



COMITÉ POUR LES
SERVICES
SANS FIL DES
SOURDS DU
CANADA

Canadian
Association of the Deaf



Association
des Sourds du Canada



September 10, 2018

Mr. Claude Doucet
Secretary-General
Canadian Radio-television and Telecommunications Commission (CRTC)
Ottawa, ON KIA ON2

**RE: *Lower-cost data-only plans for mobile wireless services*, [Telecom Notice of Consultation 2018-98 – Requests for information](#)
CRTC reference: [1011-NOC2018-0098](#)**

DWCC et al acknowledges the CRTC's RFI question dated July 20, 2018 which reads as follows:

101. As stated in the [Notice](#), the Commission's view is that "if more options for lower-cost data-only plans were available in the market, consumers would be further empowered to use innovative applications, including voice and messaging applications, **through a combination of Wi-Fi access and cellular networks.**" (paragraph 7) (emphasis added).

In DWCC's intervention, it submitted that Deaf, Deaf-Blind and Hard of Hearing Canadians use data for everyday needs such as video communications and that 83% of respondents to its survey used video communications on their smartphones (such as FaceTime, Glide, and Skype).

Provide your view, with supporting rationale, as to whether a combination of Wi-Fi access and cellular networks would meet the needs of Canadians with disabilities, including those who use video applications to communicate, as well as way-finding and Global Positioning System.

Definitions

Hearing person - a person that has an audio-speaking ability or otherwise, can hear and speak

Response

DWCC et al is pleased to respond to the aforementioned RFI on the following bases / points (each expanded later in this document):

1. Deaf, Deaf-Blind and Hard of Hearing Canadians (**DDBHH**) Canadians must not be tethered to Wi-Fi connections – they must be able to use their wireless services anywhere, anytime and independently, just as their hearing counterparts may make cellphone calls through their voice plans in the same manner.

2. DDBHH Canadians depend on wireless services to download and upload data to engage in two way video communication and to obtain information. Hearing Canadians only need to download data (not upload) mostly for entertainment purposes.
3. Expecting DDBHH Canadians to “budget their data” by depending on Wi-Fi services is akin to expecting their hearing counterparts to make phone calls (using voice plans) only in certain geographical areas of Canada (ex: only in Ottawa but not in Toronto) or after certain times (as in after 6 PM). In other words, this expectation is existential, and puts limits on current DDBHH telecommunications access.
4. Public Wi-Fi services do not offer the same service quality, reliability and availability for video communications as wireless data plans. Only wireless service (not public Wi-Fi) offers DDBHH Canadians complete and unfettered access to the “outside world” just as voice plans offer their hearing counterparts complete and unfettered access to the “outside world.”
5. Public WiFi Internet service providers operate on asymmetric networks. That means the download bandwidth is disproportionate to the upload bandwidth. The more devices connected to the router, the higher the chance of connection interference thus affecting the speed. That is why DDBHH deal with pixelated video calling often from Public WiFi.

Ultimately, DWCC et al wants to emphasize is that Deaf, Deaf-Blind and Hard of Hearing Canadians (**DDBHH**) Canadians must have [functional equivalency](#) to hearing Canadians in their wireless telecommunications services.

FIRST POINT:

1. Deaf, Deaf-Blind and Hard of Hearing Canadians (**DDBHH**) Canadians must not be tethered to Wi-Fi connections – they must be able to use their wireless services anywhere, anytime and independently, just as their hearing counterparts may make cellphone calls through their voice plans in the same manner.

In the Wireless Code hearing, TNC 2016-293, the Commissioners queried DWCC et al and we wish to reference to that response to answer this RFI.

Ms. Nicole Marsh eloquently answered this question in DWCC et al's February 09, 2017 appearance before the Commission as part of its participation in the [CRTC TNC 2016-293 Review of the Wireless Code](#) proceeding. DDBHH Canadians must not be tethered to Wi-Fi connections – they must be able to use their wireless services anywhere and anytime just as their hearing counterparts may make cellphone calls through their voice plans anywhere and anytime.

