

ANNUAL TELECOMMUNICATIONS MONITORING REPORT

2019 Key facts

Date: 12 March 2020 – version 2

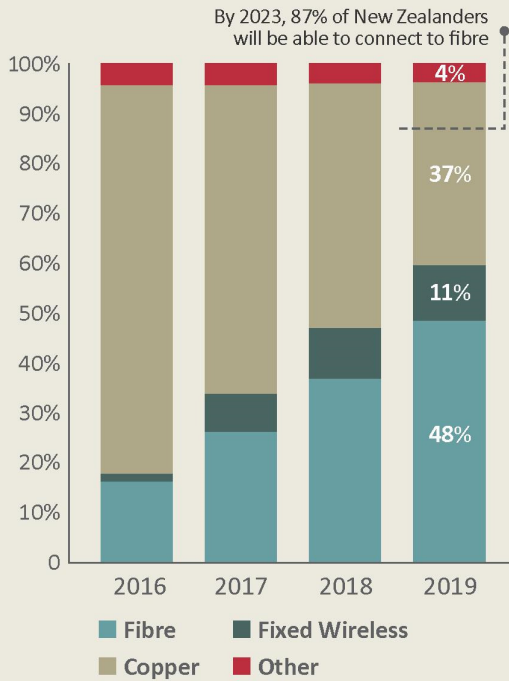


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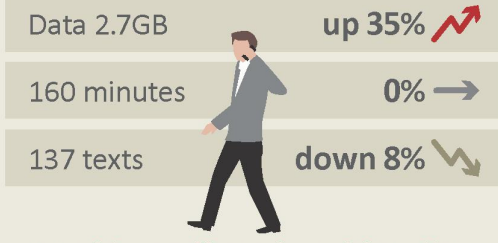
Telco trends 2019

Internet connections

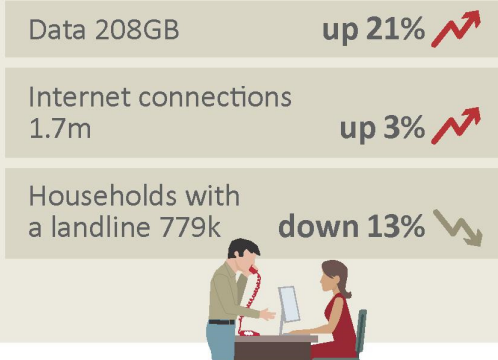


Average monthly usage compared to 2018

Mobile



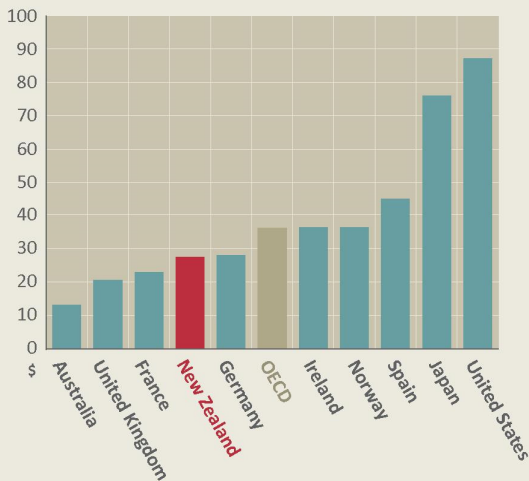
Fixed broadband and landline



Affordability

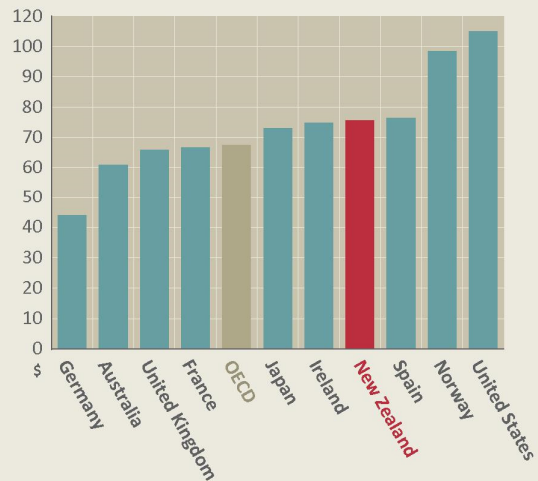
Mobile

100 calls and 2GB monthly



Fixed broadband and landline

150GB monthly on a 30Mbps speed connection



New Zealand telecommunications snapshot statistics

	2009 /10	2010 /11	2011 /12	2012 /13	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19
Total industry metrics										
Total telecommunications retail revenue (\$bn)	4.96	5.03	5.25	5.21	5.17	5.11	5.28	5.37	5.42	5.31
Total telecommunications investment (\$bn)	1.55	1.24	1.27	1.58	1.69	1.77	1.59	1.58	1.66	1.70
Fixed-line metrics^a										
Fixed-lines (mil)	1.88	1.88	1.88	1.85	1.85	1.86	1.87	1.79	1.76	1.85
Fixed wireless (000's)	39	39	31	26	24	20	27	122	165	188
Total fixed broadband connections (mil)	1.09	1.18	1.27	1.34	1.41	1.45	1.5	1.58	1.65	1.70
Fixed-line broadband connections per 100 population	25.2	27.1	29	30.4	31.6	32	32.5	32.9	33.7	34.4
Fixed monthly data use per broadband connection (GB)	7	10	18	26	32	48	69	117	172	208
UFB (government sponsored fibre) lines (000's)	-	-	1	10	39	106	241	413	605	821
Chargeable fixed voice call minutes (bn)	6.25	6.12	5.71	5.47	5.13	4.66	4.34	3.44	3.10	2.68
Total fixed-line retail revenues (\$bn) ^b	2.89	2.89	2.86	2.77	2.68	2.58	2.6	2.62	2.58	2.49
Mobile metrics										
Mobile connections (mil) ^c	5	5.2	5.4	5.3	5.6	5.8	6.1	6.4	6.4	6.0 ^d
Active mobile connections per 100 population	115	119	122	119	124	127	129	134	131	122
Share mobile prepaid (%)	67.2	65.7	64.9	63.3	63.6	62.3	60.7	60.3	58.1	52.6
Average monthly mobile data usage (GB)	0.02	0.04	0.07	0.13	0.23	0.39	0.64	1.18	2.00	2.69
Mobile voice call minutes (bn)	4.44	4.4	4.42	4.77	5.3	6.63	7.81	8.77	9.34	9.44
SMS messages sent (bn)	12.8	13.6	13.9	13	12	12.1	11.3	9.2	8.8	8.1
Total mobile retail revenues (\$bn)	2.07	2.14	2.38	2.44	2.49	2.54	2.68	2.75	2.83	2.83

^a We previously reported the number of unbundled lines, resold Spark phone lines and the number of residential local fixed voice call minutes. As we no longer collect this information these metrics have been removed from the snapshot.

^b Includes calling and subscription revenue for all fixed-line technologies.

^c Prepay connections for all years are counted as those active in the prior 6 months.

