



Agenda

City of Lucas

Technology Committee Meeting

August 13, 2019

7:00 PM

City Hall - 665 Country Club Road – Lucas, Texas

Notice is hereby given that a meeting of the Technology Committee will be held on Tuesday, August 13, 2019 at 7:00 pm at Lucas City Hall, located at 665 Country Club Road, Lucas, Texas 75002-7651 at which time the following agenda will be discussed.

Call to Order

- Roll Call
- Determination of Quorum
- Reminder to turn off or silence cell phones
- Pledge of Allegiance

Citizen Input & Open Discussion

The Citizen Input portion of the agenda is an opportunity for the public to address the Technology Committee on any subject. By completing a "Request to Speak" form and submitting to the City Secretary, citizens have an opportunity to speak at the Technology Committee meeting.

1. Citizen Input and Open Discussion (**Technology Committee Vice-Chairman Trey Sleeper**)

Regular Agenda

2. Consider approving the minutes of the July 9, 2019 Technology Committee meeting. (**Technology Committee Vice-Chairman Trey Sleeper**)
3. Presentation by Michael Wasserman, Owner of Denton Internet and discussion of the INDAGO Fiber Project. (**Assistant to the City Manager Kent Souriyasak**)
4. Presentation by Amye Mercer, President of Big Wave Wireless and discussion of fixed wireless internet service. (**Assistant to the City Manager Kent Souriyasak**)
5. Consider an end date to conclude data collection from the City Internet Speed Test and discuss necessary steps to utilize the compiled information. (**Assistant to the City Manager Kent Souriyasak**)
6. Provide travel details regarding the upcoming meeting in Mont Belvieu, Texas, to discuss the City of Mont Belvieu's fiber network. (**Assistant to the City Manager Kent Souriyasak**)
7. Discuss potential opportunities with Grayson Collin Communications regarding fiber optic cable implementation to expand and improve internet service. (**Technology Committee Vice-Chairman Trey Sleeper**)
8. Adjournment.

Certification

I do hereby certify that the above notice was posted in accordance with the Texas Open Meetings Act on the bulletin board at Lucas City Hall, 665 Country Club Road, Lucas, TX 75002 and on the City's website at www.lucastexas.us on or before 5:00 p.m. on August 8, 2019.



Kent Souriyasak, Assistant to the City Manager

In compliance with the American with Disabilities Act, the City of Lucas will provide for reasonable accommodations for persons attending public meetings at City Hall. Requests for accommodations or interpretive services should be directed to City Secretary Stacy Henderson at 972-912-1211 or by email at shenderson@lucastexas.us at least 48 hours prior to the meeting.



City of Lucas Technology Committee Request August 13, 2019

Item No. 01

Requester: Technology Committee Vice-Chairman Trey Sleeper

Agenda Item Request

Citizen Input and Open Discussion

Background Information

NA

Attachments/Supporting Documentation

NA

Budget/Financial Impact

NA

Recommendation

NA

Motion

NA



City of Lucas Technology Committee Request August 13, 2019

Item No. 02

Requester: Technology Committee Vice-Chairman Trey Sleeper

Agenda Item Request

Consider approving the minutes of the July 9, 2019 Technology Committee meeting.

Background Information

NA

Attachments/Supporting Documentation

1. Minutes of the July 9, 2019 Technology Committee meeting

Budget/Financial Impact

NA

Recommendation

NA

Motion

I make a motion to approve the minutes of the July 9, 2019 Technology Committee meeting.



City of Lucas

Technology Committee

Regular Meeting

July 9, 2019

7:00 PM

City Hall – 665 Country Club Road – Lucas, Texas

MINUTES

Call to Order

Chairman Paul Rathgeb called the meeting to order at 7:02 pm. It was determined that a quorum was present.

Committee Members Present:

Chairman Paul Rathgeb
Member George Brody
Member Dennis Scully

City Staff Present:

City Manager Joni Clarke
City Secretary Stacy Henderson
Assistant to the City Manager Kent Souriyasak
Bill Baxter, City IT Consultant

Committee Members Absent:

Vice Chairman Trey Sleeper
Member John Frazier

City Council Liaison Present:

Councilmember Debbie Fisher

Regular Agenda

1. Citizen Input.

Ilene Mougel, 651 Stinson Road, stated that she had fiber and was very pleased with her service. Ms. Mougel wanted to ensure that the Committee was not considering the removal of fiber.

Chairman Rathgeb assured Ms. Mougel that the City nor the Technology Committee was considering removing fiber in the City.

2. Consider approving the minutes of the May 30, 2019 Technology Committee meeting.

MOTION: A motion was made by Member Brody, seconded by Member Scully to approve the minutes of the May 30, 2019 Technology Committee meeting. The motion passed unanimously by a 3 to 0 vote.

3. Presentation by Rise Broadband and discuss resources to improve internet service in underserved areas.

This item was not discussed as no one was present from Rise Broadband.

4. Presentation by Signalnet Broadband to provide information on products and services to help improve internet service.

This item was not discussed as no one was present from Signalnet Broadband.

5. Presentation by Josh Mercer to provide information on technological services to help improve internet service.

Josh Mercer with Big Wave Wireless gave a presentation discussing internet services offered by Big Wave Wireless, a wireless internet service provider (WISP) with towers and base stations that provide wireless internet connection. Mr. Mercer discussed spectrum challenges such as many WISPs that were deployed in unlicensed frequencies, the use of off-the-shelf inexpensive hardware, tower antennas at a 90-degree wide angle, and noise radio frequency environments. Mr. Mercer addressed how to mitigate spectrum challenges that included using RADWIN wireless carrier grade equipment that utilizing true beam forming technology for interference mitigation. Mr. Mercer stated that Big Wave Wireless consisted of base stations that could provide up to 750 Mbps per sector. Mr. Mercer indicated that subscribers can expect to see between 25 Mbps and 100 Mbps and that each tower site can reliably serve up to 200 users. Mr. Mercer explained that a base station on the Winningkoff tower was enough to cover most of the City, while the McGarity tower would be added service and a third tower could provide additional capacity as needed.

Chairman Rathgeb discussed terrain that could be a concern with the equipment referenced which matched existing concerns in the City currently with other providers. Chairman Rathgeb suggested conducting site surveys to ensure the equipment could reach subscribers and be reliable.

Mr. Mercer stated that he would like to have equipment in place by the end of the year.

Member Brody asked the price point proposed for the service.

Mr. Mercer stated that the price point had not been finalized; however, they were estimating \$50 to \$70 per subscriber.

Mr. Mercer stated he would keep the committee informed when the project and equipment were complete and in place.

6. Discuss the City of Mont Belvieu's fiber network and consider a representative from the Technology Committee to attend a scheduled meeting alongside City staff at the City of Mont Belvieu on August 20, 2019.

The Committee discussed the City of Mont Belvieu's fiber network with it being Texas' first municipally owned fiber-optic broadband network that offers subscribers internet service up to one gigabyte per second. City staff had been in contact with the City of Mont Belvieu to coordinate a meeting to have a better understanding of the planning and implementation of their fiber network.

The Committee expressed interest in traveling to Mont Belvieu, Texas, in order to meet with their City staff and would coordinate dates for a future meeting.

7. Discuss progress on data collection from the Internet speed test and promotional strategies to encourage residents to utilize the speed test.

Chairman Rathgeb discussed data collected from the speed test and the locations of reported internet speeds thus far. Chairman Rathgeb stated that various reports would be created outlining the information collected but that those reports would protect private information. A geographical map was displayed that outlined speed results and provider information collected thus far. Chairman Rathgeb stated that they would continue to collect more data to present a full representation of internet service throughout the City.

8. Discuss problem data gathering and analysis, demographic gathering and analysis, and universe of possible solutions.

Chairman Rathgeb stated that this information had already been discussed in earlier agenda items and there was no discussion on this item.

9. Adjournment.

MOTION: A motion was made by Member Brody, seconded by Member Scully to adjourn the meeting at 7:58 pm. The motion passed unanimously by a 3 to 0 vote.

Paul Rathgeb, Chairman

Stacy Henderson, City Secretary



City of Lucas Technology Committee Request August 13, 2019

Item No. 03

Requester: Assistant to the City Manager Kent Souriyasak

Agenda Item Request

Presentation by Michael Wasserman, Owner of Denton Internet and discussion of the INDAGO Fiber Project.