The relevant [CRTC 2016-293 transcript](#) reads in part as (with the relevant parts highlighted for emphasis):

Transcript, Hearing February 9, 2017

Volume: 4

Location: Gatineau, Quebec

Date: February 9, 2017 © Copyright Reserved

4746 So I understand your unique dependence on video in terms of that. What I want to more fully understand in terms of data consumption is how different place of communication might be for people within your community.

4747 I mean, all of us with mobile devices are managing -- well, almost all of us anyway are managing our data. So, we use public Wi-Fi, right, when we have to make

calls or when we're in our home we're using our home Wi-Fi where it's obviously generally much easier to have an unlimited plan or more cost efficient where we can connect like that.

4748 So where is the -- so in the current environment, everyone in all communities is managing data, notwithstanding the fact that it is obviously a bigger issue for you folks. But is there anything that I'm missing here about the ability to, you know, be able to make those phone calls that you were talking about other than the inconvenience of being able to access public Wi-Fi areas or, you know, home unlimited plans, where is the big difference?

4749 MS. ANDERSON-KELLETT (by interpretation): Well, I'll explain the difference is that -- is video quality. Often, I find myself in a situation. I'll be in Starbucks, for example, and I would like to use the Wi-Fi that's available to make a call, but the call is blurry, it's not clear, and then I have to hang up, and then switch to LTE, and then it's clear, and that -- which means I'm using my data.

4750 It happens often. That's why it affects our data plan.

4751 MR. BEATTY (by interpretation): I'll never forget the year of 2012, when we had LTE. I had an iPhone 5 and built-in LTE, and we had previously been dependent on Wi-Fi, and we felt we were tied to our home or tied to areas that had provided Wi-Fi, and when you walked around you couldn't do anything.

4752 And when we got the new iPhone 5, and it had LTE, it was a positive experience for me. And I could make a video call, and I finally felt free, I felt like I could leave the house and I didn't have to be dependent on Wi-Fi and testing Wi-Fi in various locations.

4753 And so that day, I called my friend and said, hello, and my friend couldn't believe it. My friend asked, where are you, because you could see the mountains right behind. And they didn't want to look at me; they wanted to look at my surrounding area. They were shocked. They were surprised that it was available now and that we could make calls while we were out and about, and so that is in our access, anytime, anywhere.

4754 MS. MARSH (by interpretation): Yes, we can manage our data plans, and we can continue with that struggle in terms of trying -- dealing Wi-Fi connections, but please understand, then we're limited. We're on a leash, and we don't have the same freedom, and we can't go very far.

4755 You know, sometimes I feel like we're under house arrest or Starbucks arrest, depending on where you are. And we can't go very far to make a call that otherwise a hearing person could make.

4756 COMMISSIONER MENZIES: Thank you. I understand that.

SECOND POINT

2. DDBHH Canadians depend on wireless services to download and upload data to engage in two-way video communication and to obtain information. Hearing Canadians only need to download data (not upload) mostly for entertainment purposes. DWCC et al expands on this further below:

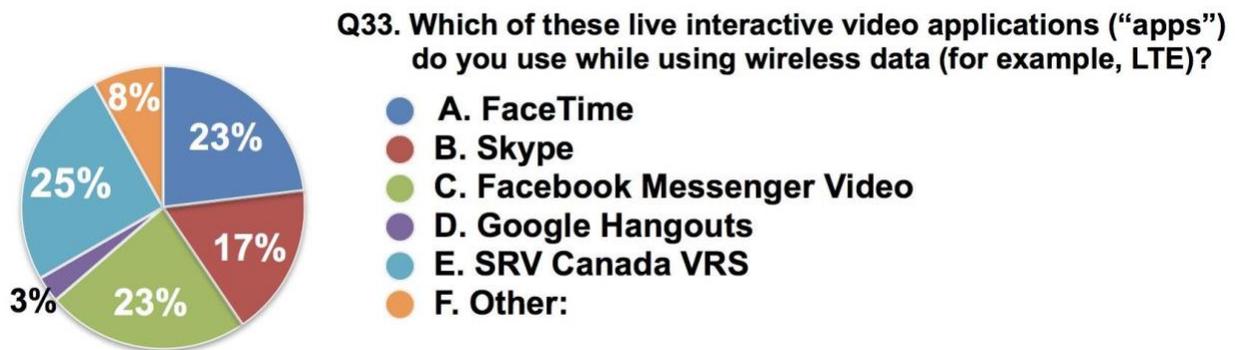
DDBHH use video for two purposes:

- 1) two-way video communication (with each other or using SRV Canada VRS which requires upload of videos or
- 2) downloading important videos that deliver news in ASL or LSQ

Video has a greater bandwidth, which accumulates bytes faster than audio does during a download/upload process that would lead to overage of the current data plans.

