComment	CiviComment	Scott Pennington			11/1/2017	Some literature says that the carbon emitted from heating with wood is netural within 100 years when the forest regenerates itself.	Not yet responded
14	Energy Draft	11	Add-on question: how do the new EPA wood stove guidelines or newer (80% efficient) pellet stoves and boilers match up with natural gas from an emissions standpoint?	CiviComment	CiviComment	Anonymous			11/1/2017	CCRPC will respond with EPA guidelines	Not yet responded
15	Energy Draft	14	This sort of growth in heat pump use in the C&I sector may be a surprise to the local electric utility. Does it match their projections? Is it even technically possible?	CiviComment	CiviComment	Anonymous			11/1/2017	will check with utilities	Not yet responded

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2	Category	Page #	Comment	Comment Type	Comment Rec'v By	Commentor	Municipality	Contact	Date	Response	Date Response Sent & by Whom
16	Energy Draft	16	This plan with its increased reliance on electricity reminds me of the push for electric heat in the sixties. It was then and is now really short-sighted to promote one fuel source over others. What we need is diversity, not uniformity. What happens if and when the grid goes down? Not only will all the latest gadgets be unusable, but people will be stranded with no alternatives for power. The latest wind storm is a good example of my point. Many are searching for generators powered by oh horrors - fossil fuels.	CiviComment	CiviComment	Leslie Rowley			11/1/2017	We will consider adding a statement that addresses this issue. It may be better as a key issue than a policy statement.	Not yet responded
17	Energy Draft	16	For back-up, battery storage (as prices continue to plummet) and yes fossil fuels are going to be the answer. Using fossil fuels for a main heating system or for transportation, however, is going backwards.	CiviComment	CiviComment	Anonymous			11/1/2017	I think this comment is saying that fossil fuels should only be reserved for back up generation. Do we need to call this out as a key issue?	Not yet responded
18	Energy Draft	16	What kind of land was measured for this data, solely just open agricultural land? Does this include available land over previously developed, impervious parking lots? There is huge potential in citing ground mounted solar canopies over existing developed spaces while also preserving their uses for parking. Diversifying use, offering infrastructure to EV charging, and, of course producing energy.	CiviComment	CiviComment	Anonymous			11/6/2017	All land free from state and local known constraints was used to measure energy potential. Existing developed areas were not subtracted out from the analysis. The ECOS Plan does include assumptions on energy potential on rooftops and includes a policy statement encouraging solar canopies on parking lots.	Not yet responded
19	Energy Draft	20	How can we make these ideas into reality?!	CiviComment	CiviComment	Anonymous			11/1/2017		Not yet responded
20	Energy Draft	30	I've only looked at the EV areas so far— MEGO— and what I see looks like pretty good Rx, but could maybe use more timeline details and specifics. For instance, many, many more level 2&3 chargers in varied locations will be necessary to get people comfortable with buying an EV. For instance, where do people spend time with their cars parked, besides work? Restaurants, department stores, gym/sport facilities, etc. These establishments need to be convinced that sponsoring charging stations will increase their patronage while drivers wait for their cars to charge. I only became comfortable buying an EV when the Bolt came out because I felt I could drive for a day of errands and still get home to Huntington in the winter. Rural drivers will get the most out of EVs if they can be confident of returning home. Really every town and village needs multiple spots to recharge— look at how long it takes as opposed to filling up with gas! Also, a universal standard charging port would be good to encourage, or at least cheap or free adapters so everyone can use the Tesla stations. VHS vs. Beta, again? I hope to be able to look at other sections as time allows, but I am crunched to get projects done before the snow flies...	CiviComment	CiviComment	Knox Cummin			11/6/2017	The Plan does specifically reference downtowns are being key locations for public charging. Will add villages, as well	not yet responded
21	Energy Draft	16	What kind of land was measured for this data, solely just open agricultural land? Does this include available land over previously developed, impervious parking lots? There is huge potential in citing ground mounted solar canopies over existing developed spaces while also preserving their uses for parking. Diversifying use, offering infrastructure to EV charging, and, of course producing energy.	CiviComment		Anonymous			11/6/2017	All land free from state and local known constraints was used to measure energy potential. Existing developed areas were not subtracted out from the analysis. The ECOS Plan does include assumptions on energy potential on rooftops and includes a policy statement encouraging solar canopies on parking lots.	Not yet responded
22	Energy Draft	19	It's good to mention CNG, but given that engines must be altered to run on it, it might not be worth investing in retrofits or new technology that will be outdated within 50-100 years.	CiviComment		Darren Schibler			11/9/2017	Compressed natural gas although cleaner than gasoline is not align with reducing fossil fuels in the transportation sector.	Not yet responded
23	Energy Draft	20	Has anybody explored policies that replace gas taxes with vehicle taxes? This would solve the infrastructure problem in the short term while incentivizing non-SOV travel long-term; subsidies for high-efficiency or low/no-emissions vehicles could help bridge the financial gap and further the 90/2050 goal.	CiviComment		Darren Schibler			11/9/2017	Vtrans has been working on this. Staff will find out the status of this work	Not yet responded

