



TOWN OF CONCORD MUNICIPAL UTILITIES

ELECTRIC | WATER | SEWER | TELECOMMUNICATIONS

June 2023 – 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

For the Network Engineer position, we are prepared to make an offer to a candidate, and that meeting should take place on or shortly after 7/10. We hope to have good news at next month's meeting.

I want to give a huge shout-out to the CMLP mechanic Jay Simeone for his hard work that keeps our fleet of vans and trucks running so we can serve our customers. Jay not only helps with procurement and fleet management, but he also coordinates or performs all the service and inspections on these critical vehicles. He is always helpful and proactively reaches out to the team with good suggestions or ideas that could improve operations. Thank you, Jay!

Capital Improvements for Core Network

The current generation of technology in use by Concord Broadband is based on GPON technology – Gigabit Passive Optical Network. GPON technology revolutionized Fiber-To-The-Home service in the early 2000s, but now is nearly 20 years old. It allowed for download speeds of up to 2.5GB/s and 1.25GB/s of upload speeds. Each of these ports can handle a number of customers – typically 15-30, depending on the speeds provisioned.

In order to allow faster speeds for customers who want them and to allow for a higher density per port, Concord Broadband will be deploying a newer generation of PON ports that support 10GB/s synchronous data transfer. Fiber is incredibly costly to run, so transitions like this will save on long-term capital costs by allowing much higher densities per port.

Earlier this year, Concord Broadband has begun to offer new speed tiers of 500MB/s and 1GB/s, and several customers have already moved over to enjoy these faster speeds.

Flushing out these plans will help as we conduct capital planning for the next budget year, which starts on January 1, 2024. If there are any customers eager to increase their speeds today, please reach out to customer service at (978) 318-3101 or email us at broadband@concordma.gov.

Upcoming Maintenance

There was no scheduled maintenance in June, but we are anticipating a maintenance window coming in the next couple months. During a routine examination of network settings, we found there were a handful of changes that need to be made. While most are not service-impacting, there are a number of customers whose service will be degraded until a reboot of their ONT. We will schedule this maintenance and issue the command to reboot these ONTs during the maintenance window. We will try to provide at least a week's worth of notice, and any work scheduled will take place between 1-4am.

Multi-Dwelling Units (MDUs)

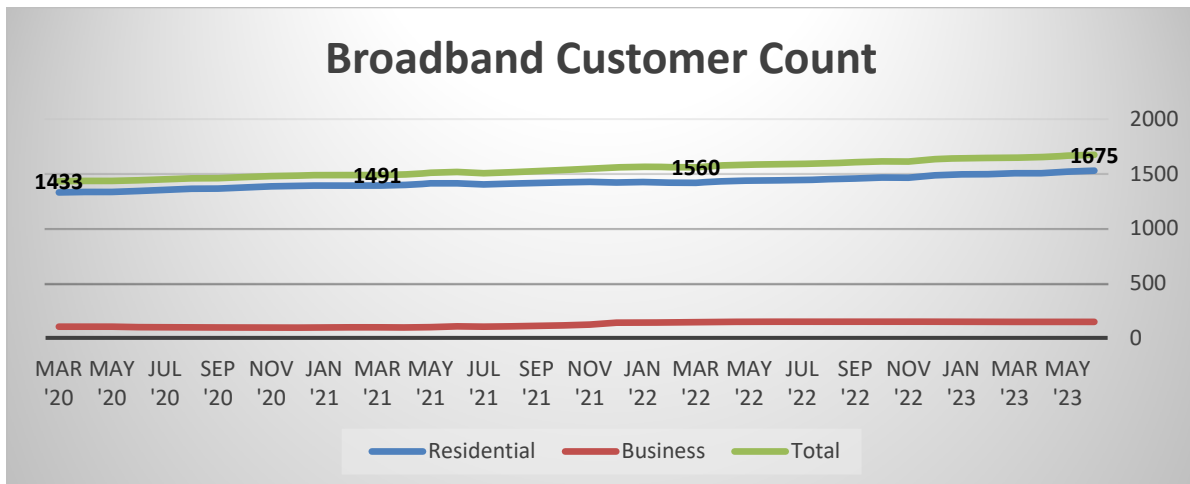
A discussion that arose frequently during the meetings held by the Fiber Broadband Completion Task Force centered on Concord’s Multi-Dwelling Units (MDUs). Concord has several MDUs, and none of them currently have fiber broadband available. Access to the buildings and available capital for these projects are the two primary barriers, but a systematic analysis had not been performed (at least not recently).