Background Information

Denton Internet provides residential and commercial internet service to the Greater Denton Area. Assistant to the City Manager Kent Souriyasak has contacted Michael Wasserman, Owner of Denton Internet to discuss potential fiber expansion across North Texas as part of the company's INDAGO Fiber Project, also known as Internet Networking Denton Area Gigabit Optical Fiber. The INDAGO Fiber Project includes a Gigabit Passive Optical Network (GPON) System which allows a Data Center Interconnect (DCI) to provide 32 homes to be served by a single fiber optic cable and has a build-out of 3,500 dwellings within a city.

The Greater Denton Area faces internet challenges similar to the City of Lucas and other cities in Collin County. There are limited options of internet service and many Internet Service Providers (ISPs) are not willing to expand service to low density communities. Cost requirements are the biggest limitation of widespread fiber optic cable implementation. Denton Internet is planning to work with underserved cities to implement fiber optic cable as the costs for fiber will become more affordable to maintain than aging copper networks.

Attachments/Supporting Documentation

1. INDAGO Fiber Project

Budget/Financial Impact

NA

Recommendation

NA

Motion

There is no motion required.

Denton Commercial Internet, Inc.

INDAGO Fiber Project

Internet **N**etworking **D**enton **A**rea **G**igabit **O**ptical **Fiber**

PATENTED PRODUCT

INDEX

OVERVIEW	4
Basics	4
Market Potential	4
OPPORTUNITY	5
Challenge	5
Solution	5
INFRASTRUCTURE	6
Infrastructure Fulfillment Strategy	6
Factors Affecting Construction and Installation	7
RULES AND REGULATIONS	7
Licensing and Permitting County	7
Licensing and Permitting City	7
THE FIBER NATION	8
LIMITATIONS OF FIBER	9
New Infrastructure Requirements	9
HOW FIBER OPTIC CABLE WORKS	10
ANATOMY OF FIBER OPTIC CABLE	11
CABLE CONSTRUCTION	12
PROVIDER FACTS	13
TARGET CITY INFORMATION	16
RESUMES'	19
REFERAL LETTER	27

ADDENDUMS	28
Addendum “A” Housing Demographics by City	28
Addendum “B” DCI – INDAGO Administration per City	29
Addendum “C” KRUM - 36 Month P & L Projections	30

OVERVIEW

Basics

Fiber optic Internet sends data faster than basic cable. It's delivered on a dedicated line, which facilitates more consistent speed than cable. ... Fiber optic Internet is less likely to go down during a power outage. Because fiber optic Internet is made of glass, there is no electricity involved in the outside plant. The internal power is generated from the outside power and then converted to DC voltage stored in batteries and can maintain the system for 5 days without requiring charging.

The INDAGO Fiber is a Gigabit Passive Optical Network (GPON) System. This allows DCI to Provide 32 Homes to be served by a Single Fiber.

Cost of Build-out to 3500 dwellings in a City served by DCI INDAGO Fiber is \$730.00 per pass. A pass is defined as a unit, whether a customer or not, having the service available at the dwelling.

Market Potential

Due to the rural nature of this project, the large carriers are reluctant to pursue the areas we are going after. Our relationship with the Cities of Krum, Ponder, Northlake, Shady Shores and Bolivar have been ignored by the "biggs" and opt for the low hanging fruit of the urban climate.

11 Huge Business Benefits of Fiber Internet Connectivity

Speed. Fiber-optic Internet is many times faster than even the highest-speed copper Internet connections, with options available that range from 5 Mbps to 100 Gbps....

Cloud Access....

Reliability....

Signal Strength....

Bandwidth....

Symmetric Speed....

Low Latency....

Security....

Resistance to Interference....

Cost Savings....

Support for HD Video....

OPPORTUNITY

Challenge

There are limited choices of Internet Service Providers in the underserved West Denton areas.

In most cases the Internet delivery had to be wireless because the cost to run cabling the hundreds of miles to get to existing communities and then distributing service to those areas is not feasible.

Speed, reliability, good customer service and responsive tech support are rare in the Denton, Texas areas.

Solution

As an Internet Service Provider with 24 years of experience from the early days of dial-up to the modern fiber optics, wireless back hauls and subscriber modules, the owners of Denton Internet have been at the forefront of Internet technology.

DCI takes a proactive approach with 24/365 system monitoring and customer support.

We hear many companies stating that they "can't be down for any reason" yet they have an unreliable service with no backup. Denton Internet can provide a great primary service or in the case of businesses stuck in long term contracts, we can provide the necessary backup lifeline that keeps the wheels turning.

From the residential communities in Ponder, Krum, North Lake and Robson Ranch to the industrial and commercial areas around the Denton Enterprise Airport, Downtown Denton and the shopping areas, Internet access is slow, expensive, unreliable and sometimes not available.

BACK OFFICE SOFTWARE AND NETWORK SERVERS CAN CONTROL 10,000 CUSTOMERS WITHOUT EXPANSION

INFRASTRUCTURE FULFILLMENT STRATEGY

Day 1

Order 2) 10 Gig Redundant Circuits (90 Day Process)

Order Poly Pipe and Fiber Optic cable

Order Hardware, Software and Heavy Equipment

Hiring Process Begins

Location Acquisition Begins

Order Advertising Mediums

Day 4

Commence Installation of Fiber Infrastructure

Commence Installation of Headend Servers and "INDAGO" System

Day 14

Ground Breaking for Office and Warehouse Building

Day 91

Fiber is Live and Customer Installations Begin

FACTORS THAT WILL SLOW DOWN OR SPEED UP INFRASTRUCTURE CONSTRUCTION AND INSTALLATIONS

From a nature standpoint, Rain and Ice are the biggest challenges of any utility company. Equipment breakdowns and maintenance are next.

Well maintained equipment will keep the infrastructure expanding.

RULES AND REGULATIONS

LICENSING AND PERMITTING OF UTILITY EASEMENTS IN THE COUNTY

Utility easements are areas of a property that were defined for use by utility companies when the property was first put on a plat. They are designated for overhead electric, electrical / optical telephone and television lines. They are also designated for underground electric, water, sewer, electrical / optical telephone and cable lines.

Since 1996 these easements are no longer regulated by the city, county or state. The only understanding is that a utility company entering an easement must be responsible for the location of existing utility lines and avoid / be responsible for damage. Individual cities may require permitting and specific notifications. They cannot however restrict or deny access to easements.

LICENSING AND PERMITTING IN THE CITIES

The Cities we will be installing in, have an open door Policy and will cooperate fully in our fulfillment of the Infrastructure Construction

ACCESS TO QUALITY PERSONNEL

Our Existing team is Factory Trained with Basic and Advances Certificates in Networking, Routing, Server Configuration and Heavy Construction. Also Advanced Tower Climber and Rescue.

Adding to the Team will consist of Activating Technicians, Installers and Phone Support Personnel that are in Cue and available when they are called to service.

FIBER-OPTIC INTERNET IN THE UNITED STATES

25% FIBER COVERAGE NATIONWIDE

Fiber to the home or FTTH as it is commonly referred to as the new gold standard of residential and commercial internet connectivity.

With much of the backbone of the internet deployed using fiber optic cable, it is no surprise that fiber optics is the fastest form of broadband technology.

In fact, the latest deployments in this arena by Verizon FiOS and Google Fiber are capable of reaching speeds of 500mbps and 1gbps respectively.

The biggest benefit of fiber is that it can offer much faster speeds over much longer distances than traditional copper-based technologies like DSL and cable. The actual service depends on the company providing the service, but in most cases fiber is the best bang for the buck broadband and future-proof for as long as we can tell. Even if typical broadband speeds become 1000 times faster in 20 years, a single existing fiber-optic connection can still support it.

LIMITATIONS OF FIBER

NEW INFRASTRUCTURE REQUIREMENTS

The biggest limitation hindering widespread fiber optic adoption is the cost requirements of implementing new fiber optic lines when old infrastructures such as DSL and cable are still serving customers.

Installing a new fiber optic network is a large capital expenditure for service providers. However, as the cost to maintain aging copper networks increases over time, more and more will choose to upgrade to fiber if not purely for financial reasons. Of course as consumer demand for better and faster broadband increases, service providers will have to install fiber-optic networks to meet that demand. Our mission is to bring that power to the consumer.

Light moves very fast (186,000 miles per second, to be specific), enabling speeds up to 1,000 Megabits (one Gigabit) per second on fiber-optic networks — almost 100 times faster than the US broadband average of 11.7 Megabit per second.

