



# **Cybera White Paper: Impact of COVID-19 On Rural Internet In Alberta, And Necessary Next Steps**

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## **Abstract**

In response to the growing COVID-19 pandemic, on March 16, 2020, the Government of Alberta ordered the immediate cancellation of on-site classes at schools and universities in the province. Today, 741,802 K-12 students and 194,010 post-secondary students in Alberta are learning from home, and will likely continue to do so until at least the end of current school semesters.<sup>1 2</sup> A significant portion of the internet bandwidth used by these students (and their instructors) has now migrated from SuperNet and CyberaNet (which supply much of the internet connections to Alberta's educational institutions), to private internet plans on residential networks. Overall, global internet traffic increased 56% in March, and has remained at above-average levels since.<sup>3</sup>

In this white paper, we will outline the scope of the problem in Alberta based on data from Cybera's member base and the Research and Education Network usage statistics, as well as outreach conducted by Cybera with our K-12 and post-secondary community members, and Alberta's rural internet service providers. This white paper will demonstrate that a significant portion of the province's population are vulnerable to unaffordable overage charges and intermittent disconnections of service. We believe all levels of government must act now to mitigate the financial and social harms to Albertans.

The importance of connectivity will only increase as the pandemic continues. Canadians need high-speed internet at affordable rates in order to work or learn from home, contribute to the economy, and interact with essential public health and government services.

## **Scope of the Problem – Residential Networks**

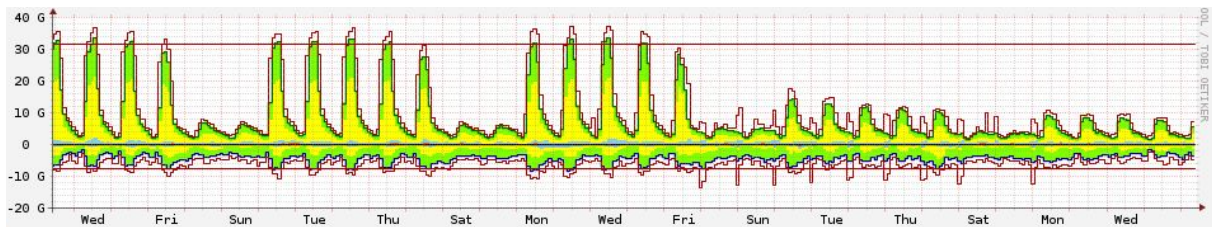
Cybera provides 52 K-12 school districts and 26 post-secondary institutions in Alberta with high-bandwidth access to the National Research and Education Network (NREN). This represents 76% of the province's K-12 students, and 100% of its post-secondary students and researchers. Since the physical closure of most Alberta educational facilities in mid-March, Cybera has observed a sudden and significant drop in its network traffic, as outlined below.

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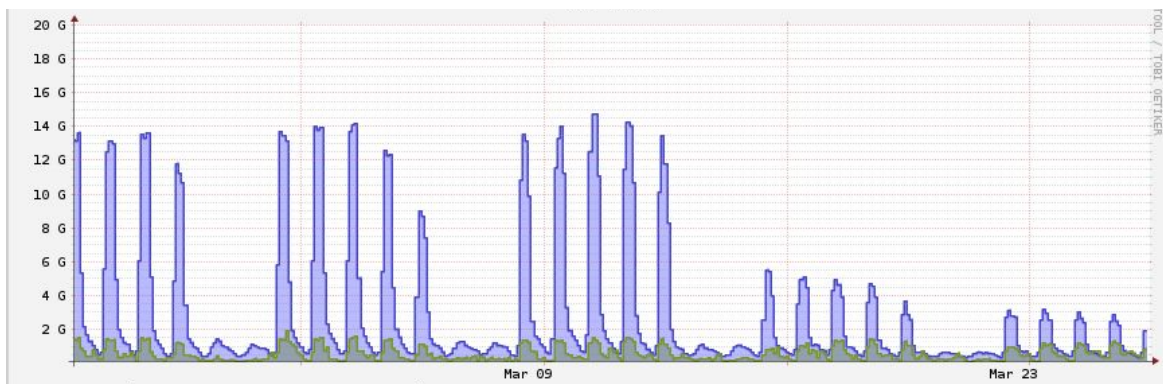
<sup>1</sup> <https://www.alberta.ca/student-population-statistics.aspx>

<sup>2</sup> <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710001801>

<sup>3</sup> <https://thelogic.co/news/rogers-and-videotron-suspend-data-limits-on-all-internet-plans-in-response-to-covid-19-teleworking-surge/>



Cybera network usage graphic for post-secondary traffic shows a major drop starting mid-March



Cybera network usage graphic for K-12 traffic shows a major drop starting mid-March

This drop has amounted to a 30-40% reduction in bandwidth usage in schools and universities. Current NREN traffic across the country shows a similar pattern, with bandwidth usage slightly lower than that experienced during holiday weeks, including summer and Christmas. Meanwhile, in Cybera’s discussions with Alberta ISPs, peak network traffic has increased 30-60% for some providers since mid-March, highlighting the shift from public networks to private and residential networks.

