November 20, 2020

State of Iowa, Office of the Chief Information Officer
Attn: Iowa Broadband Grant Program-Review Committee
Hoover State Office B
1305 E. Walnut
Des Moines, IA 50319

RE: Letter of Support for Grant Application

Dear Grant Program Review Committee,

We are writing to express our support for Western Iowa Network's grant application for the fourth round of Iowa Broadband Grants to improve broadband in Mills County, Iowa. We also want to thank the State of Iowa for funding broadband grants – they are an integral part of improving broadband in Iowa and our State leadership deserve a lot of credit for making these grant programs happen.

Mills County leadership and citizens are united in seeing the need for and taking steps for better broadband in our County. Western Iowa Networks has been a very good partner in helping this happen. Mills County completed a Broadband Study in October of 2018. A copy of this study is included with this letter. In the study, the County discovered there are serious broadband service limitations in the County, and the current State and Federal broadband map information does not adequately show those needs.

The County has taken important steps to make improvements for the citizens of Mills County. Economic Development efforts have been strong and focused on bringing significant investment and business partners to the County. Particularly with the struggles the County has had with flooding, this is an important time to look forward and make Mills County stronger. We see this access to broadband grants as a significant factor in making this happen.

We ask you to approve Western Iowa Network's grant application in this fourth round of broadband grants. Western Iowa Networks is an excellent partner for Mills County in improving broadband and we look forward to Western Iowa Networks continuing to make broadband more accessible in Mills County. This grant will help that effort.

Thank you,
Ken Demlow
Project Manager
HR Green Fiber and Broadband
Kdemlow@hrgreen.com
(712)355-1067

![HRGreen logo]

Mills County, IA

Broadband Study Final Report

October 1, 2018

HR Green Project No: 180107

Prepared For:

Mills County, IA

Table of Contents

HRGreen

Executive Summary

We want to thank the Mills County Board of Supervisors and the Mills County Economic Development Foundation for engaging HR Green to perform this study. Moreover, we want to point out the excellence in leadership and the foresight that is represented in the decision to undertake this study.

Good broadband has become a critically important part of life today. Working to try to find solutions to broadband shortcomings in Mills County is good leadership and could have a direct positive impact on the lives of its residents, organizations and businesses.

As an example of how important good broadband has become, in working on the next steps to improve broadband in their community, the City of Boulder Colorado wrote: "Broadband connectivity is a critical infrastructure service for quality of modern life, as is the case with roads, water, sewer and electricity."[i]

In discussing the importance of good broadband, the Maine Broadband Coalition pointed out these statistics:

> "The world is changing faster than many of us really can begin to understand. Like it or not, the need for speed and bandwidth is growing at an exponential rate. Just look at these statistics:
>
> 1. In 1984, there were 1,000 internet devices in the world.
> 2. By 1992, that number had risen to one million.
> 3. In 2008 that number had risen to 1 billion.
> 4. And 6 years later in 2014, the number had risen to 10 billion!
> 5. There are 5.9 billion searches on Google every day, 100 times more than 2000.
> 6. The number of text messages sent every day is double the population of the planet.
> 7. The amount of new technical information is doubling every two years
> 8. 95% of all of the data in the world has been created in the last two years!
> 9. In the time it took me to type this … all those numbers have all changed."[ii]

What is represented in these statistics can have very real impacts on our lives and on our communities. These devices and communications are in many very important areas of our lives: Economic development, employment, housing, education, health, safety, entertainment, etc.

Examining roles of broadband in economic development in more rural areas, the Hudson Institute performed a study, "The Economic Impact of Rural Broadband". Their study looked at aggregate numbers that can be attributed to broadband:

HRGreen

Rural broadband supported over $100 billion in e-commerce in 2015.
- The largest share was in manufacturing, where a majority of transactions now involve electronic data exchange over broadband networks.
- Nearly $10 billion involved retail sales; if broadband had the same reach in rural areas as it does in urban areas, sales would have been at least $1 billion higher.

One of their conclusions is important for all more rural areas: "The economic impact would be greater if broadband was more widespread and as available in rural areas as it is in urban areas. Another economic impact is economic activity foregone because telecommunications capability in some rural areas is below that in urban areas."[iii]

The last part of their statement is particularly important in economic development "…economic activity is forgone…" because the broadband is problematic. That can mean that a business leaves or chooses to locate somewhere else. It can also mean that people who have an idea to start a business don't, because they don't have the connectivity to make it work.

As will be shown in greater detail later in this study, many of the businesses and institutions in Mills County are operating on an average of 10 Mbps. And, their typical responses were that they are making it work but know that it might be holding them back. That is an actual number from responses from businesses and institutions in Mills County. As we will see later, that is a very low speed. Many areas of the County have little or unreliable access to broadband. Is there "…economic activity forgone…"?

As mentioned earlier, a lack of good broadband can affect several areas of our lives. Good broadband is being utilized in many ways in education. It can be an important component in medicine in transferring large files and in telemedicine. Good broadband can allow people to work from home or maybe start a home based business that they have been dreaming of.

And, as is becoming more and more apparent and studied, the level of broadband at a house can impact the value of real estate. According to a Fiber Broadband Association headline[iv]:

Fiber Broadband
ASSOCIATION

Press Releases

Study Shows Home Values Up 3.1% with Access to Fiber

Contact: Ellen Satterwhite, esatterwhite@glenechogroup.com

June 29, 2015

DEFINITION OF GOOD BROADBAND

There are different ways to measure what is good broadband. The FCC has defined minimum broadband speeds as:

> The FCC retains the existing speed benchmark of 25 Mbps download/3 Mbps upload (25 Mbps/3 Mbps) for fixed services and examines the deployment of mobile services with minimum advertised speeds of 5 Mbps/1 Mbps, and those with a median speed of 10 Mbps/3 Mbps or higher.[v]

We think that there are important measures in defining good broadband. It must be:
- Fast enough to be able to do what is needed – a minimum of 25 Mbps download can be good in some circumstances, but that is a fairly average speed in many parts of the country. 3 Mbps upload will probably be problematic in many uses.
- Reliable – for broadband to be good, it must be reliable. In our experience most businesses, medical facilities and institutions regard reliability as one of the most important measures of broadband.
- Cost effective – it must be affordable.

GOALS

The Mills County Board of Supervisors and the Director and Board of the Mills County Economic Development Foundation authorized this study in an effort to develop strategies to work towards the best broadband that can be deployed in all of the County.

The specific goals of this study were to:
- Understand what broadband infrastructure is in place
- What is generally planned by providers
- What gaps are left between what is needed and what is available
- Exploring options to fill those gaps

PROCESS

The process that we followed was to:
- Send a questionnaire to certain businesses, anchor institutions and leaders in the County – see Attachment A for the questionnaire form
- Research publicly available data
- Have the providers review the publicly available data
- Discuss with the providers their expansion plans
- Review existing public policy for any recommendations of policy that could further the broadband goals of the County
- Discuss options of possible ways to improve broadband in the County

Our hope is that the findings and ideas in this study can help improve broadband throughout the County.

Again, we thank the Mills County Board of Supervisors and the Director and Board of the Mills County Economic Development Foundation for engaging the HR Green team and for their leadership in this significant step for the County.

Current Broadband Landscape

Basic Coverage in Mills County

There are several sources of data for broadband coverage information.

THE FCC

A majority of the publicly available data comes from what is reported to the FCC on Form 477 that providers submit. According to the FCC website[vi]:

Who Files What?

- **All** facilities-based broadband providers are required to file data with the FCC twice a year (Form 477) on where they offer Internet access service at speeds exceeding 200 kbps in at least one direction.
- **Fixed** providers file lists of census blocks in which they can or do offer service to at least one location, with additional information about the service.*
- **Mobile** providers file maps of their coverage areas for each broadband technology (e.g., EV-DO, HSPA, LTE). See **Mobile Deployment Data**.

Within the FCC data, it is possible to compare national level data with Mills County. Below shows what is contained in their Form 477 data in certain categories[vii].

As a note of clarification, this data is for fixed infrastructure – broadband that is provided by either an underground line to the customer, an overhead line or with wireless that has fixed equipment to receive at the customer's location. So, this would include wireline and fixed wireless companies (not mobile).

It would appear that the County is slightly above the national average in having the entire County covered for broadband, while there is .1 percent of the national footprint that doesn't have any availability of fixed connection to broadband.

Their corresponding map shows the below coverage[viii].
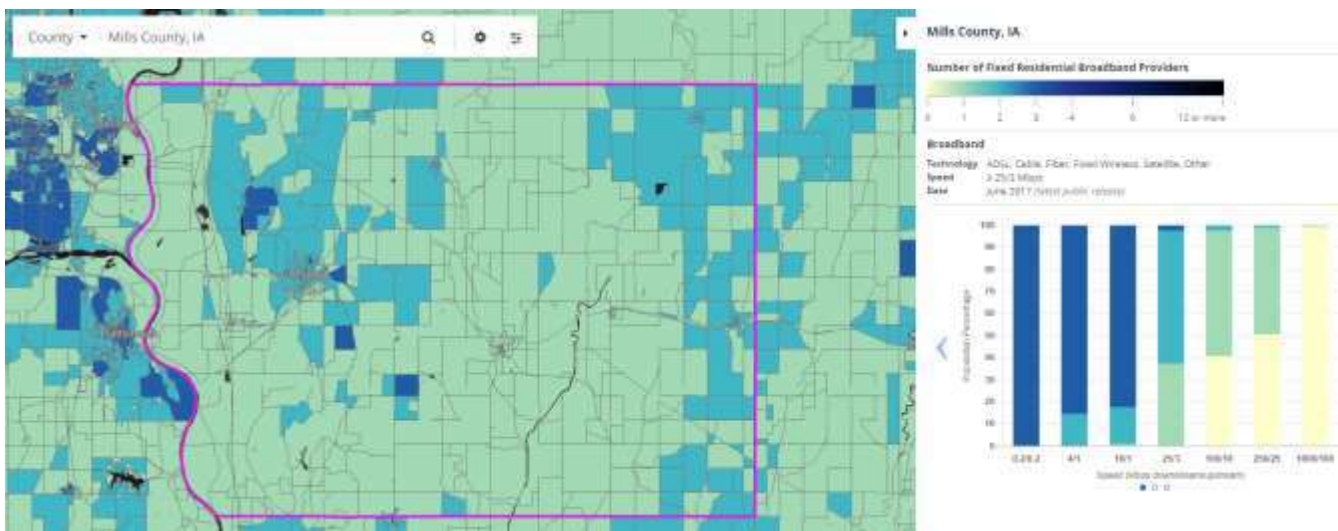
FCC Map of Mills County Broadband Coverage

The telling information on the FCC comparison chart and the FCC coverage map is that in the areas that show only one provider and speeds up to 25 Mbps, in the vast majority of those areas, the only provider is satellite.

