

Broadband Availability

In the Lower Beaver Neighborhood



Why this matters

- Families
- Businesses



The matter of broadband availability matters greatly to the continued vitality of the Lower Beaver Neighborhood for two main reasons.

Fast, reliable broadband is increasingly essential to everyday living. Children need it for school. Adults need it for telecommuting. Everyone uses it for gaming and streaming media. As families have a growing number of devices connected to the network, more bandwidth is essential. Therefore, a basic DSL package may be insufficient. Also, there are some providers that cap the amount of data you can download. This becomes a big deal if you have cut the cord and rely on the internet for entertainment. WITHOUT VIABLE INTERNET OPTIONS, FAMILIES WILL NOT STAY IN - MUCH LESS RELOCATE TO - LOWER BEAVER.

Fast, reliable broadband is even more essential to businesses. Everything from email to teleconferencing to credit card transactions depends on it! Yet, for much of the Lower Beaver Neighborhood's commercial corridor (i.e., Douglas Ave east of Lower Beaver to the Des Moines River), broadband options are very limited. The result is that both speed and price become an issue for existing and prospective businesses. WITHOUT VIABLE INTERNET OPTIONS, BUSINESSES WILL NOT REMAIN IN - MUCH LESS RELOCATE TO - LOWER BEAVER.

Before we begin

- Download speeds tell you how fast you can receive information from the internet
- Upload speeds tell you how fast you can send information to the internet



Some terms to know before we get into this

- Download speeds are important if you're watching movies, have multiple people sharing a connection, moving large amounts of data back and forth.
- Upload speeds are essential if you're streaming your own video to the internet, video conferencing, graphic design, web development, gaming

Before we begin

- A modem is a device used to connect a computer or other data device to a network designed for voice or video traffic.



Some terms to know before we get into this

- A modem will be required if you are connecting to DSL or cable internet because those networks were not designed to carry data.

Before we begin

- A WiFi router is a device that allows multiple computers, etc. to share a single internet connection wirelessly



Some terms to know before we get into this

- A router is required if you intend to share your internet connection with more than one computer or other device.
- You can purchase wired models, which require a physical, wired connection to each device, or WiFi models.
- Wired connections offer superior speed, reliability (because they aren't subject to interference), and security (because there isn't an over-the-air transmission to intercept)
- WiFi connections have become very fast, are simple to install (Look, ma! No wires!), offer portability
- Most laptops, other devices no longer ship with wired internet options!

Before we begin

- 4K video: 20 Mbps
- 1080P video: 5 Mbps
- 720P video: 2.5 Mbps



To put these speeds into a little more useable context, Netflix and other streaming services recommend these speeds for optimum viewing.

- 4K video = UHDTV. If you have a newer TV that is larger than about 42", it is probably a 4K TV. This is the kind of video you want to watch for the best clarity
- 1080P = HDTV. If you have any flatscreen TV that is larger than 32", it is almost certainly capable of 1080P. Lower quality videos will look blurry and grainy.
- 720P is common on smaller flatscreen TVs. It is clear on screens less than 32", but larger screens quickly become blurry.
- SD = the resolution of older, box TVs. Blurry, grainy images, often characterized by letter-boxes.

Before we begin

- Watch out for hardware costs
- Beware extra fees



A couple of things to watch out for when choosing a broadband provider

- Hardware costs include
 - DSL, cable providers will often provide you with a modem, but you are leasing that modem on top of your monthly service bill. Modem lease is often \$10-15/mo. If you choose to not lease from the provider, you will need to purchase
 - Appropriate modem (if on DSL or cable)
 - WiFi router (802.11ac, 802.11ax (aka WiFi6), or 802.11be (aka WiFi7) recommended)
 - You should also expect to upgrade this hardware every 5-6 years
 - Wireless providers (e.g., Verizon, US Cellular) will require you to purchase a hotspot device.
- Extra fees. The advertised price of the internet service is X, but that doesn't include a host of fees.
 - Particularly important because the FCC is currently considering rules that would not require providers to list the different fees they are charging. Simplifies billing, but allows them to hide their own fees!

Wired Options



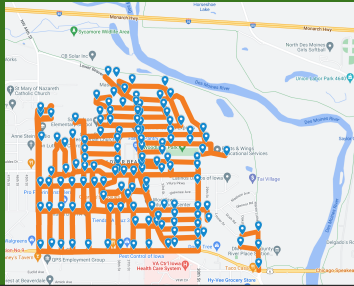
CenturyLink DSL

- DSL
- Download: 80 Mbps
- Upload: 10 Mbps
- Plans start at \$50/mo
- Hardware: DSL Modem



DSL comes in over a phone line. Requires a DSL modem, which is typically integrated into a WiFi router.