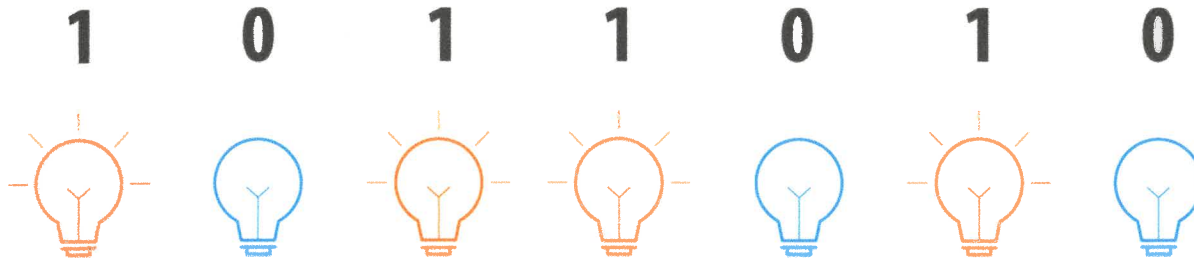
Consumers think of fiber as a new technology, but the Internet “backbone” network connecting cities and countries has been built with fiber-optic cables since the dawn of the Internet. The first submarine fiber-optic cable connected the US to France and Britain back in 1988, and hundreds currently crisscross the ocean floor all around the world.

OUR FIBER INFRASTRUCTURE WILL VIABLE FOR BETWEEN 30 AND 40 YEARS

HOW FIBER OPTIC CABLES WORK

The Digital data is packaged in zeros and ones, also called “binary.” Everything you see when you surf the Web is the product of streams of binary information — like the dots and dashes of Morse code.

Transmitting that stream of binary data via light pulses is straightforward: a pulse means 1, no pulse represents 0.



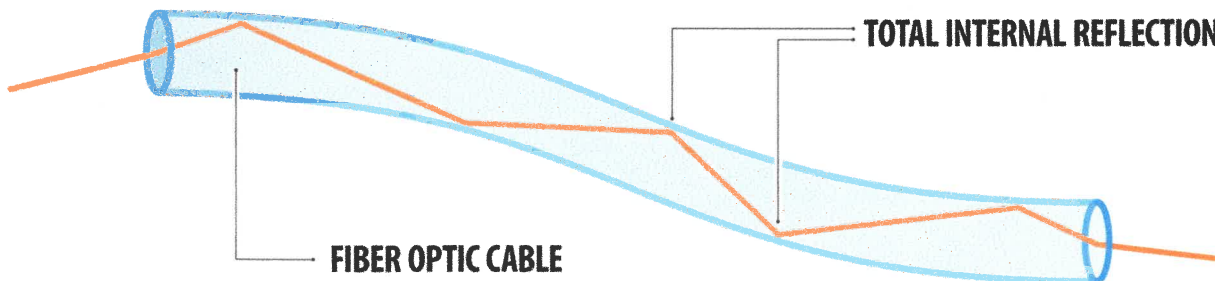
Binary Pulse

Fiber-optic cables are designed to transmit those pulses quickly over long distances.

The inside of a fiber-optic cable is packed with optical fibers made of glass, each about as thick as a human hair. Light particles that enter one end of an individual fiber exit at the other side.

A transmitter at one end of the fiber transmits light pulses as ultra-fast LED or laser pulses. A single flash can travel as far as 60 miles before it begins to degrade.^[4]

This is possible because of a light phenomenon called “total internal reflection.” Below a critical angle, light particles “bounce” within the fiber, like a marble dropped down a long pipe. Each fiber is wrapped in a layer of glass or plastic “cladding” that has a lower optical density than the core fiber, causing total internal reflection to occur where they meet.

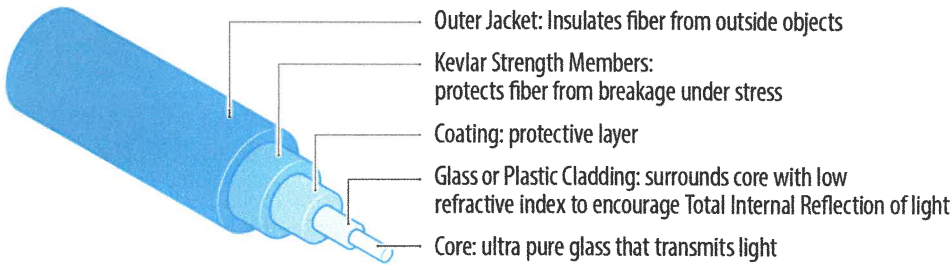


Fiber total internal reflection

When light pulses reach the end of the fiber a receiver translates them back into binary data.

ANATOMY OF A FIBER OPTIC CABLE

Individual optical fibers are surrounded by several layers of material that strengthen, protect, and help keep light from escaping.



Single Optical Fiber

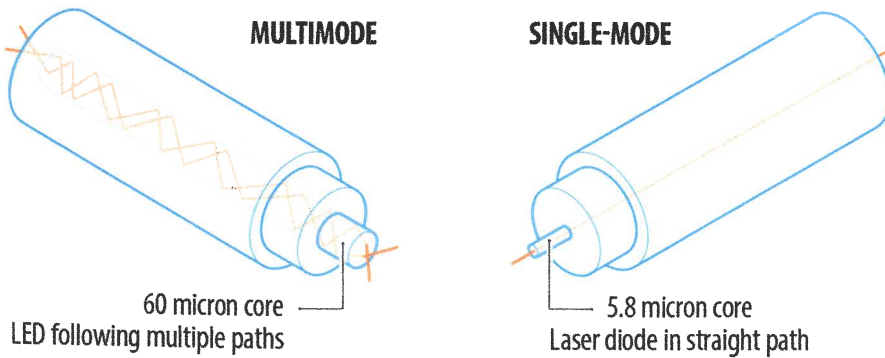
A typical fiber-optic cable is packed with dozens to hundreds of individual optical fibers, allowing a high volume of data to travel over a single connection.

SINGLE-MODE VS MULTIMODE

There are two types of optical fiber: single-mode and multimode.

Single-mode has a smaller core and carries laser diode transmissions over large distances. Multimode transmits LED light through a bigger core, where light “bounces” in multiple paths over shorter distances.

Multimode is significantly cheaper than single-mode, making it common for shorter distances within city networks.



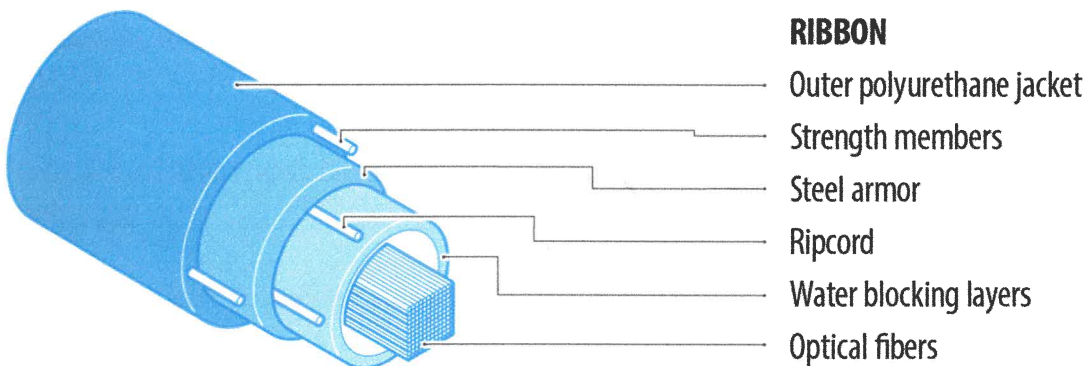
CABLE CONSTRUCTION: RIBBON VS LOOSE TUBE

Complete fiber-optic cables come in two basic varieties: ribbon and loose tube.

Ribbon is cheaper and packs fibers more closely, while loose tube offers more padding and protection against the elements.

There are many different sizes and varieties of cables available in either type, but the concept is always the same: bundles of fibers wrapped in protective material.

Note that these examples are not representative of all cable products — there will be less or more protective layers based on application purpose, and the number of fibers contained in a cable can be anywhere from two to several hundred.



