



# TOWN OF CONCORD MUNICIPAL UTILITIES

ELECTRIC | WATER | SEWER | TELECOMMUNICATIONS

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## November 2022 – Broadband Updates

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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](mailto:broadband@concordma.gov) should you have any questions, concerns, or feedback.

### Operations

We will be inviting the new Broadband Manager Dale Hartling to the November Light Board meeting. We are thrilled to have Dale on the team and grateful for what he's already accomplished.

We continue to focus on the recruitment of the second Network Engineer, which was a position listed as "Open until filled." It has recently been readvertised, which is yielding new applicants.

Concord Broadband is beginning to shift to planning winter operations, which includes running and splicing fiber, performing inventory work, planning future network expansion, and improving customer experience during the sign-up and installation period for new customers.

### Network Outage – October 24-25, 2022

#### Background

On Thursday night, October 20th, a crew from a third-party vendor was on-site in Concord to replace a cable damaged by rodents last year. When this cable was cut, we now know it triggered a software glitch in the equipment used to provide internet service to customers.

The glitch manifested in several different ways, affecting areas of the network not in the vicinity of the Laws Brook repair work. The impacted customers were returned to service quickly, and the manufacturer of the equipment began troubleshooting. This work continued all weekend by multiple Concord Broadband staff members.

#### Outage

By Monday, a plan was in place to attempt to remedy the situation when suddenly a number of customers lost connectivity after no intervention or actions on the part of staff or our vendor. Because this was not a disruption due to customer hardware failures or a break in the fiber, Concord Broadband was unable to determine the precise number of

#### Maintenance

Fibers carrying customer data in the Laws Brook LCC have all been replaced. There are two fibers remaining that are lightly damaged: One is not in use (leftover from the pilot many years ago); the other belongs to a third-party vendor. Any further work on this area **will not** impact customers.

We have no further maintenance planned this month. We may schedule maintenance in December, depending on when certain gear is delivered, but it looks as though that work will take place in January of 2023.

<https://concordma.gov/3144/Broadband-Maintenance>

customers impacted. Based on total bandwidth in use, we knew the total did not exceed 10% of customers (~160).

Concord Broadband staff worked with our vendor non-stop to determine the cause and an appropriate response. The vendor was reluctant to point to the fiber repairs as the root cause, and absent a reason, they had to escalate the case until developers and engineers were involved.

By 4pm on Tuesday, there was enough data to suggest which physical device had suffered a software failure, and the decision was made to reboot it. There had been a reluctance to reboot it earlier without more data because an ill-advised reboot could have widened the outage.

After the reboot, the issue was immediately resolved. No configuration changes were necessary. Any temporary changes made for a small number of customers during the investigation phase were reversed. Concord Broadband staff worked with customers who had issues after the resolution, most of them requiring a reboot of their ONTs.

### **Issues**

While Concord Broadband believes the response and communication were much improved from the last unplanned outage, communication – in particular once the helpdesk vendor implemented a recorded phone message – could have been better. A total of 3 News and Notices posts and 10 Tweets were issued during and after the outage, and all customers who provided an email address were kept up-to-date during restoration efforts.

### **Thanks**

Thank you to all the staff who spent countless hours in service of the team and our customers.