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2	Category	Page #	Comment	Comment Type	Comment Rec'v By	Commentor	Municipality	Contact	Date	Response	Date Response Sent & by Whom
24	Energy Draft	21	The wording here is somewhat confusing--has driving alone increased by 71%, or decreased to that number?	CiviComment		Darren Schibler			11/9/2017	we will revise per comment	Not yet responded
25	Energy Draft	22	Discussion of rail transportation is sorely lacking in this section, especially given the existing rail network in the county, and the potential efficiency and ability for rail to transition to renewable energy sources. Air transportation is already cost-prohibitive (at least from Burlington) and will become unsustainable in the near future.	CiviComment		Darren Schibler			11/9/2017	we could include a reference to the MTP's section on rail here	Not yet responded
26	Energy Draft	3	This land use section does not seem to relate to energy, but could discuss how compact settlement is more energy-efficient because of reduced travel distances, heating efficiency of clustered buildings, etc.	CiviComment		Darren Schibler			11/9/2017	we will revise per comment	Not yet responded
27	Energy Overview	2	What percentage of Chittenden homes and residences have access to natural gas?	CiviComment		Tim Loucks			11/18/2017	X percentage of homes have acces to natural gas	Not yet responded
28	Energy Overview	2	What about energy storage strategies as part of this shift to electric?	CiviComment		Tim Loucks			11/18/2017	Need to review the State's storage plan.	Not yet responded
29	Energy Overview	2	Why no mention of wood pellet heating since the state is promoting this with incentives for wood pellet boilers?	CiviComment		Tim Loucks			11/18/2017	The energy overview was intended to focus on the highlights of the enery sections and wood pellet heating has less of a focus given there are little to no siting/land use implications to them.	Not yet responded
30	Energy Overview	2	Natural gas is a fossil fuel so using it doesn't help our renewable energy goals. My guess is that the plan highlights oil because there's good reason to switch from oil to heat pump now. Heat from natural gas and heat pumps costs about the same, so you can't yet recover the cost of installing the heat pumps, but for new construction or a failed furnace, a heat pump would be competitive and a lot of the new construction is using heat pumps	CiviComment		Damon			11/19/2017	That is correct, though other comments are asking for us to make the case even when heating with natural gas.	Not yet responded
31	Energy Overview	2	Maybe suggest that incentives on the units are contrary to the state goals and they should be removed? Also, a lot of people like the cooling ability that heat pumps have. Last I knew heat pumps in Maine were quite a bit cheaper so our industry still had some learning to do. Catching up to ME's pricing will help.	CiviComment		Damon			11/19/2017	I don't understand the first part of his comment.	Not yet responded
32	Energy Draft	46	Add a Chittenden County .005 gasoline tax/along with an electrical surcharge of \$X a year on all, making a tiered charge so that larger users pay more than the lowest users.	CiviComment		Jim Calder			11/19/2017	Committee should discuss whether we need a policy statement on disincentives.	Not yet responded
33	Energy Draft	47	There are many non-profit church buildings, why not work to have solar arrays installed on their roofs, provide the church some of the output energy and the rest going into the grid. This might also be done on our public school buildings, many of which are flat, again providing that school some of the energy while the grid gets the remainder.	CiviComment		Jim Calder			11/19/2017	we could add churches to Action 2.4a..6	Not yet responded
34	Energy Draft	48	With many parking lots both public and no-public, we could partner with a solar company to install covered parking with solar panels on top, and then provide charging points and such for the electric/partial electric cars.	CiviComment		Jim Calder			11/19/2017	we could work this concept into our policy statements	Not yet responded
35	Energy Draft	49	Do not forget your church buildings and public school buildings need to move to heat pump heat/a/c systems and again, they do need assistance in adding these to their buildings.	CiviComment		Jim Calder			11/19/2017	we could add churches to Action 2.4a..6	Not yet responded
36	Energy 2-pager		add rooftop solar to target graphics			LRPC				ok	Not yet responded
37	Energy 2-pager		add amount of land area that is in constrained area to circl graphic			LRPC			11/9/2017	ok	Not yet responded

