Canadian Radio-television and Telecommunications Commission
Conseil de la radiodiffusion et des télécommunications canadiennes

Canada

Annual highlights of the telecommunications sector 2022

ISSN 2564-369X
Cat. No. BC9-34E-PDF

The Canadian Radio-television and Telecommunications Commission (CRTC)
Ottawa, Ontario
Canada
K1A ON2
Tel: 819-997-0313
Toll-free: 1-877-249-2782 (in Canada only)
https://applications.crtc.gc.ca/contact/eng/library

Aussi disponible en français

Table of Contents

Figures, Infographics and Tables

Highlights of the Telecommunications Sector

The CRTC conducts several surveys where it collects and validates large quantities of data to actively monitor the Telecommunications market. This report contains highlights of the telecommunications sector for calendar year 2022.

i Overview

In 2022, the Canadian telecommunications sector experienced a 3.5% increase in total revenues, a similar growth as in 2021 (3.4%), and a clear progression from the 2020 COVID-19 pandemic year when revenues declined for the first time since 2002 (see Figure 1). This increase is primarily due to the almost $1.7B increase in mobile revenues, which represents a 5.7% increase since 2021. Total revenues in 2022 grew by 5.4% compared to their 2019 pre-COVID-19 level, while overall inflation in the Canadian economy was 12.6%[1] over the same period.

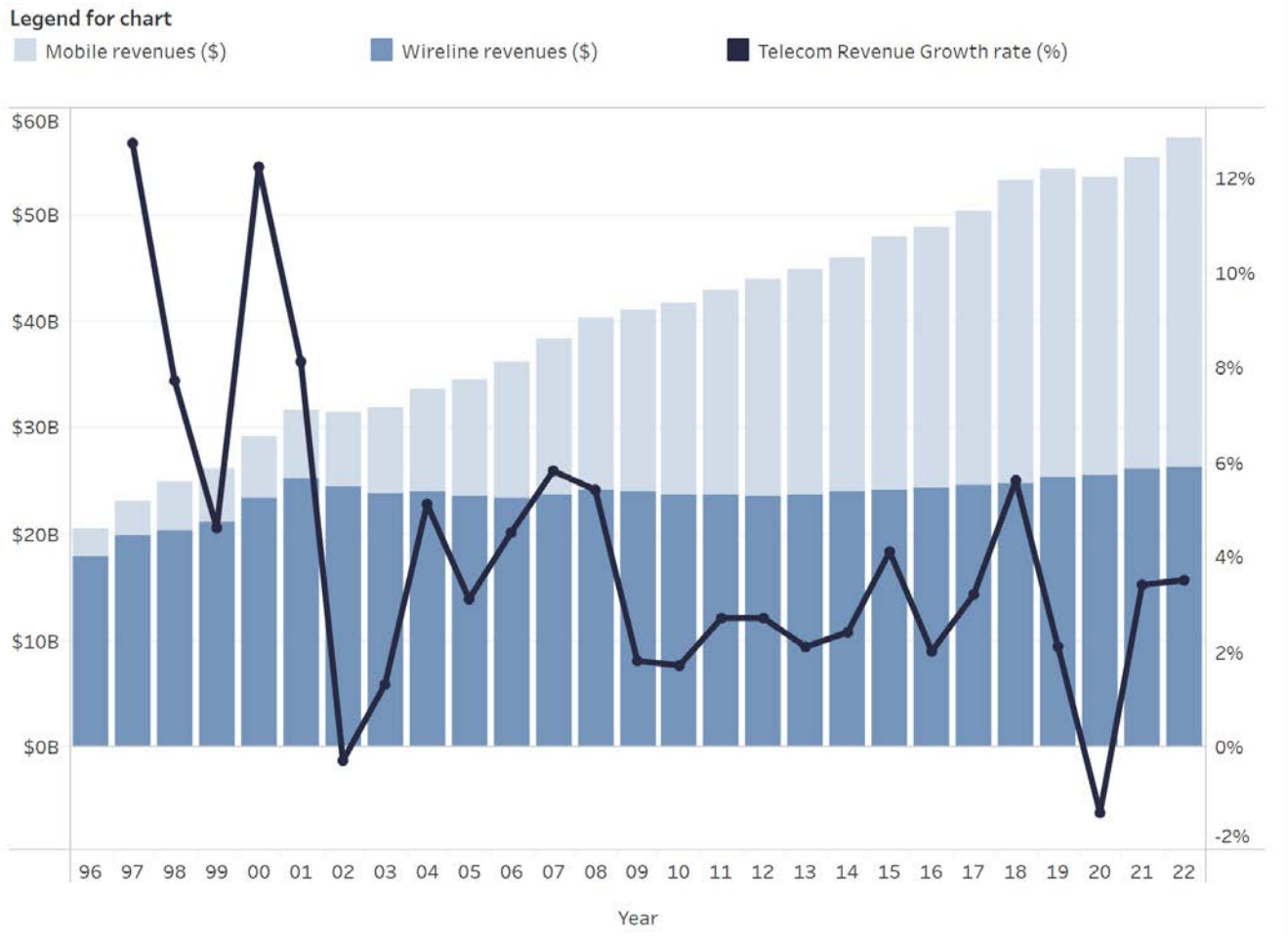
Retail fixed Internet services revenues grew faster than the revenues of the telecommunication sector as a whole in 2022. It experienced a 4.9% revenue growth, increasing from $14.5B in 2021 to $15.2 billion in 2022. This growth was driven by continued residential subscriber movement towards higher speed packages and increased usage by business Internet customers following the end of pandemic-related restrictions.

Mobile services continued to represent the largest share of total revenues, at 55.5% in 2022. Revenues from mobile services experienced a 5.7% increase, from $29.2 billion in 2021 to $30.9 billion in 2022. This was driven mostly by a 6.6% increase in retail data revenues, which reached $14.2 billion, and in a smaller way by retail roaming revenues which increased by 88.0% to reach $1.6 billion. Moreover, the average mobile subscriber consumed more data than ever; from 2021 to 2022, data usage grew by 21.3%.

Along with increasing revenues from their mobile services, wireless carriers reported higher margins in their earnings before interest, taxes, depreciation, and amortization (EBITDA), stable churn rates, and higher capital expenditures (CAPEX).

[1] Bank of Canada, Inflation Calculator: https://www.bankofcanada.ca/rates/related/inflation-calculator/

Figure 1 Total telecommunications revenues ($ billions) and growth rates (%)

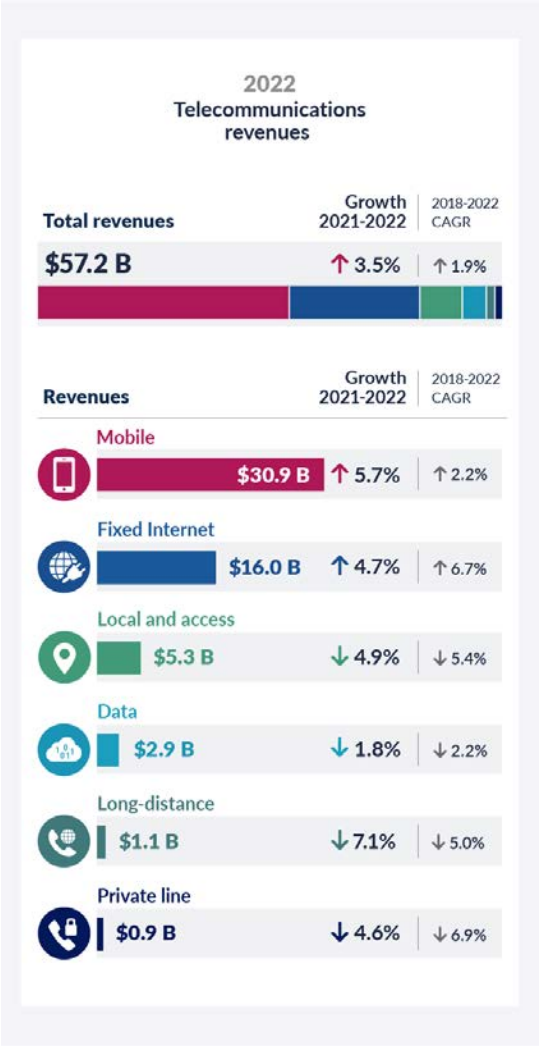


Source: CRTC monitoring reports and data collection

ii Sector composition

Canadian telecommunications revenues totalled $57.2 billion in 2022, as Canadians used more data through both fixed Internet and mobile services ("Data usage" includes the use of data for video streaming services, as well as for audio streaming services and various radio applications via mobile devices or fixed Internet services).

Infographic 1 Overview of total telecommunications revenues



Source: CRTC data collection

Total telecommunications revenue is calculated from exact amounts and may appear to differ from total sector revenues due to rounding.

Data may change from year to year for several reasons, including economic growth or decline, merger and acquisition activity, industry reclassification, changes in methodology, and revisions to the data.

Service providers are divided into two broad categories: incumbent telecommunications service providers (incumbent TSPs), which provided local telecommunications services on a monopoly basis prior to competitors entering the market, as well as other types of service providers.

These other types of service providers include cable-based carriers, which are the former cable monopolies that currently also provide telecommunications services; other facilities-based service providers; and wholesale-based service providers, which are companies providing services primarily using other companies' facilities.

Incumbent TSPs, along with cable-based carriers, own and operate the majority of the infrastructure used by wholesale-based service providers.

Refer to the methodology section for more details.

Table 1 Total revenue market share (%) by type of service provider

Type of TSP	Revenue share (%)	Growth (%) 2021-2022	CAGR (%) 2018-2022
Large incumbent TSPs	56.5	4.3	1.5
Small incumbent TSPs	1.0	-4.5	1.8
Cable-based carriers	35.8	3.8	3.5
Other facilities-based carriers	3.6	-0.6	-4.0
Wholesale-based service providers	3.1	-6.0	-2.0

Source: CRTC data collection

Examples of large incumbent TSPs include Bell Canada (Bell), Saskatchewan Telecommunications (SaskTel), and TELUS Communications Inc. (TELUS).
Examples of small incumbent TSPs include Execulink Telecom Inc. (Execulink), and Sogetel.
Examples of cable-based carriers include Rogers Communications Inc. (Rogers), Shaw Communications Inc. (Shaw), Bragg Communications Inc., carrying on business as Eastlink, and Vidéotron Ltd (Vidéotron).
Examples of other facilities-based carriers include Allstream Inc. (Allstream) and Xplore Inc. (Xplore, previously known as Xplornet).
Examples of wholesale-based service providers include CIK Telecom Inc. (CIK Telecom) and TekSavvy Solutions Inc. (TekSavvy).

Growth and CAGR are calculated from the revenues in billions of dollars.

The five largest providers of telecommunications services accounted for 87.3% of total revenues in 2022. These company groups[2] are Bell[3], TELUS, Rogers, Shaw[4], and Vidéotron (including their affiliates such as Virgin Plus, Koodo Mobile, Fido Mobile, and Fizz). They are a mix of incumbent TSPs and cable-based carriers, and all are facilities-based service providers[5]. The percentage of revenues represented by the top five changes slightly from year to year. Any significant changes are usually due to factors such as ownership transfers.

Since 2018, revenues for large incumbent TSPs have increased by about 1.5% per year on average, revenues for small incumbent TSPs increased by 1.8% annually, and revenues of cable-carriers increased by an annual average of 3.5%. During the same period, the revenues for wholesale-based service providers declined by 2.0% on average each year.

[2] Company groups include entities and their affiliates.

