

**REPORT of the PINE PLAINS BROADBAND COMMITTEE  
to the TOWN BOARD of PINE PLAINS, NEW YORK**

**MARCH 26, 2021**

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## INTRODUCTION

The Pandemic of 2020 changed the way Pine Plains residents conducted business, educated their children, and entertained themselves. In fact, it affected almost every aspect of our lives, just as it did for every other American and, in fact, for every other human being on the planet.

Among the discrepancies and anomalies the pandemic highlighted was that of Internet access, which means in 2021 access to a broadband network. Because so many of us were working from home, educating our children from home, and entertaining ourselves from home, the ability to access the Internet became especially important. And because a significant portion of the Pine Plains population is without acceptable broadband, often because of geographic location or geographic quirk, or because of the cost of installing or maintaining a broadband service, broadband access became a concern of local government.

The lack of broadband is not, however, just a pandemic-related issue. Even in so-called “normal” times, the lack of adequate Internet access handicaps existing businesses and makes Pine Plains less attractive to new ones; lowers residential and business real estate values compared to areas with better service; creates problems for students trying to access information sources; and heightens the “digital divide” of our community.

In response to the immediate concerns raised by the pandemic, the Pine Plains Town Board formed a committee of citizen volunteers to examine the broadband issue and to make recommendations. What follows is that report, with the caveat that broadband access has become a concern far beyond Pine Plains; government and private plans and funding to address this nationwide problem are currently fluid and rapidly changing -- we hope for the better. For instance, it has recently been reported that the federal American Rescue Act includes \$358

million to enhance broadband access in New York State; how this will affect Pine Plains and northeast Dutchess County is not clear. Updates to this report will be made when and as necessary to keep the board and the residents of Pine Plains current.

## TECHNICAL BACKGROUND

Access to the Internet is achieved through a device – a computer, a phone, a game console, or other machine – that connects to a service provided by an Internet Service Provider (ISP). Currently, most connections are made either by coaxial cable, which is the wire from a cable television company, or by fiber optic cable, both of which are strung on utility poles. The latter is a technology newer than cable and much faster; it is, in essence, a bundle of glass tubes through which data is transmitted by light pulses. There are also a satellite service and mobile “hotspots” that connect with wireless telephone service such as Verizon or AT&T. On the horizon are a newer, more sophisticated satellite system, and what is popularly called 5G cell service.

Attached to the wire from the utility pole or satellite antenna to the customer’s home or business is a modem that allows connection to user devices by Ethernet cable. One of these devices is often a router, which turns the data signal into radio waves and provides a wireless connection to all the devices within a certain range. The speed of this Wi-Fi connection gets slower as distance from the router increases, and depends on the type of obstructions (e.g., metal or drywall) between the router and device.

The quality of broadband service is measured by the speed with which the connection can upload and download data to a device. The federal government defines “broadband” as service

that provides a download (or receiving) speed of 25 million bits per second (Mbps) and an upload speed of 3 Mbps.

The capacity of the various services varies widely in Pine Plains. Those fortunate enough to live near the town center can get broadband service through the town's cable television provider – Optimum can provide speeds up to 400 Mbps to residences and 450 Mbps to businesses, the price depending on the speed a customer selects. Note that these speeds are theoretical maximum speeds and are reduced in practice by the number of concurrent users and sometimes by weather conditions. Similar speeds are available to the very few households that have access to fiber optic, at similar prices, and even faster speeds are theoretically possible with this technology. Fiber optic connections are more secure, and the speeds remain stable.

As to alternatives to cable and fiber optic, Consolidated Communications, Inc., the supplier of traditional telephone service in Pine Plains, can supply DSL (digital subscriber lines), an old technology that has been adapted for the modern era, to all its customers through its telephone wires. Hughes Net provides satellite service that provides television and Internet access, and those with good cell service can use 4G hotspots from either Verizon or AT&T. Among the drawbacks for all these services, however, is that they cannot provide service fast enough to meet the definition of broadband. This can result in service issues when there are multiple users, when large files need to be downloaded or uploaded, or there are other heavy data loads, including such things as movies and social media.

## THE COMMITTEE'S WORK

In July 2020, the town formed a volunteer committee to examine the broadband access issue. It was tasked with determining the extent of the problem and examining possible solutions. The committee soon divided its activities into two main areas: determining the extent of broadband availability and seeking ways to ensure that all residents have fair and affordable access to it.