LARGEST FIBER PROVIDERS AND US COVERAGE

Verizon FiOS 10.48% COVERAGE
Crown Castle Fiber 6.17% COVERAGE
AT&T Fiber 4.71% COVERAGE
Frontier Communications 3.32% COVERAGE
Monmouth Telephone & Telegraph 2.57% COVERAGE
Silver Star Telecom 2.08% COVERAGE
North Atlantic Networks 2.02% COVERAGE

STATES WITH THE MOST FIBER COVERAGE

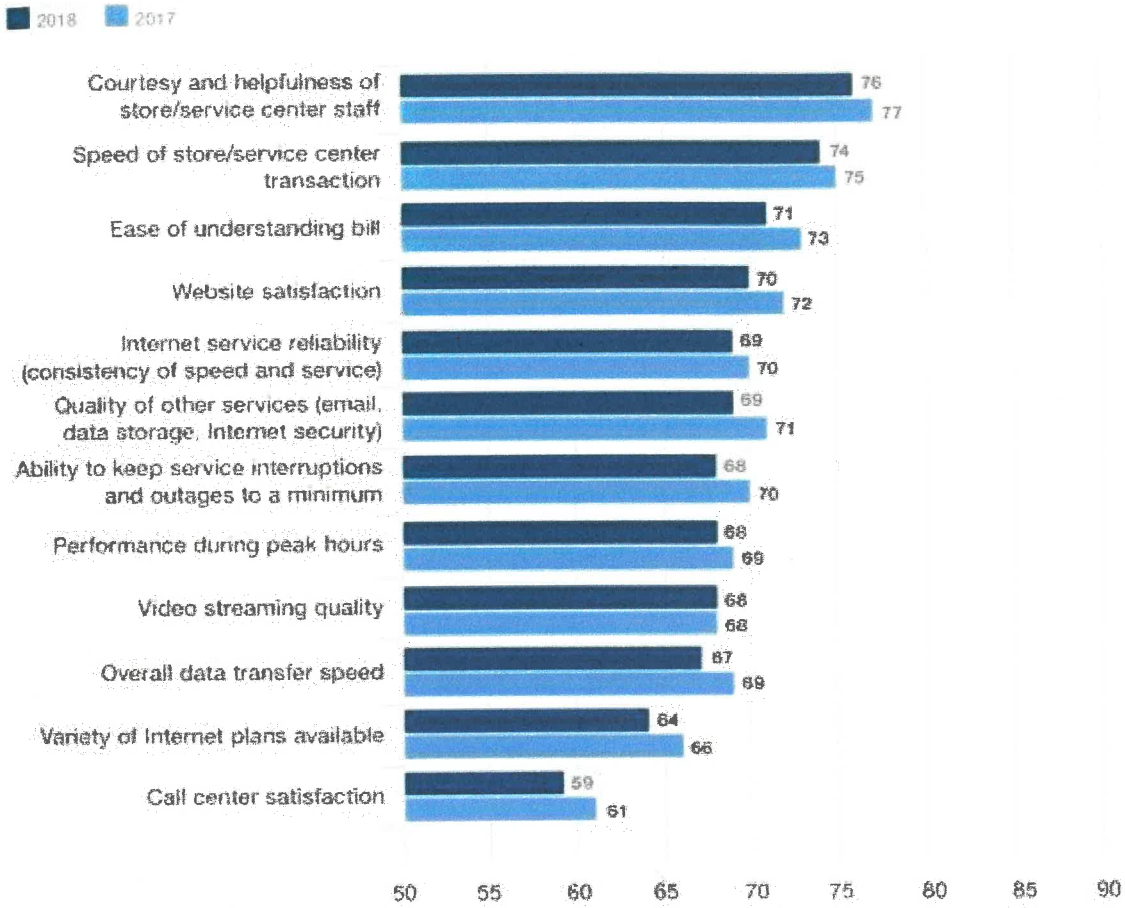
Rhode Island 84.8% COVERAGE
New Jersey 65.4% COVERAGE
Maryland 61.2% COVERAGE
New York 60.5% COVERAGE
District of Columbia 59.6% COVERAGE
Delaware 55.6% COVERAGE

Every one of the 12 major ISPs in the U.S. saw a decrease in consumer satisfaction. The most significant was Mediacom, which fell by 9 percent between 2017 and 2018.

In order of the most satisfied customers (with the score ranking out of 100), the list of ISP rankings:

1. FIOS (Verizon Communications). 70
2. AT&T Internet. 68
3. Optimum (Altice USA). 64
4. All others. 63
5. Suddenlink (Altice USA). 61
6. Spectrum (Charter Communications). 60
7. Xfinity (Comcast). 60
8. Cox Communications. 59
9. CenturyLink. 58
10. Windstream. 56
11. Frontier Communications. 54
12. Mediacom. 53

Internet Service Providers Customer Experience Benchmarks Year-Over-Year Industry Trends



© 2018 ACSI LLC. All rights reserved.

Americans are becoming increasingly frustrated with their internet service providers, new figures have confirmed.

According to the American Customer Satisfaction Index (ACSI), just 62 percent of U.S. residents are satisfied with their ISP. It represents a two percent drop on the previous year's survey.

ACSI questions around 250,000 consumers each year and quizzes them on all things digital, including:

- Internet service provider;
- Video streaming service; and
- Wireless telephone service.

“Internet service providers are down 3.1 percent to 62 percent—an all-time low for the industry that along with subscription TV already had the poorest customer satisfaction among all industries tracked by the ACSI,” the report says.

“Customers are unhappy with the high price of poor service, but many households have limited alternatives as more than half of all Americans have only one choice of high speed broadband. Every major ISP deteriorates this year except for Comcast's Xfinity, which is unchanged.”

Consumers were asked questions relating to the helpfulness of staff, performance during peak hours, video streaming quality and reliability. Of the 12 categories, the only one to not decrease from 2017 to 2018 was streaming quality (which stayed the same).

Customers were most annoyed with the company's call centers.

This article was posted in Newsweek November 15, 2018

INTERNET ACCESS IN THE CITY OF KRUM, TEXAS

The average download speed in Krum is 10.35 Mbps. This is 79.4% slower than the average in Texas and 293.7% slower than the national average.

- There are 15 internet providers in Krum with 7 of those offering residential service.
- Krum is the 555th most connected city in Texas ahead of Sanger and Ponder, but behind Denton, Justin, and Argyle.
- Almost 89% of consumers in Texas have access to a wired connection with true broadband speeds faster than 25mbps.
- 36% of Krum residents are still severely limited in wired broadband choices.
- 85.5% of Texans have access to 100mbps or faster broadband.
- In Denton County, approximately 24,000 people do not have access to 25mbps wired broadband.
- The average internet download speed in Texas is 50.32 mbps.
- 75% of residents in Denton County have access to fixed wireless internet service.

35.8% OF CONSUMERS IN KRUM, 2,000 People have access to 1 or fewer wired internet providers available at their address.

This data is calculated from FCC datasets which providers are legally required to supply twice a year. We further validate this data for accuracy.

INTERNET ACCESS IN THE CITY OF PONDER, TEXAS

The average download speed in Ponder is 5.75 Mbps. This is 88.6% slower than the average in Texas and 608.7% slower than the national average.

- There are 15 internet providers in Ponder with 9 of those offering residential service.
- Ponder is the 596th most connected city in Texas behind Roanoke, Denton, Justin, Argyle, and Krum.
- Almost 89% of consumers in Texas have access to a wired connection with true broadband speeds faster than 25mbps.
- Fiber optic internet is available to 65% of Denton County residents.
- 85.5% of Texans have access to 100mbps or faster broadband.
- Residential fiber service is available to only 8% of people living in Ponder.
- There are 461 internet providers in all of Texas.
- Texas is the 30th most connected state in the U.S.

91.5% OF CONSUMERS IN PONDER, 4,000 People have access to 1 or fewer wired internet providers available at their address.

This data is calculated from FCC datasets which providers are legally required to supply twice a year. We further validate this data for accuracy.

INTERNET ACCESS IN THE CITY OF NORTHLAKE AND PORTIONS OF JUSTIN, TEXAS

The main provider in Justin is Frontier Communications, offering DSL and fiber-based broadband to most residents. Additionally, consumers in Justin have multiple fixed wireless options that may reach areas not served by the wired providers.

From providers offering small business internet packages, to enterprise providers specializing in dedicated fiber and multipoint-multipoint, there are multiple providers offering business internet options in Justin. Connectivity options include DSL, fixed wireless, and copper.

In the business results above we only list providers that advertise small business service or enterprise-level service on their website. Depending on your needs it may be worth contacting some of the providers that specialize in residential service to see if they have unlisted business plans.

