COMMERCE COMMISSION NEW ZEALAND
Te Komihana Tauhokohoko

ANNUAL TELECOMMUNICATIONS MONITORING REPORT

2021 Key facts

Released 17 March 2022

List of defined terms

ACCC	Australian Competition & Consumer Commission
ADSL	Asymmetric Digital Subscriber Line – a type of DSL
CIP	Crown Infrastructure Partners Limited – Crown-owned company formerly known as Crown Fibre Holdings Limited
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
HFC cable	Hybrid Fibre-Coaxial cable – broadband network in parts of Wellington, Kapiti and Christchurch which uses fibre-optic and copper cabling
LFC	Local Fibre Company – these are the four companies that partnered with Crown Fibre Holdings Limited (now Crown Infrastructure Partners Limited) to build and provide wholesale access to the UFB fibre network
M-Lab	Measurement Lab – an open source project dedicated to providing an open, verifiable measurement platform for global network performance
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 services. 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
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
PSTN	Public Switched Telephone Network
RSP	Retail Service Provider
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
UFB2	The extension of the UFB1 initiative
VDSL	Very High Bitrate (high-speed) DSL

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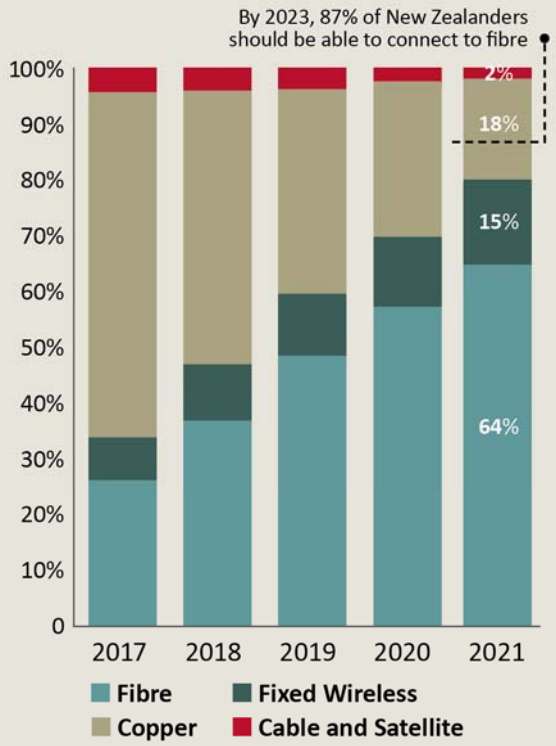
Telco trends 2021

Internet connections



Average monthly usage compared to 2020

Mobile

Data 4.2GB	up 28%
171 minutes	up 3%
119 texts	down 1%
Mobile internet connections 5.3m	up 9%

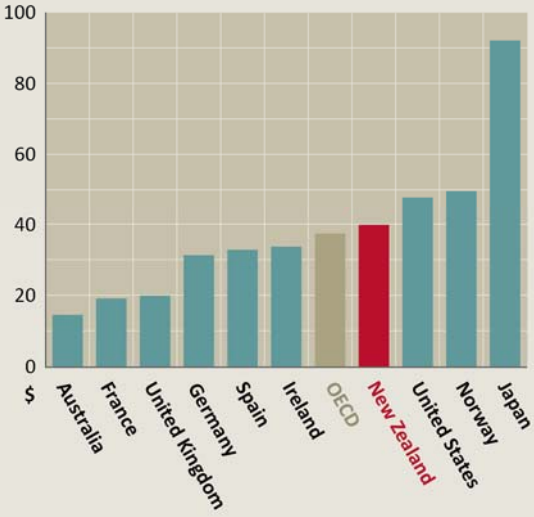
Fixed broadband and landline

Data 330GB	up 16%
Internet connections 1.8m	up 2%
Households with a landline 526k	down 24%