^d The drop in mobile connections in 2019 is due to one operator revising how they measure 6-monthly prepaid subscribers.

Introduction

Purpose of this report

This is the Commerce Commission's 13th annual telecommunications market monitoring report. This report presents key industry metrics and longer-term telecommunications historical trends in New Zealand for 2019.

This report is released under section 9A of the Telecommunications Act 2001 (the Act). Section 9A requires us to monitor competition in, and the performance and development of, telecommunications markets. This monitoring report is additional to our monitoring associated with specific determinations and information disclosure.

Background and data sources

Since 2007, we have collected data from various sources to monitor and understand trends in New Zealand's telecommunications markets, and to inform the industry and the public about our findings.¹

Each year we send a voluntary questionnaire to the industry. We request information which we expect the telecommunications operators completing the questionnaire to have for the financial year ending in June. The data collected as part of our 2019 questionnaire responses are referred to as the 2019 results in this report.²

Aggregated results from our annual industry questionnaire are published alongside this report and are available on our [website](#).^{3,4} Revenues and prices are expressed as nominal figures (not adjusted for inflation between years) unless otherwise indicated. Connection numbers, unless otherwise indicated, refer to both residential and business connections. Where more recent industry data is available and used, the different time period is noted.

We thank all the respondents who submitted data and look forward to their continued cooperation. We welcome any comments or feedback on the questionnaire and this report.

¹ Telecommunications Act 2001, section 9A.

² The data from the industry questionnaire is for the 12 months to 30 June 2019 when it is a measure of volume like minutes. Where the data is a snapshot in time such as subscriber numbers, it is the data as at 30 June 2019.

³ The data used in our report is sometimes revised by the respondents or the Commission when it appears inaccurate, an error has been made, or it was an estimate. Consequently, some prior year figures used in previous reports may have been revised.

⁴ <https://comcom.govt.nz/regulated-industries/telecommunications/monitoring-the-telecommunications-market/annual-telecommunications-market-monitoring-report>

Key developments in 2019

Fibre is now the dominant fixed broadband technology

For the first time fibre broadband connections outnumber copper broadband connections. As at 30 September 2019, total copper broadband connections dropped to 581,000, with all variants, including higher speed VDSL, declining. At the same time there were 880,000 fibre connections out of the 1.6 million households and businesses currently able to connect to the Ultra-fast Broadband (UFB) network.⁵

Growth in fixed wireless connections slows

Fixed wireless connections increased to 11% of total broadband connections at 188,000. However, growth in connections slowed to 14%, compared to 36% growth last year.

Consumer data usage growth eases

Data usage by both fixed and mobile connections has continued to increase over the year. The average data consumption per fixed broadband connection increased from 172GB to 208GB per month. The average data consumption per mobile connection increased from 2.0GB to 2.7GB per month. However, the growth in fixed broadband data usage eased to 21% this year compared to last year where growth was 48%. Similarly, growth in mobile data usage dropped to 35% compared to 2018 where growth was 69%.

New Zealand mobile plan prices below OECD average

The prices of New Zealand mobile plans were below the OECD average for all the plan types we measure. The price of a New Zealand entry level mobile plan giving 30 calls⁶ and 500MB of data at \$18 per month was 31% below the OECD average. A high use mobile plan with 300 calls and 5GB of data is \$48, cheaper than the OECD average by \$2.

Average fixed broadband speeds increase

In 2019 the average broadband download speed was almost 33Mbps, up from 24Mbps in 2018. This saw New Zealand's 2019 rank in Cable.co.uk's worldwide broadband speed league increase from 26th to 17th.

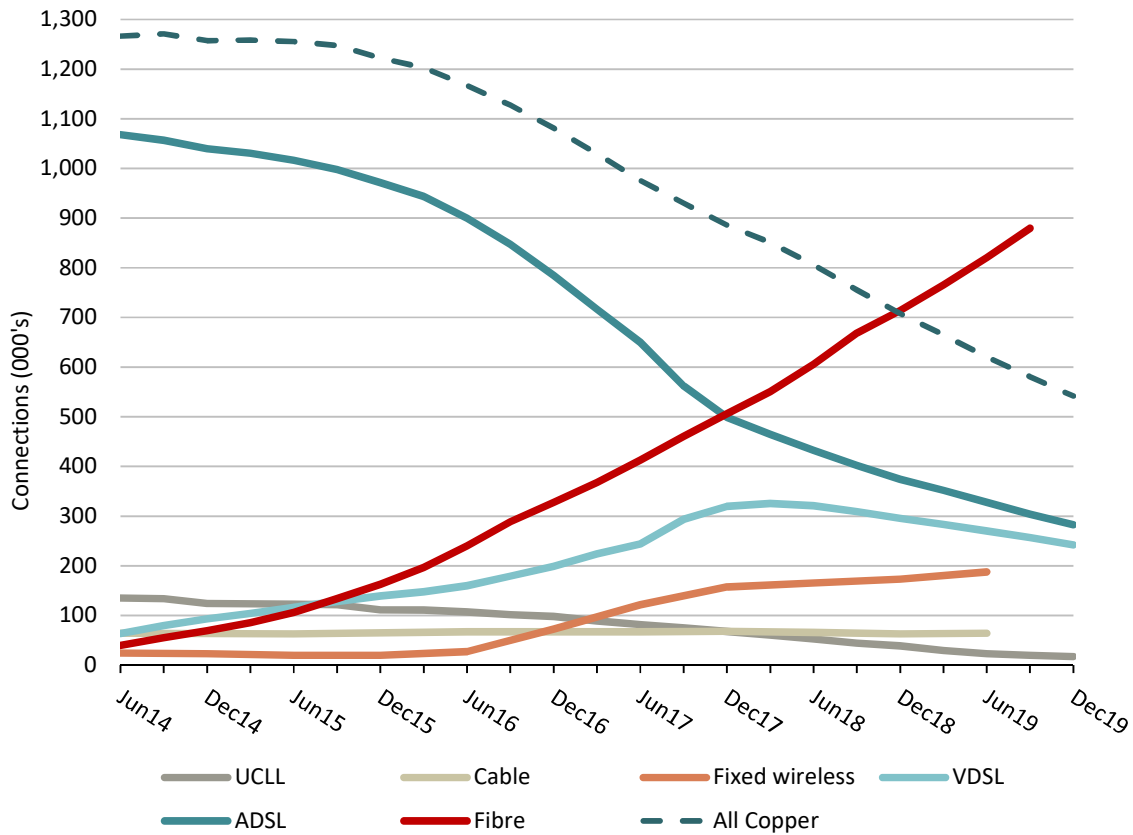
⁵ See MBIE's Broadband deployment updates available at <https://www.mbie.govt.nz/science-and-technology/it-communications-and-broadband/fast-broadband/quarterly-updates-on-broadband-deployment/>

⁶ For benchmarking purposes, a mobile call is generally assumed to be just less than 2 minutes in length.