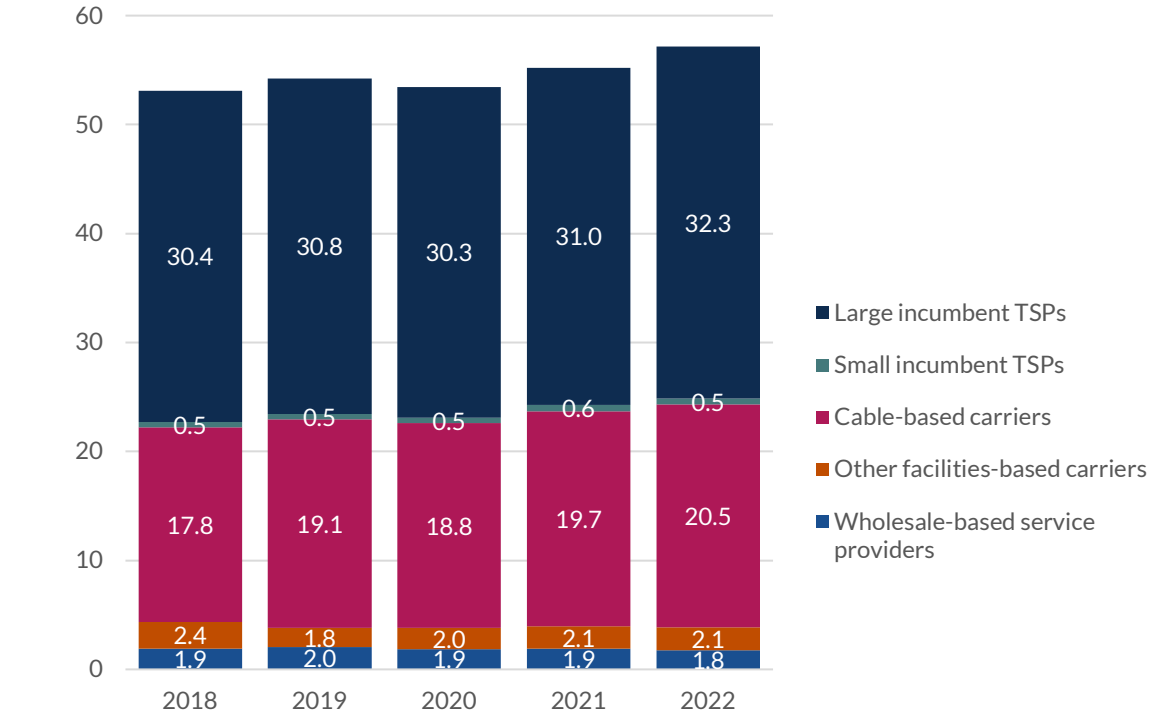
[3] The Bell Group includes Bell Canada, Bell Mobility, KMTS, NorthernTel, Northwestel Mobility, Télébec, and MTS Inc.

[4] The Rogers-Shaw merger was finalized in early 2023, so Shaw remained a stand-alone entity in 2022.

[5] Facilities-based providers own or operate transmission facilities. The facilities are used to provide telecommunications services to the public for compensation.

While the number of large incumbent TSPs represented 1.2% of all TSPs[6] in 2022, they generated 56.5% of revenues. Cable-based carriers made up 7.3% of the total number of TSPs and generated 35.8% of revenues. With relatively lower barriers to entry, wholesale-based service providers comprised nearly 71.0% of service providers but generated only 3.1% of revenues.

Figure 2 Total revenues by type of TSP ($ billions)



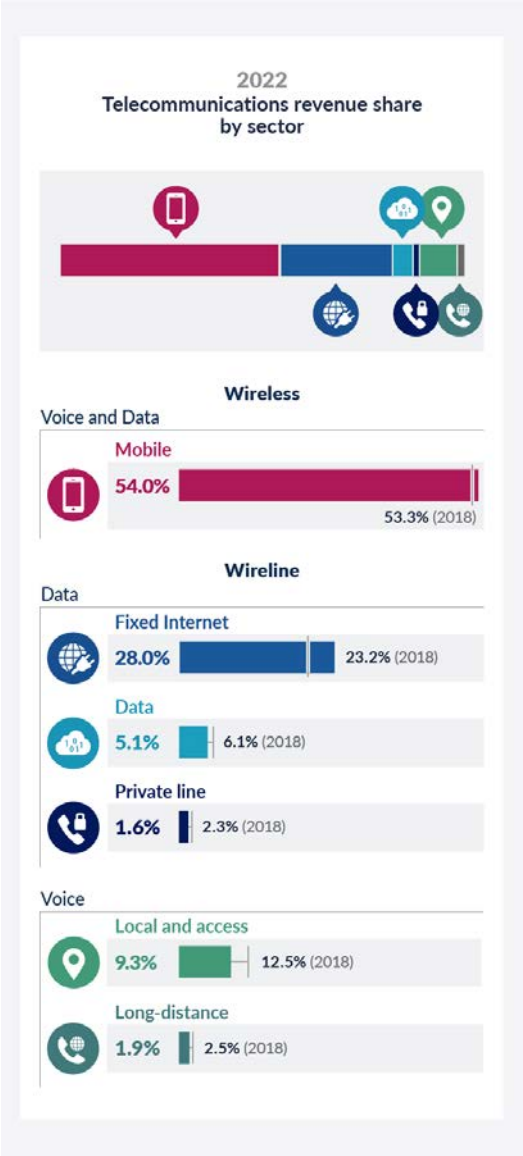
Source: CRTC data collection

[6] Based on the number of entities submitting data to the CRTC.

iii Revenues

In the *Communications Market Report*, telecommunications services are divided into six sectors:

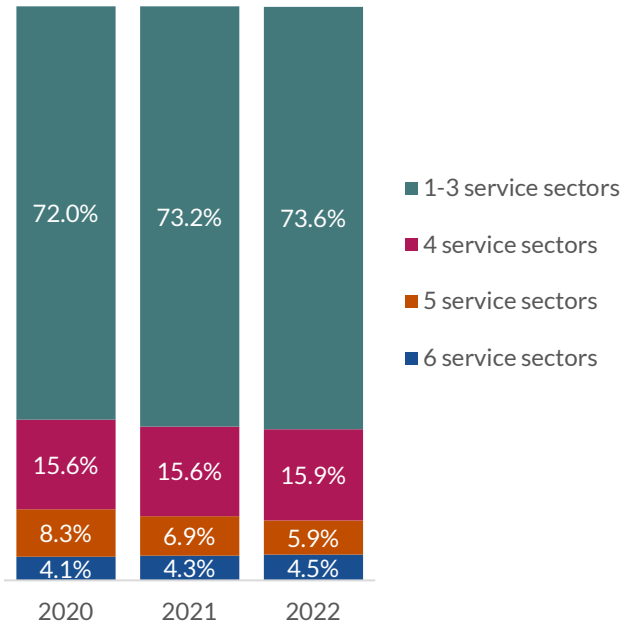
Infographic 2 Telecommunications revenue share by sector (%)



Source: CRTC data collection

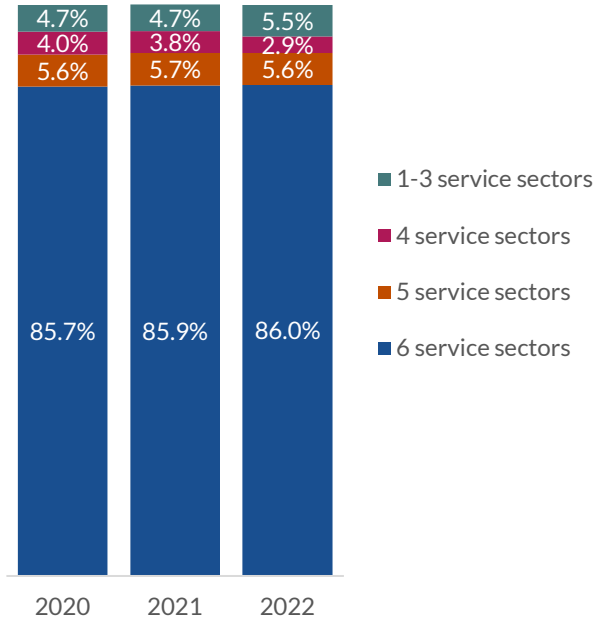
In 2022, only ten company groups offered services in all six telecommunications sectors; however, they accounted for 86.0% of total telecommunications revenues in Canada. Conversely, companies providing services from one to three service sectors generally offered Internet access, local phone service, or long-distance phone services. These smaller entities, often wholesale-based service providers, represented 73.6% of the total number of TSPs, but generated only 5.5% of telecommunications revenues in 2022.

Figure 3 Distribution of TSPs by the number of sectors with services offered (%)



Source: CRTC data collection

Figure 4 TSPs' revenue share grouped by the number of sectors with services offered (%)



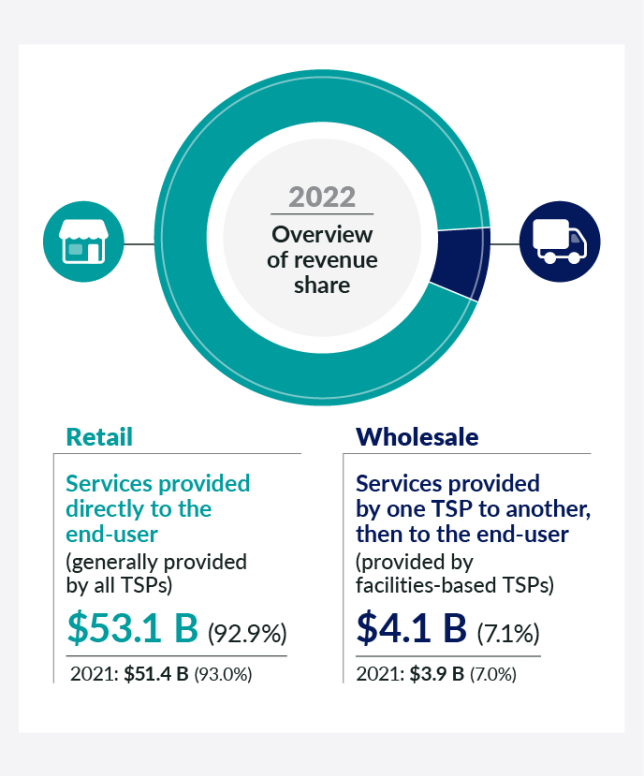
Source: CRTC data collection

The six service categories include: Local and access, Long distance, Data, Private line, Internet and Mobile.

Retail versus wholesale

Telecommunications services revenues come from both retail sales (i.e., sales to residential consumers and business customers) and wholesale sales (i.e., sales to other providers of telecommunications services).

Infographic 3 Overview of retail vs wholesale revenue share (%)



Source: CRTC data collection

The share of retail revenues remained essentially the same at 92.9% of total telecommunications revenues in 2022, hovering at around 92% to 93% in the past five years. Approximately 95.5% of mobile revenues were generated from retail services, compared to 90.0% for wireline. Those numbers have remained virtually unchanged since 2013.

Roaming and other revenues[7] reached $1.6 billion in 2022, representing approximately 5.3% of total retail mobile revenues compared to approximately 3.1% in 2020 and 2021. Retail and wholesale mobile roaming[8] revenues were severely impacted by the pandemic but have since surpassed pre-COVID-19 levels. Total wholesale mobile roaming revenues grew by approximately 19% in 2022, reaching $779 million. Furthermore, roaming revenues were largely generated from subscribers who used mobile services in the United States.

