



BROADBAND ASSESSMENT

Phase 1: Provider Research

City of Tipton

Author: David LaMarche - BigGig Iowa, LLC
david@biggigiowa.com

Table of Contents

The Challenge	3
The Proposed Solution.....	3
Provider Research – Executive Summary	4
Provider Research.....	5
Companies Providing Broadband Services in Tipton Today	5
Mediacom.....	5
Windstream	6
SPEEDConnect	7
Clarence Telephone (limited)	8
Companies Contacted To Assess Interest in Providing Broadband Services in Tipton.....	10
Liberty Communications.....	10
Clarence Telephone	10
Allo Communications.....	11
F&B Communications	12
ImOn Communications.....	12
WTC Communications	12
South Slope Cooperative Communications.....	13
Mechanicsville Telephone Company	13
Work Product Ownership	13

The Challenge

In 1997, voters in Tipton approved the formation of a municipal telecommunications utility by a vote of 86% in favor and 14% against. Like many other Iowa communities in the late 1990's, Tipton leaders were worried about being left behind on the "information superhighway" as internet access was coming into widespread-adoption. Although voters authorized a telecom utility, thus establishing it legally, a telecommunications system was not built. Instead, the community continued to rely on the incumbent cable TV and telephone companies to provide access and satisfy Tipton's needs.

Twenty-two years later, the telecommunications world has changed drastically. Fast, reliable internet access has become essential for entertainment, education, health care, and economic development in the 21st century. Tipton citizens have provided feedback to city leaders that incumbent providers are not meeting their needs, especially in terms of reliability, affordability, and customer service excellence.

In order to identify possible pathways to better broadband, the City of Tipton has asked SmartSource Consulting and collaborative partners Kielkopf Advisory Services and BigGig Iowa to help the city examine its options. Are there broadband providers in the region that would be interested in serving Tipton? Is a municipal telecommunications system a feasible option? Are there public-private partnerships that might achieve your goals?

The Proposed Solution

SmartSource Consulting proposed that Tipton embark on a three-phase approach to evaluate its broadband options. Two collaborative partners – BigGig Iowa and Kielkopf Advisory Services – would perform substantial portions of the work, serving as subcontractors to SmartSource Consulting. Tipton decided to move forward with the first phase, and this report is the output from that study.

Research and report provided by BigGig Iowa's David LaMarche.

Provider Research – Executive Summary

Four companies provide broadband services in Tipton today:

- Mediacom – Advertises up to 1Gbps broadband services over coaxial cable
- Windstream – Advertises up to 100Mbps broadband services over xDSL (copper)
- SPEEDConnect – Advertises up to 15Mbps broadband services over fixed-wireless
- Clarence Telephone – Serves a small portion of Tipton with fiber to the home (FTTP) services up to 100Mbps

Eight companies were contacted to assess interest in building out or expanding broadband services in Tipton. Listed in order of interest.

- Liberty Communications
 - Interested in exploring expansion into Tipton. Very interested in assessing a partnership.
- Clarence Telephone
 - Some fiber services in Tipton today with tentative plans to expand, but no commitment. A partnership may yield a commitment.
- Allo Communications
 - Slight interest; would depend on their assessment
- F&B Communications
 - No plans to offer services in Tipton, but potentially interested in partnering
- ImOn Communications
 - No plans to offer services in Tipton, but potentially interested in partnering
- WTC Communications
 - No plans to offer services in Tipton. Only interested if Clarence does not build-out.
- South Slope Cooperative Communications
 - No plans to offer services in Tipton; no interest in partnering.
- Mechanicsville Telephone Company
 - Unresponsive

Liberty Communications expressed the highest level of interest in offering services in Tipton. They are a modern company, family owned and independent. Clarence Telephone, however, has some fiber in Tipton today and has tentative plans to expand, but no commitment.

Research and report provided by BigGig Iowa's David LaMarche.

Provider Research

This document includes the output from Phase 1: Provider Research. During this initial phase, SmartSource Consulting and BigGig Iowa have identified companies providing broadband Internet in Tipton today and 3rd party providers that may have an interest in providing broadband services in Tipton. Research and report provided by BigGig Iowa's David LaMarche.

