

**Price Comparisons of
Wireline, Wireless and Internet Services in
Canada and with Foreign Jurisdictions**

2020 Edition

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Innovation, Science and
Economic Development Canada**

Wall Communications Inc.

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EXECUTIVE SUMMARY

This is the thirteenth (2020) edition of ISED's annual telecom services price comparison study. The purpose of this Study is to provide a detailed comparative price analysis of telecommunications services in Canada relative to the United States and six other countries. The individual service categories and related topics covered by the Study are:

- 1) Mobile Wireless;
- 2) Fixed Line Broadband Internet;
- 3) Mobile Wireless Internet; and
- 4) TSP Responses to COVID-19

For each individual service category, prices are measured for a series of defined "service baskets" which have been designed to reflect typical Canadian low to high telecom service usage levels and features. There are three to eight service baskets or "levels" defined for each service category. The lowest available advertised regular prices, as offered by the surveyed service providers included in the study, are used to measure the prices of each of the defined service baskets.

For Canada, the surveyed service providers include the incumbent telephone companies (e.g., Bell and TELUS), cable companies (e.g., Rogers, Shaw and Videotron), resellers (e.g., PC Mobile and Petro-Can), wholesale based competitors (e.g. Primus and Teksavvy), and regional wireless market providers (e.g., Freedom, SaskTel, Xplore Mobile, Videotron and EastLink). In addition, the largest Flanker brands (offered by the national mobile wireless providers or incumbent fixed broadband providers) are included and used for separate comparisons. Prices are measured in six metropolitan areas: Halifax, Montreal, Toronto, Winnipeg, Regina and Vancouver. Aggregate Canada-wide prices are determined on a weighted average basis.

For international comparison purposes, prices have also been measured using the same methodology for the same set of service baskets for seven other countries: Australia (Sydney), France (Paris), Germany (Berlin), Italy (Rome), Japan (Tokyo), the United Kingdom (London) and the United States (Boston, Kansas City, Minneapolis and Seattle).

Key changes to this year's Study include a major reformatting of the baskets in mobile wireless and expanding the number of levels in that service category to eight. The new basket definitions provide a greater degree of granularity in service plans as well as better capturing recent changes in service offerings (e.g.

higher end plans). For purposes of providing some limited historical comparability, we have also provided a spotlight section using the 2019 basket definitions for Canada. Fixed broadband service baskets have also been modestly extended with the number of baskets increased from six to seven. A special stand-alone review of Canadian MNO efforts in the face of the COVID-19 pandemic is also provided.

The highlights of this year's price comparison study update follow.

Mobile Wireless

The 2020 reformatting of mobile wireless baskets has eight service basket levels (increased and re-defined from the five previous baskets):

- **Level 1:** 450 voice minutes and 300 SMS (texts);
- **Level 2:** 1 GB of data usage per month (no talk or text);
- **Level 3:** unlimited nationwide talk and text along with 2-4 GB of data;
- **Level 4:** unlimited nationwide talk and text along with 5-6 GB of data;
- **Level 5:** unlimited nationwide talk and text along with 7-9 GB of data;
- **Level 6:** unlimited nationwide talk and text along with 10-19 GB of data;
- **Level 7:** unlimited nationwide talk and text along with 20-49 GB of data; and
- **Level 8:** unlimited nationwide talk and text along with 50+ GB of data.

Mobile Wireless Trends:

- *Domestic Trends:* Due to a major change in basket definitions, historical trends in mobile wireless are not possible with the new baskets. However some limited historical analysis can be conducted using Canadian data for the five historically defined baskets.

Using the previous (2019) basket definitions, the highest basket (L5 at 10-49 GB) was the only level to see a price increase in 2020 over 2019.

Baskets 1 to 4 all fell substantially, respectively by 19%, 27%, 28% and 23%. The Level 5 basket increased by almost 11%.

The eight new basket levels all displayed a noticeable degree of regional average price uniformity. Where exceptions to price uniformity occurred, they usually took place in either Quebec or Saskatchewan.

We note that the 2020 data for the “old basket” definition also displays similar average price uniformity across regions. From the older definition data we can also see that 2020 had a major shift from 2019 and 2018 where regional average price variability was common. In 2020, regional price uniformity was a significant development.

- *Regional Provider Prices:*¹

The prices of regional providers (Freedom, SaskTel, Xplore Mobile, Videotron and Eastlink) typically resulted in average Canadian prices well below the average national price of incumbents, varying from 6% to 14% lower. In Halifax, Eastlink's prices are higher than Bell's in most baskets. In a few other instances, regional provider prices were higher than or the same as the corresponding price offered by incumbents for some baskets (most notably in Saskatchewan and Manitoba).

We note that regional providers rarely provided a Level 8 (50 GB+) basket. Thus, the incumbents largely serve that segment of the market.

There was a considerable amount of price variability by the Regionals in most baskets (that is, the price offered by a regional provider for a given basket in its serving area could differ noticeably from the same basket price offered by the regional provider in another territory). By contrast, the incumbents displayed greater price uniformity across the country.

- *Incumbent Flanker Brand Prices:*²

Incumbent flanker brand prices were largely uniform across the country. Again (as was the case for the parent companies), where exceptions occurred, they primarily occurred in Quebec, with a few instances in Manitoba and Saskatchewan.

As has been the case previously, Flanker prices tend to be lower, in some cases significantly lower, than the Incumbents' prices. In baskets where both a flanker and an incumbent plan is offered, the average national Flanker price is between 8% and 24% lower than the average Incumbent national price.

Flanker prices do not show any clear trend with respect to regional provider prices – in some regions, and in some baskets, they are lower and at times higher. In L1 to L4 Flanker prices are most often lower than comparable Regional provider prices. In L5 to L8 there are roughly as many instances of higher prices as lower prices.

- *Reseller/Mobile Virtual Network Operator (MVNO) Prices*

¹ Includes SaskTel, Xplore Mobile, Eastlink, Freedom and Videotron.

² Includes Bell Virgin, Rogers Fido and TELUS Koodo.

Resellers tend to offer relatively few service baskets and their plans are typically at the lower end of the service spectrum. In the two baskets where both Resellers and incumbents offer plans (L1 and L3), the Reseller average price is higher in one basket (L3) and lower in the other (L1).

- *Market Observation:*

A regional provider – Freedom (L4, L5 and L6), Videotron (L3 and L7) or SaskTel (L2 and L8) - most often provides the lowest (or equal to the lowest) available price offered across the country. An incumbent provider most often offers the country's highest price in a given region. However, Eastlink has the highest available price in two of the eight baskets and SaskTel is highest in one basket.

In most regions, customers can usually find at least one service offering in a basket that is considerably lower than the national average price.

- *International Comparison:*

Canada, Germany and Japan tend to have the highest prices internationally. Japan has the highest price in a majority of the baskets. The US, which has in the past been part of the higher-priced grouping, has moved out of the top three – replaced essentially by Germany. One or more of the other European countries (UK, France, Italy) and Australia tend to have the lowest prices in each basket.

Average Canadian mobile wireless prices are the second highest in 4 of 7 baskets and in the middle to the higher part of the range in 3 baskets.

- *Canada – U.S. Roaming Rates:*

Canadian service providers typically offer daily rates for roaming (voice and text, data included as per a customer's domestic plan allows). For the incumbents, the rate is \$8 a day with a maximum monthly limit of \$120 for Rogers and TELUS and a \$160 maximum for Bell.

Among Regional providers, Freedom offers the lowest daily rate of \$5 while Videotron charges \$7 per day. Freedom has no maximum monthly while Videotron caps its monthly charge at \$70. Eastlink charges \$8 per day, with no ceiling.

US service providers generally provide no-charge US-Canada roaming in many of their service plans.³ These plans begin at prices from \$50 to \$70

³ The US provider plans also include no-charge roaming to Mexico.

– and of course include domestic elements of voice, text and data (in some cases, unlimited domestic voice, text and data).

Fixed Broadband Internet

Seven broadband Internet service baskets are included in the study, which are primarily defined on the basis of download speed:

- Level 1: speeds of 3-9 Mbps;
- Level 2: speeds of 10 to 15 Mbps;
- Level 3: speeds of 16 to 40 Mbps;
- Level 4: speeds of 41 to 100 Mbps;
- Level 5: speeds of 101 to 250 Mbps;
- Level 6: speeds of 251 to 500 Mbps; and
- Level 7: speeds greater than 500 Mbps.⁴

Trends in fixed broadband service:

- *Domestic Trends:*

While Canadian fixed broadband prices in all baskets experienced substantial price drops between 2019 and 2018, they moved up in every basket in 2020. The highest increase of 12% occurred in L3 (16–40 Mbps) while L5 (101–250 Mbps) only increased by roughly 1%.

- *Regional Trends:*

In a trend that mirrors the mobile wireless segment, average regional prices tended towards uniformity in 2020. That is the spread between the lowest and highest regional average price has shrunk in all baskets.

Montreal displayed the lowest average regional price in 4 of 7 baskets. Toronto had the highest price in 3 baskets.

- *Wholesale-based Competitor (WBC) and Flanker Brand Prices:*⁵

In almost every basket where incumbents and WBCs offer a service plan, the WBC has the lower price. WBC prices are between 5% and 18% lower. The one exception is in the highest basket (L7) where WBC prices are almost 18% higher.

⁴ We note that in 28 of the total 31 observations in this category (domestic and international combined) the advertised download speed was 1 Gbps.

⁵ Includes Primus and Teksavvy.

Fixed broadband Flankers have recently emerged in the Canadian market, currently operating in both Quebec and Ontario. In Quebec Bell has offered a Virgin fixed broadband service since 2016 while Videotron introduced Fizz in 2019. The Virgin service targets lower level plans (L1 to L4) while Fizz offers plans in L2 to L5. Fizz plan prices are typically as low as or lower than all other service providers.

In Ontario both Bell (Virgin) and Rogers (Fido) offer a fixed broadband service. Virgin offers plans in L1, L3 and L4 while Fido has plans in L3, L4 and L5. Prices from both Fido and Virgin are similar to the prices from WBCs.

- *International Comparison:*

The offering of lower level (e.g. L1 and L2) fixed broadband plans appears to be gradually diminishing over time. At the high end, almost every country now has at least one provider with a 1 Gbps plan. The data from Italian provider websites indicates that the surveyed service providers have all adopted a pricing model of a single price with customers receiving the highest speed physically available at their location.

There are few if any discernible international trends in fixed broadband pricing. We do note that the US has followed a downward price trend over the last few years. Other countries (including Canada) have more mixed results although all countries except Canada and Japan have lower prices in 2020 versus 2019 in a majority of baskets.⁶

Canadian prices perform reasonably well compared to other countries in L1 and L2. Canadian prices in higher-level baskets tend to be higher than those in most other countries (with the exception of the US).

Mobile Internet

Three mobile Internet service baskets are included in the study. Level 1 covers plans providing 2 to 5 GB, Level 2 covers plans providing 5 to 10 GB and Level 3 covers plans providing greater than 10 GB of data usage per month.

- *Domestic Trends:*

Canadian mobile Internet prices increased in each of the three baskets, continuing a three year trend for L1, a four year trend for L2 and a five year trend for L3. Mobile Internet prices, unlike mobile wireless and fixed

⁶ Italy also appears to have higher prices but it should be noted that in 2020 they have adopted a “single-price” model - that price is charged no matter what speed is provided.

broadband, have exhibited a great deal of uniformity across regions over the last several years. Prices in Regina have been the exception (for L2 and L3), being significantly lower than other regions (e.g. a 2020 price of \$60 versus prices in the \$80s in other regions).

- *Regionals' Pricing:*

Prices charged by regional providers are much lower than incumbent average prices. On a national basis, regional provider prices were 48%, 31% and 28% lower than incumbent prices for L1, L2 and L3 respectively.

- *International Comparison:*

Canadian mobile Internet prices remain high relative to other surveyed countries in all baskets, lower only than Japan. US prices took a large drop in every basket compared to 2019. Prices in Japan, while still the highest among surveyed countries, have also been falling over the last three years.

TSP Responses to COVID-19

- *Measures Responding to COVID-19:*

The sudden spread of COVID-19 across the country (beginning substantively in February 2020) brought enormous challenges to telecom service providers and their customers. Those challenges continue today.

To a very large extent, network service providers were able to quickly adjust to meet the unprecedented and unexpected demand on both fixed and mobile networks. Measures taken by network operators to minimize disruption and ensure sufficient capacity included expedited network roll-outs and upgrades, new monitoring, planning and control systems and heightened maintenance schedules. The service providers response to ensure network operability in the face of extreme sudden demand was, by all accounts, highly successful.

All providers took several steps to better protect their work forces and the customers they serve. These measures included wide-scale closure of retail outlets, enhanced self-installation options and easier return and repair arrangements.

Most, if not all, service providers also made significant contributions (financial, in-kind or other support) to community organizations struggling under the damaging effects of COVID-19. Organizations that benefitted included the Red Cross, Community Food Banks, Canadian Mental Health

Association, Kids Help Phone, Big Brothers Big Sisters and Women’s Shelters Canada.

Most telecom service providers undertook measures to ease the financial hardship issues of their customers. Key measures were 1) the waiving of certain wireless fees; 2) the lifting of data caps (for non-unlimited plans); and 3) flexible payment plans for those suffering payment problems due to COVID. All these measures were direct and substantive efforts to assist customer COVID-related financial hardship.⁷

Some providers also undertook additional “financial-hardship” responses (e.g. no disconnects, credits to customers in need). A brief summary of individual company measures is provided in Attachment 4. In summary, there were several substantive “financial relief” programs available from Canadian telecom service providers as the pandemic took root in Canada.

We would note that many of the financial relief measures taken by Canadian service providers ended (in most cases) on or before June 30, 2020. Although the financial hardship of Canadians extended past June 2020 (and continues into 2021), we note that there has been considerably less “financial-hardship” response by TSPs in the period since June.

While recent measures have been more limited, there are examples of some service providers offering financial hardship measures post June 30th, including elimination of data overage charges during the holiday period, provisioning of free phones and data plans to women experiencing abuse during COVID-19 (as well as other specific customer groups potentially suffering hardship during the period) and the offering of financial relief on a case-by-case basis.

Summary Data Tables

The following table provides a summary of the 2020 price comparison results for Canada and the seven surveyed foreign jurisdictions included in the study. All reported prices for the surveyed foreign jurisdictions exclude sales taxes and are expressed in purchasing power parity (PPP) adjusted Canadian dollars.

Summary of International Price Comparisons 2020 Average Monthly Price in PPP adjusted \$CDN

⁷ While individual provider websites provide information on specific COVID responses, the CWTA (*op. cit.*) has a comprehensive listing of responses.

Canadian and International Price Comparisons – 2020 Update

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
Wireless Service								
Level 1 (Talk and Text)	\$30.63	\$48.65	n/a	\$23.74	\$12.63	n/a	n/a	\$30.70
Level 2 (1 GB)	\$31.81	\$26.95	n/a	n/a	n/a	n/a	n/a	\$35.06
Level 3 (2-4 GB data)	\$45.31	\$39.08	\$24.88	\$23.27	\$33.31	\$28.38	\$43.61	\$73.60
Level 4 (5-6 GB data)	\$51.20	\$43.52	n/a	\$25.73	\$28.41	n/a	\$54.43	\$88.46
Level 5 (7-9 GB data)	\$61.65	\$64.47	\$24.88	\$17.56	n/a	n/a	\$67.49	\$100.96
Level 6 (10-19 GB data)	\$74.57	\$61.56	\$32.93	\$22.15	\$44.71	n/a	\$82.66	\$78.89
Level 7 (20-49 GB data)	\$91.04	n/a	\$41.60	\$35.66	\$33.29	\$34.21	\$86.02	\$108.94
Broadband Service								
Level 1 (3-9 Mbps)	\$44.37	n/a	n/a	\$37.01	n/a	\$50.98	n/a	\$73.33
Level 2 (10-15 Mbps)	\$54.61	n/a	n/a	\$38.84	n/a	\$50.98	n/a	\$69.10
Level 3 (16-40 Mbps)	\$61.62	\$65.10	\$56.53	\$40.39	\$36.33	\$50.98	\$43.65	\$72.51
Level 4 (41-100Mbps)	\$77.18	\$72.80	\$78.28	\$49.23	n/a	\$50.98	\$53.01	\$66.83
Level 5 (100-249 Mbps)	\$83.95	\$86.98	n/a	\$75.30	n/a	\$50.98	\$64.85	\$82.70
Level 6 (250-500 Mbps)	\$97.16	\$97.63	n/a	\$84.08	\$39.51	\$50.98	n/a	\$77.13
Level 7 (500 Mbps+)	\$107.55	\$113.37	n/a	\$92.86	\$49.69	\$50.98	\$58.42	\$79.46
Mobile Internet								
Level 1 (2-5 GB)	\$42.63	\$28.48	\$10.96	\$18.56	n/a	n/a	\$21.83	\$59.57
Level 2 (5-10 GB)	\$66.10	\$52.90	\$16.10	\$21.97	\$24.98	n/a	\$30.08	\$69.54
Level 3 (10+ GB)	\$84.79	\$61.05	\$22.94	\$27.99	\$32.90	\$17.09	\$38.68	\$95.18

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The year over year price changes for each basket are provided below.

Summary of Canadian Prices 2020
Average Monthly Price \$CDN (and YOY)

	2020	2019	YoY% 2020/19
Wireless Service			
Level 1 (Talk and Text)	\$30.63	N/A	
Level 2 (1 GB)	\$31.82	N/A	
Level 3 (2-4 GB data)	\$45.30	N/A	
Level 4 (5-6 GB data)	\$51.21	N/A	
Level 5 (7-9 GB data)	\$61.65	N/A	
Level 6 (10-19 GB data)	\$74.57	N/A	
Level 7 (20-49 GB data)	\$91.04	N/A	
Level 8 (50+ GB data)	\$123.11	N/A	
Broadband Service			
Level 1 (3-9 Mbps)	\$44.37	\$35.98	23.30%
Level 2 (10-15 Mbps)	\$54.61	\$53.20	2.67%
Level 3 (16-40 Mbps)	\$61.62	\$55.20	11.63%
Level 4 (41-100Mbps)	\$77.18	\$72.01	7.18%
Level 5 (100-249 Mbps)	\$83.95	\$83.25	.85%

Canadian and International Price Comparisons – 2020 Update

Level 6 (250-500 Mbps)*	\$97.16	\$93.03	4.44%
Level 7 (500+ Mbps)	\$107.55		
Mobile Internet			
Level 1 (2-5 GB)	\$42.63	\$40.60	5.00%
Level 2 (5-10 GB)	\$66.10	\$64.04	3.22%
Level 3 (10+ GB)	\$84.79	\$82.99	2.17%

*Wall Communications Inc. 2020; *(2019 Broadband L6 was 250 – 400 Mbps)*

1.0 INTRODUCTION

This study provides a 2020 update of the previous annual telecommunications price comparison studies conducted since 2008.⁸

The consumer telecom service categories covered in this study include the following categories:⁹

- i) Mobile wireless telephony;
- ii) Fixed line broadband Internet; and
- iii) Mobile wireless Internet.

A series of service baskets reflecting different service usage and feature levels was established for each service category in the first Study of 2008. Consistency in category characteristics over time is sought to the extent possible. However, key market changes may lead to some category revisions. Service category revisions and additions have occurred in past years and are noted where relevant. In short, the Studies attempt to balance maintaining consistent categories over time (to allow for inter-temporal comparisons) while recognizing that key technological and market changes should be reflected in the prices being tracked.

The objective of these studies is to capture what a new customer would need to pay for chosen level – or target level within a basket range – of service. As such, the service range allows us to capture the non-uniform offerings of providers while still spanning the very wide variance in plans offered domestically and internationally. Moreover, this “consumer-centric” approach allows us to collect the lowest price available to a consumer for service within a well-defined series of ranges.

In the 2020 Study there has been a considerably alteration of the mobile wireless service baskets relative to past years. This change was prescribed due to the significant changes in market place offerings and consumer behaviour. A more complete description of basket changes is provided in the Methodology section. For the sake of providing a base for comparison relative to 2019 Canadian pricing, the 2020 Study includes a stand-alone section that utilizes the same baskets found in the 2019 Study.

⁸ Wall Communications Inc. prepared the studies from 2008 to 2015 while the 2016 and 2017 studies were prepared by Nordicity. Wall Communications Inc. conducted the 2018 and 2019 Telecom Price Comparison Studies.

⁹ The categories of wireline telephone services and bundled services have been examined in previous years but have not been included since the 2018 Study.

For Canada, the study provides a comparison of prices for each defined basket in each service category for the following cities: Halifax, Montreal, Toronto, Winnipeg, Regina and Vancouver. Service prices for Canada as a whole are derived as the weighted averages (according to market share and population weights) of the prices measured for each of the six surveyed cities. For mobile wireless and mobile Internet, the prices of national service providers (i.e. national MNOs), regional providers, flanker brands and resellers (MVNOs) are reported. For fixed broadband, prices from cable companies, telephone companies, flankers and wholesale-based competitors (WBCs) are reported.

The study also measures prices for the same set of service category baskets for Australia, France, Germany, Italy, Japan, the United Kingdom (U.K.) and the United States (U.S.). As a result, the study covers all G7 countries along with Australia. Major service providers in each country are surveyed. Service basket prices in these seven foreign jurisdictions are compared with those measured for Canada.

There are some notable modifications and additions to this year's Study¹⁰:

- i) As noted, there has been a significant revamping of the mobile wireless baskets – there are now 8 different baskets or levels of service;
- ii) Bell MTS is now simply identified as Bell (in Manitoba);
- iii) Xplore Mobile has been added into Manitoba;
- iv) Cost of handsets is not included in the primary mobile wireless data;
- v) A stand-alone section using the 2019 basket definitions for Canadian data is included;
- vi) An additional “higher speed” basket has been added into fixed broadband; and
- vii) A spotlight section examining service provider efforts during the COVID-19 pandemic has been added.

As was done in the 2019 Study, MVNO pricing and comparisons to incumbent and flanker pricing in Canada has been included. For fixed broadband, pricing from wholesale-based competitors (WBCs) has been gathered and is compared to incumbent and flanker brand pricing.

¹⁰ Some less significant additions and modifications also occur in the international data as companies merge, gain market prominence or otherwise alter their status relative to past years. These changes are noted in the following pages where appropriate.

2020 has been atypical for all industries, including the telecommunications industry, due to the global COVID-19 pandemic. This year we include a brief over-view of initiatives by Canadian telecom service providers to address some of the hardship and difficulties arising from the pandemic (Section 6).

We note that the construction of price indices is not an exact science and there are multiple methodologies that can be employed. However, the general data collection and indexing methodology used in all the annual Canadian Telecom Pricing Studies has been adopted by other agencies around the world (including the OECD) and provides a proven and useful snapshot of the listed prices available to consumers for various levels of telecom services.¹¹

The basic methodological philosophy adopted in this Study is to identify what a consumer would have to pay for that consumer's chosen level of service. Since the number of service options available to a consumer can be extremely large, we group service levels into ranges (or service baskets) and then identify the lowest cost plan from a given provider within that service level range.

In terms of layout, the next section of this report, Section 2, provides a brief review of the methodology used to measure and compare service basket prices, and describes in more detail all changes made in the 2020 study relative to last year's study. The remaining three sections of the report, Sections 3 through 5, provide Canadian and international price comparison results for mobile wireless, fixed broadband Internet and mobile Internet, respectively. A detailed summary of all service baskets and bundles included in the study is provided in Attachment 1. Historical domestic price levels for various services and baskets are provided in Attachment 2. International historical price series are provided in Attachment 3. A brief summary of telecom service provider initiatives to respond to the COVID-19 pandemic is provided in Attachment 4.

¹¹ We note that other telecom pricing Studies have different objectives, such as attempting to explain differences in Canadian versus international telecom prices using regression and/or related techniques. We encourage the pursuit of different objectives, perspectives and approaches to examining telecom pricing while recognizing the unique challenges that all methodologies face.

2.0 METHODOLOGY

2.1 Service Basket Design

As in previous studies, this study relies on the service basket-based price comparison methodology described in Wall Communications' 2008 methodology report.¹² Various modifications to the 2008 methodology have been made in successive studies primarily to reflect changes in service usage patterns or market characteristics over time.

The price comparison methodology used in this study is based on a "service basket" approach where separate telecom service baskets are defined on the basis of increasing "levels" of service usage, features and, where applicable, performance. A service basket typically has a range of plan characteristics or main elements designed to reflect an increasing quality – or value - of the plans within the basket. The number of defined service basket levels for each of the stand-alone telecom services considered in this study varies from three to eight in total:

- | | |
|---------------------------------------|-----------------------|
| i) Mobile Wireless: | Basket Levels 1 to 8 |
| ii) Broadband Internet Access: | Basket Levels 1 to 7 |
| iii) Mobile Internet Access: | Basket Levels 1 to 3. |

Each of the service baskets has been designed to reflect, as applicable, a range of service volumes or levels, that are generally intended to capture a broad range of typical Canadian consumer usage levels, including mid-level or an "average" consumption basket for a typical Canadian consumer.

The specific service elements included in each service basket are described in the following sections and the associated service elements and usage assumptions in each case are also summarized in Attachment 1.

2.2 Canadian Price Data Collection: Detailed Methodology

The Canadian price data included in the study has been collected from a variety of telecom service providers (TSPs), including incumbent telephone companies (i.e., Bell Aliant, Bell Canada and TELUS) and incumbent cable companies (i.e., Eastlink, Videotron, Rogers, Access and Shaw). Service prices from mobile wireless resellers Petro-Can and PC Mobile as well as wholesale-based competitors in fixed broadband (Primus and Teksavvy) are also collected for the

¹² Wall Communications Inc., *An Examination of Alternative Approaches for Conducting Price Comparisons of Wireline, Wireless and Internet Services in Canada and with Foreign Jurisdictions*, prepared for the CRTC and Industry Canada, 5 May 2008.

Study. In addition, mobile wireless services offered by regional wireless service providers Freedom, EastLink, Xplore Mobile, Videotron and SaskTel are also taken into account. In terms of geographic coverage, price data is collected for each of the following six Canadian cities: Halifax, Montreal, Toronto, Winnipeg, Regina and Vancouver. Table 1 provides a list of the surveyed Canadian service providers in this year's study broken out by city and by service basket.

**Table 1
Selected Canadian Cities and Service Providers**

City	Service Baskets	Service Providers
Halifax	Fixed Broadband Internet	Bell Aliant, Eastlink, Teksavvy and Primus
	Mobile Wireless	Bell, TELUS, Rogers, Eastlink, PC Mobile, Petro-Can, Incumbent Flanker Brands
Montreal	Fixed Broadband Internet	Bell, Videotron, Primus and Teksavvy
	Mobile Wireless	Bell, TELUS, Rogers, Primus, Videotron, PC Mobile, Petro-Can, Incumbent Flanker Brands
Toronto	Fixed Broadband Internet	Bell, Videotron, Primus and Teksavvy
	Mobile Wireless	Bell, TELUS, Rogers, Primus, Videotron, PC Mobile, Petro-Can, Incumbent Flanker Brands
Winnipeg	Fixed Broadband Internet	Bell, Videotron, Primus and Teksavvy
	Mobile Wireless	Bell, TELUS, Rogers, Primus, Videotron, PC Mobile, Petro-Can, Incumbent Flanker Brands
Regina	Fixed Broadband Internet	Bell, Videotron, Primus and Teksavvy
	Mobile Wireless	Bell, TELUS, Rogers, Primus, Videotron, PC Mobile, Petro-Can, Incumbent Flanker Brands
Vancouver	Fixed Broadband Internet	Bell, Videotron, Primus and Teksavvy
	Mobile Wireless	Bell, TELUS, Rogers, Primus, Videotron, PC Mobile, Petro-Can, Incumbent Flanker Brands

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City-specific prices for each of the stand-alone service baskets offered by the TSPs listed in Table 1 are determined using each service provider's respective estimated subscriber-based market share as weights.¹³ In addition, to determine Canada-wide market prices, city-specific prices are aggregated using corresponding city population levels as weights. Weighted average prices for

¹³ The estimated market shares are drawn from the most recent data available from the CRTC (the 2018 Communications Monitoring Report or CMR) supplemented by corporate reports and related documents. In the case of mobile wireless services, estimated market shares are province-specific; and in the case of residential broadband services the estimated market shares are national in scope. Mobile Internet market shares are based on mobile wireless market shares.

each surveyed city and for Canada are provided in Attachment 2 for each of the service baskets included in this study.

In addition, for the mobile wireless service baskets, services offered by the incumbents' flanker brand services – i.e., Bell Virgin, Rogers Fido and TELUS Koodo – are also taken into account. The incumbents' flanker brand service prices are included in the calculation of the above-noted city-specific and national aggregate prices.¹⁴ In Section 3.2 below, the incumbents' flanker brand prices are compared with incumbents' and regionals' mobile wireless prices as a separate analysis.

The price data collected for this study is drawn from the surveyed TSPs' websites and, where necessary, supplemented with further clarifications from customer service representatives (CSRs).¹⁵ The price data reflects currently advertised prices that are generally available to new customers or existing customers changing service plans. The lowest available currently advertised price is used to determine the total price of each service basket. For this purpose, regular or “basic” prices are used – short-term promotional discounts available to new customers are not taken into account.¹⁶

In a break with past studies, prices for baskets that include data no longer include the cost of a smartphone. For early years in the study, the (amortized or rental) price of a specified smartphone (such as an Apple iPhone 5 or 6) was typically included into the basket. More recently a non-standardized, lower cost smartphone has been utilized. The reasons for moving away from a standardized smartphone are numerous: the variety of smartphones today makes choosing a “standard” phone problematic, the sophistication of even low cost smartphones provides consumers with considerable functionality, and the supply of smartphones (from several manufacturers as well as including the resale market) has made the purchase price of smartphones with basic and in some cases advanced features drop to very low levels, rendering the leasing cost (explicit or implicit) relatively low.