Affordability

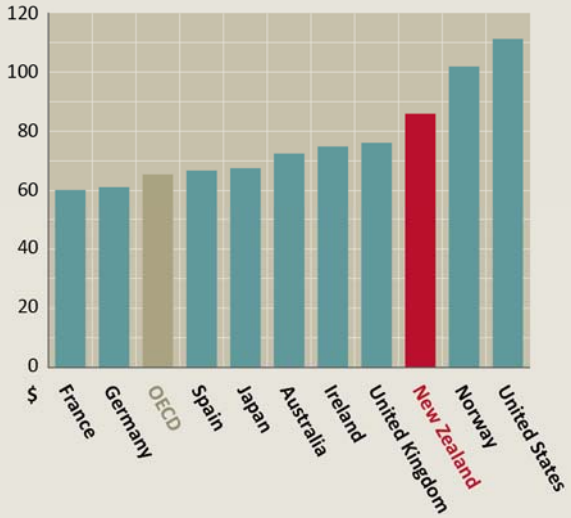
Mobile

569 minutes and 5GB monthly



Fixed broadband

Unlimited data on 100Mbps speed connection



New Zealand telecommunications snapshot statistics

	2011 /12	2012 /13	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21
Total industry metrics										
Total telecommunications retail revenue ($bn)	5.25	5.21	5.17	5.11	5.28	5.37	5.42	5.32	5.22	5.29
Total telecommunications investment ($bn)	1.27	1.58	1.69	1.77	1.59	1.58	1.66	1.71	1.61	1.62
Fixed line metrics										
Fixed lines (mil)	1.88	1.85	1.85	1.86	1.87	1.79	1.76	1.85	1.91	1.95
Total fixed broadband connections (mil)	1.27	1.34	1.41	1.45	1.50	1.58	1.65	1.70	1.76	1.80
Fixed line broadband connections per 100 population	29.0	30.4	31.6	32.0	32.5	32.9	33.7	34.4	34.6	35.2
Fixed monthly data use per broadband connection (GB)	18	26	32	48	69	117	172	207	284	330
Fixed wireless connections (000s)	31	26	24	20	27	122	165	191	221	276
Copper broadband lines (000s)[a]	1169	1237	1273	1270	1171	976	806	620	487	330
UFB (government sponsored fibre) lines (000s)[b]	1	10	39	106	241	413	605	821	1004	1151
Chargeable fixed voice call minutes (bn)	5.71	5.47	5.13	4.66	4.34	3.44	3.10	2.72	2.44	2.09
Total fixed line retail revenues ($bn)	2.86	2.77	2.68	2.58	2.60	2.62	2.58	2.49	2.39	2.36
Mobile metrics										
Mobile connections (mil)[c]	5.4	5.3	5.6	5.8	6.1	6.4	6.4	6.0	6.2	5.8
Active mobile connections per 100 population	122	119	124	127	129	134	131	122	122	114
Share mobile pre-paid (%)	64.9	63.3	63.6	62.3	60.7	60.3	58.1	52.7	51.8	45.4
Average monthly mobile data usage (GB)	0.13	0.21	0.32	0.47	0.72	1.25	2.04	2.75	3.29	4.21
Mobile voice call minutes (bn)	4.42	4.77	5.30	6.63	7.81	8.77	9.34	9.41	10.1	10.5
Text messages sent (bn)	13.9	13.0	12.0	12.1	11.3	9.2	8.8	8.1	7.3	7.3
Total mobile retail revenues($bn)	2.38	2.44	2.49	2.54	2.68	2.75	2.83	2.83	2.83	2.93

[a] Data from Chorus

[b] Data from Crown Infrastructure Partners Limited (CIP)

[c] Prepay connections for all years are counted as those active in the prior six months

Introduction

Purpose of this report

This is the Commerce Commission's (the Commission) 15th annual telecommunications market monitoring report. This report presents key industry metrics and longer-term historical telecommunications trends in New Zealand for 2021.

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.

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 questionnaire to the industry requesting information for the financial year ending in June. The data collected in response to our 2021 questionnaire are referred to as the 2021 results in this report.[2]

Aggregated results from our annual industry questionnaire are published alongside the Annual Telecommunications Monitoring Report 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. Please provide any comments or feedback to regulation@comcom.govt.nz with the subject line "Telecommunications monitoring report feedback".

1 Telecommunications Act 2001, section 9A.

2 The data from the industry questionnaire is for the 12 months to 30 June 2021 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 2021.

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 2021

Mobile roaming revenue continues to fall due to travel restrictions
Ongoing border closures restricting travel led to total mobile roaming revenue dropping to $15.6 million in 2021, down 86% from 2019. Revenue from domestic customers roaming overseas fell 90% from 2019, while revenue from subscribers of overseas networks roaming in New Zealand fell 72% from 2019.

Popularity of uncapped mobile plans rises
In 2021, 42% (or 739,000) of residential on-account subscribers purchased uncapped 'endless' mobile bundles, up from 18% in 2020. Similarly, 26% (or 348,000) of business on-account subscribers purchased uncapped mobile bundles in 2021, up from 10% in 2020.

Entry level mobile plan prices drop
The cheapest offer for an entry level mobile plan of 50 minutes of calling and 500MB of data decreased by $2 in 2021 to $15 per month. Similarly, the cheapest offer for a mobile plan of 188 minutes of calling and 2GB of data decreased by $1 in 2021 to $27.

Fixed-line broadband data usage growth eases
Data usage by both fixed and mobile connections has continued to increase over the year. The average amount of data consumed on a fixed-line broadband connection increased from 284GB to 330GB per month. The average amount of data consumed on a mobile connection increased from 3.29GB to 4.21GB per month. However, the growth in fixed-line broadband data usage eased to 16%, compared to 2020 where growth was 37%.

