



City Council Work Session
Municipal Court and Council Chambers
14455 W. Van Buren St., Suite B101
Goodyear, AZ 85338
Monday, March 28, 2022
5:00 PM

Mayor
Joe Pizzillo

Vice Mayor
Brannon Hampton

Councilmember
Sheri Lauritano

Councilmember
Wally Campbell

Councilmember
Bill Stipp

Councilmember
Laura Kaino

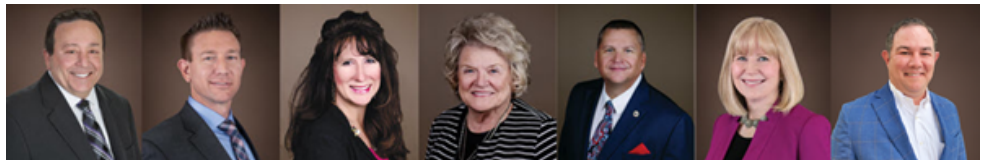
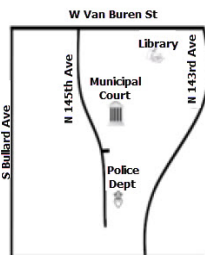
Councilmember
Patrick Bray

PROCEDURES

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the members of the Goodyear City Council and to the general public that the Council of the city of Goodyear will hold a meeting open to the public. Public body members of the city of Goodyear will attend either in person or by telephone conference call and/or video communication. The Goodyear City Council may vote to go into Executive Session, pursuant to A.R.S. § 38-431.03(A)(3), which will not be open to the public, to discuss certain matters. Meetings are conducted in accordance with the City Council Meetings Council Rules of Procedure adopted by Resolution No. 2018-1879

THE CITY OF GOODYEAR ENDEAVORS TO MAKE ALL PUBLIC MEETINGS ACCESSIBLE TO PERSONS WITH DISABILITIES. With 48-hour advance notice, special assistance can be provided for sight and/or hearing-impaired persons at this meeting. Reasonable accommodations will be made upon request for persons with disabilities or non-English speaking residents. Please call the City Clerk (623) 882-7830 or Arizona Relay (TDD) 7-1-1 to request an accommodation to participate in this public meeting.

Si necesita asistencia o traducción en español, favor de llamar al menos 48 horas antes de la reunión al (623) 882-7830



City Clerk's Office: 190 N. Litchfield Rd, Goodyear, AZ 85338 (623) 882-7830
www.goodyearaz.gov/cityclerk
City Council Meeting Live Broadcast: <https://www.facebook.com/goodyearazgov/videos>

CALL TO ORDER

ROLL CALL

AGENDA ITEMS FOR DISCUSSION

ALL ITEMS LISTED ARE FOR DISCUSSION ONLY. NO ACTION CAN NOR WILL BE TAKEN.

1. BROADBAND ASSESSMENT

Summary

As part of the Fiscal Year (FY) 2022 - 2024 Strategic Plan, City Council directed staff to initiate and complete a citywide broadband connectivity assessment by the end of FY 2022 to identify and ensure the best access to the highest quality internet services.
(Justin Fair, Chief Information Officer)

ADJOURNMENT

POSTING VERIFICATION

This agenda was posted on March 23, 2022 at 5:21 p.m. by vm.

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DATE: 03/28/2022
AI #:622



CITY COUNCIL ACTION REPORT

SUBJECT: BROADBAND ASSESSMENT

STAFF PRESENTER(S): Justin Fair, Chief Information Officer

OTHER PRESENTER(S):

Chris Bland, Cell Site Capital

Summary

As part of the Fiscal Year (FY) 2022 - 2024 Strategic Plan, City Council directed staff to initiate and complete a citywide broadband connectivity assessment by the end of FY 2022 to identify and ensure the best access to the highest quality internet services. (Justin Fair, Chief Information Officer)

FISCAL IMPACT

Phase one of the city-wide broadband assessment was included in the FY2022 budget for \$100,000 utilizing general funds. Through the Request for Proposal (RFP) process, Cell Site Capital was selected to complete this assessment at a total cost of \$127,590. As broadband is a specifically identified category eligible for American Rescue Plan Act (ARPA) funds, this project expense has been funded under that funding source. As part of phase two, costs will be identified pending additional research on next steps.

BACKGROUND AND PREVIOUS ACTIONS

Through the Request for Proposal (RFP) process, the city selected Cell Site Capital, LLC in September 2021, to conduct the city's broadband assessment.

STAFF ANALYSIS

Cell Site Capital was tasked with assessing every address in the city of Goodyear and to provide a report summary and detailed results showing, by address: if broadband is available or not, if they have broadband what speeds are available, and if multiple broadband providers are available, and if so, which ones. As a project deliverable, Cell Site Capital will provide the above-requested information in GIS format for city staff usage. City staff can leverage this data in real time, which is a huge asset to future growth in Goodyear.

Cell Site Capital's methodology included usage of data from the: Federal Communications Commission, city's GIS team, proprietary database sources, and the specific broadband provider websites. Based on this research, the city has multiple types of coverage available in existing residential areas. There are five main providers that offer services in these areas,

which are; Cox Communications, Lumen (CenturyLink), Phoenix Internet, AireBeam and T-Mobile Home internet. Of these providers, only Cox Communications and Lumen Technologies provide services that are based on cable, fiber or Digital Subscriber Line (DSL) with Phoenix Internet, AireBeam and T-Mobile Home Internet providing services that are strictly delivered over fixed wireless.

The findings of the study show that 90% of residential areas have the ability to obtain broadband internet services. However, Goodyear exists as a duopoly with Cox Communications and Lumen Technologies currently controlling the predominance of services provided in the city.

As Goodyear grows and expands its current footprint into areas that are proposed for development there will be a need for coordination between existing and new areas of broadband coverage. Sufficient broadband service is crucial. Residential and commercial customers alike are going to begin making decisions to settle in and develop areas based upon the services that are offered. Gaps in service can become a severe detriment to developments and sustainability of growth.

The completion of the broadband study is phase one. Phase two will be to assess viable options for improving access and service offerings to improve Goodyear's broadband coverage. This can be accomplished through many avenues, which could include exploring grant opportunities, infrastructure investments, micro trenching, other national city best practices, policy revisions, and possible city code changes.

Attachments

Presentation

Summary of Findings

BROADBAND STUDY



Helping communities take control of their digital future



Broadband Assessment

WHY ARE WE HERE?

Goal:

2.1 Study availability of internet (“technology deserts”)

Description:

Initiate and complete a citywide broadband connectivity assessment by the end of FY2022 to identify and ensure the best access to the highest quality internet services.



FY2022-2024 Strategic Plan

Adoption Date: May 10, 2021

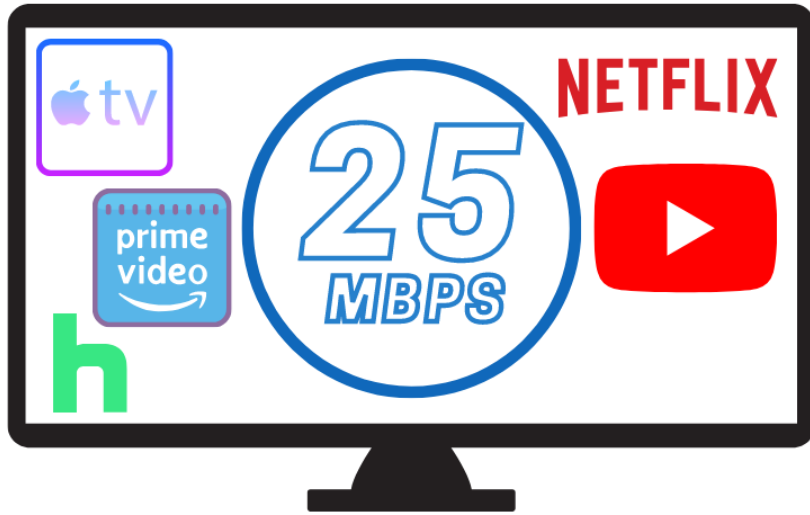


What is Broadband?



"Broadband" is defined by the FCC as:
"25 Mbps download and 3 Mbps upload speeds"

By this definition, one device in a household can either:



Stream HD 4K Video

OR



**Student to complete a
homework assignment**

OR



Telecommuting



***Note: The State of Arizona Commerce Authority (ACA) target for
broadband is 100 Mbps download / 20 Mbps upload***

Source: ACA Arizona Broadband Statewide Middle-Mile Strategic Plan



Broadband Assessment



COMMUNITY BENEFITS

Educational Excellence

- Improved Educational Results
- Reaching Full Potential

21st Century Economy

- Online Points of Sale
- Social Media

Protecting Our Communities

- Public Safety Technology
- Equipment and Tools

Happy and Healthy Citizens

- Telehealth Services

Fiscal Responsibility

- Automation of Services

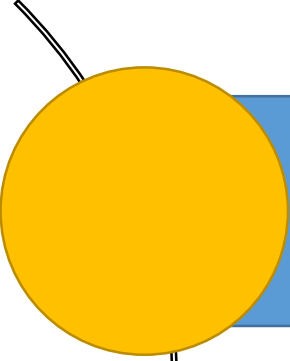
Arizona Statewide Broadband Strategic Plan

<https://www.arizonatele.org/az-broadband-strategic-plan.html>

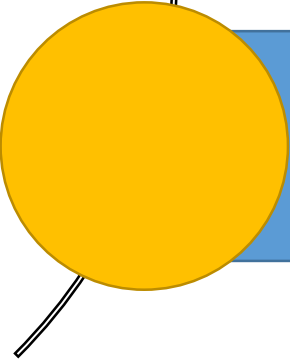
Broadband Study



FIRM INTRODUCTION



September 2021



Cell Site Capital, LLC

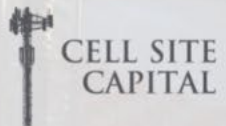
ASSESSMENT GOALS

- Identify broadband service levels
- Create a database that is scalable and dynamic

METHODOLOGY

CSC accessed both proprietary and publicly available datasets

- Data sets were "scrubbed" removing duplicates and errors
- Data verification confirmed utilizing alternative information sources
- Provider geodatabase (inclusive of layers and data tables for use on Goodyear's ARCGIS software integration "layers" provided for Goodyear's GIS software)



