Nebraska Broadband Speed Test

Including the Counties of Mills and Pottawattamie in IA

Technical Glossary

Definitions

Broadband: a high-capacity transmission technique using a wide range of frequencies, which enables a large number of messages to be communicated simultaneously. Standard bandwidth capacity was defined by the Federal Communications Commission (FCC) in 2015 as 25 megabits per second (Mbps) Down and 3 Mbps up

Bandwidth: speed or capacity of a connection (Mbps) or gigabits per second (Gbps). Fiber and Cable deliver faster bandwidth capacity.

OPEN Access: is a model where a company like **UTOPIA Fiber** owns and manages the **fiber** optic infrastructure, then leases the lines to local private **Internet** Service Providers (ISPs)

DSL stands for **Digital Subscriber Line**. DSL is often mush closer than 25/3 - Users get a high speed bandwidth connection from a phone wall jack on an existing telephone network.

WIFI- specific kind of wireless – short distances; modem, hotspot

Fiber To The Home (FTTH) – HIGH install cost - $15,000/mile buried, but low operating cost and easy to increase capacity; long life; Best path for reciprocal speeds greatest security, greatest reliability when installed in redundant loops with more than one way home. Local Telecos and cooperatives are building out rural America.

Broadband Deliveries:

1. **Fiber Optics** – “Gold Standard” - buried installation requires conduit –ideal to install when expand, replace or repair underground infrastructure
2. **Cable**
3. **Fixed Wireless; aerial (antennae) wireless**
4. **Mobile wireless satellite**
5. **Satellite**
6. **5G Next** (but required fiber)
7. **Open Access** – mix – when a fiber company leases to other companies so you can choose your provider.
8. **WIFI; Hotspots**

Advantages/Disadvantages:

- **Fiber Optics** – high cost to install - $15,000/mile; long-term investment; infrastructure
- **Cable** – Cable modem – competitive to DSL – 67% of market - Majority of Americans have Cable Access – congested times; limitations; asymmetrical
- **Open Access** – mix – when a fiber company leases to other companies so you can choose your provider.
- ***Fiber Optics and Cable is almost always faster***
- **Fixed Wireless** – used in combo with fiber optic deployment; limited by spectrum and highly variable results
- **Mobile Wireless** – devices, tablets; bandwidth caps; cost; rural coverage limitations
- ***Fixed and mobile wireless may be much slower or faster depending on many facts***

- **Satellite** – geostationary – latency and bandwidth limitations and low earth orbit (LEO) limitations; Satellite can now hit 25/3 but bandwidth caps, latency, cost limit utility
- **5G Next** (but required fiber) -5G – next standard although still need fiber; roll out will be urban high density uses and rural will basically expand 4G

How much Broadband Capacity do you need? https://broadbandnow.com/bandwidth-calculator