The information from the FCC is a little bit difficult to interpret. In comparing the map and the chart to the right, it would appear that the 100% coverage contains some very slow speeds (the left column in the bar chart). And, it also appears that there is only a very small percent of the population that has access to a Gig (1,000 Mbps – the column on the far right).

What is most questionable are the columns in the center that appear to show that 100% of the County has access to 25 Mbps from either one or two providers. Among other concerns, that isn't consistent with other maps or from respondents to the questionnaire.

To begin in considering these findings, to report consistent and reliable speeds of 25 Mbps via satellite doesn't address the limitations of the technology.

In an article in Business Computing World, Robert Kleymore wrote of the concerns with satellite broadband. He summarized the problems with this technology as:

- Rush Hours – "…when it (usage) gets crowded, speed drop is major."
- Fair Access Policy – "…regulates the bandwidth that every user gets. In order to allow multiple users to stay connected, each provider will limit the individual bandwidth allowance."
- Latency – "Latency is one of the major drawbacks of this technology. It is due to the simple fact that data signals need to travel on a long distance, through the atmosphere. So, there is a sometimes bothering delay." This can be particularly problematic in anything that involved synchronization (conferencing, voice over internet telephone, gaming, movies, etc.).
- Interference – "…the issue is that data-carrying electromagnetic waves need to pass through the atmosphere, and several bad things can occur there."
- Pricing – "When comparing different Internet access technologies, satellite-based ones are, by far, the most expensive."[ix]

There are two concerns in this representation of coverage. First, in the definition of good broadband, fast, reliable and cost effectiveness are key issues (reliability is of special concern for some businesses and institutions). As is pointed out in Mr. Kleymore's article, all three of these are problematic in this technology.

The other significant concern in this FCC map is defining this as adequate broadband. In their definition of broadband, 25 Mbps is considered adequate. How often is satellite connectivity 25 Mbps? How often is it unreliable and completely out? Is it affordable?

As we will see in below information, this reporting to the FCC should be in question. Other maps show other coverage – not 100% coverage and not 25 Mbps.
Why is this important? If the FCC is receiving information that the County has minimum coverage that is acceptable (25 Mbps), then that could affect grant eligibility. There is a

HRGreen

significant difference between 25 Mbps through fiber and 25 Mbps in satellite. Again, as will be shown in other maps, it seems that even the claim of 25 Mbps for 100% of the County is flawed.

OTHER SOURCES OF INFORMATION

The FCC collects reported information from Form 477 as reported by the carriers. If there is much review of the data before it is posted, then that is not publicly discussed. And, some carriers can have reasons to report their data in certain ways or with certain biases in the information reported.

Another source of coverage information is BroadbandNow. This is also public data that utilizes the Form 477 reporting, but they do a little more review and research. According to their website:

> BroadbandNow is a website that helps consumers find and compare Internet service providers in their area. When we're describing it to friends and family, we usually say: "it's like Kayak for Internet service."
>
> To make sure our data is up-to-date, we crunch millions of rows of data every year from public and private datasets and manually collect tens of thousands of data points from providers. All this data allows us to build the most accurate public Internet service database online.[x]

They are a respected source of internet coverage data for the industry. The following charts and information are from their data. It is interesting to see some differences from the FCC data. However, this information still heavily relies on the data that the FCC also receives, so it provides some insights, but there are still cautions.

In an attempt to provide the best information possible for this study, we provided the Broadbandnow data to the local providers for verification. Their responses were that the below charts are roughly accurate.

This first chart is an overview of Mills County by number of providers[xi].
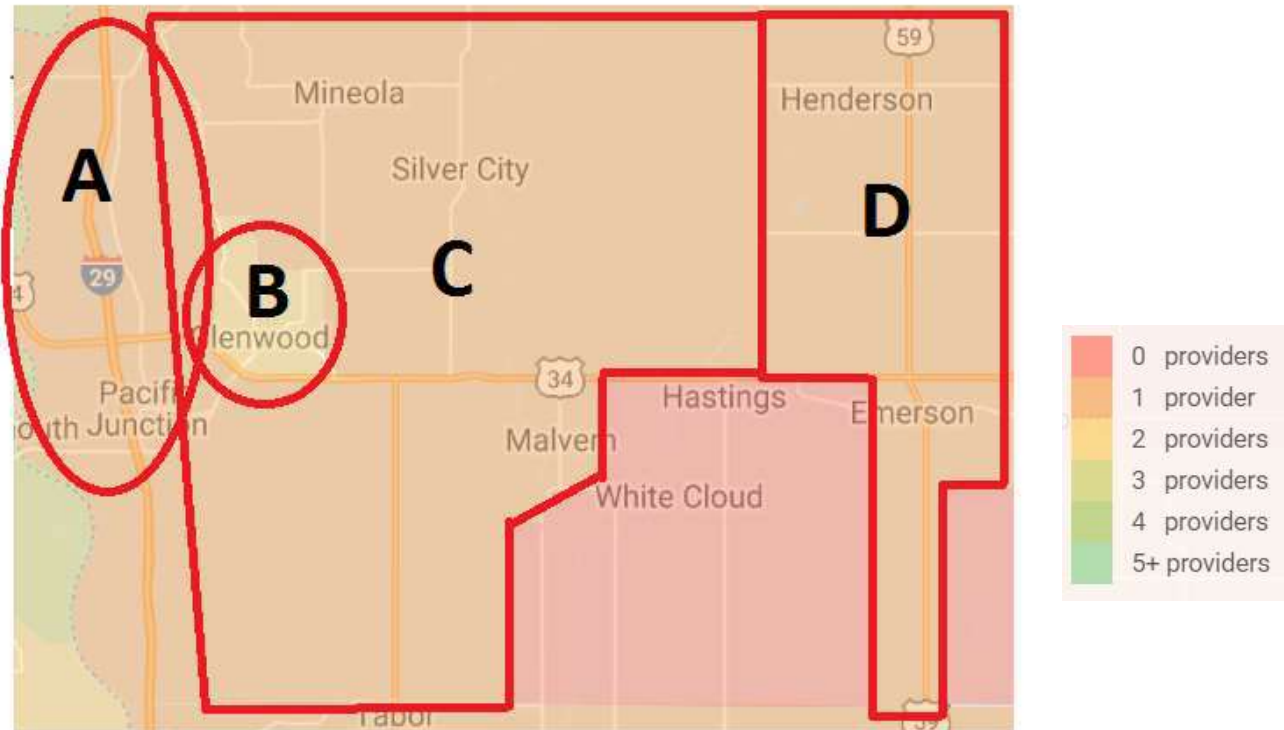
BroadbandNow Chart - Number of Providers

At this level, it appears to confirm the FCC data in the sections that are lettered. However, even at this level, there is a significant discrepancy with the FCC map. South of Hastings, between Sections C and D, there is a significant area that shows no coverage.

When we zoom in on this map, the below picture shows hidden information that is particularly important
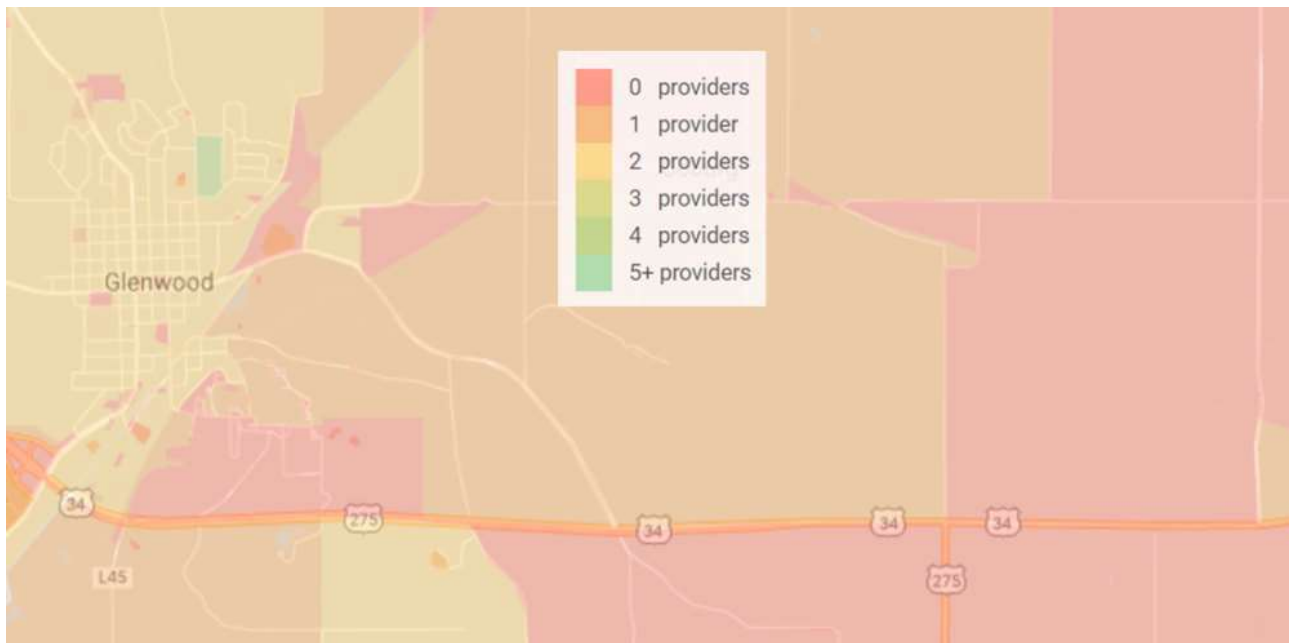
BroadbandNow Chart – Number of Providers Detail

Notice that within the boundaries in the previous picture (that appears to show decent coverage by at least one provider), there are pockets (some of them very large) that don't have coverage.