In order to preserve some comparability between the 2019 and 2020 Canadian mobile wireless data, we have included a stand-alone section that uses the same baskets from 2019 and also includes the cost of the lowest priced available smartphone.

For the stand-alone section, we examine prices for plans that include a smartphone, prepaid plans and bring-your-own-device plans. Where a

¹⁴ Previous editions of the Study prior to 2018 did not include flanker prices in domestic averages.

¹⁵ The majority of 2020 Canadian price data was collected over the period September to November 2020.

¹⁶ Note that current advertised prices are not necessarily reflective of the average price levels paid by a service provider's customer base as a whole since a significant number of existing customers may be on pre-established or legacy service price plans.

smartphone is not included in a plan, we amortize the listed purchase price of a lower-cost smartphone over a 24 month period to derive a monthly device cost.

2.3 International Price Data Collection: Detailed Methodology

Seven foreign jurisdictions are included in the study: Australia, France, Germany, Italy, Japan, the U.K. and the U.S. With the exception of the U.S., in each case, price data was collected for the services available in each country's largest city. For the U.S., four cities of varying size distributed across that country were used – i.e., Boston, Kansas City, Minneapolis and Seattle. The service providers surveyed by country and, as applicable by city, are summarized in Table 2.¹⁷

Table 2
Selected Foreign Jurisdictions and Service Providers

City	Basket	Service Providers
United States Boston, MA	Broadband Internet Mobile Wireless Mobile Internet	Verizon, Comcast/Xfinity AT&T, Verizon, Sprint/T-Mobile AT&T, Verizon, Sprint/T-Mobile
Kansas City, MO	Broadband Internet Mobile Wireless Mobile Internet	AT&T, Time Warner AT&T, Verizon, Sprint/T-Mobile AT&T, Verizon, Sprint/T-Mobile
Minneapolis, MN	Broadband Internet Mobile Wireless Mobile Internet	CenturyLink, Comcast/Xfinity AT&T, Verizon, Sprint, T-Mobile AT&T, Verizon, Sprint/T-Mobile
Seattle, WA	Broadband Internet Mobile Wireless Mobile Internet	CenturyLink, Comcast/Xfinity AT&T, Verizon, Sprint/T-Mobile AT&T, Verizon, Sprint/T-Mobile
United Kingdom London	Broadband Internet Mobile Wireless Mobile Internet	BT, Virgin, EE, Talk Talk EE, Virgin, Vodafone, O2, “3” EE, Virgin, Vodafone, O2, “3”
Australia Sydney	Broadband Mobile Wireless/Internet	Telstra and Optus Telstra, Optus, Vodafone, Virgin
France Paris	Broadband Mobile Wireless/Internet	Orange (France Telecom), SFR (Neuf Cegetel) Orange, SFR, Free, Bouygues Telecom

¹⁷ The 2020 foreign jurisdiction price data was primarily collected in October/November 2020.

City	Basket	Service Providers
Germany Berlin	Broadband Internet Mobile Wireless/Internet	DT, KD/Vodafone DT, KD/Vodafone, Telefonica (E-plus, O2)
Italy Rome	Broadband Mobile Wireless/Internet	Telecom Italia, FastWeb Telecom Italia (TIM), Vodafone, WIND, “3”
Japan Tokyo	Broadband Internet Mobile Wireless/Internet	NTT, J:Com, KDDI, Yahoo! BB NTT DoCoMo, Softbank, au KDDI, Y!Mobile

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For international price comparison purposes, foreign currency prices have been converted to Canadian dollars using currency market exchange rates adjusted for purchasing power parity (PPP) differences between countries. For this study, the OECD’s latest available PPP comparative price level indexes for 2020 were used for this purpose.¹⁸

Canadian dollar-based price comparisons between Canada and other countries can be affected significantly by year-over-year currency exchange rate fluctuations. PPP-adjusted exchange rates take into account both changes in exchange rates and PPP adjustment factors between countries and, therefore, generally provide a more appropriate economic basis for comparing price levels between countries. For this reason, all of the international price comparison results shown in the main body of this report are based on PPP-adjusted exchange rate Canadian dollars.

It should be noted that fluctuations in both exchange rates and PPP adjustment factors could affect international price comparisons over time. This caveat is particularly relevant to inter-temporal comparisons given the significant changes in both exchange rates and PPP adjustment factors over the last decade.

As well, it should also be noted that service prices in the U.K., France, Germany, Italy, Australia and Japan are typically quoted inclusive of retail value added taxes (VAT) or goods and services taxes (GST). Where appropriate, we have excluded applicable VAT or GST charges to improve cross-country comparisons of service prices.¹⁹ On the other hand, where applicable, other industry-specific regulatory fees and surcharges are included for price comparison purposes (e.g., 9-1-1 fees, universal service fees and other regulatory fees).

¹⁸ See the OECD’s main economic indicators at: <https://data.oecd.org/conversion/purchasing-power-parities-ppp.htm#indicator-chart>.

¹⁹ The VAT rates in the U.K., France, Germany and Italy are 20%, 19.6%, 19% and 22%, respectively. The VAT rate in Japan increased from 5% to 8% as of 2014. The GST in Australia is 10%.

3.0 MOBILE WIRELESS SERVICE

3.1 Mobile Wireless Service Baskets

As in previous studies, the following mobile wireless service element charges, where applicable, are considered for price comparison purposes:

- i) Network access/airtime charges (taking into account defined amounts of daytime, evening and weekend minute volumes as appropriate);
- ii) Service feature charges as appropriate (e.g., voice mail, call display and others);
- iii) All mandatory fixed fees (e.g. system access, E911);
- iv) SIM charges as appropriate;
- v) Short message service (SMS) or text message charges; and
- vi) Data service charges.

As a general point, we note that several service elements have diminished in importance as service plan differentiators over the past ten years. These include distinctions in time of day or week minutes, optional features and long distance versus local minutes. On the other hand, data allotment has grown in prominence – in some cases being the key service characteristic that is marketed.

There are several notable charges or costs that are excluded from the calculation of mobile service prices in this study, including: certain one-time charges (such as waiveable activation fees) and roaming charges. Device or handset costs are also excluded (in a departure from previous years). Although roaming charges are not specifically included in monthly prices, a separate comparative analysis of Canadian and U.S. roaming charges is provided in Section 3.4 below.

Eight mobile wireless service baskets are included in the study (up from 5 baskets in previous years). Each basket consists of the following main elements:

- **Level 1:** 450 voice minutes and 300 SMS (texts);
- **Level 2:** 1 GB of data usage per month (no talk or text);

- **Level 3:** unlimited nationwide talk and text along with 2-4 GB of data;
- **Level 4:** unlimited nationwide talk and text along with 5-6 GB of data;
- **Level 5:** unlimited nationwide talk and text along with 7-9 GB of data;
- **Level 6:** unlimited nationwide talk and text along with 10-19 GB of data;
- **Level 7:** unlimited nationwide talk and text along with 20-49 GB of data; and
- **Level 8:** unlimited nationwide talk and text along with 50+ GB of data.

Attachment 1 provides a more detailed summary of each of the service elements and usage assumptions included in all eight mobile wireless service baskets.

Prices are measured for each of the mobile wireless service baskets based on a TSP's standard mobile service plan rates. Where applicable, both "pre-paid" and "post-paid" service options are considered. The less expensive of the two options is used to determine the service basket price.

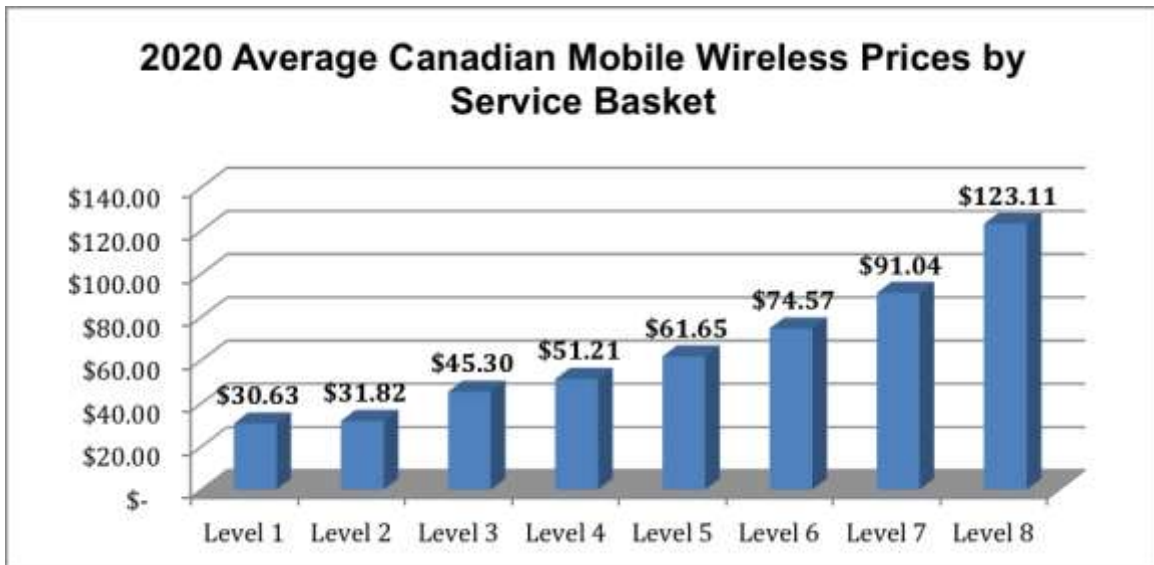
In the standalone section, five service basket levels (including handset costs) are considered for the Canadian mobile wireless service category:

- Level 1: 450 voice minutes and 300 SMS (texts);
- Level 2: 1,200 voice minutes, 300 texts and 1 GB of data usage per month;
- Level 3: unlimited nationwide talk and text along with 2 GB of data;
- Level 4: unlimited nationwide talk and text along with 5 GB of data; and
- Level 5: Shared plan with 3 phones lines and unlimited nationwide talk and text along with 10 to 49 GB of data.

3.2 Canadian Mobile Wireless Prices

Figure 1 provides a summary of 2020 Canadian prices for all eight mobile wireless service baskets. Weighted average prices range from \$30.63 per month for a Level 1 plan to \$123.11 per month for a Level 8 Canada-wide unlimited talk and text plan with 50 GB or more of data.

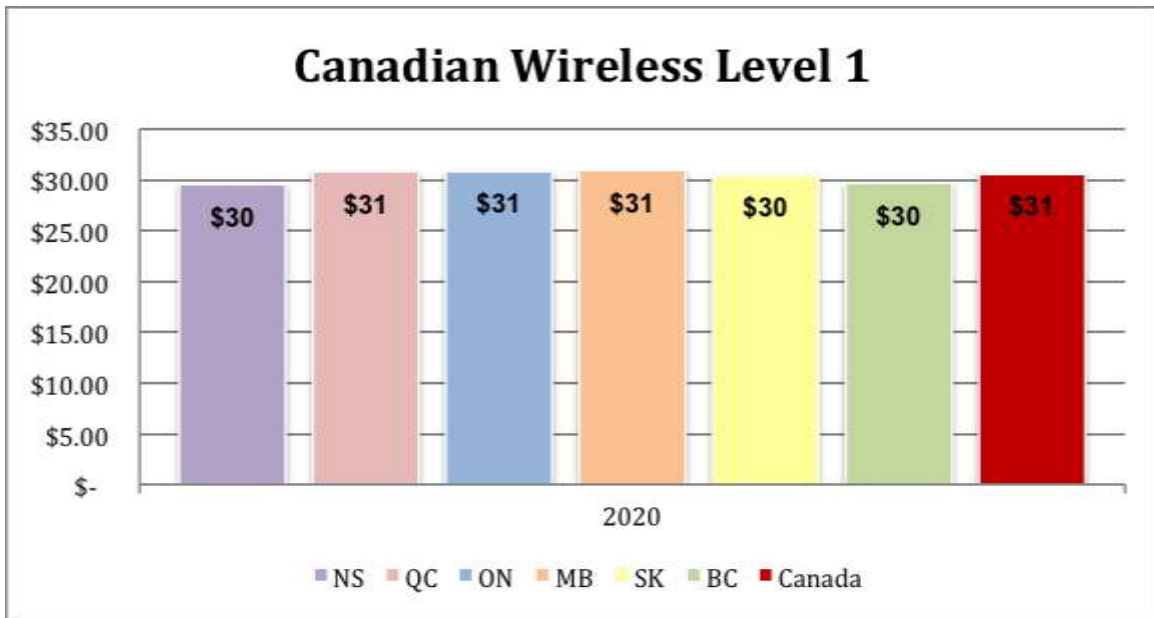
Figure 1



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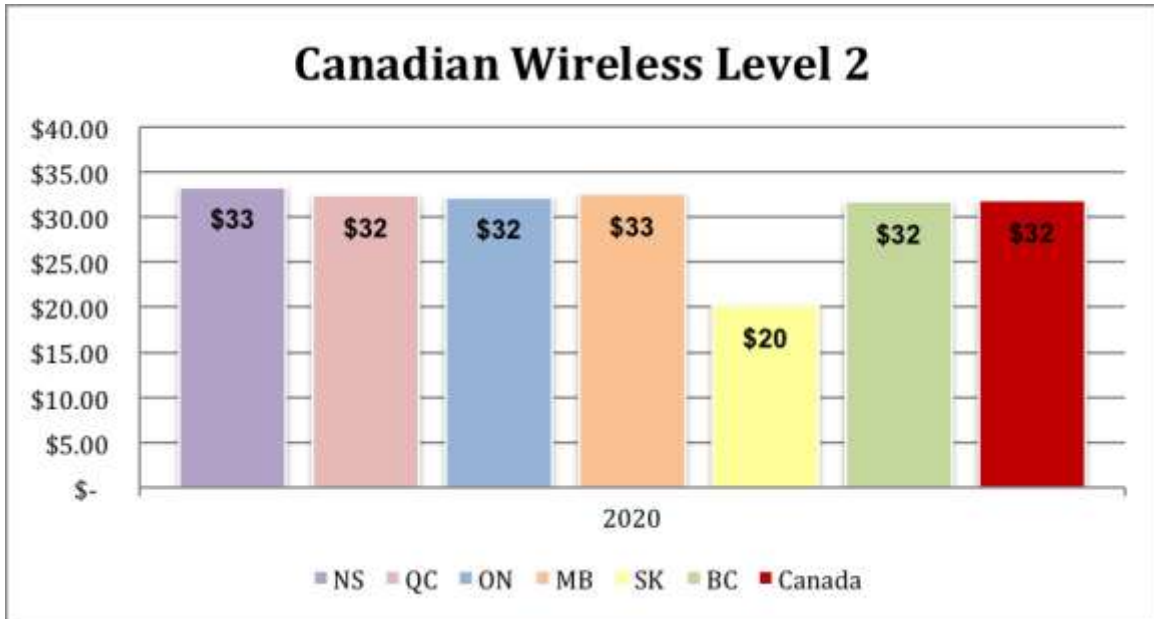
As noted, the significant revamping of service basket definitions this year makes direct comparisons with previous years' baskets inappropriate. A comparison with previous years using the older basket definitions is provided in Section 3.5.

- The Level 1 mobile wireless service basket price was \$30.63. Average 2020 Level 1 prices varied by city, from a low of \$29.59 in Halifax to a high of \$30.96 in Winnipeg. As such, average prices were very consistent across the country.



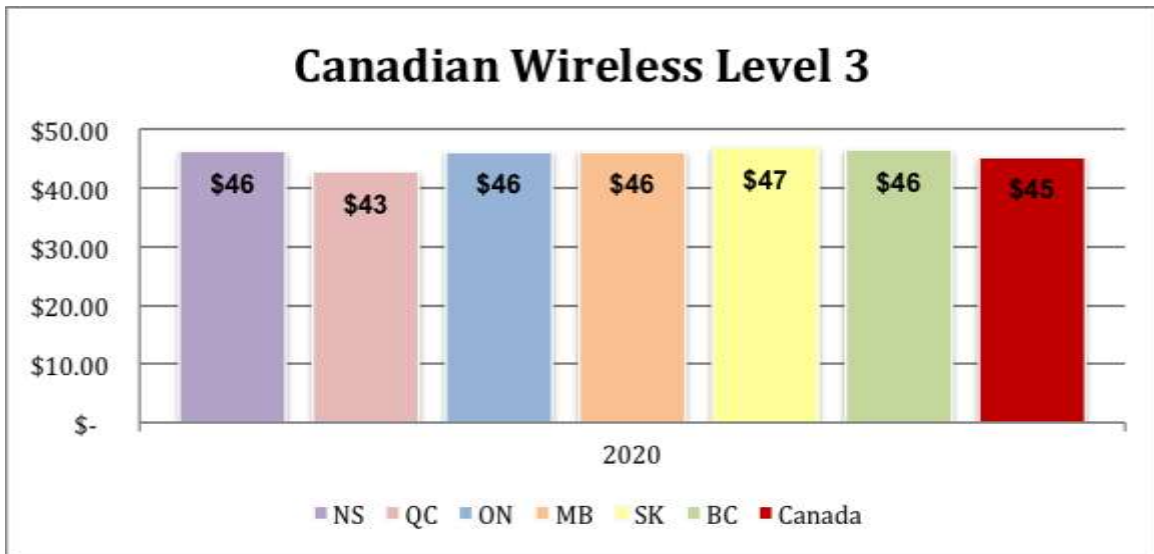
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- The Level 2 average Canadian price was \$31.82 – as the basket is defined, this is essentially the cost of purchasing 1 GB of stand alone data on a mobile wireless plan. While prices in most jurisdictions were around \$32 or \$33, the average price was \$20.21 in Regina, in large part due to a \$15 plan from SaskTel.



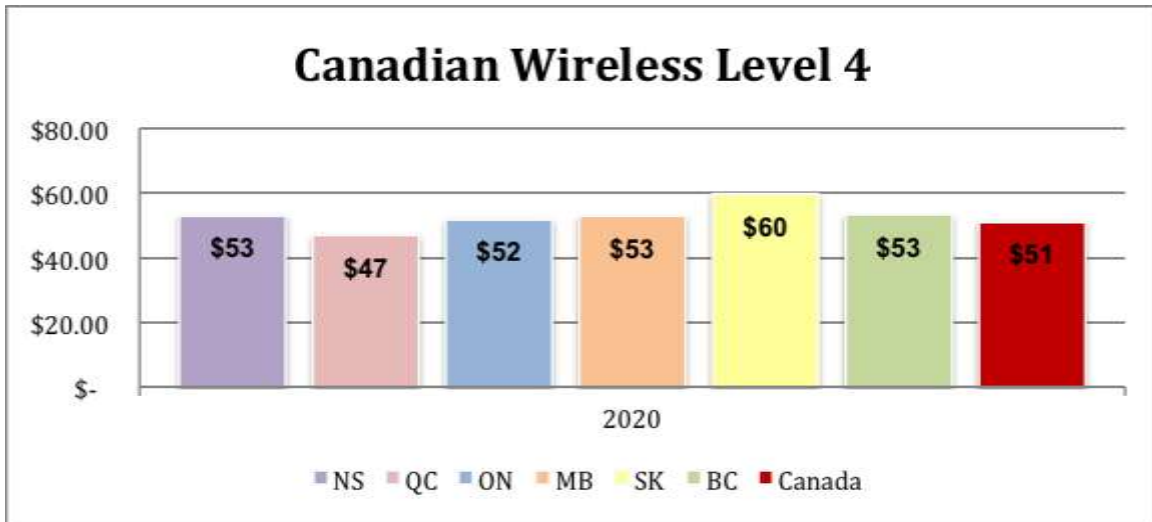
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- The Level 3 service basket average price was \$45.30. Again, prices across the country were relatively uniform, with a low of \$42.74 in Montreal to a high of \$46.85 in Regina.



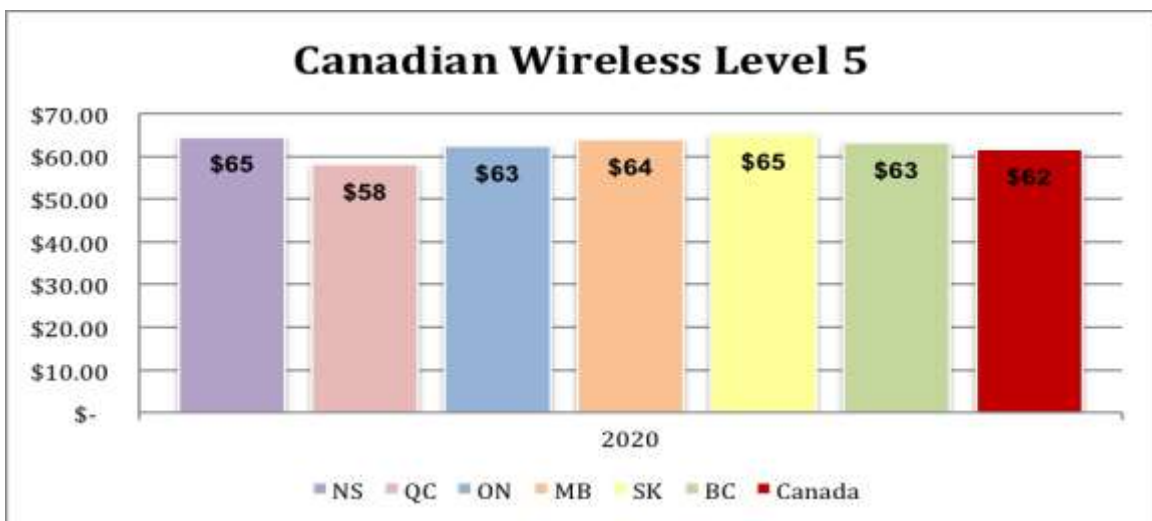
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- The Level 4 service basket prices were more varied across the country, from a low of \$46.92 in Montreal to a high of \$59.83 in Regina.



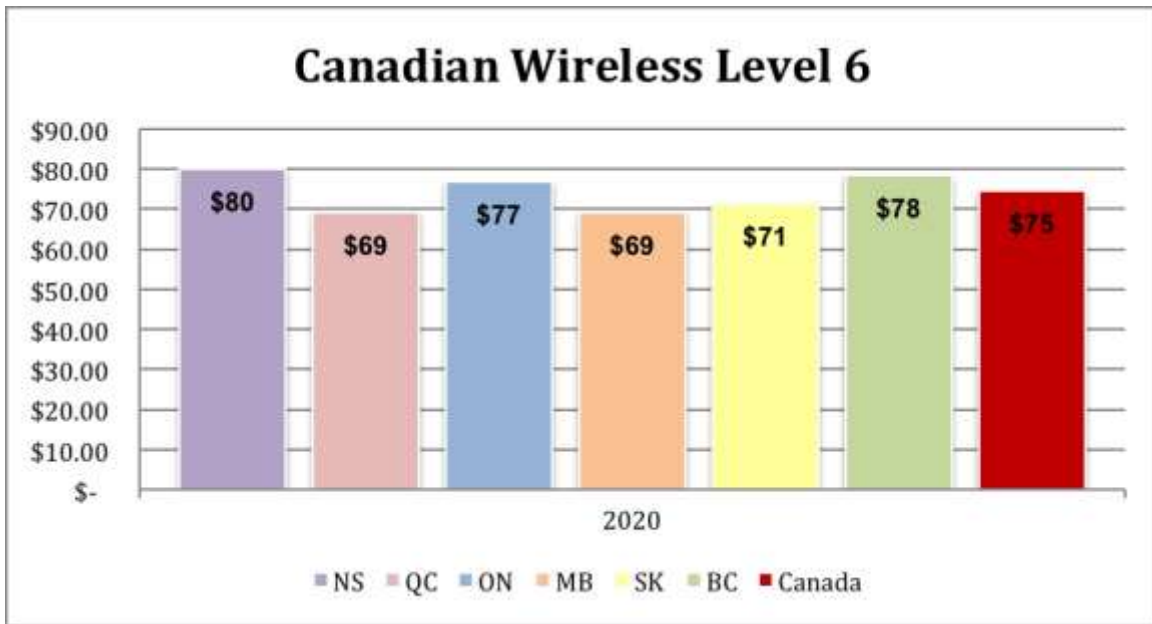
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- Level 5 prices varied from \$58.07 in Montreal to \$65.20 in Regina. The national average price was \$61.65.



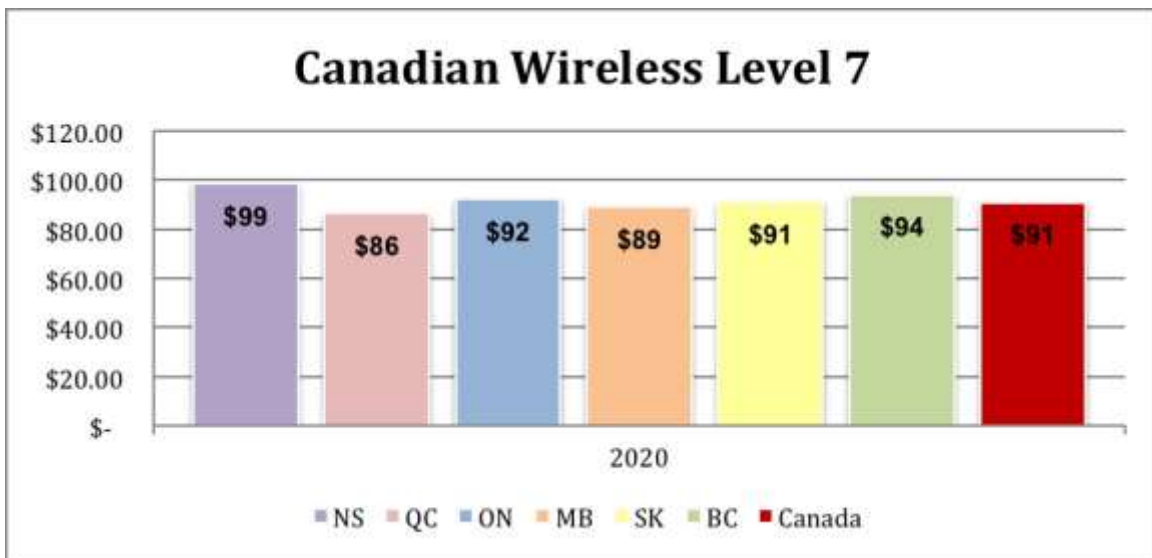
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- Level 6 prices were highest in Halifax (\$80.12) and lowest in Montreal and Winnipeg (\$69.15 and \$69.21 respectively). The average national price was \$74.57.



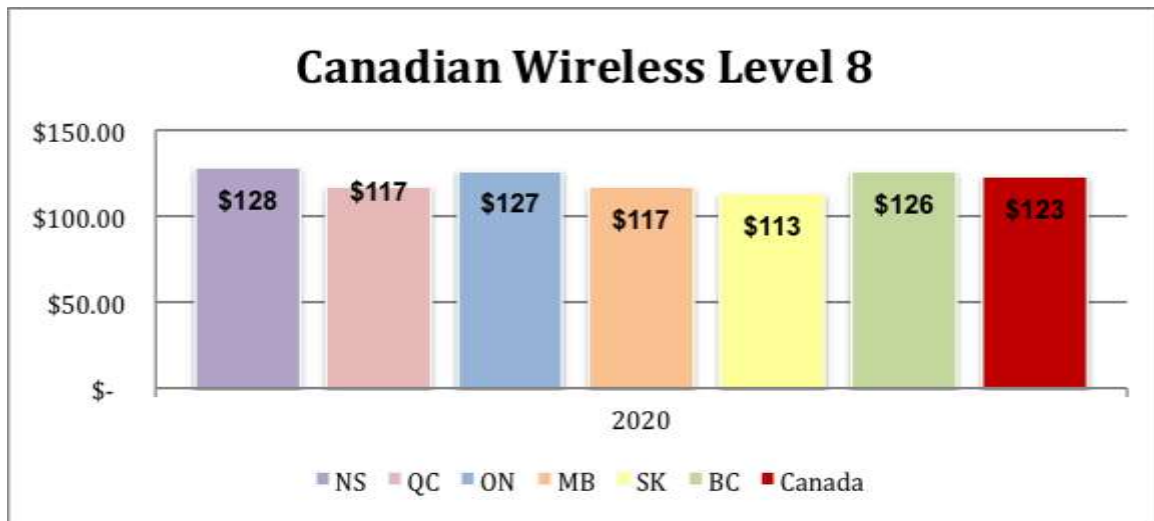
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- Level 7 prices were lowest in Montreal (\$86.43) versus a high of \$98.56 in Halifax. The average Canadian price was \$91.04.



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- Level 8 prices averaged \$123.11, with a low of \$113.29 in Regina and a high of \$128.09 in Halifax.



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The lowest average mobile wireless prices were generally found in Montreal for most mobile wireless service baskets. For mid-level baskets, prices were often highest in Regina, although they were lowest for Regina in L8 and L2. Halifax had the highest regional average prices in L6, L7 and L8.

Comparison of Incumbent and Regional Providers Prices

A comparison of average mobile wireless rates for the incumbent carriers and the regional carriers is provided in Table 3 below. The comparison is provided for six cities: Vancouver and Toronto (where Freedom operates), Montreal (where Videotron operates), Winnipeg (Xplore Mobile), Regina (SaskTel) and Halifax (where Eastlink operates).²⁰ For each of the cities, the incumbent carriers include Rogers, Bell and TELUS.

