



Canadian Radio-television and  
Telecommunications Commission

Conseil de la radiodiffusion et des  
télécommunications canadiennes

Canada

# COMMUNICATIONS MONITORING REPORT 2018

RETAIL MOBILE  
SECTOR

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## Retail Mobile Sector

Infographic 6.1

- ➔ **Mobile revenues** reached **\$24.5 billion** in 2017, a **5.3% increase** from the previous year.
- ➔ There were **31.7 million mobile subscribers** in Canada in 2017, a 3.1% increase from the previous year.
- ➔ **Average revenue per user (ARPU)** in 2017 was **\$65.33, a 2.1% increase** from the previous year.
- ➔ **EBITDA margins** remained strong in 2017 at **39.5%**.
- ➔ Approximately **92% of Canadians had access** to **LTE-Advanced** network services in 2017, compared to 83% in 2016.
- ➔ **LTE mobile networks** covered **99% of the population and over 86% of major roads and highways** in Canada.
- ➔ The **average mobile data subscriber** used **over 2 GB of data per month** in 2017, a **30% increase** from the previous year.
- ➔ The **Top 3's flanker brands** held **more than one fifth** of the subscriber market share in 2017.

Source: CRTC data collection

The retail mobile market remained the largest telecommunications market sector, with revenues of \$24.5 billion in 2017, a growth of 5.3%, or \$1.24 billion, over 2016 revenues. These revenues represented over 52% of all retail telecommunications revenues in 2017. The sector was one of only two telecommunications sectors, along with fixed Internet, that reported revenue growth in 2017 – all other sectors reported declines. Subscribers grew to 31.7 million, up 3.1% from 2016, average revenue per user (ARPU) increased by 2.1% to \$65.33 in 2017, and EBITDA [earnings before interest, taxes, depreciation and amortization] margins remained strong in 2017 at just below 40%.

Mobile networks covered approximately one quarter of Canada's geographic land mass and reached 99% of Canadians in 2017, while penetration rate reached 85.7%. Advanced wireless networks such as Long-Term Evolution (LTE) and LTE-Advanced (LTE-A), which deliver even higher speeds than previous-generation networks, were available to approximately 99% and 92% of Canadians, respectively. At the end of 2017, LTE

networks covered 86% of Canada's major roads and highways,<sup>1</sup> leaving almost 16,000 kilometres without LTE coverage.

Over the past decade, there has been some progress made in fostering a more competitive mobile industry as a result of a combination of initiatives such as

- the AWS-3<sup>2</sup> spectrum auction,
- the auctions of 700 megahertz (MHz), 2500 MHz, 2300 MHz, and PCS-G<sup>3</sup> blocks
- additional AWS-3 spectrum auctions (1755-1780 and 2155-2180 MHz)
- other government initiatives to address the competitive landscape in the mobile sector, such as
  - o mandating roaming and tower sharing,
  - o wholesale roaming rate regulations,
  - o the introduction of the Wireless Code in 2013, and
  - o the review of the Wireless Code in 2017.

At the same time, Canadians' mobile usage continued to change, as did service provider offerings. New service providers offered Canadians more choices than ever before, alternative pricing and promotional offerings, innovative plans that introduced unlimited provincial and nationwide long distance services, unlimited national and international texting services, and faster mobile networks.

To measure the level of competitiveness in this sector, the retail mobile sector analysis presents data segmented between the Top 3<sup>4</sup>, the Top 3's flanker brands<sup>5</sup> and other service providers (hereafter, other providers).<sup>6</sup>

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<sup>1</sup> In Telecom Regulatory Policy 2018-377, the Commission established that Statistics Canada's [street rank codes 1 through 3](#) corresponded to the Commission's definition of major transportation roads.

<sup>2</sup> Advanced Wireless Services

<sup>3</sup> Personal Communications Service – G block

<sup>4</sup> The Top 3 mobile service providers, in terms of revenues and subscribers, consists of the Bell Group, Rogers, and TELUS. Bell Group includes; Bell Canada, Bell Mobility, KMTS, Latitude Wireless, NorthernTel, Limited Partnership, Northwestel Mobility, and Telebec, Limited Partnership. As of 2013, Public Mobile's figures were included with those of TELUS. In 2015, Data & Audio Visual Enterprises Wireless Inc.'s (Mobilicity) figures were included with those of Rogers. In 2017, MTS Inc. figures were also included within the Bell Group. Throughout this section, the Top 3's flanker brands are included in the category of the Top 3.

<sup>5</sup> Top 3 flanker brands include brands such as Fido, Koodo and Virgin Mobile.

<sup>6</sup> Other service providers include SaskTel, other small incumbent TSPs (telecommunications service providers), certain resellers, and the remaining new entrants (Freedom Mobile, Videotron and Bragg Communications [Eastlink]).

## i Revenues

### Infographic 6.2

- ➔ Total **retail mobile revenues** reached **\$24.5 billion, up 5.3%** in 2017.
- ➔ Mobile **revenue market share: Top 3 - 92%** vs. Other providers – 8%
- ➔ Mobile **long distance revenues** as a percentage of total mobile revenues: **2% in 2017, compared to 6%** in 2013.
- ➔ Mobile **data revenues** as a percentage of total mobile revenues: **48.3% in 2017, up 7.8%** from 2016.
- ➔ Percentage of revenues that were **generated from postpaid plans** in 2017: **95.5%**.

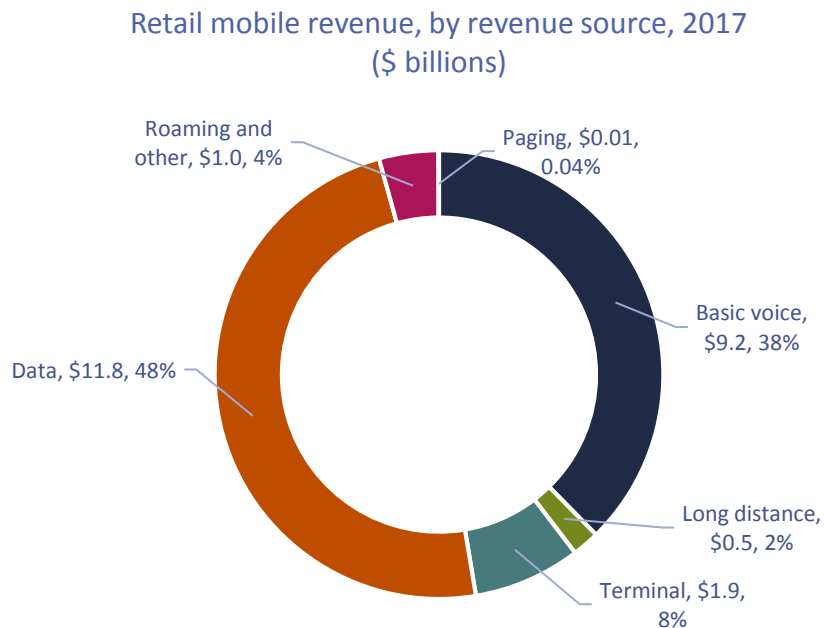
Source: CRTC data collection

Revenues in the mobile service sector, excluding paging service revenues, continued to account for the largest portion of telecommunications sector revenues in 2017 reaching \$24.5 billion. This was an increase of 5.3% compared to previous year, slightly above the five-year cumulative average growth rate of 4.9%. The Top 3 captured 92% of these revenues, leaving 8% to be divided among the remaining competitors. Although the Top 3 lost about 1% in total revenue market share from 2013 to 2017, they were still able to retain about 92% of the revenue share from internal growth and through acquisitions. High-level market share data for 2013 to 2017 can be found on [open data](#).

Not all services in the mobile sector experienced strong growth. Mobile long distance revenues continued to fall at a rapid pace. They dropped by 11.9% in 2017 and, on average, 19.7% annually over the five-year period from 2013 to 2017.

Demand for mobile data services has been one of the main drivers for sustained and strong revenue growth in this sector. In 2017, mobile data revenues made up 48.3% of all service revenues, compared to 37.3% in 2013.

Figure 6.1 Retail mobile sector revenues, by source, 2017 (\$ billions)



Source: CRTC data collection

Since the majority of mobile data service revenues were derived from postpaid subscribers, companies continued to promote and incent larger data buckets to attract new customers and acquire existing users from their competitors.

Various mobile and paging service revenue components for the 2013 to 2017 period can be accessed via [open data](#).

### Infographic 6.3

- ➔ In 2017, percentage of **mobile service revenues** from:
- Voice: 8% vs.
  - **Voice and data: 89%** vs.
  - Data-only plans: 3%.

Source: CRTC data collection

In 2017, 89% of revenues were derived from customers who subscribed to voice and data plans; this serves as a gauge to compare between the level of smartphone and regular cell phone adoption, as well as the increased demand for data services. Those with voice-only plans generally own regular cell phones, which are mainly used for voice services and have limited data capabilities, and may indicate a segment of society that is either less inclined or have yet to embrace the digital economy.

## Infographic 6.4

- In 2017, percentage of **voice roaming revenues** generated from roaming in:
  - **Canada: 2%,**
  - United States: 70%, and
  - Internationally: 28%.
  
- In 2017, percentage of **data roaming revenues** generated from roaming in:
  - **Canada: 3%,**
  - United States: 61%, and
  - Internationally: 35%.

Source: CRTC data collection

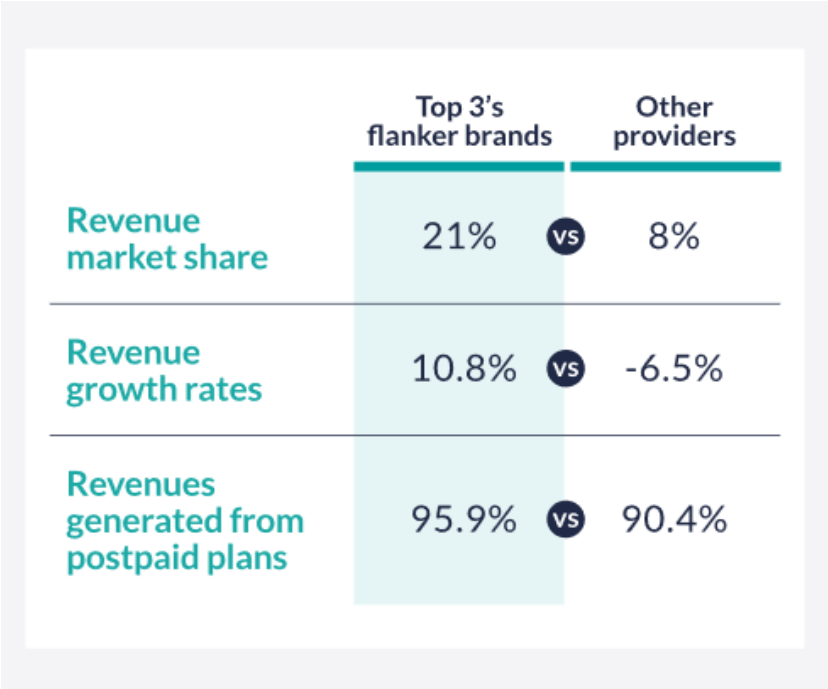
Roaming<sup>7</sup> revenues were largely generated from subscribers who used mobile services in the United States. Approximately 70% of voice roaming revenues and 61% of data roaming revenues were derived from users roaming in the United States, with very few revenues generated from within Canada. Short Message Service (SMS) and Multimedia Messaging Service (MMS) revenues were excluded from the data revenue component of this figure.