This is significant in pointing out two things. First, on the aggregate level, the FCC map appears to show continuity. But, as the information is looked at on a more detailed level, there are areas that have no provider. If there is no provider, then there can't be minimum coverages.

Second, it points out that the information can't be taken on an aggregate level. It is important to check the aggregate data with other sources of information. Several sources of information that we received during this study contradict the aggregate FCC information (questionnaire responses, real estate information, EMS information, etc.).

HRGreen

Published Statistics

Broadbandnow also published statistical data that they have received from the Form 477 data and from their other sources and research. Below are some of the findings[xii]:

The average download speed in Glenwood is 21.80 Mbps. This is 11.7% slower than the average in Iowa and **79.1%** slower than the national average.

- There are 15 internet providers in Glenwood with 9 of those offering residential service.
- Glenwood is the 530th most connected city in Iowa and the close surrounding region.
- 30% of Glenwood residents are still severely limited in wired broadband choices.
- Iowa is the 38th most connected state in the U.S.
- Approximately 2,000 people in Mills County don't have access to any wired internet.
- 78.6% of Iowans have access to 100mbps or faster broadband.
- Fiber optic internet is available to just 8% of Mills County residents.

Published Provider Information for Glenwood[xiii]

Location	Provider	Service Type	Location Coverage	Customer Rating	Fastest Speed	Published Pricing
Glenwood	CentruryLink	DSL	91.8%	2 of 5	40 Mbps	10 Mbps from $45.00
Glenwood	Mediacom	Cable	69.3%	2.5 of 5	1000 Mbps	60Mbps from $39.99
Glenwood	Spiral	Fixed Wireless	97.4%	3.5 of 5	10 Mbps	10 Mbps from $60.99
Glenwood	Howards	Fixed Wireless	17.6%	None Given	20 Mbps	10 Mbps from $65.95
Glenwood	Future Technologies	Fixed Wireless	15.0%	3.5 of 5	20 Mbps	12 Mbps from $59.99
Glenwood	HugesNet	Satellite	100.0%	1.5 of 5	15 Mbps	25 Mbps from $49.99
Glenwood	Excede	Satellite	100.0%	2 of 5	25 Mbps	12 Mbps from $30.00
Two other providers in Glenwood had too low of coverage to list						

Published Provider Information for Pacific Junction[xiv]

Location	Provider	Service Type	Location Coverage	Customer Rating	Fastest Speed	Published Pricing
PJ	Western Iowa Net.	Fiber	100.0%	None Given	1000 Mbps	100 Mbps $39.99 1000 Mbps $149.99
PJ	CenturyLink	DSL	45.4%	2 of 5	12 Mbps	10 Mbps from $45.00
PJ	Windstream	DSL	2.3%	2 of 5	12 Mbps	25 Mbps from $50.00
PJ	Spiral	Fixed Wireless	98.2%	3.5 of 5	10 Mbps	10 Mbps from $60.99
PJ	Future Technologies	Fixed Wireless	22.7%	3.5 of 5	20 Mbps	12 Mbps from $59.99
PJ	HugesNet	Satellite	100.0%	1.5 of 5	15 Mbps	25 Mbps from $49.99
PJ	Excede	Satellite	100.0%	2 of 5	25 Mbps	12 Mbps from $30.00
Two other providers in Glenwood had too low of coverage to list						

Customer rating information wasn't available for Western Iowa Networks, but the discussions I have had were very favorable.

Published Provider Information for Malvern[xv]

| Location	Provider	Service Type	Location Coverage	Customer Rating	Fastest Speed	Published Pricing
Malvern	CenruryLink	DSL	71.8	2 of 5	20 Mbps	10 Mbps from $45.00
Malvern	Windstream	DSL	2.4%	2 of 5	10 Mbps	25 Mbps from $50.00
Malvern	Spiral	Fixed Wireless	31.5%	3.5 of 5	10 Mbps	10 Mbps from $60.99
Malvern	Future Technologies	Fixed Wireless	14.9	3.5 of 5	20 Mbps	12 Mbps from $59.99
Malvern	HugesNet	Satellite	100.0%	1.5 of 5	15 Mbps	25 Mbps from $49.99
Malvern	Excede	Satellite	100.0%	2 of 5	25 Mbps	12 Mbps from $30.00
99.6% of consumers in Malvern only have access to 1 or fewer wired internet providers						

Discussions we have had with citizens, the library and farmers, about OmniTel east of Malvern (mainly around Emerson) have been very favorable.

These tables show some important data.

One finding is the service type. At its most basic level, telecommunications network architecture can be understood in the diagram below.

Each of the "Service Types" in the charts above are based on this path, but they utilize different components for transmitting, the path and receiving. In very general terms, the method or path of fiber is the most direct and clearest. DSL is next, yet it has limitations based on the phone line and the distance. The next is fixed wireless, which utilizes a wave from point to point. Last is satellite.
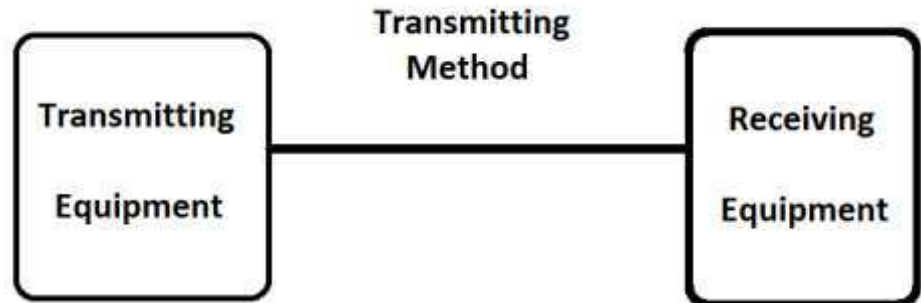
There are factors in each method that can have significant impact on the speed, latency, reliability and cost.

For Mills County's purposes, having satellite being a main method of distribution means that the County is relying on one of the least reliable forms of broadband delivery. And, the equipment and amount of fiber used in the DSL services will also determine their speed capability.

Evaluating Published Data

A highly respected broadband industry think tank, not-for-profit, did an in-depth study on published data. They found:

"Our results confirm what a bipartisan group of U.S. Senators has expressed concern over: federal broadband data is deeply flawed. The following maps suffer from a bias that overstates coverage and competition. Even if they were accurate, the level of competition would still be woefully inadequate for a community trying to thrive in the digital age."[xvi]

This is an extremely important study. Given their methodology, they clearly show that the data that the telecommunications industry relies on has significant flaws. As mentioned above, this could be very important in understanding Mills County connectivity, and potentially very significant in what grants the County might be eligible to receive.

In an effort to clarify Mills County information, we worked with local stakeholders to see their "real world" connectivity.

HRGreen

Farm Bureau Farmer Connectivity

One of the groups that is often overlooked in studies of rural broadband is the farming community. They are home-based businesses that rely on internet connectivity in different ways. As part of our study, we talked with Farm Bureau to check County connectivity.

In talking with the Farm Bureau Board, they mentioned that they have equipment that relies on good broadband and that they do significant reporting that is often done online.

Also, safety in the field is a concern. If there are issues that arise in the fields, being able to communicate with those who can respond is important – and, all too often, difficult to do.
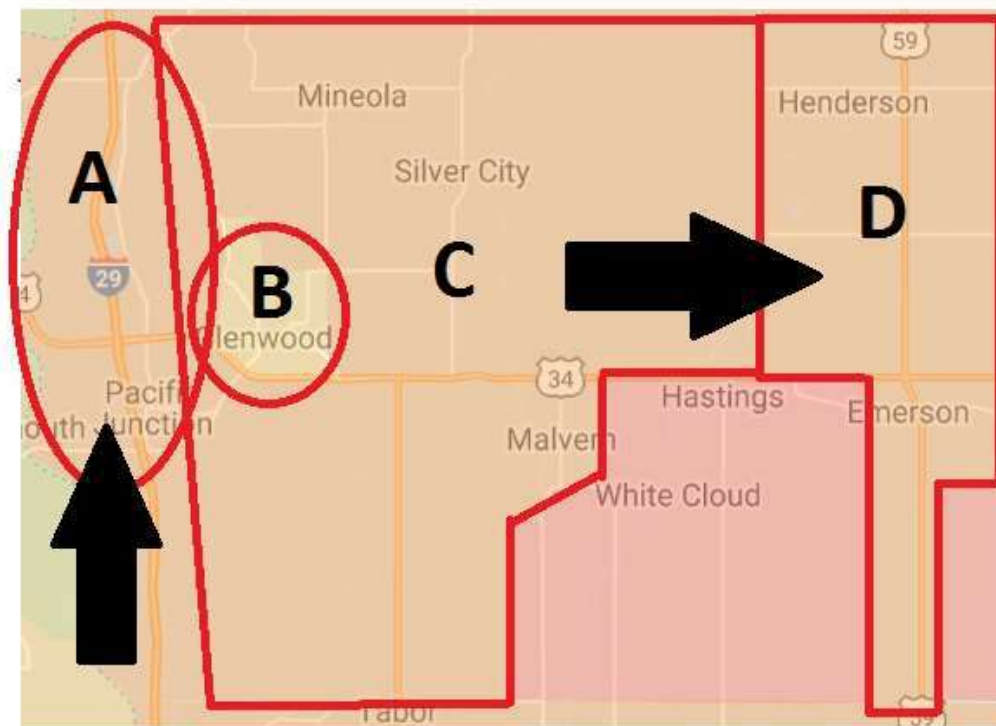
Farmer Service Satisfaction by Area

Farm Bureau leadership commented that if they are in the areas highlighted above (area labeled A and area labeled D), then they have a reasonable chance of having good service. Outside of these two areas, connectivity is VERY spotty and can affect farming business (equipment, electronic filings, etc.). These two areas represent coverage by Western Iowa Networks (in the "A" area on the West) and OmniTel (in the area "B" on the East). These are both fiber based providers.