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2	Category	Page #	Comment	Comment Type	Comment Rec'v By	Commentor	Municipality	Contact	Date	Response	Date Response Sent & by Whom
38	Energy Draft		Ultimately, it'll be left for the PUC to decide, but I still fear this language could well render the plan, and all the hard work that went into it, irrelevant with regard to its use/interpretation. It allows the possible exception to become the rule – how do we determine which, if any, guidelines are relevant to a particular project, when an applicant argues they're not? How is "inability" determined—based on financial constraints? Physical constraints? Or, per the PUC's version of the Quechee test, other overriding state interests? How do we distinguish between well and poorly sited projects, without clear and consistent guidance? The PUC and courts have regularly ignored plan language that is not relevant to a particular project, or that is unclear or ambiguous in its interpretation. Here we're handing them both—that it can be argued that the policies aren't relevant to a particular project, and that we're only encouraging, not requiring facilities to be sited accordingly. "Encourage" in this context is especially worrisome, as one of those words that's been highlighted in the past as meaningless in a regulatory context. Again, some rewording to get at your point, without given up the ship, might help. And yes, technologies and circumstances change over time (as is true for all types of development), so plans must be updated and readopted every 8 years to adjust and remain current – and can be amended at any time as needed (admittedly a much tougher call at the regional level). Consider this my input on the current draft, as a not very active member of the committee (again my apologies for having missed so many meetings). I'm definitely not speaking for the town...will seek their input before any board votes. And again, I really appreciate all the great work you and Emily have put into this over the past several months—I just want to make sure it counts, at the other end, to the extent any of us can anticipate what the PUC might do...	via email	Melanie	Sharon Murray (NOT on behalf of the Town)	Bolton			Energy Sub-Committee needs to discuss this, see also the email from Linda Baker	Not yet responded
39	Energy		How is the ECOS Plan addressing the proposed rule on decibel limits?	via email/meeting	Melanie	Michael Oman	Underhill		11/15/2017	Checked in with DPS. Recommendation is that the ECOS Plan addresses the rule in the narrative or policy statements. The energy sub-committee should disuss whether we mention the decibel limits in the wind policy statement. http://puc.vermont.gov/document/temporary-board-rule-5700-sound-levels-wind-generation-facilities	
40	Energy		CEP Goals refer to per capita energy use but all the town and county data is shown in totals	via email/meeting	Melanie	Michael Oman	Underhill		11/15/2017	Staff will consider converting all data into per capita to better track progress on CEP goals	Not yet responded
41	Energy		Is it possible to utilize the wind speed data to show MWh potential in more detail?	via email/meeting	Melanie	Michael Oman	Underhill		11/15/2017	Staff will look into this.	Not yet responded
63	Energy Draft		Folks, Surprisingly, the Chittenden County Regional Planning Commission's draft Regional Energy Plan (REP) ignores entirely an important source of renewable energy: passive solar energy technology. The county and the state would realize significant benefits by including programs that encourage and facilitate the use of passive solar designs in new construction and retrofits of both residential and commercial buildings. Please accept this email as a formal comment on the REP, along with the attached letter to the editor that appeared in the Burlington Free Press on February 18, 2016. Combined with energy conservation measures, passive solar technologies have resulted in buildings in Vermont whose annual budgets for supplemental energy are much less than half of the average building. A well insulated single family home in Vermont can easily derive more than half of its annual heating budget by incorporating passive solar design elements such as a sunroom, a solar greenhouse, south facing windows with insulating shades, and thermal mass to store the energy. One of the most significant advantages of passive solar technologies is that the issue of siting is non-existent. Large scale wind energy or photovoltaic installations are unfortunately often impacted by controversies, expenses, increased timelines, and legal issues due to siting concerns. With passive solar, the building IS the collector, so there are no siting issues outside of the normal process for building permits and zoning. Vermonters such as Doug Taff and the late Robert Holdridge of Hinesburg (right here in Chittenden County!) designed groundbreaking buildings that were used as examples nationwide of how designing with the sun can provide large energy savings in cost effective ways. The first nationwide conference on solar greenhouses was held at Marlboro College in 1977, where then Representative Jim Jeffords was the keynote speaker. Garden Way Sunrooms in Charlotte became the #2 greenhouse company in the nation in 1984. Beth Sachs and the late Blair Hamilton were pioneers in the area of passive solar retrofits, along with their phenomenal work with the Vermont Energy Investment Corporation that they co-founded in 1986. There are dozens of other examples. If only a portion of the buildings that have been built in Vermont in the last 40 years had utilized principles of passive solar design, the state's energy demand today would be many percentage	Email	Emma	Scott Hicks	Underhill		19-Nov	we could add passive solar energy to 4.2.a.9	Not yet responded