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<sup>7</sup> Mobile providers extend their coverage area to areas where they do not have facilities by making arrangements with other providers that do have facilities in those areas to offer service to their end-users. When a subscriber uses the facilities of another provider, the subscriber is said to be “roaming.”

### Competitive lens/landscape

Infographic 6.5

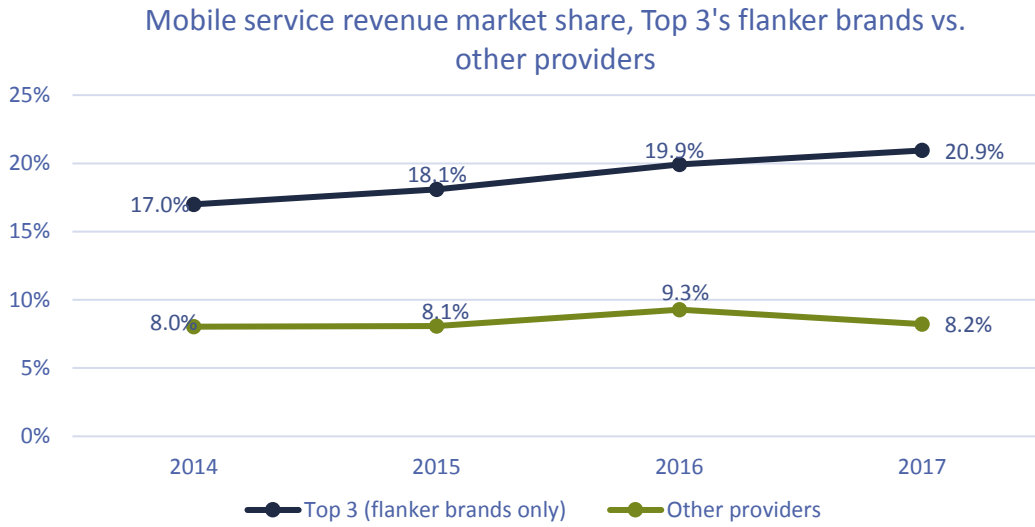


Source: CRTC data collection

The Top 3 market their mobile services through primary and flanker brands. By marketing their services through various market segments, they are able to differentiate service offerings. Generally, the Top 3's flanker brands and the new entrants have targeted the more value- and price-conscious consumers. Isolating and comparing only the Top 3's flanker brands to the other providers' data may provide a better comparison of the two groups' abilities to compete for revenue market share against one another.



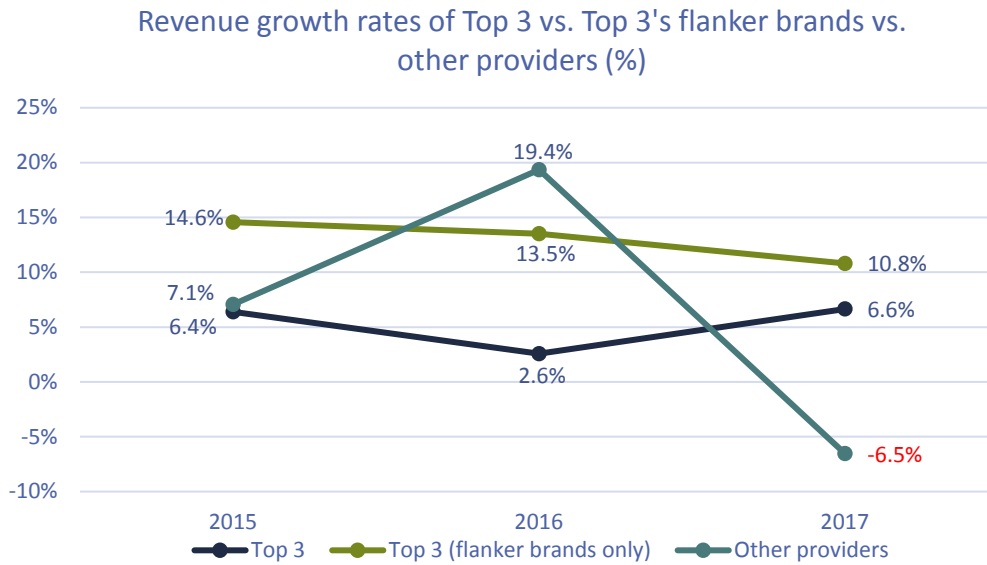
Figure 6.2 Mobile service revenue market share, Top 3's flanker brands vs. other providers



Source: CRTC data collection

As seen in Figure 6.3 below, the other providers reported a negative revenue growth of 6.5% in 2017, which was due mainly to Bell Mobility's acquisition of MTS during the first quarter of 2017. The acquisition caused a shift in mobile revenues from the other providers to the Top 3 category. As a result, the Top 3 recorded a slightly larger increase in the revenue growth rate, while the other providers posted a negative 6.5% growth rate (this would have otherwise been a positive growth rate). The figure also compares the revenue growth rate of the Top 3's flanker brands against the other providers and the Top 3.

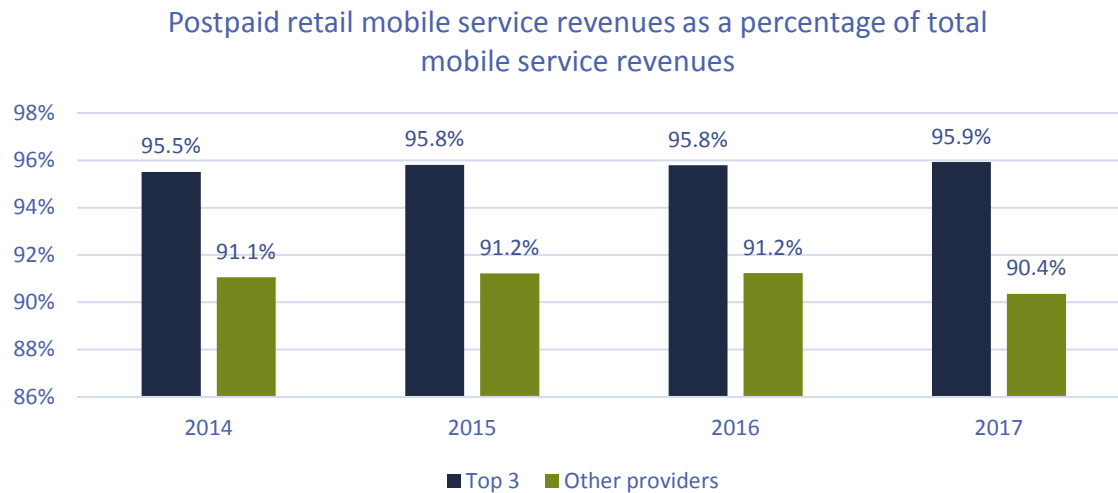
Figure 6.3 Revenue growth rates of Top 3 vs. Top 3's flanker brands vs. other providers



Source: CRTC data collection

More than 95% of mobile revenues came from postpaid plans and, not surprisingly, almost all data plans were sold under a postpaid plan. Since data revenues continue to be the largest and fastest growing service component, there are many incentives for providers to compete for the more lucrative postpaid subscribers such as higher revenues per subscriber and lower churn rates. *Figure 6.4* illustrates the percentage of revenues derived from postpaid retail mobile services (basic voice, long distance, and data) by the other providers relative to the Top 3.

Figure 6.4 Postpaid retail mobile service revenues (basic voice, long distance, and data) as a percentage of total retail mobile revenues



Source: CRTC data collection

## ii Subscriber data

Infographic 6.6

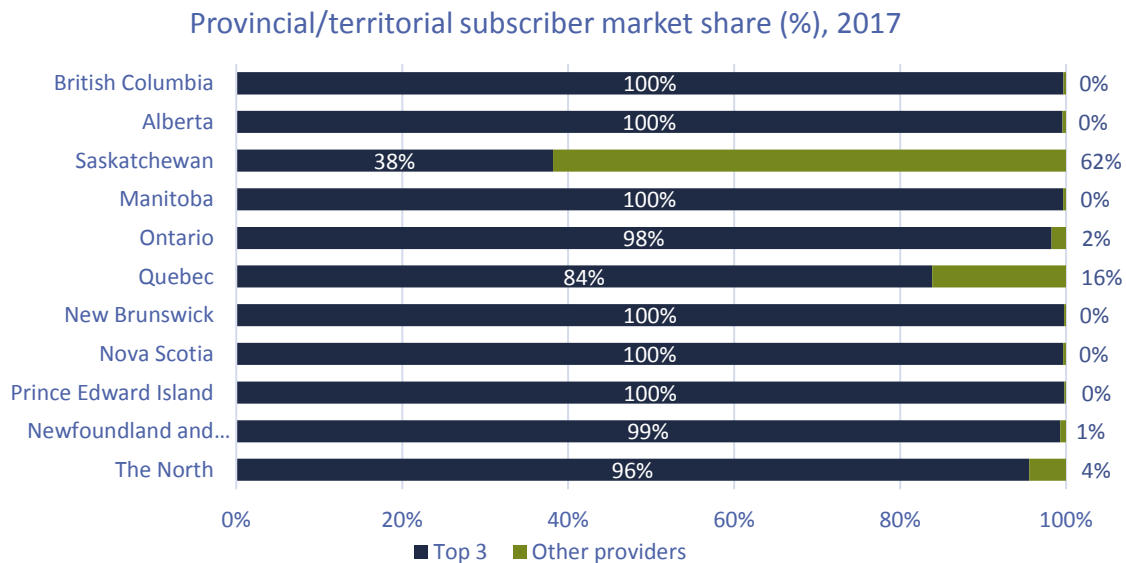
- ⇒ **Number of subscribers: 31.7 million** in 2017, an **increase of 3.1%** compared to 2016
- ⇒ **Mobile subscriber market share:** Top 3 - 90% vs. **other providers – 10%**
- ⇒ Percentage of subscribers who subscribed to a **postpaid plan** in 2017: **88%**
- ⇒ Percentage of subscribers who subscribed to a **plan that included data** in 2017: **83%, an increase of 2.7%** compared to 2016
- ⇒ Percentage of data subscribers who subscribed to a **plan with 5 GB or more of data:** **31%**
- ⇒ Percentage of mobile subscribers who subscribed to a **voice plan with unlimited voice minutes:** **62%**
- ⇒ Percentage of mobile subscribers who subscribed to a **messaging plan with unlimited SMS:** **99%**
- ⇒ Percentage of mobile subscribers with plans that had a **contract duration greater than two years:** **7.2% in 2017 vs. 56.4% in 2013**

Source: CRTC data collection

In 2017, *mobile* subscribers grew by 3.1% to reach 31.7 million subscribers, almost two times slower than the revenue growth rate of 5.4%. This points to greater revenues per subscriber for 2017.