The largest ISPs in Alberta – Bell, Telus, Rogers and Shaw – have announced temporary suspensions on data caps on home internet plans in response to the COVID-19 crisis. However, Cybera finds that there is significant misconception about the scope and duration of these suspensions among many rural residents.

Roughly 16.5% of Albertans live in rural areas where the data cap suspensions and big telco offers do not necessarily apply.<sup>4</sup> This is because they live in an area where these providers do not operate, or they are served by fixed-wireless internet plans, which most ISPs have yet to provide data cap suspensions on. Nationally, 26% of rural communities rely solely on fixed-wireless internet, with no access to broadband wireline service. Because of the infrastructure and delivery

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<https://open.alberta.ca/dataset/7d02c106-a55a-4f88-8253-4b4c81168e9f/resource/e435dd59-2dbd-4bf2-b5b6-3173d9bd6c39/download/2016-census-population-and-dwelling-counts.pdf>



setup of fixed-wireless internet, these plans tend to be slower, more expensive, and more limiting in terms of data caps. They are also the most likely to incur overage fees.<sup>5</sup>

In our discussions with rural Alberta ISPs, Cybera heard many providers say that traffic on mobile networks could not be managed without some form of price-based disincentive to limit use. Both MCSnet and Bell have made public announcements to this effect.<sup>6 7</sup>

In our discussions with rural Alberta residents – many of whom subscribe to fixed-wireless internet plans – they expressed significant concern that they would inevitably experience overage charges. They routinely experienced bill shock on their existing home internet plans *prior* to COVID-19, with extra charges running into the range of hundreds of dollars. **This problem long preceded the global pandemic we are currently experiencing.**

## Recommendations for the Government of Alberta

Targeted Funding: Based on our discussions with ISPs, citizens, and stakeholders in the rural internet space, Cybera recommends that the Government of Alberta work quickly to ensure that those Albertans most vulnerable to these issues do not incur undue financial costs during this time. To do this, the government must leverage existing programs and infrastructure to address market gaps in rural internet access, both in the short and long term. In the short term, Cybera recommends that the Government of Alberta focus on the currently underserved areas of Alberta, particularly those dependent on mobile or fixed-wireless internet for their connectivity, and make funds available to close those gaps.

Work with Industry: The Government of Alberta should work with ISPs in Alberta – particularly those serving rural communities – to ensure that resources are available to fill gaps in existing home internet plans, and upgrade / build new network infrastructure (where possible). This can start with an assessment of where immediate investment would have the most impact. Communities dependent on wireless internet solutions are unlikely to receive relief in the form of suspensions on data caps or fee forgiveness on low-cost internet plans, as these offers do not apply to them. The Government of Alberta should ensure that such fee forgiveness or data cap suspension offers are made available to all Albertans. It can do this by incentivizing service providers to expand the number of Albertans who are eligible. Many of the initiatives that the larger industry players have implemented are positive, for example Shaw's decision to open its public WiFi hotspots to non-Shaw customers. The Government of Alberta should be working with smaller ISPs to make such actions feasible in underserved areas of the province.

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<sup>5</sup> <https://crtc.gc.ca/pubs/cmr2018-en.pdf>

<sup>6</sup> <https://mcsnet.ca/about/announcements/why-we-are-keeping-internet-limits-in-place/>

<sup>7</sup> <https://mobilesyrup.com/2020/03/19/bell-10gb-turbo-hub-turbo-stick-mifi/>



SuperNet: Cybera recommends that the Government of Alberta leverage the province's existing public infrastructure network (SuperNet) to expand network access to rural areas. This would require the government to expand funding and subsidies for "last mile" solutions in areas where public institutions are within reach of the public fibre backbone. Where possible, the province should be working with K-12 and post-secondary institutions to extend their existing on-site connectivity to WiFi spots serving outdoor and communal spaces. While some institutions have already done so, or are looking into the feasibility of this approach, many have said it would be difficult to implement because of structural or financial barriers. The provincial government may be able to help institutions address these barriers.

Long-Term: Currently, around 16% of Canadians do not have access to a home internet connection that meets the CRTC's "universal service objective" target of 50Mbps download and 10Mbps upload, with unlimited data transfer.<sup>8</sup> The COVID-19 related closures of businesses and institutions have highlighted the need to address these access gaps in Alberta. Where possible, the Government of Alberta should be taking a leadership role in filling these gaps, and ensure that networks are strengthened and built-out in areas where facilities-based competition has failed to deliver sufficient access. Cybera recommends that the Government of Alberta continue to develop a Provincial Broadband Strategy to identify gaps in connectivity in Alberta, and allocate resources to address those gaps. In our role as a technology-neutral, not-for-profit digital enabler, Cybera is able to advise the government on any of these next steps.

## Recommendations for Large Internet Service Providers

While the Government of Alberta should support ISPs in delivering connectivity to those in need, large service providers should institute practices to ensure that their subscribers aren't subjected to burdensome charges. In many cases, customers have not been made appropriately aware of changes to their plans, and have assumed that they were subject to data cap removals when, in fact, they were not. Large ISPs should ensure that as many of their subscribers as possible are included in data cap suspensions and, where this is not possible, that this information is made clear to their customers.

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<sup>8</sup> <https://crtc.gc.ca/eng/internet/internet.htm>