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2	Category	Page #	Comment	Comment Type	Comment Rec'v By	Commentor	Municipality	Contact	Date	Response	Date Response Sent & by Whom
64	Energy Draft		<p>I am writing to offer some additional comment concerning the identification of know or possible local constraints in the ECOS Energy Plan that CCRPC is currently working on. I had previously submitted that steep slopes (30% or greater) be identified as a known local constraint because they are used for reducing allowed density in the town's development regulations. You had previously let me know that the Energy Committee at CCRPC recommended that steep slopes be listed as a potential local constraint because an applicant might be able to obtain a variance.</p> <p>That reasoning is not in keeping with Williston's development regulations as written nor as administered. Chapter 19 of the town's Unified Development Bylaw (attached)detail how density is calculated. This includes the metric used for steep slope. There is no mention of a variance as a possible exception to the calculation method described. In addition, the town is not really open to the notion of granting variances. In my 9+ years working in Williston the DRB has approved a single variance and has rejected all others. We have never entertained a variance request on density calculations</p>		Melanie	Ken Belliveau	Williston		11/20/2017	Energy Sub-Committee needs to discuss this, see also the excerpt from Williston's Zoning	not yet responded
65	Energy Plan		<p>Richmond has requested the following constraints, but there is not supporting language for them in the zoning or in the town plan, as the plan is expired and a drafting process is ongoing. The following will be considered by CCRPC staff after the adoption of the Town Plan. (1. Ridges</p> <p>2. Slopes >_ 30%</p> <p>3. Trails</p> <p>4. Conserved Land</p> <p>5. ANR Primary Conservation Areas 6. Highest Priority Habitat derived from STA Report)</p>		Melanie		Richmond			<p>Town plan language is unclear because there are dozens of things that might or might not fall under protecting wildlife or forests or habitat. (ex. forest blocks or just any forested area over a certain acreage? Which wildlife? Where's their habitat inventory? Etc. Zoning regulations: The following areas of a lot shall be deemed incapable of supporting any Land Development: b) Slopes equal to or greater than thirty-five percent - 35%</p>	not yet responded
66	Energy Overview	2	<p>Agreed, and greater incentives for individual homeowners. If people provide their own power there is little need for large farms. Also, increasing public awareness of the incentives that currently exist and, on all new projects, making the sustainable option the default one, while still allowing the homeowner the freedom to opt out should they wish to put in the extra effort required to do so. "Nudge"</p>	CiviComment		Kalin Thompson			21-Nov	Public awareness of incentives is an ECOS Action	
67	Energy Overview	3	Has floating solar been explored as an option?			Kalin Thompson			21-Nov	???	

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2	Category	Page #	Comment	Comment Type	Comment Rec'v By	Commentor	Municipality	Contact	Date	Response	Date Response Sent & by Whom
68	Energy Overview	2	<p>This would be good, but given the rural distribution of most Vermonters, it would still require some commute to get the station. I wonder if the problem lies in the fact that most people already have cars? How can the state incentivize trading them in for electric cars? Otherwise, even if they do buy electric, people will only be adding to their current fleet of vehicles and this won't be changing the ratio very significantly. One possible option might be in parking. If city and business parking for non-electric vehicles is either super expensive or very awkwardly far away from everything no one will want to drive. And this goes for business employees too: let's suppose I get hired to work at Dealer. The company says, "will you be parking a non-electric car?" I say:"Yes." They say, "you understand that a monthly fee will be deducted from your paycheck..." If its more than a few thousand dollars a year, that could tip the scale. OR, the government could give tax incentives to businesses based on what percentage of their workforce commutes sustainably. This might give rise to creative solutions, and possibly even have the added benefit of incentivizing a more local workforce (of course, the housing goals would also need to be met).</p>			Kalin Thompson			21-Nov	Commentor is referring to lite rail...	
69	Energy Plan		<p>Their 1,500 exemption for wind turbines is part of a zoning regulation change that is going town vote in March. Can we use the town plan as the guide policy.</p> <p>Their 1,500 exemption for wind turbines is part of a zoning regulation change that is going town vote in March. Can we use the town plan as the guide policy.</p>								
70	Energy Plan		<p>Removal of a 1,500 exemption for wind turbines is part of a zoning regulation change that is going town vote in March. Can we use the town plan as the guiding policy which says no development is allowed above 1,500 ft</p>			Andrew Strniste	Underhill				