Emergency Management

The Mills County Emergency Management organizations currently use pagers, texting, cellular and radios. So, they have redundancy and redundant procedures.

Their current communication infrastructure includes:
- Two towers
- Building three more

None of the current or planned communications towers are fiber fed.

There is a national level emergency management network that is being coordinated at the State level named FirstNet. It will be discussed more under the "What We Can Expect" section. At this point, there is a coverage map that the FirstNet representatives told us is a general rendering and they don't have a current timeline for buildout. As deployment continues, they plan to discuss service packages with local officials throughout the State, but they didn't have a timeline for those discussions. Again, this will be discussed in more detail below.

Mills County is fortunate to have a very good Information Technology team led by Patrick Binns. They have recorded data that provides depth to the understanding of emergency management communications in Mills County.

Mr. Binns described the data that his department was able to provide, "The data is derived from diagnostic software which monitors cellular usage and performance in all Mills County law enforcement vehicles. This data from all vehicles is aggregated together from a years' worth of diagnostic information and averaged so the signal strength values are an average of the signal strength in a given area over a year time frame. None of our values are taken from cellular carrier coverage maps which are approximations of service coverage and often times best-case-scenarios."

Below are two examples of the maps that the Mills County IT Department was able to build from this data. They show where signal is good (represented in green) and the progression of where it becomes worse (brown) and where calls are frequently lost (red).

To highlight something that Mr. Binns said, the primary form of communication is cellular as provided by cellular carriers. It is reasonable to expect that this coverage, from the existing carriers, won't change unless there are more towers added.

There could be other cellular networks available, but, as Mr. Binns stated, it isn't possible to really know the coverage by provider maps. That is information that has to be collected over time, as they have done with these maps.
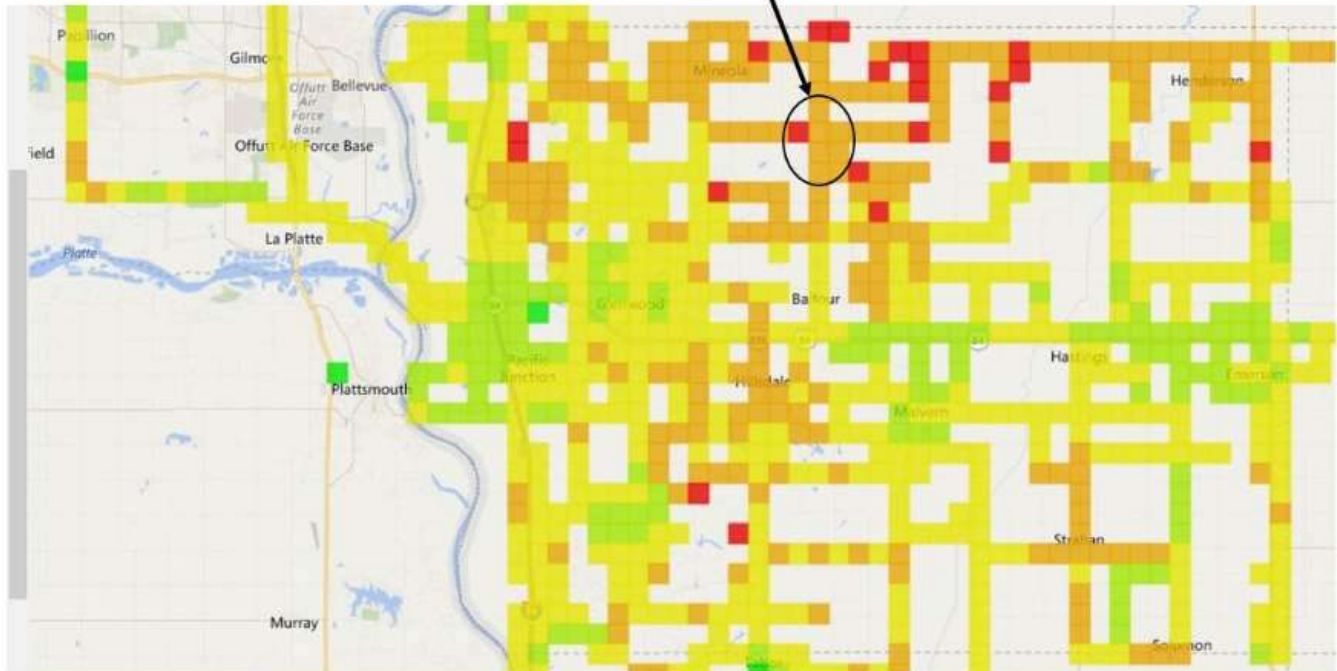
Actual signal strength data from law enforcement vehicles averaged over a year time frame. Very poor cellular coverage in northeast section of the county.
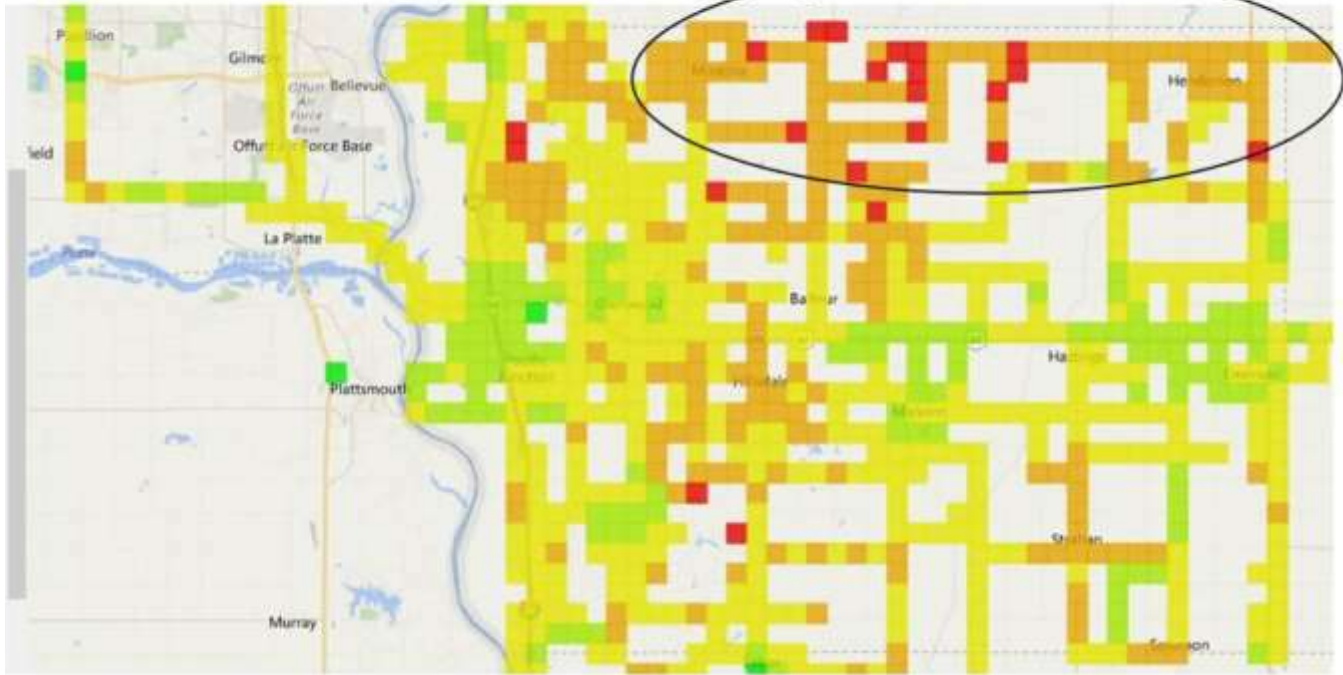
Mills County IT Service Coverage Map

Mills County IT Coverage – Highlight Area

This is a topic that we encourage the County to continue to explore. Having said that, it is also important to consider that jumping to a simple solution might not be the best long term answer. There are options to consider:

- Will FirstNet provide any better coverage (discussed later in this study)?
- Could there be avenues to work with providers on some East/West coverage that could include a mix of fiber, Wi-Fi and/or cellular?
- Could there be grants for EMS coverage (or are those reserved for FirstNet)?

In talking with Silver City, they have two connectivity concerns. They have CenturyLink for internet, but City leadership expressed concerns about reliability, speed and cost. And, as is shown in the graphic above, there is problematic cellular coverage in and around the City.

Questionnaire Results

Another avenue that we utilized in validating broadband data was a questionnaire. This was not sent to everyone, it was more of a tool to spot check and to gain feedback from a variety of stakeholders in the County. As was mentioned earlier, please refer to Attachment A for the actual questionnaire that was sent. Below are summaries of the results by industry.

Healthcare: The responses that we received are that local medical facilities are not connected to corporate fiber – they utilized plans with providers. Surprisingly, in their responses, the average of the speed of the plans that of those who responded was 5Mbps. As noted earlier, the definition of broadband is 25 Mbps – so these speeds are 1/5 of what the FCC says is adequate speed. This is particularly surprising given the sizes of some medical files.

In general, the medical facilities responded that they are satisfied with their service, but do feel like they will need greater capacity and that they could do more with greater capacity (but averaging what they can get vs the price has determined their current service selection).

Education: The Glenwood Community School District has a fiber ring with redundancy in the City of Glenwood. They have a combination of their own infrastructure and utilizing a provider to help operate and maintain their fiber.

East Mills purchases services that are usually reliable and for the most part meets their needs. Increased capacity could enable them to do more. East Mills does own 12 fibers running from the high school to the old elementary. It is not currently in use, but might have potential value because it already crosses the railroad.

Libraries:

Glenwood – Glenwood Library's current service is provided by a local fixed wireless provider. The amount they pay is offset by Erate. They expressed that they are glad that they have the connectivity that they have, but they give their current arrangement a 4 of 10 rating.