The average download speed in Justin and Northlake is 31.61 Mbps. This is 37.2% slower than the average in Texas and 28.9% slower than the national average.

- There are 17 internet providers in Justin with 10 of those offering residential service.
- Justin is the 154th most connected city in Texas ahead of Argyle, Rhome, and Ponder, but behind Roanoke and Haslet.
- Texas is the 30th most connected state in the U.S.
- There are 11 companies offering business internet services in Justin.
- Residential fiber service is available to 88% of people living in Justin.
- Approximately 9,000 people in Denton County don't have access to any wired internet.
- In Denton County, approximately 24,000 people do not have access to 25mbps wired broadband.
- Fiber optic internet is available to 65% of Denton County residents.
- Explore internet access for communities within Justin: Northlake

12.0% OF CONSUMERS IN JUSTIN, 1,000 People have access to 1 or fewer wired internet providers available at their address.

This data is calculated from FCC datasets which providers are legally required to supply twice a year. We further validate this data for accuracy.

Michael J Wasserman

Education:

Tampa Tech Majoring in Electronic Engineering, Minor in Physics

Experience:

- 1983-2016: Owner of Metrocrest Communications - Telecom, Copper Category Wiring, Coax and Fiber Connectivity.
- 1983-1997: Owner of Metrocrest Cable TV, Installed and Engineered the Cable TV System for Jarvis Christian College Hawkins, Texas.
- Contract Installer, Engineer and Technician for DirecTV and World Satellite.
- 1994-1996: President of Intex.net - Built and Operated the 3rd Dialup Internet Service Provider in North Texas.
- 1994: Installed the First Wireless Internet Network in Texas at the 1 Million Square Foot Dallas Convention Center.
- 1995: Designed, Installed and Operated the Telecommunications Network at the Dallas Convention Center.
- 1998-2001: Contract Closed Circuit Television, Television and Sound System Installer for Outback Steakhouse Nationwide, Outback Steakhouse International, Evergreen Restaurant Group, Carrabba's Italian Grills Nationwide, Mango's Grill, Fleming's Prime Steakhouse, Roy's Kona Grills and Other Outback Subsidiaries. In Total 891 Restaurants Equipped with 1,854 Systems from Key West to Boston, Atlanta to San Francisco, Seattle to Maui were Installed in 3 ½ Years.
- 2001-2007: President of Kiowa Online Wireless Internet Service Provider - Installed Complete Wireless Network Infrastructure, Trained Installers.
- 2003-2004: OzComm Leslie, Arkansas - Installed Complete Wireless Network Infrastructure, Trained Installers and Connected to the Existing Dial-up System.
- 2003-2005: Fiber Optic Network Installation and Maintenance for Molded Fiberglass Wind Turbine Division, Gainesville, Texas.

Denton Commercial Internet, Inc.

- 2004-2007: Fiber Optic Network Contractor for Lake Kiowa Municipal Utility District, Gainesville, Texas – Installed Fiber Optic Cables and Transceivers to Protect against Lightning Damage.
- 2008-2011: Era Independent School District – Engineered, Installed and Maintained a Campus-wide Wireless and Fiber Network.
- 2015-Present: President, Network Engineer and System Administrator for Denton Commercial Internet, Inc. - With John Petty, Engineered, Built, and Installed Communication Towers Including the only FCC and FAA Licensed Tower at the Denton Enterprise Airport.
- Built Power Distribution Systems and Installed Licensed Microwave Links to Towers and Roof Tops of Buildings Creating a Redundant Wireless Network.
- The Capacity of the Network is 900 Individual Connections and Limitless Wired Connections.

Certifications:

MTCNA - Mikrotik Certified Routing Engineer

MTCRE - Mikrotik Certified Advanced Routing Engineer

ARIN – American Registration for Internet Numbers – We Own IP Address Classes

Memberships:

Denton Chamber of Commerce

Denton Main Street Association

PointBank Networking Group

Krum Networking Group

Wireless Internet Service Providers Association (WISPA)

John Robert Petty

Education:

Collin County Community College Majoring in Computer Sciences

Experience:

1994-1995: Tech Support & Web Design for Intex.net

1995-1996: Collin County Community College

1997-1998: RMA Manager for Half Price Computers

1998-2001: Closed Circuit Television, Television and Sound System Installer for Outback Steakhouse and Carrabbas Nationwide

2002-2005: General Manager for Capitol City Pawn

2006-2007: Installer and Technician for DirecTV

2007-2012: Field Technician for Time Warner Cable

2012-2015: Field Technician and Lead Installer for Metrocrest Communications

2015-Present: Field Engineer and Network Administrator for Denton Commercial Internet

Certifications:

Jones / NCTI Certified Master Installer

Safety LMS Certified Tower Climber and Rescuer

MTCNA Mikrotik Certified Routing Engineer

MTCRE Mikrotik Certified Advanced Routing Engineer

VICKIE MILLS

PROFILE

- Extensive background in accounts receivable, accounts payable and customer service
- Proficient in FileMaker Pro Database System and Platinum DOS
- Knowledgeable in Word, Excel, QuickBooks and Outlook
- Creative problem solver with strong multi-tasking and organizational skills

RELEVANT EXPERIENCE

Accounting

- Accounts receivable (wholesale), collections, post payments, research past due accounts
- Resolved billing disputes
- Processed new customer credit applications and approve new orders for existing customers
- Generated daily and month end reports with Excel
- Supervised credit and collections department (8 people)
- Matched and entered invoices for accounts payable

Customer Service/Organizational/Other Skills

- Answered phones, scheduled appointments
- Trained employees on telephone techniques, etiquette and customer service
- First level tech support
- 10-Key by touch
- Order entry, inventory control, purchasing

WORK HISTORY

- | | | |
|----------------|------------------------|--|
| ● 2015-Present | Office/Credit Manager | Denton Commercial Internet, Denton, TX |
| ● 2004-2014 | Office/Credit Manager | Metrocrest Communications, Gainesville, TX |
| ● 2000-2001 | Credit Manager | Busy Body, Inc., Carrollton, TX |
| ● 1999-2000 | A/R and A/P Supervisor | Port Everglades Steel Corp, FL |
| ● 1997-1999 | Credit Supervisor | Adams Golf, Plano, TX |
| ● 1994-1997 | Accounts Receivable | Tevco, Plano, TX |

EDUCATION

Credit and Collections Course	Newton, MA
Graduate of Newton South High School	Newton, MA
Claris - FileMaker Software and Database Training	Dallas, TX

Mark Gearhart

Experience

June 2012 - present

Owner, Operator

- Self- employed contractor and consultant in telecommunications engineering, specializing in cable television.
- Cable , fiber system design and mapping.
- Construction and splicing of ADSS fiber for power company
- Splicing OPGW fiber for power company
- Headend design and build.
- System and headend troubleshooting, maintenance and repair.
- Designed and MDU and residential homes.
- Managed contractors and sub-contractors building plant and installations.

Jan 2007 – June 2012

Connexion Technologies

Cary, North Carolina

Field Applications Manager

- System and head end troubleshooting.
- System and head end maintenance and repair.
- Assist in management of Tier 2/3 techs.
- Designed and built head ends (until engineering took over).

Jan 2006 – Jan 2007

MG CATV Design

Denton, Texas

Owner, Operator

- Self- employed contractor and consultant in telecommunications engineering, specializing in cable television.
- Cable and fiber system design and mapping.
- Headend design and build.
- System and headend troubleshooting, maintenance and repair.
- Designed and installed low voltage wiring in MDU and residential homes.
- Managed contractors and sub-contractors building plant and installations.

Denton Commercial Internet, Inc.

Jul 2004 – Jan 2006

Fusion Broadband

Champaign, Illinois

CATV Engineer

- Cable system design and mapping.
- Headend design and build.
- System or headend troubleshooting, maintenance and repair.

Aug 2002 – Jul 2004

MG CATV Design

Denton, Texas

Owner, Operator

- Self-employed contractor and consultant in telecommunications engineering, specializing in cable television.
- Cable system design and mapping.
- Engineered, installed and turned up telecommunications CO/ video Head ends.
- System and headend troubleshooting, maintenance and repair.
- Designed and installed low voltage wiring in MDU and residential homes.
- Cable TV system sweep.
- Managed contractors and sub-contractors building plant and installations.