Fixed-line connections

Fibre is now the dominant fixed broadband technology

Figure 1: Fixed-line broadband connections by technology



Source: Chorus, MBIE, annual telecommunications questionnaire

Fibre is now the dominant fixed broadband technology as shown in Figure 1 with 880,000 connections as at 30 September 2019. This is an increase in connections of around 31% since September 2018. Almost 1.6 million households and businesses are now able to connect to the UFB network.

Copper broadband connections have been overtaken by fibre for the first time as they continue to fall. As at 30 September 2019 copper broadband connections totalled 581,000, split between 304,000 ADSL connections, 257,000 VDSL connections, and 20,000 UCLL connections down from 121,000 in 2015.

In December 2019, the Commission made its initial assessment of specified fibre areas (SFAs). SFAs are areas where Chorus will eventually be able to stop providing copper services, because fibre is available.^{7,8}

Growth in fixed wireless connections slows

Fixed wireless connections increased to 11% of total broadband connections at 188,000. However, growth in fixed wireless connections slowed to 14% this year, compared to 36% growth last year.

We note that after responses to our questionnaire had been collected, Trustpower began offering fixed wireless plans and Vodafone has increased the data caps of its fixed wireless plans.

As at 31 December 2018, New Zealand ranked third highest out of the OECD countries for fixed wireless broadband connections with 3.5 subscriptions per 100 of population, behind Czech Republic at 10.3 and Slovak Republic at 5.7.

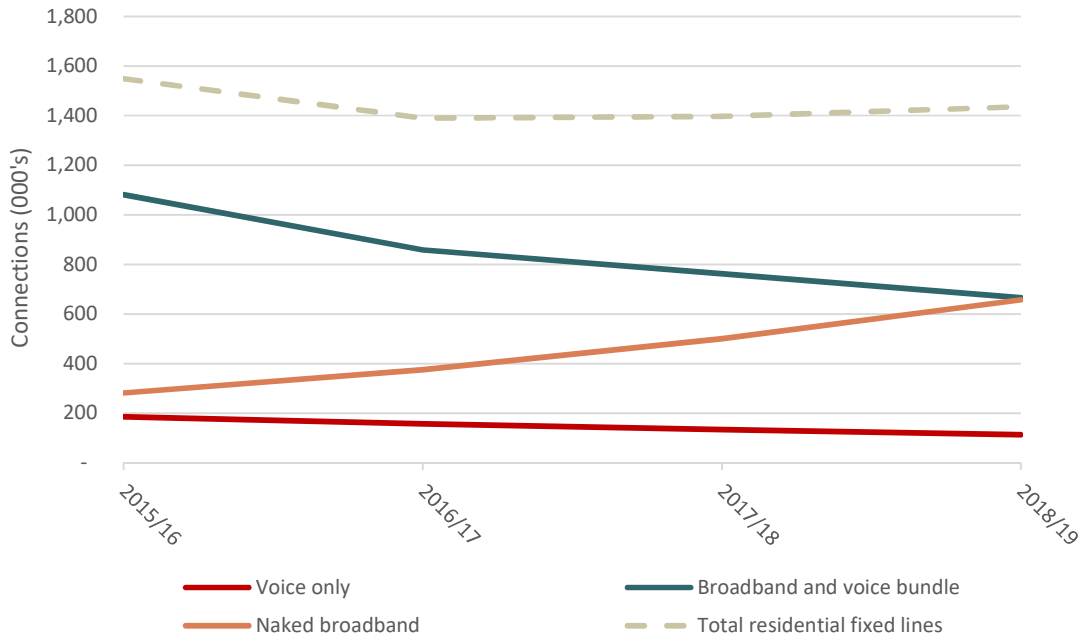
Households continue to drop landlines

Consumers are moving away from traditional landline services for calling. Landline connections, including broadband-voice bundles have continued to decline in 2019. Over 46% of household fixed-line connections now have no voice service (naked broadband) as more and more households are now opting to not have a home phone.

⁷ Chorus cannot stop providing these services until it meets all of the consumer protections what will be in the copper withdrawal code. More information on consumer protections for copper withdrawal can be found at <https://comcom.govt.nz/regulated-industries/telecommunications/regulated-services/consumer-protections-for-copper-withdrawal>

⁸ An interactive map showing the initial SFAs can be found at <https://comcom.govt.nz/regulated-industries/telecommunications/regulated-services/consumer-protections-for-copper-withdrawal/map-of-specified-fibre-areas>

Figure 2: Residential fixed-lines by connection type



As shown in Figure 2 broadband and voice bundle connections will soon be overtaken by naked broadband connections as the most popular fixed-line residential connection type.

Retail revenues

Mobile revenues continue to rise over fixed-line revenues

Figure 3: Telecommunications retail revenues by service

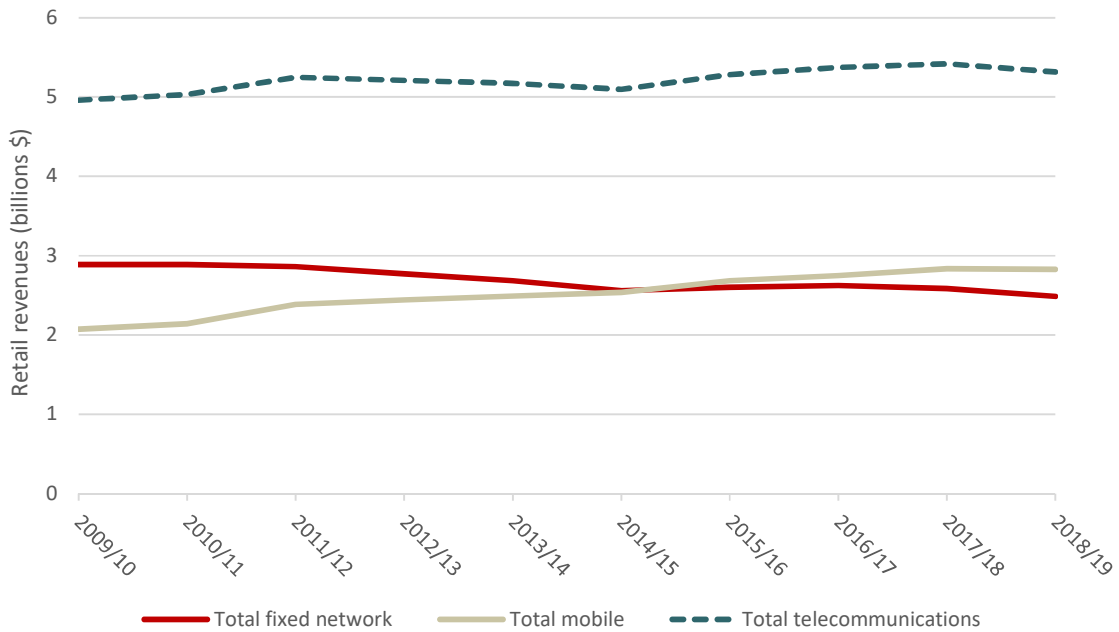


Figure 3 shows mobile revenue continuing to edge ahead of fixed network revenue. Mobile revenue remained steady at \$2.83 billion in 2019. This coupled with the modest decrease in fixed network revenue of 4% to \$2.49 billion resulted in total retail telecommunications revenue decreasing (by 2%) in 2019 to \$5.31 billion.