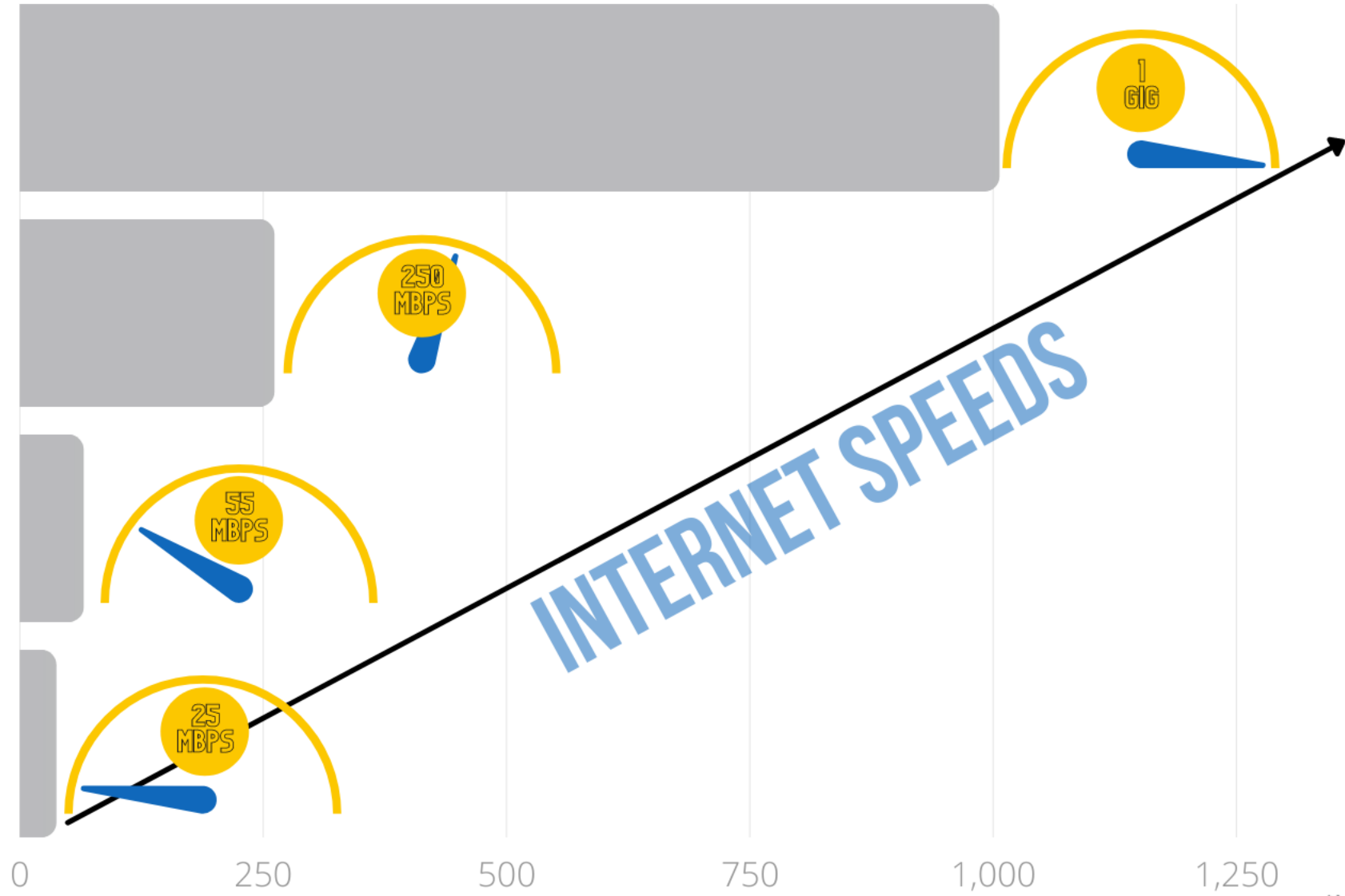
HOW IS BROADBAND DELIVERED?

Fiber-Optics -Provides the fastest internet speeds but requires a fiber connection

Cable & Fixed Wireless - Cable companies and "Fixed wireless" offer internet services

Mobile - all major wireless carriers offer broadband speeds on phones and smart devices

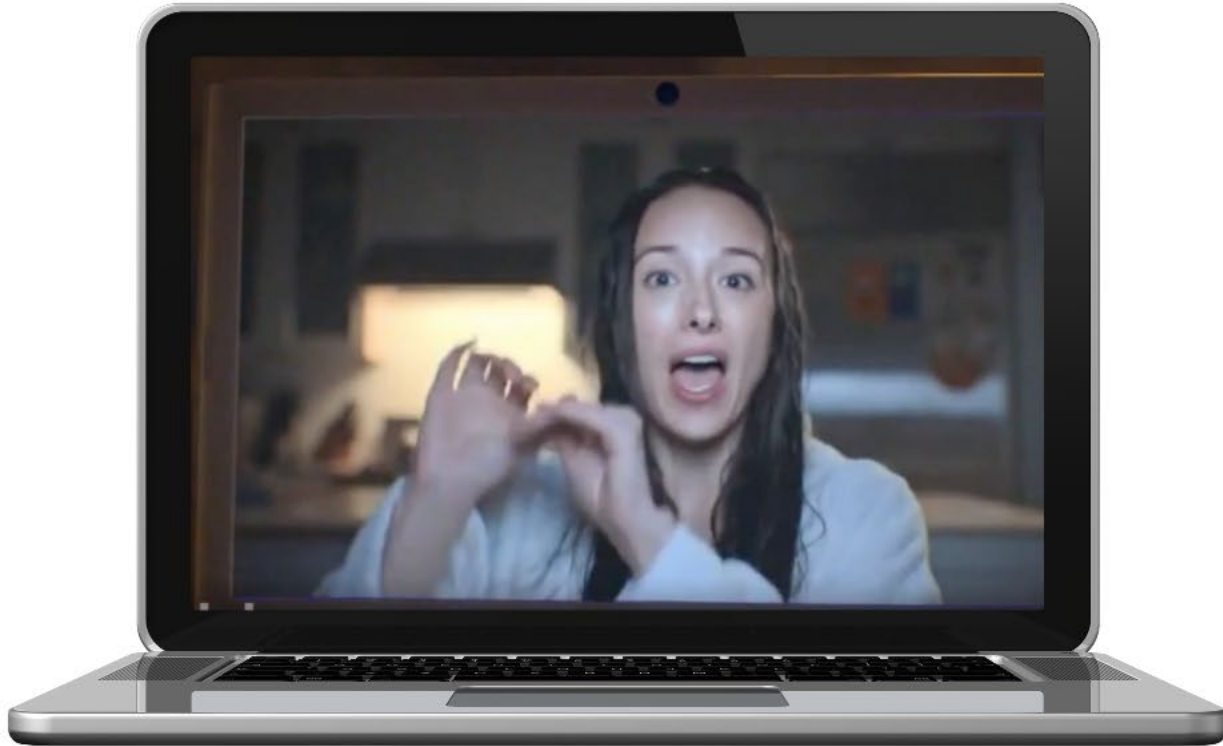
Satellite- Requires satellite dish at the premises, most prominent in the rural areas



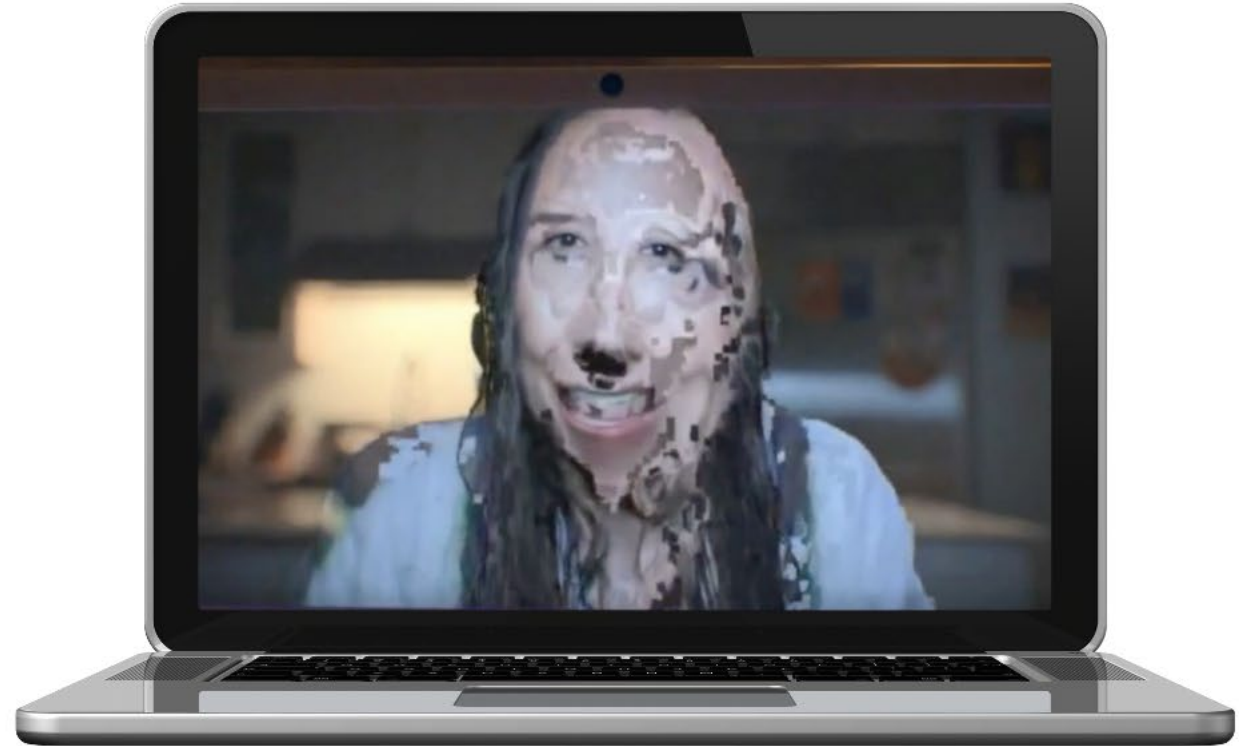


HOW BROADBAND AFFECTS USER EXPERIENCE

CURRENT AT&T COMMERCIAL



FIBER SPEEDS



MINIMUM BROADBAND SPEEDS





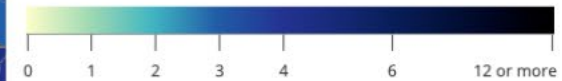
Census Place Goodyear, AZ



Goodyear, AZ



Number of Fixed Residential Broadband Providers

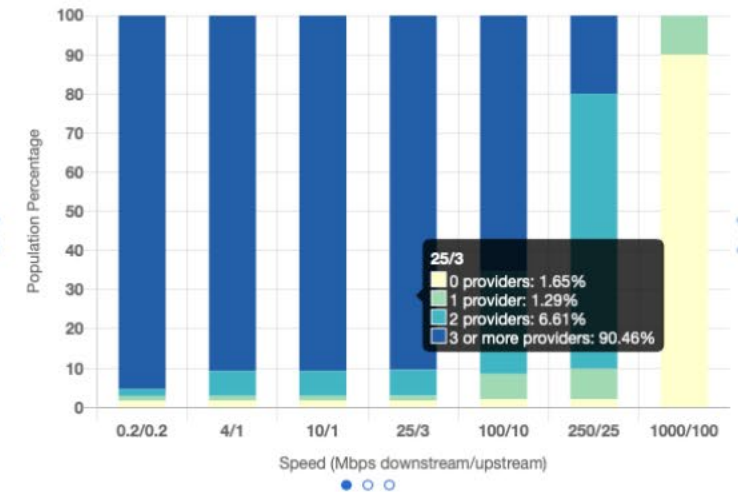


Broadband

Technology ADSL, Cable, Fiber, Fixed Wireless

Speed $\geq 25/3$ Mbps

Date Dec. 2020 (latest public release)



*Dec. 2020 updated FCC 477 Maps



FCC Form 477 Maps show 90% of the Goodyear census area has three or more providers offering services that meet the minimum standard for "Broadband internet."