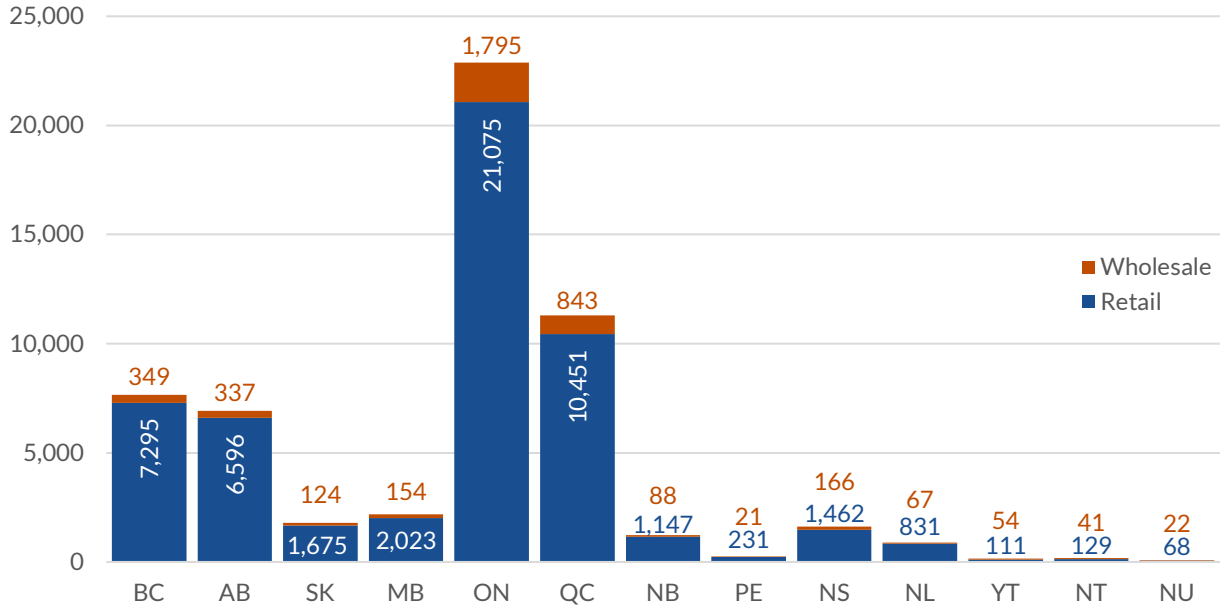
Canadian retail telecommunications service revenues increased 3.4% to $53.1 billion in 2022. In Ontario, revenues from these services reached $21.1 billion (39.7% of all telecommunication revenues in Canada). Revenues in Quebec were $10.5 billion (19.7%), British Columbia accounted for $7.3 billion (13.7%), and revenues in Alberta reached $6.6 billion (12.4%).

[7] Other revenues include items such as interconnection, spectrum licensing/transfer/partial transfer, and access to poles/structures.

[8] Mobile providers extend their coverage to include areas where they do not have facilities by making arrangements with other providers who do in order to offer service to their end users. When a subscriber uses the facilities of another provider, the subscriber is said to be "roaming."

The wholesale telecommunications market saw a similar trend, with Ontario leading the provinces/territories at $1.8 billion or 44.2% of all telecommunication revenues generated by wholesale services, followed by Quebec at 20.8% ($843 million).

Figure 5 Telecommunications revenues by category and province/territory ($ millions), 2022

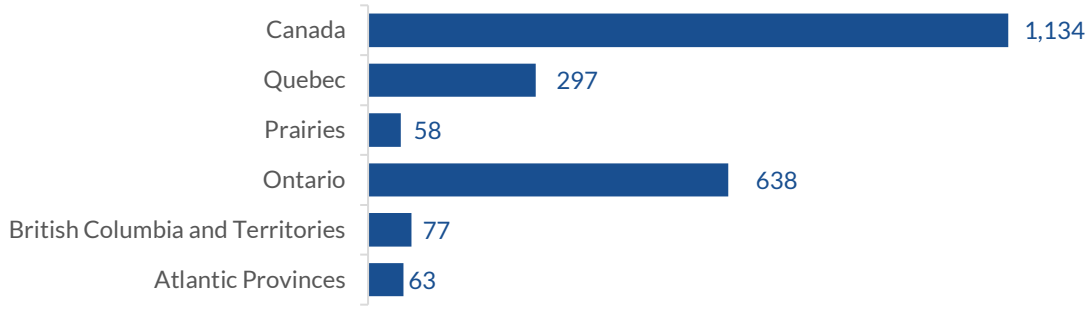


Source: CRTC data collection

The number of wholesale Internet lines decreased in 2022, declining by 10% to 1.1 million lines across Canada. The decline occurred mostly in Ontario (-12.5%) and Quebec (-12.8%). However, Ontario maintained the highest share of wholesale lines with 0.6 million lines (56.3%); Quebec had the second largest share with a little under 0.3 million (26.2%), and the rest of Canada totaled close to 0.2 million (17.5%).

Nova Scotia saw continued growth in the number of wholesale lines (addition of approximately 6,000 wholesale lines). This growth largely contributed to the 12.0% increase in wholesale lines in the Atlantic region (Newfoundland and Labrador, New Brunswick, Prince Edward Island, and Nova Scotia) which grew from approximately 56,000 to 63,000 lines in 2022.

Figure 6 Wholesale high-speed access enabled lines by region (thousands), 2022



Source: CRTC data collection

Forborne services

The Commission has chosen not to regulate when it finds that a service is subject to sufficient competition to protect the interests of users and is consistent with the Canadian telecommunications policy objectives, as outlined in section 7 of the *Telecommunications Act*[9]. This is referred to as forbearance. Where a service is forborne, the Commission does not set prices for that service. The Commission has forborne from regulating most retail rates.

In 2022, approximately 96.6% of telecommunications revenues were generated from forborne services. The percentage of revenues derived from forborne services ranged from a low of 74.8% in private line, to a high of 99.8% in mobile.

Canadian ownership

Section 16 of the *Telecommunications Act* addresses the eligibility of Canadian companies to operate as telecommunications common carriers.

Subject to certain exceptions, section 16 requires that telecommunications companies that own or operate telecommunications transmission equipment and have annual revenues from the provision of telecommunications services in Canada that represent more than 10% of the total annual revenues from the provision of telecommunications services in Canada, be Canadian-owned and controlled.

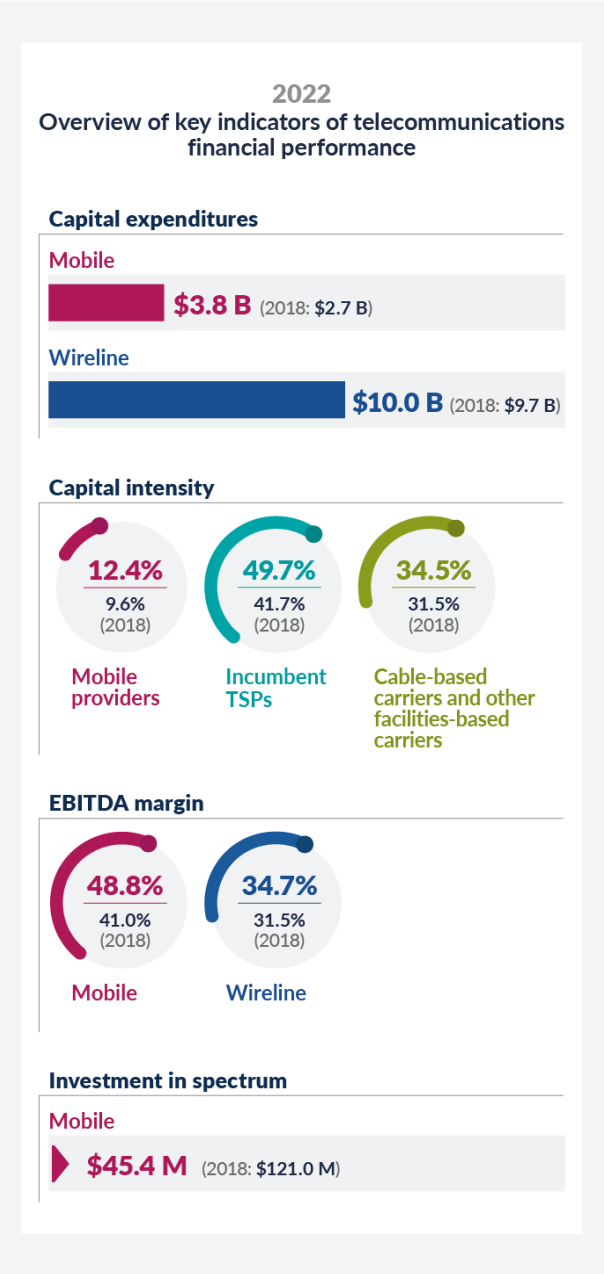
Total annual revenues from the provision of telecommunications services in Canada were $57.2 billion in 2022, and therefore, for the purposes of applying provisions of section 16, 10% of total revenues represents $5.7 billion.

[9] See s. 34 of the *Telecommunications Act*, online: Justice Canada website, Telecommunications Act (justice.gc.ca)

iv Financial performance

This section focuses on metrics such as capital expenditures, capital intensity, investments to acquire spectrum, and EBITDA. These are key indicators that can be used to evaluate the financial performance of the Canadian telecommunications sector by showing the amount of capital that is being reinvested back into maintaining and improving telecommunications networks. Looking at churn, despite the different lens of retail and business subscriptions, also provides an interesting perspective.

Infographic 4 Overview of key indicators of telecommunications financial performance



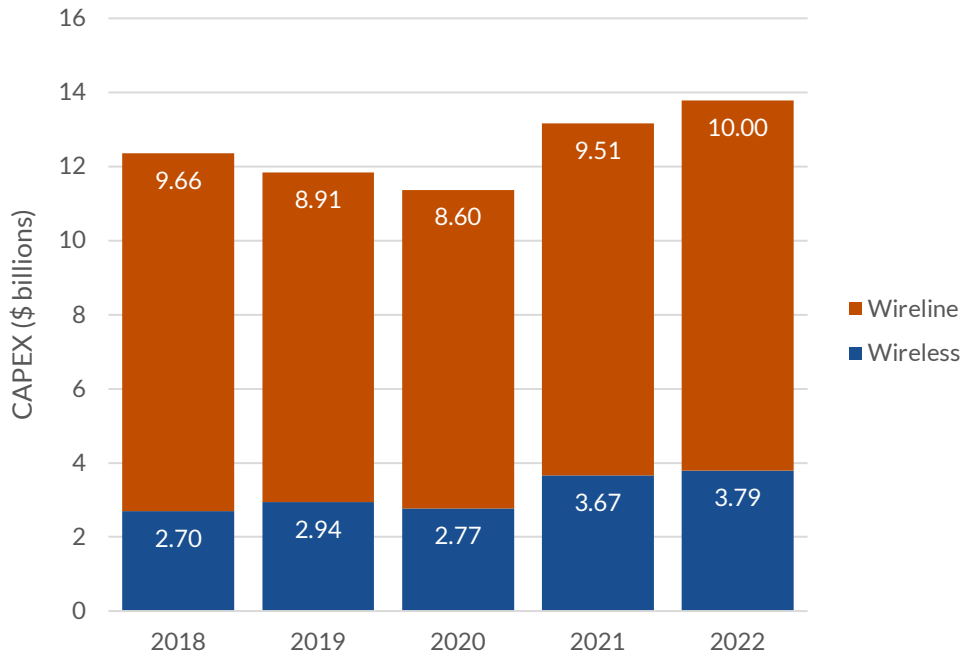
Source: CRTC data collection

Capital expenditures and capital intensity

CAPEX are investments made primarily to maintain or upgrade telecommunications networks[10]. As such, it is a leading indicator for economic and business conditions of the telecommunications sector in Canada. With COVID-19 restrictions and their impacts, many companies had slowed the flow of capital investments in 2020. In 2021, CAPEX saw an important rebound, and exceeded levels observed in 2019. In 2022, capital investments have seen a sustained increase to satisfy demand for faster connections and expansion of the network. Total CAPEX increased 3.3% for wireless and 5.2% for wireline from the previous year. Approximately 33.6% ($1.3 billion) of the total wireless capital spent in 2022 was invested in 5G networks. In 2022, TSPs invested $13.8 billion in CAPEX, allocating $10 billion to wireline networks and $3.8 billion to wireless networks.