Formal copper migration starts
Chorus began the process of formally withdrawing copper services where fibre is available in March 2021 by issuing the first notices under the Copper Withdrawal Code. As at 30 June 2021, Chorus had yet to withdraw any copper services but had issued 1,100 first notices and 128 further notices under the Copper Withdrawal Code.

At the same time, Spark has started the process of progressively shutting down its Public Switched Telephone Network (PSTN) and moving customers off copper products.

The ongoing trend of customers choosing to move off copper services, combined with the start of formal withdrawal has seen total copper broadband connections drop 30% to 308,000 in the year to 30 September 2021.

Commission 111 Contact Code comes into force
From 1 February 2021, retail service providers (RSPs) have been required to tell new customers and remind existing customers that their home phone may not work in a power cut. RSPs had until 1 August 2021 to make extra support available to customers who meet the Commission 111 Contact Code criteria of a 'vulnerable consumer'.[5]

[5] The 111 Contact Code and Reasons Paper can be found at https://comcom.govt.nz/regulated-industries/telecommunications/projects/commission-111-contact-code

As at 30 June 2021, RSPs had received approximately 545 vulnerable consumer applications and had accepted 333 of them.

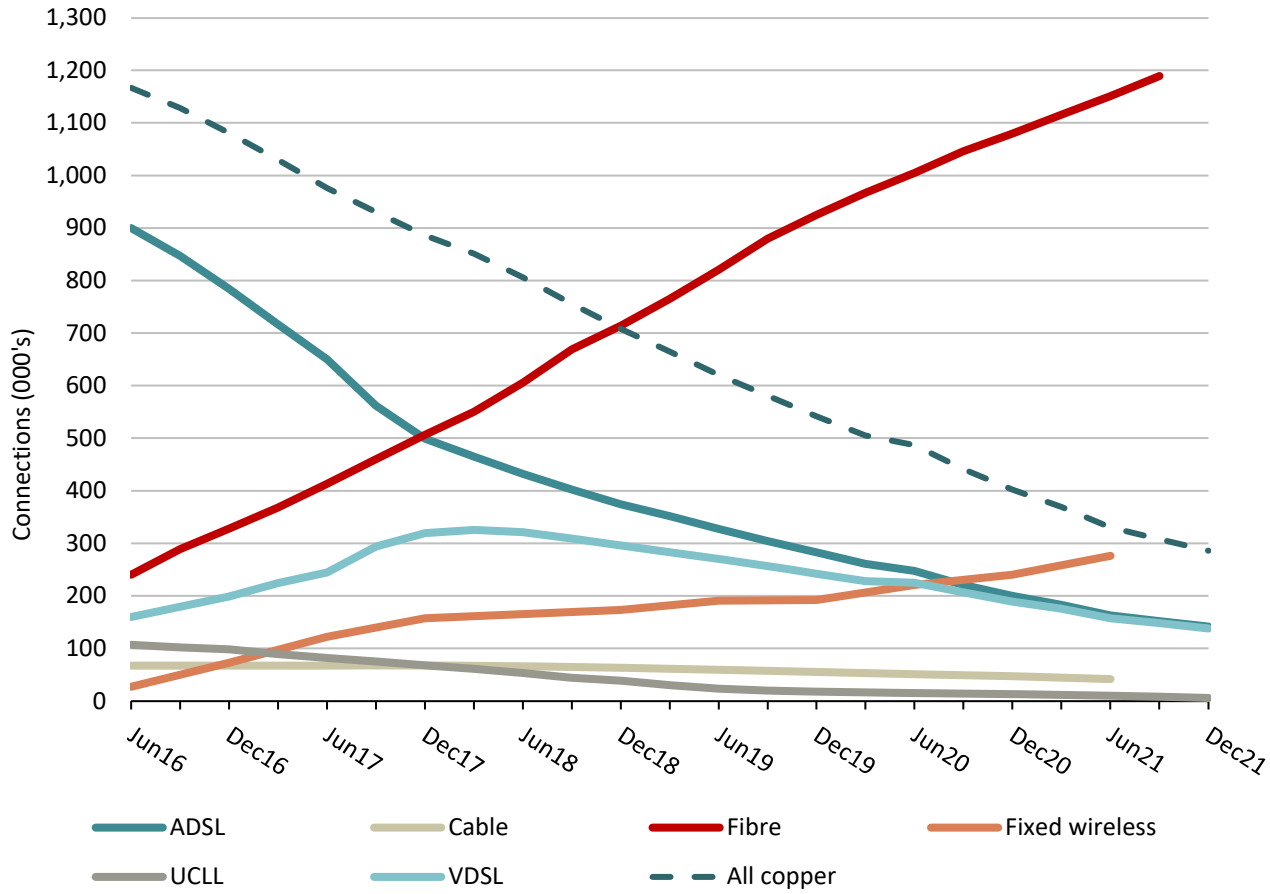
Half of all mobile consumers remain with their provider for more than five years

A statistically significant consumer survey undertaken for the Commission found that fixed broadband customers switched providers more frequently than mobile customers. 52% of mobile customers have been with their current provider for more than five years, compared with 43% of fixed broadband customers.