HOW THE FCC FORM 477 MAP GETS CREATED

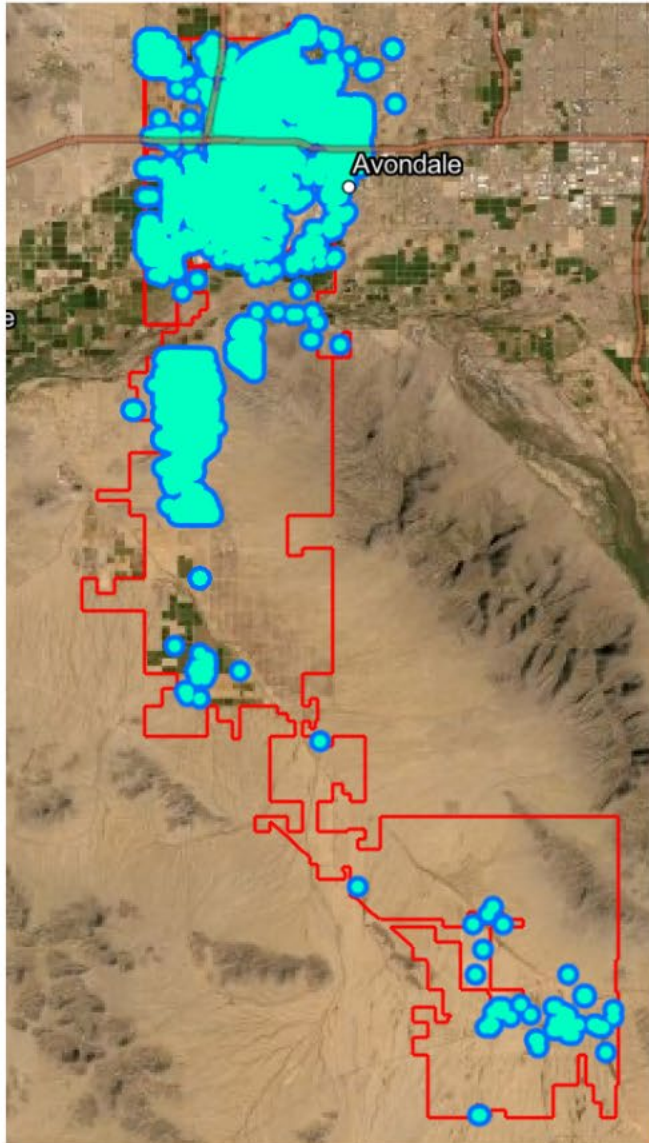
- Internet service providers (ISP) report data twice a year to the FCC on coverage area and speeds
- The FCC doesn't check the data; it relies on the ISP's to report accurate information
- The speeds ISP provides are their advertised maximum speeds
- Pricing for plans are not shared
- The maps are in "census blocks" which are irregular in a geographic area
- Includes data on areas that could provide broadband data within 10 business days of a request, not areas that are currently connected



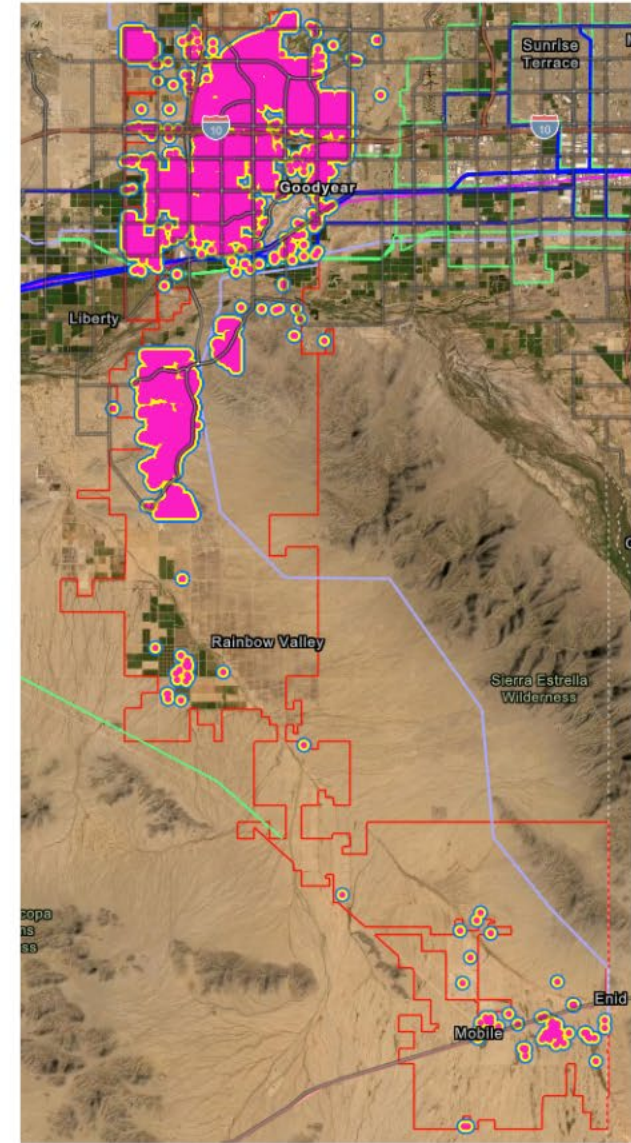
GOODYEAR CURRENT BROADBAND MAP

BROADBAND SPEEDS (25/3) IN GOODYEAR

Wired Broadband

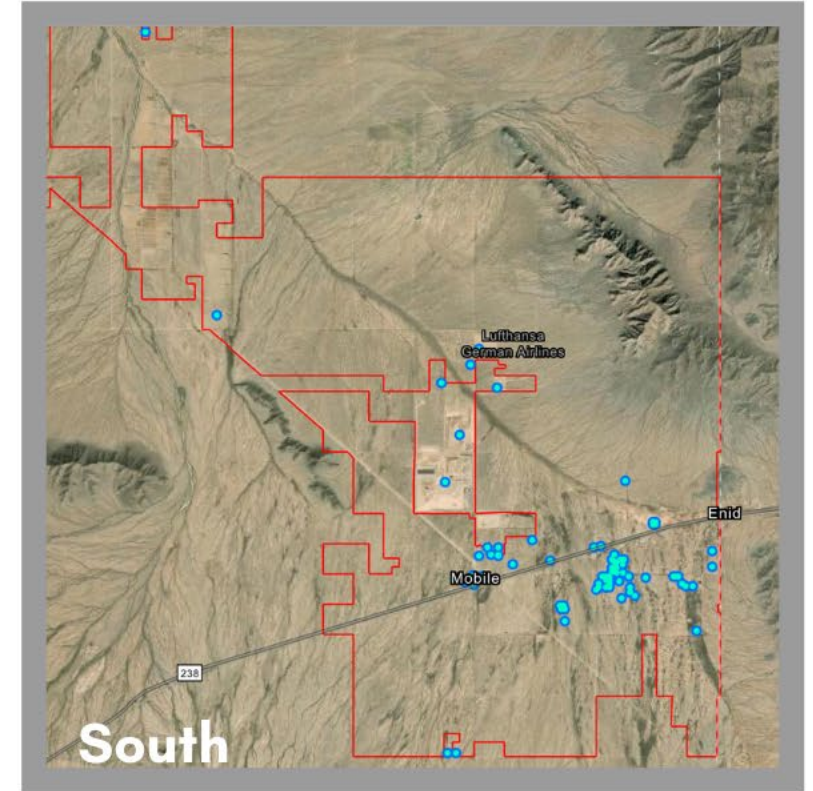
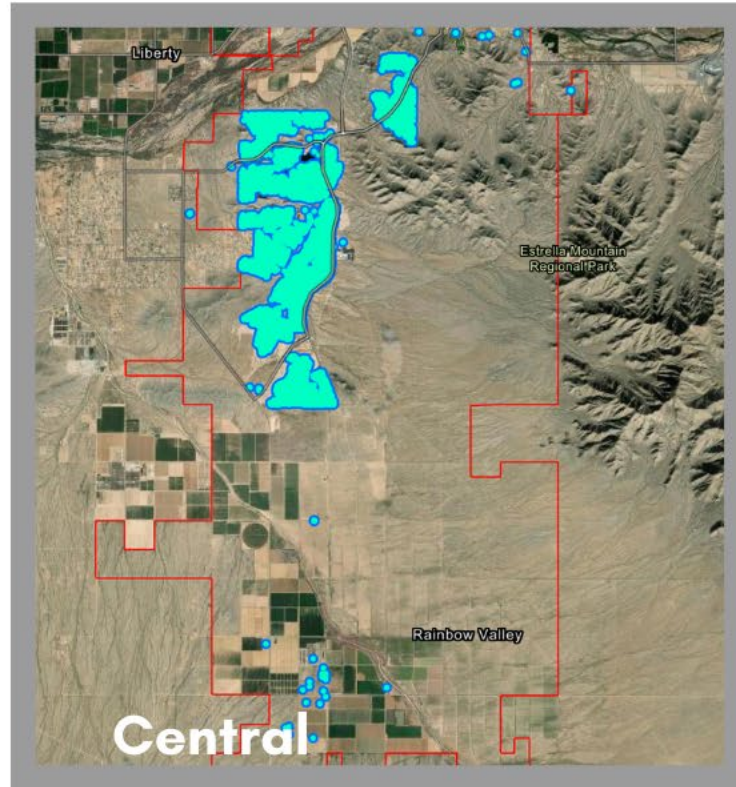
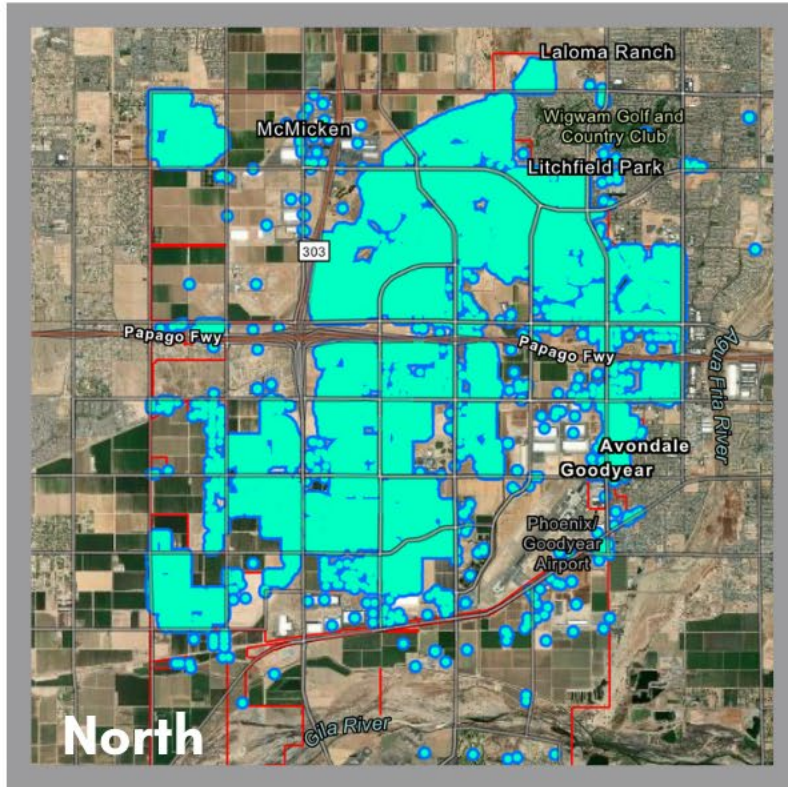