Between 2018 and 2022, wireline CAPEX increased at an average annual rate of 0.9%. In 2022, large incumbent TSPs' share of wireline CAPEX saw a decrease from 67.2% in 2021 to 66.9%, while the CAPEX share of cable-based and other facilities-based carriers saw a slight increase from 32.0% in 2021 to 32.7%. For wholesale-based service providers, the CAPEX share decreased from 0.8% in 2021 to 0.4%.

Figure 7 Telecommunications capital expenditures by type ($ billions)



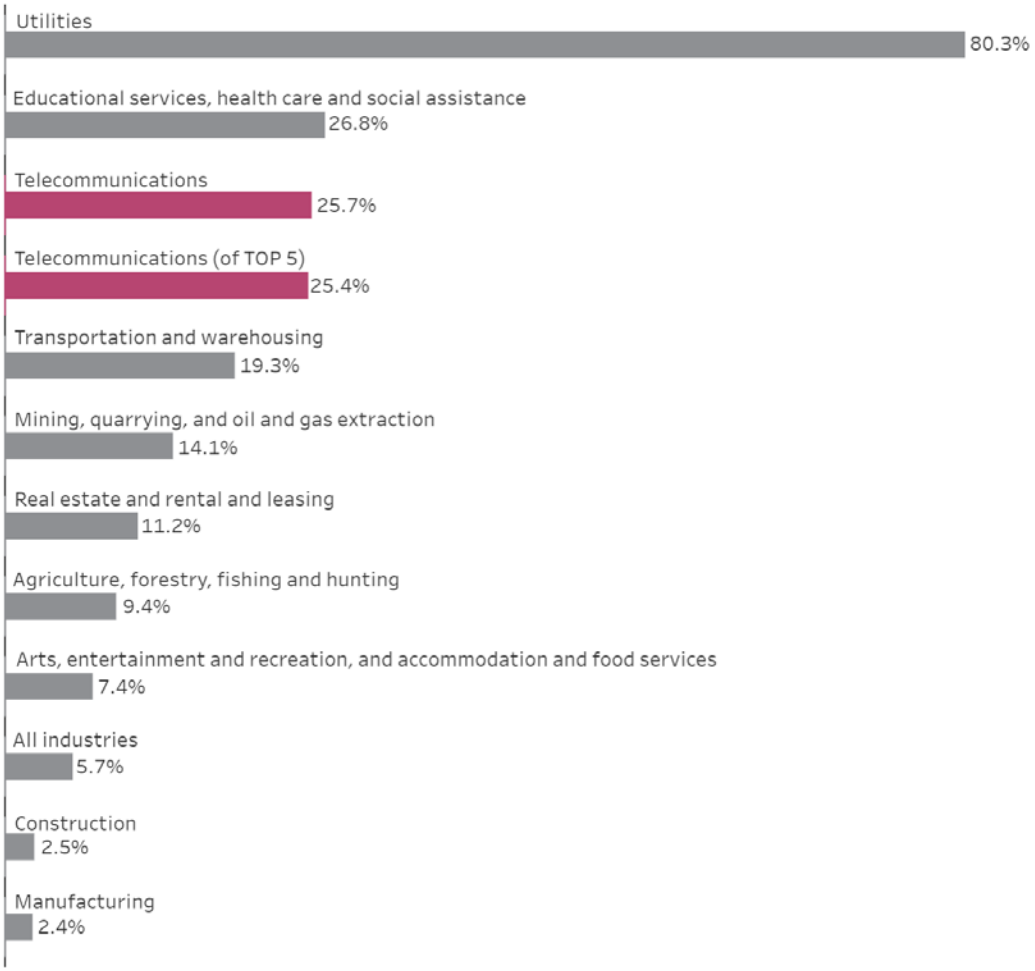
Source: CRTC data collection

The telecommunications sector is capital intensive, taking considerable investment to build, maintain, and upgrade extensive network infrastructure. In 2022, the telecommunications sector's capital intensity ratio (the ratio of CAPEX to revenues) was the third highest in Canada, following the utilities sector and the educational services, health care and social assistance sector. A high capital intensity ratio indicates that an important portion of the revenues of a sector is re-invested in the assets producing the products and/or services generating revenues.

[10] CAPEX excludes investments in spectrum

The capital intensity for the telecommunications sector is stable, going from 25.5% in 2021 to 25.7% in 2022, and with the Top 5 company groups (Bell, Rogers, Shaw, TELUS, and Quebecor) accounting for slightly under 91% of the total telecommunications CAPEX for both years.

Figure 8 Capital intensity for sectors with the highest capital intensity ratios in Canada (%)



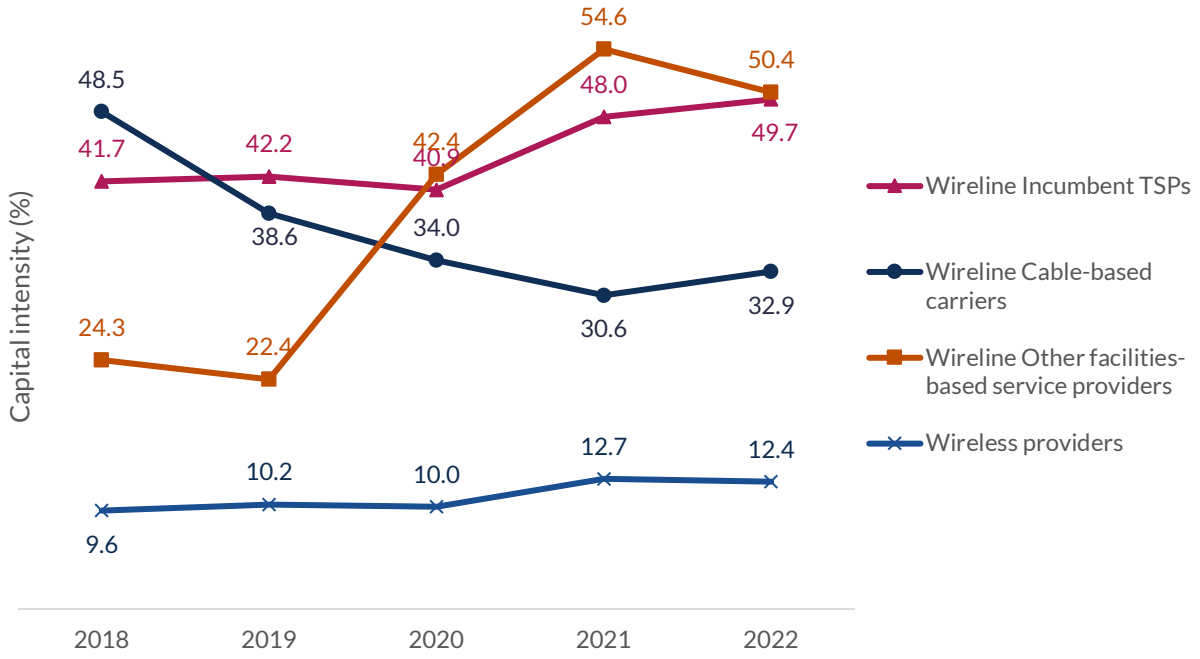
Source: CRTC data collection and Statistics Canada Tables 34-10-0035-01 and 33-10-0226-01

Since many carriers do not recognize and report spectrum as a CAPEX, the investments made in spectrum were not included in the figure.

Wireline capital intensity was on the decline for cable-based carriers since 2016 but has increased from 30.6% in 2021 to 32.9% in 2022. Incumbent TSPs, who have mostly invested in fibre, experienced a similar increase in wireline capital intensity going from 48.0% in 2021 to 49.7% in 2022. These rises were driven by an increase in CAPEX to expand and enhance networks. However, over the same period, wireline capital intensity for other facilities-based service providers decreased from 54.6% to 50.4%.

Capital intensity for wireless providers had been trending upwards in recent years but has experienced a slight decrease in 2022, going from 12.7% in 2021 to 12.4%. This change is explained by revenues increasing at a higher rate than expenditures.

Figure 9 Telecommunications capital intensity (%), by type of TSP



Source: CRTC data collection

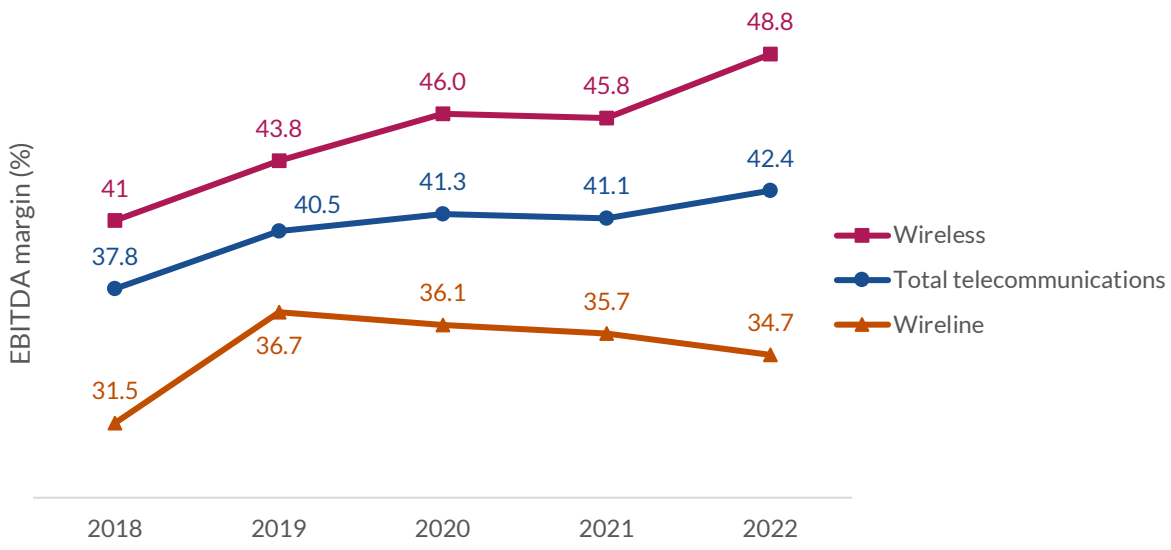
Earnings before interest, taxes, depreciation, and amortization (EBITDA)

EBITDA margins (i.e., EBITDA as a percentage of total telecommunications revenues) are important in assessing the financial performance of a company or group of companies. Margins are calculated for TSPs with at least 80% of their total revenues represented by telecommunications services[11].

Over the 2018-2022 period, margins for wireless services were consistently above those for wireline, with the gap between both services continuing to widen as wireless margins reached 48.8% and wireline margins reached 34.7% in 2022.

[11] For more details about how EBITDA was derived, see the methodology section.

Figure 10 EBITDA margins by sector (%)



Source: CRTC data collection

Over the 2018-2022 period, average EBITDA margins were around 45.2% for cable-based carriers and 40.2% for incumbents TSPs.

Investment in auctioned spectrum

Annual investments in auctioned spectrum[12] from 2018 to 2022 were $0.12 billion (2018), $3.5 billion (2019), $0.15 billion (2020), $8.9 billion (2021) and $0.45 billion (2022), respectively.[13] Investments made from 2018 to 2022 reflect investments made by mobile carriers to acquire auctioned Personal Communications Services-G block (PCS-G), and 700 megahertz (MHz), 2300 MHz, 2500 MHz, 600 MHz, and 3500 MHz spectrum.

Churn

The average churn rate is a measure of subscriber turnover. A higher churn rate suggests that customers are leaving their existing providers for several reasons, including dissatisfaction with the service, pricing issues or a desire to take advantage of competitive offers. Conversely, lower churn rates indicate that customers are not switching providers, which may indicate that customers see value in remaining with their current provider or that there are a lack of incentives motivating them to switch providers, including a lack of alternatives. In 2022, average monthly mobile churn rates remained consistent with the previous year at 1.1%. Average monthly residential Internet churn rates have also remained unchanged at 1.5%, while average monthly business Internet subscription churn decreased slightly from 1.2% to 1.0%.