Information about current services offered in Tipton today was gathered and is explained. Third party providers who are not offering services in Tipton today (or only limited services) were contacted and interviewed to determine what, if any, broadband assets they have in Tipton, to learn more about their intentions for future growth in Tipton and determine if they are interested in being included in discussions regarding possibly coming into Tipton and providing services in the future.

Companies Providing Broadband Services in Tipton Today

Mediacom

Mediacom (<https://mediacomcable.com/>) offers broadband services in Tipton today. Their fiber, however, doesn't show up on my GIS records. This is being investigated with Mediacom. Companies aren't required to provide these records, however, so it's possible we won't be able to gather this information. Mediacom has at least 58 fiber lit buildings in Tipton, so they must have fiber coming through the city.

Mediacom connects to homes and businesses typically via coaxial cable, and sometimes via fiber. Coaxial cable, like copper, is susceptible to electrical interference, water and age. It is not possible to determine the architecture and age of the architecture of the local Mediacom service, but often the architectures and cables are aging and not delivering the expected bandwidth. Aging facilities are also more susceptible to service affecting issues and outages. Additionally, the network can be oversubscribed, so when an event happens or kids come home from school and usage on the network spikes, the performance of customer's services can suffer significantly. This would need to be determined by a survey of residents.

Below are the services that Mediacom offers in Tipton, along with their costs:

- Broadband
 - o Internet 1Gig
 - Speed - Up to 1Gbps downstream, 50Mbps upstream
 - Cost (incl. modem rental) - Year 1 \$81.49/mo., Years 2-3 \$111.49/mo., Years 4+ \$151.49/mo.
 - Data cap/mo. - 6TB. Excess billed at \$10 for every 50G.
 - o Internet 500
 - Speed - Up to 500Mbps downstream, 30Mbps upstream
 - Cost (incl. modem rental) - Year 1 \$71.49/mo., Years 2-3 \$101.49/mo., Years 4+ \$131.49/mo.
 - Data cap/mo. - 4TB. Excess billed at \$10 for every 50G.
 - o Internet 200
 - Speed - Up to 200Mbps downstream, 20Mbps upstream

- Cost (incl. modem rental) - Year 1 \$61.49/mo., Years 2-3 \$91.49/mo., Years 4+ \$111.49/mo.
 - Data cap/mo. - 2TB. Excess billed at \$10 for every 50G.
 - Internet 100
 - Speed - Up to 100Mbps downstream, 10Mbps upstream
 - Cost (incl. modem rental) - Year 1 \$51.49/mo., Years 2-3 \$81.49/mo., Years 4+ \$91.49/mo.
 - Data cap/mo. - 1TB. Excess billed at \$10 for every 50G.
 - Internet 60
 - Speed - Up to 60Mbps downstream, 5Mbps upstream
 - Cost (incl. modem rental) - Year 1 \$41.49/mo., Years 2-3 \$71.49/mo., Years 4+ \$81.49/mo.
 - Data cap/mo. - 400GB. Excess billed at \$10 for every 50G.
- Voice Service? - Yes
- TV service - Yes
- Additional fees:
 - One-time fees:
 - Activation - \$10
 - Installation - \$14.99 (or more, if special work is needed)
 - On-going fees:
 - Wi-Fi device in the home (2 access points) - \$5/mo.
 - Extra access points - \$2.99/mo.
 - Installation fee of \$29.99 may apply
 - All prices exclude taxes and fees

Windstream

Windstream (<https://www.windstream.com/>) has services present in Tipton today. The services are fed by Windstream fiber passing through the city. Windstream has a Point of Presence (POP) at 506 Meridian St. in Tipton. Windstream's fiber comes into town from the North along 38, passes down along North Avenue, jogs to Meridian St., jogs to Mulberry St., then goes two direction at E South St., passing out of town down S. Cedar St. and x52.