Table 3
2020 Canadian Mobile Wireless Service Rates
(Incumbent vs. Regionals)

	NS	QC	ON	MB	SK	BC	Canada
Level 1							
Incumbents	\$30.43	\$30.46	\$30.00	\$30.00	\$30.94	\$30.00	\$30.31
Regionals	\$35.55	\$35.46	\$25.00	\$35.00	\$30.94	\$25.00	\$31.16
Difference	16.83%	16.41%	-16.67%	16.67%	0.00%	-16.67%	2.82%
Level 2							
Incumbents	\$35.43	\$35.46	\$35.00	\$35.00	\$35.94	\$35.00	\$35.31
Regionals	\$40.55	N/A	\$35.00	\$40.00	\$15.00	\$35.00	\$33.11
Difference	14.45%	N/A	0.00%	14.29%	-58.26%	0.00%	-6.22%
Level 3							

²⁰ Xplore Mobile is included in this year's Study as a Regional provider in Manitoba. Bell has incorporated MTS into its national brand.

Canadian and International Price Comparisons – 2020 Update

Incumbents	\$45.43	\$45.46	\$45.00	\$45.00	\$45.94	\$45.00	\$45.31
Regionals	\$45.55	\$37.13	\$40.00	\$45.00	N/A	\$40.00	\$41.54
Difference	0.26%	-18.33%	-11.11%	0.00%	N/A	-11.11%	-8.32%
Level 4							
Incumbents	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Regionals	\$55.55	\$46.29	\$45.00	\$55.00	\$60.94	\$45.00	\$51.30
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Level 5							
Incumbents	\$65.43	\$57.96	\$65.00	\$65.00	\$65.94	\$65.00	\$64.06
Regionals	\$60.55	N/A	\$50.00	\$60.00	N/A	\$50.00	\$55.14
Difference	-7.46%	N/A	-23.08%	-7.69%	N/A	-23.08%	-13.92%
Level 6							
Incumbents	\$80.43	\$70.46	\$80.00	\$70.00	\$70.94	\$80.00	\$75.31
Regionals	\$85.55	\$64.46	\$60.00	\$70.00	\$70.94	\$60.00	\$68.49
Difference	6.37%	-8.52%	-25.00%	0.00%	0.00%	-25.00%	-9.05%
Level 7							
Incumbents	\$95.43	\$90.46	\$95.00	\$90.00	\$90.94	\$95.00	\$92.81
Regionals	N/A	\$70.46	\$85.00	N/A	\$90.94	\$85.00	\$82.85
Difference	N/A	-22.11%	-10.53%	N/A	0.00%	-10.53%	-10.73%
Level 8							
Incumbents	\$127.10	\$117.13	\$126.67	\$116.67	\$117.61	\$126.67	\$121.97
Regionals	N/A	N/A	N/A	N/A	\$110.94	N/A	\$110.94
Difference	N/A	N/A	N/A	N/A	-5.67%	N/A	-9.04%

Unweighted averages used for incumbents and regionals within a region. Unweighted prices can vary significantly from the weighted prices used in calculating national averages but can be suitable for comparing incumbents and regionals within a region. National averages use population weighting.

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As shown in Table 3, the prices offered by regional carriers are uniformly lower than incumbent prices when averaged across the country (with the exception of L1). Regionals prices were almost 3% higher than incumbents in L1. Conditions do vary from province to province (e.g. in Nova Scotia regional prices are often higher than incumbent prices while in Ontario and BC regional pricing is uniformly equal to or lower than incumbent pricing). The relative price discounts (on average) available from the regionals vary from almost 14% less (Level 5) to about 6% (Level 2). On average, national average regional prices are about 10% lower than incumbent prices (again, with the exception of L1).

Incumbent Flanker Brand Prices

Incumbent flanker brand services Bell Virgin, Rogers Fido, and TELUS Koodo are available across the country.²¹

²¹ The incumbents also have secondary flanker brands (often offering prepaid service) that tend to target specific market niches. The secondary flanker brands of Lucky, Chatr and Public Mobile have an indeterminate (and likely relatively small market share) and have not been included in the analysis.

Table 4 below provides a summary of incumbent primary brand, incumbent flanker brand and regional mobile wireless service prices for 2020 in Halifax, Montreal, Toronto, Winnipeg, Regina and Vancouver for each of the mobile wireless service baskets. It also provides percentage rate differentials between the incumbents' primary and flanker brands as well as the incumbents' flanker brands and the regionals. Flanker prices are consistently lower than incumbent prices, varying from 24.0% lower in L2 to 7.9% lower in L6. On average, flanker national average prices are just over 14% lower than incumbent national average prices (in regions where both incumbents and flankers offer a plan). Price differentials are relatively uniform across regions in L2 but display some wider differences in other Levels, depending on the region. For example, incumbent prices are 25% higher than flanker prices in Quebec in L3 (relative to other regions where 10% is a typical difference).

Flanker and incumbent price differentials are lower in Quebec, Manitoba and Saskatchewan than in other provinces in L6, similar to our general findings in past years.

Table 4
2020 Canadian Mobile Wireless Service Rates
Incumbents, Incumbent Flanker Brands and Regionals

	NS	QC	ON	MB	SK	BC	Canada
Level 1							
Flankers	\$27.10	\$25.79	\$26.67	\$26.67	\$27.61	\$26.67	\$26.75
Incumbents	\$30.43	\$30.46	\$30.00	\$30.00	\$30.94	\$30.00	\$30.31
Regionals	\$35.55	\$35.46	\$25.00	\$35.00	\$30.94	\$25.00	\$31.16
Diff I/F	12.30%	18.09%	12.50%	12.50%	12.07%	12.50%	13.29%
Diff Rg/F	31.20%	37.48%	-6.25%	31.25%	12.07%	-6.25%	16.48%
Level 2							
Flankers	\$28.57	\$28.60	\$28.25	\$28.25	\$28.96	\$28.25	\$28.48
Incumbents	\$35.43	\$35.46	\$35.00	\$35.00	\$35.94	\$35.00	\$35.31
Regionals	\$40.55	N/A	\$35.00	\$40.00	\$15.00	\$35.00	\$33.11
Diff I/F	24.00%	24.01%	23.89%	23.89%	24.12%	23.89%	23.97%
Diff Rg/F	41.92%	N/A	23.89%	41.59%	-48.20%	23.89%	16.26%
Level 3							
Flankers	\$41.43	\$36.46	\$41.00	\$41.00	\$41.94	\$41.00	\$40.47
Incumbents	\$45.43	\$45.46	\$45.00	\$45.00	\$45.94	\$45.00	\$45.31
Regionals	\$45.55	\$37.13	\$40.00	\$45.00	N/A	\$40.00	\$41.54
Diff I/F	9.65%	24.68%	9.76%	9.76%	9.54%	9.76%	11.94%
Diff Rg/F	9.94%	1.83%	-2.44%	9.76%	N/A	-2.44%	2.63%
Level 4							
Flankers	\$48.76	\$45.13	\$48.33	\$48.33	\$49.27	\$48.33	\$48.03
Incumbents	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Regionals	\$55.55	\$46.29	\$45.00	\$55.00	\$60.94	\$45.00	\$51.30
Diff I/F	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Diff Rg/F	13.92%	2.59%	-6.90%	13.79%	23.68%	-6.90%	6.81%
Level 5							
Flankers	\$56.26	\$53.96	\$55.83	\$55.83	\$56.77	\$55.83	\$55.75
Incumbents	\$65.43	\$57.96	\$65.00	\$65.00	\$65.94	\$65.00	\$64.06

Canadian and International Price Comparisons – 2020 Update

Regionals	\$60.55	N/A	\$50.00	\$60.00	N/A	\$50.00	\$55.14
Diff I/F	16.29%	7.41%	16.42%	16.42%	16.15%	16.42%	14.90%
Diff Rg/F	7.62%	N/A	-10.45%	7.46%	N/A	-10.45%	-1.10%
Level 6							
Flankers	\$72.93	\$64.96	\$72.50	\$67.50	\$68.44	\$72.50	\$69.81
Incumbents	\$80.43	\$70.46	\$80.00	\$70.00	\$70.94	\$80.00	\$75.31
Regionals	\$85.55	\$64.46	\$60.00	\$70.00	\$70.94	\$60.00	\$68.49
Diff I/F	10.28%	8.47%	10.34%	3.70%	3.65%	10.34%	7.88%
Diff Rg/F	17.30%	-0.77%	-17.24%	3.70%	3.65%	-17.24%	-1.88%
Level 7							
Flankers	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Incumbents	\$95.43	\$90.46	\$95.00	\$90.00	\$90.94	\$95.00	\$92.81
Regionals	N/A	\$70.46	\$85.00	N/A	\$90.94	\$85.00	\$82.85
Diff I/F	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Diff Rg/F	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Level 8							
Flankers	N/A	N/A	N/A	N/A	N/A	NA	N/A
Incumbents	\$127.10	\$117.13	\$126.67	\$116.67	\$117.61	\$126.67	\$121.97
Regionals	N/A	N/A	N/A	N/A	\$110.94	N/A	\$110.94
Diff I/F	N/A	N/A	N/A	N/A	N/A	0.00%	N/A
Diff Rg/F	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Table 4 also includes the regionals' average prices for the same cities and provides percentage-based price differentials between the regionals' and incumbents' flanker brand prices. The regionals' prices are lower than the incumbents' flanker brand prices in some baskets (e.g. L5, L6), but higher in the other baskets. National average regional prices are higher in baskets L1 to L4. The relationship between flanker prices and regional operator prices varies widely across regions and basket levels with no clear pattern.

Over the last few years, the price differentials between regionals and incumbent flanker brand prices have generally widened, but that is not the case in 2020. In addition, the trend of flanker prices moving towards incumbent primary service prices has also lessened, such that flanker prices for some baskets have moved back closer to regional prices relative to incumbent prices.

Reseller or Non-affiliated MVNO Prices

Mobile wireless service prices offered by two resellers or non-affiliated mobile virtual network operators (MVNO) – i.e., Primus and PC Mobile – were also collected. Table 5 provides a summary of the national-level price differentials between the incumbents' primary brands and MVNOs for each of the mobile service baskets. We note that resellers have a relatively limited selection of plans and tend to only offer lower level baskets (L1, L3 and L4). Moreover, resellers only offer services in two baskets common to incumbents: L1 and L3.

Table 5

**2020 Canadian Mobile Wireless Service Rates
Incumbents versus Resellers/MVNOs**

	NS	QC	ON	MB	SK	BC	Canada
Level 1							
Incumbents	\$30.43	\$30.46	\$30.00	\$30.00	\$30.94	\$30.00	\$30.31
Resellers	\$25.29	\$25.31	\$25.00	\$25.00	\$25.63	\$25.00	\$25.20
Difference	-16.90%	-16.92%	-16.67%	-16.67%	-17.17%	-16.67%	-16.83%
Level 2							
Incumbents	\$35.43	\$35.46	\$35.00	\$35.00	\$35.94	\$35.00	\$35.31
Resellers	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Level 3							
Incumbents	\$45.43	\$45.46	\$45.00	\$45.00	\$45.94	\$45.00	\$45.31
Resellers	\$49.79	\$49.81	\$49.50	\$49.50	\$50.13	\$49.50	\$49.70
Difference	9.59%	9.56%	10.00%	10.00%	9.11%	10.00%	9.71%
Level 4							
Incumbents	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Resellers	\$50.84	\$50.86	\$50.63	\$50.63	\$51.10	\$50.63	\$50.78
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Level 5							
Incumbents	\$65.43	\$57.96	\$65.00	\$65.00	\$65.94	\$65.00	\$64.06
Resellers	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Level 6							
Incumbents	\$80.43	\$70.46	\$80.00	\$70.00	\$70.94	\$80.00	\$75.31
Resellers	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Level 7							
Incumbents	\$95.43	\$90.46	\$95.00	\$90.00	\$90.94	\$95.00	\$92.81
Resellers	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Level 8							
Incumbents	\$127.10	\$117.13	\$126.67	\$116.67	\$117.61	\$126.67	\$121.97
Resellers	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Finally we note that reseller prices tend to be highly uniform across the country, in contrast to incumbent prices.

High and Low Prices

For Canada, the highest and lowest prices (offered by specific providers) are provided in Table 6 below. We would note that Freedom Mobile has the lowest

(or equal to lowest) price offering in three of the eight baskets while Videotron and SaskTel each had the lowest price in two baskets.

Table 6

Canada Wireless Plans 2020				
Lowest and Highest Canadian Prices (Provider Specific)				
Baskets		Canada Low	Canada High	Canada Average
L1: Talk and Text	Price	\$23.75	\$35.00	\$30.63
	WSP	PC Mobile	Rogers	
L2: 1 GB	Price	\$15.00	\$40.00	\$31.82
	WSP	SaskTel (SK)	Eastlink, XM (NS, MB)	
L3: 2-4 GB	Price	\$37.13	\$52.25	\$45.30
	WSP	Videotron (QC)	PC Mobile	
L4: 5-6 GB	Price	\$45.00	\$60.94	\$51.21
	WSP	Freedom, Fido and Koodo (QC)	SaskTel (SK)	
L5) 7-9 GB	Price	\$50.00	\$65.00	\$61.65
	WSP	Bell (QC), Freedom (ON, BC)	Bell (BC, ON, NS, MB, SK), TELUS, Virgin	
L6: 10-19 GB	Price	\$60.00	\$85.00	\$74.57
	WSP	Freedom (ON, BC)	Eastlink (NS)	
L7: 20-49 GB	Price	\$70.46	\$100.00	\$91.04
	WSP	Videotron (QC)	TELUS and Bell (NS, ON, BC)	
L8: 50+ GB	Price	\$110.94	\$130.00	\$123.11
	WSP	SaskTel (SK)	Bell (NS, ON, BC)	

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We would note that an individual vendor price that is considerably lower than the national average can be found in all baskets and in most regions.

3.3 International Mobile Wireless Service Prices

As noted in previous studies, there are a number of important pricing differences that should be borne in mind when comparing Canadian and foreign mobile wireless prices.²²

- *Price Structure:* The pricing of mobile wireless service plans in the U.K., Germany, Italy, France, Australia and Japan differs significantly compared to Canada (as well as the U.S.). Mobile wireless prices in Europe, Australia and Japan are set on a "calling party pays" basis, under which mobile customers pay only for outgoing calls. In contrast, Canadian and U.S. pricing plans are based on a "receiving party pays" approach, under which customers pay for incoming and outgoing calls. Unlike Canada and the U.S., some mobile wireless service plans in Europe, Australia and Japan also include per call setup charges and/or different per minute call rates to landline versus mobile customers, as well as potentially different per minute rates for on-net versus off-net mobile calls. However, as in Canada, unlimited national calling plans and service add-ons that cover calls to both fixed and mobile and both on and off-net mobile lines are now commonly available. In addition, several European vendors offer plans that include calling to other European countries at no additional charge.
- *Regulatory Fees:* Regulatory fees of one form or another apply in the cases of Canada, Japan and the U.S. In Canada, there is typically an explicit emergency 9-1-1 fee and, in some cases, universal service fees (as in the case of Japan). In the U.S., there are a variety of regulatory fees, federal and state USF surcharges and other fees.²³ We have collected these, where applicable, updated USF fees and carrier-specific regulatory cost recovery charges.

The Charts below provide a comparison of current mobile wireless prices for Canada and the surveyed foreign jurisdictions for each of the eight wireless service baskets. All prices are expressed in PPP-adjusted Canadian dollars and exclude retail sales taxes. Attachment 3 provides more detailed international mobile wireless price information for each country and basket. Again, it should be noted that the resizing of baskets in 2020 makes historical comparisons with other years inappropriate.

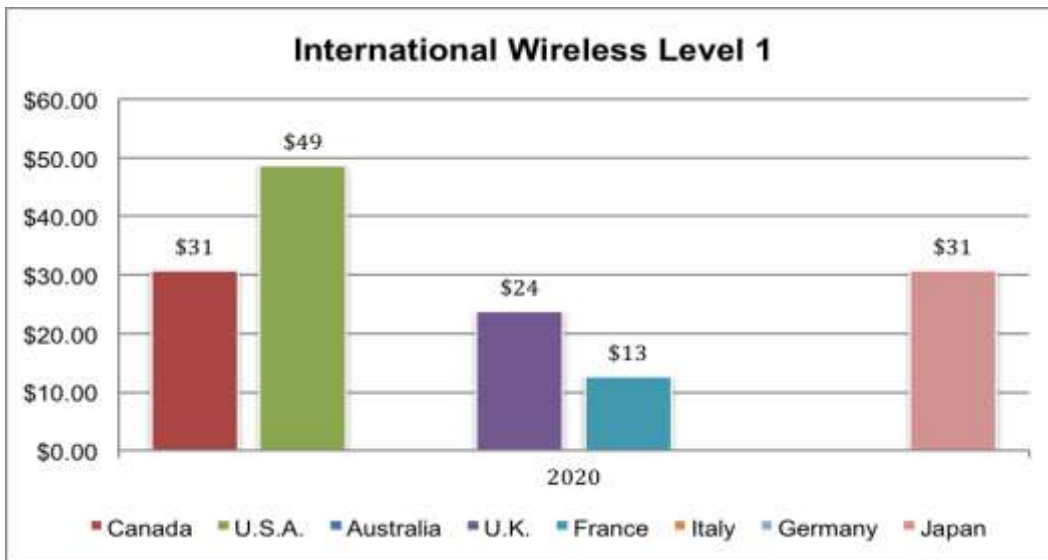
We also note that Level 8 is not included as part of the international comparisons.²⁴

²² We would also point out that certain countries (e.g. France, Italy and Australia) offer very few mobile wireless plans with data at less than 10 MB.

²³ See, for instance, <http://www.fcc.gov/cgb/phonebills/WirelessPhonebill.html>. Telecom specific state or local taxes are not included.

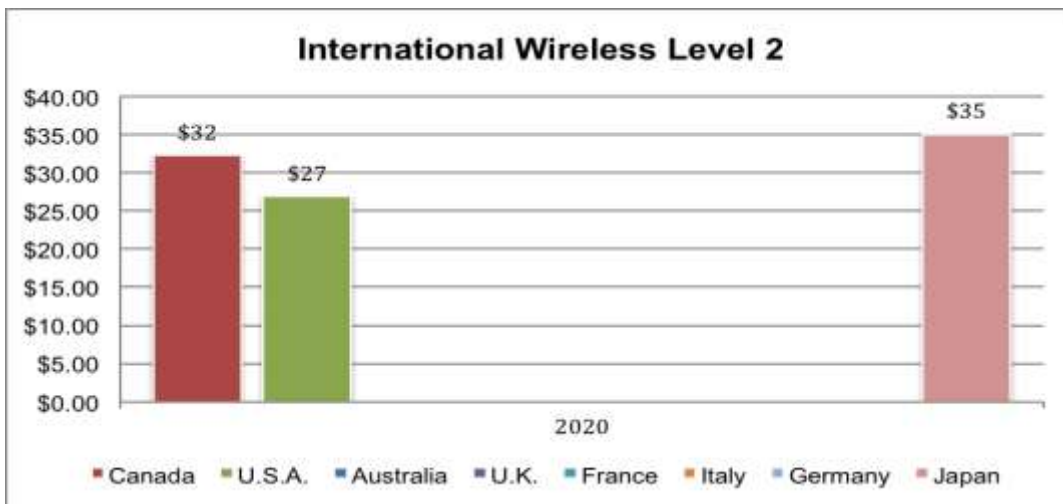
²⁴ In Canada, the selection of the lowest priced plan in a basket resulted in most L8 Canadian plans offering 50 GB. In most other countries the lowest priced available plan typically provided a much higher data allowance – often unlimited. As such, comparisons between Canadian and other countries for Level 8 were not deemed appropriate for this year's Study.

- In the case of the Level 1 mobile wireless service basket, the Canadian average price of \$30.63 is surpassed by the U.S. at \$48.65 but higher than the lowest price of \$12.63 (France).



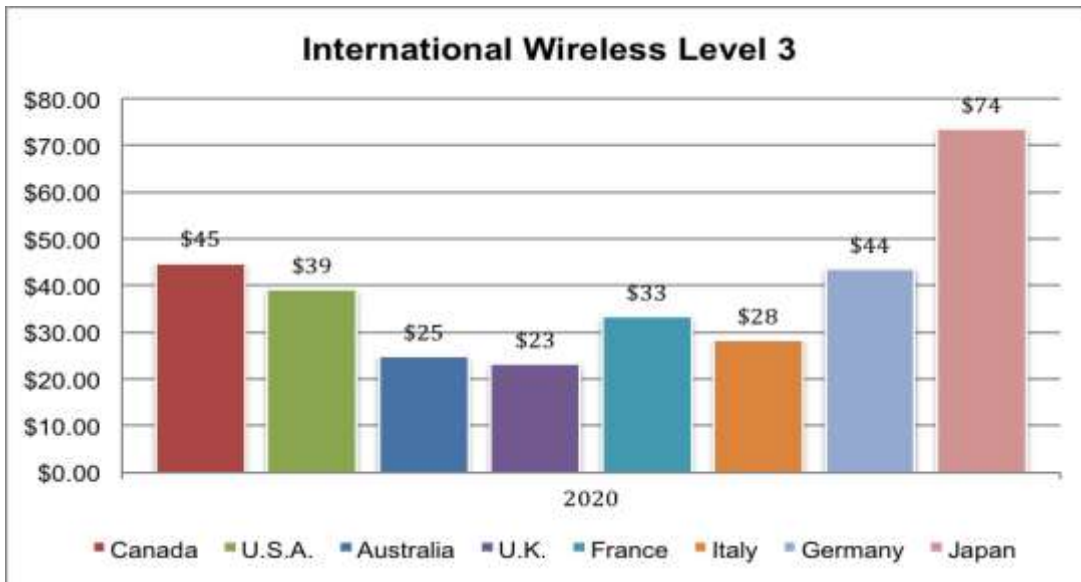
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- For the Level 2 service basket, the Canadian average price of \$31.82 falls in the middle of the three countries that offer this basket. We note that Australia, the UK, France, Italy and Germany do not offer a stand alone 1 GB data plan.



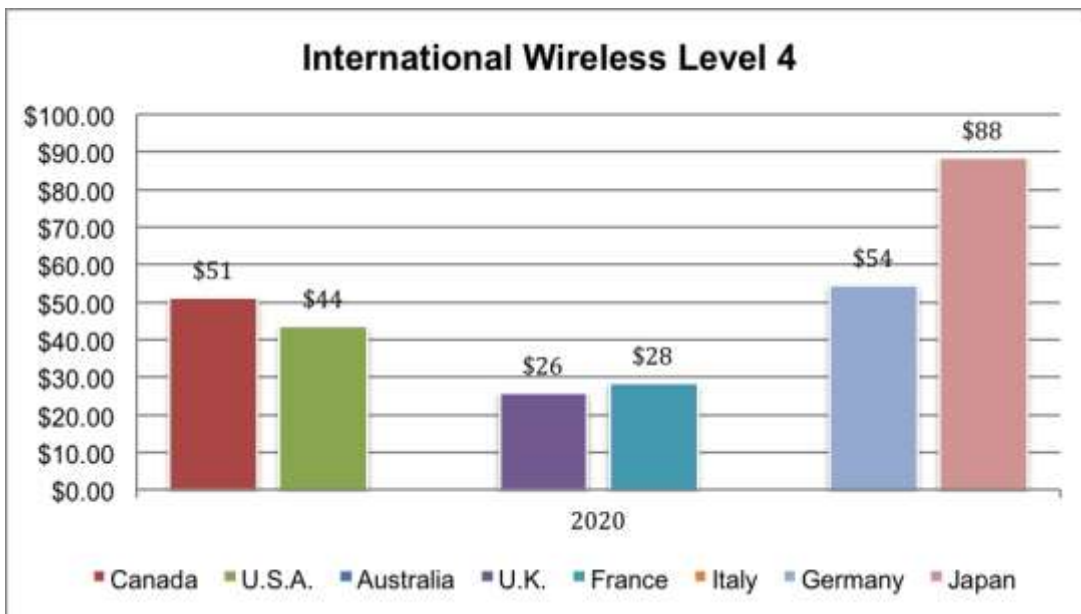
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- For the Level 3 wireless service basket, the average Canadian monthly rate of \$45.30 is the second highest price surveyed, but is well below the highest price of \$73.60 found in Japan.



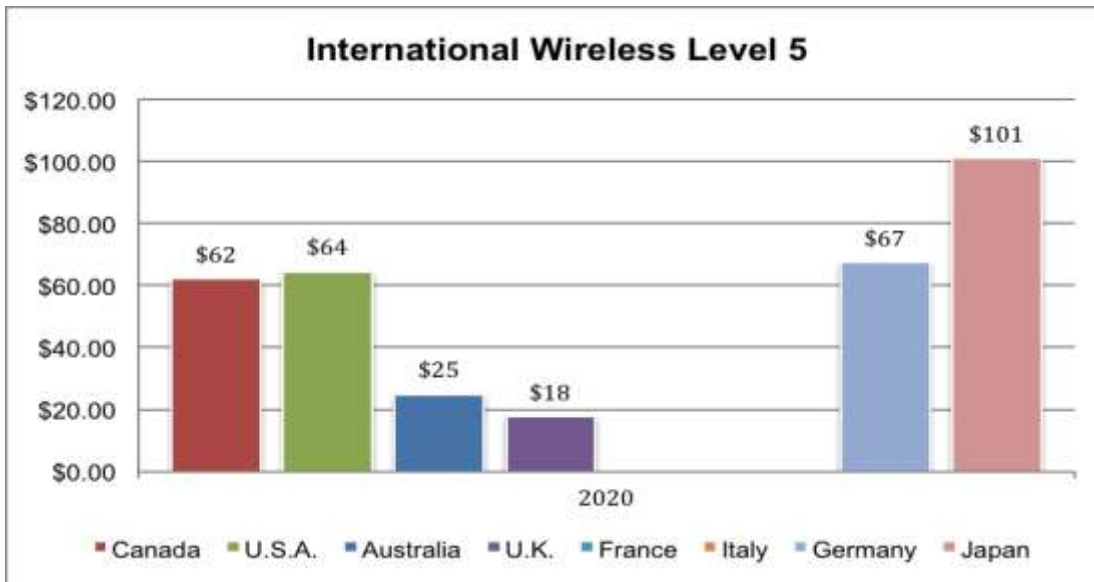
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- In the case of the Level 4 basket with 5-6 GB of monthly data usage, the Canadian average price of \$51.21 is lower than Germany and Japan but higher than the USA, the UK and France.



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- The Level 5 price in Canada of \$61.65 is slightly lower than either the price in the US or Germany but is well below Japan. The Canadian average price is considerably above the lowest price of \$17.56 found in the UK.



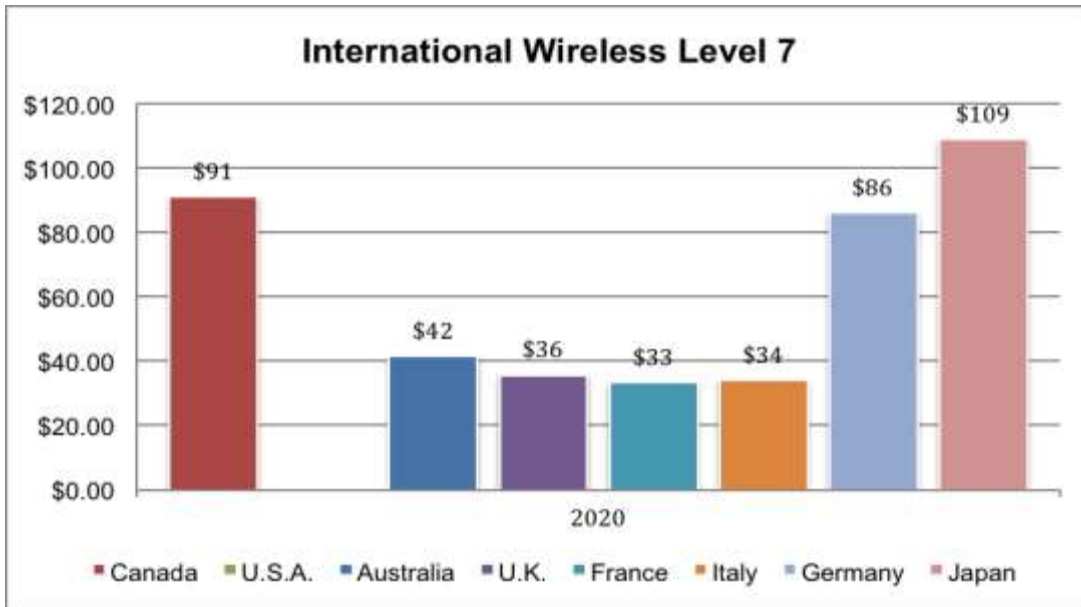
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- The Level 6 price in Canada or \$74.57 is lower than the prices in both Japan and Germany (\$78.89 and \$82.66 respectively) but again much higher than the price in the UK (\$22.15) or prices in Australia and France (\$32.93 and \$44.71 respectively).



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- The Level 7 (20 to 49 GB) price in Canada is \$91.04, higher than all other countries except for Japan (\$108.94). The lowest price is found in France at \$33.29 with both Italy (\$34.21) and the UK (\$35.66) also with similarly low prices.