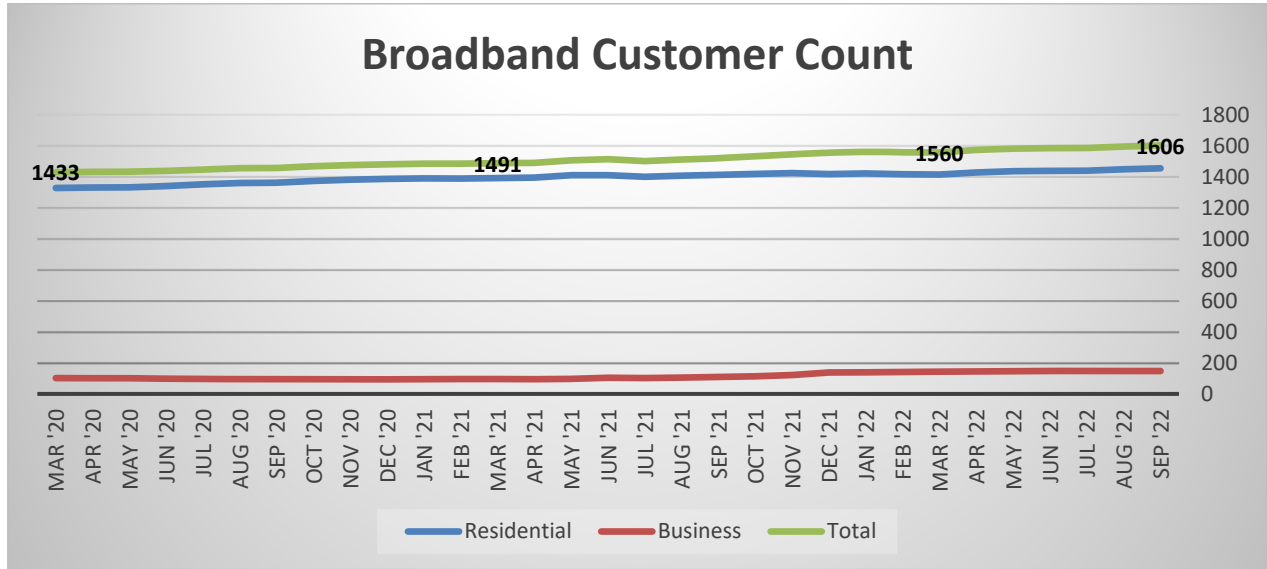
### **Full Report**

Here is a link to the full report:

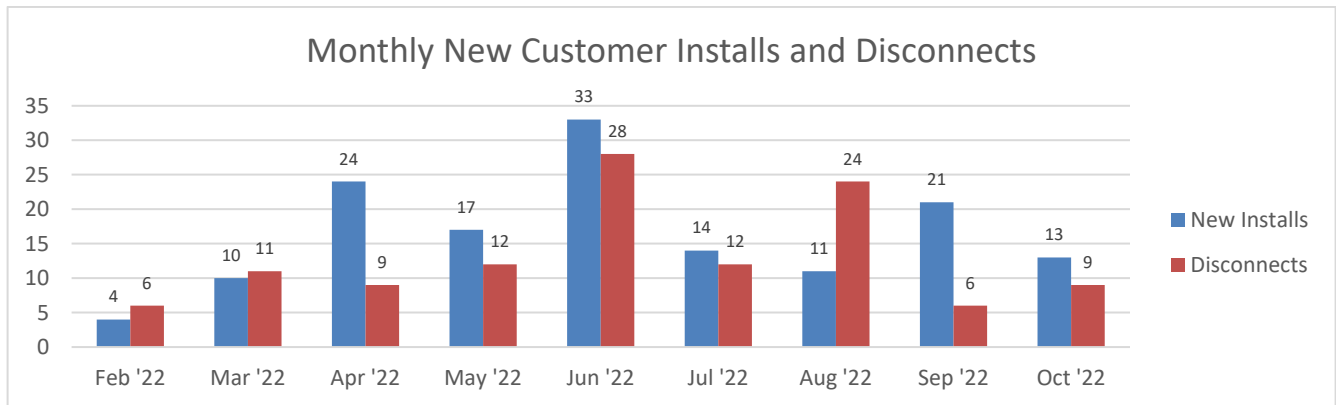
<https://concordma.gov/DocumentCenter/View/39508/Post-incident-analysis-2022-10-24-Network-Outage>

Should you have any questions after reading the full report, please reach out to us at [broadband@concordma.gov](mailto:broadband@concordma.gov). Thank you for your continued support of this community resource.

## Monthly Metrics and Business Data

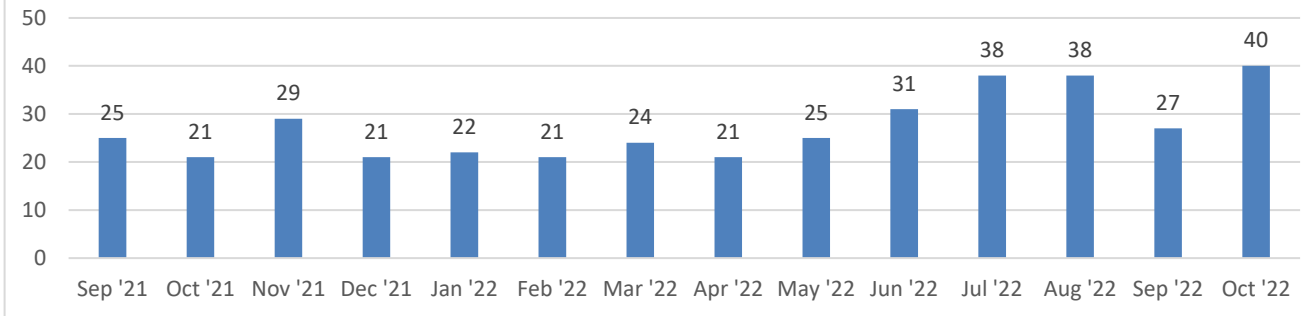


(Customer count: March 2020 – October 2022)