Fixed-line connections

Copper connections drop by 30%

Figure 1: Fixed-line broadband connections by technology



Source: Chorus, CIP, annual telecommunications questionnaire

In the year to 30 September 2021, total copper broadband connections dropped by 30% to 308,000, split between 152,000 ADSL connections, 148,000 VDSL connections, and 8,000 UCLL connections. As shown in Figure 1, this continues an ongoing trend of copper broadband connections dropping while fibre and fixed wireless broadband connections rise.

As at 30 September 2021, around 1.78 million households and businesses were able to connect to the Ultra-Fast Broadband (**UFB**) fibre network with 1.18 million of them having already moved to fibre.[6] The UFB2 build is ongoing and, by the end of 2022, over 1.8 million households and businesses, or 87% of New Zealanders, should have the ability to connect to fibre.

Fixed wireless connections have increased to 276,000 up 25% from 2020. As at 30 June 2021, New Zealand ranked fourth highest out of OECD countries for fixed wireless

[6] Crown Infrastructure Partners "Quarterly Connectivity Update – Q3: to 30 September 2021".

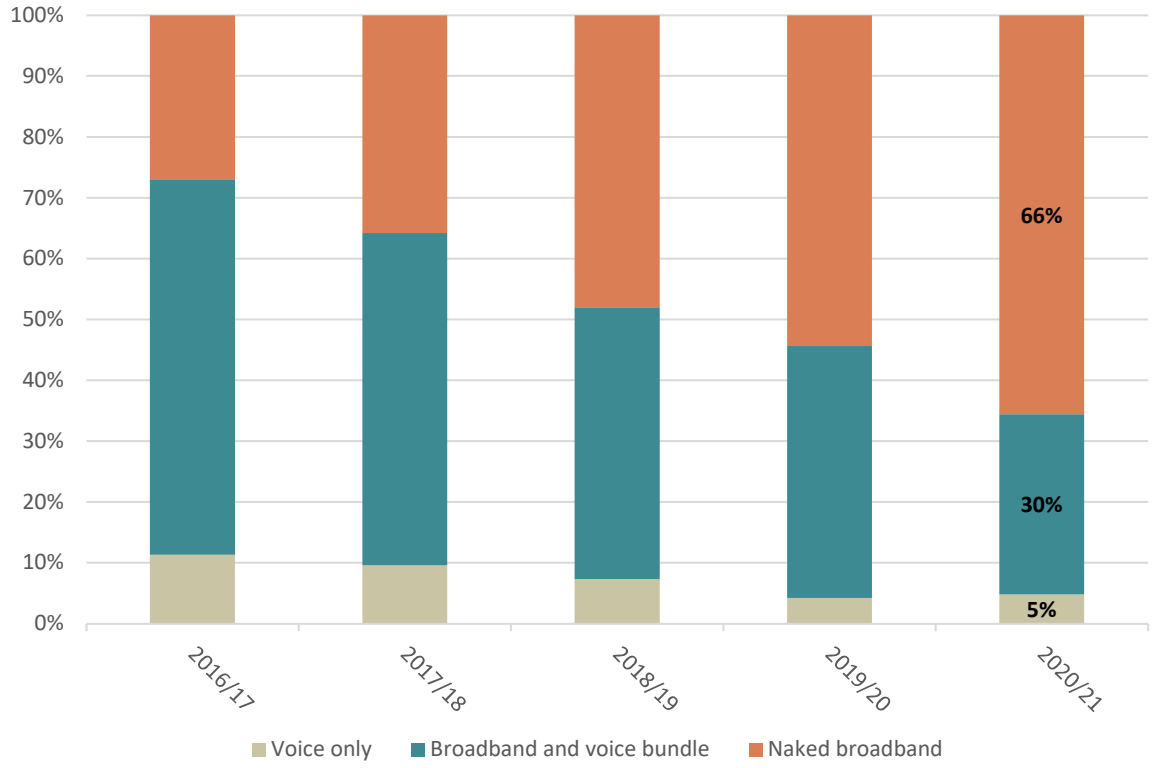
broadband connections with 5.4 subscriptions per 100 of population, behind the Czech Republic at 14.8, the Slovak Republic at 8.1, and Estonia at 5.5.[7]

Households continue to drop landlines

Households are moving away from traditional landline services for calling. Landline connections (including broadband-voice bundles) have continued to decline in 2021, down 24% on 2020.

As shown in Figure 2 below, two-thirds of household fixed-line connections now have no voice service (naked broadband).

Figure 2: Residential fixed-lines by connection type



Of the remaining residential landline customers, 16% have a traditional copper phone line and 84% are on alternative technologies such as fibre and fixed wireless.