Two-way communication

As evidenced from DWCC et al's [survey](#) conducted for TNC 2018-98, DDBHH Canadians use wireless differently from their hearing counterparts. DDBHH Canadians use wireless services to communicate (through CAV's SRV Canada VRS, Facetime, Glide, Facebook Messenger, Marco Polo and similar videoconferencing applications) and for obtaining information (as in watching downloaded videos either with captions or in sign language).



Live interactive video apps that you use?	Total:
A. FaceTime	160
B. Skype	121
C. Facebook Messenger Video	160
D. Google Hangouts	21
E. SRV Canada VRS	175
F. Other:	56
	693

Videos delivering news in Sign Language

If you reference our [survey report](#), respondents showed a strong tendency to watch videos on their smartphones or tablets while using wireless services - 83%. There are several platforms now providing news reports with ASL/LSQ anchors streaming on their wireless devices and impacting data plans. These news outlets are: [The Daily Moth](#), [DTV News](#), [Sign 1 News](#). There is also [H3.TV](#) also providing news with International Sign that is just as popular.

Hearing Canadians use wireless services mostly for entertainment as in listening to downloaded music or watching downloaded videos. In this case, hearing Canadians only need to download (not upload) data for entertainment purposes.

Hearing Canadians send and receive voice calls and listen to music, or the radio to receive news. These people make less video calls than Deaf, Deaf-Blind and Hard of Hearing ASL and LSQ users.

ASL and LSQ users clearly require video communication to keep in contact with their family, friends, clients, and work colleagues. This is not for social purpose, but rather for the most optimal and natural mode of communication for sign language users.

THIRD POINT

3. Expecting DDBHH Canadians to “budget their data” by depending on Wi-Fi services is akin to expecting their hearing counterparts to make phone calls (using voice plans) only in certain geographical areas of Canada (ex: only in Ottawa but not in Toronto) or after certain times (as in after 6 PM). In other words, this expectation is existential, and puts limits on current DDBHH telecommunications access.

Currently in Canada, one advantage that hearing Canadians have is the unlimited voice offering for evenings (after 6PM) or weekends. DDBHH Canadians do not have an equivalent benefit to this, these customers are ‘left behind.’ There is no existing functional equivalence to this, for DDBHH Canadians as unlimited data would be. These voice offerings are much cheaper, and our accessibility group has no access or benefit to this as a cheap package equivalent.

Additionally, overall Hearing Canadians have the option to buy voice plans offering them unlimited voice plans where they may make voice calls “anytime and anywhere” and not limited to making phone calls after 6 PM. The equivalent concept for DDBHH Canadians is data plans “anytime and anywhere” by using wireless services without being “tethered to” or limited by Wi-Fi or by time. Of course, more data is consumed when using wireless data plans to communicate and gain information (as explained in the second point above).

Expecting DDBHH Canadians to “budget their data” by depending on Wi-Fi services is akin to expecting their hearing counterparts to make phone calls (using voice plans) only in certain geographical areas of Canada (ex: only in Ottawa but not in Toronto) or after certain times (ex: after 6 PM).

FOURTH POINT

4. Public Wi-Fi services do not offer the same service quality, reliability and availability for video communications as wireless data plans. Only wireless service (not public Wi-Fi) offers DDBHH Canadians complete and unfettered access to the “outside world” just as voice plans offer their hearing counterparts complete and unfettered access to the “outside world.”

The quality of video usage while utilizing Wi-Fi service in public spaces gets worse with increasing numbers of people sharing Wi-Fi service in the same physical space (ex: 25 patrons sharing the same Wi-Fi service at a particular Starbucks outlet). To be explicit, down/uploading

data would take longer and this severely impacts DDBHH Canadians' ability to communicate and obtain information in sign language and/or with captions.

