



# Broadband Deployment 2020

SHORT AND LONG-TERM STRATEGIES

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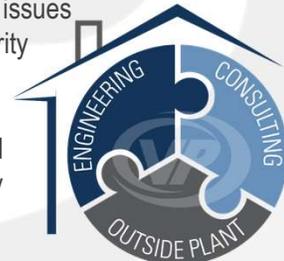


**Larry Thompson**

- VPS Founder & CEO
- Masters in E&CE, KU
- 30+ Years in Telecom
  - » Satellite
  - » Wireless
  - » Landline
- FCC Broadband Deployment Task Force (BDAC)
- Various NECA/NTCA Committees

**VPS Engineering/Consulting**

- 350+ Staff / 500+ Clients
- Wireless & Wireline broadband
- 10K mi/yr of OSP Const Management
- Regulatory issues
- Cybersecurity
- Business Analysis
- Vendor and Technology Agnostic



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## A Few Initial Thoughts

- The United States has an Urban/Rural Digital Divide
  - Between 20M and 40M lack broadband (25/3M)
  - Most of these areas not economical to serve
- The Average Broadband Speed in US is now >140Mbps
  - NCTA claims >80% have access to 1Gbps speeds
  - Vermont has <20% capable of 100Mbps speeds
- Wireless and Satellite Will Not Satisfy Users Speed & Capacity Needs
- A Good Broadband Infrastructure Can Last 30+ Years
  - Takes planning and effort to do right
- Fiber is the Common Ingredient in All Broadband Networks



## All Aspects of American Life Now Rely on Broadband

- Communication, Education, Healthcare, Entertainment, Retail, and Agriculture
  - Smart Cities, Smart Farms, Telehealth, Distance Learning
- Better Broadband Results in >5% Price in Property Price
  - Higher tax base
- Broadband is Needed for the New Economy
  - Better broadband means better lives

## The Problem

- Vermont Has Significant Areas that Lack Broadband Today
- Vermont's Terrain, Topography, and Environment Make Broadband Deployment Difficult and Costly
  - Mountains, hills, heavily wooded
  - State/National parks and forests also present challenges
  - Short construction season due to cold winters
- Vermont Lacks a Well-Defined Broadband Strategy or Plan
  - This is the case for many states, so not unusual
- Normal Market Forces will not Eliminate this Gap

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## Broadband Takes Planning and Time

- All Broadband Networks Rely on a Fiber Backbone
- Fiber Installation is Time Consuming and Labor Intensive
  - Design and Engineering
  - Permitting and Rights-of-Way
  - Buried and Aerial Construction
  - Environmental studies and location of existing facilities
- Doing Wireless Right Takes Time Also
  - Securing licensed spectrum
  - Permitting for tower sites and radio installation
- Currently experiencing some material shortages – Long lead times

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## Possible Short-Term Considerations

- 2020 CARES Money Could be Used to Fill Some Gaps
  - Timing is not good for long-term solutions
- Money Spent Quickly May be Less Efficiently Invested
  - Likely many compromises and assumptions will be made
  - More risk that investments today will not easily fit into the “bigger picture” later
- Likely Need to Focus on Existing Broadband Providers

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## Possible Long-Term Considerations

- Identify Areas that Lack Broadband and Other Digital Needs
- Develop a Comprehensive State Broadband Plan
  - Focus on goals, principles, and areas – Not networks or technologies
- Consider a State Broadband Office
  - Establish statewide broadband goals and strategies
  - Manage state grant program
- Encourage “shovel-ready” projects
- Close the Broadband Gap, but Continue to “Raise the Bar”

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