Growth in data usage

Growth in consumer data usage eases

Figure 4: Fixed-line broadband data consumption

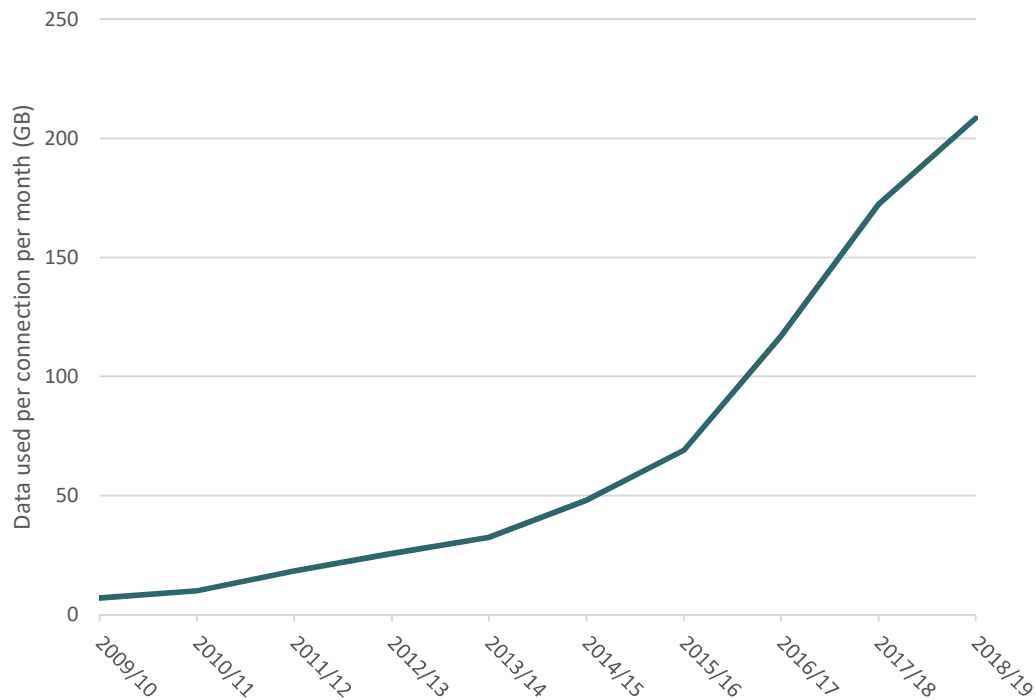


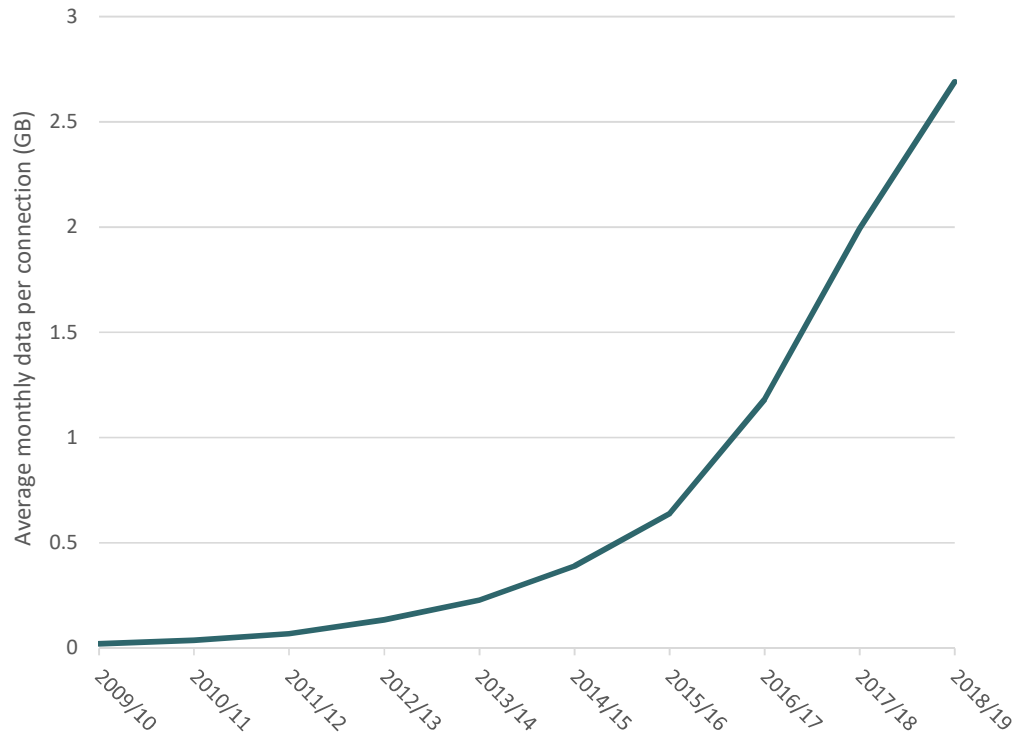
Figure 4 shows the continued growth in the consumption of fixed-line broadband in 2019. Our questionnaire responses indicate that the average amount of data used by each fixed-line broadband subscriber per month rose to 208GB in 2019.⁹

While fixed-line broadband data usage has increased, the rate of growth has eased off with growth this year only 21% compared to 48% last year.

Broadband usage in New Zealand trails behind usage in the United Kingdom, with the Office of Communications (Ofcom) reporting that the average fixed broadband data usage per month in 2018 was 240GB in the United Kingdom.¹⁰

⁹ This is an average for whole year to 30 June 2019 for all fixed-line connections. This is not comparable to the monthly broadband connections averages published by Chorus.

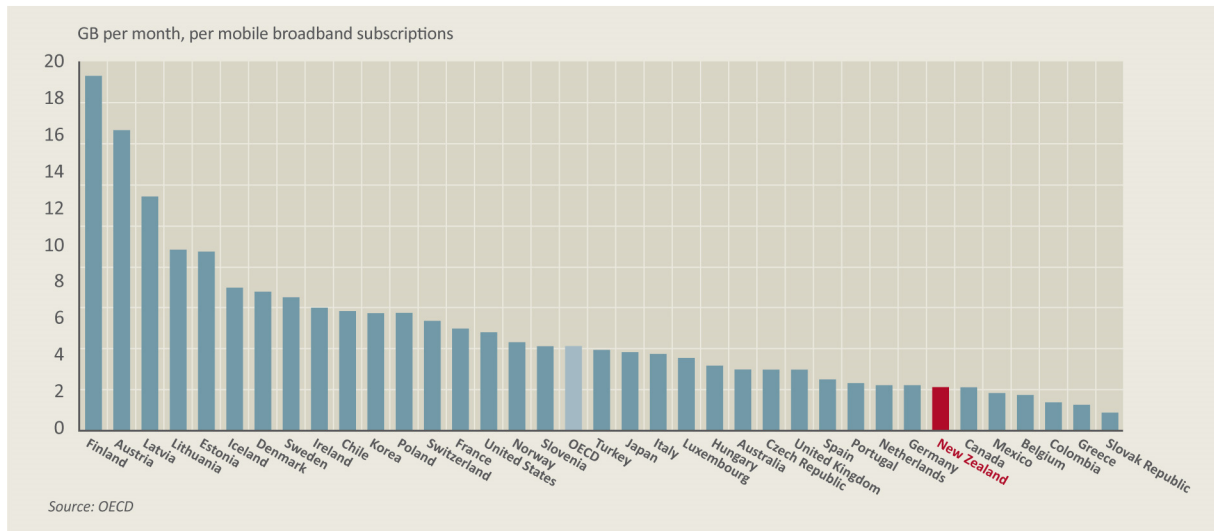
¹⁰ Ofcom "Communications Market Report" (4 July 2019).

