



Vermont Communications Union Districts Association

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Broadband: Why Vermont Needs to Find its Own Way

After the American Revolution, Vermonters struggled to develop an effective network in support of residents and businesses. Of course, the network was not electronic. We are talking about roads. Each town was responsible for its own roads. The network was terrible. The state turned to the private sector and began chartering turnpikes. The roads improved. A generation later they were mostly converted to public roads. The roads improved further.

I cite this and note that the turnpike companies were understood by all to be providing a public good, and their owners were constrained by law. The transition from turnpikes to public roads was accomplished without great disruption at a price that satisfied turnpike owners.

We are never going to see this happen with broadband, because it was never built as a public good, but rather as an add-on product to telephone service or television service, unregulated and unconstrained by any sense of the public good. Generations of telephone and cable executives have come up with no sense that they are responsible in any way for a public good, or perhaps more generously, they are not paid, not incentivized to develop that perspective. This has left densely populated and wealthier areas the winners.

So when it is suggested that Vermont's goal should be fiber to the premises (FTTP) everywhere on the grid in Vermont, the reaction of the large national providers is predictable: No, Vermont should be technology-neutral; no, Vermont should not allow overbuilding where there is "some" broadband; no, people don't need that kind of internet service anyway; no, all you need to do is pay for us to build where we don't think it is economical otherwise.

There is nothing positive in the message. It is instead a strictly defensive response. In fact, it is pretty much pro-forma. Why hasn't the response been crafted in a way that acknowledges developments in Vermont, such as 2019's Act 79? Why no real engagement with Vermont? There are two

reasons, one philosophical, one practical. The philosophical reason is that the big national carriers do not want to get into state-level engagements and federal law exempts broadband business from state scrutiny, so even acknowledging state concerns risks creating a precedent. The practical reason is that Vermont's market is so tiny that Vermont makes no difference to any business decision. Nobody in the upper levels of the big national carriers ever bothers to talk about Vermont. Even the lobbyists who engage at the state level are responsible for multiple states or have multiple clients.

They say Vermont should subsidize network expansion where they have determined it is not economical, but in the past six months, or year, or six years, or ten years, has anyone ever seen a plan that lays out expansion and puts a price tag on it? No. Why? Because our market is too tiny to bother. Consider: the two counties around Manchester NH have 100,000 more people than the entire state of Vermont. The two counties in southern Maine have 100,000 less. Taken together, those 4 counties have double Vermont's population. In Massachusetts, the 8 most populated counties have 10x the population of Vermont. Without even talking about Connecticut or Rhode Island, we see that Vermont represents only a few percentage points of the business – in New England. And these are national carriers. Vermont's business is, to them, at the national level, a rounding error. No serious amount of time and energy is going to be spent developing plans to bring to the state.

This will remain true even with the federal dollars coming from CARES II and ARP. These enormous sums are going everywhere – which means that executive decision-making and staff resources in these national outfits are going to be devoted to places representing significant percentages of their business. As it has always been, Vermont will be an afterthought.

Vermont, as always, needs to find its own way. As the history of roads may be a guide, a recap of recent history is in order.

In 2010, with a \$110 million federal grant available, 24 towns in Vermont proposed to build an FTTP network for \$30 million in an area where NYNEX or SoVerNet was offering DSL in most village centers, and Comcast was offering cable service in the most populated parts of Hartford (Wilder, White River Junction and Quechee) and in the village centers of Norwich, Woodstock, and Randolph. VTel proposed to build

scores of towers delivering an LTE data-only service. In theory, this would bring wireless broadband to essentially all of Vermont. The decision was made to go with VTel. Where it works, it works just fine, but two big problems hinder it: trees and hills block signals, and the tower locations were not selected for coverage, but instead for population density. While some towns remained internet deserts, places like Quechee suddenly had a 7th choice -- in addition to Comcast (cable), SoVerNet & Consolidated (DSL), AT&T, Verizon & Sprint (also LTE).

Meanwhile the 24 towns grinded it out and raised money privately for a demonstration network. The entity was dubbed ECFiber, and in partnership with ValleyNet, a non-profit spun out of Dartmouth in the early 90s to provide dial-up internet service in the region, the FTTP service began to grow, funded entirely through privately placed promissory notes.