At the national level, the Top 3 continued to hold the majority of the subscriber market share at 90%, with remaining 10% divided among their competitors. However, there were regional differences. The Top 3's market share varied among province/territory, but collectively, they held the majority share in each province/territory except for Saskatchewan, where the other service providers held 62% of the market share, a decrease from 68% in 2013. Provincial and territorial market share data can be found via [open data](#).

Figure 6.5 Provincial/territorial subscriber market share (%), 2017



Source: CRTC data collection

*The figure above displays the market shares held by the major WSPs, excluding Freedom Mobile and Eastlink/Bragg, in Canada's provinces and in the North (Northwest Territories, Nunavut and Yukon). Other providers include (but are not limited to) SaskTel, TBayTel and Videotron.*

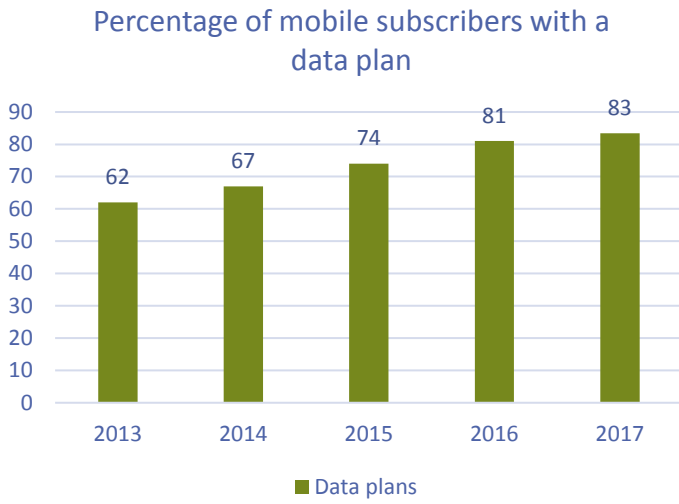
In 2016 and 2017, approximately 40% of all subscribers who subscribed to a data plan resided in Ontario. This figure closely aligns with the population distribution by province. Additional information with respect to the number of subscribers with a data plan and the distribution of data subscribers in each region of the country in 2016 and 2017 can be found via [open data](#).

The appetite for mobile services continued to grow in 2017. More than 60% of all data subscribers subscribed to a plan with 2 GB or more of data, compared to 54% in 2016, while 57% of subscribers had unlimited voice minutes and 99% had unlimited text messages, compared to 56% and 98%, respectively, in 2016.

With the implementation of the Wireless Code in 2013, the percentage of postpaid plans under contracts of more than two years declined significantly. While customers can still sign contracts more than two years in length, no cancellation fees can be incurred after 24 months. Since business accounts were exempt from the code, many of the accounts reported in the greater than 2 years category reflect business accounts that were still under contract. However, the number of subscribers with contracts between 1 and 2 years in length rose to 49% in 2017 from 45% in 2016. Additional details can be found via [open data](#).

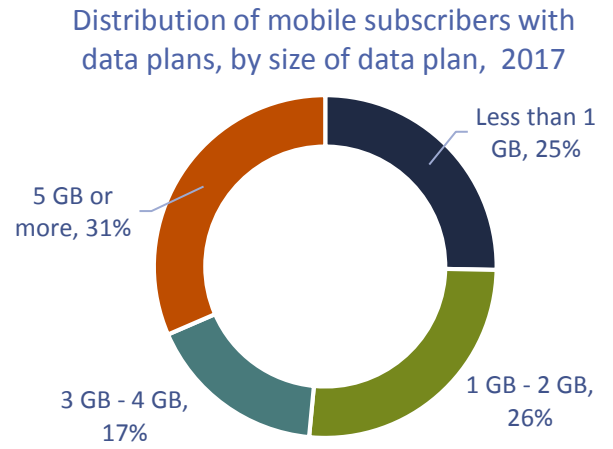
Because the level of detail required differs from each group of reporting entities, only those who provided a certain level of detail were included in subscriber plan-specific data. As a result, the figures reported in the bar chart below represents over 90% of total mobile subscribers. The figures show the percentage of subscribers with a data plan and illustrates the increasing appetite for data plans as the number steadily increased from 62% in 2013 to 83% in 2017.

Figure 6.6 Percentage of mobile subscribers with a data plan



Source: CRTC data collection

Figure 6.7 Distribution of mobile subscribers with data plans, by size of plan, 2017



Source: CRTC data collection

Figure 6.6 above shows the percent of subscribers who subscribed to any sort of data plan, while Figure 6.7 above shows the distribution of subscribers with a data plan, excluding data-only plans, by the size of the plan.

## Competitive lens/landscape

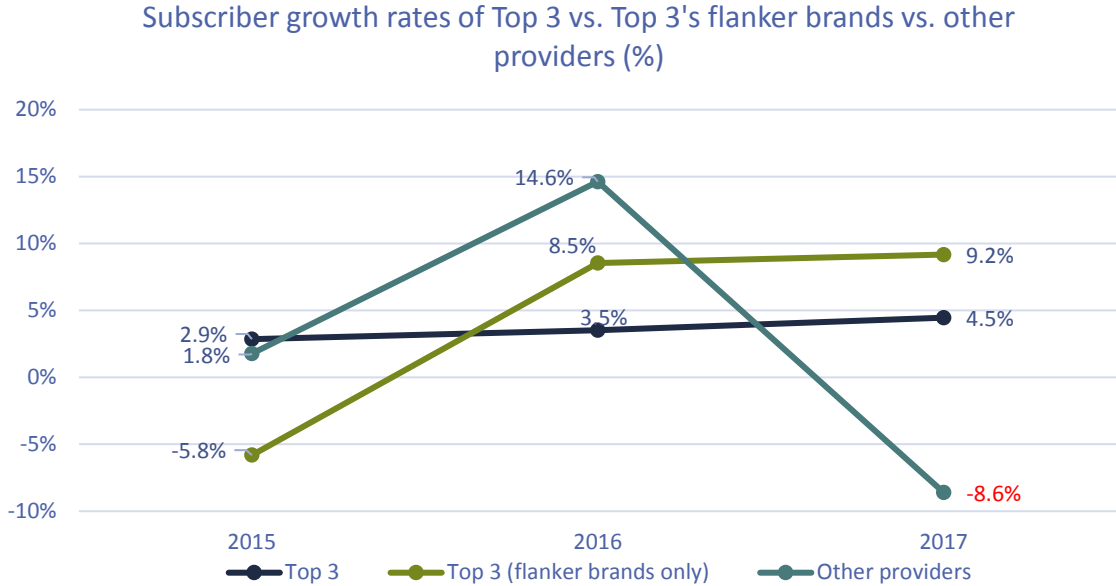
Infographic 6.7

	Top 3's flanker brands	vs	Other providers
Subscriber growth rates	9.2%		-8.6%
Mobile subscriber market share	27%		9.9%
Subscribers on postpaid plans	88%		84%
Data subscribers whose plans included 5 GB or more of data	28%		56%

Source: CRTC data collection

The Top 3's subscriber growth outpaced that of the other providers. As a collective group, the Top 3 reported a strong 4.5% increase in subscribers in 2017, their highest growth rate reported in three years. One of the main contributors to this growth was Bell Mobility's acquisition of MTS.

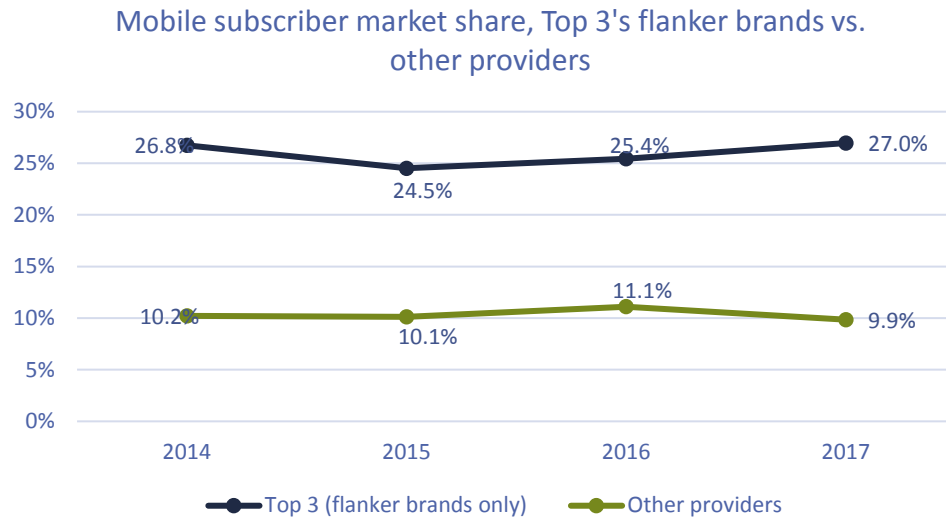
Figure 6.8 Subscriber growth rates of Top 3 vs. Top 3's flanker brands vs. other providers



Source: CRTC data collection

From 2014 to 2017, the Top 3's subscriber market share did not change significantly; however, the comparison between the Top 3's flanker brands and the other service providers offers insight into how the Top 3 have marketed, packaged and positioned their flanker brand plans to compete in the marketplace. From 2014 to 2017, the Top 3's flanker brands garnered approximately one quarter of the subscriber market share, almost 3 times that of the other providers.