Over the past few months, Concord Broadband staff have begun this analysis and have put together a spreadsheet tracking different attributes associated with the project of extending the fiber to these. The goal would be a way to plan a gradual expansion into these territories with some sound logic behind the strategy. The attributes currently being tracked include:

- The location and number of buildings and occupants of each MDUs
- How many fibers were designed for the unit (and how many fibers per building and per household that would be)
- The path back to one our data centers
- Method to get to each building (aerial, underground, etc.)
- Notes about past efforts, conversations, or other barriers
- Management or board contacts for each building

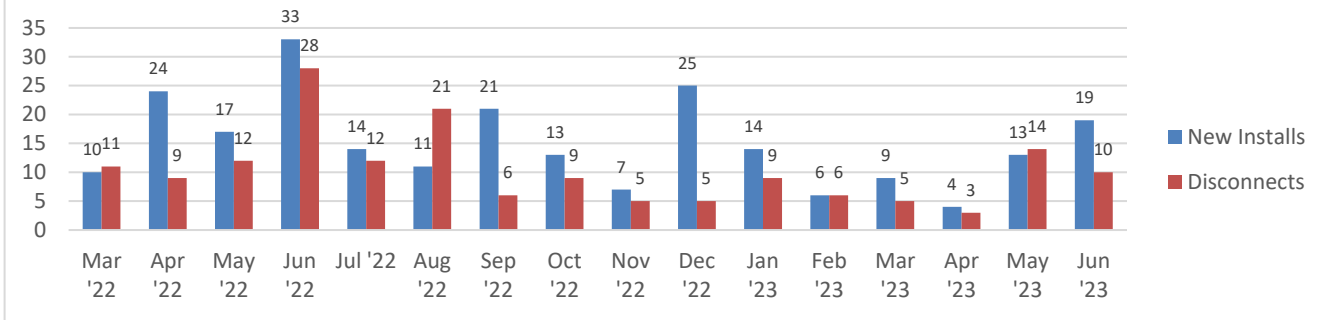
We have begun active conversations with Concord Greene to understand what a model would look like so we can marry this process to the capital planning that will take place in the coming months. It is our hope we can soon present our plan for reaching these MDUs soon.

Monthly Metrics and Business Data



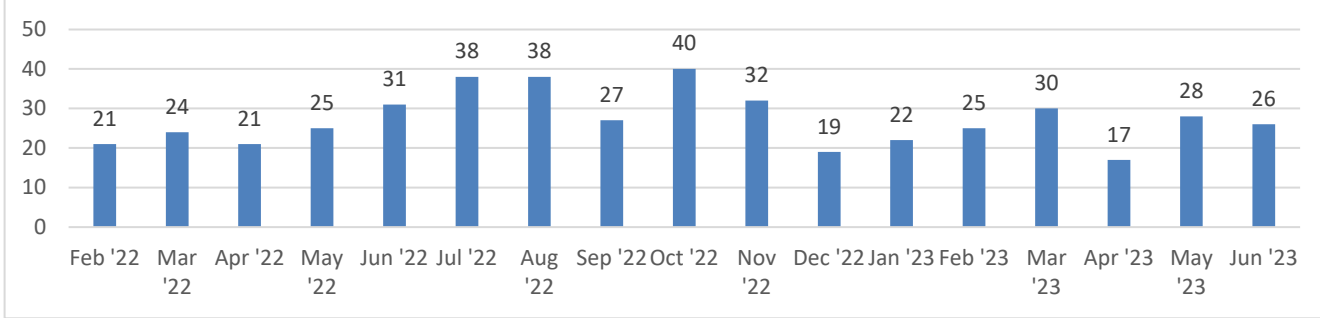
(Customer count: March 2020 – June 2023)

Monthly New Customer Installs and Disconnects



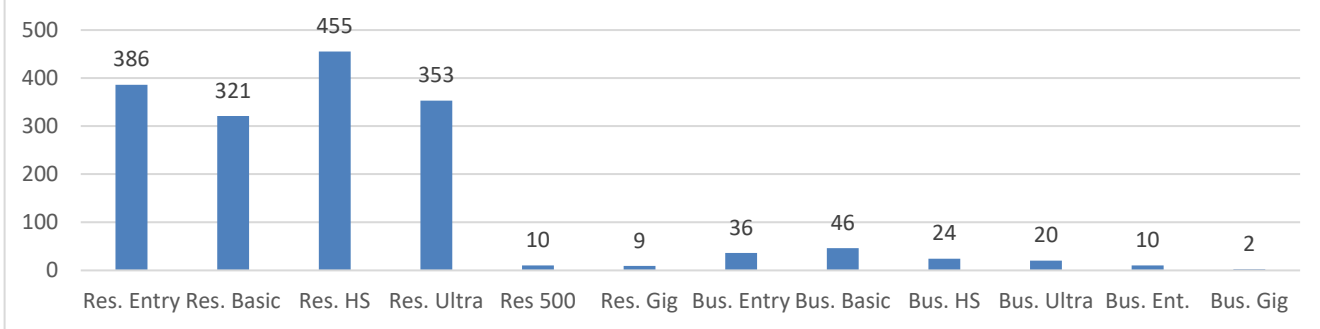
(The number of new installations and disconnects completed each month.)