Figure 5: Mobile data consumption

The amount of data consumed over mobile networks (excluding WiFi) by retail customers continued to grow in 2019, as shown in Figure 5. The average amount of mobile data consumed per connection is now 2.7GB per month. The rate of usage growth did however ease, with growth this year only 36% compared to last year where growth was 69%.

Although the average amount of mobile data per connection has been increasing in New Zealand, New Zealand's average appears to be relatively low compared to other OECD countries, as shown in Figure 6.

Figure 6: Average mobile data per mobile subscription (December 2018)¹¹



We note that all three mobile operators now claim to offer uncapped ‘unlimited’¹² data bundles for on-account customers. These plans are now purchased by 106,000, or 7%, of on-account residential customers.

New Zealanders are also using more mobile data when we travel abroad with roaming data usage increasing by 25% in 2019. Growth in roaming data usage by visitors to New Zealand was twice this, growing by 52% in 2019.

Mobile data consumption remains relatively small compared to fixed-line broadband data consumption. However, a lot of the data consumed on a mobile device typically comes from WiFi served by a fixed-line connection.

OECD price benchmarking

Each year we benchmark prices New Zealanders are paying for common plans for fixed-line and mobile against Australia and the OECD. We use the database that has been prepared by Strategy Analytics’ Teligen division.^{13, 14}

¹¹ Commerce Commission generated chart based on OECD “1.13 Mobile data usage per mobile broadband subscription” (December 2018), at <http://www.oecd.org/sti/broadband/broadband-statistics/>

¹² These uncapped data plans are not truly unlimited as they are subject to fair-use terms and MNOs severely throttle customers’ speeds after a certain amount of data has been consumed.

¹³ More information about Teligen can be found <https://www.strategyanalytics.com/access-services/networks/tariffs---mobile-and-fixed>

¹⁴ The countries included in calculating the average vary because not all have comparable plans. They are mostly OECD countries but some extra European countries and Brazil are also included in the Teligen database <https://www.strategyanalytics.com/access-services/networks/tariffs---mobile-and-fixed/broadband/oecd-fixed-broadband/about#.WRahHGmGOBo>

Entry level fixed-line broadband prices in line with OECD averages

Most consumers of fixed-line telecommunications services buy either a bundle that includes both a voice and broadband service or naked broadband. The remaining 8% of residential consumers purchase a voice-only service.

To get an indication of how New Zealand fixed-line broadband prices compare to those overseas, we compared the New Zealand price against an overseas average price for fixed broadband services for various levels of usage and speed.¹⁵

The entry level home broadband plan offered by most retailers now offers 60GB to 150GB of data and many consumers are on unlimited plans, so we continued to use 60GB, 150GB and 500GB of data for the benchmarking this year. We use 500GB as a proxy for unlimited plans.

We added a 'ultra-high' category this year to reflect the growing uptake of plans offering speeds up to 900Mbps.

The price of the cheapest entry level fixed broadband and voice bundle plan has increased from \$60 last year to \$63 this year. This puts the New Zealand price equivalent to the OECD average as shown in Table 1 below.

Table 1: Fixed-line broadband and voice benchmarking

Broadband + voice	NZ rank in OECD*	Price in NZD (PPP) Dec 2019			% difference from NZ	
		NZ	Aust.	OECD* Average	Aust.	OECD* Average
<i>Entry level</i> 60GB 10Mbps	20/35	\$63	\$51	\$63	23%	0%
<i>Medium user</i> 150GB 30Mbps	27/35	\$75	\$61	\$67	22%	11%
<i>High user</i> Unlimited (500GB) 100Mbps	27/33	\$90	\$92	\$75	-2%	20%
<i>Ultra-high user</i> Unlimited (500GB) 900Mbps	9/21	\$90	N/A	\$124	N/A	-27%

Source: Strategy Analytics

The price of medium and high user categories remains unchanged from last year at \$75 and \$90 respectively. The OECD averages show a large decrease in price since last year, with the high user category dropping from \$99 to \$75. This decrease has resulted in the OECD

¹⁵ We have used the same benchmarking approach and similar baskets as were described in our report, 'International Price Comparison for Retail Fixed-line Telecommunications Services 2013'. See <https://comcom.govt.nz/regulated-industries/telecommunications/monitoring-the-telecommunications-market/topic-papers-other-reports-and-studies/report-on-retail-price-benchmarking>

average dropping below the New Zealand price for both the medium user and high user categories.

The price of the ultra-high user category is the same price as the high user category as Orcon has been offering both its Fibre100 and 'Gigantic Fibre' plans for \$90.

There were no Australian plans in the Teligen dataset that met the requirements of the ultra-high user category so a comparison with Australia is not possible.

Table 2 shows that New Zealand's prices for broadband only plans are relatively less competitive than prices for a broadband and voice bundle.

Table 2: Fixed-line broadband only benchmarking

Broadband only	NZ rank in OECD*	Price in NZD (PPP) Dec 2019			% difference from NZ	
		NZ	Aust.	OECD* Average	Aust.	OECD* Average
<i>Entry level</i> 60GB 10Mbps	25/43	\$53	\$41	\$51	30%	4%
<i>Medium user</i> 150GB 30Mbps	34/43	\$70	\$61	\$57	14%	22%
<i>High user</i> Unlimited (500GB) 100Mbps	34/43	\$83	\$92	\$68	-10%	22%
<i>Ultra-high user</i> Unlimited (500GB) 900Mbps	14/34	\$85	N/A	\$175	N/A	-51%

Source: Strategy Analytics

A Vodafone VDSL plan met the entry level category, though this plan no longer appears to be offered. We note that Skinny currently offer a \$39 plan which meets the requirements for the entry level category but was not included in the Teligen dataset.

The OECD average price for medium and high user stand-alone broadband has fallen since last year. With the New Zealand medium user price remaining steady and the high user category price increasing this year, New Zealand's rank in the OECD for these categories has fallen to 34th out of 43.

New Zealand mobile plan prices below OECD average

New Zealand mobile phone users are now consuming an average of 2.7GB of data per connection per month along with 160 minutes of voice. Residential consumers buying on-account plans have the highest average data usage at 4.2GB per month.