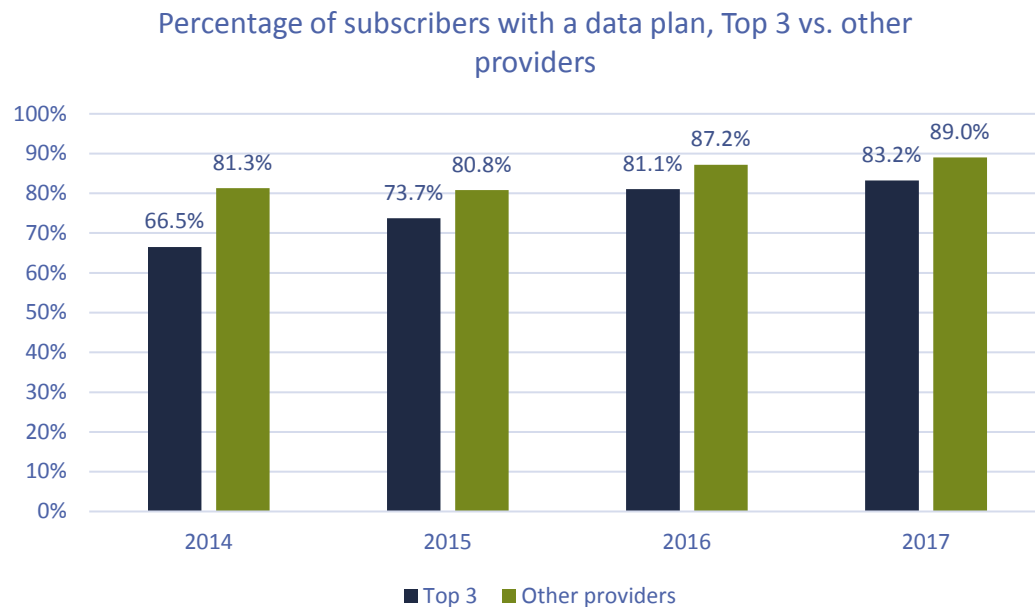
Figure 6.9 Mobile subscriber market share, Top 3's flanker brands vs. other providers



Source: CRTC data collection

Both the Top 3 and the other providers have consistently and successfully positioned their plans to encourage their customers to favour postpaid instead of pre-paid subscriptions. As a result, in 2017, 88% of all subscribers were reported as postpaid subscribers, compared to 83% in 2013. The shift from prepaid to postpaid subscribers resulted in higher overall revenues and higher revenues per subscriber.

Figure 6.10 Percentage of subscribers with a data plan, Top 3 vs. other providers

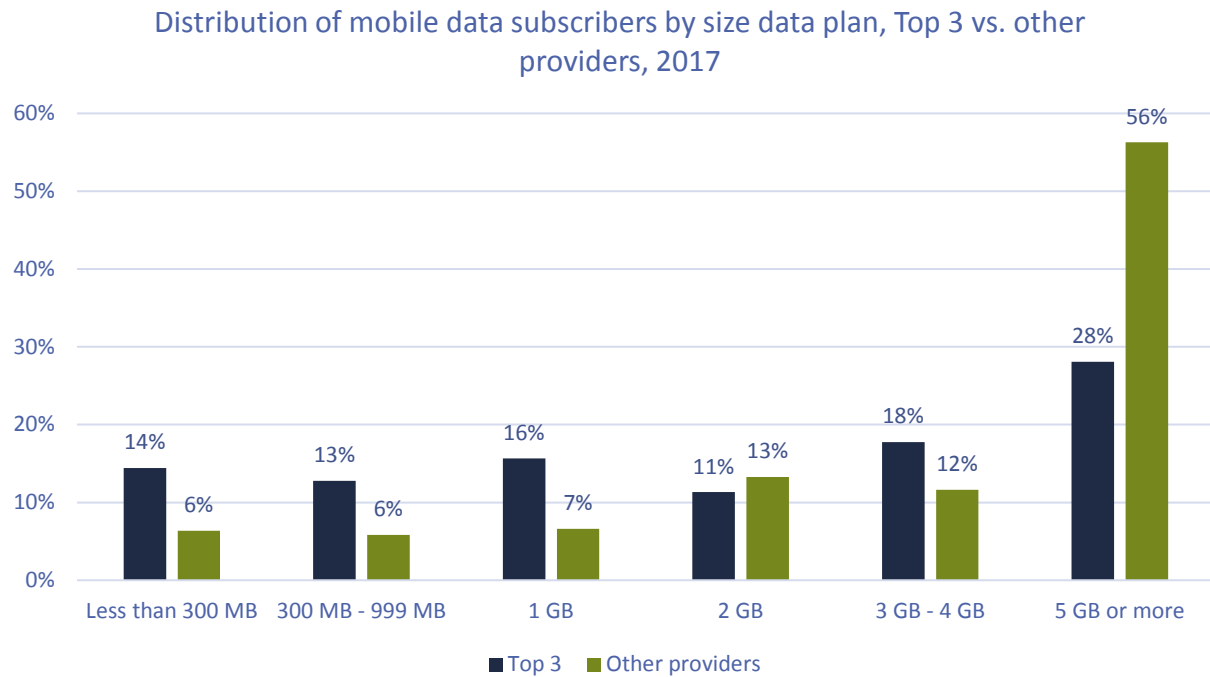


Source: CRTC data collection



The chart below compares the distribution of subscribers with a data plan, excluding data-only plans, by size of the plan and by the Top 3 versus other providers. Both the Top 3 and other providers' total data subscriber base is represent separately.

Figure 6.11 Distribution of mobile data subscribers by size of plan, Top 3 vs. other providers, 2017



Source: CRTC data collection

### iii Other performance indicators

In addition to revenue and subscriber metrics, there are other indicators such as average revenue per user/subscriber (ARPU),<sup>8</sup> data usage, investments and penetration rates that can help measure financial performance and assess the level of competition in the mobile sector.

Infographic 6.8

- ➔ In 2017, the **ARPU** was **\$65.33/month, an increase of 2.1%** compared to 2016.
  - Highest average<sup>9</sup> provincial ARPU: **Alberta \$73.60**
  - Lowest average<sup>10</sup> provincial ARPU: **Quebec \$56.07**
- ➔ **Wireless EBITDA margins: 39.5%**
- ➔ **Average capital expenditures per user (ACEPU): \$6.20/month**
- ➔ **Average data usage** across all subscribers: **1.6 GB/month, an increase of 37.5%** compared to 2016.
- ➔ **Average revenue per 1 GB of data per month: \$16.80**
- ➔ Lowest **blended prepaid and postpaid churn rate** ever reported: **1.1% by TELUS**
- ➔ Average number of **SMS and MMS sent/received daily: 513 million messages**

Source: CRTC data collection

*Average capital expenditure per user was computed by using only data from companies who supplied both capital expenditure and subscriber data, excluding spectrum expenditures. An end-of-year subscriber figure was used in the computation rather than an average number of subscribers during the year.*

<sup>8</sup> The average mobile service revenue per subscriber was calculated by dividing total annual mobile service revenues by the average number of subscribers during the year. The result was then divided by twelve to obtain a monthly result. The average number of subscribers was determined by dividing the sum of the number of subscribers at the beginning and at the end of the year by two.

<sup>9</sup> This was the highest reported ARPU in the ten provinces.

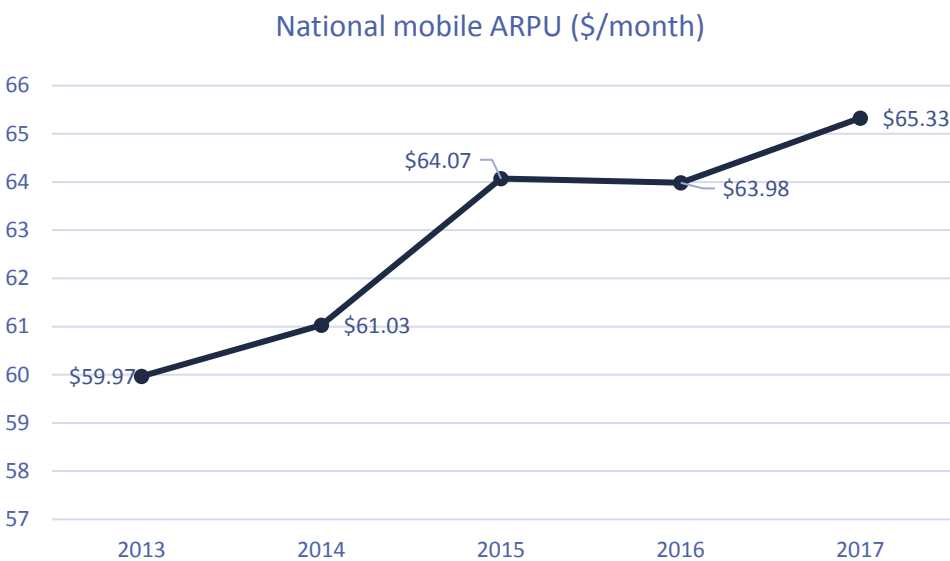
<sup>10</sup> This was the lowest reported ARPU in the ten provinces.

The average churn rate is a measure of subscriber turnover. A high churn rate suggests that customers are leaving their existing mobile providers for a number of reasons, including dissatisfaction with the service, and taking advantage of competitive offers and pricing issues. Conversely, low churn rates suggest that Canadians are not switching providers, which could indicate either that customers see value in remaining with their current provider or that there is a lack of competing incentives to motivate subscribers to move their mobile services from one provider to another.

The increase in data demand and usage from 2014 to 2017 vastly outpaced the revenues derived from data service, which resulted in lower revenues per gigabyte (GB) per month. The average revenue per 1 GB of data usage per month has been declining since 2015 when this metric was first reported. Only companies that provided both data traffic and revenues were included in the calculation.

ARPU is a useful measure of the revenues that mobile providers receive per subscriber. Conversely, from a consumer perspective, it is a measure of consumers' expenditures on wireless services. From 2013 to 2017, the national ARPU increased from \$59.97 to \$65.33 per month, or by an average annual rate of 2.2%. Provincial and territorial ARPU data for these years can be accessed via [open data](#).

