



TOWN OF CONCORD MUNICIPAL UTILITIES

ELECTRIC | WATER | SEWER | TELECOMMUNICATIONS

July 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

Our new Network Engineer started on the last day of July but sadly left us two weeks later for a growth opportunity in the private sector. We have the job advertised again and are hopeful with the number of applicants we are seeing out there. The reality of the job market is that many network engineers are in high demand and can usually negotiate fully or mostly remote work. Our position requires regular attendance in the workplace, so our applicant pool is smaller. The private sector also routinely pays 15-50% more than we do, despite a restructured compensation plan, on-call pay, and other benefits not offered by the private sector.

It's time to complete our bi-yearly filing with the FCC, which includes a new rate survey. This filing is due on September 15, 2023. More information about all broadband submissions can be found here:

<https://www.fcc.gov/BroadbandData>

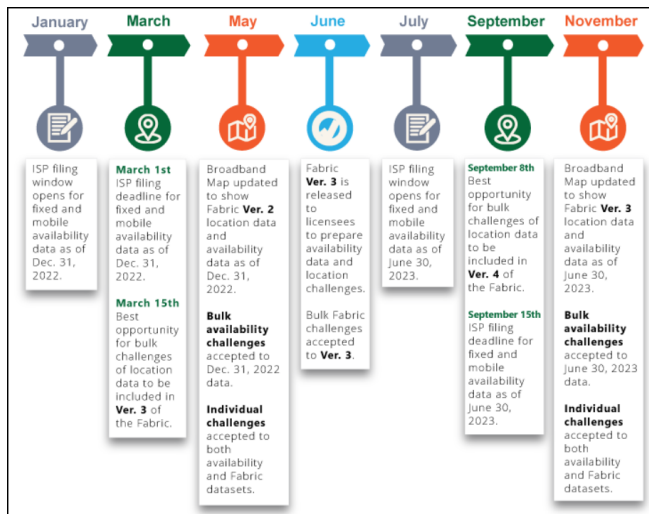


Figure 1: FCC timeline for new data capture

Steady uptake in faster speeds

In January of this year, Concord Broadband began offering faster speeds to customers. To date, 28 customers have taken advantage of these new plans, and it has kept operations competitive with other service providers.

So far, we have not had to take measures to alter hardware or initiate system design changes to achieve these faster speeds, but we are planning on rolling out new equipment in early 2024 that will be capable of at least 5 times the speed.

Upcoming Maintenance

There was no scheduled maintenance in July, 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.

It is possible to run a utilization report for customers to determine if they are good candidates for an upgrade. Those interested in such a service can email us at broadband@concordma.gov or call customer service at (978) 318-3101. There is no commitment required to receive such analysis.

Town Networking Upgrades

In addition to supporting customers, some Concord Broadband staff support the Town's fiber network. This connection of sites supports all Town connectivity, including public safety radio systems and other municipal functions.

We happen to be at the tail end of a rather large network upgrade that includes a topology change – the way that data flows from building to building – among the Town's 17 wired buildings. Hourly Technician time is billed to the Town and includes data center work, cabling, splicing and fiber tracing. Network Engineers and the Broadband Manager support the Town's Chief Technology Officer in overseeing and upgrading equipment and creating new and more resilient paths for data to flow.