[12] Annual investments in spectrum are highly dependent on spectrum being made available through auctions and greatly vary accordingly.

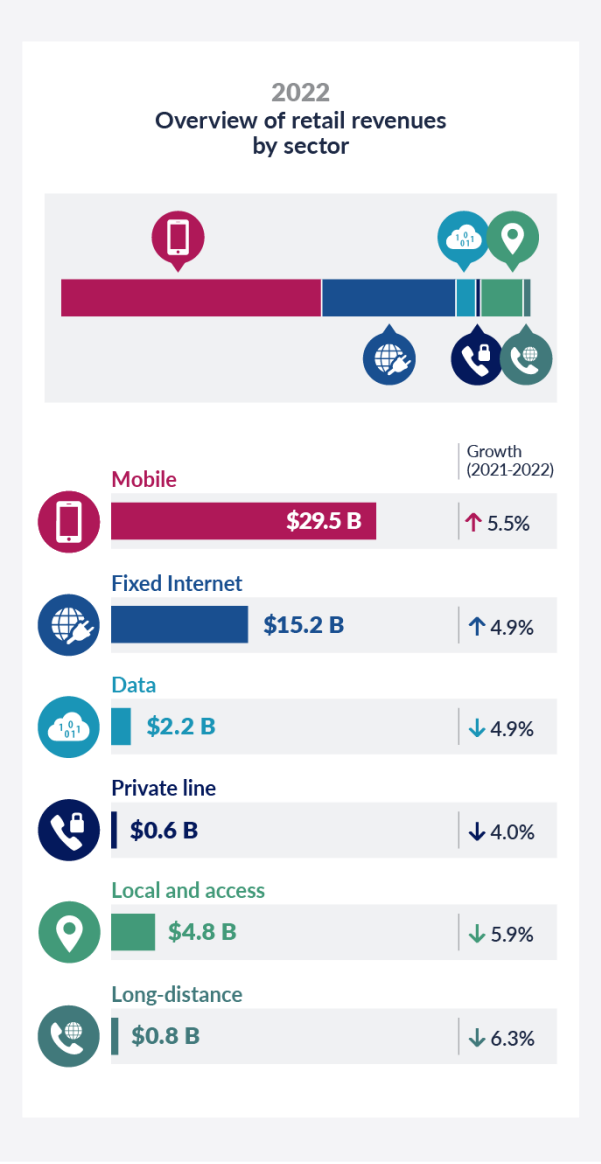
[13] For more information on spectrum auctions: https://ised-isde.canada.ca/site/spectrum-management-telecommunications/en/spectrum-allocation

v Sector summaries

This section provides a summary of the six retail sectors (mobile, fixed Internet, local access, long-distance, data, and private line) and the wholesale sector within the Canadian telecommunications sector.

In 2022, total Canadian telecommunications revenues experienced a 3.5% growth from 2021 and reached $57.2 billion. Total retail telecommunications revenues, which represents most telecommunications revenues, totaled $53.1 billion, increasing by 3.4% from 2021, and, on average, growing 1.9% annually from 2018 to 2022. Retail mobile and fixed Internet services sectors recorded revenue growths of 5.5% and 4.9% respectively in 2022.

Infographic 5 Overview of retail revenues by sector in 2022



Source: CRTC data collection

The mobile sector was the main contributor to the overall total retail telecommunications revenues in 2022. It had a positive growth rate of 5.5%, growing by over $1.5 billion since 2021, and it remained the largest sector, accounting for over half (55.5%) of all retail telecommunications revenues. The fixed Internet sector made up over a quarter (28.7%) of all retail revenues and exhibited a 4.9% increase over the previous year. Revenues of all remaining sectors have been declining continuously since 2000-2001 for local and access and long-distance, at least 2013 for private line, and 2014 for data.

Retail mobile sector – A focus on mobile phone

In 2020, the CRTC revamped the data collections for the mobile sector to capture mobile services in three distinct categories instead of one: 1. Mobile phone (MP) 2. Mobile broadband and 3. Other plans for mobile connected devices.[14] Given this recent change, this sector summary will focus on MPs specifically. In 2022, revenues for the MP category accounted for more than 96% of total retail mobile revenues.

Table 2 Overview of retail mobile sector

Retail mobile (MP)	2020 (MP)	2021 (MP)	2022 (MP)
Mobile phone revenues ($ billions)	$25.9B	$27.0 B	$28.5 B
Subscribers (millions)	32.4 M	33.6 M	35.4 M
Annual revenue growth (%)	N/A	4.3%	5.4%
Subscribers with data plans (%)	83.5%	85.5%	88.6%
Average mobile data subscriber monthly data usage (GB)	3.7 GB/month	4.7 GB/month	5.7 GB/month
Monthly ARPU[15] ($)	$66.70	$68.24	$68.71
Blended prepaid/postpaid average churn[16] rate of Canada's Top 3 mobile service providers (%)	1.2%	1.2%	1.2%

Source: CRTC data collection

[14] See the methodology section for more explanation.
[15] Due to the changes to mobile reporting, for 2020, mobile phone (MP) ARPU was calculated by dividing the whole-year total revenue by the number of subscribers from the current year. The number of subscribers is taken from year end data.
[16] Churn is a measure of the number of customers a service provider loses on a monthly basis relative to that service provider's total subscriber base. It is calculated by dividing the number of customers who have cancelled their service in a month by the total number of subscribers for that service provider over the same period.

Table 3 Retail mobile and paging service revenue components ($ millions)

Component	2018	2019	2020 (MP)	2021 (MP)	2022 (MP)	Growth (%) 2021-2022
Basic voice	7,747.3	7,718.4	7,055.1	5,654.9	5,454.3	-3.5
Long-distance	417.4	367.5	366.3	357.5	353.5	-1.1
Paging	9.0	13.2	10.7	10.3	9.1	-11.6
Terminal equipment (including handheld devices)	6,961.9	7,121.8	6,330.5	6,869.9	6,911.7	0.6
Data	10,857.0	11,284.0	11,355.4	13,238.5	14,172.2	6.6
Roaming and other	1,125.0	1,151.3	794.0	833.1	1,566.2	88.0
Total	27,117.7	27,656.1	25,912.0	27,021.7	28,466.9	5.3

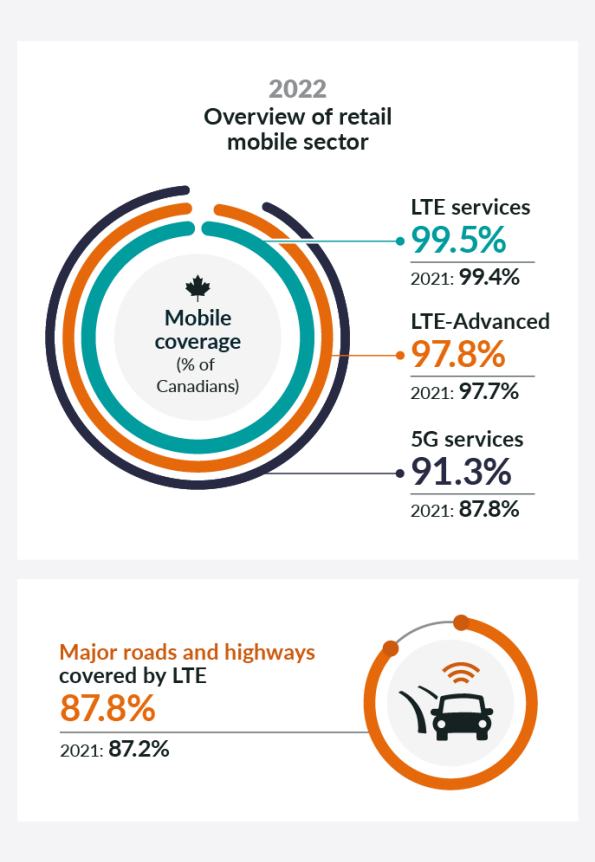
Source: CRTC data collection

IFRS 15 came into effect on 1 January 2018 for all Canadian publicly accountable enterprises. Under the new accounting standards, revenues are recognized upon control of goods or services, impacting mainly the terminal equipment revenues in 2018.

Following financial pressures caused by the COVID-19 pandemic, the retail mobile (MP) sector showed a rebound in 2021 and continued to grow in 2022 as revenues increased from $27.0 billion in 2021 to $28.5 billion, a growth rate of 5.3%. The increase was driven in part by a 6.6% increase in data revenues, which reached $14.2 billion in 2022 and accounted for almost half of retail mobile revenues. During the same period, mobile equipment and device sales, the second largest source of revenues in this sector, only increased at an 0.6% growth rate. Moreover, the average subscriber consumed more data than ever, going from 4.7 GB in 2021 to 5.7 GB in 2022, a growth rate of 21.3%.

There were 35.4 million MP subscribers in 2022 out of a population of 39.6 million, with mobile networks covering approximately one fifth of Canada's geographic land mass and reaching 99.7% of the Canadian population. In 2022, advanced wireless networks such as 5G continued to deliver higher speeds than previous generation networks. 5G networks were available to approximately 91.3% of Canadians in 2022, compared to 87.8% in the previous year. The previous generation of mobile networks (Long-Term Evolution Advanced or LTE-A) reached around 97.8% of Canadians in 2022.

Infographic 6 Highlights of mobile coverage[17]

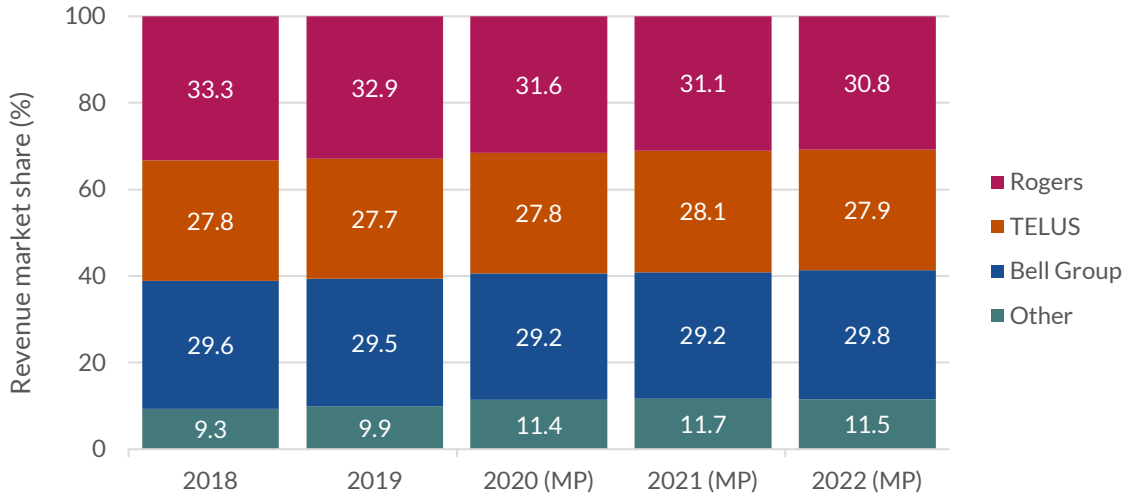


Source: Innovation, Science and Economic Development Canada (ISED) and CRTC data collection

The mobile sector continued to be dominated by the three largest mobile service providers (Top 3), Rogers, Bell and TELUS. In 2022, these entities accounted for 88.5% of retail MP revenues. The Top 3 held the majority of MP revenue shares in each province/territory, except in Saskatchewan where the other providers – most notably, SaskTel – captured 57.3% of the MP sector in 2022.[18]

[17] Declines in LTE mobile coverage from 2020 to 2021 can be attributed to telecom companies improving the accuracy of their coverage estimate models resulting in more accurate predictions.
[18] See Provincial/territorial subscriber market share of Bell, TELUS, Rogers, and other providers (%), 2013-2022, Open Data on Retail Mobile Sector.