In their response, the library leadership discussed the different needs that libraries have for good connectivity. For example, card catalogues now are most typically in the cloud. And, many services that libraries provide rely on internet.

As an example of patron services that are internet based and the impact that connectivity can have: "Recently, a patron took an online safety exam that should have taken him 4 hours. Because it was video driven (with quizzes following each video) and the videos took a long time to download, it actually took him over 6 hours…A staff person had to stay after closing to allow him to finish."

HRGreen

This is a significant enough issue that the Library Director, Tara Anderson Painter, has been involved in this process and has made preparations for someone to speak about library connectivity in the study presentation.

For libraries, connectivity is a combination of internet provider options and cost.

There are steps they would like to take and things they would like to offer, but they need better broadband.

Emerson – Has good connectivity – OmniTel is providing fiber connected service and they are very happy with it.

Silver City – The Silver City library rated their service 2-3 of 10, but they don't see other viable options for service. Library leadership communicated clearly that their connectivity limits the use that patrons can have. And, they are considering more on-line services, but don't know how those would work with their current connectivity.

Malvern – To provide internet for the library and the patrons, they have chosen a more expensive plan. They are happy with it.

Businesses:

Bunge: They have speed problems and are currently upgrading their service. They have some redundancy, but are working on that, also. Their current speed is 10 Mbps. As mentioned earlier, according to the FCC, the minimum speed that qualifies as broadband is 25 Mbps. Having made that work for quite a while, they are undertaking and paying for what has to happen to upgrade.

They are upgrading to 100 Mbps but would like 150 Mbps, but that isn't currently available. They are not sure when the upgrades will happen and are still working through pricing.

Banks: Those who responded have redundancy and some capacity (averaging 10 Mbps), but feel like they could do more with better connectivity.

One bank has had a fiber connection, but is changing to a proprietary system because of their operations.

We don't disclose what is being paid in this study, but it is relevant to point out that the banks in the County regard their connectivity and redundancy important enough that they are paying the highest rates in our findings for their internet.

Real Estate:
To analyze how the current broadband connectivity in Mills County is perceived and the impacts that it has, we talked with the largest real estate agency in the County, Jim Hughes Real Estate.

HRGreen

As noted in the Executive Summary, national research has been done that shows that the value of houses can increase 3.1% when there is good broadband.

As an example, one of the authors of this study lives in Mills County. Some friends were purchasing a house not far from him. The first question those friends asked were, can you get good internet there?

This has become such an important criteria in home purchases that Jim Hughes Reality took the step of adding a question about internet to their disclosure statement.[xvii]

From their experience in Mills County, Anne Steele of Jim Hughes Realty Estate also identified several subdivisions that struggle with broadband connectivity. It might seem surprising that subdivisions would have internet speed and options issues, but Mrs. Steele has pointed out that there are quite a few and some of the main problem areas (because of their density) are:
- Cedar Hills
- Western Hills
- Lake Ohana
- Willow Park Acres / Estates

Mrs. Steele also pointed out another common issue that can develop in broadband. The providers available in Hickory Ridge subdivision are CenturyLink, Spiral and High Powered Howard. Thus, they have a DSL option and two fixed wireless. It appears that because of the broadband architecture used in that subdivision or that led to that subdivision, all of the capacity was taken before the last few homeowners were able to connect. There were possibilities that could provide more broadband options, but, in the past, providers said that investment was needed to bring those to the subdivision (including cable – which is not available to any residents now except by satellite).

Significant Observations from Mills County Current Broadband Landscape

OBSERVATION 1: Comparing Published Data to Real Information

In looking particularly at the FCC published data as compared to the information that we have been given from the stakeholders in the County, it seems fairly clear that there are disparities. The data reported to the FCC that shows that there is a service level of 25 Mbps across the County doesn't seem accurate for many parts of the County.

This is important in knowing how to respond to actual broadband shortcomings and in what to present in any grant opportunities.

As we have talked with stakeholders in the County, another important observation has developed.

OBSERVATION 2: Making The Best of the Circumstances

The stakeholders who responded to our questions, when asked what their broadband plan provided, responded on average that they were being provided 10 Mbps.
As has been pointed out, the minimum that the FCC regards as qualifying as adequate broadband is 25 Mbps. Mills County entities are making work, less than half of what the FCC states even qualifies as broadband. Referring back to the published statistics that were mentioned earlier: 78.6% of Iowans have access to 100 Mbps or faster broadband. 100 Mbps compared to 10. Our experience is that there can be a lot of creative power unleashed when there is that type of expansion of capacity.

One of the things that we often find is that people don't know what they don't know. If the citizens, business, organizations and other stakeholders of Mills County had greater speeds and capacity, what could they do?

The people of Mills County have probably gotten used to making what they have work. That is commendable, but it would be exciting to see what they could do with more speed and capacity.

HRGreen

What Can Mills County Expect?

Providers

CenturyLink

In talking with CenturyLink representatives, they do not currently have plans to make significant expansions or upgrades to their facilities.

However, they actively look at any growth and needs (business, residential, economic development) to see what makes sense to deploy to. Those would either include a business case that makes sense and/or outside investment to make the business case make sense.

It is important to note that there is an issue between the County and CenturyLink. In the recent past, CenturyLink contractors were deploying telecommunications infrastructure without receiving permits.

Because that work was being done without permits, there also weren't inspections. It was the view of the County that there was remediation that wasn't done and without inspections, those instances of needed remediation weren't addressed by CenturyLink.

As it was told to us, the County approached CenturyLink to do the needed remediation, but it was not done. After waiting for it to be done, the County went ahead and did the work – in several places. The County presented the costs for that remediation work and, to date, CenturyLink has not reimbursed the County. There were enough areas that needed remediation and there was enough remediation work that the costs were fairly substantial.

Because of this situation, there are two consequences that are the most significant. One is that this issue needs to be addressed by CenturyLink for there to be open collaboration between the County and CenturyLink if there are any projects in which the two entities could work together.

Second, this situation has led the County to adapt its focus on some issues related to broadband policy, which will be discussed further in the Public Policy section of this study.

Mediacom

From conversations with Mediacom regional leaders, they do upgrades and expansions as is possible. Currently, they are looking at what makes business sense to upgrade.

They have a worksheet and calculation that they use for each possibility. They are willing to discuss any need and share their worksheet and calculations.

At present, they don't have a system upgrade planned but do want to discuss needs.

HRGreen

Regional Provides

Mills County has several regional providers who have been actively involved in upgrades and deployments. The most involved have been: Western Iowa Networks, OmniTel, Spiral Communications and Chat Mobility.

Western Iowa Networks has deployed fiber to the homes on the Western side of the County. That relates directly to the Section A in the graphic on page 12.

OmniTel has deployed fiber to the homes on the Eastern side. That relates directly to the Section D on the graphic on page 13.

Spiral has installed fiber mainly to feed their point to point system.

Chat Mobility has fiber in the County, but that is used to provide backhaul for their mobile network. If they have excess capacity or if there are ways that their network could be part of solutions to solve gaps in broadband in the County will have to be discussed in next steps after this study.

The local providers, have been active in working with the Mills County Economic Development Foundation to meet needs for the potential projects that have arisen so far. And, particularly the fiber providers, Western Iowa Networks and OmniTel, have discussed options, plans and infrastructure with us as we have conducted this study.

ICN

According to their website, "The Iowa Communications Network (ICN) is the country's premier distance learning and state government broadband carrier network. The ICN provides high-speed flexible broadband internet, data, video conferencing, and voice (phone) services to authorized users, under Code of Iowa, which includes: K-12 schools, higher education, hospitals and clinics, state and federal government, National Guard armories, and libraries. ICN makes it possible for Iowan's, physically separated by location, to interact in an efficient, creative, and cost-effective manner."[xviii]

When the ICN was first built, it was planned that each county would have a Point of Presence located in the County seat. Mills County does have one in Glenwood, in proximity to the Middle School.

As was mentioned in their description above, by law, there are only certain authorized users who can connect. There are eligible institutions in Mills County – schools, medical clinics, and libraries. From our research, it does not appear that any of those eligible institutions are connected.

Reasons some eligible clients have not chosen to connect are:

- They charge for what they provide – some potential clients have found those costs to be prohibitive.
- ICN cannot own the connection from the Client's building to the POP (Point of Presence). So, the Client has to pay the cost of getting from their building to ICN's connection point. In Mills County, that is likely the site by the Middle School.

These laws that govern who is an eligible user and that eligible users have to pay for connection to ICN's connection point most likely limit how (or if) ICN could help in solving any broadband deficiencies in Mills County. We are exploring if any eligible institutions could benefit by connecting to the ICN. If they can, that would be good results in this study, but those would be isolated positives and not part of solving the greater issues of broadband deficiencies across the County.

AMG Technology Investment Group

This year, the FCC did what they termed a "reverse auction" to distribute money left over from money that has been collected mainly from phone bills that is intended for broadband expansion.

The process was for providers to get approval from the FCC. Then, those providers would choose certain areas and bid by telling the FCC what they could provide in those areas. Those "bids" were then evaluated and the FCC told the bidding providers what areas they won and how much money they would receive to deploy in the areas they won.

The terms are that they have to provide a certain level to an entire "census block" within so many years to receive the money. If they don't accomplish the buildout of the entire census block they were awarded in the allotted time, they don't receive the money that has been "awarded" to them.

There was one bidder for census blocks in Mills County: AMG Technology Investment Group from Texas. They are a fixed wireless company like the others we have in the County already. The below chart shows the census blocks they were awarded and the map below that shows where those are in Mills County.

It is important to note that AMG Technology Investment Group was awarded $55 Million over several states. As part of this study, we attempted to contact them by phone and by email and they have not responded.

They will have some options. They could not build and not take the money. Or, they could build themselves and be another fixed wireless provider. Or, they could partner with another company either in the County or that plans to come to the County. We know of two providers who have some interest in talking with them.