In 2015, ECFiber came to the Vermont legislature and asked for the ability to become a municipality; the bond market wanted to issue bonds for ECFiber, but its legal basis, a contract signed by 24 towns, was not something the bond market attorneys, economists, and risk analysts were capable of dealing with. The Vermont law creating Communications Union Districts (CUDs) went on the books mid-year. ECFiber was reformed as the East Central Vermont Telecommunications District on January 1, 2016, and within 90 days had issued its first municipal revenue bond, retired most of its startup debt, and began building at triple its prior rate.

In 2019, ECFiber again came to the Vermont legislature, this time asking for changes in the law that would promote more cooperation from the pole-owning utilities. One of the biggest barriers ECFiber was encountering was the lack of timely attention to its applications for pole attachment licenses and for the prep work other utilities must do in certain situations, so called 'make-ready' work.

Contemporaneously, the legislature was again roiled by demands from Vermonters that something be done about internet availability in the state. The solution was staring the state government in the face: ECFiber. With essentially no state funding (the Orange County Connector dark fiber was a help, but not critical), ECFiber had pulled itself up by its own promissory notes and was on the way to building a truly world-class

internet service in a 23-town area that contained more than a dozen towns that are as rural as they get in Vermont.

Agreeing that the state should set a goal of world-class broadband for every premises on the grid, it created incentives for communities to create additional CUDs and determined that state funds could only be spent for 100/100 solutions. In line with ECFiber's experience, that it took about \$8 million over a 4-year period to reach the municipal revenue bond market, a lending facility through the Vermont Economic Development Authority (VEDA) was created.

Unfortunately, little progress was made until CRF monies began to become available, with significant constraints, in the summer of 2020. VEDA was not able to see their way to making loans to CUDs, imposing impossible conditions. The CRF funding was at least able to fund some staff time and studies for the new CUDs, who are now poised on one or another of the steps leading to service delivery.

Now significant sums are arriving for broadband, largely unconstrained. Vermont has already made two important, related decisions: FTTP, using the CUD model as a funding mechanism. Now, though, instead of only having \$10 million to "prime the pump" (which was never going to be enough), we have over \$100 million. Since a buildout of FTTP in all locations that do not already have it will cost around \$450 million, that \$100 million isn't enough. But it is enough to get the new CUDs operational, get them to the point where they have three years of audited financials, and get them to the municipal revenue bond market.

There is no reason why cable and phone companies cannot be operating partners of the CUDs. In fact, due to the phenomenon of 'convergence' – all communications being transferred to the internet – the phone and cable companies are converting their copper wire (electrical impulses) and coaxial cable (radio waves) to the far more efficient fiber optic cable (light signals). This allows them to brag about having thousands of miles of fiber in the state. But it is not for customers. For them, the issue is converting the curb-to-home from old tech to the new. It is expensive. ECFiber capitalizes that cost and pays it off with a 30-year bond; the phone company wants an \$800 installation fee.

The community broadband approach also has the benefit of being a lot more transparent in its pricing. For example, Comcast, in bragging about 'gigabit service' being available everywhere in Vermont, does not reveal

that prospective customers, even those wishing to upgrade, will be subject to usage caps, must rent equipment instead of owning their own for that speed level, cannot get internet-only but also have to take television and phone, and will have the price increase after two years, even if a two-year contract is declined. ECFiber, by contrast, has no caps, offers unbundled services, and has no contracts. Its staff and management are all local.

In sum then, Vermont has already gone past ‘technology neutrality’ and decided, by law, that 100/100 service, currently only available residentially with FTTP, is the mountaintop we seek to climb. Not only does Vermont not want to expand old-fashioned cable networks, it has never been provided a serious public-private partnership proposal to do so. The cable companies and phone companies don’t want public money to be spent on overbuilding, but that assumes a network is made up of discrete segments when it is more like a spiderweb, where each segment is necessary. In a state where \$450 million will be spent building out FTTP, two thirds of it with borrowed money paid off by user revenues, we can talk about the cost of overbuilt segments in 5 or 6 years. It will be clear that those segments are not more than 2/3rds of the network.

There is no serious disagreement about what a ‘future-proof’ ‘state of the art’ internet service delivery network is: fiber everywhere. From pole to pole, from curb to house. Fiber is the backbone of wireless communication, the backbone of telephony, the backbone of cable. Vermont has figured out how to deliver this to every premises in the state that is on the grid. It can now see the mountaintop. It is time to start climbing.

This essay was written by VCUDA chair F. X. Flinn, who is also chair of ECFiber, Vermont’s first Communications Union District. VCUDA hopes decision-makers in state government find this informative and persuasive.

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