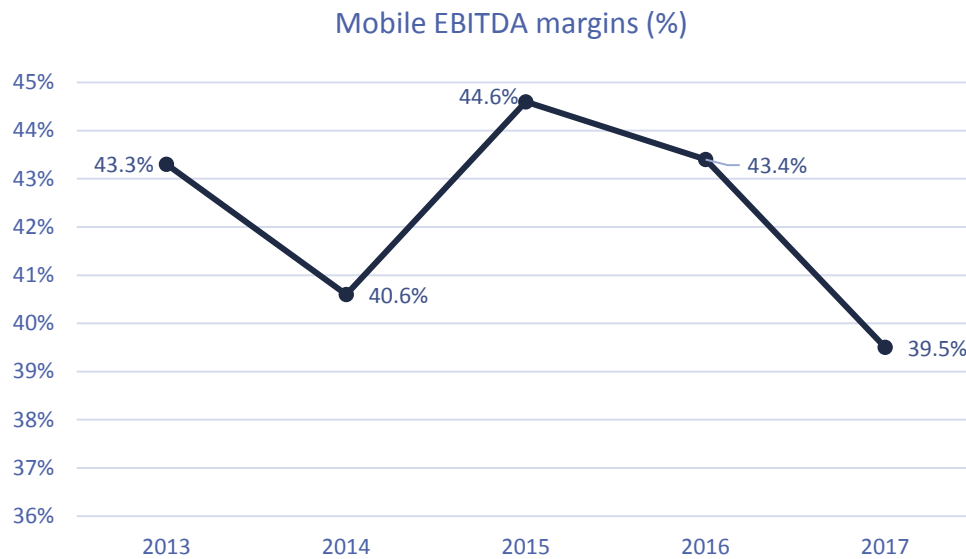
Figure 6.12 National mobile ARPU (\$/month)



Source: CRTC data collection

As a proxy for measuring the operating profitability of the mobile sector, EBITDA margins for 2013 to 2017 were calculated and presented in the chart below. While not all companies generated such high margins, the Top 3's EBITDA figures were heavily weighted in the calculation due to their 92% revenue market share in the mobile sector.

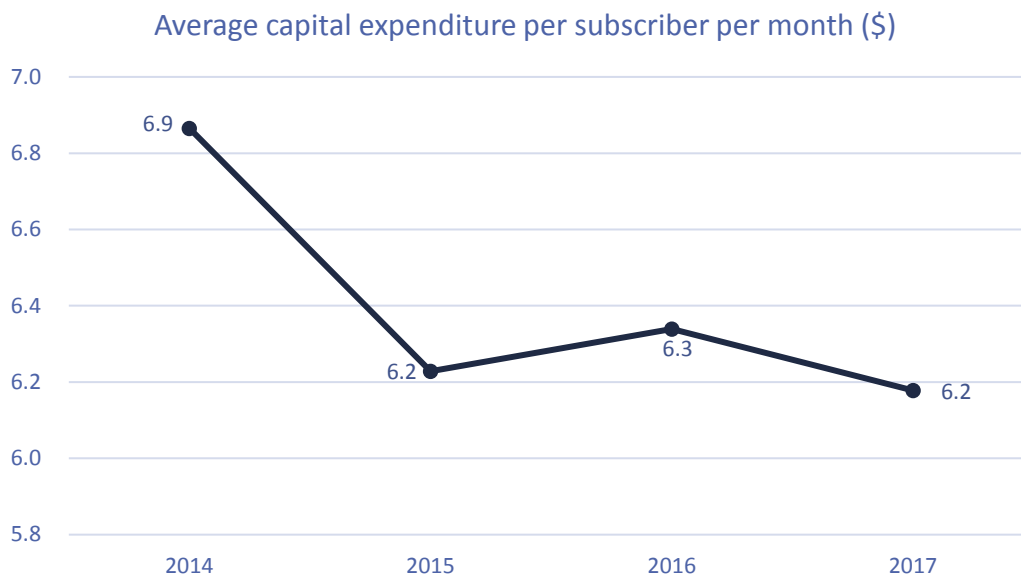
Figure 6.13 Mobile EBITDA margins (%)



Source: CRTC data collection

Investments in infrastructure are necessary for mobile providers to expand their network coverage, higher broadband speeds and create network efficiencies. Total wireless capital expenditures can be found in the Telecommunications Overview section or can be accessed via [open data](#). The chart below displays the average capital investments associated with each mobile subscriber in each year from 2014 to 2017.

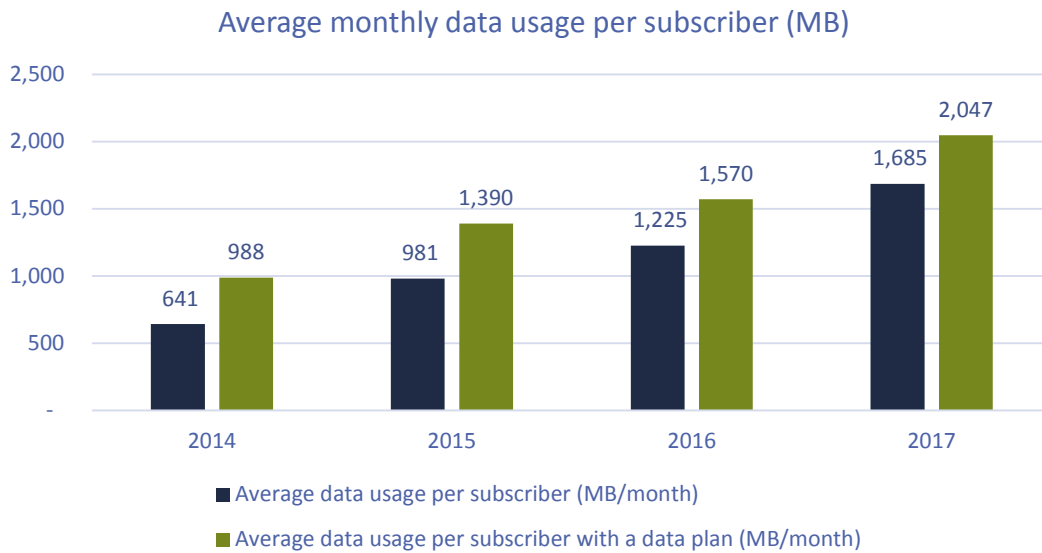
Figure 6.14 Average capital expenditure per subscriber per month (\$)



Source: CRTC data collection

In 2017, Canadians demanded more mobile data, as was evident in the average data use per subscriber numbers shown in Figure 6.15. The average monthly data usage across all subscribers and subscribers with a data plan was 1.6 GB per month and 2.0 GB per month, respectively.

Figure 6.15 Average monthly data usage per subscriber (MB)



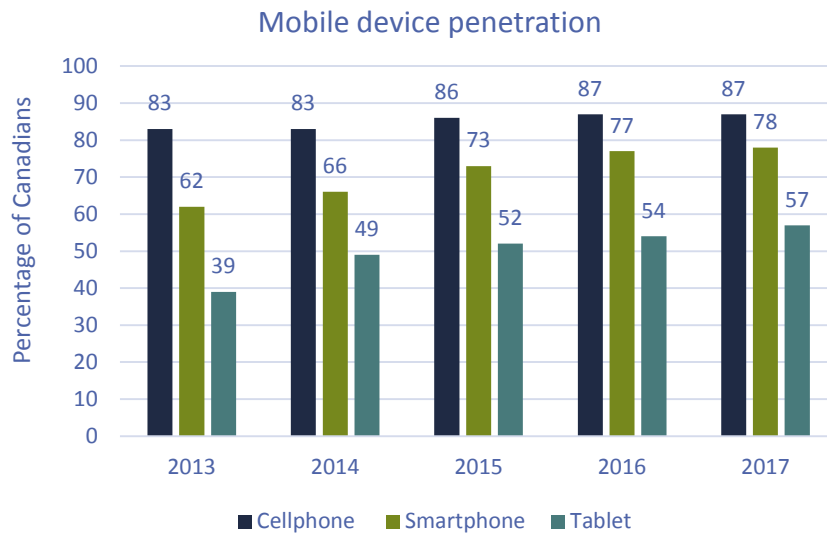
Source: CRTC data collection

SMS/MMS allows for the transmission of text, videos pictures, etc. between mobile subscribers. Each year from 2014 to 2017, the average daily number of SMS/MMS sent/received was consistently over 500 million messages (average of 513M). Additional details can be found via [open data](#).

Smartphones, tablets and other mobile devices that provide access to the Internet are continually increasing demand for wireless capacity. The following tables and charts illustrate how Canadians are adapting to a digital communication system.

Figure 6.16 shows the percentage of Canadians, 18 years of age and older, who owned regular cell phones, smartphones, and tablets, from 2013 to 2017. In this figure, smartphones are a subset of cell phones. The use of smartphones and tablets increases the volume of data traffic on the network.

Figure 6.16 Mobile device penetration



Source: MTM Fall 2017 (Respondents: Canadians aged 18+)

This table shows the percentage of Francophones and Anglophones in Canada who owned cell phones, smartphones and tablets, from 2013 to 2017. Cell phone owners include people who own either a regular cell phone or a smartphone. Over this period, Anglophones consistently owned cell phones, smartphones, and tablets at a higher rate than Francophones; however, the gap narrowed significantly in 2017.