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It is worth noting that surveyed average prices for the UK, France, Italy and Australia generally fall below the prices in Canada for all defined mobile wireless service baskets. Highest prices are most often found in Japan followed by Canada and Germany.

In sum, average Canadian mobile wireless prices are the second highest in 4 of 7 baskets and in the middle-to high range in 3 baskets.

3.4 Canada-U.S. Roaming Prices

As a separate price comparison exercise, rate information on voice, text and data roaming services available to Canadian and American mobile wireless service consumers when traveling to the U.S. and Canada, respectively, has been collected as part of this study.

The wireless service providers surveyed for this study generally offer two types of international roaming services. The first is a "pay-as-you-go" roaming service option under which users pay per-use rates for any voice, text or data usage they incur while traveling abroad. The second is a travel or roaming add-on package option under which users can choose to pay a fixed fee for defined amounts of call minutes, texts, and/or data. Typically, roaming add-on packages remain in effect for a 30 day period of time (although some providers do offer shorter terms). With an add-on package, per unit usage rates are typically discounted significantly relative to base pay-as-you-go rates. When the usage allowance under an add-on plan is consumed, then either specific overage rates or base

rates apply for any additional usage, or the service charge is capped (equal to a specified number of days).

Roaming from Canadian Providers

Canadian incumbent and, to a somewhat lesser degree, incumbent flanker brand wireless service providers offer a wide range of stand-alone U.S.-specific voice, text or data roaming add-on packages as well as bundled talk & text and talk, text & data roaming add-on packages. The Regionals now offer daily/periodic plans that directly compete with the incumbents, as well as Pay as You Go options.

The three Canadian national mobile wireless carriers generally have similar roaming plans, charging \$8 (Rogers, Bell and TELUS) per day for US/Canada roaming.²⁵ The national providers allow unlimited Canada/US calling and texting. All three also allow the use of the monthly data allotment in your domestic plan. All three national providers cap the monthly roaming expenditure in their plans (\$120, \$120 and \$160 respectively for TELUS, Rogers and Bell).

The Regionals also offer daily plans ranging from \$5 to \$8 per day. The Freedom roaming plans are based on terms of 2, 5, 10 or 20 days while Eastlink has no term. Videotron caps its monthly maximum roaming plan charge at \$70, considerably lower than any of the national carrier plans. Neither Freedom nor Eastlink offer a monthly maximum.²⁶

SaskTel offers a \$6 per day data roaming plan (up to 500 MB) and a voice roaming charge of \$3 per day. Pay per use rates are \$0.07 per voice minute, \$0.20 per text and \$0.07 per MB of data. Xplore Mobile only offers data packs for roaming, ranging from \$25 per month (250 MB) to \$85 per month (1 GB). They only offer pay per use rates for voice calls (\$0.75 for local and \$1.25 for long distance) and \$0.25 for texts.

The Flanker (Fido, Koodo and Virgin) plans are virtually the same as those provided by their associated primary brand national carrier plans, with the exception of Koodo's no-maximum monthly charge (versus TELUS at \$120).

Primus offers a variety of talk, text and data allowance plans, from \$20 for 25 minutes of US/Canada calling and 100 texts to \$80 for 100 minutes of US/Canada calling, unlimited texts and 200 MB of data.

Table 7: Canadian Roaming Plan Comparison (\$Can)

²⁵ Bell also offers an add-on plan with an additional 100 MB of data per day. As of January 21, 2021, Bell will increase its daily rate to \$9.

²⁶ Eastlink also offers "Combo" Travel Packs that combine minutes, texts and data. Koodo also offers Booster plans that package various levels of talk or text or data.

Canadian and International Price Comparisons – 2020 Update

	Plan	Price (cap if available)	Term/Max	Data	Calling/Text
Rogers	Roam Like Home	\$8 day	Cap at \$120 per month	Use data from your Canadian plan	Consistent with domestic plan
Bell	Roam Better	\$8 day	Cap at \$160 per month	Use data from your Canadian plan	Unlimited
TELUS	Easy Roam	\$8 day	Cap at \$120 per month	Use data from your Canadian plan	Consistent with domestic plan
Freedom	Big Gig Roam	\$5/day	No maximum	Data available 2, 5, 10 and 20 day plans (\$10 to \$100)	Unlimited US/Canada talk and text
Videotron	US Daily Traveller Pass	\$7 day	Cap at \$70 per month	Use data from your Canadian plan	Unlimited
Eastlink	easyTravel	\$8 day	No term; no max	Use data from your Canadian plan	Unlimited
Koodo	Easy Roam	\$8 day	No maximum	Use data from your Canadian plan	Consistent with domestic plan
Fido	Fido Roam	\$8 day	Cap at \$120 per month	Use data from your Canadian plan	Consistent with domestic plan
Virgin	Roam Sweet Roam	\$8 day	Cap at \$160 per month	Use data from your Canadian plan	Unlimited
Primus	Travel Pack	\$40	30 days	0 Mb (\$1 per Mb)	100 minutes/unlimited texts
Petro Canada	NA	NA	NA	NA	NA

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The national mobile wireless providers, four Regionals and two Flankers also offer Pay as You Go roaming. Calling per minute prices are once again very similar across the national MNOs, ranging from \$1.45 to \$1.60. TELUS, Rogers and Bell charge \$0.75 per text. Bell and TELUS charge \$6.00 and \$5.00 per MB of data respectively while Rogers has a package of 50 MB for \$7.99.

Freedom and Videotron have much lower per minute rates than the nationals, at \$0.50 and \$0.30 respectively. Similarly text and data charges are also much lower at \$0.20 per text or MB for Freedom and \$0.15 per text or MB for Videotron. SaskTel has some of the lowest regional provider rates with voice minutes at \$0.07, texts at \$0.20 and \$0.07 per MB of data. Eastlink charges \$1.50 per voice minute, \$0.75 for texts and \$5.00 per MB.

The Flanker (Virgin and Fido) rates generally match those of their owners' primary brand service, although data roaming prices for Bell (at \$5 per MB) differ substantially from the \$10 per 50 MB for Virgin.

Table 8: Canadian Roaming Pay as You Go (\$Can)

	Price per minute	Price per MB	Price per Text
Rogers	\$1.45 (\$2 for prepaid)	\$7.99 per 50 MB	\$0.75
Bell	\$1.45	\$6.00 per MB	\$0.75
TELUS	\$1.60	\$5.00 per MB	\$0.75
Freedom	\$0.50	\$0.20 MB	\$0.20
Videotron	\$0.30	\$0.15 MB	\$0.15
Eastlink	\$1.50	\$5.00 per MB	\$0.75
SaskTel	\$0.07	\$0.07	\$0.20
Fido	\$1.45 (\$2 on prepaid)	\$7.99 50 MB	\$0.75
Virgin	\$1.45	\$10.00 per 50 MB	\$0.75
Koodo	NA	NA	NA

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Roaming From US Providers

In the US, the national carriers all offer no charge roaming to Canada in their unlimited Smartphone plans. These plans are priced at US \$60 (T-Mobile) to US \$70 (Verizon). AT&T offers a 4G plan with unlimited Talk and Text to Canada for \$50 or an unlimited plan for \$65. They provide a full Smartphone telephone, text

and unlimited data service with US/Canada (as well as Mexico) roaming included in the regular monthly price.

For customers that are not on an unlimited plan from one of the three US national carriers, daily (or periodic) roaming plans are available from the carriers. Verizon offers a Travel Pass for \$5.00 per day, AT&T offers a \$10 a month calling plan and T-Mobile offers a \$15.00 per month plan with unlimited talk and text to Canada plus 2 GB of data.

Table 9: US Roaming Plan Comparison (\$US)

	Plan	Price (cap if available)	Term/Max	Data	Calling/Text
Verizon	Start Unlimited Smartphone plan (\$70 base)	Included in Smartphone Plan (\$0)	Monthly	No charge (500 MB per day then reduced speed)	Unlimited
Verizon	Travel Pass	\$5 day	Daily	Use data from your domestic plan	Consistent with domestic plan
AT&T	4GB plan (\$50) or Unlimited starter plan (\$65)	Included in Smartphone Plan (\$0)	Monthly	Use data from your domestic plan	4 GB data or consistent with domestic plan
AT&T	International Calling	\$10 month	Monthly	Use data from your domestic plan	1,000 minutes calling
T-Mobile	T-Mobile Essentials Plan (\$60)	Included in Smartphone Plan (\$0)	Monthly	2 GB data	Unlimited
T-Mobile	With Simply Prepaid (\$40)	Additional Cost (\$5)	Monthly	Up to 10 GB)	Unlimited Talk and Text
T-Mobile	Connect	\$15	Monthly	2 GB	Unlimited Talk and Text

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Pay as You Go roaming (post or prepaid) is only available from two US carriers: Verizon and T-Mobile. Both providers charge the same calling rate of \$1 per minute, with Verizon offering data at \$2.05 MB and texts at \$0.50 each.

Table 10: US Roaming Pay as You Go (\$US)

	Price per minute	Price per MB	Price per Text
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Verizon	\$0.99	\$2.05 MB	\$0.50
AT&T	NA	NA	NA
T-Mobile	\$1.00	NA	NA

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A striking feature that differentiates Canadian and US services is the “no charge” roaming provided by the national US providers in many of their Smartphone plans. These plans provide a full mobile phone service (voice, texts and in several cases unlimited data) plus (generally) unlimited roaming to Canada. There is no counterpart service in Canada.

The periodic roaming plans (including voice, texts and data) offered by Canadian incumbent national carriers, if used to their maximum allowances, are priced ranging between \$120 and \$160. In the US you can purchase a similar roaming service PLUS receive an unlimited voice, text and data domestic service for the price of \$50 to \$70 US.

3.5 Stand Alone Section Using Historical (2019) Basket Definitions for Canada

National Price Averages 2018 to 2020

With the reformulating of service baskets in the 2020 Study, historical comparisons of Canadian mobile wireless plans cannot be properly conducted given that the 2020 baskets are (for the most part) fundamentally different from past years. In order to provide some limited comparative analysis in the transition from 2019 to 2020, we have also collected Canadian mobile wireless data for the 5 baskets used in 2019 (and in select previous years).²⁷

The five “historical” (i.e. 2019 definition) baskets have been collected for the domestic market with the cost of handsets included in each service basket plan that includes data (e.g. handset cost represented by the lowest priced smartphone), as was done in previous years.

Table 11: Canadian Average Prices for “Old” Baskets 2018-2020

	2020	2019	2018
Wireless Service			
Level 1 (Talk and Text)	\$30.60	\$37.62	\$39.43
Level 2 (1 GB)	\$47.17	\$64.80	\$70.99

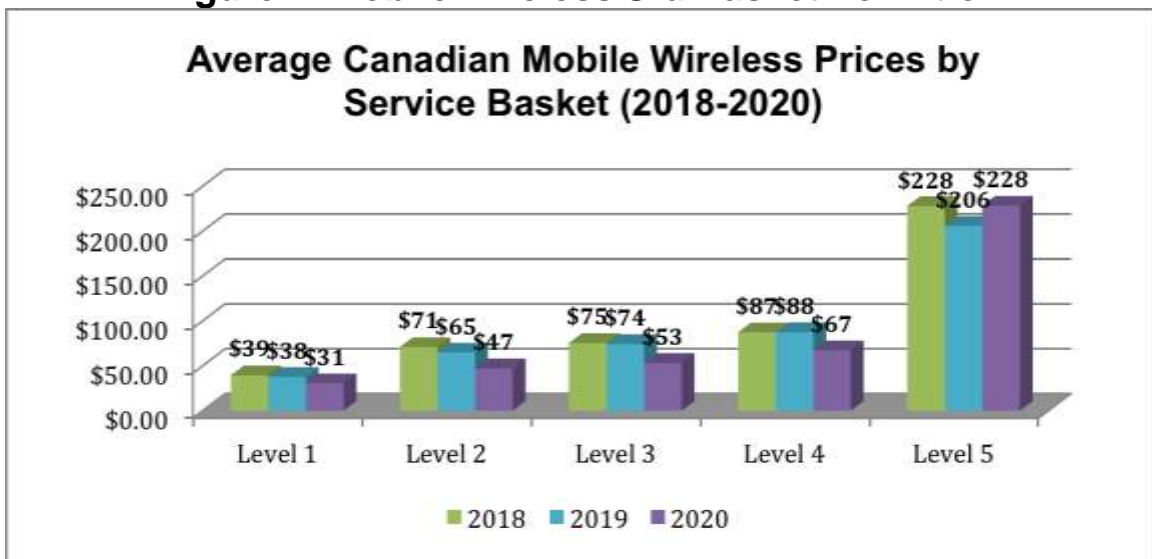
²⁷ We also note that data was collected at two different points in 2019 to take some account of the significant late year price reductions by incumbents (and to some degree by the flanker brands). We are using the primary data used for analysis in the 2019 Study (i.e. collected prior to the late year 2019 price changes).

Level 3 (2 GB data)	\$53.24	\$74.42	\$75.44
Level 4 (5 GB data)	\$67.32	\$87.57	\$87.32
Level 5 (10-49 GB data)	\$228.40	\$205.78	\$227.87

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We note that Level 5 was intended to reflect a “shared” plan and therefore includes the monthly cost of three smartphones (using the cost of the lowest priced smartphone available to customers of a given provider).

Figure 2: Mobile Wireless Old Basket Definition



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We note that average national price dropped in four baskets (L1, L2, L3 and L4) and increased in L5. The price drops in L1 – L4 were substantial, varying from 18% to 27%.

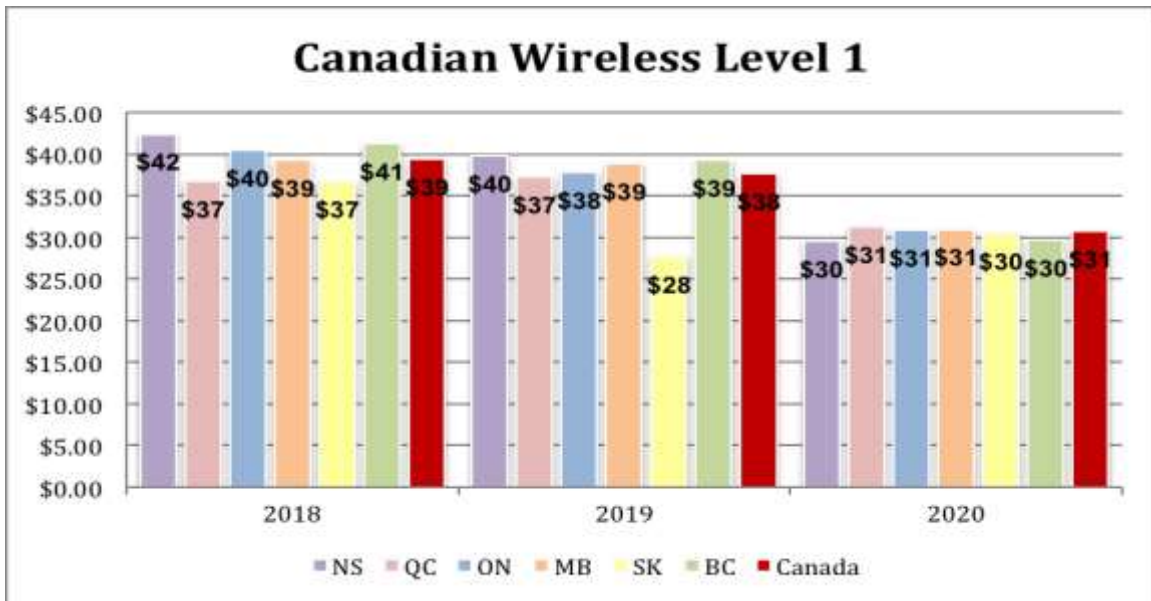
Price Changes Across the Country

For L1 (2019 basket definition) we note that the Canadian average price fell substantially in 2020 versus 2019. Perhaps just as striking however is the uniformity in pricing across regions in 2020 relative to 2019 or 2018. In 2018 prices varied across regions from \$36.71 to \$42.39 (a variance of \$5.68) and in 2019 from \$27.72 to \$39.77 (a variance of \$12.05). In 2020 the prices ranged from \$29.59 to \$30.96, a variance of just \$1.37.

Table 12: L1 Mobile Wireless Prices 2018 to 2020 (2019 basket definition)

	NS	QC	ON	MB	SK	BC	Canada
2018	\$42.39	\$36.69	\$40.42	\$39.25	\$36.71	\$41.28	\$39.43

2019	\$39.77	\$37.23	\$37.79	\$38.90	\$27.72	\$39.28	\$37.62
2020	\$29.59	\$30.86	\$30.82	\$30.96	\$30.49	\$29.69	\$30.60

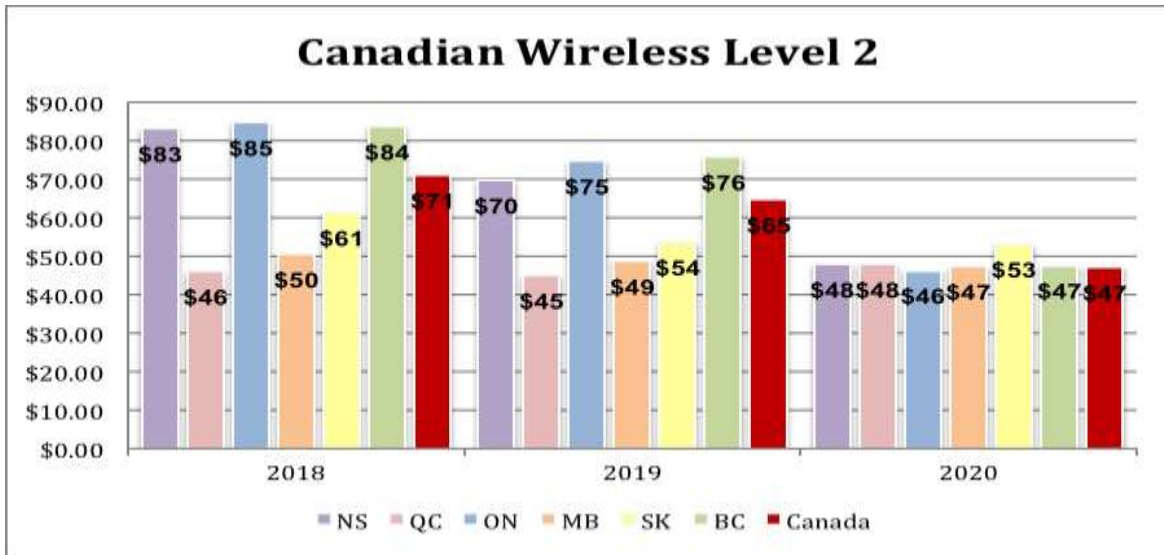


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For L2 (2019 basket definition) the average national price fell from \$64.80 to \$47.17. The trend towards uniform pricing across the country is again repeated. The price variation across regions in 2019 was \$30.83 while in 2020 it shrank to \$7.08.

Table 13: L2 Mobile Wireless Prices 2018 to 2020 (2019 basket definition)

	NS	QC	ON	MB	SK	BC	Canada
2018	\$83.13	\$45.91	\$84.76	\$50.42	\$61.35	\$83.67	\$70.99
2019	\$69.63	\$44.87	\$74.67	\$48.71	\$53.66	\$75.70	\$64.80
2020	\$47.91	\$47.83	\$46.13	\$47.25	\$53.21	\$47.48	\$47.17

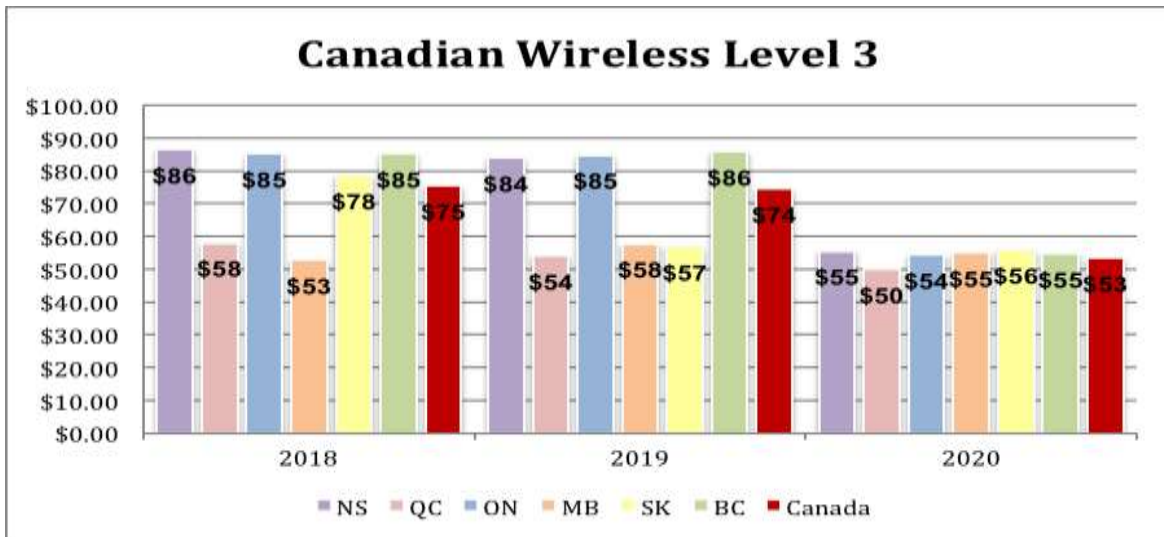


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There was also a price decrease from \$74.42 in 2019 to \$53.24 in 2020 for L3. The move to greater price uniformity across regions is again striking. The regional price variation in 2019 of \$31.91 (low price of \$53.92 to high price of \$85.83) has been reduced to just \$5.84 in 2020.

Table 14: L3 Mobile Wireless Prices 2018 to 2020 (2019 basket definition)

	NS	QC	ON	MB	SK	BC	Canada
2018	\$86.48	\$57.95	\$85.23	\$52.77	\$78.48	\$85.09	\$75.44
2019	\$83.94	\$53.92	\$84.71	\$57.63	\$56.72	\$85.83	\$74.42
2020	\$55.36	\$49.90	\$54.21	\$54.82	\$55.74	\$54.63	\$53.24

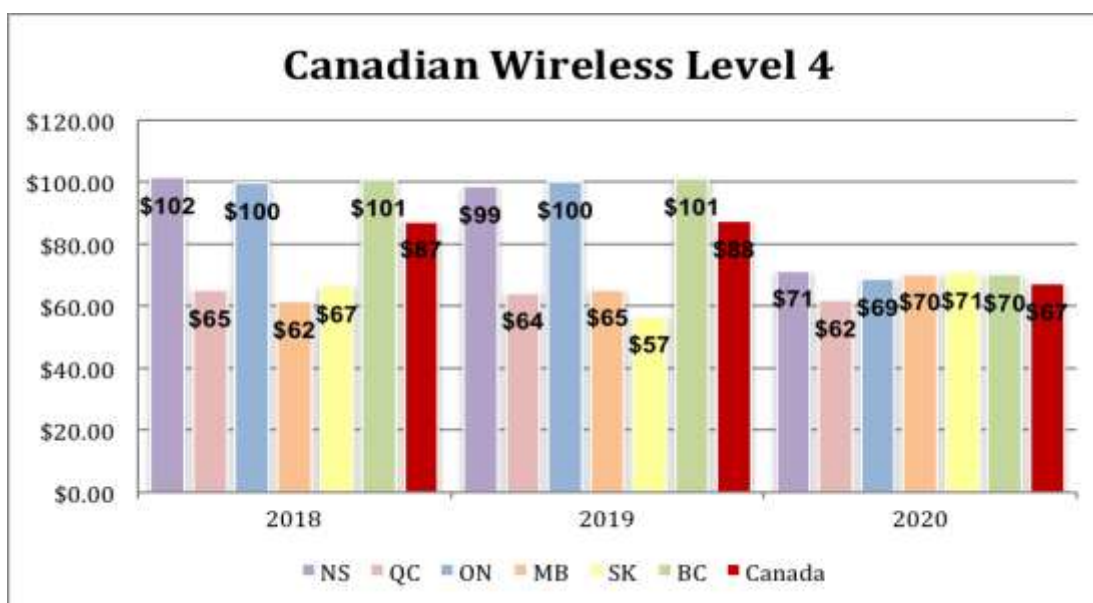


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L4 average national price dropped from \$87.57 in 2019 to \$67.32 in 2020. Price uniformity across the country was repeated in 2020 for L4. Price variation in 2019 was \$44.47 versus \$9.68 in 2020.

Table 15: L4 Mobile Wireless Prices 2018 to 2020 (2019 basket definition)

	NS	QC	ON	MB	SK	BC	Canada
2018	\$101.67	\$65.27	\$99.69	\$61.56	\$66.68	\$100.76	\$87.32
2019	\$98.62	\$64.28	\$100.21	\$65.35	\$56.66	\$101.13	\$87.57
2020	\$71.48	\$61.80	\$68.63	\$70.42	\$70.85	\$70.35	\$67.32

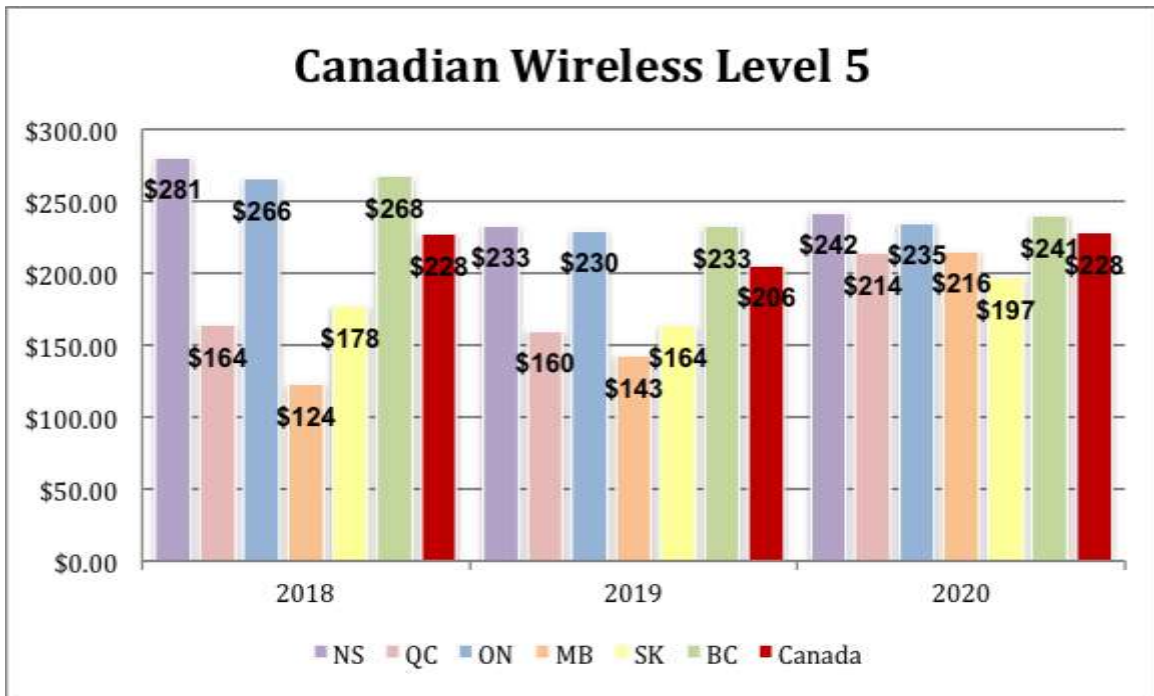


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L5 average national price increased this year, rising from \$205.78 in 2019 to \$228.40 in 2020. Price diversity, while not as dramatic as in the other baskets, still converged substantially in 2020. The 2019 price variation of \$90.35 dropped to \$45.38 in 2020.

Table 16: L5 Mobile Wireless Prices 2018 to 2020 (2019 basket definition)

	NS	QC	ON	MB	SK	BC	Canada
2018	\$280.81	\$164.28	\$265.86	\$123.60	\$177.52	\$267.69	\$227.87
2019	\$233.49	\$160.31	\$229.98	\$143.14	\$164.22	\$233.28	\$205.78
2020	\$242.41	\$214.02	\$235.33	\$215.56	\$197.03	\$240.51	\$228.40



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In summary, a key observation from examining historical data (using the 2019 basket definitions) is the convergence of prices to a fairly uniform level in all baskets moving from 2018 to 2020. This is particularly pronounced in Baskets L1 through to L4, but is also valid for all baskets. In addition, prices did fall substantially in four of the five baskets.

4.0 FIXED BROADBAND INTERNET SERVICE

4.1 Broadband Internet Service Baskets

For the 2020 Study, a new “highest level” basket has been introduced: greater than 500 Mbps. Seven broadband Internet service baskets are included in the study, which are primarily defined on the basis of download speed:

- Level 1: speeds of 3-9 Mbps;
- Level 2: speeds of 10 to 15 Mbps;
- Level 3: speeds of 16 to 40 Mbps;
- Level 4: speeds of 41 to 100 Mbps;
- Level 5: speeds of 101 to 250 Mbps;
- Level 6: speeds of 251 to 500 Mbps; and
- Level 7: speeds greater than 500 Mbps.²⁸

- **Level 1:** *Speed:* Internet service with advertised²⁹ download speed of up to **3 to 9 Mbps**.
Data usage per month: 10 GB.
- **Level 2:** *Speed:* Internet service with advertised download speed of **10 to 15 Mbps**.
Data usage per month: 50 GB.
- **Level 3:** *Speed:* Internet service with advertised download speed of **16 to 40 Mbps**.
Data usage per month: 100 GB.
- **Level 4:** *Speed:* Internet service with advertised download speed of **41 to 100 Mbps**.
Data usage per month: 150 GB.
- **Level 5:** *Speed:* Internet service with advertised download speed of **101 to 250 Mbps**.
Data usage per month: 500 GB

²⁸ We note that in 28 of the total 31 observations in this category (domestic and international combined) the advertised download speed was 1 Gbps.