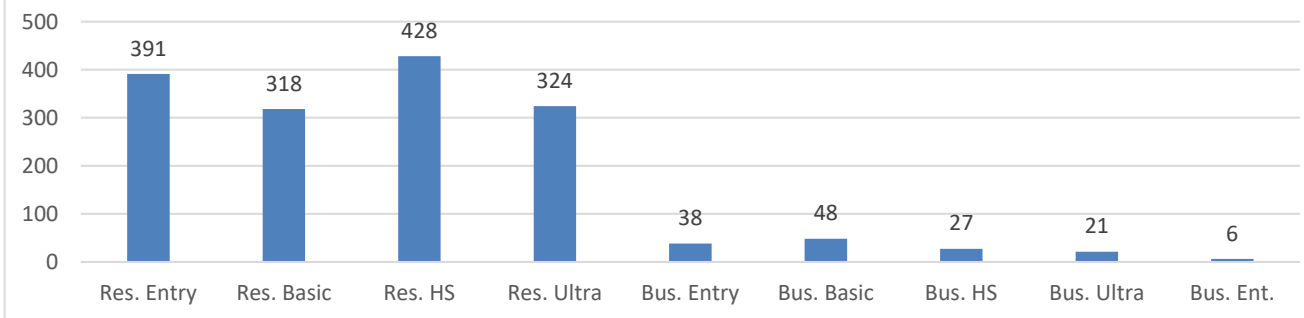
(The number of new installations and disconnects completed each month)

### Interested Customers by Month



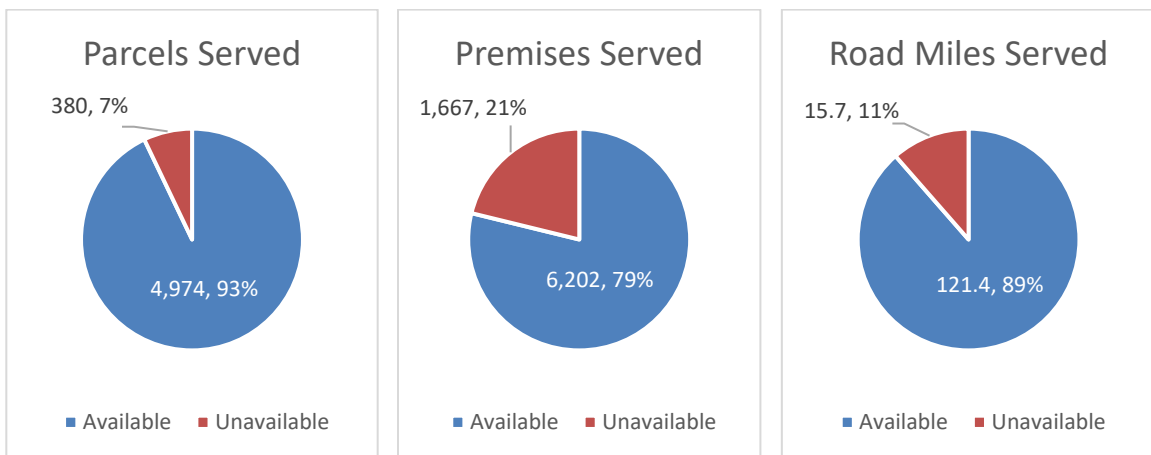
*(This is the number of individuals who complete the Concord Broadband interest form on the Concord Website, whether they are in the current service area or not.)*

### Breakdown of Customers per Service Plan



*(This is the number of each customer on our different service plans as of 10/31/2022.)*

### Quarterly Metrics



*(As of 9/30/2022; 13 additional parcels and premises served, and we are enhancing tracking of these metrics)*

## Rate/Speed Adjustments

At last month's meeting, we offered a proposal to make the following changes in tiers and prices:

- Add three new tiers for residential customers
  - A 25/25 mb/s tier for \$24.95 per month only for residential customers who qualify for CMLP's Assistance Rate billing
  - A 500/500 mb/s tier for \$109.95 per month
  - A 1G/1G tier for \$149.95 per month
- Add one new tier for business customers
  - A 1G/1G tier for \$349.95 per month
- Increase the speed (but not the cost) for the 35/35 residential tier to 45/45mb/s
- Waive installation costs for locations that have already had Concord Broadband service (in most cases; those that have altered service or would like to relocate equipment will not get this waiver)

The feedback received from the Light Board:

- Instead of a low-income tier, we should offer a subsidy on whatever tier low-income qualifiers would like.
- The faster residential/ business speeds and increasing the Residential Entry speed sounded like good changes.
- Waiving of the fees for locations that had already paid them made sense (in most cases).