Wireless Broadband



GOODYEAR "WIRED" BROADBAND MAP

MINIMUM BROADBAND SPEEDS (25/3) IN GOODYEAR



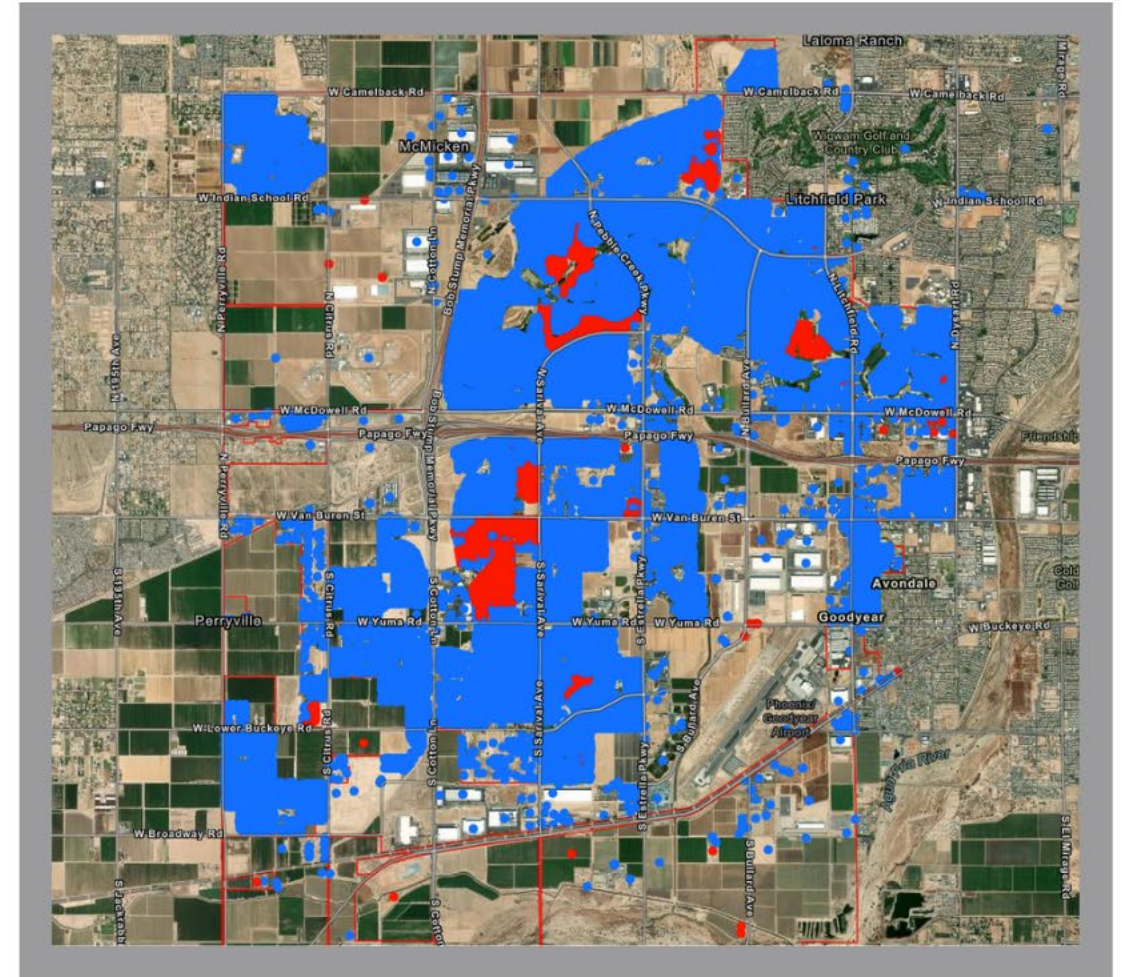
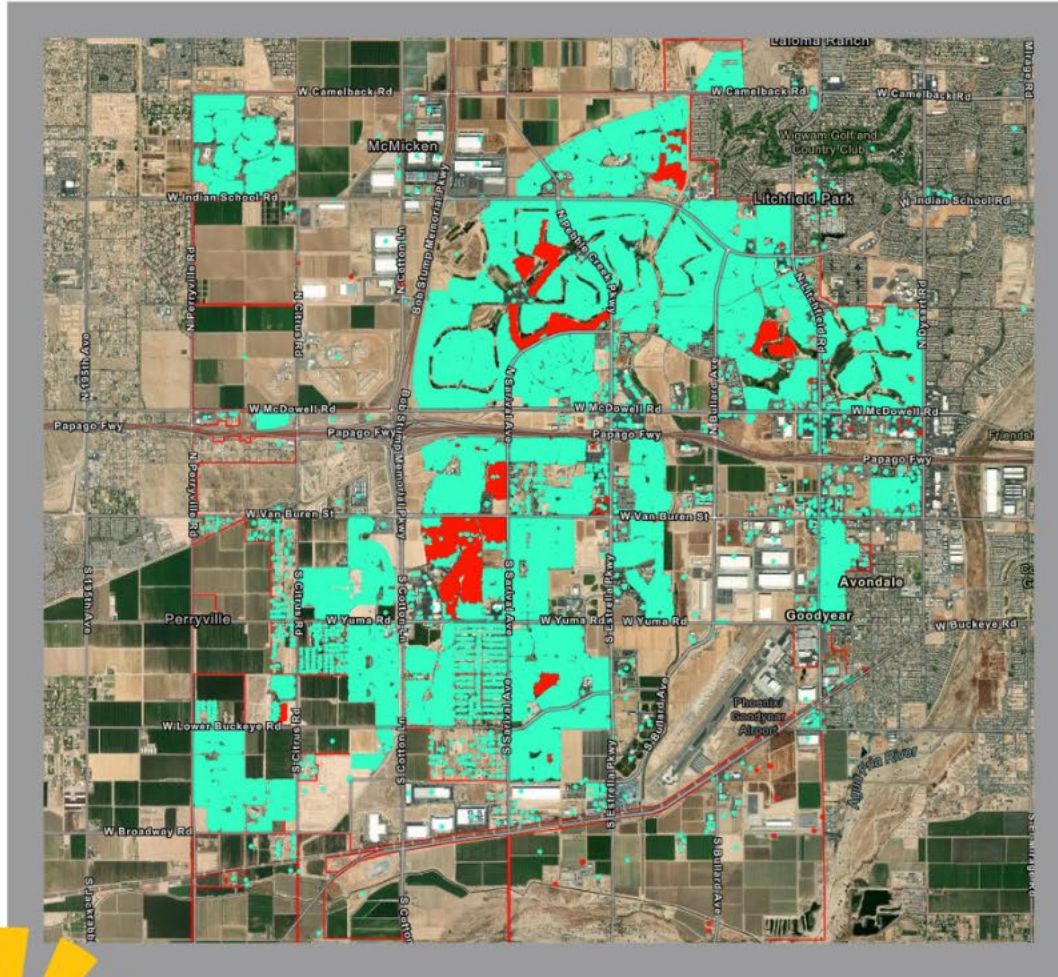
Goodyear has two "wired" broadband providers:

 Cox

 Centurylink/Lumen

GOODYEAR "WIRED" BROADBAND MAP

MINIMUM BROADBAND SPEEDS (25/3) IN GOODYEAR



● Cox

North

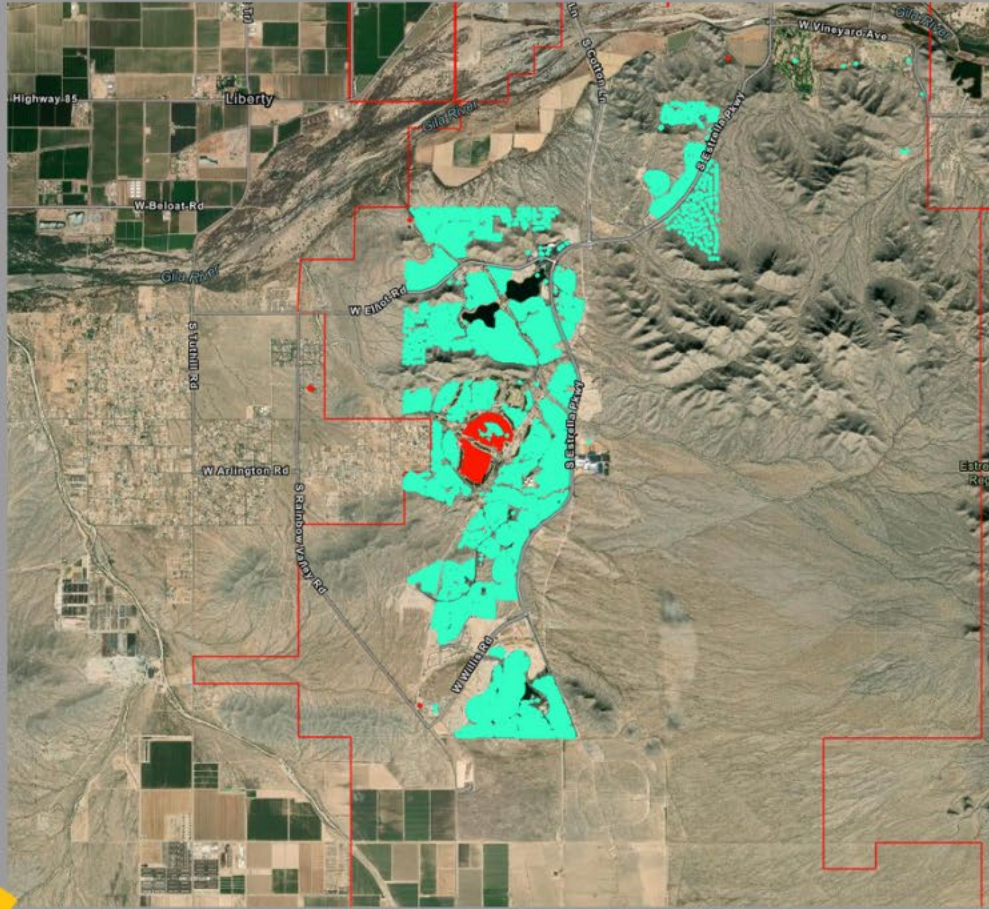
● Centurylink/Lumen

Red Areas indicate address was identified but no "OnNet" data was available

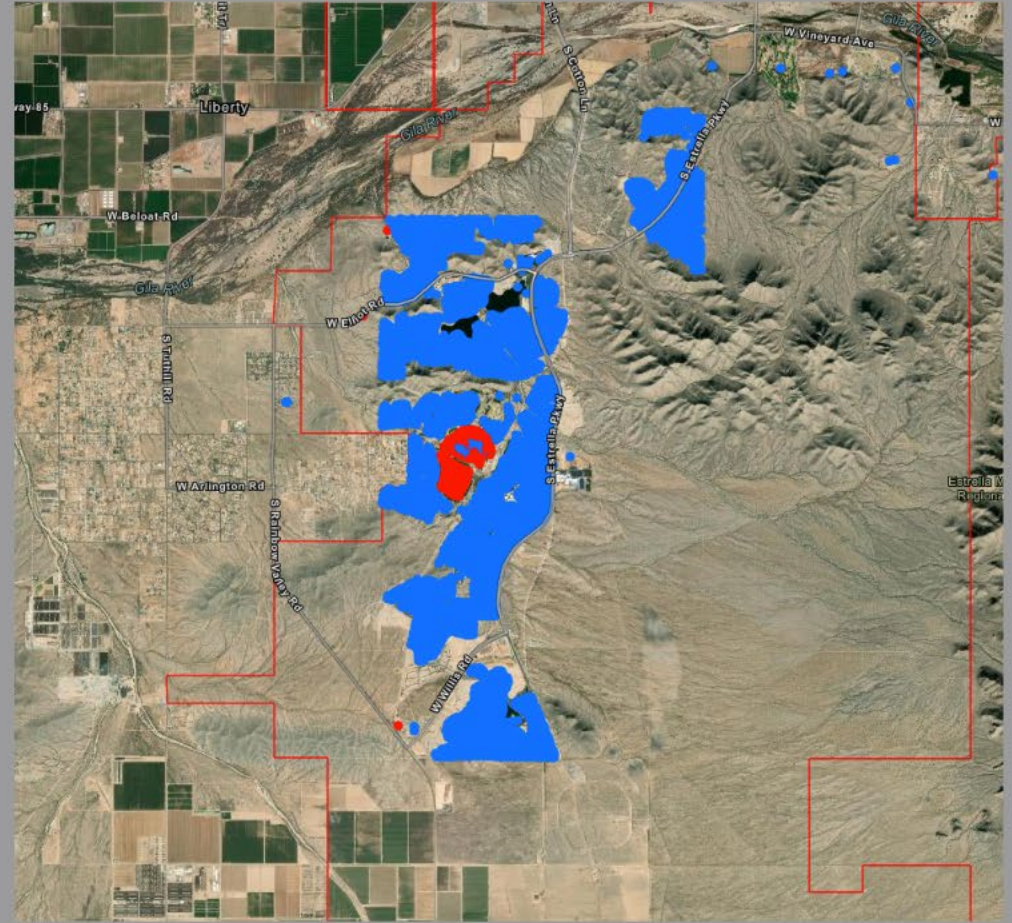


GOODYEAR "WIRED" BROADBAND MAP

MINIMUM BROADBAND SPEEDS (25/3) IN GOODYEAR



● Cox



● Centurylink/Lumen

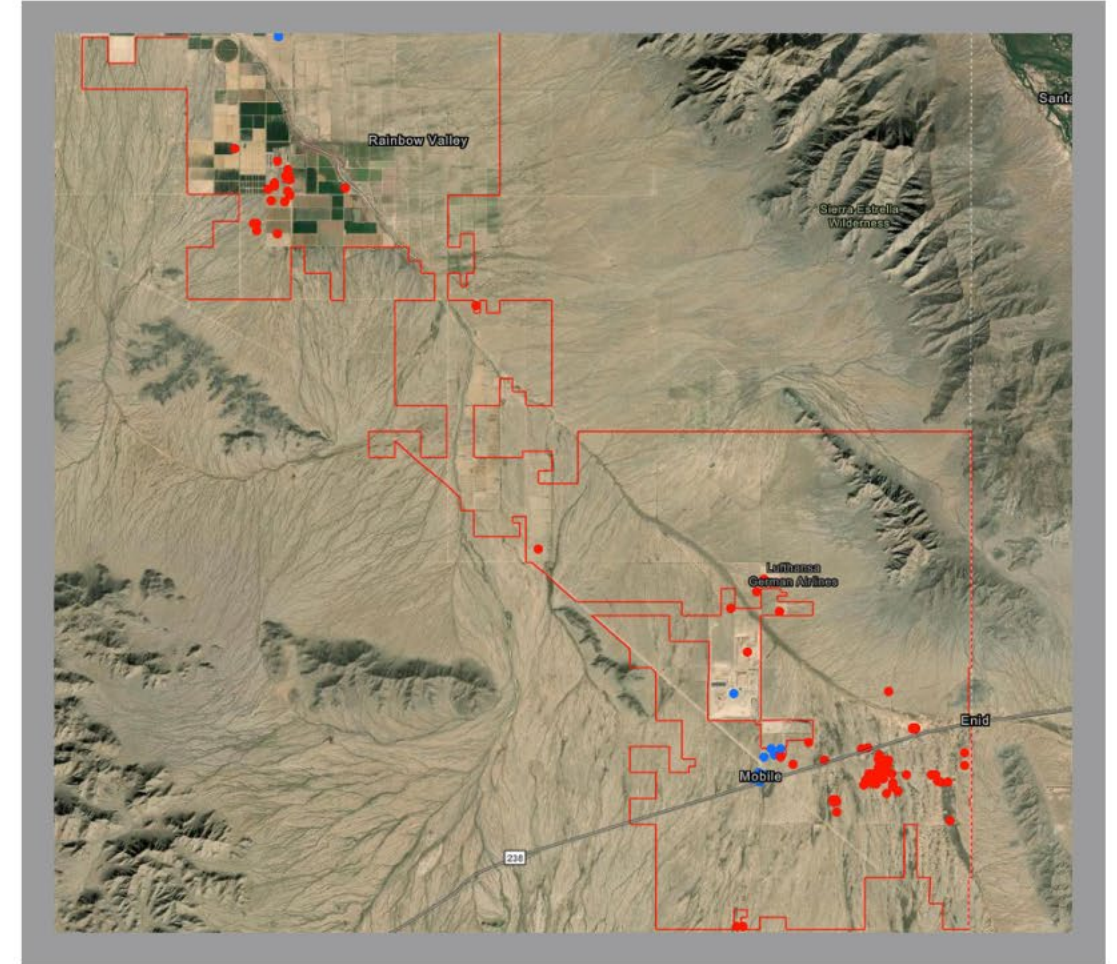
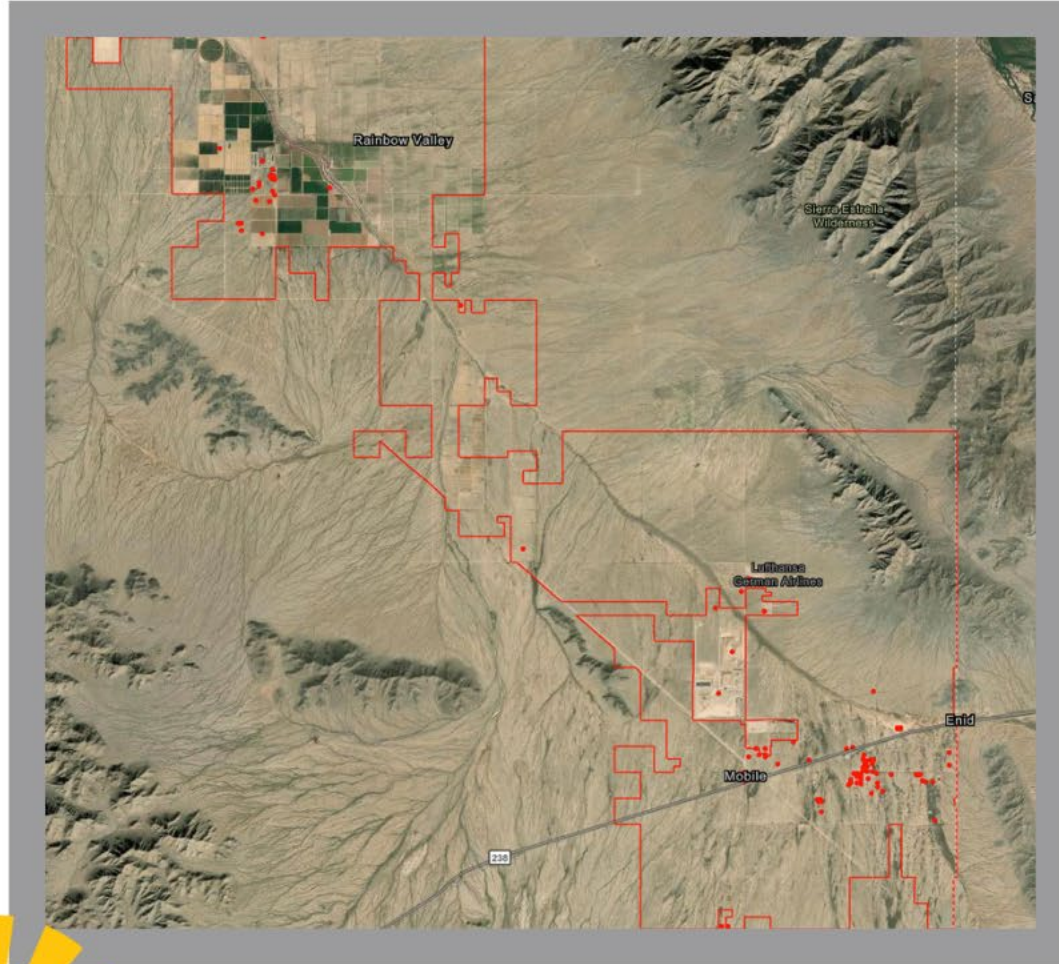
Central

Red Areas indicate address was identified but no "OnNet" data was available



GOODYEAR "WIRED" BROADBAND MAP

MINIMUM BROADBAND SPEEDS (25/3) IN GOODYEAR



● Cox

South

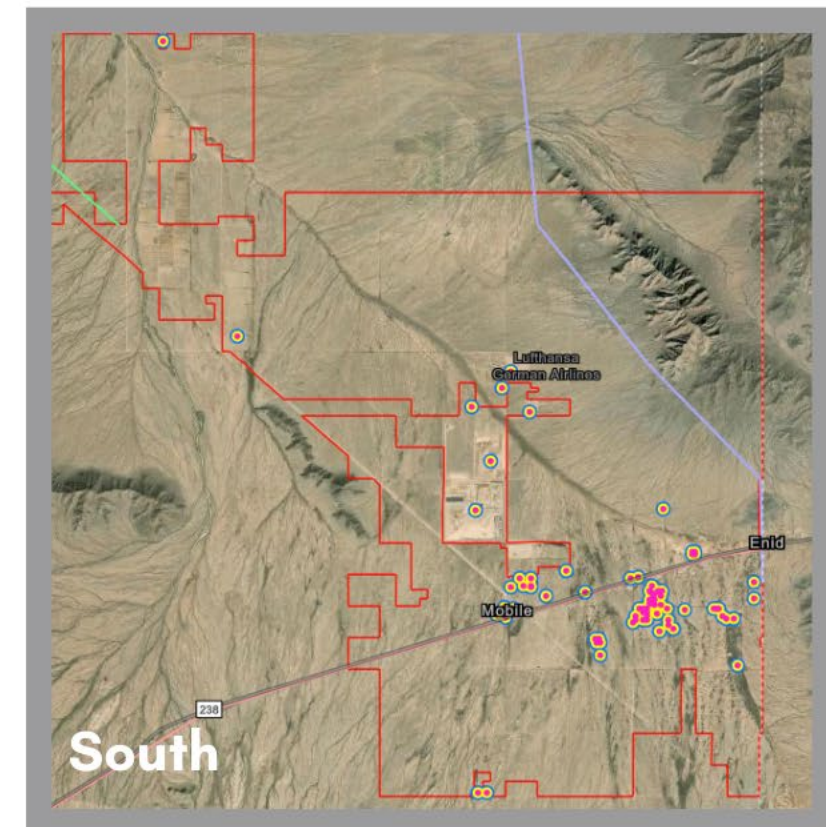
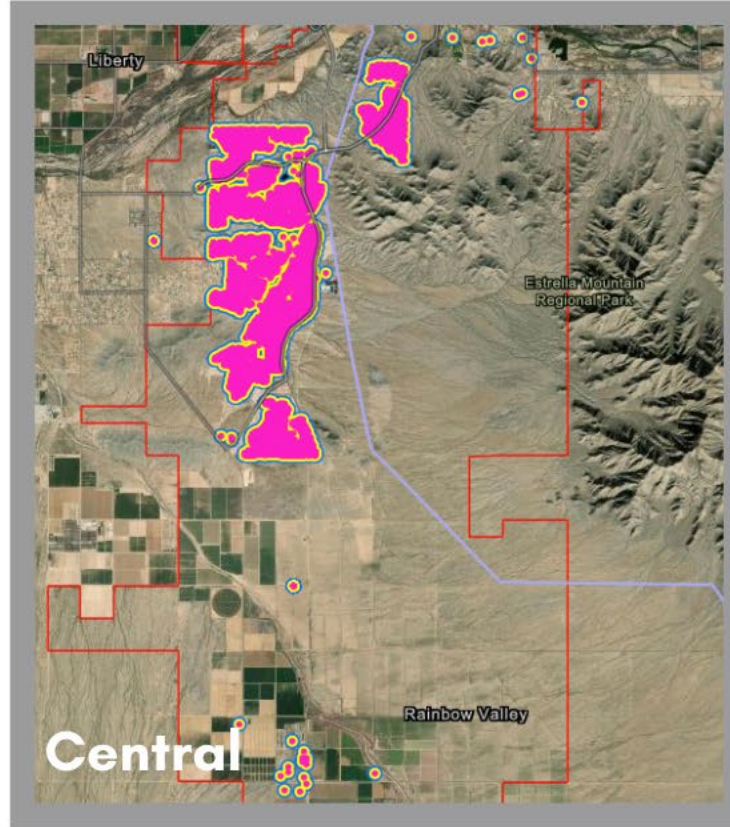
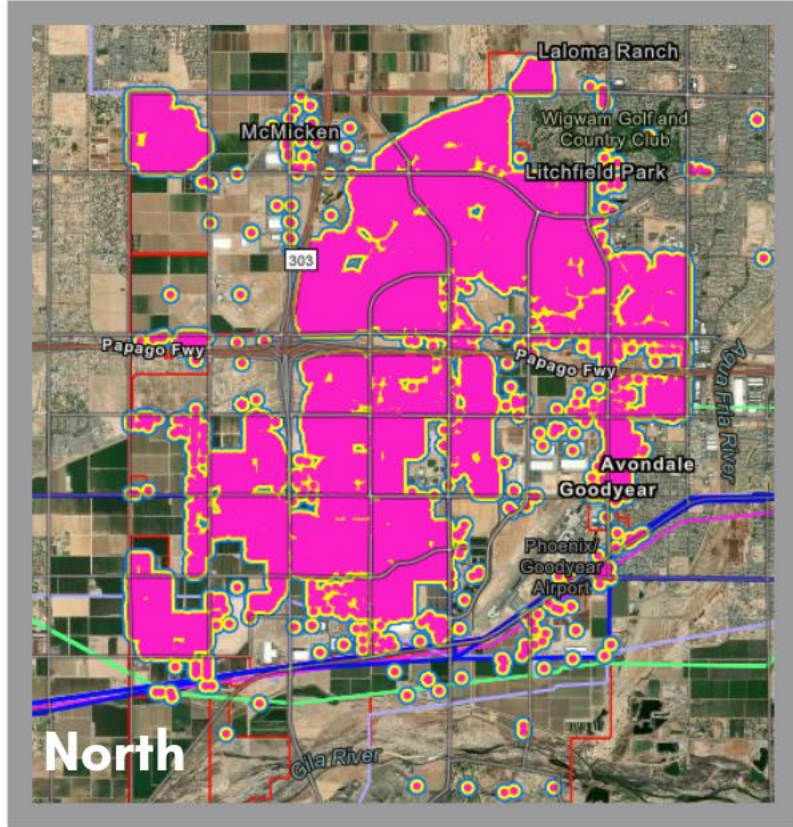
● Centurylink/Lumen