A significant number of on-account residential consumers buy plans with more than 8GB of data. Our questionnaire results indicate there are about 570,000 or 36% of on-account

residential customers, so we included in our mobile benchmarking this year an ‘ultra-high’ category with unlimited minutes and 20GB of data.

Table 3 shows that New Zealand’s benchmarked mobile prices were below the OECD average but above Australia for all the OECD plan types we measure.

Table 3: Mobile phone services benchmarking

Mobile phone services	NZ rank in OECD*	Price in NZD (PPP) Nov 2019			% difference from NZ	
		NZ	Aust.	OECD Average	Aust.	OECD Average
<i>Entry level</i> 30 calls + 500MB	11/38	18	13	25	33%	-31%
<i>Medium user</i> 100 calls + 2GB	17/38	28	13	36	110%	-24%
<i>High user</i> 300 calls + 5GB	26/38	48	13	50	263%	-5%
<i>Ultra-high user</i> Unlimited calls + 20GB	21/35	72	26	88	172%	-18%

Source: Strategy Analytics

We note that Australian plans for all usage categories were 12 month plans which require customers to prepay for services a year in advance. For example, the plan that is equivalent to NZD \$13 per month requires customers to pay the full AUD \$150 upfront.

Prices for entry level, high users and ultra-high users have increased since August 2018. The largest increase was in the ultra-high user category where prices increased from \$65 to \$72. This increase appears to be the result of Skinny Direct no longer selling any plans to new customers.¹⁶ Although the price has increased, the data allowance of the plan that meets this basket has also increased from 25GB to 30GB.

¹⁶ See Skinny Direct FAQs available at <https://www.skinnydirect.co.nz/faqs>

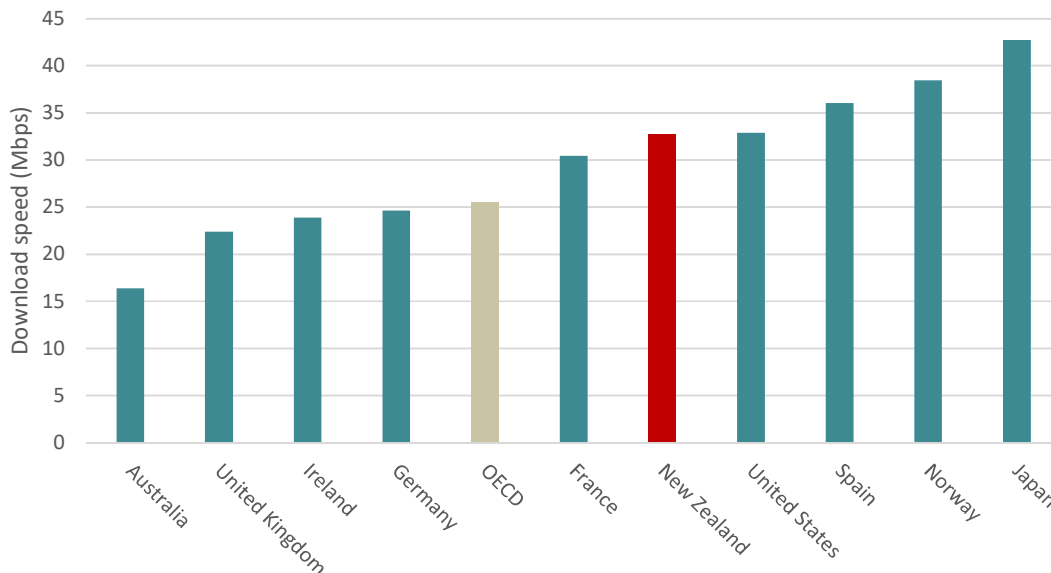
Broadband speeds

International comparison

The website Cable.co.uk creates a yearly worldwide broadband speed league based on data gathered internationally by Measurement Lab (M-Lab). The league ranks the average download speed on fixed broadband connections.¹⁷

In 2019, New Zealand ranked 17th in the world with an average broadband download speed of almost 33Mbps. This is an improvement on our 2018 ranking of 26th in the world. Figure 7 below compares New Zealand against the same subset of OECD countries shown in the affordability graphs on page 3.

Figure 7: Average broadband download speed



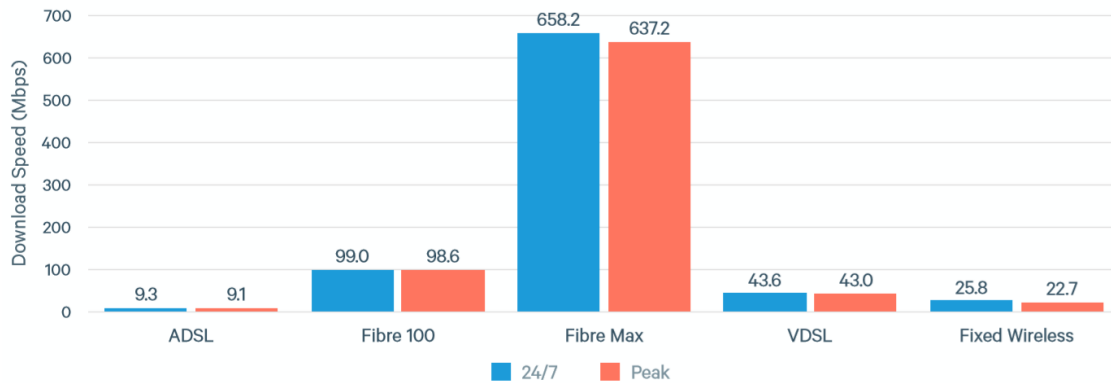
Source: Cable.co.uk

Figure 7 shows that the average fixed broadband download speeds in New Zealand exceed the OECD average (26Mbps).

Local speeds

We released our Spring 2019 Measuring Broadband New Zealand (MBNZ) Report on 17 December 2019. This third report from independent testing partner SamKnows provided a breakdown of the broadband speeds by technology in New Zealand, as shown in Figure 8 below.

¹⁷ Full results and methodology can be found at <https://www.cable.co.uk/broadband/speed/worldwide-speed-league/#map>

Figure 8: Average broadband download speed by technology

Source: *Measuring Broadband New Zealand Spring Report, December 2019*

The report also showed that Fibre 100 broadband plans are offering high speeds and reliable internet performance across all tested providers and regions. The full report, and previous reports can be found on our [MBNZ reports webpage](https://comcom.govt.nz/regulated-industries/telecommunications/monitoring-the-telecommunications-market/monitoring-new-zealands-broadband/Reports-from-Measuring-Broadband-New-Zealand).¹⁸

¹⁸ <https://comcom.govt.nz/regulated-industries/telecommunications/monitoring-the-telecommunications-market/monitoring-new-zealands-broadband/Reports-from-Measuring-Broadband-New-Zealand>

Telecommunications industry investment

Telecommunications industry investment continues to be led by the large ongoing investment by Chorus and Local Fibre Companies (LFCs), as shown in Figure 9. Overall investment increased by 2.9% to \$1.70 billion in 2019.