At November's Light Board meeting we will be proposing the following changes:

- Add two new tiers for residential customers
  - A 500/500 mb/s tier for \$109.95 per month
  - A 1G/1G tier for \$149.95 per month
- Add one new tier for business customers
  - A 1G/1G tier for \$349.95 per month
- Increase the speed (but not the cost) for the 35/35 residential tier to 45/45mb/s
- Waive installation costs for locations that have already had Concord Broadband service (in most cases; those that have altered service or would like to relocate equipment will not get this waiver)

## Power Replacements

On October 17th, 2022, a vendor was on-site at our primary data center to replace the power supplies and battery backups that power the equipment we use to connect our customers to the internet. This work was completed without incident or downtime for customers. It was coordinated by our Network Engineer, who was on site for the installation to assist with the setup and configuration. The useful lifetime of this equipment is 4-5 years.

This is another great job by the Broadband team to ensure reliability of the equipment we use to support our customers. Thank you all!

## Appendix

### Fiber Broadband Completion Task Force's Draft Report Goals

Goal	Type	Priority	Responsible Party	Additional Info.
<b>Policies (p.39)</b>				
• Universal Access	Policy	Highest	Select Board/Town Meeting	
• Expansion outside current territory	Policy	Low	Select Board/Town Meeting	
• Support Economic Vitality, Sustainability, Equity & Inclusion	Policy	High	Select Board/Light Board/TM Economic Development	
• Affordable Housing	Policy	Medium	Select Board/Housing Groups	
• Public Safety	Policy	Medium	Select Board/Town Manager	
• Education	Policy	Medium	Select Board/School Dept.	
• Government Access (PEG)	Policy	Medium	Select Board/PAAC	
<b>Recommended metrics for tracking (p.41)</b>				
• Parcels served	Metric	Medium	Town Staff/Light Board	Complete; will report quarterly
• Premises served	Metric	Medium	Town Staff/Light Board	Complete; will report quarterly
• Road miles served	Metric	Medium	Town Staff/Light Board	Complete; will report quarterly
• Subscribers	Metric	High	Town Staff/Light Board	Complete; will report monthly
• Take rate	Metric	Medium	Town Staff/Light Board	Working on this
• Churn	Metric	High	Town Staff/Light Board	Working on this
• Installations	Metric	Highest	Town Staff/Light Board	Complete; will report monthly
<b>Governance (p.39)</b>				
• Track progress against completion	Metric	Highest	Light Board/Town Staff	Working on this
• Rate of return policy	Policy	High	Light Board/Town Staff	
• Financial goals with regular reporting	Policy	High	Light Board/FinCom	
• Retained earnings and reserve policy	Policy	High	Light Board/FinCom	

Goal	Type	Priority	Responsible Party	Additional Info.
<b>Strategic Planning Goals (p.43)</b>				
• Marketing and growth	Metric	High	Light Board/Town Staff	
• Business return	Policy	High	Light Board/Town Staff	
<b>Budgeting Process for Fiber Expansion (p.41)</b>				
• Expand to fill existing opportunities	Planning	High	Light Board/Town Staff	
• External funding sources	Research	Medium	Light Board/Town Staff	Working on this
• ARPA Relief Funds Allocation, incl. Lost Revenue	Finance	Highest	Select Board/Town Manager	
• Review/Confirm Internal Loan Findings	Finance	Highest	Financial Audit Comm/Staff	Working on this; preliminary discussion at the FAAC meeting
• Review and Rescind PILOF to MMN	Finance	High	Select Board/Town Manager	Working on this
<b>Capital Planning Process (p.42)</b>				
• Review/Revise Debt financing schedule	Policy	Highest	Light Board/Town Staff	
• Quantifying cost of expansion	Planning	Medium	Town Staff	
• How to fund expansion	Planning	Medium	Light Board/Town Staff	
• Revise/refine methods for computing ROI	Planning	Medium	Light Board/Town Staff	
<b>Construction and Logistics (p.42)</b>				
• Vibratory plow – direct buried fiber cables	Operations	Medium	Town Staff	Working on this
• Revise/Refine Communication conduit construction standards and guidance	Policy	Medium	Town Staff	
• Integrate Fiber construction with the Roads Program – focus on Streets without fiber that already have underground electric	Planning	High	Town Staff	Working on this