Red Areas indicate address was identified but no "OnNet" data was available



GOODYEAR "WIRELESS" BROADBAND MAP

MINIMUM BROADBAND SPEEDS (25/3) IN GOODYEAR



Goodyear has four "wireless" broadband providers:

● T-Mobile

● Phoenix Internet

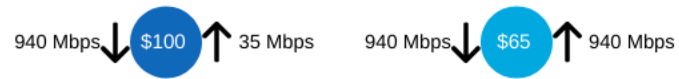
● Airebeam

● Triad



GOODYEAR'S INTERNET OPTIONS

1,000 Mbps -



750 Mbps -

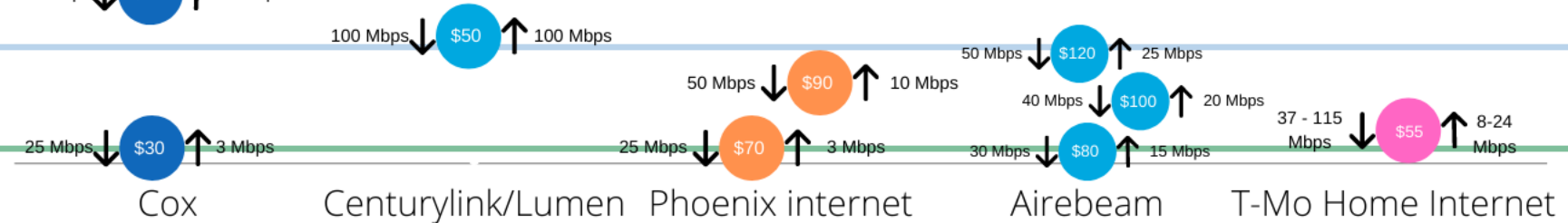
500 Mbps -



250 Mbps -



0 Mbps -



100 / 20
Speed

25 / 3
Speed





Broadband Internet Offerings

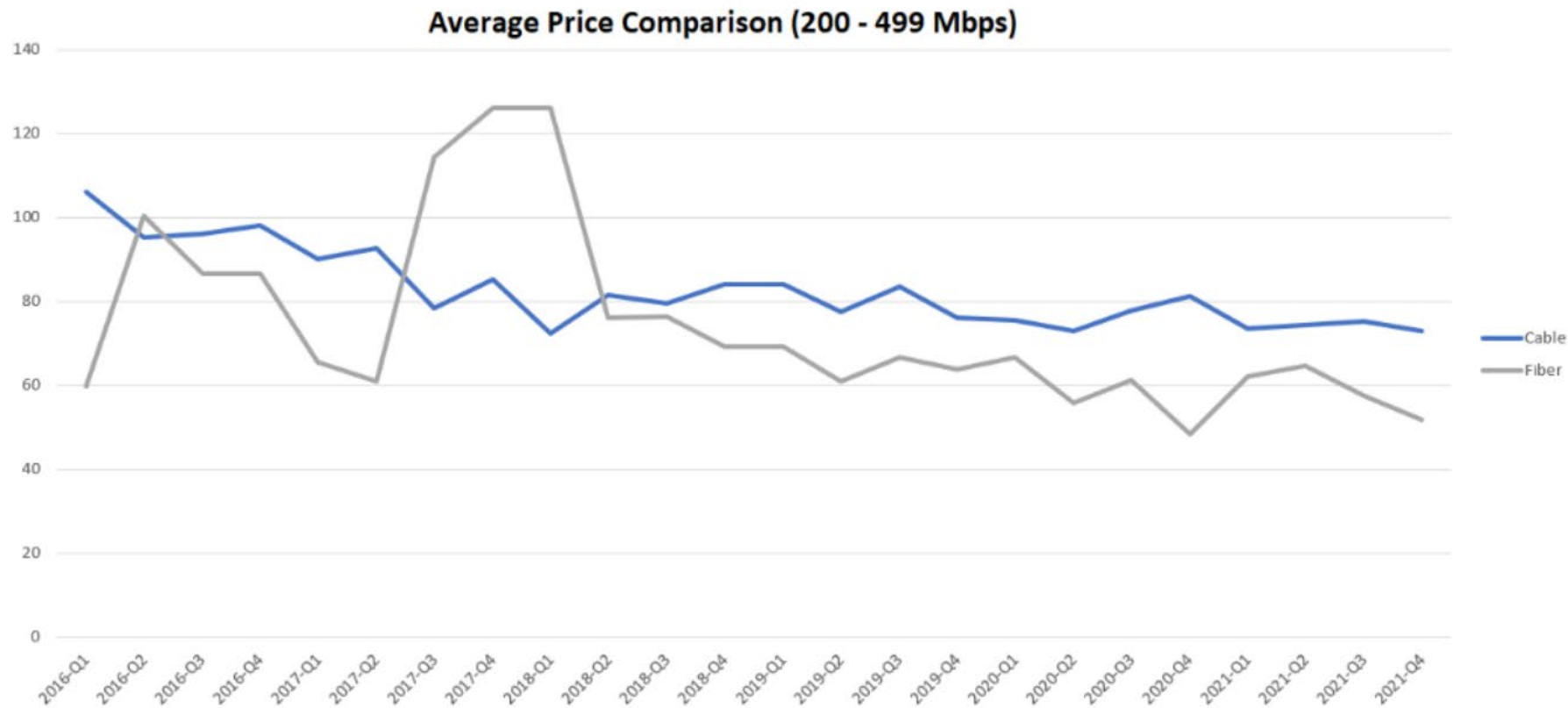
Sample of Plans in Goodyear

	YEAR 1 PRICE	YEAR 2 PRICE	SPEEDS	DATA CAP	PLAN DETAILS
Cox Communications	\$59.99	\$87.99	↓150 Mbps 10 Mbps↑	✓	1.25T (1280 GB) cap, \$10 for each additional 50GB
CenturyLink/Lumen	\$50.00	\$50.00	↓100 Mbps 100 Mbps↑	✓	1.0T (1000 GB) cap, \$15 per month router fee, up to \$300 for install
Phoenix Internet	\$90.00	\$90.00	↓50 Mbps 10 Mbps↑	✗	\$99.99 install fee and Router \$9.99 monthly rental fee
T-Mobile Home Internet	\$55.00	\$55.00	↓37-115 Mbps 8-24 Mbps↑	✗	May not be compatible with all streaming services. Reserves the right to slow services
AireBeam	\$120.00	\$120.00	↓50 Mbps 25 Mbps↑	✗	May require a small tower or 20-40' pole.

COST OF DATA - CABLE & FIBER

The cost of data can vary based on how that data is delivered. Recent data shows that fiber internet is consistently cheaper than cable.

Here is a chart of plans between 200 and 499 Mbps from 2016 through 2021.



Source: BroadbandNow - 2/7/2022

SUMMARY OF FINDINGS

- Goodyear has two broadband ISP providers capable of delivering speeds over the ACA recommendations in its Broadband Strategic Plan
- Goodyear has limited fiber south of MC 85 with only one provider
- Goodyear has few consumer options for wired broadband which creates a less than ideal healthy and competitive market
- Goodyear explore investing in open access broadband infrastructure

Broadband Study



PHASE I & II

Phase I - Broadband Study



Phase II – Next Steps

Grant
Opportunities

Infrastructure
Investment
Exploration

Micro
Trenching

Other National
City Best
Practices

Policy
Exploration

Possible City
Codes
Changes

March 28, 2022

Broadband Assessment

CELL SITE CAPITAL, LLC
8720 Orion Place, Suite 390, Columbus, OH 43240



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Executive Summary

The overall results of services provided to Goodyear, it is apparent that existing residential areas have adequate coverage. At the same time, Goodyear exists as a duopoly with Cox Communications and Lumen Technologies currently controlling the predominance of services provided in the city. In Goodyear, along with most other cities of similar size, the comfortable duopoly of phone and cable providers have successfully kept regulators at bay allowing for the largest internet service providers to divert investments away from upgrades and infrastructure, instead allowing these funds to be utilized for stock buybacks, dividend payouts, debt reduction, and ongoing merger and acquisition activities.

As Goodyear grows and expands its current footprint into areas that are proposed for development, such as Rainbow Valley, there will be a need for coordination between existing and new areas of broadband coverage. Rainbow Valley has fixed Wireless coverage but little to no other options available to them. The coverage gap and service types between the area proposed for developed and existing developed areas are readily apparent. Neither Cox nor Lumen offer services currently. During this early stage of development, sufficient broadband service is crucial. Residential and commercial customers alike are going to begin making decisions to settle in and develop areas based upon the services that are offered. "Gaps" in service can become a severe detriment to developments and sustainability of growth.

Goodyear is in the unique and prime position to invest both in provider relationships, ensuring that future residents are entitled to the best services just as current ones are.

Scope

Cell Site Capital was the winning respondent to the city of Goodyear's Request for Proposal (RFP) Number 22-6033, Broadband Assessment – Citywide. The RFP asked the consultant to assess every address in the city of Goodyear and to provide a report summary and detailed results showing, by address:

- If broadband is available or not.
- If they have broadband what speeds are available.
- If multiple broadband providers are available, and if so, which ones.

Cell Site Capital was asked in a "Best and Final Offer" to provide the above-requested information in GIS format.

In furtherance of the city's stated goal to plan for its future and leverage technology for its existing residents and businesses, Cell Site Capital has also provided suggestions for the next steps the city of Goodyear can take to create a competitive marketplace for broadband service providers.

Methodology

Cell Site Capital accessed publicly available databases through the Federal Communications Commission (FCC), showing the general availability of broadband and the locations of wireless base stations. Additional public information was gathered from the city of Goodyear's Information Technology division, and other broadband information maps. This information provided a baseline upon which we were able to build using proprietary information. The most specific information was gathered by working with a partner that works with broadband providers nationally and provides a proprietary database showing exact mapping for all providers' networks, and the available speeds. This database allowed us to tie specific provider information to all of the addresses in Goodyear. Additional provider information on broadband speeds and available packages was obtained from the providers' individual websites.