Early in its investigation, the committee realized the limitations of current agreements and service. Optimum, a part of Altice USA, is the cable-television provider for Pine Plains. It has a non-exclusive contract with the town under which it provides cable-television, telephone, and Internet service. Unfortunately, its contract only requires it to provide service where there is a sufficient population density. This means, in effect, that only those within a limited distance of a main road can be Optimum customers. It has no obligation to provide any of its services to the outlying or more rural parts of the town. And, anecdotally, the quality of service was said to vary, sometimes depending on weather or other factors, and always depending on the number of users connected at any given time.

As noted above, Consolidated Communications Inc., can provide DSL service to all of Pine Plains. However, due to its limited speed, this technology is not adequate for a household of any size. Anecdotally, the committee heard about a few places where fiber optic was available (generally a few households on the very edge of the township) and various people's experience with Hughes Net satellite service (mostly unfavorable).

Likewise, the committee learned that "hotspot" service, through wireless cell phone providers, is generally not sufficient for day-to-day use. Dr. Martin Handler, the superintendent of the Pine Plains Central School District, and a member of the committee, recounted the

district's efforts to ensure Internet access to all its students once the pandemic forced the schools to move to mandatory distance-learning. According to Dr. Handler, approximately five to eight percent of the families with children in the district were without Internet access, and while the district provided these families with mobile hotspots, he described the service as often spotty, unreliable, and slow. He also said that a few families could not make use even of these devices because they did not have cellphone service at their homes. He also said that the district had made the school's wifi available in its parking lots for students' use as a less-than-satisfactory stopgap. Dr. Handler told the committee that the Internet service within the schools was very good, due to the district's participation in a broadband program run by Dutchess County BOCES, which is not available to the public.

Determining the exact availability of broadband in Pine Plains proved to be a challenge. The ISPs regard the specifics of their service as proprietary trade secrets and do not readily share them. The survey method used by the Federal Communications Commission to assess availability is, by general agreement of almost anyone involved in the field, faulty to the point of being useless. The FCC survey method involves having the ISPs self-report based on their coverage of federal census blocks. The FCC then counts everyone in a census block as having broadband available if only one household has it. The errors in this method arise because, for example, a census block in Pine Plains can be anything from a few houses to a traditional residential block to a huge swath of undeveloped farmland with few houses. Counting by census block has been referred to as the "one served, all served" approach, but the fallacy in relying on this method is obvious. With such a flawed method, Pine Plains was rated in October 2020 as "well-served" at 88%. This means that, even if another round of federal or state grants becomes

available, Pine Plains would be passed over in favor of other areas with supposedly even worse broadband coverage.

Therefore, out of necessity, and following the example of our neighbors in Ancram, the committee decided to determine availability and usage itself and prepared and circulated a survey to town residents. The survey asked residents whether they had Internet access, and if so, what type of service and whether they were happy with it. If they did not have service, they were asked for the reason.

To gain insight into the actual business of broadband and to explore the possibilities of expanding service, the committee invited ISPs that are active in our area to attend meetings and offer their perspective. The first to make a presentation was GTel Corp., a small telecommunications company based in Germantown, in Columbia County, and formerly known as the Germantown Telephone Co. GTel representatives detailed how the company successfully wired all of the Town of Gallatin for fiber optic, using grant money the town obtained with GTel's help. It expressed a willingness to perform the same service in Pine Plains, but acknowledged that without outside funding it would not do so on its own initiative.

Similarly, Consolidated Communications and Optimum both said that installing or expanding broadband access to underserved areas in Pine Plains was not economically feasible from their perspective without outside financing, such as direct government funding or grants, and they had no plans to do so. One ISP told the committee that the cost would be roughly \$30,000 a mile to extend service beyond the town center, plus any costs associated with actually hooking a residence to the cable strung on utility poles. However, some ISPs will extend their service to individuals or groups of individuals for a negotiated price; the committee is aware of at least two instances where this has occurred. In one instance, Consolidated agreed to provide

fiber optic service to 10 households on the eastern edge of town. They will provide 100 Mbps service for an upfront charge of \$150 a household and a 36-month contract at \$130 a month per household. This contrasts with Optimum's usual pricing, which has no installation fee and a monthly charge of \$45 a month for Internet-only service or \$85 a month for Internet and television, with speeds advertised up to 400 Mbps.

The committee also received input from elected officials. Attending our meetings at various times were State Assemblywoman Didi Barrett, Town Supervisors Chris Kennan (Northeast) and Wendy Burton (Stanford), and County Legislature Chair Gregg Pulver. We were in touch with County Executive Marcus Molinaro and Assistant County Executive Ron Hicks on a continual basis, as well as with the Dutchess County Mayors and Supervisors Association, and received much information from the office of U.S. Rep. Antonio DelGado.