CenturyLink DSL Availability



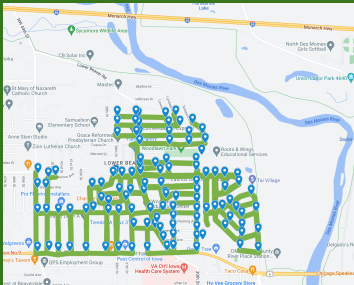
Source: <https://iowa.maps.arcgis.com/apps/webappviewer/index.html?id=f454e1dd4e1c405787b5f35c56bcfee3>

CenturyLink Fiber

- Fiber
- Download: 940 Mbps
- Upload: 940 Mbps
- Plans start at \$30/mo
- Hardware: none

Because fiber was designed from the ground up for data transfer, it is very fast.

CenturyLink Fiber Availability



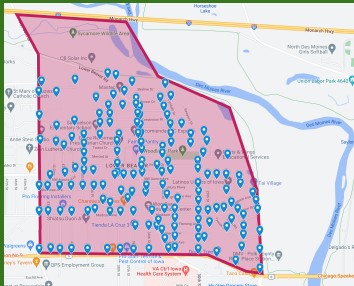
Source: <https://iowa.maps.arcgis.com/apps/webappviewer/index.html?id=f454e1dd4e1c405787b5f35c56bcfee3>

Mediacom

- Cable
- Download: 1000 Mbps
- Upload: 50 Mbps
- Plans start at \$25/mo*
- Beware the data cap!
- Hardware: cable modem



Mediacom Availability



Source: <https://iowa.maps.arcgis.com/apps/webappviewer/index.html?id=f454e1dd4e1c405787b5f35c56bcfee3>

Cellular Options





Cellular options typically come in two flavors.

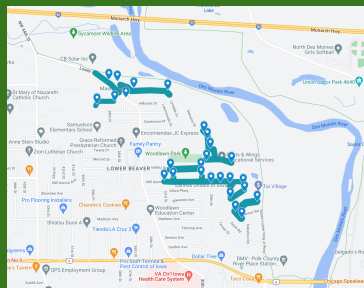
- 4G LTE is the older standard. Works well for 3 or fewer devices because of bandwidth limitations
- 5G is the new standard. Much faster. Probably adequate for 5+ devices.
- To know if 5G is available in your area, be watching for cell antennae like the one pictured to pop up. These are much smaller than a familiar cell tower, often placed atop a streetlight or other utility pole.

US Cellular

- LTE
- Download: 25 Mbps
- Upload: 3 Mbps
- Hardware: US Cellular
LTE hotspot



US Cellular Availability



Source: <https://iowa.maps.arcgis.com/apps/webappviewer/index.html?id=f454e1dd4e1c405787b5f35c56bcfee3>

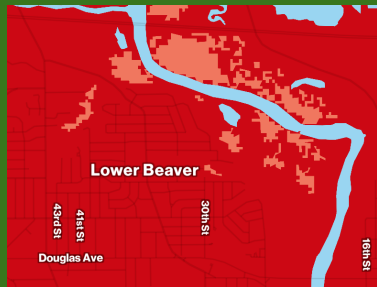
****Please note that this map is based on data from the State of Iowa rather than US Cellular. Their signal has been greatly expanded, and I expect 5G coverage is now available throughout most of the neighborhood.****

Verizon Wireless

- 5G
- Download: 300 Mbps
- Upload: 300 Mbps
- Hardware: Verizon hotspot



Verizon Wireless Availability



Source: <https://www.verizon.com/coverage-map/>

The lighter shade represents where 4G LTE is available.

The bright red represents where 5G is available.

Your mileage may vary!

Other Possibilities

- T-Mobile
- AT&T



Future Options

- Metronet (fiber)
- Google (fiber / 8Gbps)



The following options are currently under active development in Des Moines, though they are not yet available in our area. Notice that they are fiber optic options. This is the future.

*** Neither Metronet nor Google responded to inquiries

Metronet

- Metronet has actually been installing in our area
- Recently had some issues with pole violations, having to redo things.
- No ETA for when available throughout our neighborhood

Google

- Google has extended its fiber trunk to 28th and Grand
 - Phase 1 is filling in neighborhoods between Grand Ave and Ashworth Park
 - Then moving north
 - Expect to be expanding network for a couple of years
 - No meaningful timeline for arrival
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