Mar 1980 – Aug 2002

Charter Communications

Denton, Texas

System Engineer/Technical Manager

- Responsible for budgeting for MSO system with 850 miles plant, 35,000 customers with 4 head ends across 2 states.
- Cable system design and mapping.
- System and headend troubleshooting, maintenance and repair.
- Cable TV system sweep.
- Managed system techs.

Work Skills

- Utilize AutoCAD to map, draw and design system maps and headend layouts.
- Design, build, maintain, and troubleshoot CATV headend and plant.
- Manage and assist techs in basic maintenance and troubleshooting.
- Use Excel.

Jack E. Foster, Jr.

Objective:

To earn a living where there is possible career advancement that will allow me to effectively utilize my work skills and experience.

Education:

College Coursework, Merritt College, Oakland, CA / Laney College, Oakland, CA

H.S. Diploma, Pine Bluff High School

Ongoing Education to be Provided by Denton Commercial Internet

Employment:

Lennox Industries, Inc.

Production Assembler

Stuttgart, AR

February 2016 – November 2016

- Manufacture residential and commercial HVAC system components
- Properly assemble copper pipes to compressor for HVAC systems
- Perform a variety of assembly, fabrication, production and operator tasks
- Ensure quality assurance on each component produced
- Complete all other tasks as assigned by direct supervisor

Welspun Pipes, Inc.

Machine Operator / Lead Production Controller

Little Rock, AR

November 2014 – September 2015

- Determine product specifications such as dimensions, tolerances and number of parts to be ground
- Determine grinding speeds, feed rates, holding fixtures and grinding wheels to be used
- Stencil markings, grind and smooth piping
- Monitor product quality to ensure compliance to standards and specifications
- Ensure a safe clean working area throughout work day
- Complete all other tasks as assigned by direct supervisor

Skills:

- Strong mechanical knowledge and skill set ; Self-taught auto mechanic (10+ years' experience)
- Experience working from blueprints, drawings, etc.
- On-the-job training and experience brazing and welding
- Ability to follow instruction and production schedules
- Good communication skills and attention to detail

Certification/Awards:

Arkansas Career Readiness Certificate

Level: Silver

Issue Date: September 17, 2015

Certificate No. 64691

Denton Commercial Internet, Inc.

June 28, 2018

To Whom It May Concern,

This letter pertains to the level of service and quality we receive from Denton Internet. As a Marriott branded hotel, internet and telephones are of the utmost importance to our guests whether they are traveling for business, to UNT, or just for pleasure. The loss or lack of quality of either of these services can cost us a tremendous amount of revenue loss. While we do not get scored by guests regarding our telephone services, we do get scored on our internet quality. Not only are we currently surpassing the brand average, on the rare occasion we have an issue, Michael has shared his cell phone number with our entire team so he can log in and check our service or get out right away to complete necessary adjustments so our business does not suffer. He's shared images of their monitoring system they use to alert them of outages or issues, and I believe this is part of what helps them keep our services running smoothly and with extremely limited issue.

I have complete confidence in Denton Internet and happily recommend them for any of your services. If you have additional inquiries or would like additional information from my hotel, please reach out by phone or by email.

Thank you once again and have a wonderful day!

Rebecca Ashcraft



Rebecca Ashcraft

General Manager

SpringHill Suites Denton

1434 Centre Place Dr. / Denton, TX 76205

T 940.383.4100 D 940.218-1501

Addendum "A"

Housing Demographics by City

Information Provided By City-Data.com

	Total Population 2010	Total Population 2017	Residences	Projected Next 2 Years	Surrounding Area Residents	Business	Avg House \$
Krum	4919	5626	2103	2900	1700	220	189,236
Ponder	1484	1949	1002	1200	400	200	174,629
Boliver	807		351	351		10	
North Lake	1916	2776	928	7000	3100	35	325,180
Shady Shores	2790	2890	1156	1300	200	18	300,737

Future Projects

Lake Dallas		7429					200,000
Hickory Creek		4007					278,000
Justin		3372					290,000

Addendum "B"

DCI - INDAGO Administration Per System

		Equipment to Augment Existing Infrastructure		
1		Upgrades to existing Billing System	11,000	11,000
1		Service Tools, 4) Fiber Splicers and Test Equipment	34,000	34,000
1		Laptops & Cell Phones	1,800	1,800
1		Laptops and Desktops	1,600	1,600
1		Splicing Trailor	28,000	28,000
4		Training	12,000	48,000
1		Certifications, Associations & Licenses	40,000	40,000
1		Office Supplies and Equipment for Vickie	22,000	22,000
1		Signage, Advertising and Graphic Design	12,000	12,000
				-
1		Misc. Expenses	40,000	40,000
				-
1		DNS / RADIUS Servers ... Redundant Systems	4,200	4,200
				242,600

Year 1	Year 2		Month	Year 1	Year 2
2	2	Service Van / SUV	400	9,600	9,600
1	1	1 Ton Dually Pickup	700	8,400	8,400
1	1	Warehouse/Construction Office (Krum) and Tower Rent	6,000	72,000	72,000
1	1	Office / Tower Rent (Existing Expenses)	11,700	140,400	140,400
1	1	Heavy Equip Lease (Boring, Backhoe, Bucket Truck /Trailors)	18,000	216,000	216,000
1	1	Equipment Maintenance incl. Heavy Equipment	300	3,600	3,600
1	1	Fuel Expense	800	9,600	9,600
1	1	Liab. Insurance for Heavy Equipment	2,700	32,400	32,400
1	1	Benefit Package (Health Insurance & 401K Participation)	11,000	132,000	132,000
1	1	Advertising	4,000	48,000	48,000
		Salaries			
1	1	Vickie / Admin / Billing / Collections	5,246	62,952	62,952
3	3.5	Addl. Office Staff / Media / Web Master	3,096	111,456	130,032
1	1	Michael System Eng. / Sales / Splicer	5,246	62,952	62,952
1	1	John Network Eng. / Supervisor / Splicer	5,246	62,952	62,952
1	1	Mark Construction / Blue Prints / Aerial / Supervisor	5,676	68,112	68,112
1	1	Jorge Construction / Underground / Supervisor / Splicer	5,160	61,920	61,920
1	1	Jack Jr. Construction / Underground / Supervisor / Splicer	5,160	61,920	61,920
3	3	Service and Installation Tech / Construction Assistant	4,300	154,800	154,800
		Annual Expenses		(1,319,064)	(1,337,640)

Addendum "C"

INDAGO 36 Month P & L Projections Fiber Krum

Month
0

Income

Residential								
Income	Internet Only		99.00				Installations Tier 1 Tier 11 Tier 21	
		Tier 1	79.00	1200				
		Tier 2	99.00	500				
		Tier 3	129.00	100				
		Tier 4	199.00					
	Internet + TV 160		99.00			Internet + TV 180	99.00	
		Tier 11	118.00			Tier 21	148.00	
		Tier 12	138.00			Tier 22	168.00	
		Tier 13	168.00			Tier 23	198.00	
		Tier 14	238.00			Tier 24	268.00	
		TOTAL RESIDENTIAL						

Commercial								
Income	Internet Only		350.00				Installations Tier 51 Tier 61 Tier 71	
		Tier 51	99.00	10				
		Tier 52	149.00	10				
		Tier 53	199.00	10				
		Tier 54	299.00					
	Internet + TV 160		350.00			Internet + TV 180	350.00	
		Tier 61	158.00			Tier 71	198.00	
		Tier 62	208.00			Tier 72	248.00	
		Tier 63	258.00			Tier 73	298.00	
		Tier 64	358.00			Tier 74	398.00	
		TOTAL COMMERCIAL						

TOTAL INCOME

Expenses

	mo 0 - 2	mo 3 +
Infrastructure	11,700.00	15,700.00
Leases	18,000.00	18,000.00
Vehicles, Fuel and Maintenance	8,100.00	8,100.00
Central Overhead	17,700.00	17,700.00
To Other Utility Companies	12,856.00	12,856.00
Salaries	35,000.00	54,000.00
Equipment		

TOTAL EXPENSES

NET PROFIT / LOSS / MONTH

NET PROFIT / LOSS / MONTH

FUNDING

3,000,000.00

Installation	Res	Installation	Comm
Tier 1's 50 Meg	99.00	Tier 1's 50 Meg	350.00
Tier 2's 100 Meg	99.00	Tier 2's 100 Meg	99.00
Tier 3's 250 Meg	129.00	Tier 3's 250 Meg	149.00
Tier 4's 1 Gig	199.00	Tier 4's 1 Gig	199.00
TV 160	39.00	TV 160	299.00
TV 180	69.00	TV 180	59.00
			99.00

