



TOWN OF CONCORD MUNICIPAL UTILITIES

ELECTRIC | WATER | SEWER | TELECOMMUNICATIONS

April 2022 – Broadband Updates

Concord Broadband is pleased to share the following updates and information from the past month. Please do not hesitate to contact us at broadband@concordma.gov should you have any questions, concerns, or feedback.

Operations

Broadband operations are coming out of the winter months at full staffing levels and ready to tackle the customer installs pending due to the cold weather (which makes fiber too brittle to splice outside). We currently have 84 confirmed customers eager for a connection to Concord Broadband, and we have conducted further analysis that represents their geographic location, time waiting for install, and other parameters that can be used to more efficiently plan deployments.

We have lined up work from an outside firm to expedite installs at only a modest cost per installation. Our analysis confirms the data presented by the Broadband Fiber Completion Task Force: a modest investment per installation results in a much higher long-term return considering the length of the average customer and the frequency of their departures (also known as “churn”).

We have posted the Telecom Director position on the Town’s website and advertised it multiple locations. To date, we have 8 applicants, and we are taking additional steps to ensure we have a talented pool of candidates.

Network Services

Upgrades and Updates

Broadband is currently in the middle of a major equipment upgrade, which includes replacing the core switching and routing equipment located at our Network Operations Center (NOC). The design of the equipment has been finalized, and we are working with our vendors to get competitive quotes to purchase the switches and routers.

Already, we have purchased and installed a multipurpose management server as well as new devices that handle IP addressing. To ensure we have smooth operations in the unlikely event that our NOC loses power, we have expanded the power monitoring and alerting functionality, added battery backups to extend the runtime of the equipment to over 2 hours, and made arrangements for a generator to be delivered in under an hour.

We have signed a contract to increase one of our internet service providers’ speeds from 5Gb/s to 10Gb/s **at no added cost**. This will bring our total bandwidth to 21Gb/s.

Maintenance

Firmware on existing devices was out of date, so we performed those updates during a planned maintenance window from 1-6am on Sunday, April 3rd. While the upgrades went incredibly smoothly, our routers lost a speed upgrade license that had been purchased by the Town, resulting in a 2.5Gb/s cap on the network speed. Initial testing did not turn up this issue, but later in the day, when demand surged, the issue became apparent. The manufacturer’s support resolved the issue fairly quickly, but the application of the licenses required a reboot of the devices, which did interrupt service for 1-2 minutes.

Our new topology increases the resilience of the network when we need to perform maintenance, but by design, it can limit the bandwidth of the primary equipment because the carriers provide only a single link to our equipment. We have worked with a carrier that provides 10Gb/s to provide a secondary link that can automatically failover, increasing the available bandwidth and resilience of the network.

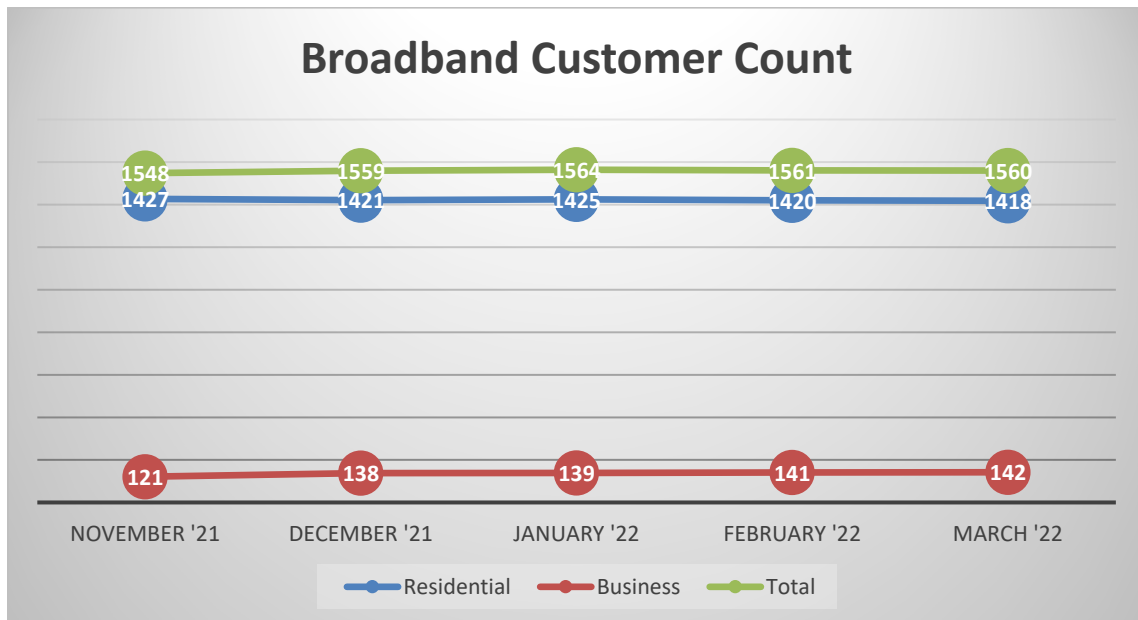
Special Projects

If you will recall, on December 24th, 2021, we experienced a widespread outage due to rodents chewing through fibers on Laws Brook Rd. Our Telecom Technicians did an amazing job repairing and splicing the fiber to get customers up and running, but several other major fiber cables were damaged and left unrepaired because they were not in use at the time.



With the help of the CMLP Underground Crew, we sealed every conduit entering a Local Convergence Cabinet (LCC) to prevent future rodent damage. Because repairing the remaining cables will require us to take down service for those customers still operating on the repaired fibers, we are working to retain the assistance of a vendor to replace this cable to ensure the smallest possible window of downtime.

Metrics and Business Data



Marketing

Concord Broadband is working with the Customer Service team and other staff at CMLP to develop our marketing and branding. We are currently refreshing the Broadband web pages on the Town's website, creating handouts that can be used by Telecom Technicians while in the field, coordinating with real estate brokers, and developing welcome kits to new and prospective customers. We are also working on methods to stay in touch with potential customers who have expressed an interest in our service ahead of installation. This helps especially in the winter months when installations slow down so they have up-to-date information on how their deployment is coming along.

Future Projects and Things to Note

- Supply chain issues have caused severe delays on equipment we need to install new customers. We have been able to locate adequate stock of fiber, and we have orders in to ensure a constant stream of materials. The team is preparing an audit of all physical inventory to ensure we order now for what we might need in several months' time.
- We are working on finalizing the reissue of an RFP for Helpdesk services to begin on 7/1/2022.
- Updates to the Terms and Conditions have been in progress for a while. Our review and edits are nearing completion. Our plan is to post a draft of the updated Terms and Conditions, present a summary of the changes, allow public comment at a future Light Board meeting, and then adopt them.
- New system mapping software is rolling out to the Broadband team in April. This has been a long-term project with the goal of getting more accurate data into the hands of people installing and troubleshooting equipment. It will also aid the long-term maintenance of our inventory, ensuring it is more accurate.
- We have completed or nearly completed fiber expansion in the areas of Tanglewood Drive, Bartkus Farm Road, Monument Square, and Mill Run.