7 https://www.oecd.org/sti/broadband/broadband-statistics/

Fixed and mobile traffic

Growth in consumer data usage eases

Figure 3: Average fixed-line broadband data consumption

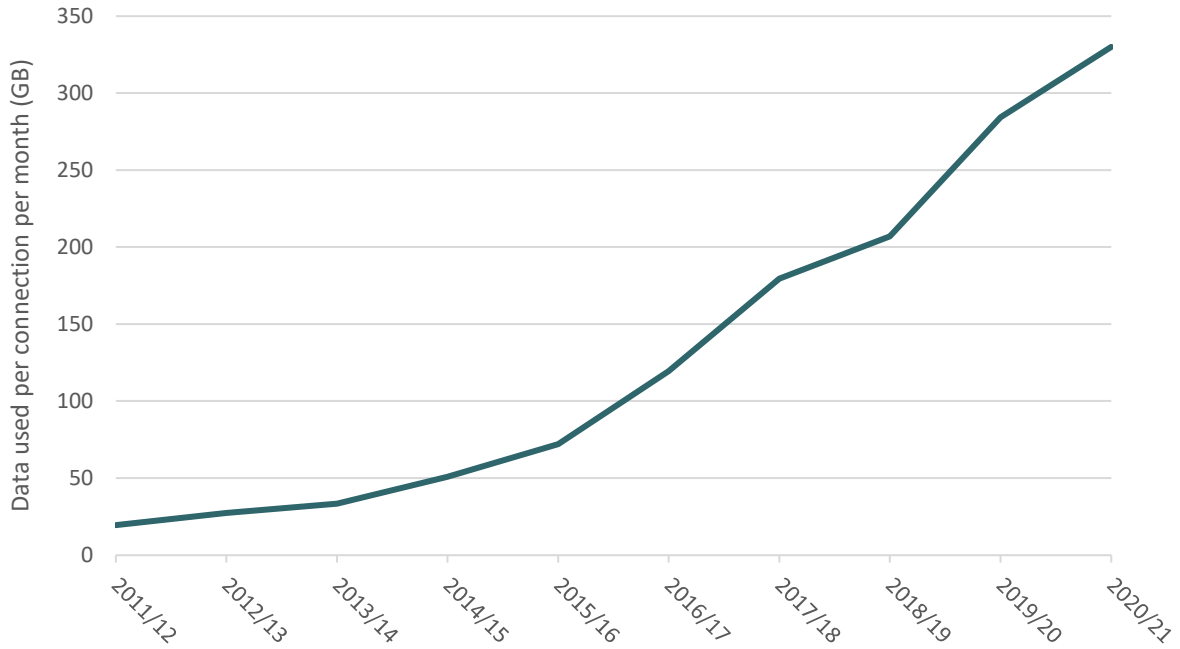


Figure 3 shows the continued growth in the consumption of fixed-line broadband in 2021. Responses to our questionnaire indicate that the average amount of data used by each fixed-line broadband subscriber per month rose to 330GB in 2021.

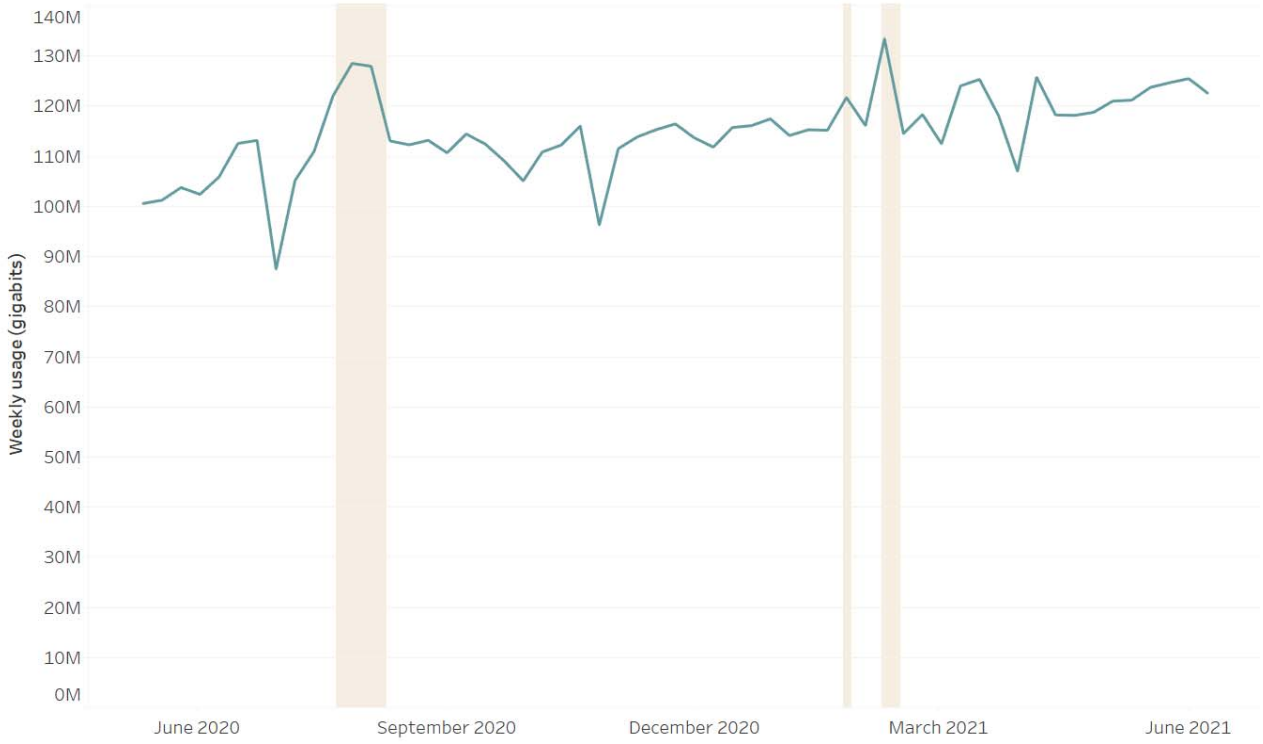
While fixed-line broadband data usage has increased, the rate of growth has eased off, with growth this year only 16% compared with 37% last year. This equates to a 46GB increase in average consumption this year compared to a 77GB increase last year.