Figure 9: Telecommunications investment

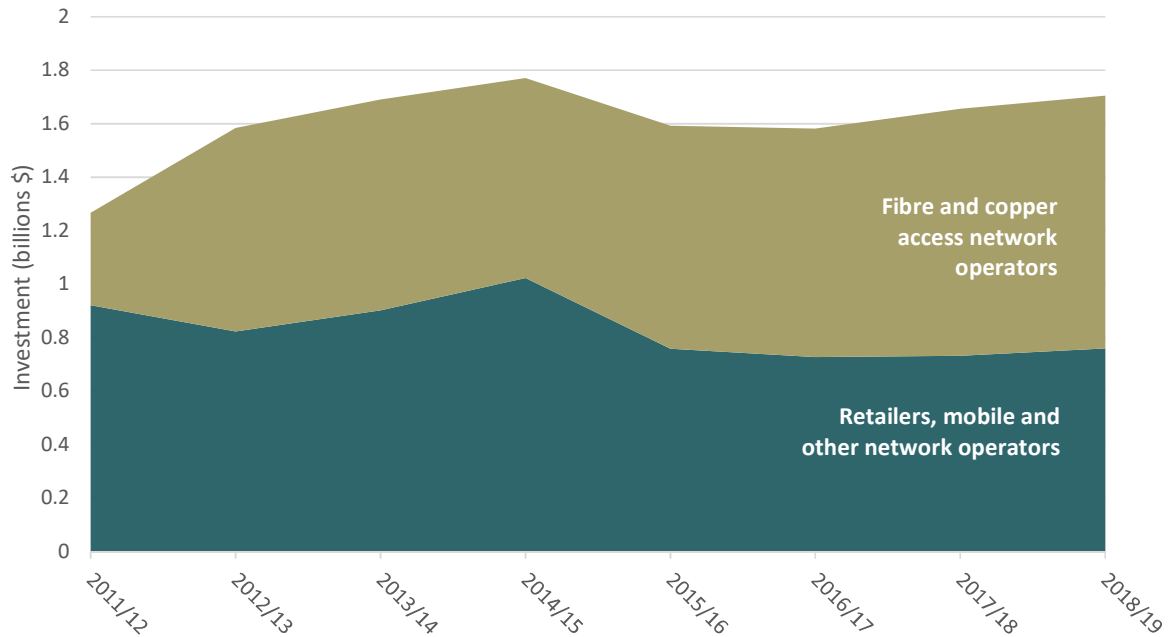
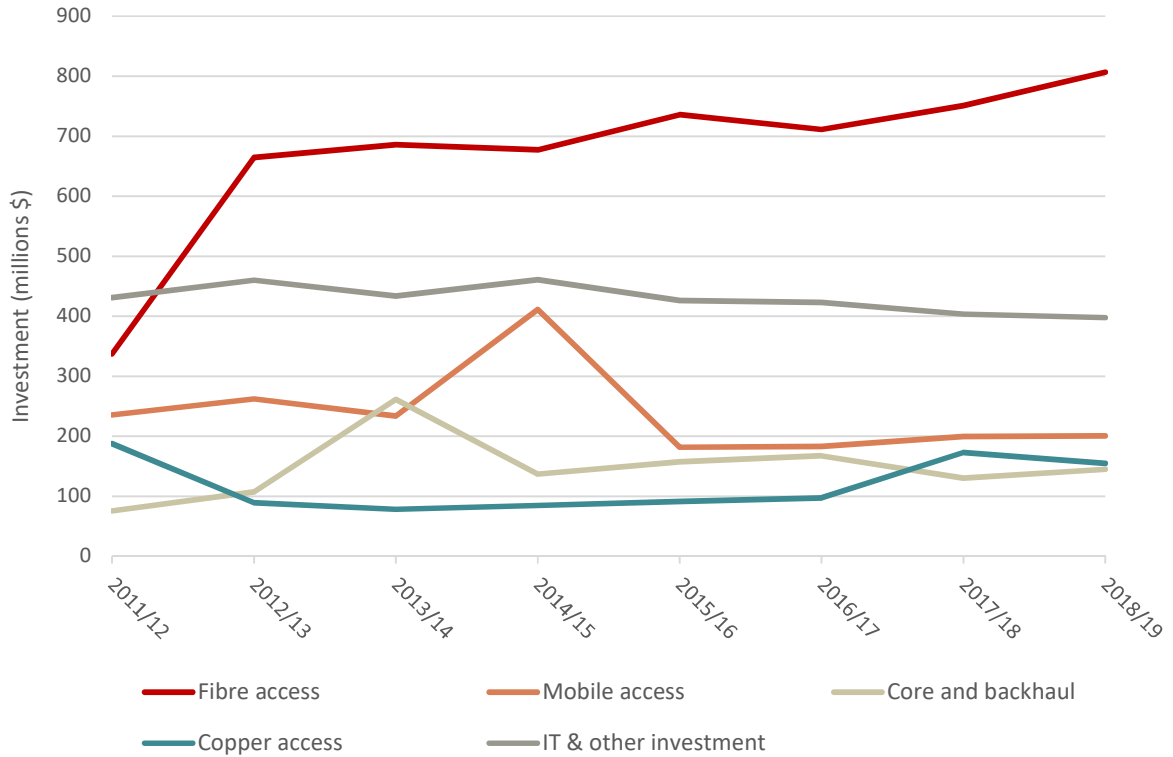


Figure 10 shows investment broken down by component. In 2019, investment in the copper access network decreased 10% down to \$155 million, while investment in both the fibre access network and the core and backhaul network increased modestly. Investment in the mobile access network was unchanged from last year at \$200 million.

Figure 10: Investment by component

The make-up of the telecommunications industry may shift in coming years with the expected completion of the government sponsored fibre build and the upcoming 5G spectrum auctions and associated 5G mobile infrastructure build.¹⁹

¹⁹ UFB1 was completed in November 2019, UFB2 is expected to be completed by December 2022. The first 5G spectrum auction, which will auction short-term rights to the 3.5GHz band, is expected to start 30 March 2020.

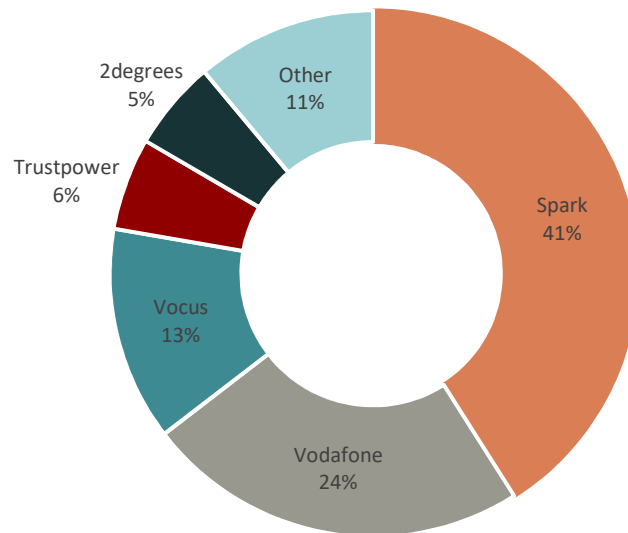
Market shares

Smaller providers continue to grow market shares in the fixed broadband market

We have estimated the largest retailers' fixed network broadband market shares by number of connections using public reports as shown in Figure 11.