## Connect America Fund Phase II: Auction 903 Results

CAF II Reverse Auction Winners in Mills County by Census Block[xix]

ST	County	Bidder	block_id	item
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401001
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401001
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401001
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401001
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401001
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401003
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401003
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401003
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401003
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401003
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401003
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401003
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401003
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401003
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401003
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401004
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0401004
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402011
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402011
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402011
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402012
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402012
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402012
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402012
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402012
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402012
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402012
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402012
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402012
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402012
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402012
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402012
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402021
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402021
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402021
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402021
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402021
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402021
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402022
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402022
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402022
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0402022
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0403012
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0403022
IA	Mills	AMG Technology Investment Group LLC	1.9129E+14	IA-129-0403022

The below chart shows those census blocks highlighted in red on the map of Mills County.[xx]

Connect America Fund Phase II: Auction 903 Results
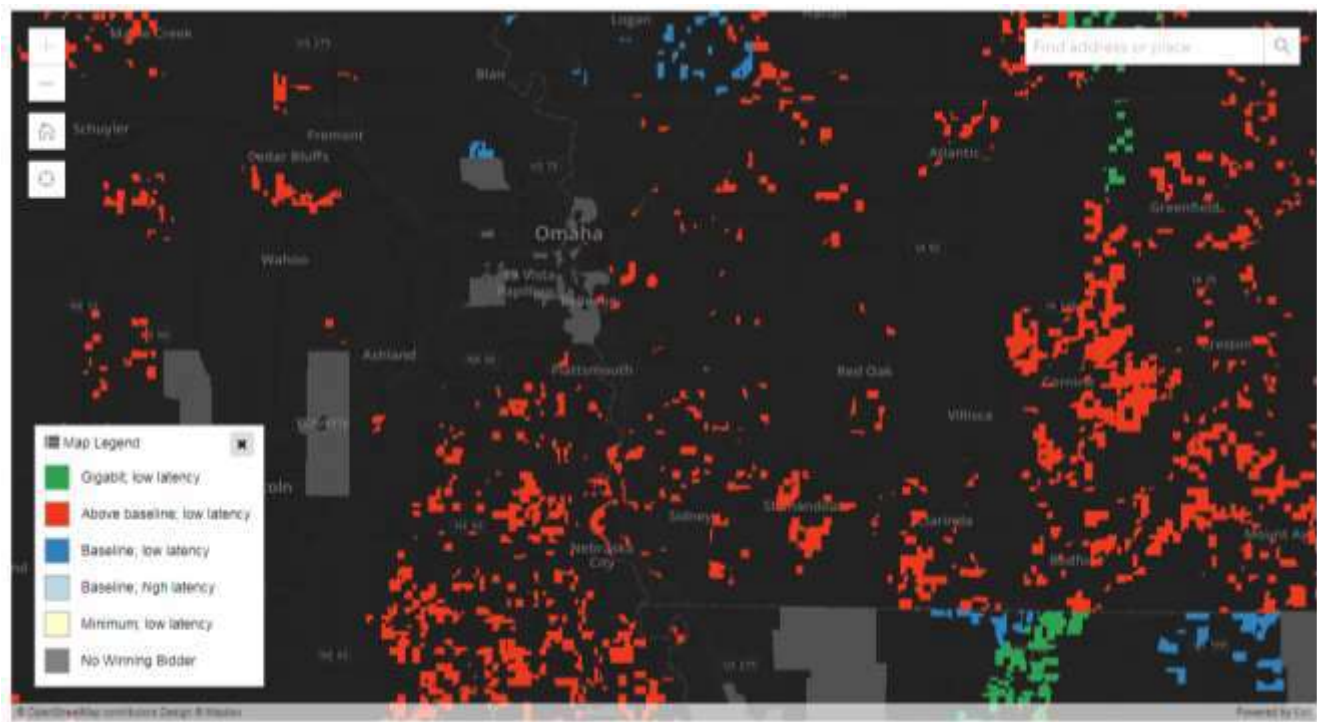
Communicating with this company and with companies who might want to partner with them (if that is an avenue that both decide to explore) could lead to a source of funding to expand either fixed wireless (with the fiber that would be required to do that) or other infrastructure for other broadband services.

These maps are not easy to read, but it does appear that there are census blocks in the central and north central parts of the County. We are not sure how they would serve those areas. If that could be part of a wider plan to expand infrastructure to meet those areas, that infrastructure might be helpful for those census blocks, but also as part of a plan to reach other areas.

In talking with our contacts who know the leaders of AMG as part of this study, we were told that AMG is still formulating their plans for how to use the money they have been allotted. If that proves to be the case, it might be productive to see if the County's plans could fit with them to help the County's broadband goals and to help them develop their plan for the County.

It is also important to bear in mind that the money that would go to these census blocks over six years may not total a lot.

FirstNet

FirstNet representatives said that this is (roughly) the coverage that is currently available.[xxi]
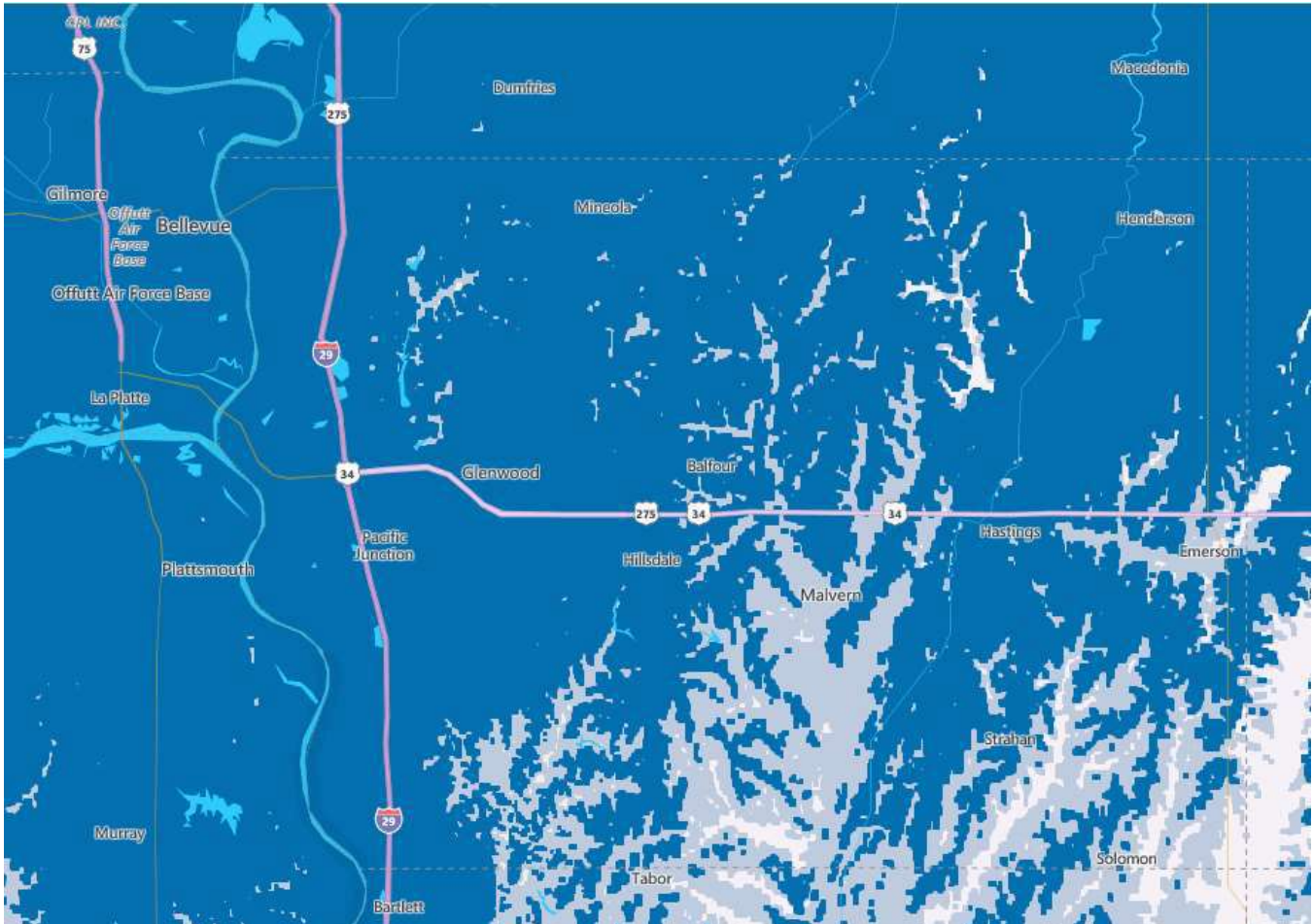
FirstNet Coverage in Mills County

The FirstNet representative also said that there will be further buildout, but the timing and scope of that is not currently known.

FirstNet is a national emergency management network that is organized by state level committees. It is currently being deployed, but timeframes are still being developed. According to their page on the State of Iowa website, FirstNet is:

"Built to the specifications provided by the First Responder Network Authority, which were developed through years of consultation with first responders in every state/territory and at all

levels of government, the FirstNet core is the network foundation for the delivery of advanced public safety features unique to FirstNet."[xxii]

- The FirstNet infrastructure/services contract is with AT&T
- At this point it isn't known how much the end users will be charged
- At this point it is also not clear what specifically will be provided to all participants
- It is also not known if there will be excess capacity available in the infrastructure
- There is an Iowa Statewide Interoperable Communications System Board - https://isicsb.iowa.gov/committees/firstnet-broadband-subcommittee

In our research, we have heard end use agencies express concerns. Those concerns have broken down into the following categories:

- Coverage – will it be, truly, complete coverage – the above map isn't clear about that
- Map accuracy – emergency management agencies use maps to check locations of incidents. Depending on what base map is used and how that is delivered to responders can determine if the maps are accurate. As one responder told us – if the map isn't accurate all of the time (or at least the VAST majority of the time), it is not useable any of the time
- Limits on technology they can deploy – there are many good technologies that have been and are being developed. The method of deployment often determines whether those technologies can be used. Until the system is in place or until they are told the parameters of the system, agencies don't know what technologies can be used.
- Price and Caps – emergency management agencies are charged for this connectivity. And there can be data caps. The agencies that we have talked with have expressed concerns about whether FirstNet will be affordable and how data will be regulated.