11/19/2017		Target					Prime Solar Energy Potential				Base Solar Energy Potential					
Town Name	Average of Population and Electricity Use	Total Low Target (MWh)	Total High Target (MWh)	Existing Renewables (MWh)	Low Range Net Remaining (MWh)	High Range Net Remaining (MWh)	Prime Solar Acres	Prime Solar Potential (MW)	Potential Solar Capacity from Prime Solar (MWh)	Can Meet Low Target with Prime Solar Potential ?	Can Meet High Target with Prime Solar Potential?	Base Solar Acres	Base Prime Solar Potential (MW)	Potential Solar Capacity from Base Solar (MWh)	Can Meet Low Target with Prime + Base Solar Potential?	Can Meet High Target with Prime + Base Solar Potential?
Bolton*	1%	4,218	7,057	328	3,890	6,729	172	21	26,292	1	1	-		-	N/A	
Buels Gore	0%	92	154	6	86	148	9	1	1,393	1	1	-		-	N/A	
Burlington	22%	168,431	281,769	285,442	✓	✓						-		-	N/A	
Charlotte*	2%	12,607	21,090	5,059	7,548	16,031	1044	131	160,096	1	1	-		-	N/A	
Colchester	9%	67,204	112,427	2,086	65,119	110,341	737	92	112,970	1	1	-		-	N/A	
Essex Junction	14%	104,508	174,832	40,522	63,986	134,310	161	20	24,713	0	0	995	17	20,337	0	0
Essex Town	14%	106,878	178,797	2,293	104,585	176,503	702	88	107,623	1	0	6,820	114	139,402	1	1
Hinesburg	2%	14,975	25,051	1,457	13,517	23,594	833	104	127,686	1	1	-		-	N/A	
Huntington	1%	5,644	9,442	629	5,016	8,814	833	104	127,686	1	1	-		-	N/A	
Jericho	2%	15,869	26,547	1,347	14,523	25,201	491	61	75,315	1	1	-		-	N/A	
Milton	5%	39,817	66,610	102,752	✓	✓						-		-	N/A	
Richmond*	2%	13,445	22,491	4,485	8,960	18,006	548	69	84,077	1	1	-		-	N/A	
Shelburne	4%	28,443	47,582	4,648	23,795	42,934	436	55	66,851	1	1	-		-	N/A	
South Burlington	11%	85,841	143,604	14,627	71,214	128,977	206	26	31,547	0	0	3,462	58	70,758	1	0
St. George	0%	2,368	3,961	312	2,056	3,649	62	8	9,542	1	1	-		-	N/A	
Underhill	1%	9,420	15,759	765	8,656	14,995	795	99	121,934	1	1	-		-	N/A	
Westford*	1%	6,209	10,387	411	5,798	9,976	1065	133	163,191	1	1	-		-	N/A	
Williston*	6%	44,647	74,691	3,435	41,213	71,256	757	95	116,042	1	1	-		-	N/A	
Winooski	3%	25,633	42,882	30,297	✓	12,584						-		-	N/A	
County Total	100%	756,250	1,265,134	500,900	255,350	764,234	8,852	1106	1,356,960	1	1	-		-	N/A	

1=yes, 0= no

*Prime solar acres is going to decrease because of local constraints. Bolton, Williston, and Richmond will change because agreement on how constraints should be included as either known or possible constraints in the ECOS Plan has not been reached. Charlotte and Westford prime solar acreage will change due to a correction of a processing error. Towns with yellow highlight indicate that the prime solar acreage will change.

1. For Essex Junction, Burlington, and Winooski should be we only report rooftop energy potential because of the urban/mostly developed nature of the municipality?
2. Essex Junction cannot meet its municipal target for renewable energy generation even when including base solar areas.
3. South Burlington can only meet its high range municipal target with the both prime and base solar areas.