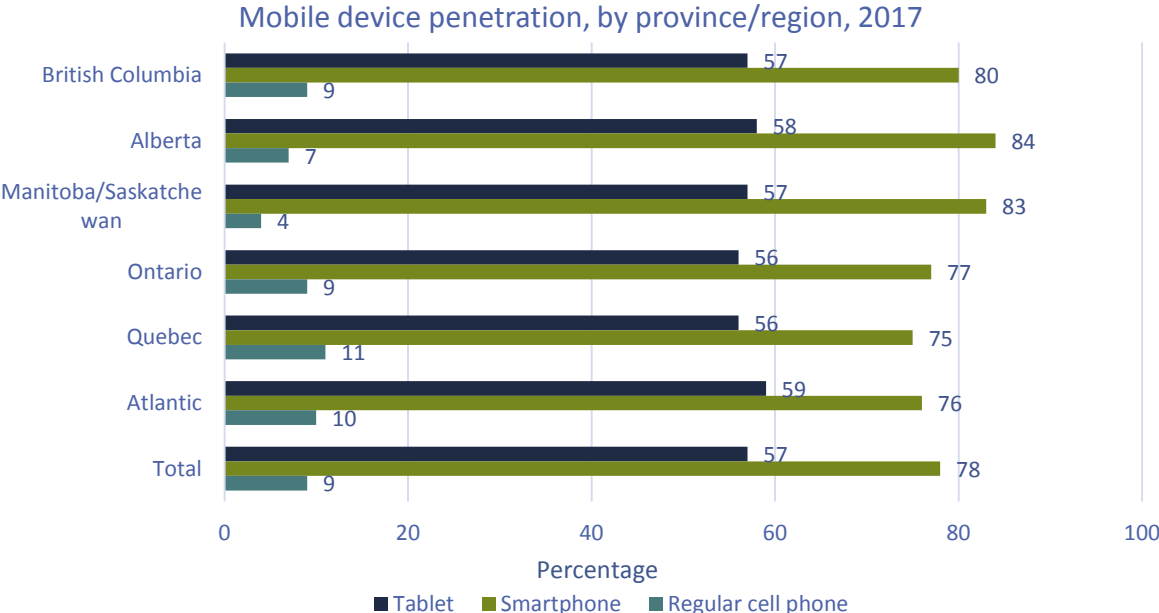
Table 6.1 Mobile device penetration, by linguistic group (%)

Mobile device	2013		2014		2015		2016		2017	
	Anglo	Franco	Anglo	Franco	Anglo	Franco	Anglo	Franco	Anglo	Franco
<b>Cell phone</b>	86	74	86	75	89	78	89	81	87	86
<b>Smartphone</b>	66	49	69	54	77	61	80	68	79	75
<b>Tablet</b>	42	30	51	41	53	48	55	52	57	56

Source: MTM Fall 2017 (Respondents: Canadians aged 18+)

As seen in Figure 6.17 below, Canadians who reside in the western provinces were generally more likely to adopt smartphones and tablets than Canadians who reside in the eastern provinces, although adoption rates were high throughout Canada.

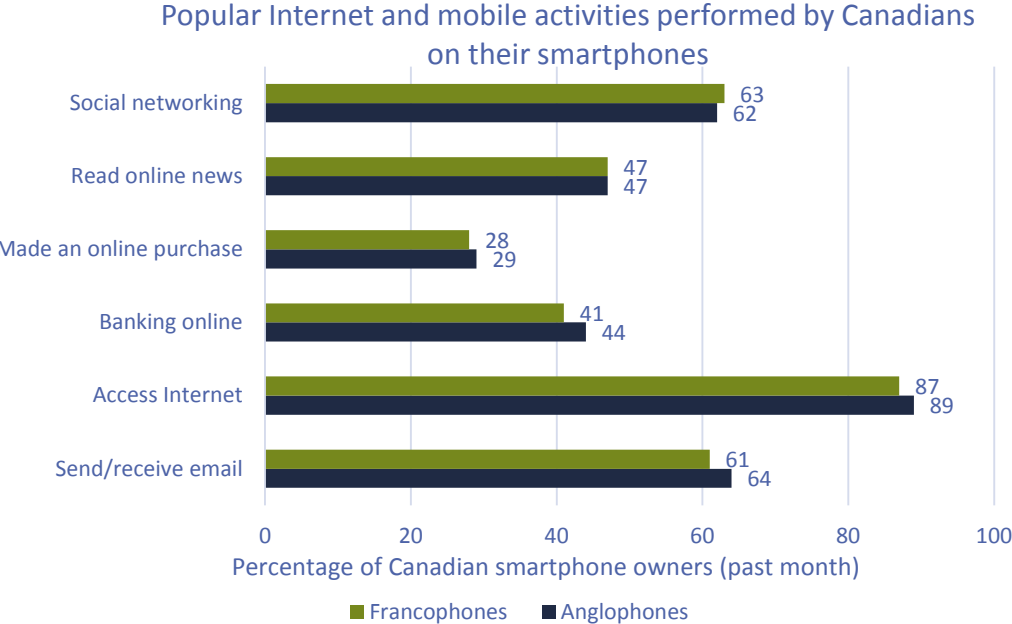
Figure 6.17 Mobile device penetration, by province/region, 2017



Source: MTM Fall 2017 (Respondents: Canadians aged 18+)

Figure 6.18 shows some of the popular activities that Francophones and Anglophones carried out using their smartphones. Generally, Anglophones were slightly more inclined than Francophones to use smartphone technologies, with the exception of engaging in social networking with their devices.

Figure 6.18 Popular Internet and mobile activities performed by Canadians on their smartphones, 2017

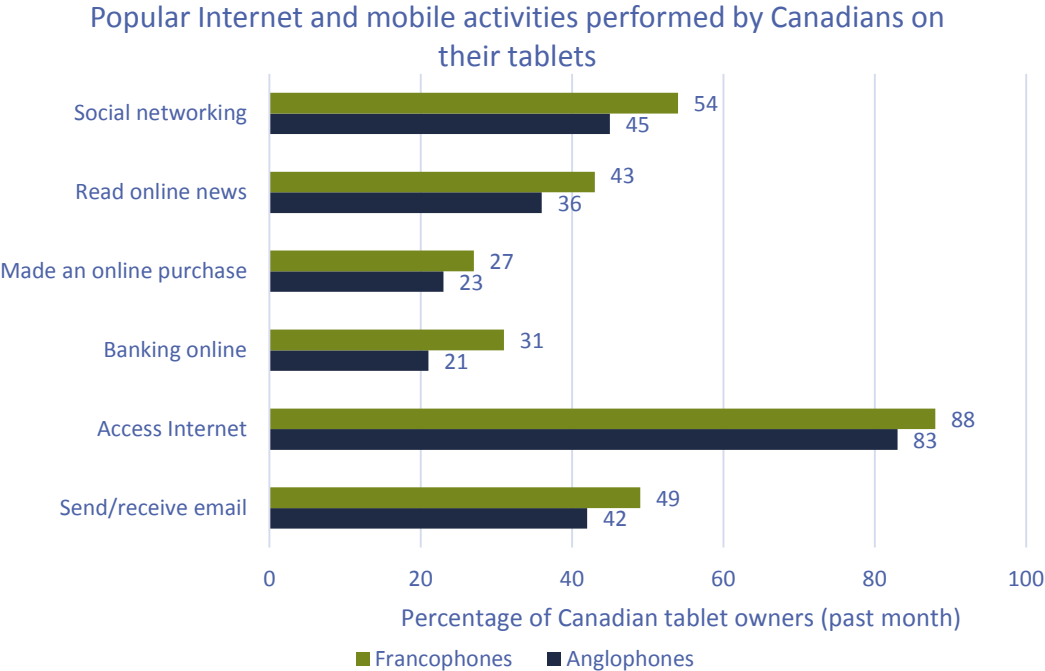


Source: MTM Fall 2017 (Respondents: Canadians aged 18+)

“Past month” refers to last 30 days at the time of the survey.

Figure 6.19 shows some of the popular activities that Francophones and Anglophones carried out in 2017 using their tablets. Unlike smartphone use, Francophones are more inclined than Anglophones to use tablet technologies in all activity categories.

Figure 6.19 Popular Internet and mobile activities performed by Canadians on their tablets, 2017



Source: MTM Fall 2017 (Respondents: Canadians aged 18+)  
"Past month" refers to last 30 days at the time of the survey.



## Competitive lens/landscape

This section presents some key metrics that are closely monitored and analyzed by the industry to assess competitiveness in the marketplace. These metrics showcase the financial health and performance of the two group of providers at the national level, since showing regional and provincial data would present confidentiality and disclosure concerns.

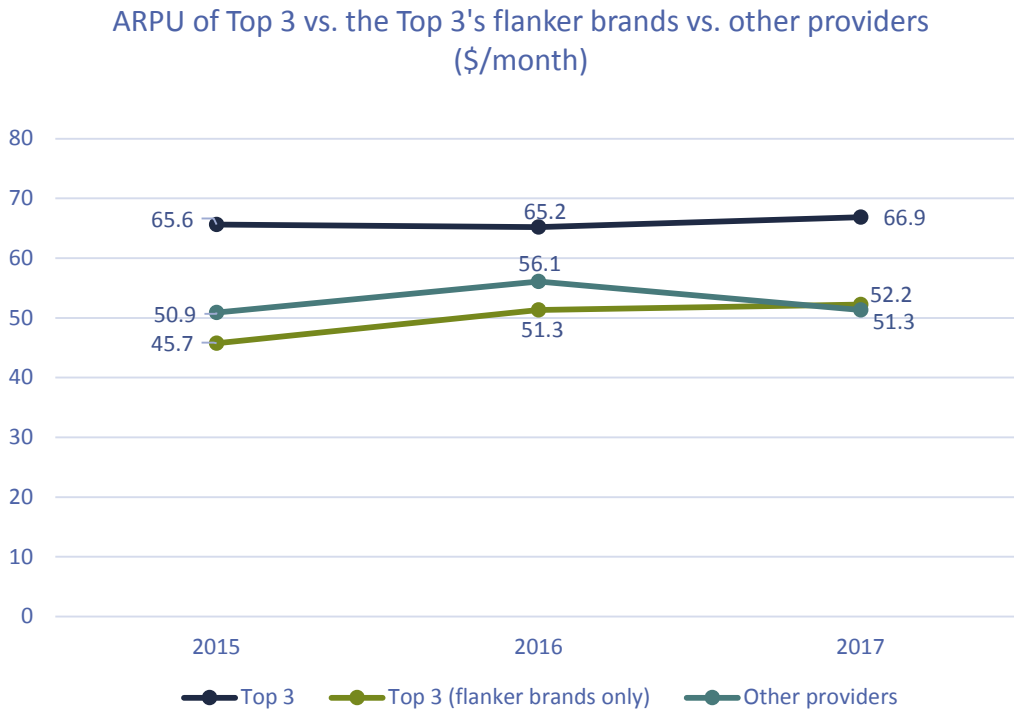
Infographic 6.9

	Top 3's flanker brands	vs	Other providers
<b>Average revenue per user</b>	\$66.87 /month	vs	\$51.29 /month
<b>Average blended churn rates</b>	1.3%	vs	1.6%
<b>Average capital expenditure per user (ACEPU)</b>	\$5.61	vs	\$10.86
<b>Capital intensity</b>	8.1%	vs	19.7%
<b>Average data usage</b>	1.6 GB /month	vs	2.2 GB /month
<b>Average revenue per 1 GB of data</b>	\$18.60 /month	vs	\$8.50 /month

Source: CRTC data collection

The Top 3 had over 90% of revenue and subscriber market share in 2017. As seen in Figure 6.20, the Top 3 consistently reported higher ARPUs than their competitors, although their flanker brands had very similar ARPUs to those reported by the competitors.