Figure 11 Retail mobile revenue market share (%)

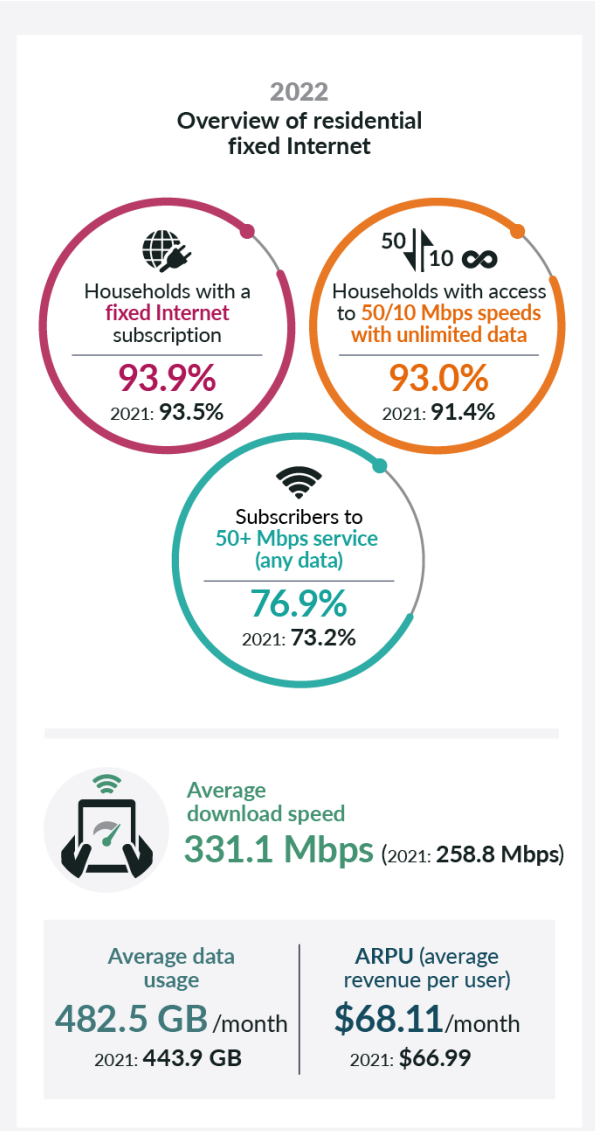


Source: CRTC data collection

Other mobile providers include SaskTel, Freedom Mobile, Vidéotron, Eastlink, Ice Wireless, TBayTel and other limited MVNOs.

Retail fixed Internet sector

Infographic 7 Overview of retail fixed Internet sector



Source: Innovation, Science and Economic Development Canada (ISED) and CRTC data collection

Table 4 Retail Internet service revenues ($ millions)

Type	Component	2018	2019	2020	2021	2022	Growth (%) 2021-2022	CAGR (%) 2018-2022
Residential	Access	9,385.0	9,992.9	10,562.7	11,540.2	12,054.3	4.5	6.5
	Applications, equipment, and other Internet-related services[19]	419.6	505.5	555.6	654.1	748.0	14.4	15.5
	Total	9,804.6	10,498.4	11,118.3	12,194.3	12,802.3	5.0	6.9
Business	Access and transport	1,575.7	1,894.0	1,838.3	1,911.3	2,098,1	9.8	7.4
	Applications, equipment, and other Internet-related services	385.1	437.6	379.6	425.0	347.7	-18.2	-2.5
	Total	1,960.8	2,331.7	2,217.9	2,336.4	2,445.8	4.7	5.7
All	Total	11,765.4	12,830.1	13,336.2	14,530.6	15,248.1	4.9	6.7

Source: CRTC data collection

The retail fixed Internet sector was one of two retail telecommunications sectors to experience revenue growth in 2022, growing 4.9% to approximately $15.2 billion. The sub-sectors which grew the fastest were residential applications, equipment, and other Internet-related services at 14.4%, and business access and transport at 9.8%. However, the increase in revenues can mainly be attributed to the residential access and business access and transport sub-sectors. Residential Internet revenues increased as households subscribed to Internet packages with faster speeds and unlimited data.

After recovering from the effects of the COVID-19 pandemic in 2021, business Internet revenues continued to experience growth in 2022. They increased from $2.3 billion in 2021 to 2.4 billion in 2022 (a growth rate of 4.7%).

The number of residential subscribers was relatively stable, reaching 93.9% of Canadian households in 2022, a 0.4% increase from 2021. Cable-based carriers and incumbent TSPs accounted for the majority of subscribers (87.8%), while other entities accounted for 12.2%, down from 14.7% in 2021.

Migration towards higher speed Internet packages continued as the needs of Canadians evolve, and the expanded deployment of fibre and enhanced fixed wireless technologies improved accessibility to these types of packages. The proportion of residential subscriptions to services offering speeds of 100 Mbps or faster grew from 52.7% in 2021 to 58.1% in 2022. In 2022, 17.0% of subscriptions were for services offering speeds of at least one gigabit per second (Gbps), compared to 11.8% in 2021.

[19] Internet applications and other non-connectivity items include e-mail, web hosting, data centre services, etc. Equipment includes modems, hardware for fixed wireless and satellite service, etc.

In 2022, Canadians continued to use more data for school, work, and entertainment, as the average amount of data downloaded by residential Internet subscribers increased by more than 30 GB/month in a year, going from 404.9 GB per month in 2021 to 439.7 GB/month in 2022 (an 8.6% growth). The average data upload amounts also grew from 39.0 GB/month to 42.8 GB/month over the same period (a 9.6% growth). Increased adoption of subscription video on demand services in HD and 4K, gaming, video teleconferencing services and large file sharing may have contributed to this growth in data usage.

Retail wireline voice sector

Table 5 Overview of retail fixed wireline voice sector

	2018	2019	2020	2021	2022
Retail wireline voice revenues	$7.1 B	$6.5 B	$6.2 B	$6.0 B	$5.6 B
Retail wireline voice subscribers	13.8 M	13.6 M	12.3 M	12.2 M	11.4 M
Revenue growth rate	-5.6%	-8.0%	-4.1%	-3.9%	-5.7%
Revenue CAGR (5 year)	-6.1%	-6.7%	-5.6%	-5.4%	-5.5%

Source: CRTC data collection

Table 6 Local and long distance retail revenues[20] ($ millions)

Service	2018	2019	2020	2021	2022	Growth (%) 2021-2022	CAGR (%) 2018-2022
Retail local revenues	5,998.9	5,513.0	5,246.2	5,106.2	4,819.0	-5.9	-5.7
Retail long distance revenues	1,051.9	970.3	968.2	864.9	810.0	-6.3	-6.3
Total local and long-distance retail revenues	7,050.8	6,483.3	6,214.4	5,971.1	5,629.0	-5.7	-5.5

Source: CRTC data collection

In 2022, the retail wireline voice sector reported approximately $5.6 billion in revenues, with a 5.5% average annual decline since 2018. Local revenues (excluding contributions) accounted for 85.6% of retail wireline voice revenues in 2022. Long-distance revenues were approximately $810 million, declining by an average annual rate of 6.3% since 2018.

From 2018 to 2022, residential wireline voice revenues per line increased by $0.17 to $36.86 per month, while business wireline voice revenues per line decreased by $2.58 to $43.52 per month.

The incumbent TSPs accounted for 66.7% of residential retail wireline voice revenues in 2022, an increase of 1.7 percentage points from 2021, slightly above the average of 65.6% for the 2018-2022 period. The incumbent carriers accounted for 73.8% of business wireline voice revenues, a 1.6 percentage point

[20] Retail rates are net of contributions.

increase since 2021, and a 5.6 percentage point decrease since 2018. Residential revenue shares for cable-based carriers represented 28.0% of residential retail wireline voice revenues in 2022.

There were 18,994 payphones in 2022, generating an average of $190 in annual revenues per unit, compared to 36,558 payphones generating $367 per unit in 2018. The number of payphones dropped by over 5,100 or 21.3% from 2021 to 2022, while the average revenue per phone decreased by $17 or 8.2%.

Table 7 Overview of retail data and private line sector

	2018	2019	2020	2021	2022
Retail data and private line revenues	$3.2 B	$3.1 B	$3.0 B	$2.9 B	$2.8 B
Revenue growth rate	-1.3%	-3.2%	-5.4%	-2.1%	-4.7%
Revenue CAGR (5 year)	-2.6%	-2.4%	-2.9%	-3.0%	-3.0%

Source: CRTC data collection

Table 8 Data and private line retail revenues ($ millions)

Sector	Subsector	2018	2019	2020	2021	2022	Growth (%) 2021-2022	CAGR (%) 2018-2022
Data	Data protocols	1,845.3	1,739.0	1,691.1	1,625.9	1,515.8	-6.8	-4.8
	Other	689.9	697.5	646.5	690.0	686.3	-0.5	-0.1
	Total	2,535.2	2,436.5	2,337.6	2,316.0	2,202.0	-4.9	-3.5
Private line	Total	700.1	694.5	624.2	585.2	561.7	-4.0	-5.4
Total	Total	3,235.3	3,131.0	2,961.9	2,901.2	2,763.7	-4.7	-3.9

Source: CRTC data collection

Data and private line refer to services sold by TSPs to business customers providing private and highly secure communications channels between locations. Data and private line revenues have been in decline since 2014.

Data services are packet-based services that intelligently switch data through carrier networks. They make use of data protocols such as Ethernet and Internet Protocol (IP), or legacy data protocols such as X.25, asynchronous transfer mode (ATM), and frame relay to transmit data. The subcategory "Other" includes network management and networking equipment.

Private line services provide non-switched, dedicated communications connections between two or more points to transport data, video and/or voice traffic.

Data posted a 4.9% loss in 2022, compared to 2021, 1.4 percentage points above the average loss between 2018-2022 (3.5%). Private line, with a 4.0% loss in 2022, was below the 2018-2022 average decline of 5.4%.

Incumbent TSPs accounted for approximately 66.3% of retail data and retail private line revenues in 2022, which is similar to the 66.0% of revenues they accounted for in 2021.

Wholesale

Table 9 Overview of wholesale market

	2018	2019	2020	2021	2022
Wholesale revenues	$3.8 B	$4.1 B	$4.1 B	$3.9 B	$4.1 B
Revenue growth rate	-4.4%	5.4%	1.3%	-5.7%	4.8%
Revenue CAGR (5 year)	0.4%	0.8%	0.3%	-0.8%	1.4%

Source: CRTC data collection

Table 10 Wholesale telecommunications revenues by sector ($ millions)

Type	Sub-type	Sector	2018	2019	2020	2021	2022	Growth (%) 2021-2022	CAGR (%) 2018-2022
Wireline	Voice	Local and access	570.5	564.7	586.9	488.6	518.6	6.1	-2.4
		Long-distance	300.2	339.0	348.4	321.9	292.0	-9.3	-0.7
		Subtotal	870.8	903.7	935.3	810.6	810.7	0.0	-1.8
	Non-voice	Internet	571.4	674.1	751.5	743.0	749.7	0.9	7.0
		Data	683.8	716.9	797.2	678.1	738.4	8.9	1.9
		Private line	524.9	510.6	450.0	380.4	359.5	-5.5	-9.0
		Subtotal	1,780.1	1,901.5	1,998.7	1,801.6	1,847.7	2.6	0.9
	All	**Total Wireline**	**2,650.9**	**2,805.2**	**2,934.0**	**2,612.2**	**2,658.4**	**1.8**	**0.1**
Mobile	All	Roaming	723.9	730.0	635.4	654.4	778.8	19.0	1.8
		Other[21]	469.5	517.3	536.4	606.7	622.4	2.6	7.3
		Total Mobile	**1,193.4**	**1,247.3**	**1,171.8**	**1,261.1**	**1,401.3**	**11.1**	**4.1**
All	**Total**	**Total**	**3,844.3**	**4,052.5**	**4,105.8**	**3,873.3**	**4,059.7**	**4.8**	**1.4**

Source: CRTC data collection

To foster greater competition, the CRTC requires that large companies sell access to their networks under specific rates, terms and conditions.