Windstream offers services to homes today via various DSL technologies, which utilize existing copper to homes and businesses. DSL comes in many variants - ADSL, VDSL, VDSL2, VDSL2+ (bonded and non-bonded variants) and others. Windstream uses a variety of these through their networks. DSL is only as good as the copper it is using, so each homes or business can have a different experience based on the quality and strand count of copper serving the building. Copper is also susceptible to electrical interference, water, crosstalk (frequencies in one copper strand impacting other copper strands), etc., all of which are dependent on services on the copper wires, age, installation quality and many other factors. A good quality copper connection can provide excellent performance, but a poor-quality copper connecting and cause many problems. Additionally, the network can be oversubscribed, so when an event happens or kids come home from school and usage on the network spikes, the performance of customer's services can suffer significantly. This would need to be determined by a survey of residents.

Below are the services that Windstream offers in Tipton, along with their costs:

- Broadband Internet
 - o Kinetic Internet 200 (Expected 126Mbps - 232Mbps) - \$84.99/mo. (incl. modem rental)
 - o Kinetic Internet 100 (Expected 73Mbps - 125Mbps) - \$79.99/mo. (incl. modem rental)
 - o Kinetic Internet 25 (Expected 21 Mbps - 33Mbps) - \$59.99/mo. (incl. modem rental)
- Voice service? – Yes
- TV service? – Yes, via DIRECTV
- Additional fees:
 - o Internet activation - \$50 one time
 - o Standard Modem Rental - \$9.99/mo.
 - o All prices exclude taxes and fees
- This list can change, and Windstream may have services not advertised on its website.

SPEEDConnect

SPEEDConnect (<https://speedconnect.com/>) has fixed-wireless internet services available in Tipton today. They are based in Frankenmuth, MI.

SPEEDConnect provides services to homes and businesses via fixed-wireless technology. There is an access point attached to a tower in the center of town and receivers on the customer locations. Likely, fiber feeds the access point. Technologies are wide ranging with fixed-wireless, with power levels and frequencies used mostly determining whether line-of-site is required, what the distance/reach is and what the throughput data rates are.

The only data rate they offer is 15Mbps (up to) and most of their packages have data caps (meaning they measure how much data passes through the connection and bill for any amount over a specified amount). This rate is not competitive with offerings from other service providers today. The speed also does not meet the Federal Communications Commission definition for broadband (at least 25 Mbps download and 3 Mbps upload).

Below are the services that SPEEDConnect offers in Tipton, along with their costs:

- Broadband
 - o Basic Internet
 - Speed - Up to 15Mbps
 - Cost - \$49.90/mo.
 - Data cap/mo. - 10GB
 - o Standard Internet
 - Speed - Up to 15Mbps
 - Cost - \$59.90/mo.
 - Data cap/mo. - 100GB
 - o Platinum Internet
 - Speed - Up to 15Mbps
 - Cost - \$79.90/mo.

- No data cap
- Voice Service? - Yes
- TV service - No
- Additional fees:
 - Install - \$99-299
 - Activation fee - \$99
 - Additional data over cap - \$3 per GB

Clarence Telephone (limited)

Clarence Telephone Company, Inc/Cedar Communications, LLC (<https://clarencetelinc.com/>) is an Internet Service Provider in the Clarence, Standwood and Tipton areas. Their office is in Clarence, IA and they have been in existence for 116 years. Chad Fall, the General Manager, provided information about Clarence Telephone.

Clarence has some fiber optic cable in Tipton and provides fiber broadband services to customers along those existing fiber optic routes. They have a website showing these services, the fiber map and other details at <https://clarencetelinc.com/tipton/>. This site also shows all residents and businesses that have indicated interest in fiber broadband services (red place markers).

Tipton services bundles are provided at this link - <https://clarencetelinc.com/tipton-bundles/>, and are listed below:

Bundle	Services	Monthly Cost
Video - Life Line	1 Digital Box (34 channels)	\$36.95
Video - Universal	1 Digital Box (241 channels)	\$113.95
Video - Colossal	1 Digital box (384 channels)	\$119.95
New Premium - Video and 75 MG Internet	Digital Video TV (Universal Package) 1 Standard Set Top Box TV Everywhere 75 Meg High Speed Internet	\$164.95
New Premium Plus - Video and 75MG Internet	Digital Video TV (Colossal Package) 1 Standard Set Top Box TV Everywhere 75 Meg High Speed Interne	\$176.95
New Ultimate - Video and 100 MG Internet	Digital Video TV (Colossal Package) 4 Movie Multiplexes 1 Standard Set Top Box TV Everywhere 100 MG High Speed Internet	\$234.95
New Super 50MG	50 MG High Speed Internet	\$70.95
New Super 75MG	75 MG High Speed Internet	\$82.95
New Super 100MG	100 MG High Speed Internet	\$94.95