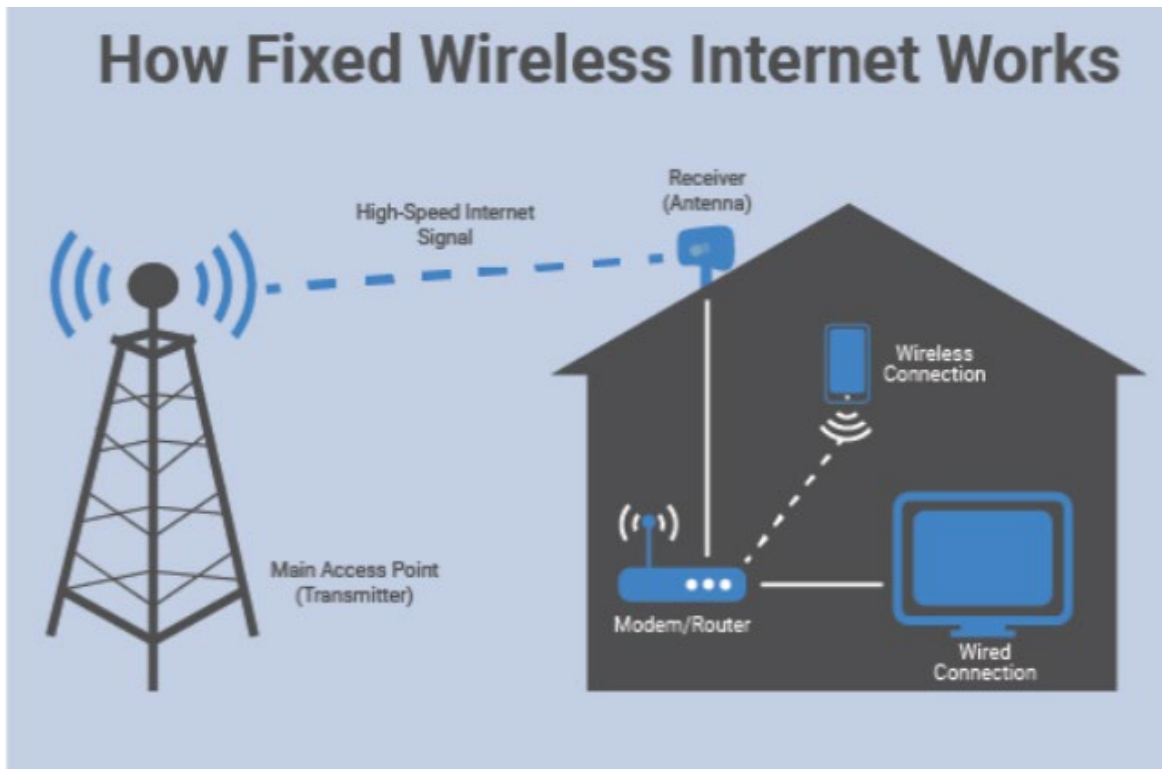
Goodyear Available Service Type Overview

The assessment of the data produced has provided clear indication that the city of Goodyear has multiple types of coverage available in existing residential areas. There are five main providers that offer services in these areas which are Cox Communications, Lumen (CenturyLink), Phoenix Internet, AireBeam and T-Mobile Home internet. Of these providers, only Cox Communications and Lumen Technologies provide services that are based on Cable, Fiber or DSL with Phoenix Internet, AireBeam and T-Mobile Home Internet providing services that are strictly delivered over Fixed Wireless.

Attached herewith as Exhibit A is a table that table indicates the plans that are available to Goodyear's residents. This information is in no way indicative of the coverages that may have been purchased by residents, but it is simply an overview of the available products within the city limits. We have included any publicly available information regarding overage costs that are attributed to these plans, but it should be noted that not all providers offer this information readily on their websites. Further, "Fixed Wireless" coverages and speeds can vary greatly depending on terrain, line of site, network usage and availability in any particular location .

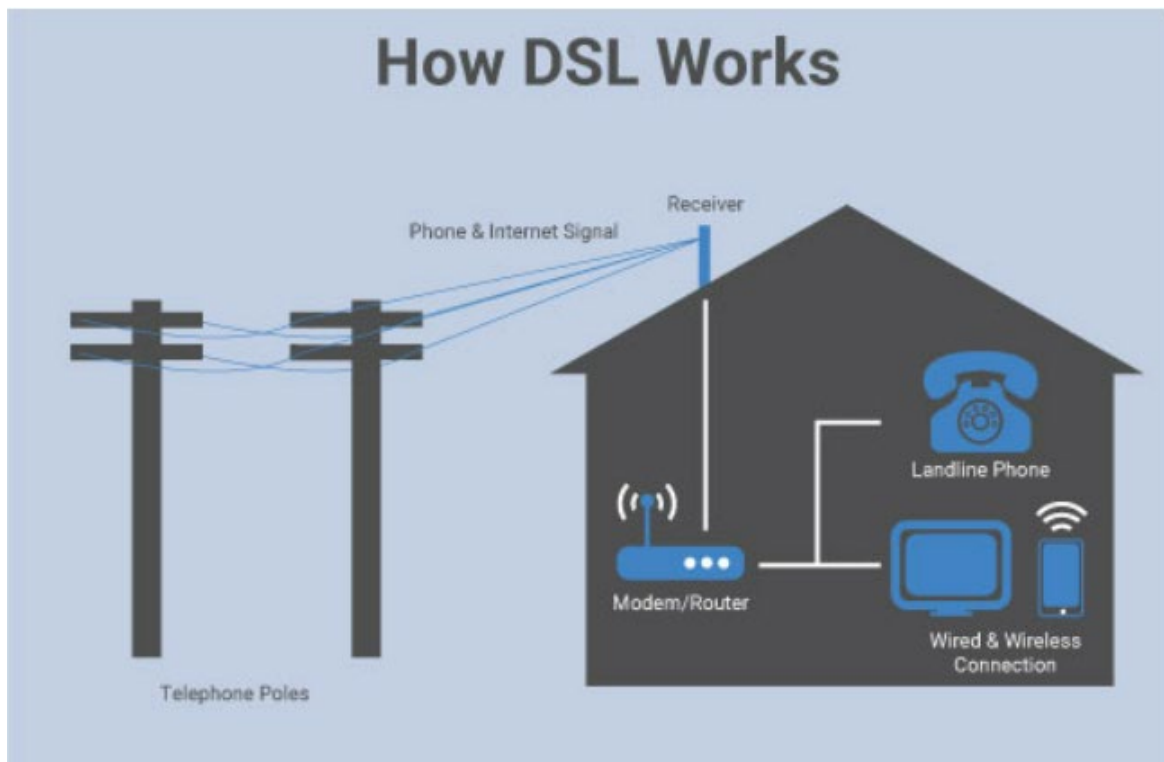
To better explain the differential in services provided by these providers, there are a few facts that should be set forth. The following descriptions and illustrations are intended to provide the basic principles and comparisons of Cable, Fiber, DSL and Fixed wireless services with the positives and negatives of all.

Fixed Wireless is an internet service predominantly found in rural or underserved areas. Internet is dispatched from the main access point to receivers/dishes installed at a home or business. All recipients of this service are limited to approximately a ten (10) mile radius per receiver and must have a line of sight with the access point.



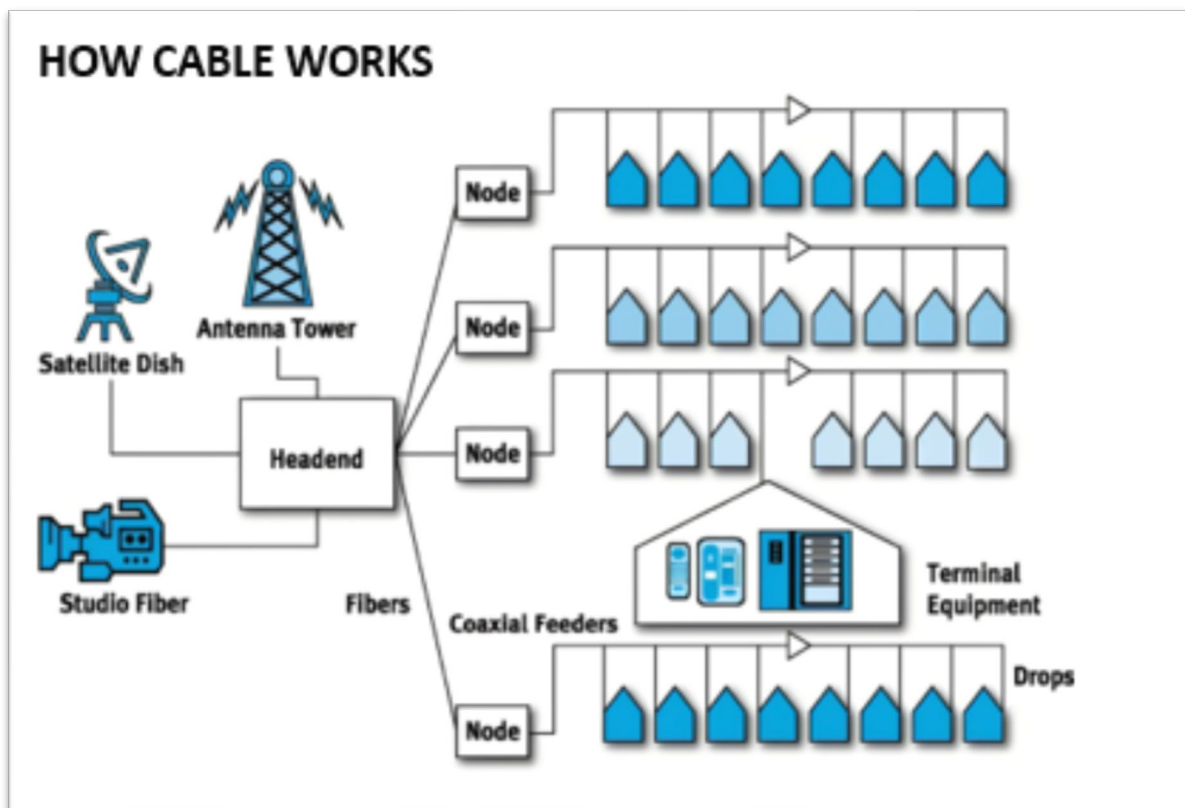
Positive	Negative
The Internet is provided over airwaves and does not require phone or cable lines.	Fixed wireless internet may be more expensive than DSL. The higher service thresholds are typically in line with cable internet costs.
Service speeds can be comparable to cable (depends on provider capabilities).	It cannot function without a line-of-sight connection with the access point and in most cases, you need to be within 10 miles of the access point. This can limit service area availability and quality of service connection.
No phone service is required.	May have data or speed limitations imposed

DSL or Digital Subscriber Lines use telephone lines to transmit internet signals. The use of phone lines has allowed DSL to become one of the more readily available internet service types.



Positive	Negative
DSL costs are sometimes cheaper than other internet services offered by providers.	DSL service is often provided by the phone company, which likely means you will be required to have phone services as well.
There are minimal or no new wires needed for service because DSL runs over standard phone lines.	DLS speeds are dependent on your proximity to the DSL main distribution point. The closer you are the faster your service will be. Your speed will slow down the farther you get from the main distribution point.
Newer iterations of DSL are increasing in speeds but often fall behind cable and fixed wireless internet services offered in the same area.	DSL providers often implement data caps, and/or speed implementations. .

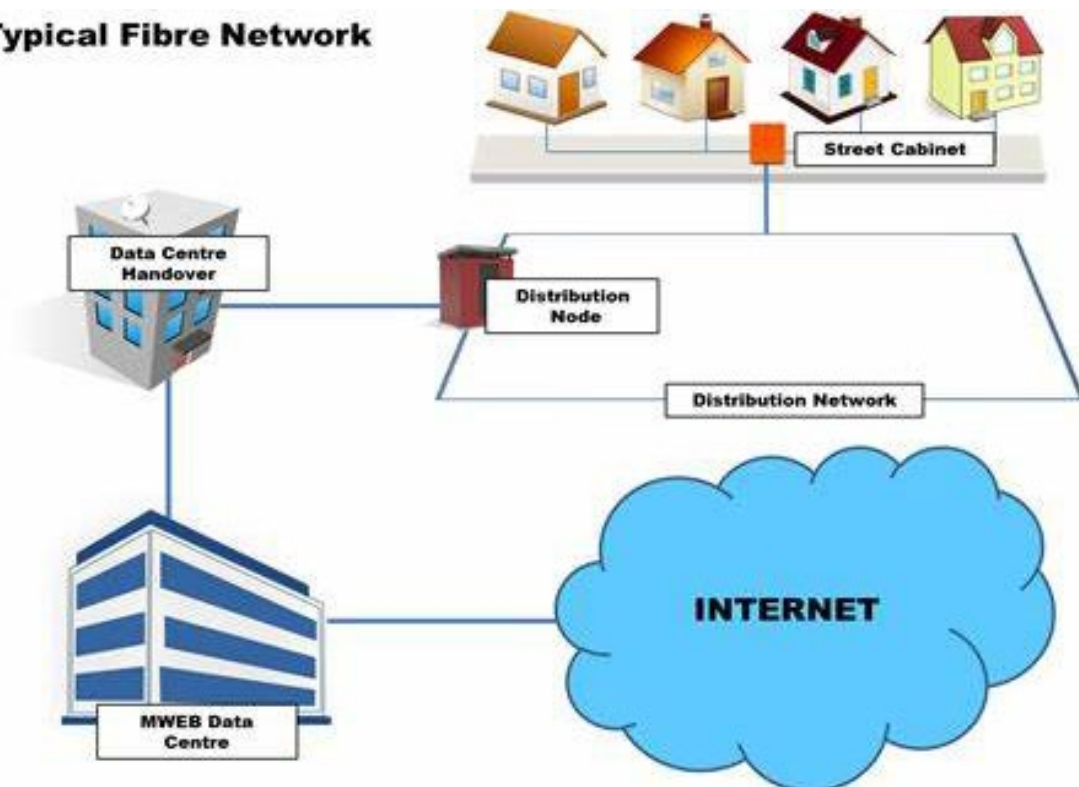
Cable internet uses the same coaxial cable network as cable TV to provide homes with internet. The internet service provider sends a data signal through the coax cable to the residence and connects it to their modem. The modem then uses Ethernet cables to connect to the router, which is what gives the access to high-speed internet and allows the resident to broadcast a Wi-Fi signal throughout their residence.