Smaller service providers use this access to offer Internet and other services to their retail customers. These Internet service providers (ISPs)[22] are wholesale customers of large cable and telephone companies.

In 2022, the wholesale telecommunications sector generated revenues of $4.1 billion, of which 34.5% was for the provision of mobile services and 65.5% for wireline services.

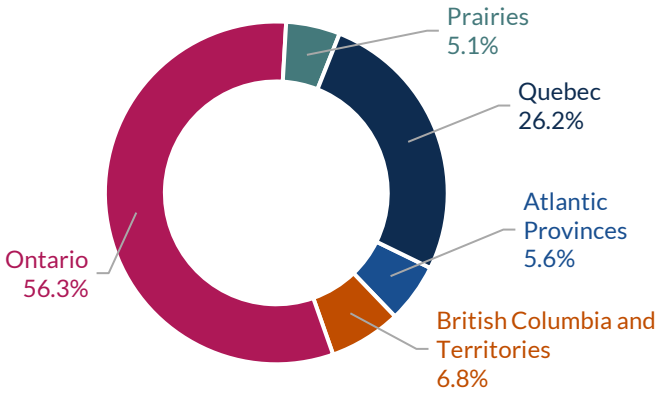
A number of ISPs depend on access services offered by the incumbent TSPs and the cable-based carriers to connect to their customers. Over the years, sales of cable-based access services to independent ISPs have increased, growing at an annual rate of 12.4% since 2018 as compared to 7.0% for all Internet services.

The number of wholesale Internet access lines declined by 13.2%, from 1.3 million in 2021 to 1.1 million in 2022. However, the number of wholesale lines with download speeds of 50 Mbps and above (high-speed) increased by 5.1% in the same period and accounted for 60.5% of all wholesale lines in 2022 compared to

[21] Other includes mobile interconnect, spectrum and other.
[22] These can include wholesale-based providers, other facilities-based providers, and affiliates of incumbent TSPs and cable-based carriers.

50.0% in 2021. Ontario has the largest share of wholesale lines (56.3%) and revenues (59.2%) in Canada by a significant margin. Quebec is second with 26.2% of wholesale lines and 26.7% of the revenues. The share of revenues generated by the remaining regions in Canada are respectively 5.4% for the Atlantic Provinces, 3.7% for the Prairies, and 5.0% for British Columbia and the Territories.

Figure 12 Percentage of high-speed Internet wholesale lines by region (%)

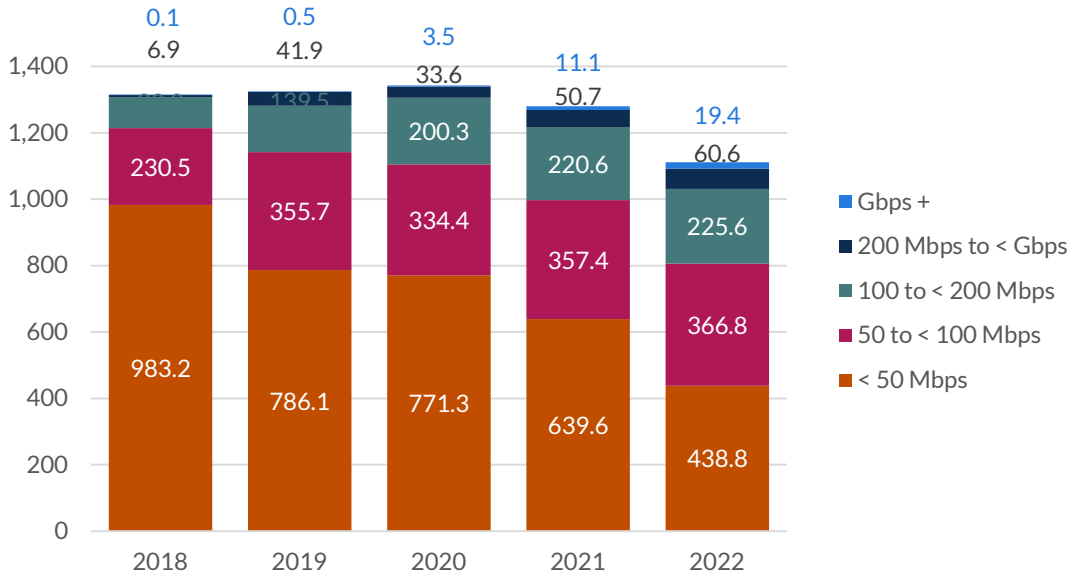


Source: CRTC data collection

Information in the above figure regarding high-speed Internet wholesale lines is from a sample of the larger ISPs. They reported approximately 70% of total wholesale Internet service revenues in 2022.

It is worth noting that the number of wholesale Internet high-speed lines has nevertheless been increasing at an annual rate of 19.4% from 2018 to 2022, and now represents approximately 60.5% of all wholesale lines. Wholesale Internet lines with download speeds of a gigabit per second and above saw the largest growth (74.8%), compared to the previous year.

Figure 13 Wholesale high-speed access enabled lines by download speed (thousands)



Source: CRTC data collection

vi Datasets available on Open Data

There are four Excel workbooks and CSV zips related to this report that have been published on the Open Data portal. They contain the data presented in the figures and tables in this section of the CMR, in addition to supplementary datasets that originate from earlier editions of the CMR.

Instructions: Use the table below to search for datasets available on Open Data that are related to this section of the CMR. When you have found the dataset, go to the Find a CMR Dataset page and download the workbooks **Data - Telecommunications sector, Data - Wholesale (telecommunications), Data - Local and long distance, and Data - Data and private line**. Search for the 'tab name' in the Excel workbook tabs to locate the data.

Table 11 List of datasets available in the Data - Telecommunications sector, Data - Wholesale (telecommunications), Data - Local and long distance, and Data - Data and private line workbooks

Workbook	Tab name	Title
Data - Telecommunications sector	T-I1	Overview of total telecommunications revenues
Data - Telecommunications sector	T-I2	Telecommunications revenue share by sector (%)
Data - Telecommunications sector	T-I3	Overview of retail vs wholesale revenue share (%)
Data - Telecommunications sector	T-I4	Overview of key indicators of telecommunications financial performance
Data - Telecommunications sector	T-I5	Overview of retail revenues by sector
Data - Telecommunications sector	T-I6	Highlights of mobile coverage
Data - Telecommunications sector	T-I7	Overview of retail fixed Internet sector
Data - Telecommunications sector	T-F2	Total telecommunications revenues ($ billions) and growth rates (%)
Data - Telecommunications sector	T-F3	Total revenues by type of TSP ($ billions)
Data - Telecommunications sector	T-F4	Companies providing telecommunications services by type of TSP (%)
Data - Telecommunications sector	T-F5	Distribution of TSPs by the number of sectors with services offered (%)
Data - Telecommunications sector	T-F6	TSPs' revenue share grouped by the number of sectors with services offered (%)
Data - Telecommunications sector	T-F7	Telecommunications revenues by category and province/territory ($ millions)
Data - Telecommunications sector	T-F8	Wholesale high-speed access enabled lines by region (thousands)
Data - Telecommunications sector	T-F9	Subsidy paid to incumbent local exchange carriers ($ millions) and contribution rate (%)
Data - Telecommunications sector	T-F10	Telecommunications capital expenditures by type ($ billions)

Data - Telecommunications sector	T-F11	Capital intensity for sectors with the highest capital intensity ratios (%)
Data - Telecommunications sector	T-F12	Telecommunications capital intensity (%), by type of TSP
Data - Telecommunications sector	T-F13	EBITDA margins by sector (%)
Data - Telecommunications sector	T-F14	Retail mobile revenue market share (%)
Data - Telecommunications sector	T-F15	Percentage of high-speed Internet wholesale lines by region (%)
Data - Telecommunications sector	T-F16	Percentage of high-speed Internet wholesale revenues share by region (%)
Data - Telecommunications sector	T-F17	Wholesale high-speed access enabled lines by download speed (thousands)
Data - Telecommunications sector	T-T1	Total revenue market share (%) by type of service provider
Data - Telecommunications sector	T-T2	Percentage of telecommunications revenues generated by forborne services (%)
Data - Telecommunications sector	T-T3	Overview of retail mobile sector
Data - Telecommunications sector	T-T4	Retail mobile and paging service revenue components ($ millions)
Data - Telecommunications sector	T-T5	Retail Internet service revenues ($ millions)
Data - Telecommunications sector	T-T6	Overview of retail fixed wireline voice sector
Data - Telecommunications sector	T-T7	Local and long-distance retail revenues ($ millions)
Data - Telecommunications sector	T-T8	Overview of retail data and private line sector
Data - Telecommunications sector	T-T9	Data and private line retail revenues ($ millions)
Data - Telecommunications sector	T-T10	Overview of wholesale market
Data - Telecommunications sector	T-T11	Wholesale telecommunications revenues by sector ($ millions)
Data - Telecommunications sector	T-S1	Telecommunications revenue distribution by region ($ billions)
Data - Telecommunications sector	T-S2	Percentage of retail telecommunications revenues generated by forborne services (%)
Data - Telecommunications sector	T-S3	Telecommunications investments made in plant and equipment, by type of provider of telecommunications service ($ billions)
Data - Telecommunications sector	T-S4	Total 9-1-1 service revenues ($ millions)
Data - Telecommunications sector	T-S5	Wireline retail telecommunications revenue market share (%) by type of service provider
Data - Wholesale (telecommunications)	W1	Wholesale telecommunications revenues by market sector ($ millions)
Data - Wholesale (telecommunications)	W2	Local wholesale telecommunications revenues, by major component ($ millions)
Data - Wholesale (telecommunications)	W3	Local wholesale telecommunications revenues, by province ($ millions)
Data - Wholesale (telecommunications)	W4	Wholesale high-speed access (HSA) based subscriptions across Canada, in percentage of total subscriptions
Data - Wholesale (telecommunications)	W5	Internet-related wholesale revenues by type of service ($ millions)
Data - Wholesale (telecommunications)	W6	Wholesale HSA revenues by service component ($ millions)
Data - Wholesale (telecommunications)	W7	DSL and cable wholesale HSA service subscriptions by type of service (thousands)
Data - Wholesale (telecommunications)	W8	DSL and cable wholesale HSA monthly revenue per enabled subscription ($)
Data - Wholesale (telecommunications)	W9	Wholesale HSA-enabled subscriptions by service speed in Mbps (thousands)
Data - Wholesale (telecommunications)	W10	Data protocol wholesale revenues, by service category ($ millions)
Data - Wholesale (telecommunications)	W11	Wholesale mobile wireless revenues, by type of service ($ millions)
Data - Wholesale (telecommunications)	W12	Local and access lines, by type of TSP (thousands)
Data - Wholesale (telecommunications)	W13	Wireline wholesale telecommunications revenue market share, by type of TSP (%)
Data - Wholesale (telecommunications)	W14	Wholesale local and access revenues, by type of TSP ($ millions)
Data - Wholesale (telecommunications)	W15	Wholesale long distance revenues by type of TSP ($ millions)
Data - Wholesale (telecommunications)	W16	Percentage of wholesale telecommunications revenues generated by forborne services (%)
Data - Wholesale (telecommunications)	W17	Wholesale wireline telecommunications service revenues by type of service (%)
Data - Wholesale (telecommunications)	W18	Inter-provider expenses per revenue dollar for wireline services ($)
Data - Local and long distance	LLD1	Residential local telephone and long-distance service revenues by type of TSP ($ millions)
Data - Local and long distance	LLD2	Business local telephone and long-distance revenues by type of TSP ($ millions)
Data - Local and long distance	LLD3	Residential and business local telephone lines by type of TSP (thousands)
Data - Local and long distance	LLD4	Residential and business, local and long-distance monthly revenues ($), per line
Data - Local and long distance	LLD5	Local telephone retail service monthly revenues ($) per line, by type of TSP
Data - Local and long distance	LLD6	Large incumbent TSPs' retail long distance revenue market share (%), by region
Data - Local and long distance	LLD7	Large incumbent TSPs' payphone revenues
Data - Local and long distance	LLD8	Large incumbent TSPs' payphone quantities
Data - Local and long distance	LLD9	Long distance residential and business monthly revenues ($), per line
Data - Data and private line	DPL1	Retail data service revenues by classification of data protocol used ($ millions)
Data - Data and private line	DPL2	Breakdown of newer data service revenues, by protocol used (%)
Data - Data and private line	DPL3	Private line retail revenues by type of service provider ($ millions)
Data - Data and private line	DPL4	Retail data and private line revenue market share (%), by type of TSP
Data - Data and private line	DPL5	Retail data service revenue market share (%), by type of TSP
Data - Data and private line	DPL6	Retail data service revenue market share (%), by type of service provider and classification of data protocol used
Data - Data and private line	DPL7	Retail private line revenue market share (%)
Data - Data and private line	DPL8	Forborne private line routes
Data - Data and private line	DPL9	Forborne data and private line revenues (%)