Companies Contacted To Assess Interest in Providing Broadband Services in Tipton

Liberty Communications

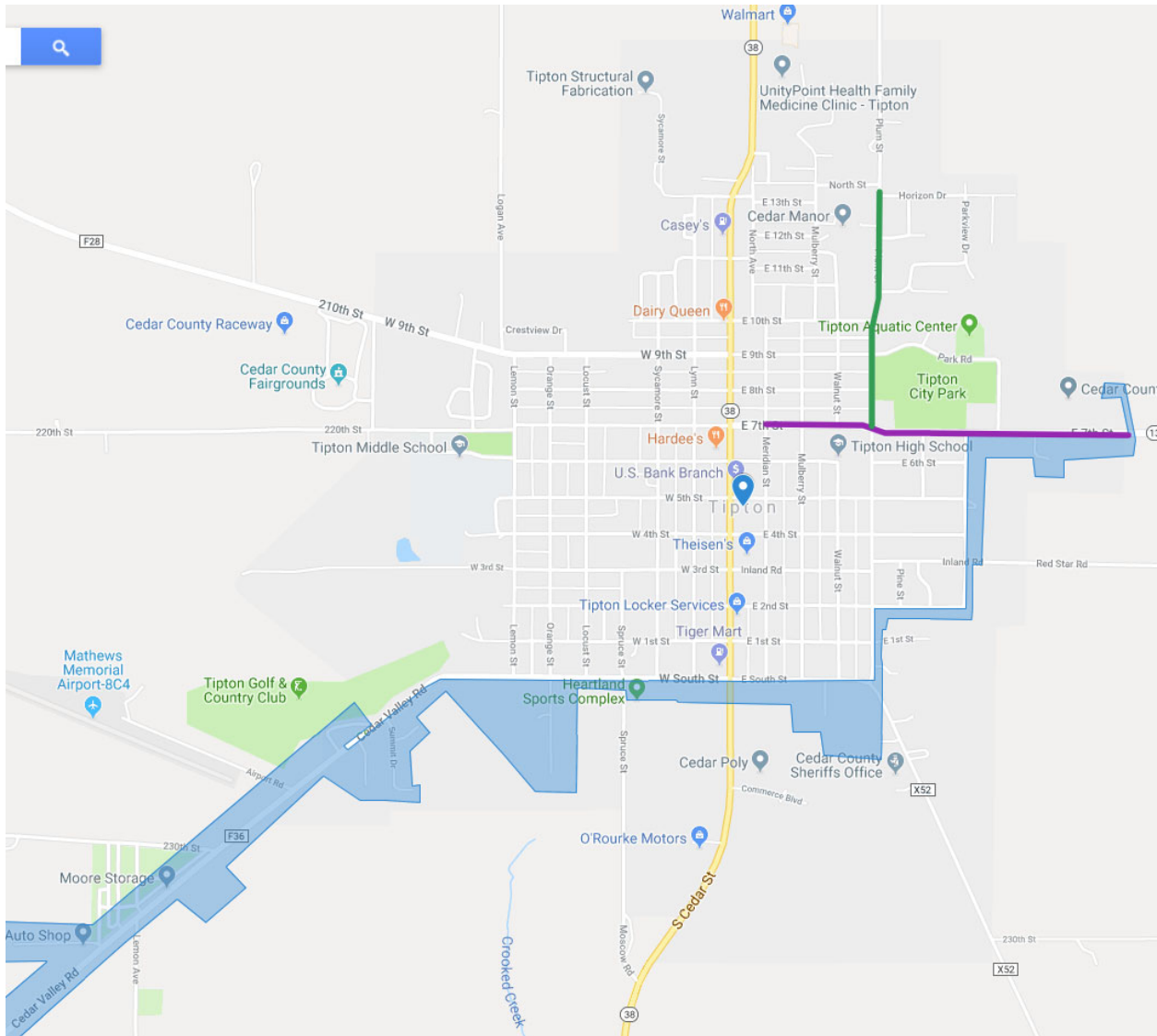
Liberty Communications (<https://libertycommunications.com/>) has its origins in 1899, is based in West Liberty, IA and provides Internet, phone and TV services. They serve the communities of West Branch, West Liberty, Downey, Springdale and surrounding subdivisions with fiber services, and other communities with non-fiber services. Jerry Melick (jsmelick@corp.lcom.net), the General Manager, provided information about Liberty Communications. They are a family owned independent telephone company and are their own ISP with a modern network.