1	2	3	4	5	6	7	8	9	10	11
			100	100	100	100	100	100	100	100
			50	50	50	50	50	50	50	50
			10	10	10	10	10	10	10	10
			160	160	160	160	160	160	160	160
			15,840.00	15,840.00	15,840.00	15,840.00	15,840.00	15,840.00	15,840.00	15,840.00
			7,900.00	15,800.00	23,700.00	31,600.00	39,500.00	47,400.00	55,300.00	63,200.00
			5,900.00	10,850.00	15,800.00	20,750.00	25,700.00	30,650.00	35,600.00	40,550.00
			1,380.00	2,670.00	3,960.00	5,250.00	6,540.00	7,830.00	9,120.00	10,410.00
			31,020.00	45,160.00	59,300.00	73,440.00	87,580.00	101,720.00	115,860.00	130,000.00
			10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
			10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
			10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
			30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
			10,500.00	10,500.00	10,500.00	10,500.00	-	-	-	-
			990.00	1,980.00	2,970.00	3,960.00	4,950.00	5,940.00	6,930.00	6,930.00
			1,580.00	3,070.00	4,560.00	6,050.00	7,540.00	9,030.00	10,520.00	10,520.00
			3,580.00	7,160.00	10,740.00	14,320.00	17,900.00	21,480.00	25,060.00	25,060.00
			16,650.00	22,710.00	28,770.00	34,830.00	30,390.00	36,450.00	42,510.00	42,510.00
			47,670.00	67,870.00	88,070.00	108,270.00	117,970.00	138,170.00	158,370.00	172,510.00
11,700.00	11,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00
18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00
8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00
17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00
			12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00
35,000.00	35,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00
1,092,124.00										
1,182,624.00	90,500.00	113,500.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00
(1,182,624.00)	(90,500.00)	(113,500.00)	(78,686.00)	(58,486.00)	(38,286.00)	(18,086.00)	(8,386.00)	11,814.00	32,014.00	46,154.00
1,817,376.00	1,726,876.00	1,613,376.00	1,534,690.00	1,476,204.00	1,437,918.00	1,419,832.00	1,411,446.00	1,423,260.00	1,455,274.00	1,501,428.00

EOY 1

12	13	14	15	16	17	18	19	20	21
100	100	100	100	100	100	100	100	100	100
50	50	50	50	50	50	50	50	50	50
10	10	10	10	10	10	10	10	10	10
160	160	160	160	160	160	160	160	160	160
15,840.00	15,840.00	15,840.00	15,840.00	15,840.00	15,840.00	15,840.00	15,840.00	15,840.00	15,840.00
71,100.00	79,000.00	86,900.00	94,800.00	102,700.00	110,600.00	118,500.00	126,400.00	134,300.00	142,200.00
45,500.00	50,450.00	55,400.00	60,350.00	65,300.00	70,250.00	75,200.00	80,150.00	85,100.00	90,050.00
11,700.00	12,990.00	14,280.00	15,570.00	16,860.00	18,150.00	19,440.00	20,730.00	22,020.00	23,310.00
144,140.00	158,280.00	172,420.00	186,560.00	200,700.00	214,840.00	228,980.00	243,120.00	257,260.00	271,400.00
6,930.00	6,930.00	6,930.00	6,930.00	6,930.00	6,930.00	6,930.00	6,930.00	6,930.00	6,930.00
10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00
25,060.00	25,060.00	25,060.00	25,060.00	25,060.00	25,060.00	25,060.00	25,060.00	25,060.00	25,060.00
42,510.00	42,510.00	42,510.00	42,510.00	42,510.00	42,510.00	42,510.00	42,510.00	42,510.00	42,510.00
186,650.00	200,790.00	214,930.00	229,070.00	243,210.00	257,350.00	271,490.00	285,630.00	299,770.00	313,910.00
15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00
18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00
8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00
17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00
12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00
54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00
126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00
60,294.00	74,434.00	88,574.00	102,714.00	116,854.00	130,994.00	145,134.00	159,274.00	173,414.00	187,554.00
1,561,722.00	1,636,156.00	1,724,730.00	1,827,444.00	1,944,298.00	2,075,292.00	2,220,426.00	2,379,700.00	2,553,114.00	2,740,668.00

EOY 2

22	23	24	25	26	27	28	29	30	31
100	100	100							
50	50	50							
10	10	10							
160	160	160							
15,840.00	15,840.00	15,840.00	-	-	-	-	-	-	-
150,100.00	158,000.00	165,900.00	165,900.00	165,900.00	165,900.00	165,900.00	165,900.00	165,900.00	165,900.00
95,000.00	99,950.00	104,900.00	104,900.00	104,900.00	104,900.00	104,900.00	104,900.00	104,900.00	104,900.00
24,600.00	25,890.00	27,180.00	27,180.00	27,180.00	27,180.00	27,180.00	27,180.00	27,180.00	27,180.00
285,540.00	299,680.00	313,820.00	297,980.00	297,980.00	297,980.00	297,980.00	297,980.00	297,980.00	297,980.00
6,930.00	6,930.00	6,930.00	6,930.00	6,930.00	6,930.00	6,930.00	6,930.00	6,930.00	6,930.00
10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00
25,060.00	25,060.00	25,060.00	25,060.00	25,060.00	25,060.00	25,060.00	25,060.00	25,060.00	25,060.00
42,510.00	42,510.00	42,510.00	42,510.00	42,510.00	42,510.00	42,510.00	42,510.00	42,510.00	42,510.00
328,050.00	342,190.00	356,330.00	340,490.00	340,490.00	340,490.00	340,490.00	340,490.00	340,490.00	340,490.00
15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00
18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00
8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00
17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00
12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00
54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00
126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00
201,694.00	215,834.00	229,974.00	214,134.00	214,134.00	214,134.00	214,134.00	214,134.00	214,134.00	214,134.00
2,942,362.00	3,158,196.00	3,388,170.00	3,602,304.00	3,816,438.00	4,030,572.00	4,244,706.00	4,458,840.00	4,672,974.00	4,887,108.00

							EOY 3
32	33	34	35	36	37	38	39
165,900.00	165,900.00	165,900.00	165,900.00	165,900.00	165,900.00	165,900.00	165,900.00
104,900.00	104,900.00	104,900.00	104,900.00	104,900.00	104,900.00	104,900.00	104,900.00
27,180.00	27,180.00	27,180.00	27,180.00	27,180.00	27,180.00	27,180.00	27,180.00
<hr/>							
297,980.00	297,980.00	297,980.00	297,980.00	297,980.00	297,980.00	297,980.00	297,980.00
<hr/>							
6,930.00	6,930.00	6,930.00	6,930.00	6,930.00	6,930.00	6,930.00	6,930.00
10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00	10,520.00
25,060.00	25,060.00	25,060.00	25,060.00	25,060.00	25,060.00	25,060.00	25,060.00
<hr/>							
42,510.00	42,510.00	42,510.00	42,510.00	42,510.00	42,510.00	42,510.00	42,510.00
340,490.00	340,490.00	340,490.00	340,490.00	340,490.00	340,490.00	340,490.00	340,490.00
15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00	15,700.00
18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00
8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00	8,100.00
17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00	17,700.00
12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00	12,856.00
54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00	54,000.00
126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00	126,356.00
214,134.00	214,134.00	214,134.00	214,134.00	214,134.00	214,134.00	214,134.00	214,134.00
5,101,242.00	5,315,376.00	5,529,510.00	5,743,644.00	5,957,778.00	6,171,912.00	6,386,046.00	6,600,180.00



City of Lucas Technology Committee Request August 13, 2019

Requester: Assistant to the City Manager Kent Souriyasak

Agenda Item Request

Presentation by Amye Mercer, President of Big Wave Wireless and discussion of fixed wireless internet service.

Background Information

Big Wave Wireless is a new local, woman owned business in the City of Lucas that plans to offer fixed wireless internet service. Big Wave Wireless is currently reviewing contracts and lease agreements to begin providing internet service in the City and surrounding areas. Assistant to the City Manager Kent Souriyasak has met with Amye Mercer, President of Big Wave Wireless to discuss a possible lease agreement for the Winningkoff Tower as a source to provide fixed wireless internet service. Big Wave Wireless will be actively working on deploying additional towers in the future to ensure that more areas have access to the network. Internet service packages will include the Total Home Wi-Fi which covers 1,500 square feet with additional cabling and access points available.