²⁹ It should be noted that “advertised” speeds can differ from “actual” speeds for a variety of reasons and that the range of any such differences can vary by technology and geographic location. For the purpose of this study, any such variations are assumed to be roughly equal on a relative basis across the broadband services included in this study. The CRTC 2020 CMR noted that the average weighted download speed for Canadians was 177 Mbps in 2019.

- **Level 6:** *Speed:* Internet service with advertised download speed of **251 to 500 Mbps**.
Data usage per month: **500 GB or higher (including Unlimited)**
- **Level 7:** *Speed:* Internet service with advertised download speed of **greater than 500 Mbps**.
Data usage per month: **500 GB or higher (including Unlimited)**

It should be noted that broadband speeds have increased dramatically over the past decade and the baskets used in the Telecom Pricing Reports have accordingly been adjusted.

Table 17: Changes to Broadband Baskets Criteria 2010 to 2020

Basket	2010	2011	2012 - 2015	2016-2017	2018-2019	2020
Level 1	< 1.5 Mbps	< 1.5 Mbps	< 3 Mbps	3 - 9 Mbps	3 - 9 Mbps	3 - 9 Mbps
Level 2	2 – 9 Mbps	2 – 9 Mbps	4 – 15 Mbps	10 – 15 Mbps	10 – 15 Mbps	10 – 15 Mbps
Level 3	10 – 19 Mbps	10 – 19 Mbps	16 – 40 Mbps	16 – 40 Mbps	16 – 40 Mbps	16 – 40 Mbps
Level 4	-	> 20 Mbps	> 40 Mbps	41– 100 Mbps	41- 100 Mbps	41- 100 Mbps
Level 5	-	-	-	> 100 Mbps	101-250 Mbps	101-250 Mbps
Level 6					251-500 Mbps	251-500 Mbps
Level 7						500 Mbps>

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Modem rental fees are taken into account since they are mandatory in some instances. In other cases, where the modem is not included but must be purchased by the customer, the cost of the required equipment is amortized over 24 months. One-time installation or activation fees are generally not included.

Some Internet service providers (ISPs) apply monthly data usage caps to their broadband service plans. Where they are applied, they are typically set on the basis of a monthly data allowance (GB/month), with overage fees sometimes applied when the data allowance is exceeded. More recently, providers tend to reduce transmission speed once a data threshold has been reached. In virtually all cases, the applicable data caps were high enough that no overage fees are incurred given the data usage assumptions adopted for the defined broadband service baskets.

Table 18: Canadian Broadband Download/Upload Mbps Speeds (Cap if not unlimited) Canada 2020

Canadian and International Price Comparisons – 2020 Update

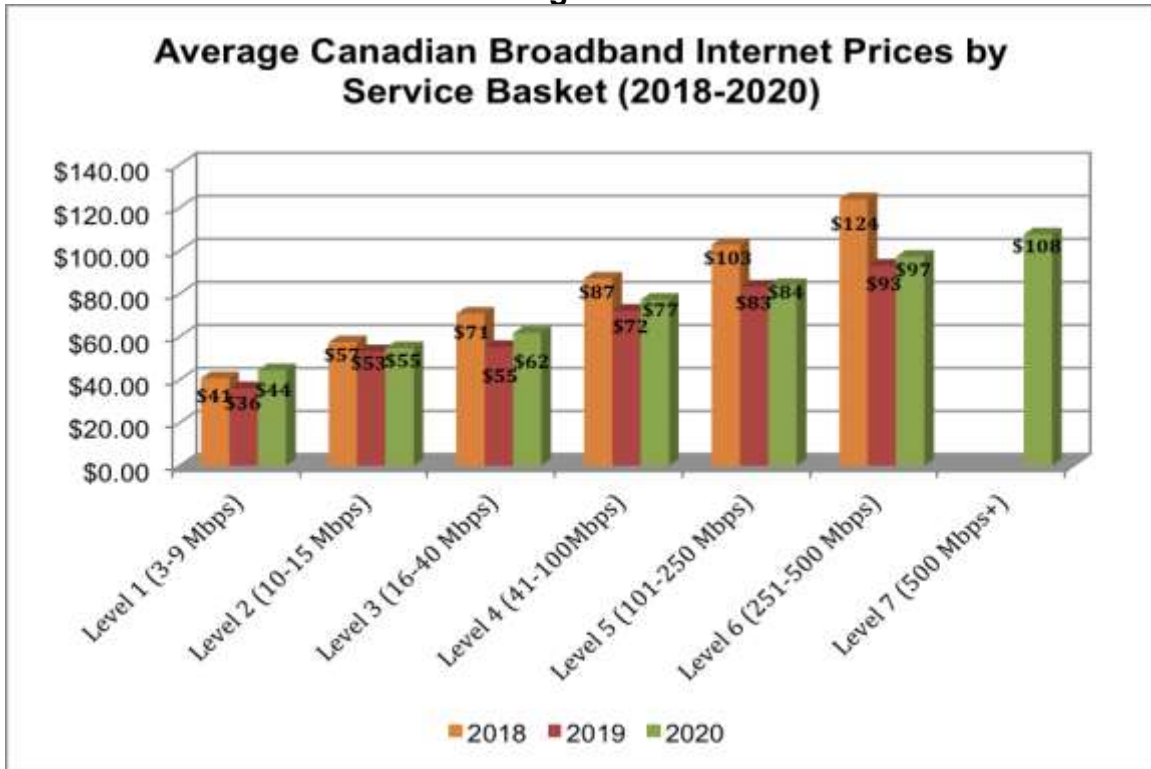
	L1	L2	L3	L4	L5	L6	L7
Halifax							
Bell				100/100			1 G/940
Eastlink				100/10	150/10	300/10	1G/940
TekSavvy	7/.6			100/10			
Montreal							
Bell		15/10 (50G)		50/7		500/500	1G/750
Videotron				100/30		400/50	
Primus	6/1						
TekSavvy	5/1 (200G)	10/10	30/10	100/30		400/50	
Fizz		15/1.5	30/10	60/10	120/20		
Virgin	5/1 (50G)	15/10 (200G)	25/10 (200G)	100/10			
Toronto							
Bell		10/1 (100G)		50/10	150/150	500/500	1G/750
Rogers				75/10	150/15	500/20	1G/30
Primus			30/5	75/10	150/20	300/20	
TekSavvy	5/1 (200G)		30/5	75/10	150/15	500/20	1G/30
Virgin	5/1		25/10	100/10			
Fido			30/5	75/15	150/15		
Winnipeg							
Bell		10/3		50/5		500/500	940/940
Shaw						300/100	1G/100
TekSavvy	5/.5 (400G)		30/5	60/6	150/15		750/20
Primus	5/.5		25/2.5	75/7.5	150/15		
Regina							
SaskTel			40/10	80/15		300/80	
Access		10/2	25/3	100/7	200/15	300/20	
Vancouver							
TELUS			25/25	75/75	150/150	300/300	940/940
Shaw						300/100	1G/100
Primus	6/1	15/1	25/2.5	75/10	150/15		
TekSavvy	5/.5 (400G)	15/1	30/5	60/6	150/10		750/20
Can. Mode	5/1	15/1	30/5	100/10	150/15	300/20	1G/940
Can. Ave.	5.4/0.8	12.8/4.1	28.6/6.8	78.9/17.5	151.5/ 35.8	385.7/ 163.6	948/ 313.3

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4.2 Canadian Broadband Service Prices

Figure 3 below provides a summary of Canadian weighted average broadband Internet access service prices for the Levels 1 to 6 service baskets for the period 2018 to 2020. More detailed historical broadband price information by city is provided in Table A2.2 in Attachment 2. Table 19 displays average regional broadband prices.

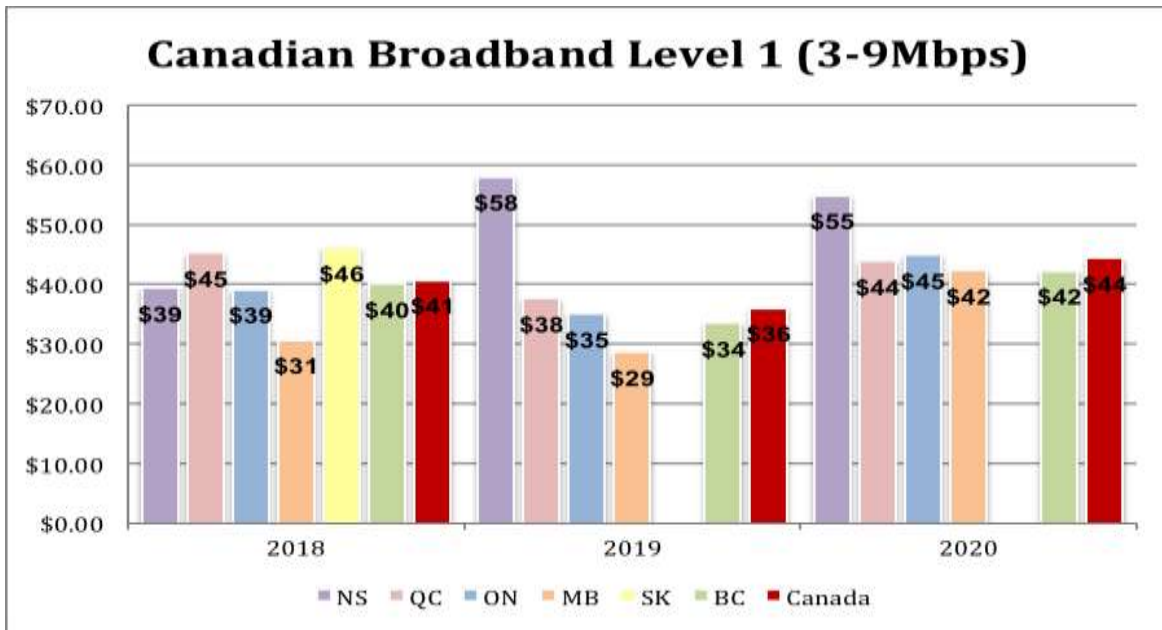
Figure 3



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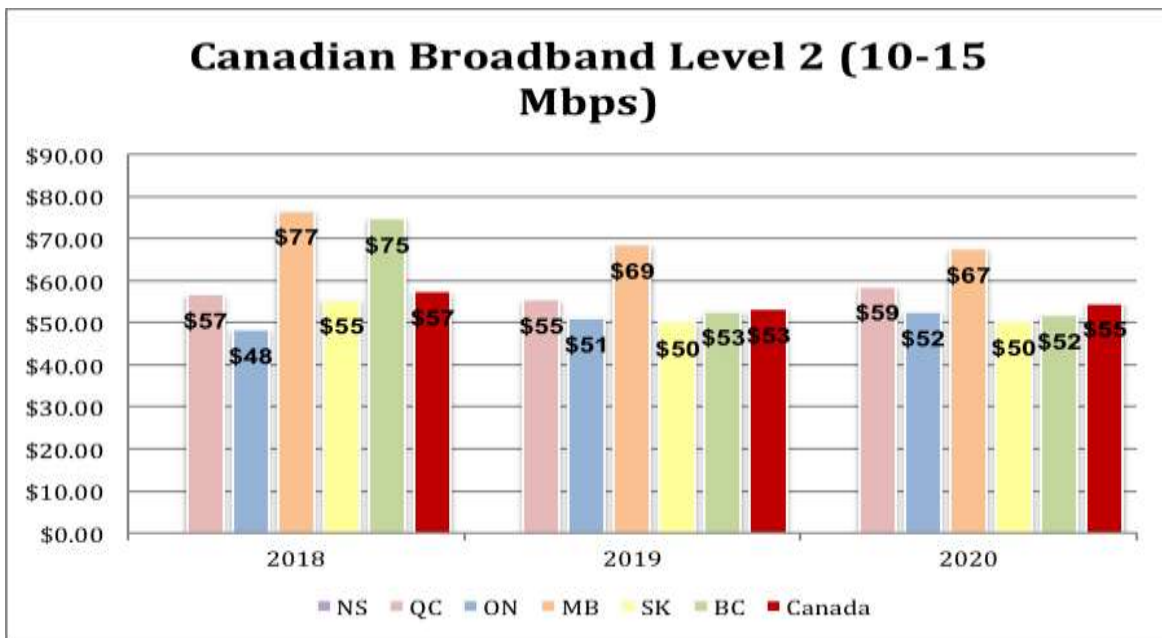
We note that fixed broadband prices have increased in Canada in every basket between 2019 and 2020 (excluding L7 which was only introduced this year). The highest increase of 22.3% occurred in L1 (3–9 Mbps) while L5 (101–250 Mbps) has only a modest .85% increase.

- The Level 1 national average broadband price increased from \$35.98 in 2019 to \$44.37 in 2020, an increase of 23%. Average 2020 Level 1 prices varied from roughly \$42 in Winnipeg and Vancouver to \$54.86 in Halifax. Level 1 prices generally increased from 2008 to 2014 but have been falling gradually until this year’s reversal. As noted, our criteria for Level 1 has evolved over time such that the “quality” of the basket has also been improving as speeds have been increased.



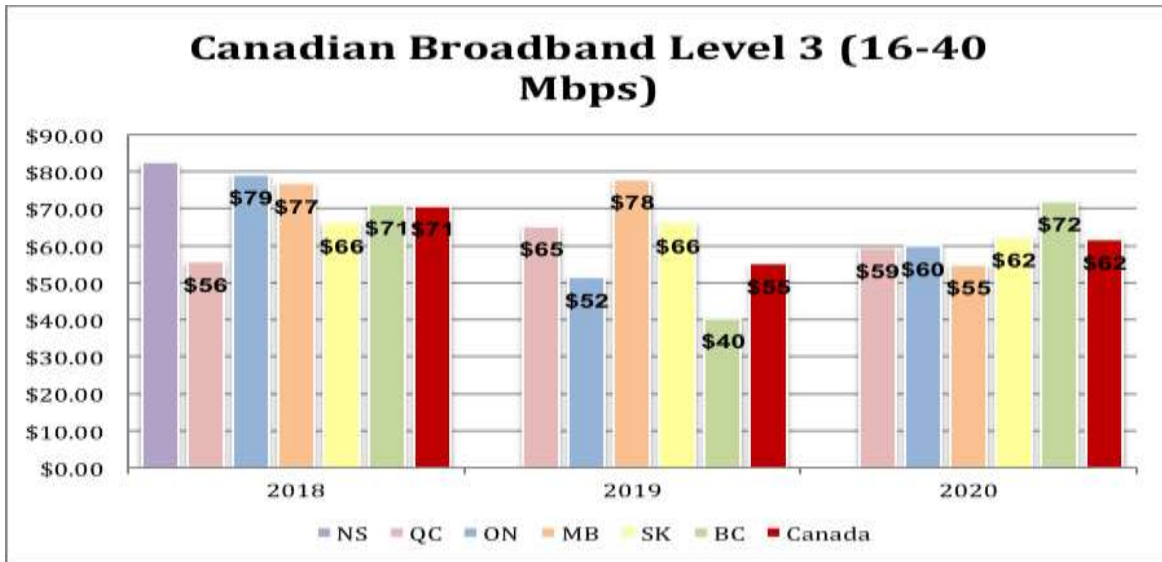
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- The 2019 Level 2 basket price increased marginally from \$53.20 to \$54.61. Average 2020 Level 2 prices varied from a low of \$50.37 in Regina to \$67.48 in Winnipeg.



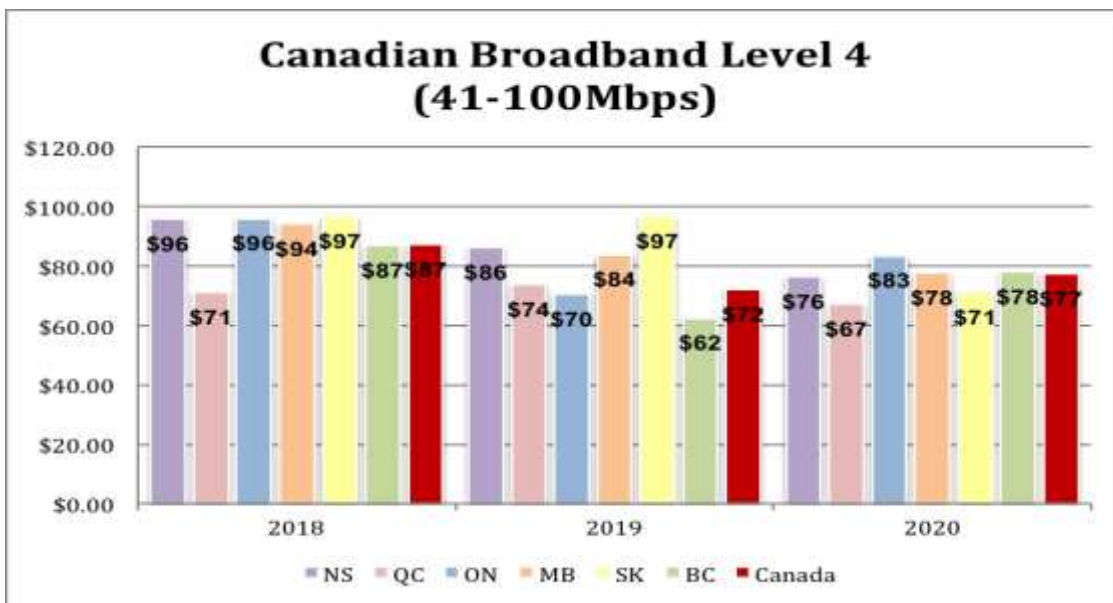
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- The 2020 Level 3 national average price increased sharply to \$61.62 from \$55.20 in 2019 – a rise of almost 12%. Vancouver had the highest price at \$71.94 while the lowest price was found in Winnipeg at \$54.78.



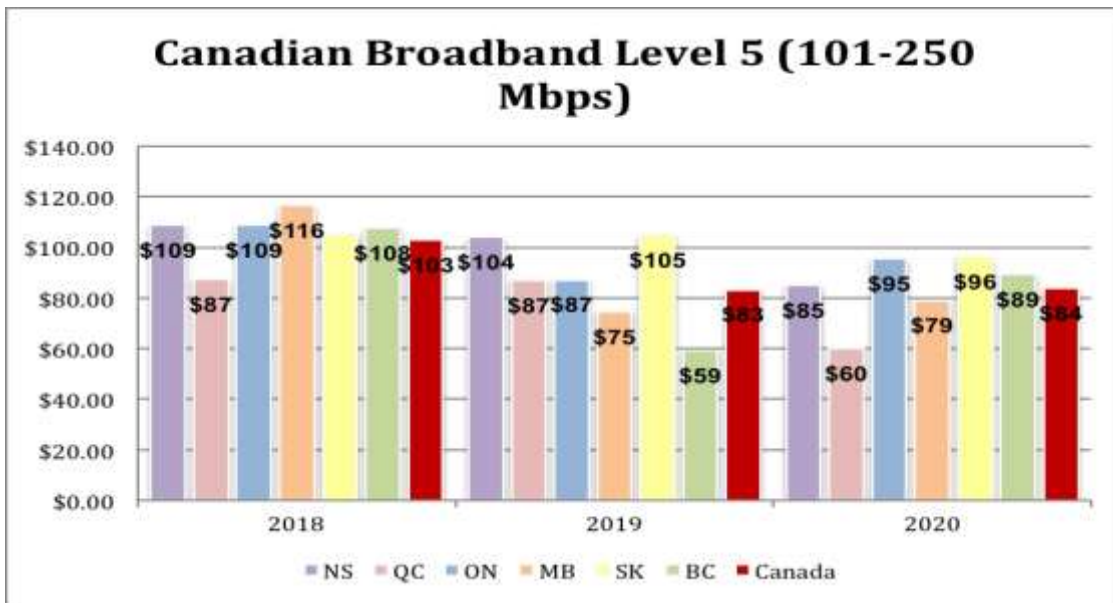
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- The Level 4 national price rose in 2020 to \$77.18 from \$72.01 in 2019. Average 2020 Level 4 prices varied from \$67.08 in Vancouver to \$83.33 in Montreal.



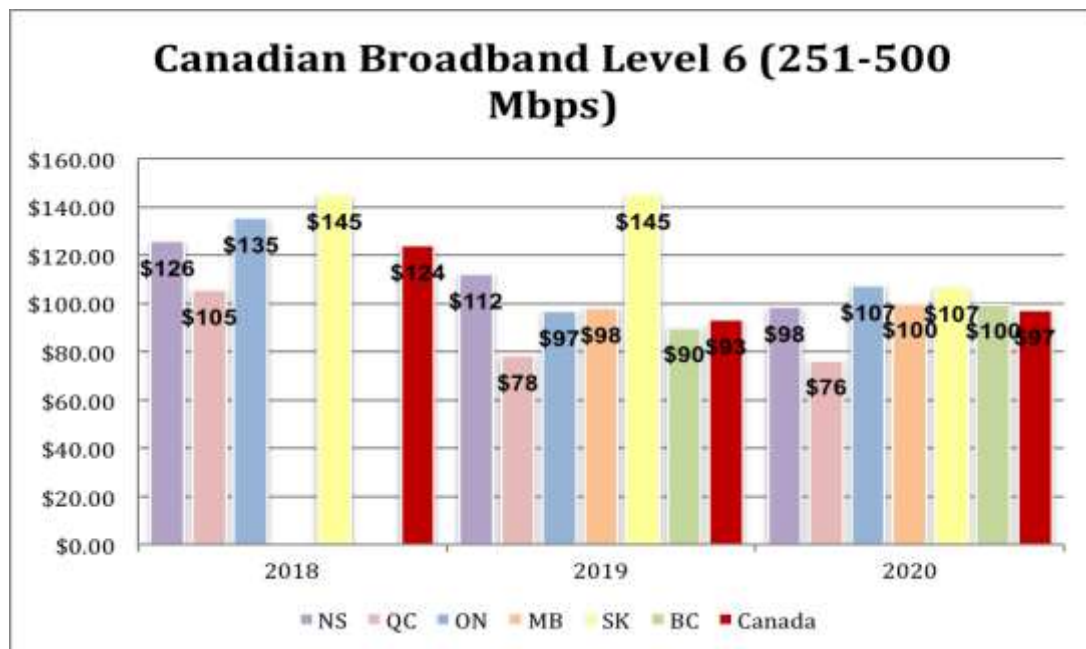
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- The Level 5 national average price in 2020 stayed much the same, posting at \$83.95 compared to \$83.25 in 2019. Regina had the highest price (\$96.20) while the lowest price was found in Montreal (\$60.00).



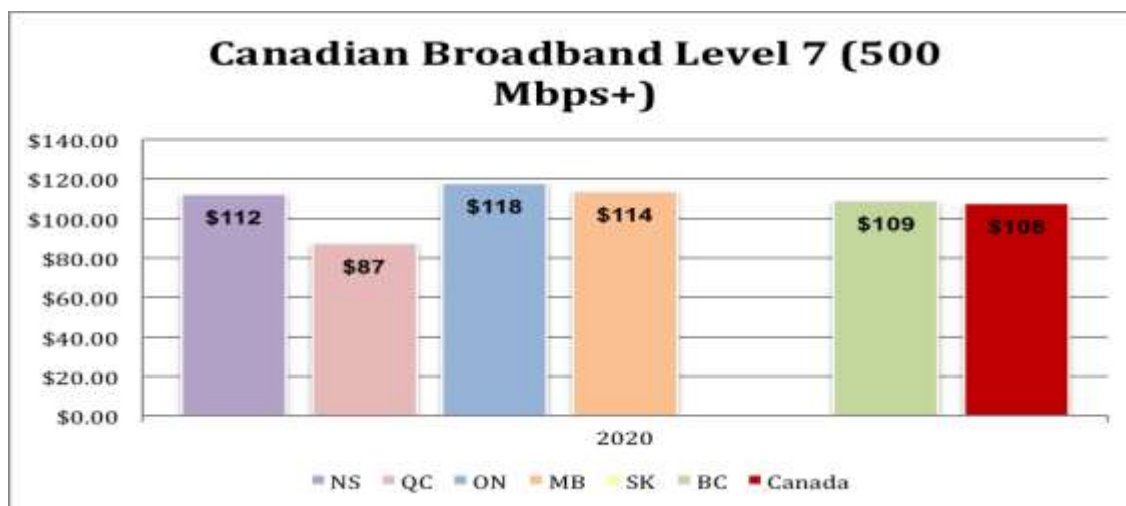
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- Level 6 prices (introduced in 2018), increased from \$93.03 in 2019 to \$97.16 in 2020. Prices varied from \$76.26 (Montreal) to \$107.38 (Ontario).



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- Level 7 – introduced this year at 500 Mbps or greater – posted an average national price of \$107.55



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In contrast to past years, every broadband Canadian basket (excepting the Level 7 introduced this year) had a higher average price in 2020 relative to 2019. There is also much greater uniformity in average regional prices in 2020 relative to 2019.

Montreal had the lowest average prices in 4 of the 7 baskets while Toronto had the highest prices in three baskets.

Table 19: Canadian Regional Broadband Prices 2020

	NS	QC	ON	MB	SK	BC	Canada
Level 1	\$54.86	\$43.86	\$44.90	\$42.28	N/A	\$42.22	\$44.37
Level 2	N/A	\$58.54	\$52.45	\$67.48	\$50.37	\$51.80	\$54.61
Level 3	N/A	\$59.37	\$59.91	\$54.78	\$62.26	\$71.94	\$61.62
Level 4	\$76.41	\$67.08	\$83.33	\$77.66	\$71.14	\$77.82	\$77.18
Level 5	\$84.95	\$60.00	\$95.44	\$78.91	\$96.20	\$89.32	\$83.95
Level 6	\$98.31	\$76.27	\$107.38	\$100.00	\$106.72	\$99.56	\$97.16
Level 7	\$112.12	\$87.45	\$117.90	\$113.59	N/A	\$108.94	\$107.55

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Price variations in the case of broadband services can be affected by differences in service speeds offered by ISPs. For the most part, the plans that are sampled have the same or very similar speeds associated with a given basket level.

Canadian broadband service plans also span a range of data caps. For Level 1, the lowest posted data cap was 50 GB (with a high of 400 GB). For Level 2, data caps ranged from 50 GB to unlimited GB. For Level 3 caps varied from 200 GB

to unlimited. For Level 4, the lowest data cap was 400 GB but higher caps and unlimited are typical. Level 5 and Level 6 data caps are generally, as expected, much higher (with most unlimited). Over time, data cap upper limits have been increasing steadily.

We would note that speeds of 100 Mbps or higher are common across the country – in contrast to even three years ago. We would also note that 1 Gbps service is now offered in several regions.

SPOTLIGHT SECTION on Fixed Broadband Flankers

While flanker brands have been a fixture in the mobile wireless market for more than a decade, they are relatively new to the fixed broadband market. Currently flankers operate in two provinces, Quebec and Ontario.

In Quebec, Bell Virgin offers a broadband service in Levels 1 to 4. Bell offers its own service in Level 2 and Level 4. Virgin is priced well below Bell in L2 but is priced at a similar rate in L4.

Teksavvy offers plans in L1 through L4 and also in L6. Primus only offers a plan in L1. Virgin prices are lower than Primus and Teksavvy at every Level where the companies offer a plan. WBC prices are sometimes lower than incumbent prices (L2), sometimes higher (L4) and sometimes similar (L6).

We also note that Videotron has introduced a flanker brand (Fizz) that offers service in level L2 to L5. They are the only operator in Quebec that offers a plan in L5. In the other levels, they offer the lowest price or its equal relative to incumbents and WBCs.

In Ontario, Virgin offers plans in L1, L3 and L4 while Fido offers plans in L3, L4 and L5. Pricing by the flankers is similar and is also generally similar to WBC pricing.

Bell does not offer service in L1 or L3. Rogers begins its plans at L4. Flanker prices are lower than the incumbents in L4 and L5.

SPOTLIGHT SECTION on Fixed Broadband WBCs

Table 20 provides a summary of the national-level differentials between the incumbents' and WBC prices for each of the broadband service baskets. As shown in the table, WBC broadband service prices are consistently lower than those of the incumbents across all service baskets. Only WBC offer a Level 1 service and this year for the first time WBC are offering a Level 6 service in some regions.

Table 20: 2020 Canadian Broadband Internet Service Rates Incumbent versus WBC ISPs

Baskets	Incumbents	WBCs	Differential
Level 1	N/A	\$46.57	n/a
Level 2	\$57.69	\$50.12	-13.13%
Level 3	\$68.78	\$61.20	-11.02%
Level 4	\$76.35	\$72.71	-4.76%
Level 5	\$87.69	\$75.51	-18.09%
Level 6	\$103.49	\$92.46	-5.39%
Level 7	\$107.00	\$126.33	17.90%

Wall Communications Inc. 2020 Unweighted averages. WBCs include Primus and TekSavvy.

We note that average prices from WBCs are uniformly lower than Incumbent prices, with the exception of the highest category (Level 7) and Level 1 (where the incumbents do not offer a service in this range). WBC prices are on average 10.5% lower than incumbent prices across Levels 2 to 6.