The impact of COVID-19 alert level changes on fixed broadband usage can be seen in Figure 4 on page 12.[8] Usage spiked when Auckland was in Alert Level 3 and the rest of New Zealand was in Alert Level 2 (shown in orange in Figure 5).[9] Usage was generally lower outside these lockdown periods but has trended upwards over the year.

[8] Figure 4 shows broadband usage on the Chorus network so it may not be indicative of the usage trends on other local fibre companies' networks, fixed wireless, satellite or HFC cable usage.

[9] A timeline of Alert Level changes can be found at https://covid19.govt.nz/about-our-covid-19-response/history-of-the-covid-19-alert-system/

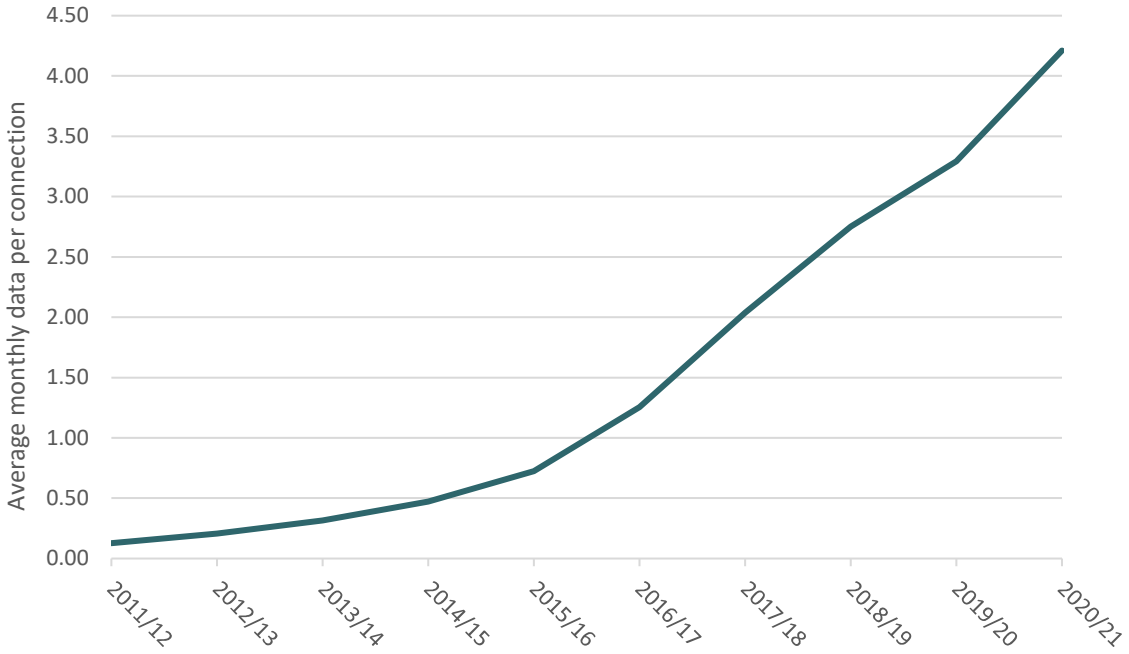
Figure 4: Weekly broadband usage on Chorus' network



Source: Chorus via Statistics New Zealand's COVID-19 data portal

Mobile data consumption continues to grow

Figure 5: Mobile data consumption[10]