Let's look at the customers of Starbucks scenario as an example, if there were 25 hearing patrons in the same Starbucks can and do confidently make voice phone calls with the same service quality as if they made the phone calls from their respective homes. Such deterioration in service quality is not seen in voice plans which work independently of data.

To clearly illustrate using the same Starbucks coffee shop example above, instead all the 25 customers are DDBHH with individual data plans in the same Starbucks **cannot** confidently up/download data with the same service quality as if they did the same thing from their respective homes. The same deterioration in service quality is not seen in data plans which also work independently from each other.

In shared public Wi-Fi spaces is where the barriers are created with the pixelation of multiple users using the same shared access point.

Ultimately, public Wi-Fi services do not offer the same service quality, reliability and availability as wireless data plans. Only wireless service (not public Wi-Fi) offers DDBHH Canadians complete and unfettered access to the "outside world" just as voice plans offer their hearing counterparts complete and unfettered access to the "outside world". A perfect example is illustrated by a respondent in our [survey for TNC 2015-134](#):

"My husband is Deaf and our preferred way to communicate with each other is American Sign Language. We use FaceTime when we're connected to Wi-Fi but when one of us is not in a Wi-Fi zone our data is sucked up. The FaceTime quality is so poor that we often have to connect and disconnect several times within a phone call. The video is blurry, pixelated and often freezes. Imagine being on the phone with your wife or husband and all you can here is fuzz and every 2nd word the person is saying with an insane lag time. That is EXACTLY what it is like for us, however, visually. Think of how many times you may call your wife or husband, just to remind them to pick up some milk on the way home from work, we don't have this luxury due to poor quality of video and expensive data plans." (Respondent #4360767305)

Public Wi-Fi sites are least preferred by DDBHH Canadians, and rather use wireless when out and about. If these customers had a choice between public and private (home) Wi-Fi, they would choose home Wi-Fi that they subscribe to, based on the fact that they can control the devices used and thereby the quality of video calling usage while on the internet.

Ultimately, DDBHH Canadians would like to see more upload and download symmetry with the allowable speeds, ie. a minimum of 10mbps, to meet their video calling needs.

FIFTH POINT

5. Public Wi-Fi Internet service providers operate on asymmetric networks. That means the download bandwidth is disproportionate to the upload bandwidth. The more devices connected to the router, the higher the chance of connection interference thus affecting the speed. That is why DDBHH deal with pixelated video calling often from Public WiFi. DWCC et al response:

Most Public Internet service providers may also get slower wireless performance from a router if you have dozens of wireless devices connected to the same access point. Wi-Fi is a radio technology, and the devices have to share the same broadcast frequency. The more devices

connected to the router, the higher the chance of connection interference thus affecting the speed.

Video has a greater bandwidth, which accumulates bytes faster than audio does during a download/upload process that would lead to overage of the current data plans.

Public Internet service providers operate on asymmetric networks. That means the download bandwidth is disproportionate to the upload bandwidth. That is common due to the vast amount of content typical users download and stream in comparison to the little amount of data that uploaded. They don't think of our 21st Century Video Calling that requires both Download and Upload speed symmetric to support. That is why we deal with pixelated video calling often because they are not symmetrical on both ends.

Public Internet service providers' internet connection need to be optimized for downloading. They will have much higher download speeds than upload speeds. That's what most people do: download a lot of stuff, and upload very little.

In all likelihood, the DDBHH person's video call is pixelated has poor upload performance, meaning Public Wi-Fi Internet have a lower-speed upload connection.