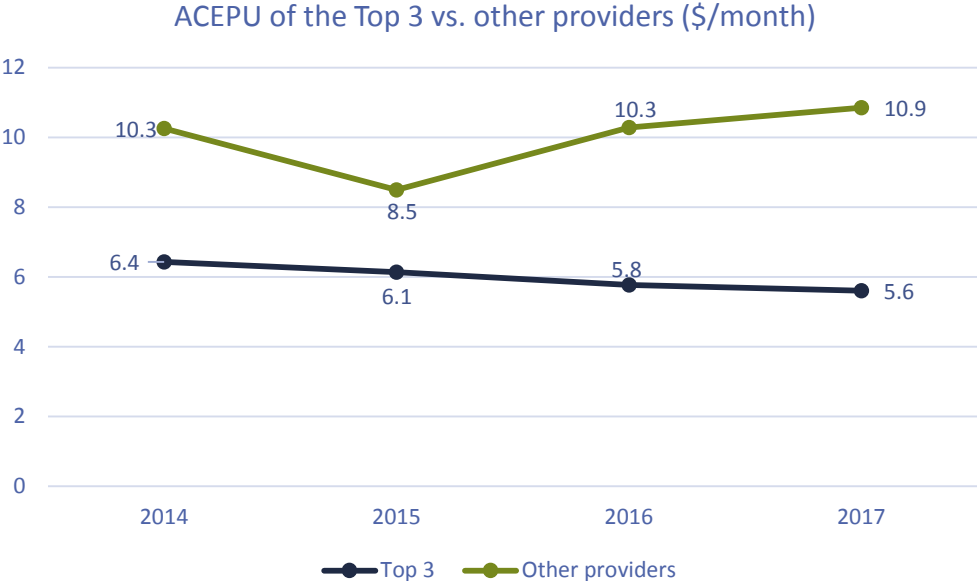
Figure 6.20 ARPU of Top 3 vs. the Top 3's flanker brands vs. other providers (\$/month)



Source: CRTC data collection

One can argue that with a more mature network, economies of scale, experience, larger subscriber base and the ability to leverage existing telecommunication infrastructure, the average capital expenditure per user (ACEPU) of the Top 3 will inherently be smaller than that of the other providers, which must generally spend more on infrastructure as they continue to expand and improve their existing mobile networks. As seen in Figure 6.21 below, the other service providers had a much higher ACEPU than that of the Top 3 in 2017, and the gap appears to be widening.

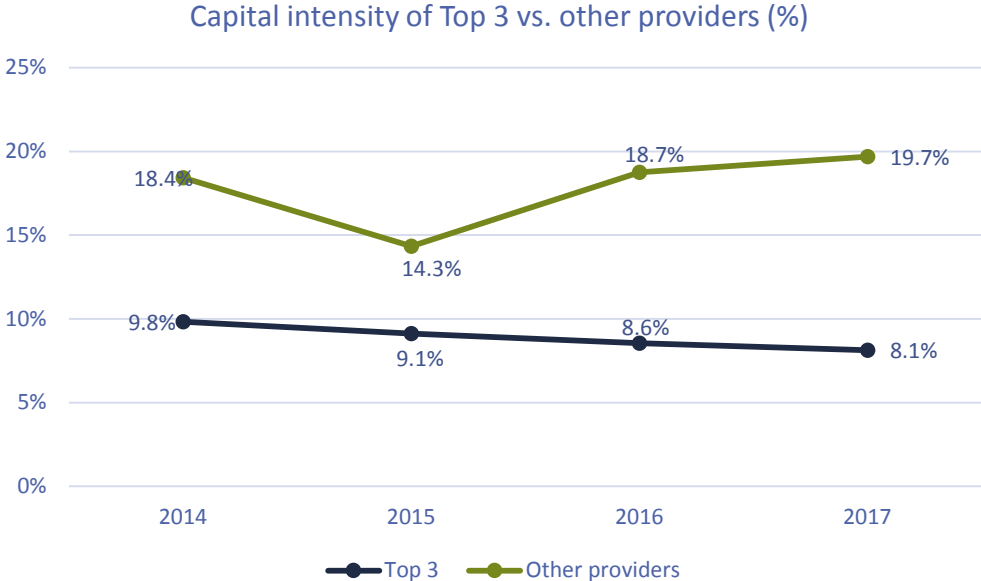
Figure 6.21 ACEPU of Top 3 vs. other providers (\$/month)



Source: CRTC data collection

Capital intensity measures the ratio of capital investments made to revenues generated in a given year. Figure 6.22 below reveals that the Top 3 reinvested at a lower rate than the other providers by more than 2.4 times in 2017.

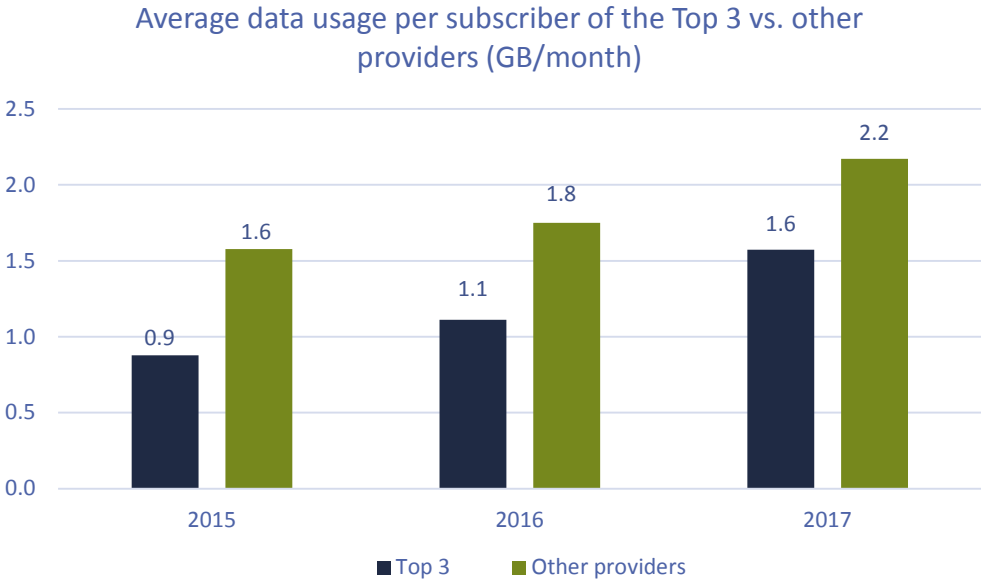
Figure 6.22 Capital intensity of Top 3 vs. other providers



Source: CRTC data collection

The other providers’ subscribers used, on average, more data than the Top 3’s subscribers. A subscriber base that consumes more data while generating less ARPU, would likely have a direct impact on capital intensity and profitability.

Figure 6.23 Average data usage per subscriber of the Top 3 vs. other providers (GB/month)



Source: CRTC data collection

## iv Coverage/availability details

Infographic 6.10

- ➔ **Total mobile coverage** in Canada: **99.4%** of the population
- ➔ **LTE-A coverage** in Canada: **92%** in 2017 of the population vs. 83% in 2016
- ➔ **Highest LTE-A population coverage: Alberta 97.2%**
- ➔ **Lowest LTE-A population coverage** (excluding the North): **Saskatchewan 48.1%**
- ➔ Percentage of Canadians who had **access to network coverage** of three providers: **54%**
- ➔ Highest percentage of population covered by **three or more networks: Prince Edward Island 95%**
- ➔ Provinces where Canadians had **access to four or more network providers: Quebec and Ontario**
- ➔ Mobile **penetration rate** in Canada: **85.7%**
- ➔ **Highest** penetration rate: **Alberta 91.6%**
- ➔ **Lowest** penetration rate (excluding the North): **Prince Edward Island 71.3%**

Source: CRTC data collection

For over a decade, more than 99% of Canadians have had access to mobile services, regardless of the type of network technology deployed. However, coverage availability by technologies such as HSPA+,<sup>11</sup> LTE and LTE-A, by percentage of population for each province and the North varied significantly depending on location. In 2017, more than 97% of Albertans had access to LTE-A, while only 48% of people in Saskatchewan had access to it. Access to mobile services reflects, among other things, the investments made by the industry to provide coverage across the country, to foster innovation and to create a more competitive marketplace.

<sup>11</sup> Evolved High-Speed Packet Access

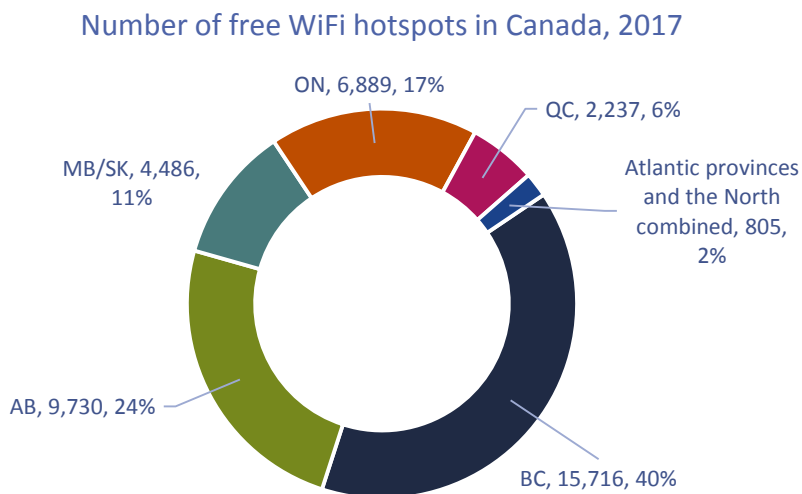
The availability of technologies such as LTE and LTE-A generally results in faster download and upload speeds and lower latency, which translates to an enhanced consumer experience, especially for those who use data-intensive applications.

When it comes to service provider choices, Canadians had, on average, access to two or three facilities-based service providers in most provinces in 2017, but generally, only one provider in the North. In 2017, 95% of Prince Edward Islanders had a choice of at least three network providers, while only 3% of Saskatchewanians had access the same number of facilities-based service providers. The availability of three or more providers is an illustration of the differences between provinces and territories, and large metropolitan cities and small rural towns all across Canada. Coverage availability by the number of facilities-based service providers, by province, can be found in [open data](#).