4.3 International Fixed Broadband Service Prices

As with the other service categories, there are a number of notable differences in the way in which broadband services are provisioned in some of the surveyed countries compared to Canada:

- In some of the surveyed European countries, to obtain a DSL broadband Internet service on a stand-alone basis, the customer must in some cases also lease a landline connection (which adds an additional access line charge).
- Fibre and/or DSL-based broadband services offered in the U.K., France, Germany and Italy generally include VoIP and/or IPTV services for a single bundled price. The option of a pure stand-alone broadband Internet service is not available in some cases.
- In Japan, broadband Internet service typically consists of two separate service elements: (i) a network access facility (fibre or ADSL), often obtained from NTT and (ii) an Internet access service provided by a third-party ISP. Therefore, there are two fees involved: the broadband access fee and ISP fee.
- In the US, Australia, France and Germany lower level plans (L1, L2) are no longer offered.
- We note a new phenomenon (2020) in Italy where providers offer service at just a single price; the customer receives the highest available speed at their particular address, but every customer pays the same price.

Table 21 below provides a summary of the unweighted average "advertised" download and upload service speeds of the surveyed broadband services included in each of the six specified broadband service baskets for Canada and the surveyed foreign jurisdictions.³⁰ Data caps are typically no longer listed in most countries (with the exception of Canada and Australia) – either because the vendor has chosen not to state the cap or (more likely) because the plans do not have data caps.

Table 21
2020 International Broadband Internet Services

³⁰ While advertised download speeds are readily available, the same is not true for upload speeds. Consequently, the average upload speeds are based on a somewhat lower number of observations compared to average download speeds.

International Fixed Broadband Modal Advertised Download Speeds (Mbps)

	L1	L2	L3	L4	L5	L6	L7
Can.	5	15	30	100	150	300	1 Gbps
US	NA	NA	25	100	200	300	1 Gbps
UK	9	11	36	67	213	362	516
AU	NA	NA	25	80,100	NA	NA	NA
FR	NA	NA	25	NA	NA	300, 400, 500	1 Gbps
JA	8	12	40	100	120, 200	NA	1 Gbps
GM	NA	NA	16	100	250	NA	1 Gbps
IT	NA	NA	NA	NA	NA	NA	1 Gbps
Int. Mode	NA	NA	25	100	200	300	1 Gbps

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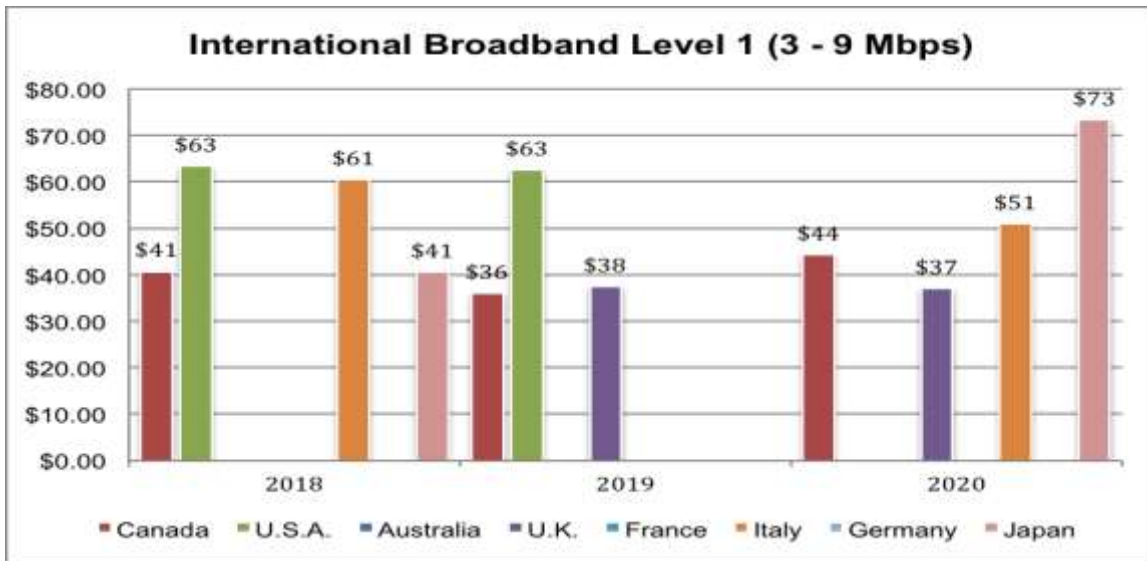
International Fixed Broadband Average Advertised Download Speeds (Mbps)

	L1	L2	L3	L4	L5	L6	L7
Can.	5.4	12.8	28.6	78.9	151.5	385.7	948
US	NA	NA	25	100	200	333	1 Gbps
UK	9	10.7	35.7	65.3	213	362	516
AU	NA	NA	25	90	NA	NA	NA
FR	NA	NA	25	NA	NA	400	1 Gbps
JA	8	12	40	100	160	320	1 Gbps
GM	NA	NA	16	100	250	NA	1 Gbps
IT	NA	NA	NA	NA	NA	NA	1 Gbps
Int. Av. (exc. Canada)	8.5	11.4	27.8	91.1	205.8	353.8	919.3

Wall Communications Inc. 2020

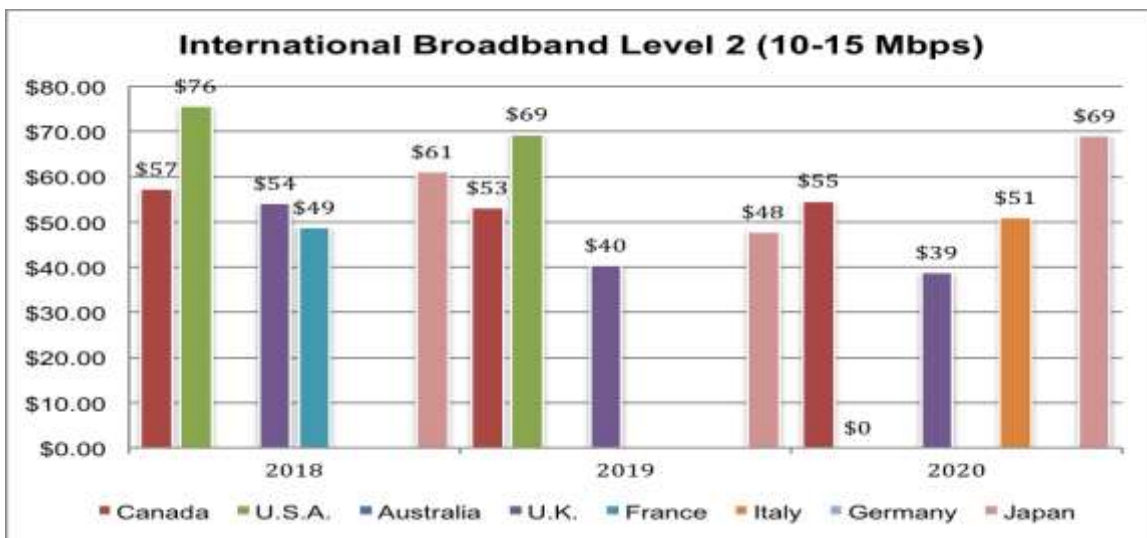
While past Studies have identified trends or relatively clear-cut international comparative conclusions, this year is more ambiguous. The offering of lower level plans (i.e. L1 and L2) appears to be fairly limited. At the higher end, almost every country now offers a 1 Gbps plan. Findings for each of the seven broadband service baskets are described below.

- Level 1 broadband services were only available from surveyed ISPs in four of the eight countries included in the study – i.e., Canada, Japan, Italy and the UK. Canada's average monthly price of \$44.37 is considerably lower than the measured average prices for Italy (\$50.98) and Japan (\$73.33) and higher than the UK (\$37.01).



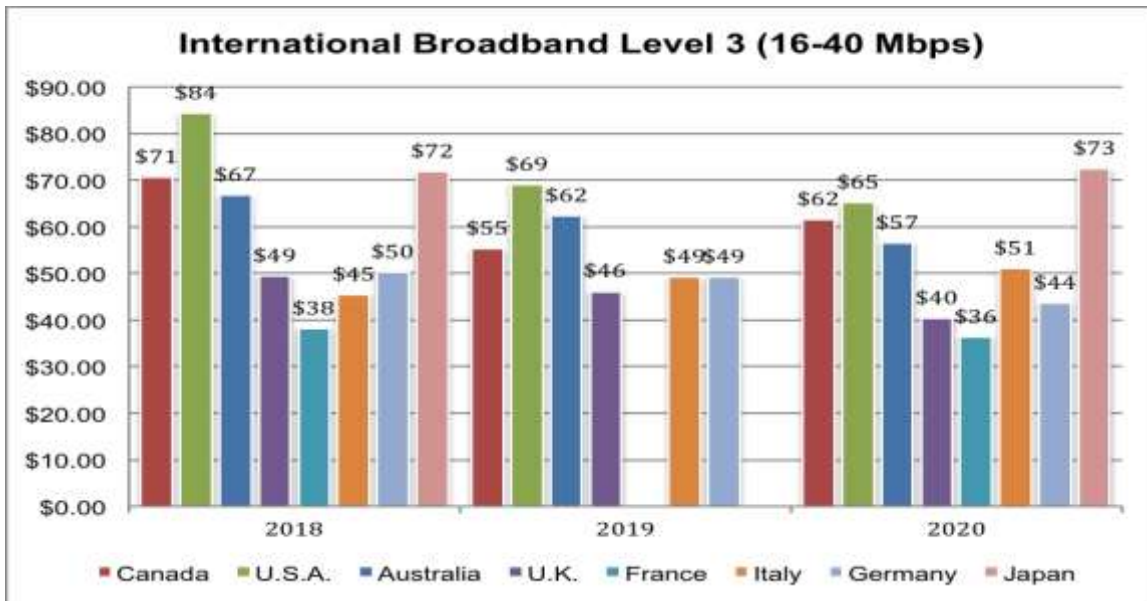
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- In the case of the Level 2 basket, again only four countries provide this level of service (Canada, the UK, Italy and Japan). Canada's average monthly price of \$54.61 is higher than both the UK (\$38.84) and Italy (\$50.98) but lower than Japan (\$69.10).



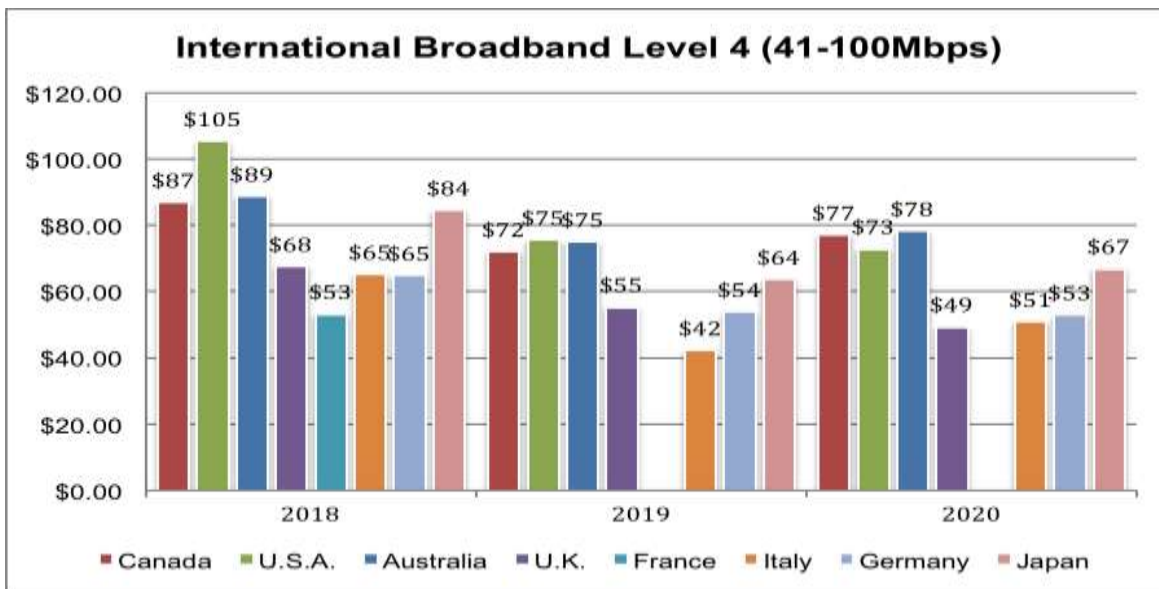
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- For the Level 3 basket, Canada's average monthly price of \$61.62 is higher than all other countries except for the US (\$65.10) and Japan (\$72.51).



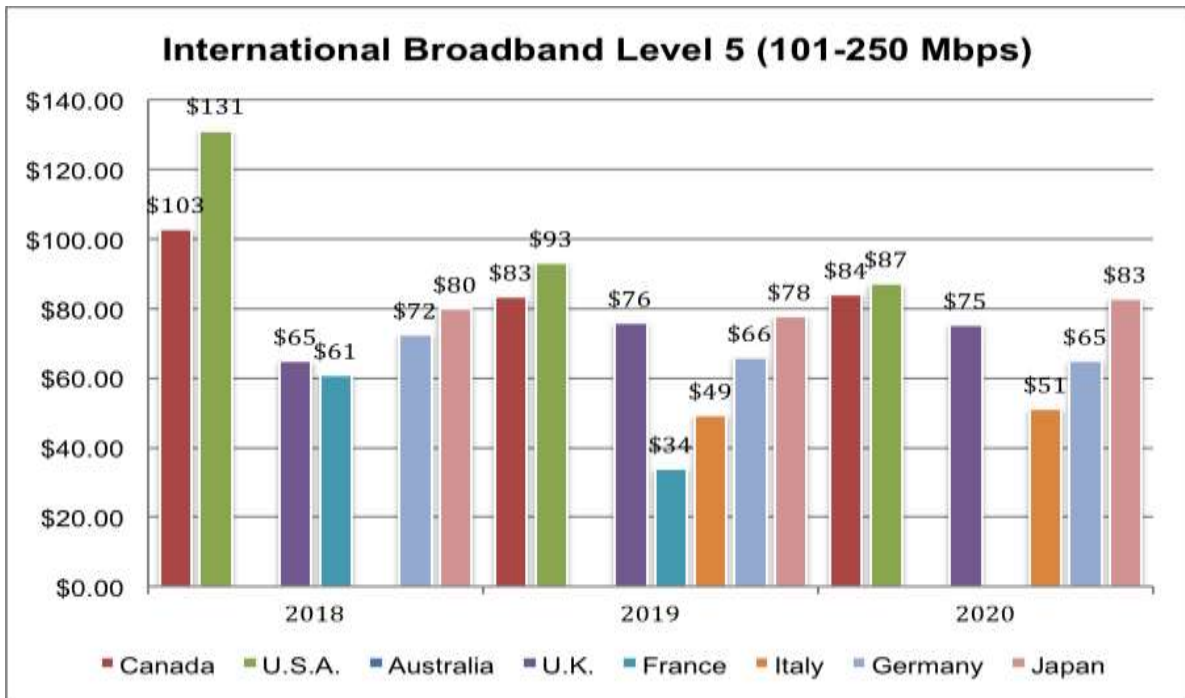
Wall Communications Inc. 2020

- For the Level 4 basket, Canada's average monthly price of \$77.18 is higher than all other countries except for Australia (\$78.28). Prices in the UK, Italy and Germany all fall near the \$50 mark.



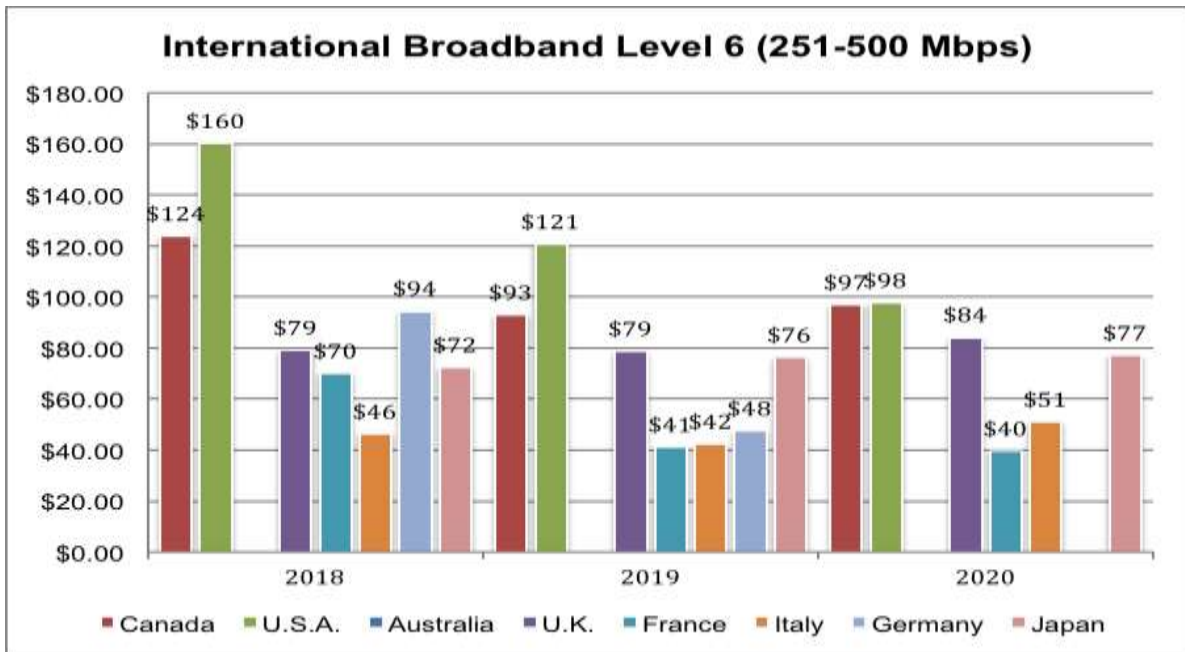
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- The average Canadian price for Level 5 broadband is \$83.95, higher than all other countries except for the US (with a price of \$86.98).



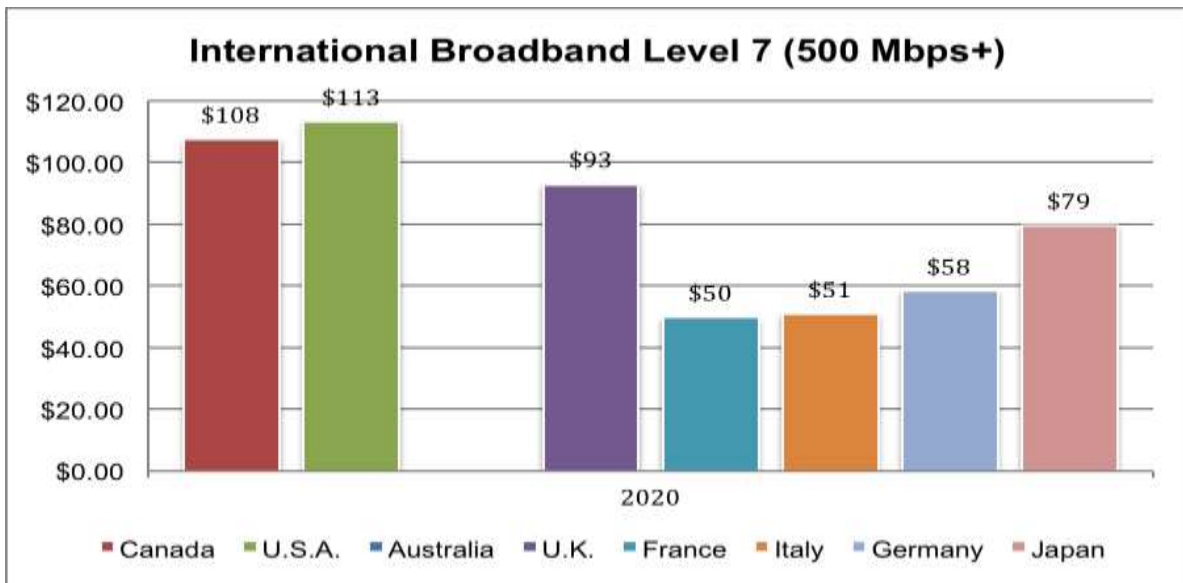
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- The Canadian Level 6 broadband price of \$97.06 is highest among the surveyed countries, save for the US price of \$97.63. The lowest price of \$39.51 is found in France.



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- The average price for Level 7 (introduced this year) in Canada is \$107.55, higher than all other countries except for the US (\$113.37). Both France and Italy have prices close to \$50.



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Canada's broadband service price ranking has remained relatively consistent since the study was first conducted in 2008. The measured prices for the European countries included in the study (U.K., France, Italy and Germany) have consistently been lower than those in Canada – in some cases, by a wide margin.

Relative to last year, all countries (except for Canada and Japan) have lower prices in a majority of baskets. Canadian prices were higher in every basket.

In sum, Canadian broadband Internet service prices compare reasonably well with the other surveyed countries in the case of the Levels 1 and 2 – although most countries no longer provide these lower level service baskets. However, Canadian Level 3 and higher basket prices tend to be higher than the prices measured in the surveyed countries, with some exceptions (e.g. the US).

5.0 MOBILE INTERNET SERVICE

5.1 Mobile Internet Service Baskets

There are three mobile Internet service levels included in the study, categorized by the data allowance of the service. They consist of the following usage-based service elements and characteristics:

- Technology: 3rd, 4th generation or more (e.g., 3G, 3G+, 4G or 4G LTE)
- Service speed: Advertised download speed³¹
- Equipment: USB modem key (included with service on a no-charge, rental or purchase basis)
- Data usage:
 - Level 1:** 2 to 5 GB per month
 - Level 2:** 5 to 10 GB per month
 - Level 3:** Greater than 10 GB per month

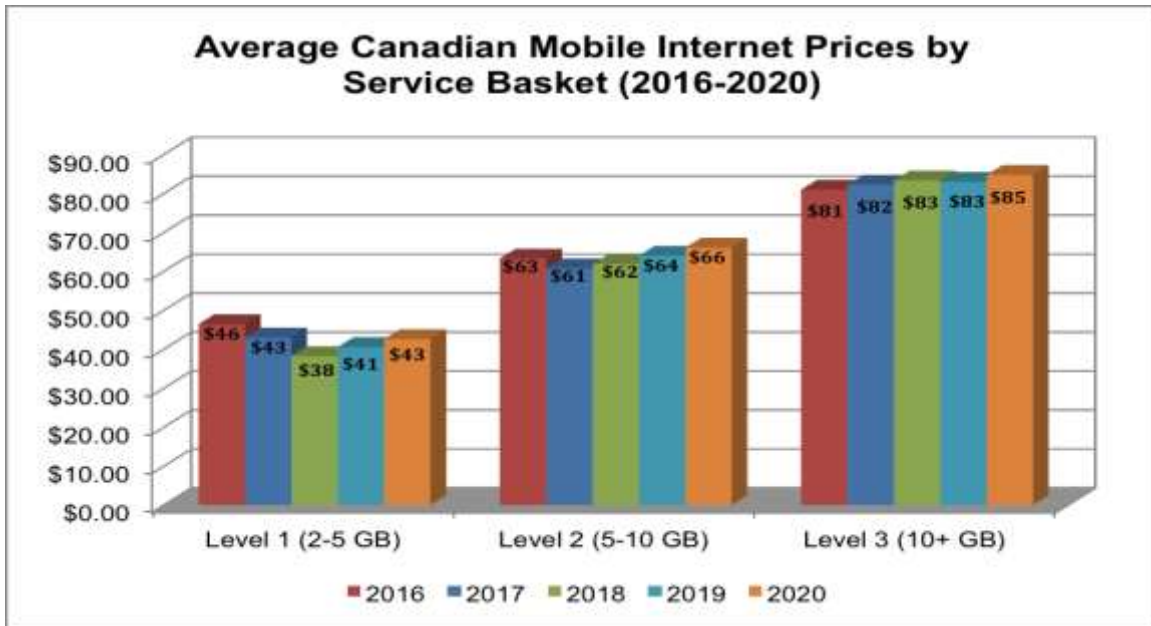
One-time charges (such as activation fees) are generally excluded.

5.2 Canadian Mobile Internet Service Prices

Figure 8 below provides a summary of Canadian Level 1 through 3 mobile Internet service basket prices for the periods 2016 to 2020. More detailed price information by city is provided in Table A2.5 of Attachment 2. As can be seen prices in L1 fell between 2016 and 2018, but increased thereafter. L2 prices have increased each year since 2017. Average annual Canadian prices for L3 have increased each year since 2016.

Figure 4

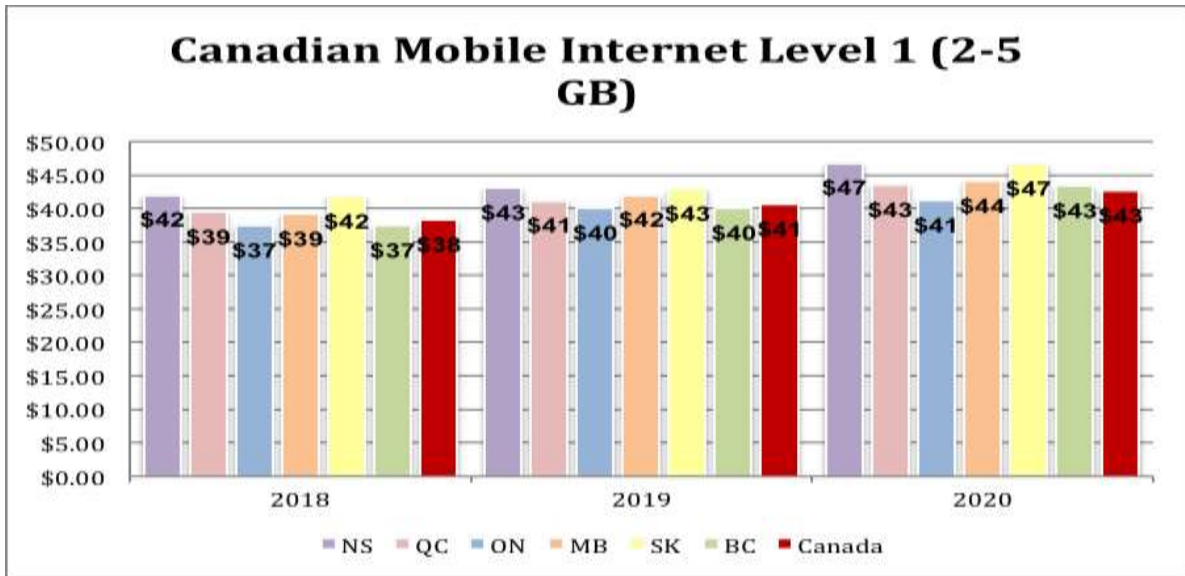
³¹ Advertised versus actual average speeds can vary significantly in the case of mobile wireless Internet services. Actual average speeds are sensitive to local network usage levels and user locations, among other factors. Some wireless service providers include theoretical maximum speeds in their advertising, while others use or least also note expected average speeds in their advertising. Consequently, comparing service speeds across service providers and countries is not straightforward even when the same mobile wireless technology is in use.



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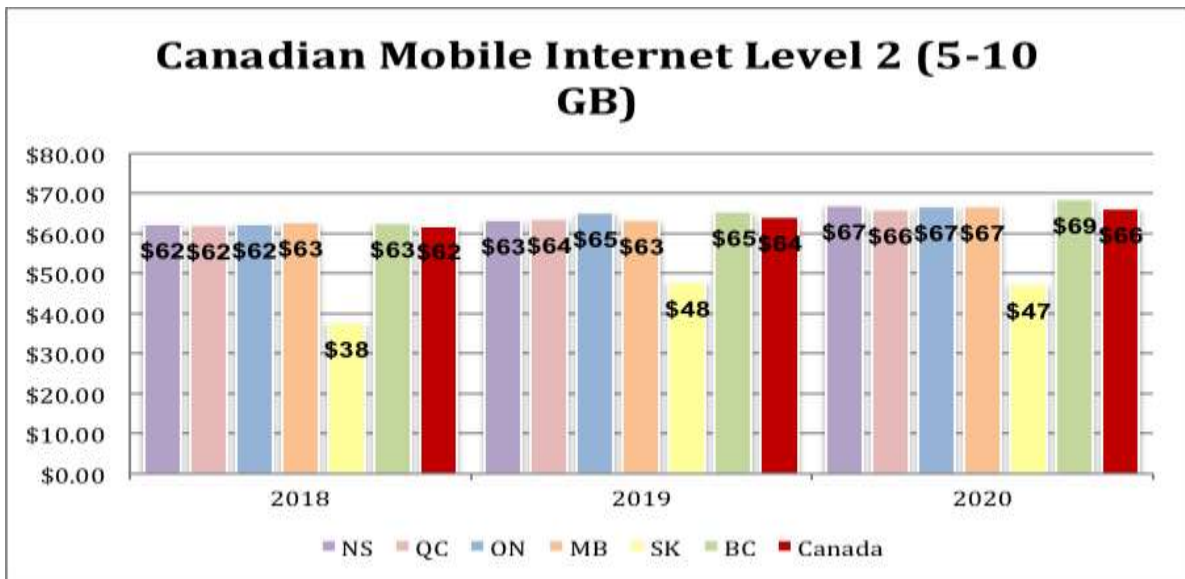
In addition to the national Canadian prices featured in Figure 8, prices from various regions for each basket are also provided below.

- Level 1 mobile Internet service price increased from \$40.60 in 2019 to \$42.63 in 2020. Level 1 prices remained fairly consistent across the country, ranging from a low of \$41.19 in ON to \$46.73 in Nova Scotia. Most Level 1 service plans included 2 to 5 GB of data allowance per month, with Freedom offering 4 GB. Download speeds were consistent across the country from all providers at 150 Mbps. Prices in every region increased relative to last year. Prices have generally trended downwards for the Level 1 basket between 2010 and 2018, prices have increased in both 2019 and 2020.