### COMMITTEE CONCLUSIONS

--Broadband is essential in the modern era: Current businesses in Pine Plains without broadband Internet are hampered, new ones are discouraged, real estate values are diminished, education is handicapped, and the digital divide is exacerbated. Tasks that once were accomplished with a phone call or letter now often require access to broadband. Making an appointment for a Covid-19 vaccination is a good example, as are making doctor's appointments and conducting telehealth consultations with healthcare professionals. Broadband should be available and affordable to every household in Pine Plains.

--A significant portion of Pine Plains households does not have access to broadband. At a minimum this is 12% of the households, although flaws in data collection or survey design make it impossible to know exactly. Nonetheless, even 12% is too high a number.



--There is no way to force ISPs to expand their service under current law absent a financial undertaking far beyond Pine Plains's capacity.

--A local utility solution, such as that undertaken by the town of Mount Washington, Mass., is not practicable in Pine Plains.

-- Lessons are to be learned from Gallatin: We need to keep in touch with federal, state and especially county officials and with ISP providers, and follow developments at all levels of government to be well-positioned to apply for the next round of federal or state grants

### RECOMMENDATIONS

-- An outside consultant should be hired to survey broadband service in Pine Plains, or on a larger, area-wide, or even countywide, basis, to determine the exact extent of service and the need for expansion in Pine Plains.

-- A committee member should be designated to stay in touch with government officials, especially the offices of Pulver, Barrett and DelGado, to stay on top of the rollout of new broadband funding

--The town should explore hiring a consultant, perhaps jointly with other northeast Dutchess towns, to watch for and write grants and follow governmental developments.

## **APPENDICES**

### ***Committee Formation and Charge:***

The Pine Plains Town Board created the Broadband Committee to investigate the condition of Internet service in town and make recommendations for improvement, including an evaluation of the non-exclusive contract between the town and Optimum/Altice for cable television service (including broadband Internet) that will expire in February 2022.

### ***Broadband Committee Timetable:***

<i>July 23, 2020</i>	<i>First Broadband Committee meeting</i>
<i>Sept. - Oct.</i>	<i>Town-wide survey administered, online and hardcopy</i>
<i>December 14, 2020</i>	<i>Presented interim report to Pine Plains Town Board</i>
<i>March 4, 2021</i>	<i>Presentation to County Supervisor Gregg Pulver</i>
<i>March 26, 2021</i>	<i>Final report to Pine Plains Town Board</i>
	<i>Report authors: Matt Finley &amp; Steve Neil</i>

### ***Members and Key Participants:***

Pine Plains: Darrah Cloud, Matt Finley, John Forelle (non-resident member), Martin Handler, Steve Neil (chairperson), Jim Petrie, Michael Stabile

Past members: Matthew Brimer, Paul Marcum (past chairperson)

Northeast: Rich Stalzer, Andrew Stayman

Stanford: Wendy Burton, Jane Cottrell

Amenia: Stacy Mantel

Elected Officials:

Attending our meetings at various times were State Assemblywoman Didi Barrett, Town Supervisors Chris Kennan (Northeast) and Wendy Burton (Stanford), and County Legislator Gregg Pulver. We were in touch with County Executive Marcus Molinaro and Assistant County Executive Ron Hicks on a continual basis regarding our work on this in Northern Dutchess County, as well

as the Dutchess County Mayors and Supervisors Association in order to gain support and share concerns and coverage statistics. The committee also attended a meeting of Columbia County supervisors dedicated to broadband topics.

Guest presenters:

Siddhesh Karmali, Ancram resident

Frank Boscarillo of GTel

Vicky Gronquist, Director, Consumer Product Manager, and Bill Mulrein, Sr. Engineer, of Consolidated Communications

Mt. Washington, MA town board members Brian Tobin & Jim Lovejoy

Dave Berman, Columbia County resident

Guest presenters invited who did not respond:

Altice/Optimum

***Consultants identified:***

EEC Technologies, Penfield, NY      <https://www.ecctec.com/>

Tilson Technology, Rochester, NY      <https://www.tilsontech.com>

***Survey Results:***

Pine Plains Town Details

1,700 households

2,504 residents

Survey Response Rate

223 responses = 13% response rate for households

Total census blocks in Pine Plains = 110

Total census blocks reporting on survey = 15

Internet Service Providers Used:

Optimum: 101 respondents

Consolidated: 22 respondents

1 each: Hughes, G-Tel, mobile hotspot, Mid-Hudson Cable

Selected Results:

214 have Internet service = 96%

5 do not have Internet service = 2% of respondents

20 respondents below 25 Mbps download = 9%

35 respondents say their Internet service DOES NOT give them adequate or consistent speeds = 16%

25 additional comments received but few duplicate values; comments included:

constantly unreliable (5), high price for just Internet, speed fluctuates, cost not warranted (2), need more speed options

**Maps:**

The Broadband Committee collected data from many sources including the town-wide survey to prepare maps showing underserved areas. The Town of Pine Plains signed an NDA (non-disclosure agreement) when needed with vendors to obtain the location of services, but this information cannot be shared with anyone outside the committee.

## **Internet Technology Basics:**

### **Broadband** definition:

According to the Federal Communications Commission, a home is serviced by broadband Internet if the download speed to the home measure at least 25 Mbps, and the upload speed measures 3 Mbps. Anyone with Internet service can run a test such as [www.speedtest.net](http://www.speedtest.net) to determine conditions at their own home or business. This standard of 25/3 is subjective, and the committee has a real question whether such a speed would be adequate for a business, or for a household with several adults working remotely and several students actively doing schoolwork in pandemic conditions.

According to present federal standards, the Internet Service Providers (ISPs) self-report where they provide service. If as little as one home in a census block is provided with broadband-quality service, all homes in that census block are considered to be served. Using this standard, [www.broadbandnow.com](http://www.broadbandnow.com) shows coverage of Pine Plains is 88%. The effectiveness of this standard has been roundly challenged.

**DSL** (digital subscriber line) is available throughout all of Pine Plains via the existing copper twisted pair telephone lines. While DSL can provide Internet service, its typical speed of around 6 to 12 Mbps does not meet the minimum standard to be considered broadband. The maximum speed also depends on the quality of the existing wire and the location from the central switching building.

**Satellite** Internet, available locally through Hughes.net, also does not meet the minimum speed standard, and can suffer serious signal degradation in poor atmospheric conditions. It should be noted that tests of much higher speed national satellite Internet service are now being conducted by Starlink, and this might offer a promising alternative for those who cannot otherwise obtain broadband service in the short term.

Cell phone **hot spots**. This service, provided by cell phone carriers, is rapidly improving and is capable of meeting minimum broadband standards, but is relatively expensive and depends on reliable cell phone coverage that is not available in all locations.

**Cable** Internet is supplied by coaxial cable that brings us cable television and sometimes telephone service. Cable Internet offers several speed options ranging from 100 Mbps to over 1000. Reliability in cases of power outages and inclement weather has been identified as a problem, and the rated speeds are maximum speeds that degrade according to how many users are online.

In Pine Plains, Optimum/Altice is the only provider for most of the town. A competitor

in New York State, Spectrum, operates near Pine Plains but has indicated it has no plans to expand into Pine Plains.

**Fiber Optic** cable is a technology that strings bundles of tiny glass tubes and transmits data by beams of light. It has tremendous advantages over other technologies listed here, notably almost unlimited potential speed of data transmission. Speeds of 1000 Mbps are commonly offered. Repeaters are used to boost the signal periodically, so it has no practical range limit. It is highly resistant to tampering for security. At present, it costs approximately \$30,000/mile to string fiber to homes.

In Pine Plains, there is a fiber optic trunk cable running along a few streets and running even in the center of town along Main Street, but it has not been deployed to any homes or businesses. Altice is converting coaxial cable to fiber optic but is starting in the higher-populated areas of Westchester County, and it may be years before it reaches here.

**5G** cell service is rapidly expanding in larger metro areas and may reach Pine Plains in a few years. Note that to supply 5G service, the phone companies must have fiber optic cable on the poles and the 5G transmitters, each at least \$30,000, must be located every other pole or so.

**Other** technologies may be developed that will completely upend our understanding of the technology for communication needed in Pine Plains. This has happened many times before, ranging from the telegraph and telephone to DSL, which has been largely replaced in the center of town by coaxial cable Internet. Soon, fiber optic cable could make cable Internet obsolete.

At any time, radio-based wireless technologies could replace any wired solution. Pine Plains has a natural advantage with the presence of Stissing Mountain and should consider an option on the tower for future wireless use. Finally, it is imperative that the committee remain in existence to monitor the state of technology and continue to make recommendations.