It should be noted that all Wi-Fi sites are not created equally, as illustrated in the table below courtesy, and found on page 14, [Canada's Internet Performance: National, Provincial, and Municipal Analysis - April 2016](#):

Spotlight on Ottawa		Download (Mbps)	Upload (Mbps)
Even within a large metropolitan area you can see that there is an urban/suburban/rural difference in download vs upload speeds that Canadians are getting.	Ottawa	22.53	10.19
	Orleans	17.95	3.66
	Nepean	17.17	5.95
	Kanata	18.31	6.02
	Stittsville	12.87	4.27
	Gloucester	20.07	10.08
	Manotick	7.1	1.83
	Greely	6.08	1.3

*Sample size for Manotick and Greely is very small (between 100-200)

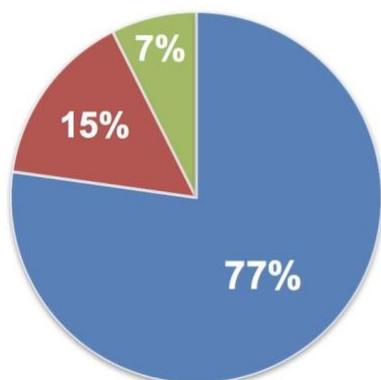
Other sources with good references are:

- 1 - [Does Sharing Make Wifi Slower?](#)
- 2 - [SamKnows Analysis of Broadband Performance in Canada - March & April 2016 - Key Performance Indicators \(KPI\) - Download Throughput](#)
- 3 - CIRA Internet Performance Test <https://cira.ca/cira-internet-performance-test-0>

Considerations

In Canada, the current unfortunate ramification of using video communications is the experience that DDBHH Canadians have when it comes to data plans, is that they experience worry or anxiety with calls over wireless services. DWCC et al captures respondents experience in the

survey report for TNC 2018-98 with 77% admitting that they experience worry or anxiety every time they make or receive a call due to the data plan limits they have on their wireless services.



Q37. Do you experience worry or anxiety every time you make or receive a call due to the cost of your data plan while using wireless services (for example, LTE)?

● **A. Yes**

● **B. No**

● **C. Additional comments on your experience:**

The number is staggering, and should be taken into consideration with the telecommunications regulations in Canada and all its players:

"Accessibility must be a first thought, not an afterthought"
~ Tom Wheeler, FCC (2015)

CONCLUSION

DWCC et al trusts this RFI response clearly explains why DDBHH Canadians does not believe that a combination of Wi-Fi access and cellular networks would completely meet the needs of Canadians with disabilities, including those who use video applications to communicate, as well as way-finding and Global Positioning System (GPS). There are a multitude of factors that impact video communications.

Instead, DWCC et al believes that wireless (where 10 GB for \$40, 15 GB for \$55 and 20 GB (unlimited) for \$70 data plans become a reality) is the way to go for DDBHH Canadians who use who use video applications to communicate and to obtain information either with captions or in sign language.

Erstwhile, nineteen months ago, the Top Five US wireless providers started providing unlimited data plans, and DWCC et al is waiting for the equivalent to happen in Canada, putting DDBHH on par with hearing people. Even if unlimited data was limited as available only to DDBHH Canadians, we will rest our case as this would mean functional equivalence.

As always, please feel free to contact any of the undersigned should you have any questions.

Sincerely yours,

Elliott Richman
Executive Director
Deafness Advocacy Association Nova Scotia

Lisa Anderson-Kellett, Chair
Deaf Wireless Canada
Consultative Committee
lisa@deafwireless.ca

Frank Folino, President
Canadian Association of the Deaf-
Association des Sourds du Canada
ffolino@cad.ca

Megan McHugh, President
Canadian National Society of the Deaf-Blind
Scotia
mchugh.mm@gmail.com

Elliott Richman, Executive Director
Deafness Advocacy Association Nova Scotia
daans@ns.sympatico.ca

cc: Nanao Kachi, Director, Social and Consumer Policy, CRTC
Philippe Kent
Jeremy Lendvay
Sylvie Labbe

Consumer Groups:

Tamir Israel, Canadian Internet Policy and Public Interest Clinic (CIPPIC)
Monica L. Auer, Forum for Research and Policy in Communications (FRPC) -
Legal Aid Manitoba
Anthony Tibbs, Media Access Canada (MAC)
Steve Anderson (Open Media)
John Lawford, Public Interest Advocacy Centre (PIAC)

Telecommunications Companies:

Bell Canada
Bragg Communications Incorporated, carrying on business as Eastlink (Eastlink)
Cogeco Connexion Inc. (Cogeco)
Ice Wireless
Northwestel Inc. (Northwestel)
Quebecor
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