Positive	Negative
No phone lines are required, and connection to the internet is continuous.	Speeds are not as fast as fiber-optic internet and depend on how many people the area are connected to the Internet at the same time. The connection may be noticeably slower during peak hours.
Substantially faster than other types of broadband connections such as fixed wireless and DSL, which allows transfer of data at high speeds (i.e. photos, music, movies, and videos).	Initial connection fees can often be quite high and need a technician to initially install the equipment.
Supports data-heavy activities such as online gaming.	Not available in all areas.

Fiber internet works by sending photon signals through tiny strands of glass or plastic. Miles of these fiber-optic cables are buried underground from the internet provider's servers to the area. At the home, the cable connects to an optical network terminal (ONT), giving the resident internet access. These cables have a high capacity for carrying data, so they can give the resident a fast internet connection with a much lower chance of slowdowns or outages.

A Typical Fibre Network



Positive	Negative
Quality connections are a must for a business and residents looking for high-speed internet.	Fiber is lighter and thinner than metal wiring and is prone to physical damage. Fiber optic cables are easy to cut causing outages.
Fiber optic internet allows the recipient to get the quality that they need to telecommute, home school and stream internet at high speeds.	The costs of fiber optics are lower over the long term, but they are still expensive to install.
Highly secure, fiber optics do not give off any signals guaranteeing your data will be secure because there is no way to listen in on the light pulses as they transmit.	Not available in all areas.

What does this mean for Goodyear?

As we looked at the overall results of services available to the citizens of Goodyear, it is apparent that most existing residential areas have the ability to obtain broadband internet services. The FCC Form 477 Maps provide an overall picture indicating that the more developed and populous portions of Goodyear served by three or more providers. Once you delve more deeply into the information, it becomes clear that these areas are predominantly served by Cox Communications and CenturyLink (Lumen) which essentially creates a duopoly (two providers that discourage competition and investment by new internet providers).

We need to recognize that the FCC receives information from each of the ISP providers on a semi-annual self-reporting system from the providers inclusive of coverage areas, speeds available without requiring costs to be provided for those services. The FCC reporting is completed by census blocks which tends to be very misleading.

What does that really mean?

- Goodyear broadband services are looked at in the same manner as a “census block” is.
 - The denser the population, the smaller the block and the larger likelihood that multiple broadband services are offered
 - The larger less populous areas, the larger the block and the less likely of having multiple broadband providers with higher likelihood of alternative types of service being present
- ISP’s self-report to the FCC and there is no specific mechanism present to validate the reported information
- If one person has coverage in a census block, then the FCC deems that whole census block deemed as served
 - The speeds ISP provides are their advertised maximum speeds which are often unavailable
 - Pricing for plans is not shared
- FCC reporting includes data on areas that could “receive” broadband services within 10 business days of a request, not areas that are currently served
- The reality of services that are available/unavailable are not apparent until begin to look at the mapping with the unavailable services removed often leaving poor or no coverage available at all

In 2018, the State of Arizona produced a Broadband Strategic Plan that assessed Broadband availability throughout the state. The findings that State of Arizona set forth in their report are very similar to the findings that CSC made as they researched the service

providers and available coverage plans throughout the City of Goodyear. The goals set forth in this report were more ambitious than the broadband minimums of 25 Mbps download and 3 Mbps upload speeds set forth by the government with a much more (Revised in February 2022) ambitious goal of 100 Mbps download and 20 Mbps upload speeds or higher.

As Goodyear grows and expands its current footprint into areas that are slated for development, such as Rainbow Valley, there will be a need for coordination between existing and new broadband service providers. Rainbow Valley has fixed Wireless coverage but little to no other options available to them. The coverage gap and service types between the area proposed for developed and existing developed areas are readily apparent. Neither Cox nor Lumen offer services currently. During these early stages of development, sufficient broadband service is crucial. Residential and commercial customers alike are going to begin making decisions to settle in and develop areas based upon the services that are offered. “Gaps” in service can become a severe detriment to developments and sustainability of growth.

Goodyear is in the unique and prime position to invest both in provider relationships, ensuring that future residents are entitled to the best services just as current ones are.

Summary of Findings

- Goodyear has two broadband ISP providers capable of delivering speeds over the ACA recommendations in its Broadband Strategic Plan
- Goodyear has limited fiber south of MC 85 with only one provider
- Goodyear has few consumer options for wired broadband which creates a less than ideal healthy and competitive market
- Goodyear explore investing in open access broadband infrastructure

We look forward to discussing additional details on these findings with you at your convenience.

Exhibit A

Provider	Medium	Delivery Speed	Cost	Plan Details and Overage Costs
Cox Communications	Cable	25 Mbps/ 3 Mbps	\$29.99/mo. Year 1 \$44.99/mo. Year 2	1.25 TB (1280 GB) data included Excess usage is \$10 per additional 50 GB block \$10 for each 50 GB block (max overage charge of \$100 per month)
	Cable	150 Mbps/ 10 Mbps	\$59.99/mo. Year 1 \$87.99/mo. Year 2	1.25 TB (1280 GB) data included Excess usage is \$10 per additional 50 GB block \$10 for each 50 GB block (max overage charge of \$100 per month)
	Cable	500 Mbps/ 10 Mbps	\$79.99/mo. Year 1 \$99.99/mo. Year 2	1.25 TB (1280 GB) data included Excess usage is \$10 per additional 50 GB block \$10 for each 50 GB block (max overage charge of \$100 per month)
	Cable	940 Mbps/ 35 Mbps	\$99.99/mo. Year 1 \$119.99/mo. Year 2	1.25 TB (1280 GB) data included Excess usage is \$10 per additional 50 GB block \$10 for each 50 GB block (max overage charge of \$100 per month)
CenturyLink	DSL	100 Mbps	\$50/mo.	Capped at a maximum speed of up to 100 Mbps. Equipment cost \$15/mo. or \$200 up front. If install requires copper bury \$300 or aerial delivery \$150 or higher. 1.0 terabyte (TB) monthly data usage limit. \$15 per month router fee, up to \$300 for install.
	Fiber	100 Mbps/ 100 Mbps	\$50/mo.	Capped at a maximum speed of up to 140 Mbps. Equipment cost \$15/mo. or \$200 up front. If install requires copper bury \$300 or aerial delivery \$150 or higher. 1.0 terabyte (TB) monthly data usage limit. \$15 per month router fee, up to \$300 for install.
	Fiber	940 Mbps/ 940 Mbps	\$65/mo.	Capped at a maximum speed of up to 940 Mbps. Free modem and installation. Fiber to curb and wired connection to residence to obtain promised speed. Not available in all areas. \$15 per month router fee, up to \$300 for install. fiber service usually means 100% fiber-optic network to your residence, in limited circumstances CenturyLink may need to deploy alternative technologies coupled with a non-fiber connection from a certain point (usually the curb) to your location in order to provide the advertised download speeds. Customer speed experiences will vary, particularly when accessing the Internet wirelessly from various devices. Maximum download/upload speeds are up to 940 megabits per second via a wired connection due to overhead capacity reserved to deliver the data. Internet speeds are not guaranteed due to conditions outside of network control, including customer location, devices, equipment, and access through a wired or wireless connection.
Phoenix Internet	Fixed Wireless	7 Mbps/ 3 Mbps	\$50/mo.	Does not meet FCC Broadband guidelines, no apparent data or speed restrictions. \$99.99 install fee and Router \$9.99 monthly rental fee
	Fixed Wireless	15 Mbps/ 3 Mbps	\$60/mo.	Does not meet FCC Broadband guidelines, no apparent data or speed restrictions. \$99.99 install fee and Router \$9.99 monthly rental fee
	Fixed Wireless	25 Mbps/ 5 Mbps	\$70/mo.	Meets FCC Broadband guidelines, no apparent data or speed restrictions. \$99.99 install fee and Router \$9.99 monthly rental fee
	Fixed Wireless	50 Mbps/ 10 Mbps	\$90/mo.	Meets FCC Broadband guidelines, no apparent data or speed restrictions. \$99.99 install fee and Router \$9.99 monthly rental fee

Provider	Medium	Delivery Speed	Cost	Plan Details and Overage Costs
AireBeam	Fixed Wireless	10 Mbps - 5 Mbps	\$45/mo.	Does not meet FCC Broadband guidelines, ability to achieve the advertised speeds is dependent upon many variables, PC configuration, type of connection (wireless or wired connection), the time of day, the amount of traffic on the public Internet, priority queuing and more. May require mounting on an out-building with cable run to home in a customer dug trench and supplying and installing a small tower or extended length (20-40') pole.
	Fixed Wireless	20 Mbps - 10 Mbps	\$60/mo.	Does not meet FCC Broadband guidelines, ability to achieve the advertised speeds is dependent upon many variables, PC configuration, type of connection (wireless or wired connection), the time of day, the amount of traffic on the public Internet, priority queuing and more. May require mounting on an out-building with cable run to home in a customer dug trench and supplying and installing a small tower or extended length (20-40') pole.
	Fixed Wireless	30 Mbps - 15 Mbps	\$80/mo.	Meets FCC Broadband guidelines, ability to achieve the advertised speeds is dependent upon many variables, PC configuration, type of connection (wireless or wired connection), the time of day, the amount of traffic on the public Internet, priority queuing and more. May require mounting on an out-building with cable run to home in a customer dug trench and supplying and installing a small tower or extended length (20-40') pole.
	Fixed Wireless	40 Mbps - 20 Mbps	\$100/mo.	Meets FCC Broadband guidelines, ability to achieve the advertised speeds is dependent upon many variables, PC configuration, type of connection (wireless or wired connection), the time of day, the amount of traffic on the public Internet, priority queuing and more. May require mounting on an out-building with cable run to home in a customer dug trench and supplying and installing a small tower or extended length (20-40') pole.
	Fixed Wireless	50 Mbps - 25 Mbps	\$120/mo.	Meets FCC Broadband guidelines, ability to achieve the advertised speeds is dependent upon many variables, PC configuration, type of connection (wireless or wired connection), the time of day, the amount of traffic on the public Internet, priority queuing and more. May require mounting on an out-building with cable run to home in a customer dug trench and supplying and installing a small tower or extended length (20-40') pole.
T-Mobile Home Internet	Fixed Wireless	37-115 Mbps - 8-24Mbps	\$55/mo.	Meets FCC Broadband guidelines, achieved speeds are reliant upon location and type of equipment, no data cap. May not be compatible with all streaming services. Reserve the right to slow services