vii Methodology

Capital expenditures and capital intensity

CAPEX are the costs associated with procuring, constructing, and installing new assets of telecommunications networks, to replace or add to existing assets, or to lease to others. The CAPEX metric in this report includes data only from companies which supplied both telecommunications revenue and capital expenditure data.

Capital intensity is the ratio of CAPEX to revenues. The capital intensity metric of the telecommunications sector found in this report was derived by dividing the total annual CAPEX by the annual telecommunications revenues of companies that reported capital expenditures. The capital intensity of the Top 5 TSPs was calculated by dividing the sum of their CAPEX by their year-end telecommunications revenues.

The capital intensity for all other sectors found in Figure 8 was calculated by dividing the sector CAPEX by the full-year sector revenue. Sector CAPEX and sector revenue can be found in Statistics Canada Tables 34-10-0035-01 and 33-10-0226-01.

Churn rate

The average monthly churn rate is derived by dividing the number of subscribers that have left their TSP in a month by the total number of service subscribers over the same period. The higher the number, the more subscribers are leaving the provider.

Data Freshness

The data and statistics published in this report are accurate at the time of publishing. Previous years' data may have revisions due to updated numbers or minor corrections. For the latest and most up-to-date datasets, please consult the CRTC Open Data portal for the latest Excel workbooks and CSV files.

Earnings before interest, taxes, depreciation, and amortization (EBITDA)

EBITDA is the operating revenue after having subtracted operating expenses but before subtracting charges for interest payments, taxes, depreciation, and amortization. The EBITDA margins were determined by dividing the total EBITDA by the total operating revenues. The EBITDA margins were calculated for companies for whom at least 80% of their total revenues are represented by Canadian telecommunications services.

Internet usage: methodology

All information in the residential fixed Internet section regarding usage of gigabytes per month, and subscriptions by advertised speed and advertised download capacity, is from data collected through surveying the larger ISPs. These larger ISPs are assigned forms which report details of the residential Internet access high-speed plans that they provide and offer.

Assignment of forms/surveys is based on the size of the entity. As such, to reduce regulatory burden, small ISPs are not required to submit this information.

Wholesale Internet lines and revenues by province/territory and region

All information in this section regarding provincial wholesale Internet lines and revenues is from data collected through surveying the larger ISPs. These larger ISPs are telecommunications providers that have historically provided regulated wholesale telecommunications services (such as wholesale high-speed access, unbundled loops, and Content Delivery Network [CDN] services). They are assigned forms that report details of their wholesale high-speed Internet access lines and revenues.

Reclassification of Mobile Sector

In 2020, the CRTC revamped the data collections for the mobile sector to capture mobile services in three distinct categories: 1. Mobile phone 2. Mobile broadband and 3. Other plans for mobile connected devices. This restructure has helped to align reporting changes in the sector, provide clearer and more accurate representation of the various segments, specifically mobile phone services, within the mobile sector and to assist in the monitoring efforts of new and innovative mobile solutions for industrial applications, machine to machine (M2M), etc., delivered on 5G mobile networks and beyond. As a result of the changes in the reporting formats, the 2022 and 2021 metrics will only be comparable to the 2020 data and therefore cumulative growth rates will not be applicable and will be identified as "NA".

In addition, there will be limited reporting on aggregate mobile statistics in the retail mobile sector, instead, the focus will be on "Mobile phone" services; this will be identified as "MP" which indicates that only mobile phone statistics were included unless otherwise specified.

Metrics that were reported prior to 2020 have been left unchanged, but 2020, 2021, and 2022 metrics were impacted. Many metrics that were closely monitored in previous CMR have been modified in 2020, 2021, and 2022, including the methodologies. For example, the average monthly data usage per user reported prior to 2020 will remain as it is, but in 2020, 2021, and 2022, this metric has been reclassified and reported as the average monthly data usage per mobile phone (MP) data subscriber. Similarly, the average revenue per user (ARPU) was reclassified as the average revenue per user for mobile phone (ARPU-MP).

Definitions

An **alternative service provider** is any entity that is not an incumbent TSP. Examples of alternative service providers include Rogers, Shaw, TekSavvy, and Vidéotron.

ARPU is a measure of revenue generated per subscriber. This is calculated by dividing the whole-year total revenue by the average number of subscribers from the current and previous year. The number of subscribers is taken from year end data.

Cable-based carriers are former cable monopolies that also provide telecommunications services (e.g., wireline voice, Internet, data and private line, and wireless services). Examples of cable-based carriers include Rogers, Shaw, and Vidéotron.

Average **churn rate** is a measure of subscriber turnover represented as an average monthly rate.

EBITDA, or Operating Margin is a metric used to measure financial performance. It is expressed as a percentage of total revenues.

The **estimated number of households in Canada** is calculated by dividing the 4th quarter population estimate for Canada by Statistics Canada by the population to dwelling ratio. In turn, the population to dwelling ratio is calculated by dividing the population of Canada by the number of households found in the Statistics Canada Census 2021.

Facilities-based service providers are any entity that own or operate transmission facilities. Examples of facilities-based service providers include Bell Canada, Rogers, SaskTel, Shaw, TELUS, and Vidéotron.

Fibre-to-the-home (FTTH) refers to fibre optic communication delivery system where fibre extends from a concentrator, remote or central office to a residence.

Fibre-to-the-premises (FTTP) is the equivalent of FTTH but refers to fibre extending to a "premise" which includes fibre extended to a business instead of a residence.

Fixed-Internet services refers to Internet access service via dial-up, DSL, cable, fibre, fixed wireless, satellite, and other technologies such as Wi-Fi where access is provided to a precise and geographically constrained location; Internet transport service; and other non-connectivity Internet-related services such as equipment, web hosting, data centre services, etc.

Fixed wireless service providers are any entity that provides its services over a wireless network that uses either licensed or unlicensed spectrum to provide communications services, where the service is intended to be used in a fixed location. Examples of fixed wireless service providers include SSi Canada and Xplore.

HSPA, HSPA+, LTE, LTE-Advanced (LTE-A), 5G: High-Speed Packet Access (HSPA) and Long-Term Evolution (LTE) are protocols or standards used for communications between a mobile phone and cell towers in mobile networks. HSPA is also referred to as 3G (third generation) cellular while LTE is referred to a 4G (fourth generation) cellular. HSPA+, or evolved High-Speed Packet Access, is a form of HSPA that uses technical measures to provide faster transmission speeds. LTE is the current standard that is now widely deployed in most mobile networks, while LTE-Advanced (LTE-A) is an enhancement of the LTE standard. 5G (NR) New Radio is a new radio access technology (RAT) that is referred to as the fifth generation. These networks promise to deliver significantly faster speeds, lower latency, and gains in spectral efficiency than prior generational networks, among other benefits.

Incumbent local exchange carrier (ILECs) are incumbent entities providing local voice services. Examples of incumbent local exchange carriers include Bell Canada, Execulink, SaskTel, Sogetel, and TELUS.

An **Incumbent Telecommunications Service Provider (TSP)** is a company that provided local telecommunications services on a monopoly basis prior to the introduction of competition. These can be further categorized as large and small incumbent TSPs.

An **independent Internet service provider (ISP)** refers to ISPs that are not cable-based carriers or incumbent TSPs. Examples of independent ISPs include CIK Telecom, TekSavvy, Verizon Canada, and Xplore.

Large incumbent TSPs serve relatively large geographical areas, usually including both rural and urban populations, and provide wireline voice, Internet, data and private line, wireless, and other services. Examples of large incumbent TSPs include Bell, SaskTel, and TELUS.

Mobile Phone revenues and subscribers are derived from handheld devices that are used mainly for voice and data communications, such as cellphones and smartphones.

Mobile Broadband revenues and subscribers include built-in and portable access devices such as hubs, dongles, tablets, laptops, and netbooks; excluding revenues derived in relation to Internet access over mobile phone or handheld devices such as blackberries, iPhone and other smartphones from this category.

Other plans for mobile connected devices should include revenues and the number of plans for all other connected peripherals and devices, M2M services (cars, smart meters, trains, consumer electronics/connected ancillary devices) that are not included in or part of the mobile phones and mobile broadband categories.

Other facilities-based carriers refers to providers of telecommunications services that are not incumbent providers, but which own and operate telecommunications networks. Examples of other facilities-based carriers include Allstream Business and Xplore.

Small incumbent TSPs serve relatively small geographical areas. Due to the limited size of their serving areas, these companies do not typically provide facilities-based long-distance services. However, they provide a range of wireline voice, Internet, data and private line, and wireless services. Examples of small incumbent TSPs include Execulink and Sogetel.

Tariff services are services whose rates, terms, and conditions are set out in a Commission-approved tariff. Non-tariff services are those telecommunications services whose rates, terms, and conditions are not set out in a Commission-approved tariff. Off-tariff services are those whose prices are filed with the Commission but for which the parties have agreed to an alternate price.

A **telecommunications service provider (TSP)** refers to any entity providing telecommunications services.

The **top three mobile service providers (Top 3)**, in terms of revenues and subscribers, consists of the Bell Group, Rogers and TELUS. The Bell Group includes Bell Canada, Bell Mobility, Bell MTS, KMTS, NorthernTel Limited Partnership, Northwestel Mobility and Télébec, Limited Partnership. In 2017, MTS Inc.'s figures were included with those of the Bell Group. In 2015, Data & Audio-Visual Enterprises Wireless Inc.'s (i.e., Mobilicity, which then became Chatr) figures were included with those of Rogers. From 2013 on, Public Mobile's figures were included with those of TELUS. Throughout these highlights, the flanker brands are a subset of the Top 3, unless otherwise stated.

Wholesale-based service providers or **non-facilities-based service carriers** refers to companies that generally acquire telecommunications services from other providers and either resell those services or create their own network from which to provide services to their customers. A company that owns a small number of facilities but has the vast majority of its operations on leased facilities may also be classified as non-facilities based. Examples of wholesale-based service providers and non-facilities-based carriers include CIK Telecom and TekSavvy.

A **wireless service provider (WSP)** is any entity providing wireless services. Examples of wireless service providers include Bell, Rogers, SaskTel, Shaw, TELUS, and Vidéotron.