Interested Customers by Month



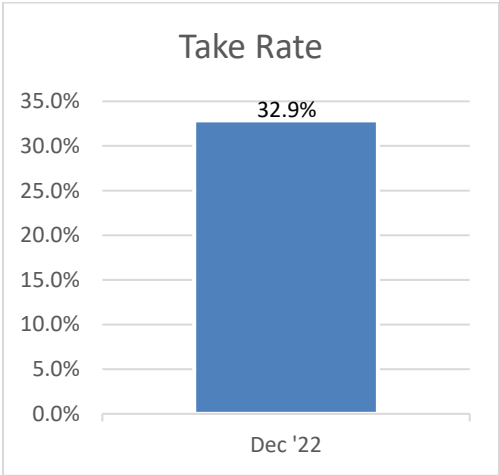
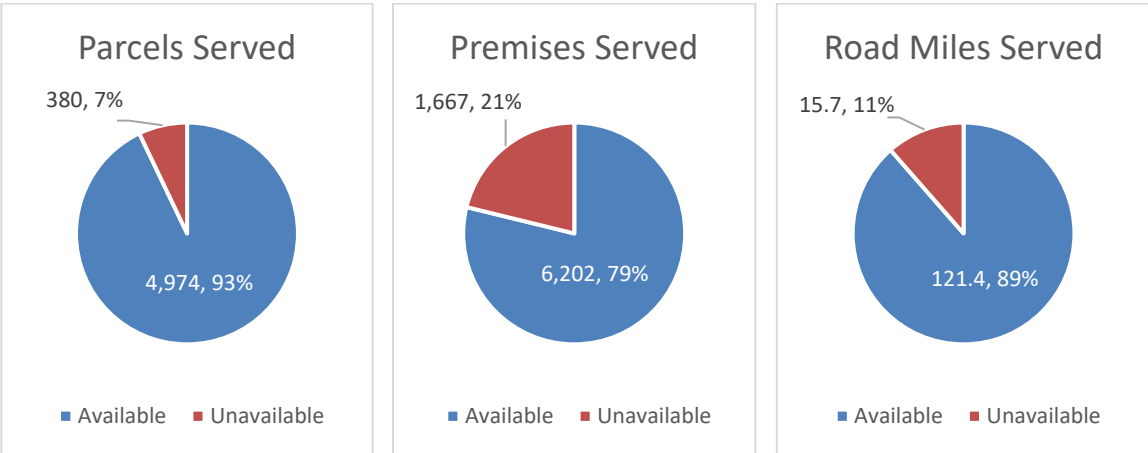
(This is the number of individuals who submit the Broadband interest form, whether they are in the current service area or not.)

Breakdown of Customers per Service Plan



(This is the number of each customer on our different service plans as of 6/30/2023.)

Quarterly Metrics



(As of 9/30/2022; updated numbers will come in a future update)

Appendix

Fiber Broadband Completion Task Force's Draft Report Goals

Goal	Type	Priority	Responsible Party	Additional Info.
Policies (p.39)				
• 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	Rate subsidy available
• Affordable Housing	Policy	Medium	Select Board/Housing Groups	Rate subsidy available
• Public Safety	Policy	Medium	Select Board/Town Manager	
• Education	Policy	Medium	Select Board/School Dept.	
• Government Access (PEG)	Policy	Medium	Select Board/PAAC	
Recommended metrics for tracking (p.41)				
• 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	Complete; will report quarterly
• Churn	Metric	High	Town Staff/Light Board	Complete; included in monthly report
• Installations	Metric	Highest	Town Staff/Light Board	Complete; will report monthly
Governance (p.39)				
• Track progress against completion	Metric	Highest	Light Board/Town Staff	Working on this; update expected soon
• 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.
Strategic Planning Goals (p.43)				
• Marketing and growth	Metric	High	Light Board/Town Staff	
• Business return	Policy	High	Light Board/Town Staff	
Budgeting Process for Fiber Expansion (p.41)				
• 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	Working on this
• Review/Confirm Internal Loan Findings	Finance	Highest	Financial Audit Comm/Staff	Complete
• Review and Rescind PILOF to MMN	Finance	High	Select Board/Town Manager	Complete
Capital Planning Process (p.42)				
• Review/Revise Debt financing schedule	Policy	Highest	Light Board/Town Staff	Working on this; update expected soon
• Quantifying cost of expansion	Planning	Medium	Town Staff	Working on this
• How to fund expansion	Planning	Medium	Light Board/Town Staff	
• Revise/refine methods for computing ROI	Planning	Medium	Light Board/Town Staff	
Construction and Logistics (p.42)				
• 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