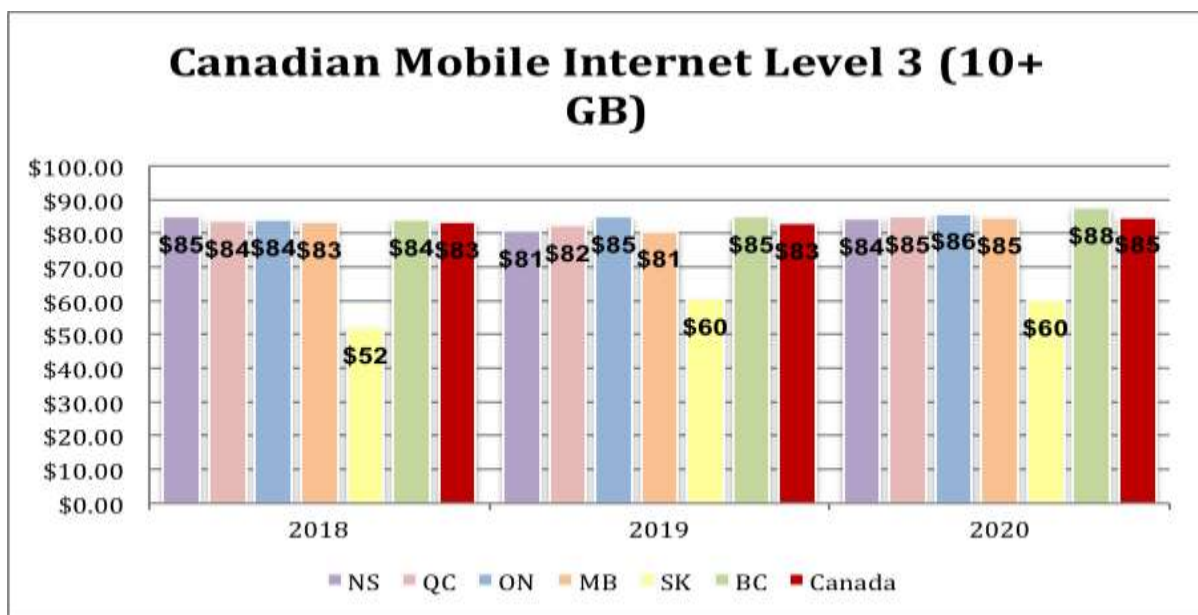
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- The Level 2 price increased from \$64.04 in 2019 to \$66.10 this year. There is very little variation from province to province with the exception of Saskatchewan, who offered a plan at \$47.26 (in contrast to all other plans in the mid to high \$60s). The Level 2 plans mostly included data allowances of 5 to 10 GB per month and were typically offered with a speed of 150 Mbps.



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- The Level 3 national price also increased in 2020 to \$84.79, up from \$82.99 in 2019. Once again, Saskatchewan was significantly lower than other provinces with a price of \$60.10 (versus prices in other regions in the \$85 range).



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The advertised download speed of the mobile Internet services included in this year's study is typically 150 Mbps.

A comparison of the mobile Internet service rates offered by the incumbents (Rogers, Bell and TELUS) and Regionals (SaskTel, Xplore Mobile, Freedom, Videotron and Eastlink), as applicable, in the cities of Vancouver, Toronto, Montreal, Winnipeg, Regina and Halifax is provided in Table 22. The Incumbents offer the same price in each province/city and therefore the average price is consistent across the country.

For the Level 1 mobile Internet service basket, the Regionals' prices are significantly lower than the incumbents on average. For the Level 2 and Level 3 service baskets, the differential is 19%. No comparison with resellers was conducted due to the very few number of reseller offerings (i.e. only a few instances in Level 1).

Table 22
Mobile Internet: Incumbents versus Regionals Broadband Pricing 2020

	NS	QC	ON	MB	SK	BC	Canada
Level 1							
Incumbents	\$44.46	\$44.46	\$44.46	\$44.46	\$44.46	\$44.46	\$44.46
Regionals	N/A	\$39.16	\$15.00	N/A	N/A	\$15.00	\$23.05
Differential	N/A	-11.92%	-66.26%	N/A	N/A	-66.26%	-48.15%
Level 2							
Incumbents	\$67.80	\$67.80	\$67.80	\$67.80	\$67.80	\$67.80	\$67.80
Regionals	N/A	\$59.16	N/A	N/A	\$35.00	N/A	\$47.08
Differential	N/A	-12.73%	N/A	N/A	-48.37%	N/A	-30.55%

Level 3							
Incumbents	\$86.13	\$86.13	\$86.13	\$86.13	\$86.13	\$86.13	\$86.13
Regionals	N/A	\$79.16	N/A	N/A	\$45.00	N/A	\$62.08
Differential	N/A	-8.09%	N/A	N/A	-47.75%	N/A	-27.92%
	NS	QC	ON	MB	SK	BC	Canada

Unweighted averages
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Mobile Internet prices have remained relatively steady for the last several years. Regionals continue to offer lower prices than the incumbents. Depending on the region the price difference between regional providers and incumbents can be significant (e.g. Ontario and BC).

5.3 International Mobile Internet Service Prices

Table 18 provides a summary of the average Level 1 to Level 3 advertised download speeds and data caps for Canada and each of the seven surveyed foreign jurisdictions. Upload speeds are often not advertised by wireless service providers and, therefore, are not included in the table.

Table 23
2020 International Mobile Internet Services
Median Advertised Speeds

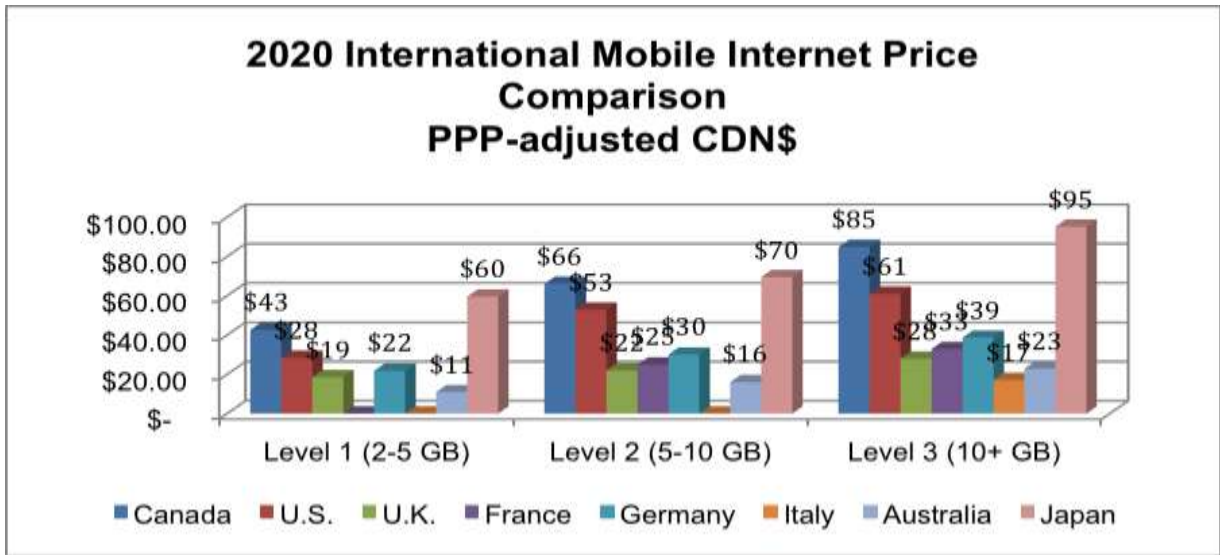
	L1	L2	L3
Canada	150 mbps	150 mbps	150 mbps
US	150 mbps	150 mbps	150 mbps
UK	30 mbps	30 mbps	30 mbps
AUS	150 mbps	150 mbps	150 mbps
FR	NA	100 mbps	125 mbps
JP	220 mbps	220 mbps	220 mbps
GR	225 mbps	225 mbps	225 mbps
IT	NA	NA	60 mbps

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Canada is similar to the US and Australia in average download speed in each basket and offering the same speed in every basket. Canada generally compares favorably against most other countries (with the exception of Germany and Japan).

Figure 5 below provides a comparison of Level 1 to Level 3 mobile Internet service basket prices for Canada and the surveyed foreign jurisdictions. Table A3.4 in Attachment 3 provides detailed historical mobile Internet price results.

Figure 5

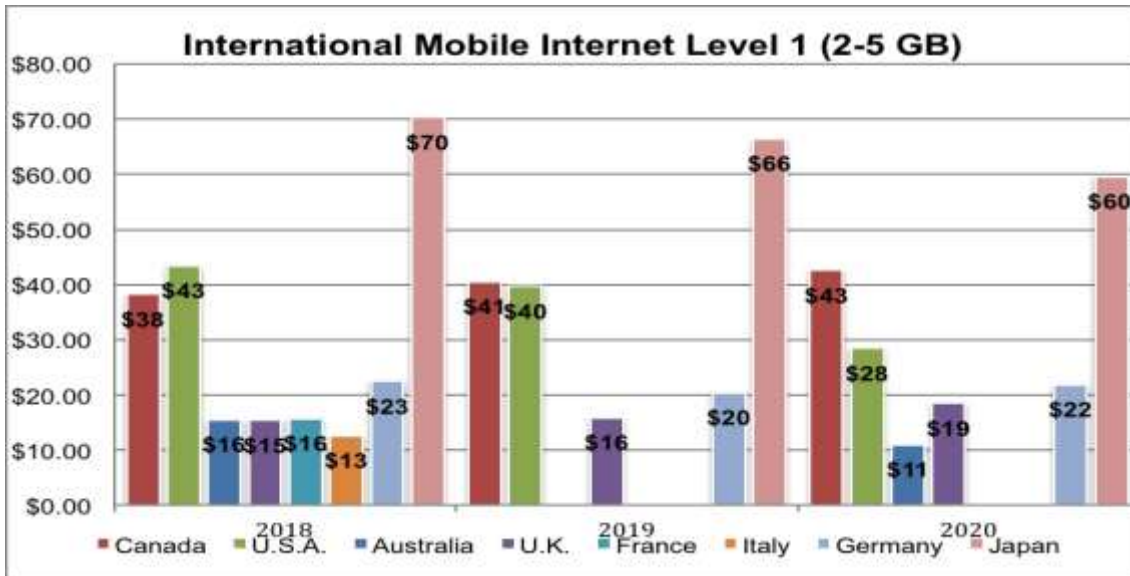


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We note that L1 service baskets are not offered in France or Italy. In L2, Italy does not offer any service plans. All countries offer plans in L3.

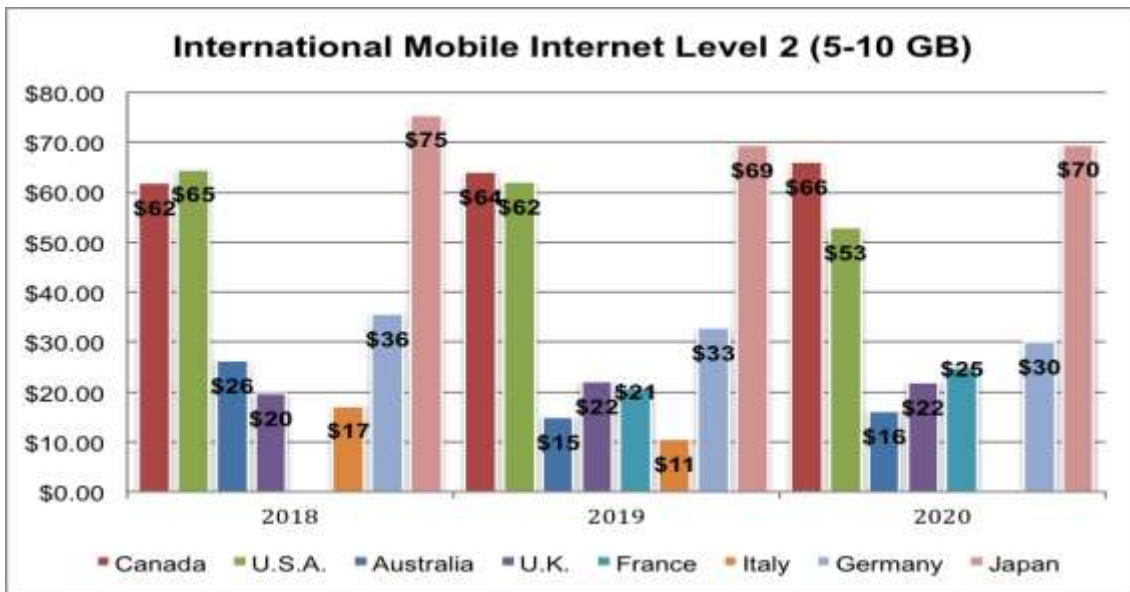
Examining each basket over the last three years, Canada has remained at the higher end of the international ranking

- In the case of the Level 1 mobile Internet service basket, the average Canadian price of \$42.63 is only lower than the Japanese price of \$59.57. Prices in Australia, the UK and Germany are considerably lower than Canada. We also note that France and Italy do not offer these lower data allotment mobile Internet services. Over the last three years, prices in the US and Japan – both countries on the relatively high end of the range – have been falling. Canada however has experienced increasing prices in L1



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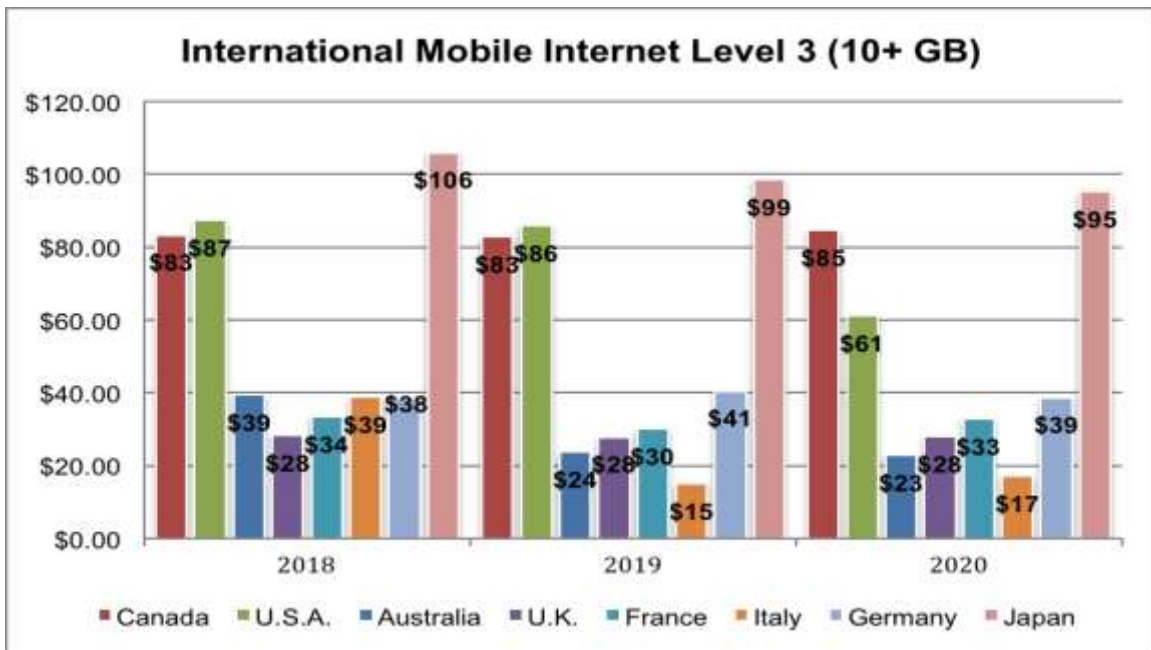
- For the Level 2 service basket, the average Canadian mobile Internet price of \$66.10, higher than the US price of \$52.90 and lower than the Japanese price of \$69.54. Prices in the European countries are generally much lower, ranging from roughly \$16 to \$30. Over the last three years, US prices have been dropping while Canada's have been rising.



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- In Level 3, the narrative is similar, with Canada being on the high price end (\$84.79) – with only Japan higher than Canada. The European countries, the US and Australia are much lower. Over the last three years,

both US and Japanese prices have been falling while in Canada prices have at best stayed constant (2018 to 2019) or increased (2019 to 2020).



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The most obvious change from previous years is the downward movement of US prices over the last three years with a pronounced drop in 2020. Canada and the US have had fairly similar prices over the last few years in all baskets. However, since 2018, Canadian prices have been moving, modestly but steadily, upwards. Canada has ranked on the high side of the group, generally closer to the U.S. and Japan while Australia and the European countries included in the study have consistently had lower prices for all baskets compared to Canada – by a substantial margin in many cases. While Japan and the US have generally had declining average prices over the last three years in all baskets, Canada has had increasing prices.

As a point of interest, the major US mobile wireless providers have begun offering widely available “hotspot” service across their wireless networks. The “hotspot” services essentially are a substitute for a mobile wireless Internet service for laptops and related devices. These added services are typically free when a customer purchases an “unlimited data” plan from the operator. Separate mobile data services in some cases may be available for lower level plans.

Table 23: 2020 International Mobile Internet Prices

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan

Canadian and International Price Comparisons – 2020 Update

Level 1 (2-5 GB)	\$42.63	28.48	\$10.96	\$18.56	N/A	N/A	N/A	\$59.57
Level 2 (5-10 GB)	\$66.10	\$52.90	\$16.10	\$21.97	\$24.98	N/A	\$30.08	\$69.54
Level 3 (10+ GB)	\$84.79	\$61.05	\$22.94	\$27.99	\$32.90	\$17.09	\$38.68	\$95.18

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In sum, Canada's average mobile Internet service prices fall on the high side (along with the US and Japan) of the group of surveyed countries. Canadian prices have been increasing over the last three years while other countries have been declining (most noticeably the US and Japan) or remaining fairly stable.

6.0 CANADIAN TELECOM SERVICE PROVIDER RESPONSES TO COVID-19

The spread of COVID-19 across the country in 2020 beginning in February/March created enormous disruption and numerous hardships for mobile wireless customers. Mobile service providers also faced extreme challenges due to the spread of COVID-19. In this section we examine the efforts by providers to alleviate some of the hardships created by the pandemic and to generally support the daily lives of Canadians in dealing with the disease.³²

General Observations

The spread of COVID-19 placed unexpected and unprecedented demands on telecom service provider networks. This applied to both wireless and fixed line networks. The demand surge, largely created by work at home initiatives and the overall increase in communications needs resulting from the spread of COVID, had the potential to cause significant disruption to network capability. Demand jumped relatively quickly by an estimated 25% above normal levels.³³

The rapid increase in demand meant that providers needed to actively respond to ensure network reliability and functionality. Measures adopted across the industry included accelerated network roll-outs and upgrades, new monitoring and planning systems and increased maintenance efforts. As well, targeted measures aimed at ensuring service to front-line and essential services were undertaken.

By virtually all accounts, the efforts of Canadian telecom service providers were successful in minimizing network disruption and maintaining network efficacy at “normal” levels. We note that the efforts of providers not only taxed their human resources but also put pressure on their capital funding capability.

In addition to addressing network challenges, service providers also took several steps to ensure the safety of their work forces and customers. Wide scale closure of retail outlets, self-installation options, easier return and repair arrangements all contributed to protecting the health of employees and customers.

Several Canadian telecom service providers contributed to community and broader social efforts with financial and other assistance to “in need” organizations such as the Red Cross, Community Food Banks, Canadian Mental

³² The data gathered for this Spotlight section was collected from public media reports, individual service providers, industry observers and organizations (such as PIAC) representing Canadians impacted by COVID-19 and telecom service provider efforts.

³³ See <https://www.cwta.ca/blog/2020/08/19/managing-networks-in-unprecedented-times-part-3/> for a more complete description of network demands and service provider responses.

Health Association, Kids Help Phone, Big Brothers Big Sisters and Women's Shelters Canada.³⁴ In many cases, these contributions were substantial, overall adding up to millions of dollars of assistance and continue to be in place into 2021.

The industry supported the Canadian government's COVID app (for tracking symptoms and receiving information updates) and the COVID Alert tracking app (for notification of contact in the last 14 days with others who have tested positive).

Customer Financial Hardship Responses

Most telecom service providers undertook measures to ease the financial hardship issues of their customers. Key measures were 1) the waiving of certain wireless fees; 2) the lifting of data caps (for non-unlimited plans); and 3) flexible payment plans for those suffering payment problems due to COVID. All these measures were direct and substantive efforts to assist customer COVID-related financial hardship.³⁵

Some providers also undertook additional "financial-hardship" responses (e.g. no disconnects, credits to customers in need). A brief summary of individual company measures is provided in Attachment 4. In summary, there were several substantive "financial relief" programs available from Canadian telecom service providers as the pandemic took root in Canada.

We would note that many of the financial relief measures taken by Canadian service providers ended (in most cases) on or before June 30, 2020. Although the financial hardship of Canadians extended past June 2020 (and continues into 2021), we note that there has been considerably less "financial-hardship" response by TSPs in the period since June.

While recent measures have been more limited, there are examples of service providers offering financial hardship measures post June 30th. For example, some service providers eliminated data overage charges during the holiday period when in-person gatherings were not allowed. Some service providers rolled out programs to provide free phones and data plans to women experiencing abuse during COVID-19 (as well as other specific customer groups potentially suffering hardship during the period). Some service providers are also offering financial relief on a case-by-case basis.

³⁴ More details of these efforts can be found on individual provider websites and the CWTA's website at <https://www.cwta.ca/blog/2020/04/20/the-telecom-industry-responds-to-covid-19/>

³⁵ While individual provider websites provide information on specific COVID responses, the CWTA (*op. cit.*) has a comprehensive listing of responses.

ATTACHMENT 1 – SERVICE BASKETS

TABLE A1.1
MOBILE WIRELESS SERVICE BASKETS (2020 Baskets)

- **Level 1:** 450 voice minutes and 300 SMS (texts);
- **Level 2:** 1 GB of data usage per month (no talk or text);
- **Level 3:** unlimited nationwide talk and text along with 2-4 GB of data;
- **Level 4:** unlimited nationwide talk and text along with 5-6 GB of data;
- **Level 5:** unlimited nationwide talk and text along with 7-9 GB of data;
- **Level 6:** unlimited nationwide talk and text along with 10-19 GB of data;
- **Level 7:** unlimited nationwide talk and text along with 20-49 GB of data; and
- **Level 8:** unlimited nationwide talk and text along with 50+ GB of data.

MOBILE WIRELESS SERVICE BASKETS (2019 Definition Baskets)

- **Level 1:** 450 voice minutes and 300 SMS (texts);
- **Level 2:** 1,200 voice minutes, 300 texts and 1 GB of data usage per month;
- **Level 3:** unlimited nationwide talk and text along with 2 GB of data;
- **Level 4:** unlimited nationwide talk and text along with 5 GB of data; and
- **Level 5:** Shared plan with 3 phones lines and unlimited nationwide talk and text along with 10 to 49 GB of data.

TABLE A1.2
BROADBAND INTERNET SERVICE BASKETS

- **Level 1:** speeds of 3-9 Mbps;
- **Level 2:** speeds of 10 to 15 Mbps;
- **Level 3:** speeds of 16 to 40 Mbps;
- **Level 4:** speeds of 41 to 100 Mbps;
- **Level 5:** speeds of 101 to 250 Mbps;
- **Level 6:** speeds of 251 to 500 Mbps; and
- **Level 7:** speeds greater than 500 Mbps

Note: In 2019, there were 6 levels, ending with L6 = 251 – 400 Mbps.

TABLE A1.3
MOBILE INTERNET SERVICE BASKETS

- **Level 1:** 2 to 5 GB per month
- **Level 2:** 5 to 10 GB per month

- **Level 3:** Greater than 10 GB per month

ATTACHMENT 2 – CANADIAN PRICE COMPARISONS 2020

Table A2.1 - Canadian Mobile Wireless Prices (2020 Baskets)
Based on Incumbent Primary Brand, Flanker, Regional and Reseller Prices

Level 1

	NS	QC	ON	MB	SK	BC	Canada
2020	\$29.59	\$30.86	\$30.88	\$30.96	\$30.49	\$29.71	\$30.63

Level 2

	NS	QC	ON	MB	SK	BC	Canada
2020	\$33.37	\$32.46	\$32.24	\$32.57	\$20.21	\$31.71	\$31.82

Level 3

	NS	QC	ON	MB	SK	BC	Canada
2020	\$46.23	\$42.74	\$46.14	\$46.17	\$46.85	\$46.43	\$45.30

Level 4

	NS	QC	ON	MB	SK	BC	Canada
2020	\$53.16	\$46.92	\$51.96	\$52.90	\$59.83	\$53.38	\$51.21

Level 5

	NS	QC	ON	MB	SK	BC	Canada
2020	\$64.53	\$58.07	\$62.50	\$63.89	\$65.20	\$63.20	\$61.65

Level 6

	NS	QC	ON	MB	SK	BC	Canada
2020	\$80.12	\$69.15	\$76.76	\$69.21	\$71.27	\$78.47	\$74.57

Level 7

	NS	QC	ON	MB	SK	BC	Canada
2020	\$98.56	\$86.43	\$92.30	\$89.09	\$91.29	\$94.16	\$91.04

Level 8

	NS	QC	ON	MB	SK	BC	Canada
2020	\$128.09	\$117.22	\$126.54	\$117.06	\$113.29	\$126.05	\$123.11

2019 Definition Baskets

Mobile Wireless Level 1 (2019 Definition Baskets)

Canadian and International Price Comparisons – 2020 Update

	NS	QC	ON	MB	SK	BC	Canada	YoY%
2008	\$53.14	\$62.62	\$63.37	\$51.91	\$61.20	\$58.34	\$60.81	
2009	\$48.73	\$59.17	\$59.20	\$50.49	\$44.44	\$59.30	\$57.78	-5.00%
2010	\$48.05	\$54.34	\$53.56	N/A	\$44.77	\$53.74	\$53.49	-7.40%
2011	\$47.39	\$51.50	\$49.99	N/A	\$48.19	\$50.86	\$50.51	-5.60%
2012	\$47.22	\$51.04	\$51.97	N/A	\$42.54	\$51.61	\$51.31	1.60%
2013	\$43.44	\$44.78	\$45.40	N/A	\$44.86	\$43.93	\$44.86	-12.60%
2014	\$45.40	\$45.59	\$44.29	N/A	\$54.29	\$46.20	\$45.26	0.90%
2015	\$48.45	\$49.04	\$48.15	\$46.65	\$56.70	\$49.28	\$48.68	7.60%
2016	\$49.56	\$44.39	\$50.96	\$46.98	\$49.38	\$50.89	\$48.77	0.20%
2017	\$41.03	\$38.62	\$41.85	\$36.40	\$35.91	\$44.40	\$40.95	-16.00%
2018	\$42.39	\$36.69	\$40.42	\$39.25	\$36.71	\$41.28	\$39.43	-3.72%
2019	\$39.77	\$37.23	\$37.79	\$38.90	\$27.72	\$39.28	\$37.62	-4.59%
2020	\$29.59	\$30.86	\$30.82	\$30.96	\$30.49	\$29.69	\$30.60	-18.64%
CAGR	-4.76%	-5.73%	-5.83%	-4.22%	-5.64%	-5.47%	-5.56%	

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Mobile Wireless Level 2 (2019 Definition Baskets)

	NS	QC	ON	MB	SK	BC	Canada	YoY%
2008	\$121.04	\$113.21	\$111.51	\$111.51	\$113.67	\$109.68	\$112.34	
2009	\$105.61	\$104.38	\$102.20	\$112.82	\$94.64	\$101.24	\$103.24	-8.10%
2010	\$101.44	\$108.37	\$112.63	N/A	\$94.97	\$107.27	\$109.59	6.20%
2011	\$96.73	\$98.73	\$100.76	N/A	\$96.69	\$99.61	\$99.69	-9.00%
2012	\$96.44	\$98.92	\$98.26	N/A	\$96.42	\$98.22	\$98.37	-1.30%
2013	\$94.40	\$93.78	\$93.89	N/A	\$77.07	\$93.96	\$93.59	-4.90%
2014	\$86.91	\$73.59	\$81.00	N/A	\$65.33	\$86.46	\$79.69	-14.90%
2015	\$86.76	\$82.96	\$87.36	\$73.54	\$72.56	\$88.32	\$85.22	6.90%
2016	\$79.29	\$62.98	\$80.48	\$69.86	\$71.59	\$80.48	\$74.67	-6.30%
2017	\$80.73	\$59.05	\$75.63	\$58.18	\$62.88	\$80.43	\$70.70	-5.30%
2018	\$83.13	\$45.91	\$84.76	\$50.42	\$61.35	\$83.67	\$70.99	0.41%
2019	\$69.63	\$44.87	\$74.67	\$48.71	\$53.66	\$75.70	\$64.80	-8.72%
2020	\$47.91	\$47.83	\$46.13	\$47.25	\$53.21	\$47.48	\$47.17	-27.21%
CAGR	-7.43%	-6.93%	-7.09%	-6.90%	-6.13%	-6.74%	-6.98%	

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Mobile Wireless Level 3 (2019 Definition Baskets)

	NS	QC	ON	MB	SK	BC	Canada	YoY%
2014	\$89.23	\$92.29	\$92.81	n/a	\$65.62	\$97.69	\$92.99	

