

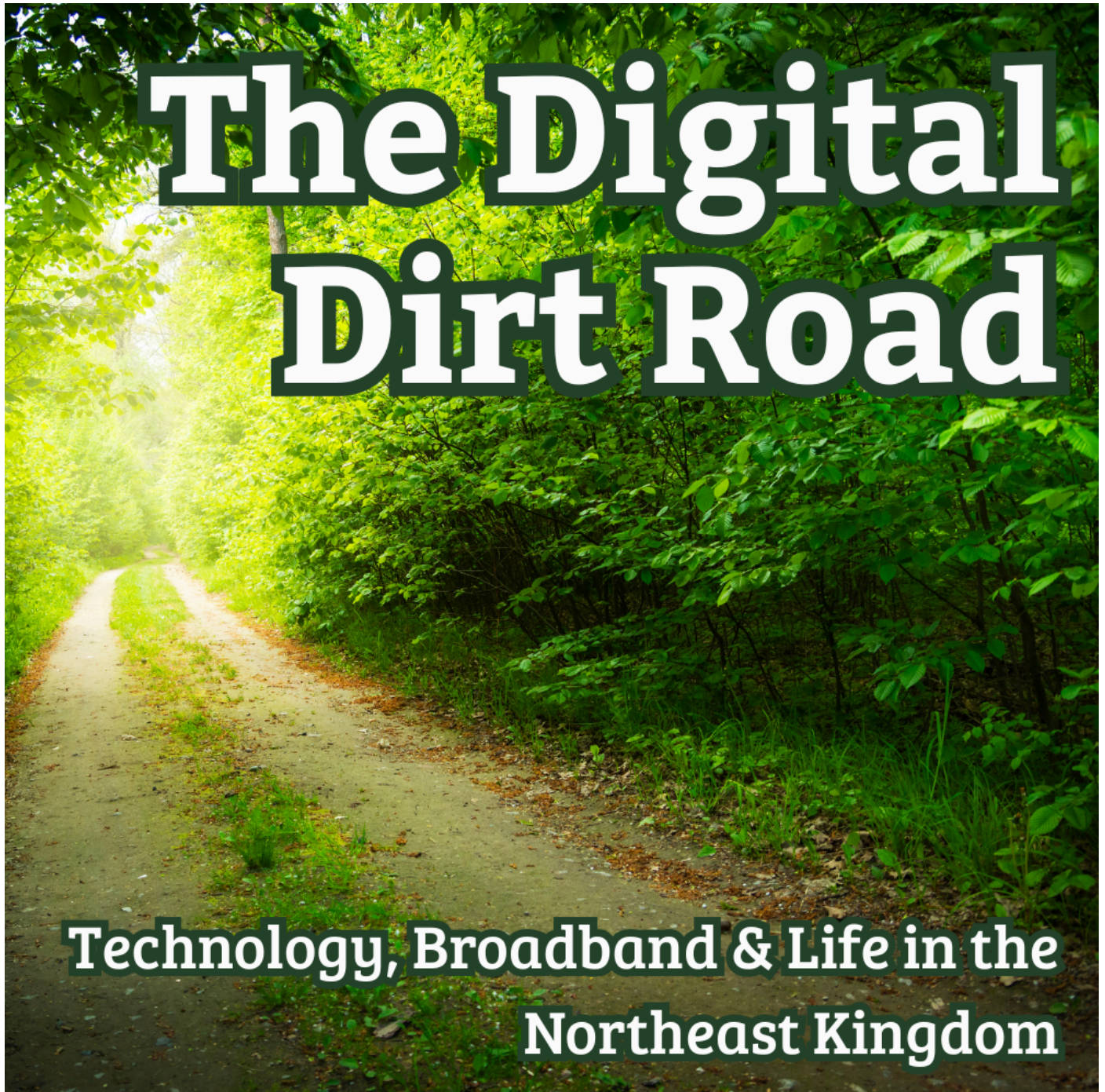


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Oct 20 – Written by Joshua Smith

Do You Have High-Speed Internet?





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some in Vermont are 80 or more years old! DSL once meant easy access. But there's a downside. Copper wire has limited capacity and electronic signals degrade the further they travel from the equipment that generates them. If your house is two or three miles away from the electronic cabinet, that means slow speeds.

Coaxial cable carries internet and television service and was the standard for cable companies for years. The catch is that neighborhoods share the same line, so speeds often slow down during busy hours, such as after the school day ends.

Fixed wireless uses towers, very similar to cell phone towers. The tower has to have clear line-of-site access to the user. Trees and hills and buildings can get in the way, which matters in Vermont and New Hampshire!

Satellite internet service is also wireless. A device on the house talks directly to satellites in orbit. Differences exist between two kinds: Low Earth Orbit (LEO) and Geostationary Earth Orbit (GEO). Each has pros and cons. In general, satellite internet works well for reaching places nothing else does, but it comes with trade-offs. Your signal has to travel long distances into space and back, and that trip takes time. That delay is called latency, or "lag." It's measured in milliseconds, and it's why a video call freezes mid-sentence or a game character reacts a beat late. Speed is how much data you can move. Latency is how long it takes to get started. Satellite latency ranges from a few dozen milliseconds to over half a second depending on the system, while fiber optic internet is typically only five to 25 milliseconds.

Fiber optic technology is the newest and fastest option. Lines hang on utility poles like the copper or coaxial lines, but data is transmitted on pulses of light through thin glass strands (hence fiber optic). Upload speeds keep pace with download speeds instead of lagging behind. It can carry high-def television signals as well as website data and has the capacity to keep up with increased traffic for decades to come..

For years, these faster utility pole-based options simply were not available in rural areas, because building the infrastructure to reach a rural population in spread-out homes was not profitable for private companies. Closing that gap is exactly what Vermont's Communication Union Districts (CUDs) are working on. They're bringing fiber optic internet, the most reliable option, to residents that have spent years making do with whatever connection they could get.

Written by Cayden Clark, Marketing Intern at NEKCV. Learn more at <https://nekcvc.org/>

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