These are very real concerns in the emergency management efforts. This was highlighted by an incredible problem that the firefighters in the recent California wildfires encountered – not with FirstNet, but with another carrier. As was reported in the New York Times:

> As the largest fire on record in California continued to carve its destructive path through the northern part of the state, firefighters sent a mobile command center to the scene. With thousands of personnel, multiple aircraft and hundreds of fire engines battling the blaze, officials needed the "incident support unit" to help them track and organize all those resources.

> But in the midst of the response efforts, fire officials discovered a problem: The data connection for their support unit had been slowed to about one two-hundredth of the speed it had previously enjoyed. Like a teenager who streamed too many YouTube videos and pushed his family's usage above the limits of its data plan, the Santa Clara County Central Fire Protection District was being throttled by its internet service provider, Verizon. But in this case, officials have emphasized, homes and even lives were at stake.

The county fire district had no choice but to use other agencies' internet, rely on personal devices to transfer data and ultimately subscribe to a new, more expensive data plan, as Verizon officials urged them to do, according to court documents filed this week.

"In light of our experience, County Fire believes it is likely that Verizon will continue to use the exigent nature of public safety emergencies and catastrophic events to coerce public agencies into higher-cost plans ultimately paying significantly more for mission critical service — even if that means risking harm to public safety during negotiations," Chief Anthony Bowden said in a sworn declaration.[xxiii]

This points out the challenging nature of the communications of emergency management and tying that to private providers. Given that FirstNet is run by AT&T and there are packages that will be offered, it is unclear if the concerns in the California wildfires will be applicable. FirstNet does have oversight from federal and state committees, but there is confusion over how this will be deployed, priced and administered.

Mills County Railroads

Railroads can be important broadband resources because of the broadband assets they need to operate their systems. For example, Union Pacific started Breeze – an Internet Service Provider – to utilize their excess capacity to provide Wi-Fi to rural areas. Unfortunately, UP recently discontinued that program, which makes discussions with others less clear.
In talking with BNSF, they don't currently have any programs like that, but it may be something to work with them to do or to see if there are ways their broadband assets could help.
In the map[xxiv] below, BNSF has a potentially important path – particularly the east/west route that goes through the middle of the County.

If BNSF has excess capacity in their fiber, could the County use that to mesh together parts of a network? Interestingly, this line connects Glenwood and Malvern and goes through areas that are underserved.
Railroad representatives said that it doesn't hurt to ask about excess capacity, especially if it furthered County goals. They suggested being specific about how much would be needed, why and how it would be used.

BNSF Route in Mills County

Possible Next Steps and Strategy Starters

In this study we have examined the broadband service that exists in Mills County and looked at what we can expect from the providers. That leads us to beginning the discussions of what next steps that can be taken towards developing a strategy for how to improve Mills County broadband.

These potential next steps fall into three categories: 1) Coordination; 2) Public Policy; 3) Grants.

Here are some coordination suggestions:

- Business coordination – through County level organizations (the Economic Development Foundation, the Chamber, etc.), it would be good to have frequent and pointed conversations with the business community about their broadband needs, plans and County needs.
- Aggregation and coordination are the keys. If there is someone making arrangements for broadband upgrades or fiber, then it would be very helpful to see how that might fit into others' and the County's plans. For example, arrangements were made with a provider to run fiber through Malvern. Could that have been part of working with the school's excess fiber? Could that have been aggregated with others' needs, so as to expand broadband and perhaps save the expense that were paid? Another example is Bunge's broadband upgrades. Our expectation is that that will be fed from north or west of Mills County. But, depending on how that is done, could that feed broadband expansion in the northern or western parts of the County (either by the planned provider or by another who would take that view)?
- Work with the Glenwood Library to see if there could be grants to extend fiber to the library (possibly ICN if their numbers work).
- East Mills has excess fiber from the High School to the old Elementary School – could it be helpful to a provider in a way that could be mutually beneficial? Combining that with fiber that BNSF has that crosses that school owned fiber – is there a route that can be utilized for little expense to connect the middle of the County? If so, could that be used as an expansion point?
- Real Estate – Mrs. Steele has identified several subdivisions in the County that are underserved for broadband. We will highlight those in GIS. If the realtors and Mills County Planning and Zoning can also point out any new developments that either are approved and not yet under construction or are likely to be approved, it would be a good idea to see if there are ways to aggregate that demand and work with providers to meet those needs.
- A key with this approach is to see if there are other County broadband goals that could be met while during deployment to them.
- Talk with the farmers.
  - Farm Bureau is active in state and national lobbying and has built relationships with government leaders. And, one of Farm Bureau's stated goals is to help

improve rural broadband. It would be worth working with them to try to bring some of the results of that to Mills County.
- o Farmers have helped arrange financing for and coordinated rural broadband in different parts of the United States. They are organized, they see the need for rural broadband and they want to make farms and communities in which their children will stay. We are not sure of their role at this point (it will depend on what strategies are developed), but their help might be important.
- Local area providers are running some fiber. We would suggest talking with them about ways that their fiber could be used for improving broadband in the County. Could there be a Wi-Fi network that extended from their fiber for at least some parts of the County? That could be a way of them generating extra income and having at least somewhat better broadband. This may not be in their typical business model (or it might be), but it is worth exploring.
- Talk with AMG and local providers who might want to partner with them to see if there could be a collaboration between AMG and the County or AMG, the County and local providers to help AMG develop their plans and also to further the County's broadband goals.
- Follow up with FirstNet to see what coverage they might have and if they will have excess capacity that could be used for extending broadband. It will be important to know where their towers and what fiber they might deploy (and where). If there is fiber and it has excess capacity they would be willing to use to further County broadband goals, it is worth seeing what that is and the costs.
- Work with BNSF to see if they might let the County utilize excess capacity to further County broadband goals.
- Work with EMS
  - o Could any of what they are spending now in service costs and in tower construction help in furthering mutually beneficial broadband goals?
  - o Could that help in securing grants or is that money committed to FirstNet?
  - o Could their towers be used for fiber connected Wi-Fi?

Public Policy

There are important things that can be done through public policy. We recommend working with local providers to make sure that any policy changes are fair, mutually beneficial (or at least not having a negative impact on the providers) and equally applied.

In talking with Kevin Mayberry, County Engineer and Darin Whatcott, County Building and Zoning Official, we have received public policy information that we have evaluated to see if we have any recommendations that could help the County best use public right-of-way and further broadband goals.

Our Policy expert, Steve Prideaux, has reviewed the documents that we received and the appropriate permit documents on the internet and has offered a few suggestions.

From this review, we recommend consideration of the following policies:

Recommendation #1 – Adopt a Dig Once Policy

Dig Once Policies ensure an underground fiber link is established in conjunction with all infrastructure improvements. The policy requires excavators to coordinate with local government on the installation of extra fiber or conduit prior to a proposed project breaking ground in the public right-of-way (ROW).

This includes any installations, maintenance, or repairs made to local streets/sidewalks, underground utilities, etc. The level of participation can vary from simply requiring permit applicants to notify relevant entities about the excavation and invite their participation to necessitating that a shadow conduit be installed for future use. Scenarios exist where the excavator or the jurisdiction then rent the excess capacity.

A critical advantage to this approach focuses on lowering broadband expansion costs for providers. Installation of fiber optic cables and conduit represent a small percentage of the overall per mile expenses. Deployment often becomes cost prohibitive due to expenses related to labor, permitting, and engineering. Economies of scale can be achieved by multiple parties (e.g. joint trenches) through this suggested coordination process. The applicant often serves as the lead agency and shares total costs with other participating entities.

The County may also consider executing a moratorium to further encourage cooperation amongst the key stakeholders. Dig Once Policies can explicitly prohibit excavation of recently constructed/reconstructed streets within a defined time period (e.g. five years) unless restoration is completed from curb to curb.

We can provide more detail and/or language about different options of how this could be done.

Recommendation #2 – Enact a Right-of-Way Pavement Degradation Policy

The County has an inspection and remediation policy, but we did not see a degradation policy.

Cuts to pavement, regardless of how well they are restored, have an adverse impact on integrity. Any newly-created seam allows water to permeate below the pavement weakening both it and the underlying soil. A pavement degradation surcharge is typically leveraged against any entity seeking to disturb pavement within 36-60 months of its installation (provided the County does not seek to institute a moratorium as outlined in Recommendation #1).

As mentioned above, the Mills County Utility Permit Application does require "areas within the ROW damaged by the installation shall be repaired to at least their former condition by the applicant or the cost of the repair work caused to be performed by the County will be assessed against the applicant"; however, deterioration studies demonstrate that any cut and associated excavation severely shortens the life of pavement.

Implementation of this recommendation can help the County achieve several benefits as it works to expand broadband infrastructure within its communities.

As with Recommendation #1, we can provide more detail and/or language about different options of how this could be done.

On Page 21 in the section discussing what we can expect from providers, we mentioned that we have been alerted to an issue between CenturyLink and the County. Because this provider did not follow permitting, inspection and remediation policy and typical County practices, the County has had to do remediation that has cost the County a significant amount of money and the provider has not, to date, reimbursed the County.

This situation has had an important impact related to broadband policy. The County has felt the need to strengthen their policies and practices in ways that could affect the industry. It seems as if the providers have understood this situation and have not responded that the new system is onerous. We recommend keeping that dialogue open with the providers to ensure that policies and procedures are not discouraging broadband deployment.

HRGreen

FUNDING AND GRANTS

There are several potential sources of funds for broadband and related projects.

The State of Iowa Targeted Service Area program
One that the providers probably already know is The State of Iowa Targeted Service Area program. The State determined areas that they wanted to target with a program to try to spur broadband expansion.