Canadian and International Price Comparisons – 2020 Update

2015	\$91.23	\$76.22	\$87.83	\$61.82	\$64.43	\$89.78	\$83.08	-10.70%
2016	\$88.73	\$69.98	\$87.69	\$63.69	\$68.15	\$88.24	\$81.05	-2.40%
2017	\$93.98	\$68.26	\$87.45	\$67.04	\$56.43	\$93.74	\$81.61	0.70%
2018	\$86.48	\$57.95	\$85.23	\$52.77	\$78.48	\$85.09	\$75.44	-7.56%
2019	\$83.94	\$53.92	\$84.71	\$57.63	\$56.72	\$85.83	\$74.42	-1.36%
2020	\$55.36	\$49.90	\$54.21	\$54.82	\$55.74	\$54.63	\$53.24	-28.46%
CAGR	-7.65%	-9.74%	-8.57%	-2.37%	-2.68%	-9.23%	-8.88%	

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Mobile Wireless Level 4 (2019 Definition Baskets)

	NS	QC	ON	MB	SK	BC	Canada	YoY%
2015	\$122.21	\$94.67	\$117.93	\$65.76	\$65.62	\$117.65	\$107.50	
2016	\$109.64	\$79.44	\$105.81	\$70.38	\$82.15	\$109.11	\$96.55	-10.20%
2017	\$105.89	\$87.09	\$113.95	\$74.71	\$74.06	\$121.49	\$104.49	8.20%
2018	\$101.67	\$65.27	\$99.69	\$61.56	\$66.68	\$100.76	\$87.32	-16.43%
2019	\$98.62	\$64.28	\$100.21	\$65.35	\$56.66	\$101.13	\$87.57	0.29%
2020	\$71.48	\$61.80	\$68.63	\$70.42	\$70.85	\$70.35	\$67.32	-23.12%
CAGR	-10.17%	-8.18%	-10.26%	1.38%	1.55%	-9.77%	-8.93%	

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Mobile Wireless Level 5 (2019 Definition Baskets)

	NS	QC	ON	MB	SK	BC	Canada	YoY%
2016	\$250.18	\$190.40	\$257.18	\$180.00	\$182.44	\$256.00	\$231.99	
2017	\$265.33	\$216.56	\$288.55	\$257.38	\$194.98	\$292.34	\$264.65	14.10%
2018	\$280.81	\$164.28	\$265.86	\$123.60	\$177.52	\$267.69	\$227.87	-13.90%
2019	\$233.49	\$160.31	\$229.98	\$143.14	\$164.22	\$233.28	\$205.78	-9.69%
2020	\$242.41	\$214.02	\$235.33	\$215.56	\$197.03	\$240.51	\$228.40	10.99%
CAGR	-0.79%	2.97%	-2.20%	4.61%	1.94%	-1.55%	-0.39%	

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Table A2.2 - Canadian Fixed Broadband Internet Service Prices

Fixed Broadband Level 1 (3-9 Mbps)

Canadian and International Price Comparisons – 2020 Update

	NS	QC	ON	MB	SK	BC	Canada	YoY
2008	\$34.95	\$32.45	\$38.95	\$29.95	\$30.45	\$23.45	\$32.88	
2009	\$35.95	\$28.43	\$35.45	\$30.95	\$30.45	\$24.95	\$30.98	-5.79%
2010	\$36.95	\$29.43	\$33.45	N/A	\$30.95	\$29.00	\$31.44	1.49%
2011	\$36.15	\$36.90	\$34.15	N/A	\$32.52	\$33.00	\$34.85	10.86%
2012	\$39.15	\$33.35	\$45.37	N/A	\$31.95	\$35.40	\$39.37	12.98%
2013	\$42.15	N/A	N/A	N/A	\$31.95	\$39.00	\$38.91	-1.19%
2014	\$40.15	N/A	\$50.95	N/A	\$42.95	N/A	\$50.00	28.50%
2015	\$55.13	N/A	N/A	N/A	\$34.10	N/A	\$47.51	-4.96%
2016	\$88.73	\$41.07	\$33.63	\$55.80	\$46.95	\$51.00	\$41.94	-11.74%
2017	\$50.27	\$41.47	\$32.52	\$59.00	\$49.75	\$57.58	\$41.83	-0.25%
2018	\$39.40	\$45.19	\$39.11	\$30.61	\$46.17	\$40.01	\$40.67	-2.78%
2019	\$57.95	\$37.64	\$35.09	\$28.61	N/A	\$33.51	\$35.98	-11.54%
2020	\$54.86	\$43.86	\$44.90	\$42.28	N/A	\$42.22	\$44.37	23.30%
CAGR	3.8%	2.5%	1.2%	2.9%	N/A	5.0%	2.5%	

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Fixed Broadband Level 2 (10-15 Mbps)

	NS	QC	ON	MB	SK	BC	Canada	YoY
2008	\$47.45	\$48.95	\$48.95	\$41.95	\$45.45	\$40.95	\$46.58	
2009	\$48.45	\$50.43	\$50.95	\$42.95	\$45.45	\$38.45	\$47.26	1.47%
2010	\$49.45	\$51.43	\$47.95	N/A	\$45.95	\$40.00	\$47.60	0.71%
2011	\$50.75	\$52.83	\$49.33	N/A	\$48.52	\$45.65	\$49.79	4.61%
2012	\$57.75	\$60.92	\$52.79	N/A	\$54.95	\$46.40	\$54.31	9.07%
2013	\$51.15	\$55.60	\$47.18	N/A	\$54.95	\$53.51	\$51.20	-5.72%
2014	\$54.95	\$53.91	\$55.25	N/A	\$54.95	\$56.68	\$55.10	7.61%
2015	\$74.45	\$54.83	\$55.17	\$59.17	\$52.88	\$59.90	\$56.66	2.84%
2016	N/A	\$51.75	\$61.92	\$62.60	\$56.95	\$62.00	\$58.88	3.91%
2017	N/A	\$53.26	\$72.14	\$66.70	\$59.75	\$69.29	\$65.54	11.31%
2018	N/A	\$56.61	\$48.33	\$76.52	\$55.34	\$74.77	\$57.36	-12.48%
2019	N/A	\$55.38	\$50.95	\$68.58	\$49.95	\$52.61	\$53.20	-7.26%
2020	N/A	\$58.54	\$52.45	\$67.48	\$50.37	\$51.80	\$54.61	2.67%
CAGR	N/A	1.50%	0.58%	4.04%	0.86%	1.98%	1.34%	

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Fixed Broadband Level 3 (16-40 Mbps)

	NS	QC	ON	MB	SK	BC	Canada	YoY
2008	\$57.45	\$83.45	\$73.95	\$52.95	\$55.95	\$50.95	\$68.74	

Canadian and International Price Comparisons – 2020 Update

2009	\$58.45	\$64.40	\$62.45	\$52.95	\$55.95	\$53.45	\$60.08	-12.60%
2010	\$59.45	\$65.40	\$62.45	N/A	\$56.45	\$55.48	\$61.88	3.00%
2011	\$60.75	\$66.33	\$65.35	N/A	\$56.75	\$55.00	\$63.44	2.52%
2012	\$88.95	\$66.95	\$72.17	N/A	\$79.95	\$54.60	\$67.94	7.09%
2013	\$77.95	\$67.05	\$64.35	N/A	\$79.95	\$60.69	\$65.18	-4.07%
2014	\$87.95	\$67.15	\$70.87	N/A	\$70.95	\$62.00	\$68.60	5.25%
2015	\$92.95	\$59.93	\$71.39	\$67.93	\$62.88	\$68.17	\$67.81	-1.15%
2016	N/A	\$56.09	\$65.20	\$70.60	\$62.95	\$69.06	\$63.48	-6.39%
2017	N/A	\$50.80	\$70.89	\$73.35	\$73.95	\$73.09	\$65.59	3.32%
2018	\$82.50	\$55.62	\$79.15	\$76.82	\$66.19	\$71.16	\$70.70	7.78%
2019	N/A	\$65.24	\$51.54	\$77.90	\$66.19	\$40.39	\$55.20	-21.91%
2020	N/A	\$59.37	\$59.91	\$54.78	\$62.26	\$71.94	\$61.62	11.63%
CAGR	N/A	-2.80%	-1.74%	0.28%	0.89%	2.92%	-0.91%	

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Fixed Broadband Level 4 (41-100 Mbps)

	NS	QC	ON	MB	SK	BC	Canada	YoY
2011	\$84.75	\$73.30	\$73.75	N/A	\$99.95	\$91.40	\$77.71	
2012	\$138.95	\$82.95	\$106.98	N/A	n/a	\$74.90	\$94.39	21.47%
2013	\$102.75	\$82.95	\$80.57	N/A	\$99.95	\$85.00	\$82.88	-12.19%
2014	\$99.55	\$84.75	\$86.87	N/A	\$105.95	\$86.00	\$86.46	4.31%
2015	\$99.26	\$74.51	\$79.68	\$87.10	\$105.80	\$89.79	\$80.63	-6.74%
2016	\$84.17	\$72.21	\$76.80	\$89.80	\$85.95	\$89.16	\$78.77	-2.30%
2017	\$87.22	\$78.06	\$85.51	\$90.00	\$83.95	\$79.18	\$82.54	4.79%
2018	\$95.69	\$71.14	\$95.84	\$94.14	\$96.65	\$86.67	\$87.00	5.41%
2019	\$86.27	\$73.63	\$70.42	\$83.71	\$96.65	\$62.34	\$72.01	-17.23%
2020	\$76.41	\$67.08	\$83.33	\$77.66	\$71.14	\$77.82	\$77.18	7.18%
CAGR	-1.14%	-0.98%	1.37%	-2.27%	-3.71%	-1.77%	-0.08%	

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Fixed Broadband Level 5 (101 – 250 Mbps)

	NS	QC	ON	MB	SK	BC	Canada	YoY
2016	\$133.10	\$138.80	\$92.91	\$123.00	N/A	\$123.00	\$114.65	
2017	\$113.55	\$79.15	\$100.08	\$122.01	\$139.95	\$92.50	\$95.10	-17.06%
2018	\$108.62	\$87.22	\$108.90	\$116.44	\$104.95	\$107.61	\$102.76	8.06%
2019	\$103.95	\$87.00	\$87.11	\$74.53	\$104.95	\$59.31	\$83.25	-18.99%
2020	\$84.95	\$60.00	\$95.44	\$78.91	\$96.20	\$89.32	\$83.95	0.85%
CAGR	-10.62%	-18.91%	0.68%	-10.50%	-11.75%	-7.69%	-7.50%	

Wall Communications Inc. 2020

Canadian and International Price Comparisons – 2020 Update

Fixed Broadband Level 6 (251 – 500 Mbps)

	NS	QC	ON	MB	SK	BC	Canada	YoY
2018	\$125.69	\$105.45	\$135.23	N/A	\$144.95	N/A	\$123.87	
2019	\$112.13	\$78.30	\$96.74	\$98.19	\$144.95	\$89.94	\$93.03	-24.90%
2020	\$98.31	\$76.27	\$107.38	\$100.00	\$106.72	\$99.56	\$97.16	4.44%
CAGR	-11.6%	-15.0%	-10.9%	1.8%	-14.2%	5.2%	-11.43%	

Wall Communications Inc. 2020

Fixed Broadband Level 7 (500+ Mbps)

	NS	QC	ON	MB	SK	BC	Canada	YoY
2020	\$112.12	\$87.45	\$117.90	\$113.59	N/A	\$108.94	\$107.55	

Wall Communications Inc. 2020

Table A2.3 - Canadian Mobile Internet Prices

Level 1 (2-5 GB)

	NS	QC	ON	MB	SK	BC	Canada	YoY%
2010	\$54.15	\$54.15	\$54.15	N/A	\$56.23	\$54.16	\$54.19	
2011	\$52.32	\$52.76	\$52.17	N/A	\$53.98	\$52.22	\$52.41	-3.29%
2012	\$53.05	\$52.56	\$52.51	N/A	\$53.05	\$52.51	\$52.55	0.27%
2013	\$45.12	\$44.52	\$44.37	N/A	\$48.99	\$44.52	\$44.55	-15.22%
2014	\$43.75	\$43.22	\$43.19	N/A	\$47.08	\$43.30	\$43.30	-2.80%
2015	\$43.06	\$43.63	\$43.19	\$44.88	\$50.38	\$43.30	\$43.55	0.56%
2016	\$46.07	\$45.72	\$46.53	\$48.00	\$52.56	\$46.53	\$46.47	6.71%
2017	\$42.93	\$42.32	\$43.92	\$44.65	\$27.68	\$42.86	\$43.01	-7.44%
2018	\$41.96	\$39.43	\$37.38	\$39.10	\$41.77	\$37.36	\$38.28	-11.01%
2019	\$42.99	\$41.10	\$40.06	\$41.95	\$42.85	\$40.01	\$40.60	6.08%
2020	\$46.73	\$43.44	\$41.19	\$44.09	\$46.64	\$43.32	\$42.63	5.00%
CAGR	-1.46%	-2.18%	-2.70%	-0.35%	-1.85%	-2.21%	-2.37%	

Wall Communications Inc. 2020

Level 2 (5-10 GB)

	NS	QC	ON	MB	SK	BC	Canada	YoY%
2012	\$66.38	\$60.94	\$65.59	N/A	\$69.55	\$70.22	\$65.11	
2013	\$66.79	\$59.22	\$65.21	N/A	\$70.11	\$71.28	\$64.67	-0.67%
2014	\$67.08	\$59.49	\$65.60	N/A	\$68.75	\$65.90	\$63.90	-1.19%
2015	\$65.73	\$60.57	\$65.60	\$68.63	\$71.88	\$65.90	\$64.48	0.91%
2016	\$62.47	\$62.62	\$63.19	\$66.00	\$71.31	\$63.19	\$63.30	-1.82%
2017	\$61.01	\$60.71	\$61.08	\$62.78	\$33.99	\$62.14	\$60.79	-3.98%
2018	\$62.39	\$61.98	\$62.38	\$62.80	\$37.63	\$62.52	\$61.90	1.83%
2019	\$63.41	\$63.65	\$65.21	\$63.35	\$47.75	\$65.37	\$64.04	3.45%
2020	\$67.03	\$65.98	\$66.68	\$66.76	\$47.26	\$68.59	\$66.10	3.22%
CAGR	0.12%	1.00%	0.21%	-0.55%	-4.71%	-0.29%	0.19%	

Wall Communications Inc. 2020

Level 3 (10+ GB)

	NS	QC	ON	MB	SK	BC	Canada	YoY%
2016	\$78.89	\$81.07	\$80.70	\$84.50	\$81.41	\$80.70	\$80.98	
2017	\$83.85	\$80.86	\$85.00	\$81.36	\$47.83	\$81.25	\$82.28	1.60%
2018	\$85.02	\$83.77	\$83.94	\$83.25	\$51.98	\$83.94	\$83.35	1.30%
2019	\$80.78	\$82.42	\$84.85	\$80.60	\$60.40	\$84.85	\$82.99	-0.43%
2020	\$84.37	\$84.85	\$85.77	\$84.65	\$60.10	\$87.66	\$84.79	2.17%
CAGR	1.70%	1.15%	1.53%	0.04%	-7.31%	2.09%	1.16%	

ATTACHMENT 3 – INTERNATIONAL PRICE COMPARISONS 2020

Table A3.1 – International Mobile Wireless Service Prices

Note: Due to Basket redefinitions, international comparisons are only available for 2020.

Level 1

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2020	\$30.63	\$48.65	N/A	\$23.74	\$12.63	N/A	N/A	\$30.70

Level 2

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2020	\$31.82	\$26.95	N/A	N/A	N/A	N/A	N/A	\$35.06

Level 3

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2020	\$45.30	\$39.08	\$24.88	\$23.27	\$33.31	\$28.38	\$43.61	\$73.60

Level 4

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2020	\$51.21	\$43.52	N/A	\$25.73	\$28.41	N/A	\$54.43	\$88.46

Level 5

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2020	\$61.65	\$64.47	\$24.88	\$17.56	N/A	N/A	\$67.49	\$100.96

Level 6

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2020	\$74.57	\$61.56	\$32.93	\$22.15	\$44.71	N/A	\$82.66	\$78.89

Level 7

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2020	\$91.04	N/A	\$41.60	\$35.66	\$33.29	\$34.21	\$86.02	\$108.94

Wall Communications Inc. 2020

Table A3.2 - International Fixed Broadband Internet Service Prices

Canadian and International Price Comparisons – 2020 Update

Level 1 (3-9 Mbps)

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2008	\$32.88	\$33.77	\$42.79	\$29.93	\$42.23	N/A	N/A	N/A
2009	\$30.98	\$40.19	\$41.31	N/A	\$44.87	N/A	N/A	N/A
2010	\$31.44	\$39.61	\$34.91	N/A	N/A	N/A	N/A	\$39.73
2011	\$34.85	\$51.06	\$29.84	N/A	\$28.33	N/A	N/A	\$43.13
2012	\$39.37	\$57.24	N/A	N/A	N/A	N/A	N/A	\$50.48
2013	\$38.91	\$52.38	N/A	N/A	N/A	N/A	N/A	\$45.55
2014	\$50.00	\$62.53	N/A	N/A	N/A	N/A	N/A	\$56.55
2015	\$47.51	\$54.54	N/A	N/A	N/A	N/A	N/A	\$57.83
2016	\$41.94	\$79.64	\$58.38	N/A	N/A	N/A	\$28.28	N/A
2017	\$41.83	\$63.92	\$54.72	N/A	N/A	\$41.18	N/A	\$59.49
2018	\$40.67	\$63.32	N/A	N/A	N/A	\$60.53	N/A	\$40.56
2019	\$35.98	\$62.50	N/A	\$37.52	N/A	N/A	N/A	N/A
2020	\$44.37	N/A	N/A	\$37.01	N/A	\$50.98	N/A	\$73.33
CAGR	2.53%	N/A	N/A	1.79%	N/A	7.37%	N/A	6.32%

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Level 2 (10-15 Mbps)

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2008	\$46.58	\$55.97	\$62.56	\$44.05	\$45.82	N/A	N/A	N/A
2009	\$47.26	\$57.92	\$63.76	\$30.22	\$48.69	N/A	N/A	N/A
2010	\$47.60	\$58.97	\$52.01	\$40.57	\$44.03	N/A	N/A	\$49.55
2011	\$49.79	\$65.14	\$56.74	\$40.72	\$47.41	N/A	N/A	\$53.79
2012	\$54.31	\$78.84	\$59.81	\$30.50	\$46.97	N/A	N/A	\$55.70
2013	\$51.20	\$81.42	\$58.15	\$32.85	N/A	N/A	N/A	\$52.53
2014	\$55.10	\$72.91	\$50.67	\$30.22	N/A	\$52.26	\$26.09	\$60.65
2015	\$56.66	\$67.66	\$53.75	N/A	\$67.78	\$54.31	\$29.08	\$61.03
2016	\$58.88	\$83.85	\$54.49	N/A	\$73.83	\$64.29	N/A	\$51.75
2017	\$65.54	\$82.43	\$46.90	N/A	\$39.81	N/A	\$27.77	\$54.39
2018	\$57.36	\$75.56	N/A	\$54.13	\$48.83	N/A	N/A	\$61.14
2019	\$53.20	\$69.35	N/A	\$40.36	N/A	N/A	N/A	\$47.76
2020	\$54.61	N/A	N/A	\$38.84	N/A	\$50.98	N/A	\$69.10
CAGR	1.34%	N/A	N/A	-1.04%	N/A	-0.82%	N/A	3.38%

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Level 3 (16-40 Mbps)

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
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Canadian and International Price Comparisons – 2020 Update

2008	\$68.74	\$67.40	\$76.47	\$52.72	\$49.41	N/A	N/A	N/A
2009	\$60.08	\$70.41	\$77.98	\$35.93	\$47.73	N/A	N/A	N/A
2010	\$61.88	\$75.26	\$74.32	\$46.24	\$57.45	N/A	N/A	\$72.15
2011	\$63.44	\$79.60	\$59.72	\$40.09	\$66.37	N/A	N/A	\$54.52
2012	\$67.94	\$97.00	\$61.69	\$40.88	\$46.07	N/A	N/A	\$59.37
2013	\$65.18	\$99.10	\$57.10	\$43.01	\$49.34	N/A	N/A	\$61.52
2014	\$68.60	\$79.76	\$67.44	\$46.89	\$51.15	\$52.92	\$38.30	\$63.88
2015	\$67.81	\$91.55	\$69.64	\$41.25	\$51.68	\$52.28	\$47.08	\$64.50
2016	\$63.48	\$97.53	\$57.41	\$40.43	N/A	\$41.77	\$49.75	\$71.52
2017	\$65.59	\$99.64	\$70.35	\$55.67	\$50.43	N/A	\$46.80	\$68.32
2018	\$70.70	\$84.33	\$66.74	\$49.42	\$38.15	\$45.45	\$50.18	\$71.77
2019	\$55.20	\$69.02	\$62.36	\$46.11	N/A	\$49.26	\$49.15	N/A
2020	\$61.62	\$65.10	\$56.53	\$40.39	\$36.33	\$50.98	\$43.65	\$72.51
CAGR	-0.91%	-0.29%	-2.49%	-2.20%	-2.53%	-0.62%	2.20%	0.05%

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Level 4 (41-100 Mbps)

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2011	\$77.71	\$95.07	\$67.19	\$50.07	\$49.79	N/A	N/A	\$59.76
2012	\$94.39	\$160.97	\$82.25	\$58.66	\$62.36	N/A	N/A	\$62.65
2013	\$82.88	\$123.27	\$72.69	\$53.31	\$54.58	N/A	N/A	\$64.89
2014	\$86.46	\$103.17	\$70.33	\$47.76	\$55.98	\$61.79	\$58.52	\$67.73
2015	\$80.63	\$105.90	\$72.66	\$50.75	\$57.95	\$60.45	\$59.32	\$65.32
2016	\$78.77	\$112.30	\$71.03	\$54.20	\$63.80	\$53.02	\$61.78	\$49.78
2017	\$82.54	\$114.81	\$89.98	\$59.38	\$42.47	N/A	\$54.45	\$69.58
2018	\$87.00	\$105.34	\$88.74	\$67.69	\$53.14	\$65.20	\$64.84	\$84.43
2019	\$72.01	\$75.48	\$75.06	\$55.20	N/A	\$42.27	\$53.80	\$63.69
2020	\$77.18	\$72.80	\$78.28	\$49.23	N/A	\$50.98	\$53.01	\$66.83
CAGR	-0.08%	-2.92%	1.71%	-0.19%	n/a	-3.15%	-1.63%	1.25%

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Level 5 (101-250 Mbps)

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2016	\$114.65	\$127.69	N/A	\$57.56	\$70.54	N/A	\$56.57	\$71.36
2017	\$95.10	\$145.15	N/A	\$70.67	\$50.19	\$60.39	\$58.33	\$65.64
2018	\$102.76	\$131.06	N/A	\$64.86	\$60.86	N/A	\$72.45	\$79.90
2019	\$83.25	\$93.01	N/A	\$75.87	\$33.79	\$49.26	\$65.87	\$77.69
2020	\$83.95	\$86.98	N/A	\$75.30	N/A	\$50.98	\$64.85	\$82.70
CAGR	-7.50%	-9.15%	N/A	6.95%	N/A	-5.490%	3.47%	3.76%

Wall Communications Inc. 2020

Canadian and International Price Comparisons – 2020 Update

Level 6 (251-500 Mbps) Note: prior to 2020, L6 was 251-400 Mbps

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2018	\$123.87	\$160.08	N/A	\$78.96	\$70.18	\$46.33	\$94.33	\$72.23
2019	\$93.03	\$120.62	N/A	\$78.62	\$41.20	\$42.27	\$47.64	\$76.31
2020	\$97.16	\$97.63	N/A	\$84.08	\$39.51	\$50.98	N/A	\$77.13
CAGR	-11.44%	-21.91%	N/A	3.19%	-24.97%	4.90%	N/A	3.34%

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Level 7 (500+ Mbps)

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2020	\$107.55	\$113.37	N/A	\$92.86	\$49.69	\$50.98	\$58.42	\$79.46
CAGR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Wall Communications Inc. 2020

Table A3.3 - Mobile Internet Service Prices

Level 1
(2-5 GB)

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2010	\$54.19	\$73.26	\$33.89	\$24.86	\$46.29	N/A	N/A	\$76.00
2011	\$52.41	\$71.50	\$27.18	\$23.51	\$43.30	N/A	N/A	\$69.38
2012	\$52.55	\$52.29	\$31.38	\$27.42	\$39.36	N/A	N/A	\$54.89
2013	\$44.55	\$54.61	\$28.80	\$23.71	\$34.98	N/A	N/A	\$57.54
2014	\$43.30	\$63.74	\$25.67	\$21.90	\$18.47	\$17.56	\$34.37	\$50.05
2015	\$43.55	\$63.02	\$28.15	\$21.44	\$17.60	\$15.87	\$25.96	\$55.49
2016	\$46.47	\$50.68	\$15.57	\$17.61	\$14.98	\$14.35	\$23.56	\$51.81
2017	\$43.01	\$38.73	\$11.73	\$15.33	\$12.11	\$14.81	\$20.40	\$37.22
2018	\$38.28	\$43.49	\$15.56	\$15.45	\$15.74	\$12.71	\$22.52	\$70.31
2019	\$40.60	\$39.72	N/A	\$15.88	N/A	N/A	\$20.45	\$66.43
2020	\$42.63	\$28.48	\$10.96	\$18.56	N/A	N/A	\$21.83	\$59.57

Level 2
(5-10 GB)

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2012	\$65.11	\$69.51	\$44.85	\$39.11	\$100.15	N/A	N/A	\$56.77
2013	\$64.67	\$59.82	\$35.13	\$62.01	\$44.65	N/A	N/A	\$58.24
2014	\$63.90	\$69.05	\$36.80	\$45.93	\$43.04	\$25.86	\$49.70	\$62.04
2015	\$64.48	\$77.72	\$41.69	\$30.60	\$29.18	\$27.05	\$37.17	\$63.82
2016	\$63.30	\$76.93	\$29.67	\$21.07	\$28.11	\$21.71	\$37.31	\$73.74
2017	\$60.79	\$72.44	\$30.84	\$20.54	\$18.59	\$20.87	\$29.67	\$54.81
2018	\$61.90	\$64.59	\$26.24	\$19.78	N/A	\$17.22	\$35.56	\$75.49
2019	\$64.04	\$62.05	\$15.03	\$22.18	\$20.73	\$10.56	\$32.81	\$69.41
2020	\$66.10	\$52.90	\$16.10	\$21.97	\$24.98	N/A	\$30.08	\$69.54

Level 3
(10+ GB)

	Canada	U.S.A.	Australia	U.K.	France	Italy	Germany	Japan
2016	\$80.98	\$110.38	\$48.17	\$24.47	\$63.45	\$31.58	N/A	\$87.09
2017	\$82.28	\$92.46	\$36.62	\$28.48	\$39.09	\$28.80	\$35.98	\$64.28
2018	\$83.35	\$87.30	\$39.35	\$28.19	\$33.53	\$38.73	\$38.38	\$105.94
2019	\$82.99	\$85.97	\$23.66	\$27.85	\$30.05	\$15.06	\$40.50	\$98.68
2020	\$84.79	\$61.05	\$22.94	\$27.99	\$32.90	\$17.09	\$38.68	\$95.18

ATTACHMENT 4 – CANADIAN COVID-19 RESPONSES

As part of this year's annual Telecom Pricing Study, we were asked to describe any efforts made by Canadian service providers to support customers during the COVID-19 pandemic. Key industry efforts are reported in the main body of the Report. Attachment 4 provides some further detail about individual company initiatives. The listing below is illustrative and may not include all the initiatives undertaken by a given company.

Shaw

- \$1 M donation to Community Food Centres
- 2 month credit to all customers signed up to G of C "Connecting Families" program
- Opened up the Shaw WiFi network to the public
- Flexible payment due to COVID 19

Bell

- Waiving of all "Roam Better" and Pay per Use roaming fees until April 30
- No data overage fees for residential and small business (March 14 – June 30)
- \$5M to Red Cross, CMHA, etc.

Cogeco

- No service termination for customers unable to pay due to COVID-19
- Late payment fees waived if due to C-19
- Support for United Way food security program in Montreal

Eastlink

- Waiving install charges
- Waiving roaming fees
- Waiving mobile LD charges
- Waiving data limits (until June 30)

Rogers

- Waived roaming fees (June 30)
- Waived LD charges for mobile and home (June 30)
- No data over-use charges (June 30)
- Discount on mobile internet plans
- Flexible payment (June 30)

- Several initiatives to support Women's Shelters, Food banks, Big Sisters Big Brothers, Salvation Army

SaskTel

- Waived domestic data overage charges for mobile (June 8)
- Part of Crown Utility Payment Deferral Program for C-19
- Waived late payment charges (6 months)
- Suspension of collections activities and disconnections (6 months)
- No charge returns through Canada Post

TELUS

- Waiving of data overage charges for fixed line internet (plans not already offering unlimited)
- Waiving of roaming charges (until April 30)
- No disconnects and flexible payments
- Device donations and usage credits for disadvantaged or COVID affected
- Stand With Owners initiative and expanding Internet for Good (for disabled) program
- Several other targeted initiatives of community assistance
- Two months free wireless service to front line workers

Videotron

- Waiving of roaming fees (June 30)
- Removal of data caps fixed internet (June 30)
- Case by case analysis of payment problems
- Device donations and service to organizations in need
- No data overage charges for December 2020 holiday period

Xplornet

- Waiving of fixed line data overage charges (Until June 30)