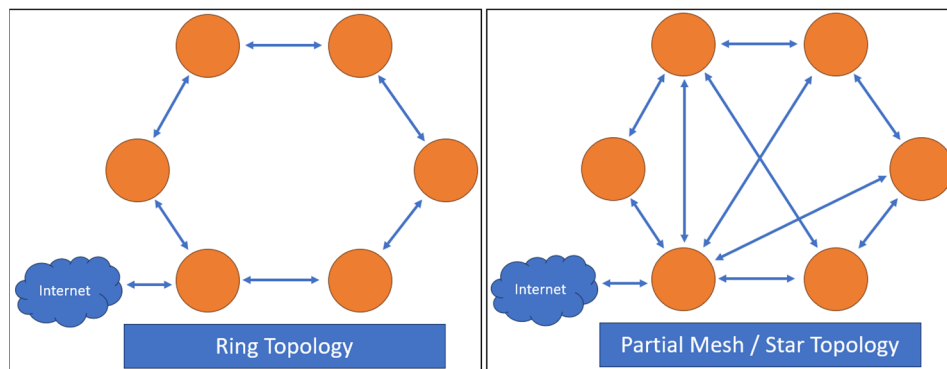


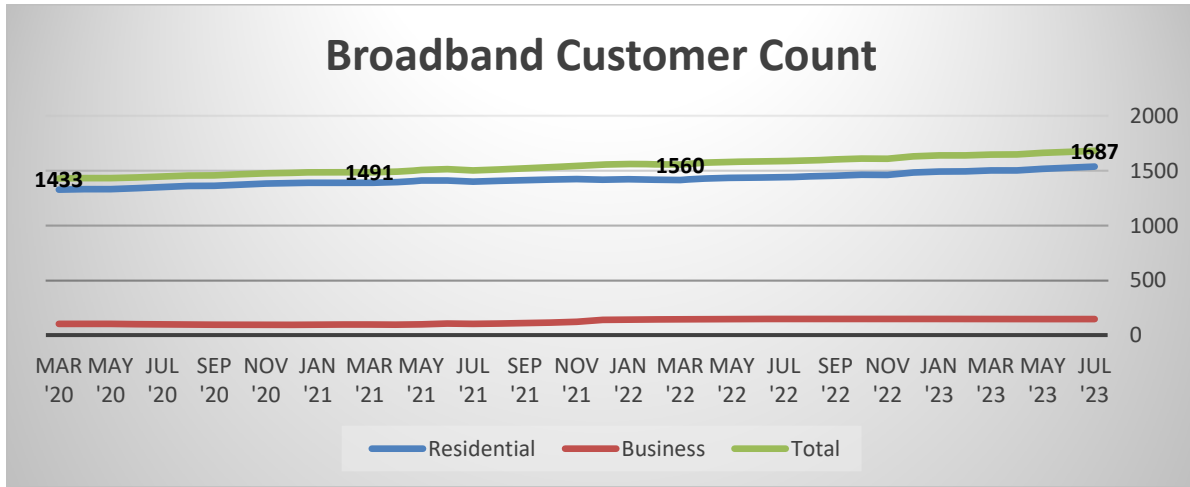
Figure 2: Current topology (left) and new topology (right)

As demonstrated by the current and new topologies, it is easy to see the two primary benefits: every location is just one hop from the location that has our internet connection, and every site has at minimum 3 methods to get to another location. This means that damaged fiber in multiple areas would not likely impact these primary sites' ability to connect to each other and the internet.

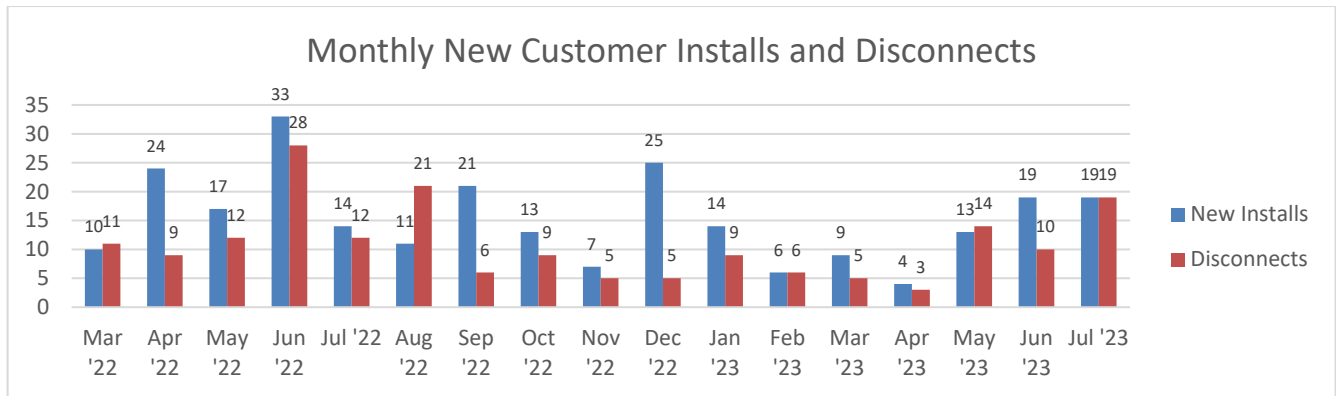
We are also taking advantage of this opportunity to clean up data centers, which includes installing new management switches and battery backups as well as re-cabling where necessary and utilizing cable management to ensure a cleaner look.

This project has been ongoing for quite a while, and we wish to thank the several staff members who have spent time working on it. We anticipate using the new design some time in September or October.

