

I. Background

- A.** History in telecom
- B.** Knowledge of Vermont limited over last 7 years.
- C.** Overview – two long-term issues, a list of short-term possible actions.

II. VUSF Updating

- A.** Broadband is now the dog, not the tail. Most of your spending now on network expansion is for broadband.
- B.** Unfair to charge telecom users for broadband buildout.
 - 1. Analogy to 2004 decision to apply VUSF surcharge to intrastate and interstate revenues.
 - 2. Legal challenges likely, but could be survived.
 - a. Internet Tax Freedom Act. Maybe split E911 from VUSF surcharge.
- C.** Concern
 - 1. Scarce VUSF dollars to build out DSL. Perhaps a \$/line limit for DSL?
 - 2. Too much discretion in commissioner? Failure to get approval of board as per statute.

III. Promoting a Ubiquitous Broadband Network

- A.** Why?
 - 1. Greater interconnection produces network efficiencies and greater reliability. It's economics.
 - 2. Private sector not getting there.
 - a. Gaps in wireless and wireline coverage both. Achievement so far only about average for a rural state. State agencies like Dept of Labor, Public Safety, looking for better coverage.
 - 3. Competition model demonstrably leaves holes in rural areas.
 - a. Competition model works well for new entrants who have total freedom to enter or avoid competition in existing markets. Competition model works well for customers in high-density high

income areas where multiple providers can all recover their total cost. But in rural areas, even the first network may not recover its buildout cost.

4. Unreliable E911 due to reliance on older technologies.
5. State and federal grant funds have produced only partial coverage, and in some cases only limited rights to use the resulting facilities.
6. State agency investment in network facilities hasn't always been coordinated.
7. Secrecy of network and interconnection details may be increasing costs and deterring interconnection and buildout.

B. How do this?

1. 100 Mbps up and down by 2024 is a stretch goal. Will be very difficult to achieve on current path.
2. Politically difficult to assist construction of facilities that will make existing carrier facilities obsolete, such as DSL.
3. Administratively, this task is big, much bigger than just DII's job of consolidating telecommunications within state government. You need:
 - a. Find a group or person to head this project who has real influence in state government and enough dedication to make a long-term commitment. Is the Joint Committee interested enough?
 - b. Will need legal resources.
 - (1) Need to overcome great inertia moving toward increasing secrecy regarding all facts with possible commercial impact.
 - (2) Need to overcome legal challenges which are likely from incumbents.
 - c. Will need to operate in a gray area as both a government planning agency and a private telecommunications wholesaler.
 - (1) Need to coordinate with local and regional union districts, towns.
 - (2) Need a reliable (permanent) entity to build and own facilities, make them available as a neutral host to all carriers.

- (a) Not sure what went wrong with VTA, but something like this could be useful.
 - (b) Must be capable of acting as market participant and get paid for facility use. Must be able to collect revenues at or near break-even level.
- (3) Now the DPS is doing this for VTA fiber. Can they do it too for microcells?

C. Short term actions and studies

1. Encourage E911 to migrate away from a service purchase and TDM model and towards a facilities purchase and IP model.
2. Consider lowering USF rate and broadening base to apply to broadband.
3. Look for ways to help Communication Union Districts with raising capital and interconnecting with existing networks. Encourage electric utilities to consider developing broadband management as a new service.
4. Strengthen telecommunications planning process by providing comment on the draft plan.
5. [Omitted]
6. Ensure that future state-support for telecom facilities is conditioned on grantee being subject to disclosures of plant location and capacity, possibly also being willing to serve as neutral host in IP environment.
7. FirstNet. Is there a way to use this money to better integrate and interconnect the general telecommunications network in the state?
8. Investigate whether microcells currently owned by the state can be installed and serve as nuclei for future higher quality wireless service.
9. Investigate power outages and batteries. Should there be more requirements on broadband providers to have backup for their own equipment and for user interface devices?
10. Investigate dark fiber legal status. Preemption clear for some possible state actions, but unclear as to others.