Liberty Communications does not offer any services in Tipton today, but they do have fiber into Tipton today connecting to the Aureon POP. They are 80% through a rural fiber build and considering expansion opportunities. They'd like to be involved in discussions and to have an opportunity to assess things more closely.

Clarence Telephone

Clarence Telephone Company, Inc/Cedar Communications, LLC (<https://clarencetelinc.com/>) is an Internet Service Provider in the Clarence, Standwood and Tipton areas. Their office is in Clarence, IA and they have been in existence for 116 years. Chad Fall, the General Manager, provided information about Clarence Telephone.

Clarence has some fiber optic cable in Tipton and provides fiber broadband services to customers along those existing fiber optic routes. Chad said that the city of Tipton runs off of Clarence's fiber today. They have a website showing these services, the fiber map and other details at <https://clarencetelinc.com/tipton/>. This site also shows all residents and businesses that have indicated interest in fiber broadband services (red place markers). In addition to the existing fiber, they have conduit (no fiber in it) in place along part of E 7th St and plan to add fiber along part of Plum St. soon (no date given). The below map shows the existing fiber route (light blue), the conduit (purple) and the future fiber path (green):



Clarence has plans to expand their fiber and build-out Tipton over time, however there is not timeline established today. They cite low take rates in Tipton so far. Clarence is finishing up installing fiber in Stanwood this year, freeing them up for other projects next year. Clarence said they are thinking about staking out the entire town of Tipton for Fiber to the Premise. This is a preliminary step to installing the fiber.

An aggressive build-out of Fiber to the Premise for Tipton isn't in the plans. Their board is cautious due to the low broadband take rate to date in Tipton and the presence of Mediacom and Windstream. If a partnership between Tipton and Clarence were able to be established, it may help address both party's interests and provide a win/win scenario.

Allo Communications

Allo Communications (<https://www.allocommunications.com/>) is headquartered in Imperial, NE and provides Internet, phone and TV services. They provide services in nine Nebraska and two Colorado cities, and other communities. They are a company that is interested in strategically aligned expansion and are focused on

fiber as their access technology. Dave Miller (dmiller2@allophone.net), Director of Ethical Engagement, was my contact regarding Allo Communications.

Tipton is a little smaller than their normal community builds, but they are always willing to chat and better understand a city's needs. They provided their 'ALLO Fiber City Checklist' PDF, which outlines their process, requirements, and other information. This will be provided to Tipton for review.

F&B Communications

F&B Communications (<https://www.fbc-tele.com/>) was incorporated in 1907, is based in Wheatland, IA and provides Internet, phone and TV services. Ken Laursen (ken@fbc-tele.com), the General Manager, provided information about F&B Communications.

F&B Communications provides their services via fiber to the premises in Calamus, Massillon, Toronto, Wheatland, parts of Lowden and the rural areas of Bennett, Calamus, Delmar, Lowden and Wheatland. They continue to work on expanding their fiber footprint and are currently installing fiber in Lowden. F&B Communications also offers services in the communities of Big Rock, Massillon, New Liberty, Toronto and the surrounding rural areas using copper infrastructure.