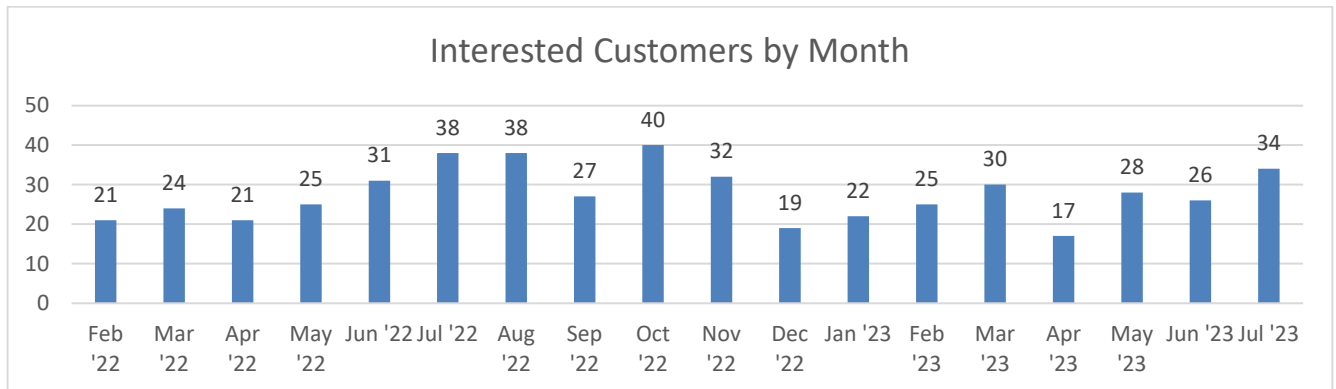
Monthly Metrics and Business Data



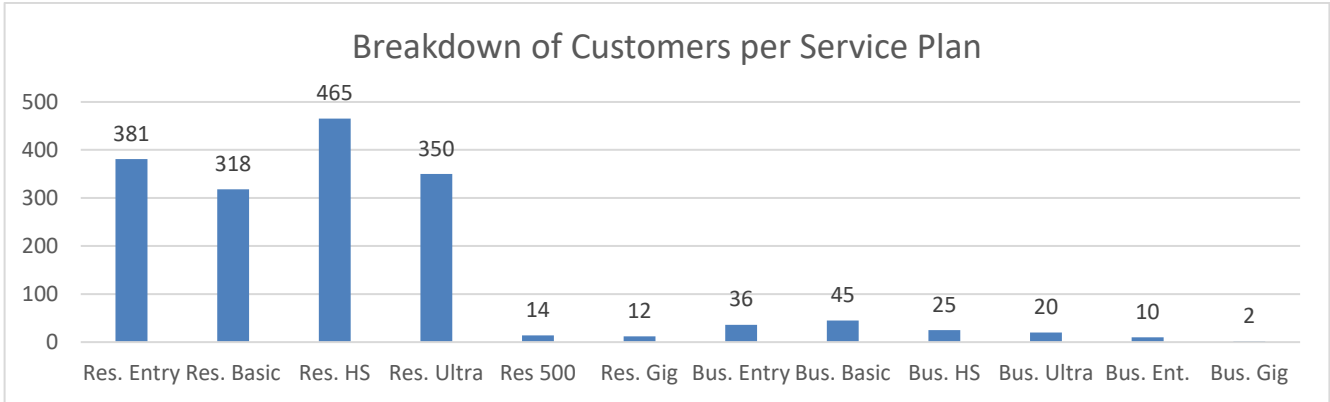
(Customer count: March 2020 – July 2023)



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

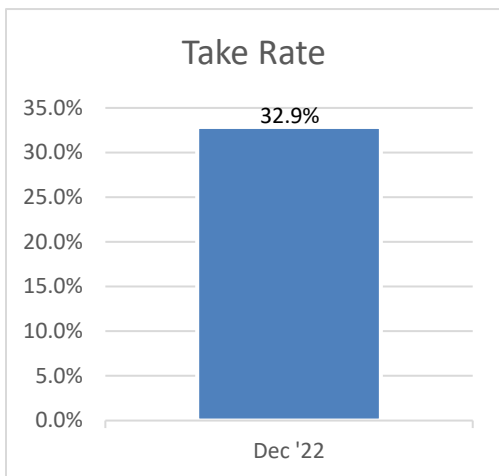
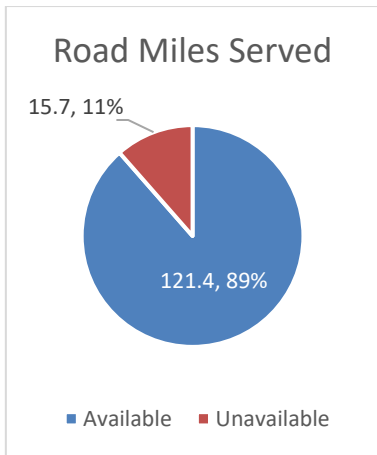
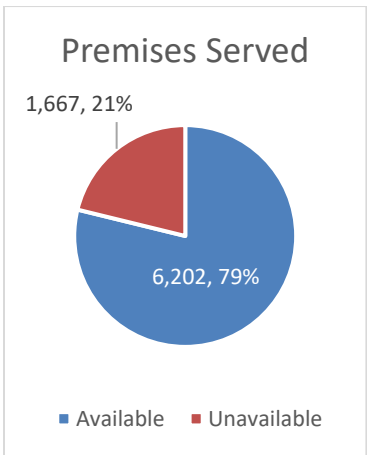
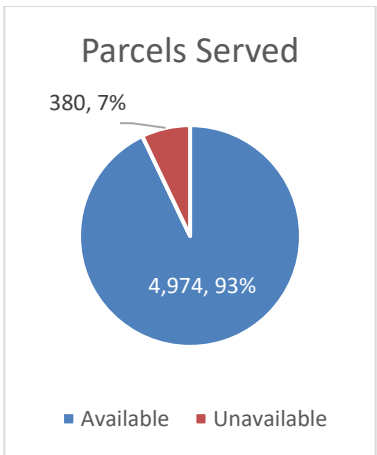


(This is the number of individuals who submit the Broadband interest form, whether they are in the current service area or not.)



(This is the number of each customer on our different service plans as of 7/31/2023.)

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