Attachments/Supporting Documentation

NA

Budget/Financial Impact

NA

Recommendation

NA

Motion

There is no motion required.



City of Lucas

Technology Committee Request

August 13, 2019

Item No. 05

Requester: Assistant to the City Manager Kent Souriyasak

Agenda Item Request

Consider an end date to conclude data collection from the City Internet Speed Test and discuss necessary steps to utilize the compiled information.

Background Information

At the Technology Committee meeting on May 30, 2019, City IT Consultant Bill Baxter discussed how the City Internet Speed Test collects reported data and maps internet speeds throughout the City of Lucas. The purpose of the City Internet Speed Test is to share the compiled information and detailed map with Internet Service Providers (ISPs) to consider possible solutions to improve internet service. The City Internet Speed Test was promoted throughout June and July in the Lucas Leader Newsletter, Lovejoy Messenger, City website, City Hall and Fire Station outdoor signs, and banner signs located throughout the City near high traffic intersections.

As of August 6, 2019, there were 455 reports of internet speed and 25 reported internet carriers. The average download speed was 40.31 megabits per second and the average upload speed was 21.91 megabits per second. The City Internet Speed Test also collected information on the type of internet connection from each report indicated as either Fiber, Satellite, Fixed-Wireless, Cable, Dial-up-DSL, LTE-Cellular, and Don't Know (i.e. unknown). The mapping application used color-coordinated location points to classify internet speed into three different categories:

- Black: 0 – 9.9999 Mbps
- Blue: 10 – 49.9999 Mbps
- Red: 50 – 9999 Mbps

In order to research possible internet solutions, City staff recommends concluding the data collection process in August and discuss necessary steps to utilize the information.

Attachments/Supporting Documentation

1. Lucas Internet Speed Test Map

Budget/Financial Impact

NA



City of Lucas
Technology Committee Request
August 13, 2019

Recommendation

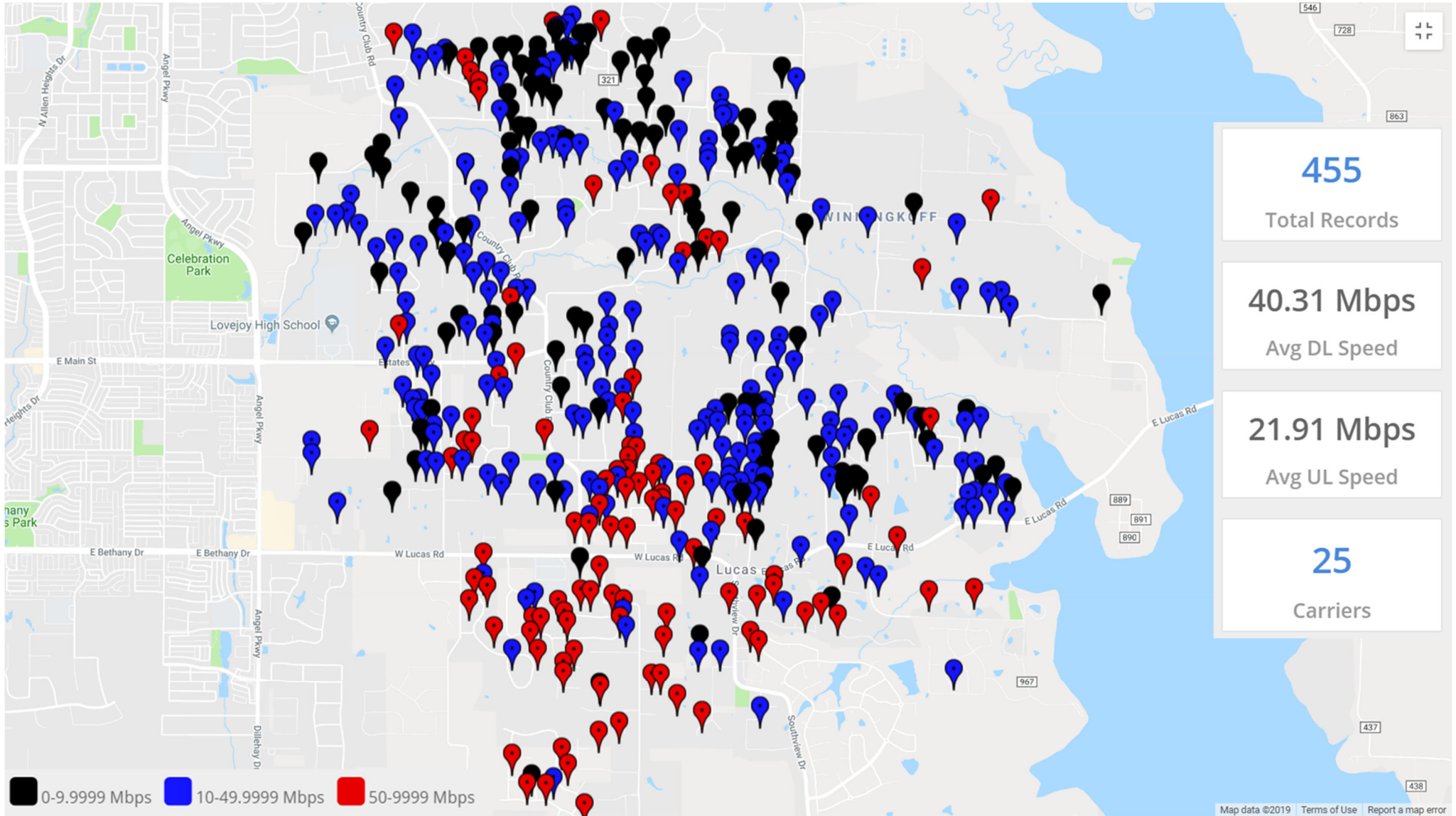
NA

Motion

There is no motion required.

LUCAS INTERNET SPEED TEST MAP

(August 6, 2019)





City of Lucas Technology Committee Request August 13, 2019

Item No. 06

Requester: Assistant to the City Manager Kent Souriyasak

Agenda Item Request

Provide travel details regarding the upcoming meeting in Mont Belvieu, Texas, to discuss the City of Mont Belvieu's fiber network.

Background Information

City staff has coordinated a meeting with the City of Mont Belvieu to discuss the municipally owned fiber network called MB Link. The meeting is scheduled for Monday, September 16, 2019, in Mont Belvieu, Texas. The purpose of the meeting is to understand the planning and implementation process of MB Link and to generate ideas to help improve internet service in the City of Lucas. City staff has coordinated travel arrangements and will provide the travel details at the August 13, 2019, Technology Committee meeting.

The confirmed meeting attendees include:

City of Lucas attendees

- Joni Clarke, City Manager
- Kent Souriyasak, Assistant to the City Manager
- Bill Baxter, City IT Consultant
- Paul Rathgeb, Technology Committee Chairman
- Trey Sleeper, Technology Committee Vice-Chairman
- George Brody, Technology Committee Member

City of Mont Belvieu attendees

- Nathan Watkins, City Manager
- Scott Swigert, Assistant City Manager
- Dwight Thomas, Broadband Network Engineer
- Brian Ligon, Communications and Marketing Director

Attachments/Supporting Documentation

NA

Budget/Financial Impact

NA



**City of Lucas
Technology Committee Request
August 13, 2019**

Recommendation

NA

Motion

There is no motion required.



City of Lucas Technology Committee Request August 13, 2019

Item No. 07

Requester: Technology Committee Vice-Chairman Trey Sleeper

Agenda Item Request

Discuss potential opportunities with Grayson Collin Communications regarding fiber optic cable implementation to expand and improve internet service.

Background Information

Electric cooperatives can potentially help municipalities access fast, reliable internet service to improve the quality of life for residents. The Federal Communications Commission offers funding opportunities to cooperatives for infrastructure and fiber optic cable implementation in order to expand broadband services to underserved communities. Grayson Collin Communications is a subsidiary of the Grayson Collin Electric Cooperative (GCEC) and offers fiber internet to Grayson County and Collin County. To further research possible internet solutions, it would be important to contact Grayson Collin Communications to discuss potential opportunities for fiber optic cable implementation.

Attachments/Supporting Documentation

NA

Budget/Financial Impact

NA

Recommendation

NA

Motion

There is no motion required.