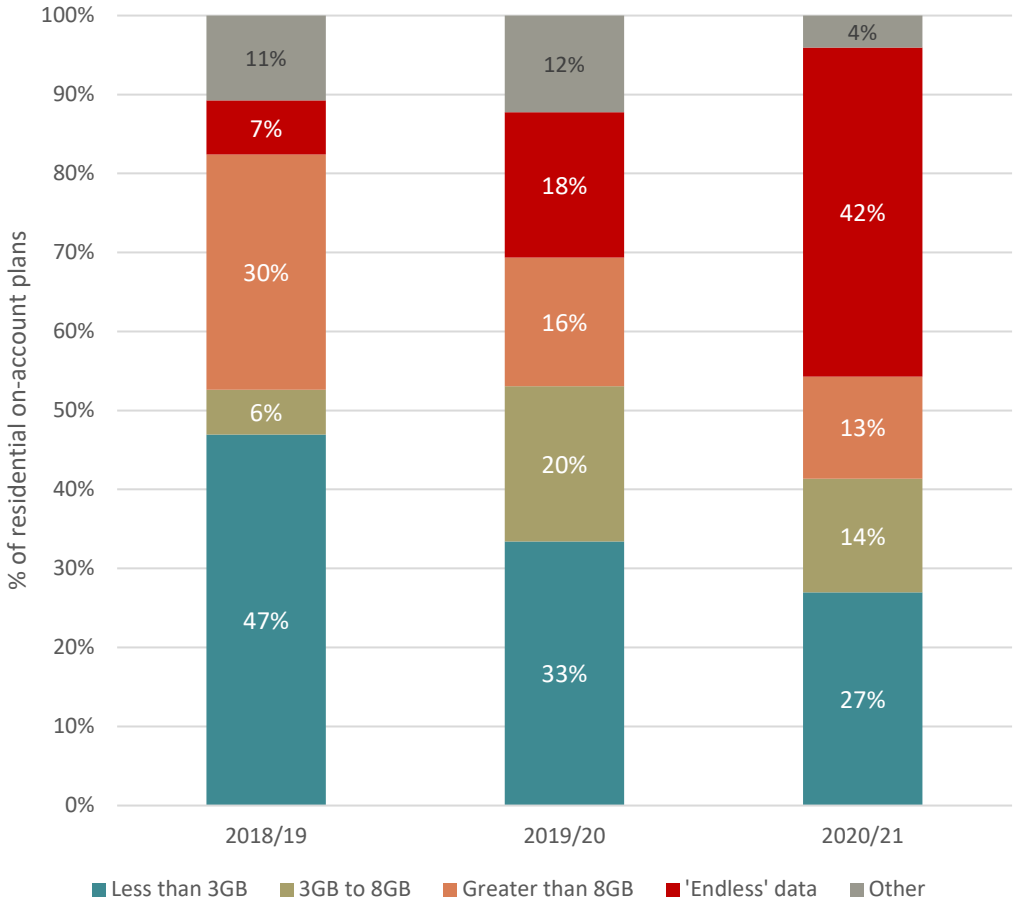
The amount of data consumed over mobile networks by retail customers continued to grow in 2021, as shown in Figure 5. The average amount of mobile data consumed per connection is now 4.21GB per month, up from 3.29GB per month in 2020.

The increasing uptake of 'endless' plans has likely contributed to the growth of mobile data usage. As shown in Figure 6 below, 42% (or 739,000) of residential on-account subscribers now purchase 'endless' mobile bundles, up from 18% in 2020.

Similarly, 26% (or 348,000) of business on-account subscribers purchased uncapped mobile bundles in 2021, up from 10% in 2020.

[10] Calculated based on connections who have used mobile data.

Figure 6: Data allowances of residential on-account plans



Formal copper migration starts

Copper Withdrawal Code

Chorus began the process of formally withdrawing copper services in March 2021 by issuing the first notices under the Copper Withdrawal Code.[11] An interactive map of areas where Chorus has begun the withdrawal process can be found on its website. Under the Copper Withdrawal Code, Chorus is only able to withdraw copper in areas where the Commission has declared that fibre services are available.[12]

The Copper Withdrawal Code requires Chorus to provide notice to copper customers prior to their service being withdrawn. First notices are sent to all affected copper customers at least six months before their copper service is set to be withdrawn. Three months before their copper service is set to be withdrawn, if a customer has yet to move to an alternative service, they will be provided with a further notice. Finally, 20 working days before the copper service is withdrawn, any remaining customers will be provided with a final notice.

As at 30 June 2021, Chorus had yet to withdraw any copper services as only four months had passed since the Copper Withdrawal Code came into force. However, Chorus has begun the process for withdrawing copper at some premises, with 1,100 first notices and 128 further notices issued as at 30 June 2021.

