

## Statement of Joshua Cyr

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### U.S. SENATE COMMITTEE ON COMMERCE, SCIENCE, & TRANSPORTATION

Field Hearing on Expanding Broadband Infrastructure in the Granite State

Friday, October 13, 2017

Good morning. Thank you Senator Hassan for convening this field hearing and for inviting me.

My name is Joshua Cyr. I am the Director of Education and Acceleration at Alpha Loft, a nonprofit that aids founders of innovative startups here in New Hampshire. My job includes developing and running our education programs for early stage startups, as well as directing our startup accelerator.. Previously I was a software developer for a tech company and I am now a technology advocate in the seacoast area. I regularly run tech meetups, symposiums, and other events promoting education around new tech for both technologists and the general public. I have also been able to experience a bit of politics and policy over the last two years, as I am finishing my first term as a City Councilor for the City of Portsmouth.

I have pondered the topic of broadband in New Hampshire quite a bit. Primarily from a perspective of business and consumer need, state health, and in a vision of what is to come. I'd like to relay three areas of concern that I have.

#### **Lack of broadband turns away those who we are working hardest to attract.**

New Hampshire, like other states, has an aging population and that is creating numerous critical issues for our state. Lack of high speed internet exacerbates the problem and frustrates our efforts in attracting and retaining younger generations.

When it comes to making a decision on where to live, broadband plays a key role. Comcast recently surveyed apartment managers about the most important amenities for decision making.

A highlight of the report was:

“High-speed internet and Wi-Fi are among the most important factors to apartment dwellers when making a rental decision – even more than in-room laundry facilities “ (1)

In addition to highly valuing broadband, broadband use is also dramatically higher with younger generations. “In 2011, the average 18-24 year old millennial consumed about 25 hours of traditional television per week – today, they consume closer to 14 hours.” Ages 17 and under “watches between two and four hours of YouTube and less than an hour of traditional television per day” (2)

People are not just consuming video. Remote work has become a viable option for many. Frequently this requires the use of bandwidth intensive tools such as Google Hangouts, Facetime, Skype, Webex etc. This is required for professionals and means that they must move to where broadband is adequate and rule out the many areas in our state that are not.

Finally, more and more people are streaming their own personal activities as video for others to watch. This is in the form of streamed video game playing, performances, talk shows, Facebook Live, and more. This interactive format requires reliable upload speeds as well.

Today it is not unusual for a family to be consuming multiple bandwidth intensive applications at the same time, in many rooms of the home. We can not simply measure bandwidth needs by the use of just one application, or even a few.

### **Consumers are confused and mobile broadband isn't adequate.**

It may seem like the answer to rural broadband is mobile access. However the current unlimited plans are not really unlimited in the sense that a consumer would expect. Mobile plans will de-prioritize data after the user hits a certain threshold of usage in a month. This varies by carrier in the 22gb to 30gb range. (4) This cap can be hit very quickly on mobile devices. (5) After that the speeds slow down. Speeds also change when tethering to desktops or a tv, becoming far slower. (6)

Mobile speeds, availability, and reliability are simply not adequate as a primary source of internet for consumers.

### **Our future is full of heavy bandwidth uses not yet considered, in places we do not expect.**

Humans are not good at planning for the future. Most are probably not aware that autonomous cars are just around the corner, for example. (3) We haven't done a good job taking into account the many changing dynamics that come into play with this hugely disruptive event.

For example once we are no longer focused on the task of driving, entirely new forms of auto entertainment will emerge. The car is a remarkably well created as an entertainment hub. A captive audience, lots of speakers, and plenty of room for screens. We don't yet know what kinds of entertainment consumption will become popular. Strong contenders include live video streaming, movies, VR / AR, for example. We can guess, however, that much of it will be bandwidth intensive. While a car is in motion.

Another example of anticipated future demand is the explosion in interest and implementation of IOT. The Internet of Things. IOT is common enough now that it isn't a term used by consumers. As consumers we simply have and expect that our devices are smart and can communicate with each other. While much of our current IOT devices consume or produce very little data, that doesn't mean the future will be the same. With numerous efforts underway for smart cities, are we leaving our less urban infrastructure behind?

For these reasons and more when thinking about broadband availability we should be thinking of complete coverage, not simply covering destination zones.

## Summary

We are not meeting today's needs for many citizens of New Hampshire. Our planning for the future must take into account that the needs in the future will be significantly greater in terms of both data consumption and creation. The geographic area covered must be profoundly greater than that covered are today. If people can't get what they need, they will move to areas that can serve them, furthering the migration to urban centers. This will make the economics of serving rural areas even more difficult.

## Appendix:

- (1) <http://corporate.comcast.com/news-information/news-feed/comcast-survey-internet-is-a-more-important-amenity-than-laundry-for-apartment-dwellers> - April 2017 -
- (2) <http://www.visualcapitalist.com/chart-netflix-generation/> - April 2017 -
- (3) <https://www.youtube.com/watch?v=2b3ttqYDwF0&feature=youtu.be> - June 2017 -
- (4) <https://www.whistleout.com/CellPhones/Guides/Sprints-unlimited-plans-everything-you-need-to-know> - April 2017 -
- (5) <https://help.netflix.com/en/node/43701>
- (6) <https://www.wired.com/2017/08/verizons-unlimited-data-plan-back-heres-compares-carriers/>