F&B Communications does not offer services in Tipton today and they do not have plans to do so in the future. They are concentrating on fiber builds in their current exchange areas, which they won't finish for 3-5 years. Even if they weren't already busy on fiber builds, they would be hesitant to consider building out in Tipton, since they are aware that Clarence had started building in the area and they wouldn't want to 'step on toes.' Ken noted they are always interested in working with others or partnering and would like to be a part of any discussions. Ken said he would share Tipton's interest in fiber with their board.

Ken noted that F&B Comm, Liberty Communications, WTC, Aureon and Windstream all have fiber in through Tipton and that there is a Windstream POP location in Tipton. F&B has fiber into the Windstream POP today.

ImOn Communications

ImOn Communications (<https://www.imon.net>) is headquartered in Cedar Rapids, IA and provides Internet, phone and TV services. They serve portions of Cedar Rapids, Marion, Hiawatha and Iowa City (not all services are offered in all areas). Cory Carpenter (cory.carpenter@imon.net), Wholesale Services Manager, provided information about ImOn Communications.

ImOn does not offer services in Tipton today (though they do have dark fiber through town) and Tipton isn't on ImOn's roadmap. ImOn's primary focus is on building out Iowa City and Dubuque over the next 2-3 years. However, ImOn is open to looking at Tipton, having discussions, doing the due diligence and determining if a level of engagement makes sense. ImOn is open to looking at various scenarios that would benefit both parties, including public-private options.

WTC Communications

WTC Communications (<http://wtccommunications.com/>) has its origins way back in 1881 and is based in Wheatland, IA and provides Internet, phone and TV services. WTC's office is in Wilton, IA. They serve the city of Wilton (inside the city limits) with cable TV, phone and Internet service. They serve the rural areas

around Wilton with phone and Internet. Mark Peterson (mwp@wtccommunications.com), the General Manager, provided information about WTC Communications.

WTC Communications does not offer any services in Tipton today and does not have plans to offer any in the future. They have fiber in Tipton, but only to tie into Aureon's fiber and connect back to Aureon in Des Moines. One of the reasons cited for a lack of interest in expanding into Tipton is Clarence Telephone's interest and presence in Tipton today.

WTC Communications owns Integrated Technology Partners. Integrated Technology Partners helped with the fiber design of the municipal fiber in Tipton today, used to connect city buildings. They also provide the city of Tipton with IT and phone services today. Mark has a map of the fiber routes they installed in Tipton.

If Clarence were to back out of interest in Tipton, WTC may be interested in discussing. Additionally, if Clarence were open to partnering with the city of Tipton and another partner, WTC might be a good company to bring into the mix.

South Slope Cooperative Communications

South Slope Cooperative Communications (<https://www.southslope.com/>) has been in operation since 1958, is based in North Liberty, IA and provides Internet, phone and TV services. They serve the communities of Amana, Ely, Fairfax, Newhall, North Liberty, Norway, Oxford, Solon, Shueyville, Swisher, Tiffin, Watkins, Walford, West and South Cedar Rapids, and parts of Coralville. Brian Hamacher (brian.hamacher@southslope.com), Director of Operations, provided information about South Slope.

South Slope does not offer services in Tipton today and doesn't plan to in the foreseeable future. They do not desire to be included in discussions with Tipton about their broadband future. South Slope has other markets they are focusing on converting to fiber before they'd branch out to new markets. South Slope does provide services to third parties, including wholesale broadband, DHCP and other services that could be leveraged on a Tipton build.

Mechanicsville Telephone Company

Mechanicsville Telephone Company (<https://mechanicsvilletel.net/>) is based in Mechanicsville, IA and provides Internet, phone and TV services. They serve the city of Mechanicsville and provide some services to Tipton, Lisbon, and Mount Vernon. Hans Arwine is their General Manager. Three separate calls were made to Mechanicsville Telephone Company and messages left with the person answering the phone and on Hans' voicemail, however no calls were returned.

Work Product Ownership

All methodologies utilized are the sole property of SmartSource Consulting and its subcontractors. SmartSource will deliver written memorandums, financial models, and reports in electronic formats (PDF and Excel Worksheets) for review and or publication and are considered its work product. All information related to said work products is the sole property of each respective party, who shall not

reproduce or disseminate such property in a format capable of being used for additional commercial purposes.