The penetration rate represents the number of subscribers as a percentage of the population. This metric reflects, among other things, the saturation and maturity of the marketplace, service providers' ability to successfully market and sell their services, a population's willingness to adopt mobile communications and the potential for future growth. Penetration rates by province and territory can be found in [open data](#).

WiFi hotspots are an important service that telecommunications service providers (TSPs) use to differentiate their services from each other and to extend their brand. Hotspots are locations where Internet access via 802.11 WiFi technology is provided to the public. In 2017, there were 40,775 hotspots available throughout the country and only 2% (912) of them required paid access.

Figure 6.24 Number of WiFi hotspots in Canada, 2017



Source: CRTC data collection

*“Free” is defined as having no charge for at least 1/2 hour of access, even if access requires being a paid customer at the location. Major providers in western Canada have moved towards providing free hotspots, as shown in the above chart.*

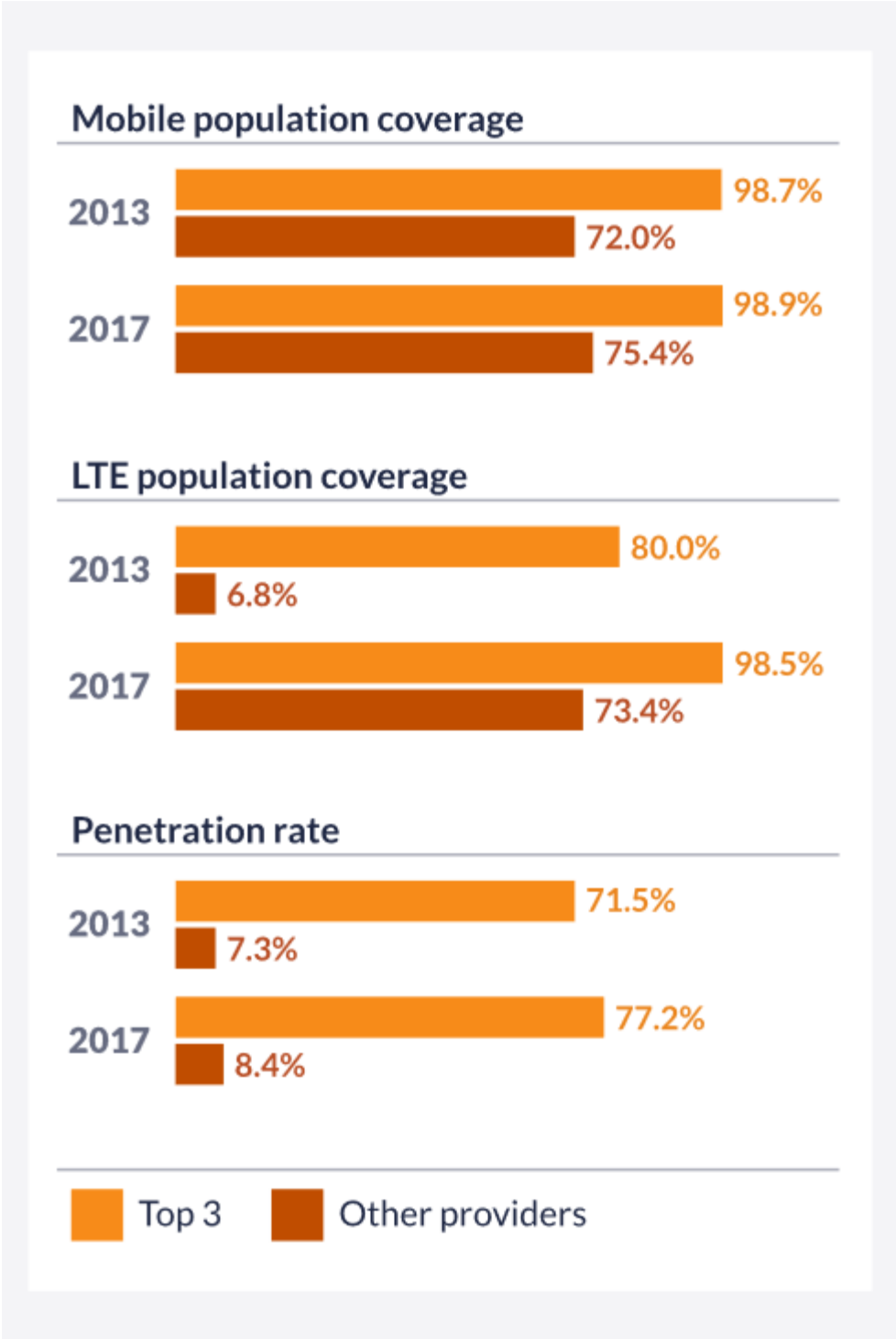
*Only hotspots provided by the major TSPs are included; this figure may exclude independently run free hotspots provided by hotels, restaurants and other public facilities.*

*Data for the Atlantic provinces and the North is not reported individually due to the confidentiality of the data.*

*This chart does not include hotspots that provide access only to a TSP's existing customers.*

Competitive lens/landscape

Infographic 6.11

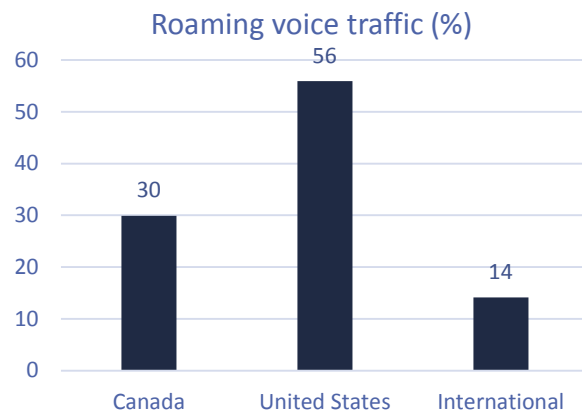


Source: CRTC data collection



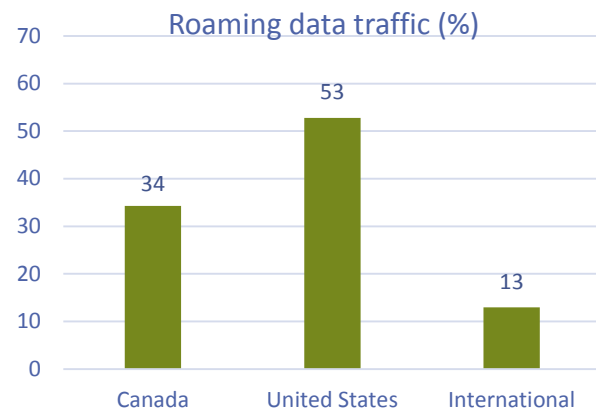
Generally, the Top 3 and other providers try to extend their service coverage across Canada in a cost-efficient manner by entering into sharing arrangements for support structures, antenna sites and networks and by establishing roaming arrangements. Roaming arrangements enable subscribers to have access to service outside their mobile service provider's home network, while network sharing arrangements alleviate the cost to build an extensive nation-wide network. When a subscriber is outside its service provider's network and is connected to the network of another WSP, the subscriber is said to be "roaming". Figure 6.25 and Figure 6.26 below show the percentage of voice minutes and data traffic, excluding MMS and SMS, derived from roaming within Canada, in the United States, and internationally.

Figure 6.25 Roaming voice traffic by destination, 2017



Source: CRTC data collection

Figure 6.26 Roaming data traffic by destination, 2017

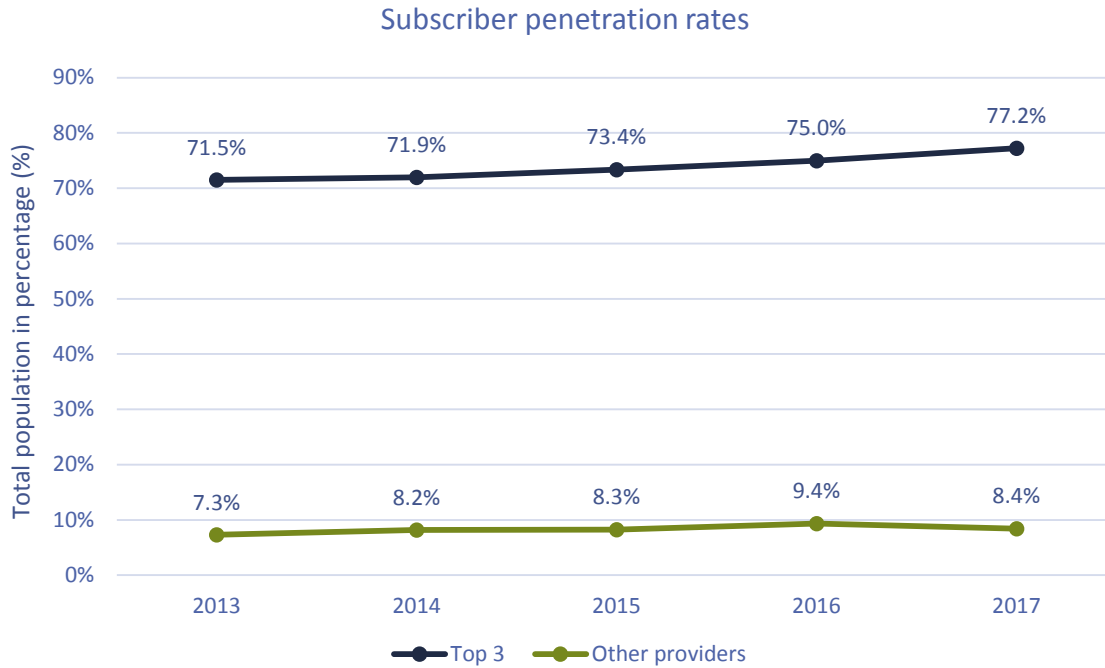


Source: CRTC data collection

Canada's wireless service market is dominated by the Top 3. They provide significantly more coverage and achieve higher subscriber penetration rates than the other providers in almost every province and territory except Saskatchewan. In 2017, the Top 3 had over 98.9% of national coverage compared to 75.4% by the other providers. There was a clear disparity between the two groups with respect to Canada-wide LTE coverage. The Top 3 had 98.5% LTE coverage compared to only 73.4% by the other providers.

The disparity between the Top 3 and other providers was also evident in penetration rates. From 2013 to 2017, the Top 3's subscriber base grew from 72% of the population to 77%, while the other service providers' base increased at slightly a faster pace, from 7% of the population to 8% over the same five-year period.

Figure 6.27 Subscriber penetration rates, in percentage of total population



Source: CRTC data collection