The smaller retailers continue to grow their share of market connections with 'Other' providers' market share increasing from 8% in 2018 to 11% this year. This growth was largely at the expense of Spark and Vodafone whose market shares in 2019 both dropped 2% to 41% and 24% respectively.

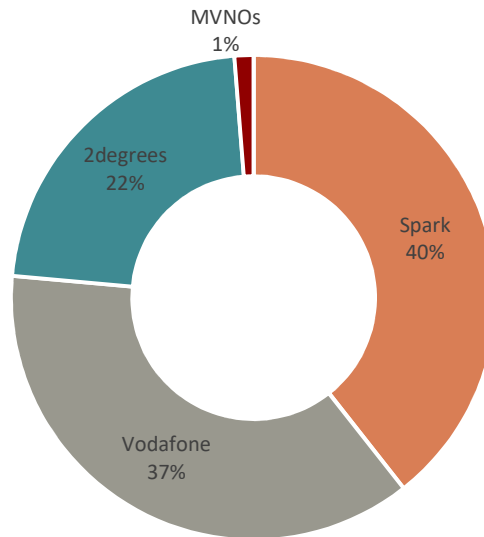
Figure 11: Estimated fixed broadband retailer market share by connections



Spark takes largest share of the mobile market

Figure 12 shows the 2019 estimate market shares of the main mobile market operators plus the three Mobile Virtual Network Operators (MVNOs) included in our questionnaire (Warehouse Mobile, Vocus, and Compass).

Figure 12: Estimated mobile market shares by subscribers²⁰



Spark edged out Vodafone for the first time to take the largest share of the mobile market with 40% in 2019. This number includes Spark's sub brands Skinny and Digital Island. 2degrees' subscribers increased slightly from last year. MVNO subscribers make up the final 1% of the mobile market with 80,500 subscribers, up 16% on last year.

Kogan mobile launched as an MVNO on the Vodafone network in September 2019. As our questionnaire covers the year to 30 June 2019 its subscribers will only be captured from next year onwards. Trustpower has also announced that it plans to launch an MVNO on the Spark network.

Market monitoring updates

Recently concluded section 9A studies

Mobile study

In September 2019 we concluded our mobile market study, under section 9A of the Act, by publishing our final findings report. The purpose of the study was to help us to better understand how mobile markets are performing and developing and how the mobile landscape may evolve in the future.

²⁰ Compiled using a mix of publicly reported subscriber numbers and responses to our questionnaire. The total number of subscribers is not directly comparable with total number of mobile subscribers reported in the snapshot statistics on page 4.

The final findings report can be found on our [website](#).²¹

Backhaul study

In June 2019 we concluded our section 9A study of domestic backhaul services. Our study found that while further regulatory intervention is not necessary at this time, we will continue to monitor backhaul services.

The purpose of the study was to understand how the market for domestic backhaul services has evolved in today's telecommunications environment and what it may look in the foreseeable future, and consider what, if any, changes may be required or are desirable to the regulatory framework to best promote competition for the long-term benefit of end-users.

Our final findings report can be found on our [website](#).²²

Ongoing section 9A studies

Mobile bill review

Our review of mobile bills is seeking to understand how well consumers match their purchasing decisions with their mobile usage, how they consume different types of mobile services, such as add-ons and casual rates, and whether relatively passive consumers could save money if they changed their purchasing behaviour.

Measuring Broadband New Zealand (MBNZ)

Our MBNZ programme aims to provide consumers with independent information on broadband performance across different technologies, providers and plans to help them choose the best broadband for their household.

We have so far released three reports that compare technologies across a number of measures including download speed, percentage of advertised speeds and streaming performance. For the first time our December 2019 report also compared providers on the Fibre 100 plan, and provided consumers with advice on which technologies might best suit their needs.

We are still looking for volunteers to complete our sample of 3,000. Adding more volunteers to the programme will enable us to show more comparisons of providers across all the measures and display the results by geographic region. We are also looking to include social media and gaming testing in the reports so that we can provide consumers with information about their expected "real world" broadband experience.

To volunteer go to at www.measuringbroadbandnewzealand.com.

²¹ <https://comcom.govt.nz/regulated-industries/telecommunications/projects/mobile-market-study>

²² <https://comcom.govt.nz/regulated-industries/telecommunications/projects/telecommunications-backhaul-services-study>

List of defined terms

ADSL	Asymmetric Digital Subscriber Line – a type of DSL
DSL	Digital Subscriber Line – method of transmitting high-speed data and, if necessary, voice simultaneously over a copper phone line
GB	Gigabyte. 1 gigabyte = 1024 megabytes
LFC	Local Fibre Company. These are the four companies contracted with government agency Crown Fibre Holdings to deploy Ultra-Fast Broadband to 75% of the population by rolling out fibre optic access networks
MB	Megabyte – a multiple of the unit byte for measuring the quantity of digital information
MBNZ	Measuring Broadband New Zealand – a programme run by the Commission to measure the broadband performance of New Zealand households
Mbps	Megabits per second – used to measure data transfer speeds of high bandwidth connections, such as fibre, Ethernet and cable modems
MVNO	Mobile Virtual Network Operator – an operator that provides mobile phone services but does not generally have its own licensed frequency allocation of radio spectrum or much of the infrastructure required to provide mobile telephone service. It therefore relies on buying services from an operator with a full mobile network. The amount of control it has over the services it offers will vary according to the nature of its agreement
OECD	Organisation for Economic Co-operation and Development
Ofcom	Office of Communications – the regulatory and competition authority for broadcasting, telecommunications and postal industries in the United Kingdom
PPP	Purchasing Power Parity – an exchange rate designed to equalise standard-of-living differences between countries, and generally accepted as an appropriate conversion method for non-tradable goods and services
SMS	Short Message Service – commonly known as a text messaging, is a service for sending short messages between mobile devices
The Act	The Telecommunications Act 2001
UCLL	Unbundled Copper Local Loop – a Chorus copper line that connects a phone user to the local exchange that can be accessed by retail telecommunications providers to provide a voice and broadband service
UFB	Ultra-Fast Broadband – the name given to the Government’s initiative to roll out a fibre-to-the-premises access network to give households and businesses access to very high-speed broadband
VDSL	Very High Bitrate (high-speed) DSL
WiFi	Wireless Fidelity Standard – a series of standards for a popular technology that allows electronic devices to exchange data wirelessly (using radio waves), including allowing mobile devices to connect to high-speed internet connections. The distance over which a WiFi connection will operate can vary from 20 metres indoors to tens of kilometres outdoors