The State of Iowa Chief Information Officer's website describes this program:
> House File 655 provides a property tax exemption for installation of broadband infrastructure that facilitates broadband service at or above 25 megabits per second of download speed and 3 megabits per second of upload speed within a targeted service area, which installation is commenced and completed on or after July 1, 2015, and prior to July 1, 2020, and which is used to deliver Internet services to the public. The exemption is a 100 percent exemption from taxation for a period of 10 years based on the actual value added by the installation of the broadband infrastructure.[xxv]

The below map shows in blue the areas that are targeted for this exemption.[xxvi]
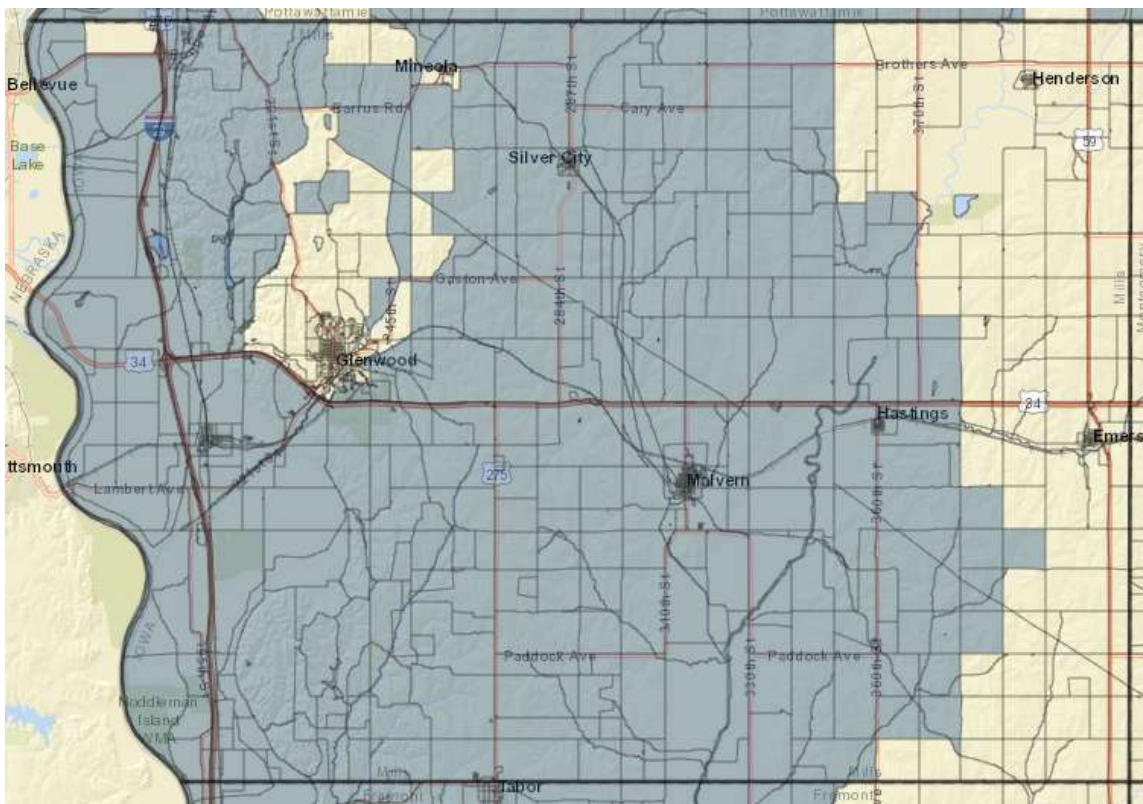
This program is geared mainly towards providers, but is important to know exists.

Public Policy

Working with providers and having mutually beneficial policies and practices can be very effective in helping further broadband goals. Coordination, communication and standard operating procedures clarified in policy can yield tremendous results.

The key is to have a coordinated effort that is clear and communicated effectively and often.

Grant Possibilities

STATE

State Rural Broadband Grants
"The Iowa Broadband Together initiative focuses on program development between the Iowa Community Assessment and Partnership program and state broadband grant programs. The FY 2019 report listed a recommended $2.6 million in broadband grants appropriated to the Office of the Chief Information Officer. The governor and lieutenant governor report the state is ready to partner up to meet the needs."[xxvii]

The State Committee that is developing the policies and procedures has just had their second meeting this week. At this point, it is difficult to know how the funds will be divided. We have a partner on the committee, so we will keep the County apprised of developments. This person is also willing to have a teleconference to give us updates, so we will schedule those with the Director of the Economic Development Foundation.

As mentioned earlier, it is also a good idea to coordinate with the Farm Bureau to see how they are working on the above grants and to see if there are other broadband applicable grants that they are informed about.

FEDERAL

The main federal government agency that deals with job creation is the EDA. They have open grant opportunities. The key is showing how jobs will be created.
Broadband can apply to those grants.

Currently, the federal agency that probably has the most grant programs that apply to broadband is the Department of Agriculture. Below is a list of grant programs that in some way might include broadband.

United States Department of Agriculture

USDA Programs & Services for Communities & Nonprofits
Community Connect Grants
Community Facilities Direct Loan & Grant Program
Community Facilities Guaranteed Loan Program
Community Facilities Relending Program
Community Facilities Technical Assistance and Training Grant
Delta Health Care Services Grant
Economic Impact Initiative Grants
Rural Broadband Access Loan and Loan Guarantee
Rural Business Development Grants
Rural Community Development Initiative Grants
Rural Cooperative Development Grant Program
Rural Microentrepreneur Assistance Program
SEARCH - Special Evaluation Assistance for Rural Communities and Households
Strategic Economic and Community Development
Telecommunications Infrastructure Loans & Loan Guarantees

The Community Facilities programs are geared towards populations under 20,000. There is some debate about whether "facilities" can include broadband infrastructure, but there is some discussion that it could.

Some of these like the Health Care grants would need to be coordinated with the appropriate County stakeholders.

Some of these grants having funding cycles in which the deadline has passed. The question in those programs is whether they will be funded again, thus having a new deadline.

One significant question is what will happen with the federal infrastructure bill. There is supposed to be money for rural broadband, but we haven't been told when that will be available and through which department it will be administered.

We also recommend the following possible grants in:

- Public Works grants
- Department of Energy grants
- Telemedicine
- Education

HRGreen

ATTACHMENT A - Questionnaire

PROJECT INFORMATION

Project: Mills County Broadband Strategy

Project #: 180107

Date: August 15, 2018

From: Ken Demlow, Project Manager

Subject: Request for Information Regarding Broadband Needs

Dear Mills County Stakeholder,

The Mills County Economic Development Foundation and the Mills County Supervisors have engaged HR Green to do a study of the broadband needs in the County. You have been identified as an important stakeholder in that process. If you could provide us with the following information, it would be very helpful. We are trying to determine where the broadband services are lacking so that we can formulate ideas of how to make improvements where they are needed. Our efforts will only be as good as the information we receive, so please help us by returning this information by Tuesday, August 21.

If you would prefer that your organization name not be used, please indicate that.

Questions:

CURRENT SERVICES:
1. Who is your current provider?
2. What is your current plan?
   a. What services are you purchasing?
   b. How much internet capacity/speed are your purchasing?
3. How much do you pay?
4. Is your service(s) reliable?
5. Do you feel like you are getting your money's worth?
6. On a scale from 1 to 10 with one being worst, how would you rate your service(s)?
7. Do you have other options for service?
8. Do you require a lot of internet capacity?   If so, why?
9. Do you feel that your current broadband is holding your organization back?
   a. If so, how?

FUTURE NEEDS:
1. Do you expect that your broadband needs will increase?
   a. If so, how?
   b. If so, do you have any idea how much?
2. If you had better broadband, could that help you expand?

[i] City of Boulder, CO RFP 58-2018 dated August 22, 2018 for fiber Engineering; P. 2, Project Background section
[ii] Maine Broadband Coalition "9 Stats That Prove the Internet is as Important as Any Utility"; Peggy Schaffer; September 15, 2015
[iii] The Hudson Institute "The Economic Impact of Rural Broadband"; Hanns Kuttner, Editor; 2016; pages 4-5
[iv] https://www.fiberbroadband.org/blog/study-shows-home-values-up-3.1-with-access-to-fiber
[v] https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2018-broadband-deployment-report
[vi] https://www.fcc.gov/general/broadband-deployment-data-fcc-form-477
[vii] https://broadbandmap.fcc.gov/#/area-comparison?version=jun2017&tech=acfosw&speed=25_3&searchtype=county&searched=y
[viii] https://broadbandmap.fcc.gov/#/area-summary?version=jun2017&type=county&geoid=19129&tech=acfosw&speed=25_3
[ix] Robert Klyemore; Business Computing World; "What Are The Limitations Of Satellite Internet Technology"; March 27, 2014
[x] https://broadbandnow.com/about
[xi] https://broadbandnow.com zoom in by area
[xii] https://broadbandnow.com/Iowa/Glenwood?zip=51534
[xiii] https://broadbandnow.com/Iowa/Glenwood?zip=51534
[xiv] https://broadbandnow.com/Iowa/Pacific-Junction?zip=51561
[xv] https://broadbandnow.com/Iowa/Malvern?zip=51551
[xvi] muninetworks.org – Rochester, MN policy brief
[xvii] Provided by Jim Hughes Real Estate from their internally developed disclosure form
[xviii] From their website: icn.iowa.gov
[xix] https://auctiondata.fcc.gov/public/projects/auction903/reports/all_assigned_census_blocks
[xx] https://www.fcc.gov/reports-research/maps/caf2-auction903-results/
[xxi] From the FirstNet website: www.firstnet.com
[xxii] From the ICN website: https://www.icn.iowa.gov/broadband-news-interest-%E2%80%93-september
[xxiii] Matt Stevens; New York Times article, "Verizon Throttled California Firefighters' Internet Speeds Amid Blaze (They Were Out of Data); August 22, 2018
[xxiv] iowadot.maps.arcgis.com
[xxv] https://ocio.iowa.gov/broadband-background
[xxvi] https://iowa.maps.arcgis.com/apps/webappviewer/index.html?id=ffd0eb7c17314454ad6f122147b563e6
[xxvii] The Clinton Herald online story by Jacqueline Covey, January 26, 2018: http://www.clintonherald.com/news/local_news/making-a-connection-iowa-eyeing-rural-broadband-initiative/article_6f111609-dea0-52ea-b28f-185d473ec6b0.html