

Remote Rural Broadband Systems (RRBS)

The previous version of the *State of Alberta Digital Infrastructure Report* talked of one promising wireless technology, of limited scope, but that could offer some potential in rural and remote areas of Canada: television spectrum. Over-the-air television signals greatly decreased in value as more viewers switched to wired solutions via cable television or internet streaming services. This, combined with Canada's transition from analogue signals to digital signals for television broadcasts, made a good portion of the country's UHF reserved frequencies of little use, particularly in rural areas.

In the mid-2000s, Industry Canada began looking at re-allocating spectrum in the [512-608 MHz and 614-698 MHz](#) range (TV channels 21 to 51) to be used for Remote Rural Broadband Systems (RRBS). The ministry did not remove the spectrum's use for over-the-air television broadcasting, but wherever there was no conflict with such use, the spectrum was made available for fixed wireless data transmission.

Industry Canada (now Innovation, Science and Economic Development Canada, or ISED) considered licenses on a case-by-case basis. Essentially, an operator of RRBS could only use the spectrum far enough away from major urban centres where the frequencies may be in use by over the air television broadcasters. If at any time a television broadcaster wanted to use the allocated spectrum in an area where the RRBS operator was offering services, the operator had to defer its use of the spectrum to the broadcaster.

Despite all these constraints, there was still plenty of room for the deployment of RRBS, specifically in Alberta. Dr. Gregory Taylor, a spectrum policy researcher and professor at the University of Calgary, did a study on [RRBS adoption across Canada](#), which was published in February 2018. He determined that RRBS deployments were highest in Alberta: mainly in sparsely populated areas, and deployed largely by passionate, self-taught individuals. Nevertheless, issues arose that may lead to the demise of RRBS at some point in the future.

The most significant issue was that ISED was keen to consider repurposing the 600 MHz spectrum for mobile broadband services (and then did so), to follow similar models elsewhere in the world, notably in the United States. This had the potential to cripple some operations.

While a decision to repurpose the 600 MHz spectrum was made in 2015¹⁰⁹, it was not until 2019 that the spectrum was finally auctioned off¹¹⁰. Innovation, Science and Economic Development's website shows several places in Alberta that are still licensed to use spectrum in the 512-608 MHz range, located in rural areas that would not conflict with major urban centres or are near the U.S. border. So it appears possible that some RRBS operators are still utilizing this technology solution to deliver services in rural Alberta.

References

¹⁰⁹ISED. [Decision on Repurposing the 600 MHz Band](#). Accessed 10 March 2021.

¹¹⁰ISED. [600 MHz Auction — Final Results](#). 10 April 2019. Accessed 10 March 2021.