PSTN Shutdown

Independent to Chorus' copper withdrawal, Spark has begun the process of progressively shutting down its PTSN network and moving customers off copper products. Spark has advised "*[t]he parts we need to keep it going aren't being made any more, so it's time for us to retire the PSTN*."[13] A list of affected switches and exchanges can be found on Spark's website.

In addition, other RSPs may make commercial decisions to stop selling copper products to customers ahead of the Chorus and Spark withdrawal processes.

Commission 111 Contact Code

The Commission 111 Contact Code supports consumers who can no longer contact 111 in a power cut because they have moved to landline technologies such as fibre and fixed wireless.[14] These technologies require a power supply in the home to work, meaning they will not work in a power cut without an independent power source.

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11 The Copper Withdrawal Code and Reasons Paper can be found at https://comcom.govt.nz/regulated-industries/telecommunications/regulated-services/consumer-protections-for-copper-withdrawal/copper-withdrawal-code

12 A map of these Specified Fibre Areas can be found at https://comcom.govt.nz/regulated-industries/telecommunications/regulated-services/consumer-protections-for-copper-withdrawal/map-of-specified-fibre-areas

13 See https://www.spark.co.nz/shop/landline/landline-migration/ (Accessed 14 January 2022)

14 The 111 Contact Code and Reasons Paper can be found at https://comcom.govt.nz/regulated-industries/telecommunications/projects/commission-111-contact-code

From 1 February 2021, RSPs have been required to tell new customers and remind existing customers at least once a year that their home phone may not work in a power cut. RSPs had until August 2021 to make extra support available to customers who meet the criteria of a 'vulnerable consumer'. Under the Commission 111 Contact Code consumers who meet the vulnerable consumer criteria must be supplied with a means of contacting 111 in the event of a power failure at their home. This will either be a mobile phone or a battery back-up depending on the consumers' situation.

As at 30 June 2021, RSPs had received approximately 545 vulnerable consumer applications and accepted 333 of them. The most common reason for declined applications was that the consumer already had a means by which to contact the 111-emergency service.

Retail revenues

Mobile retail revenue up

Figure 7: Telecommunications retail revenues by service

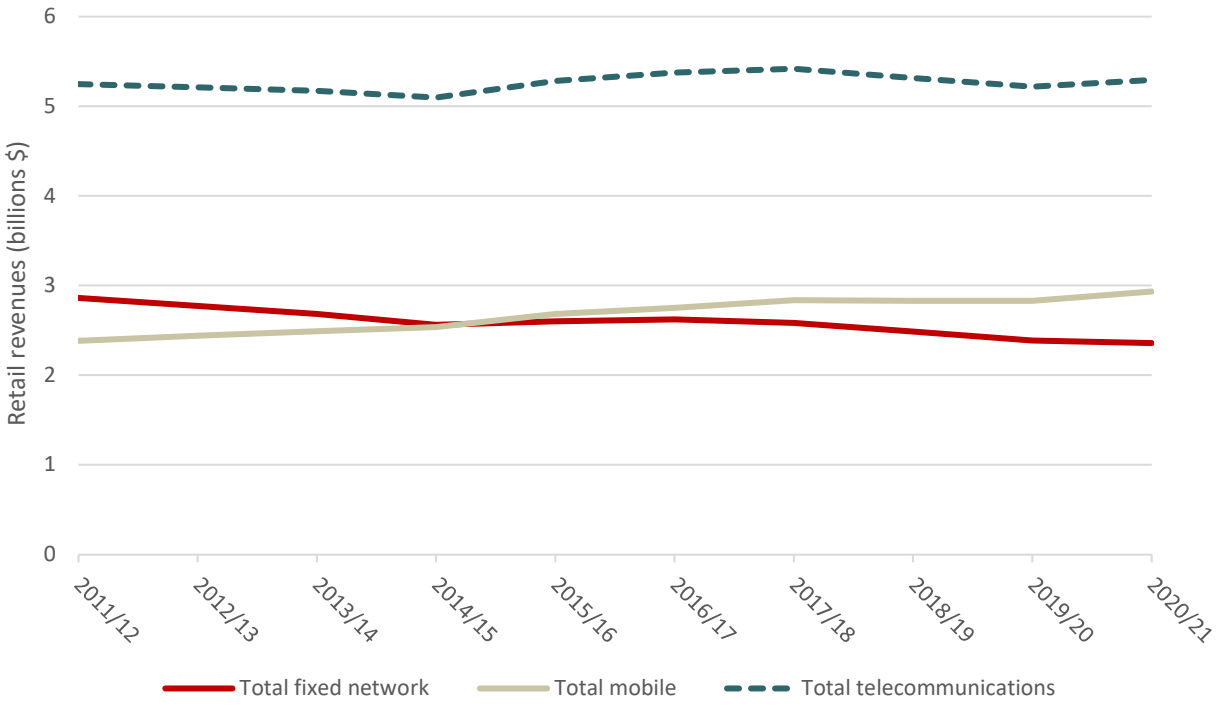
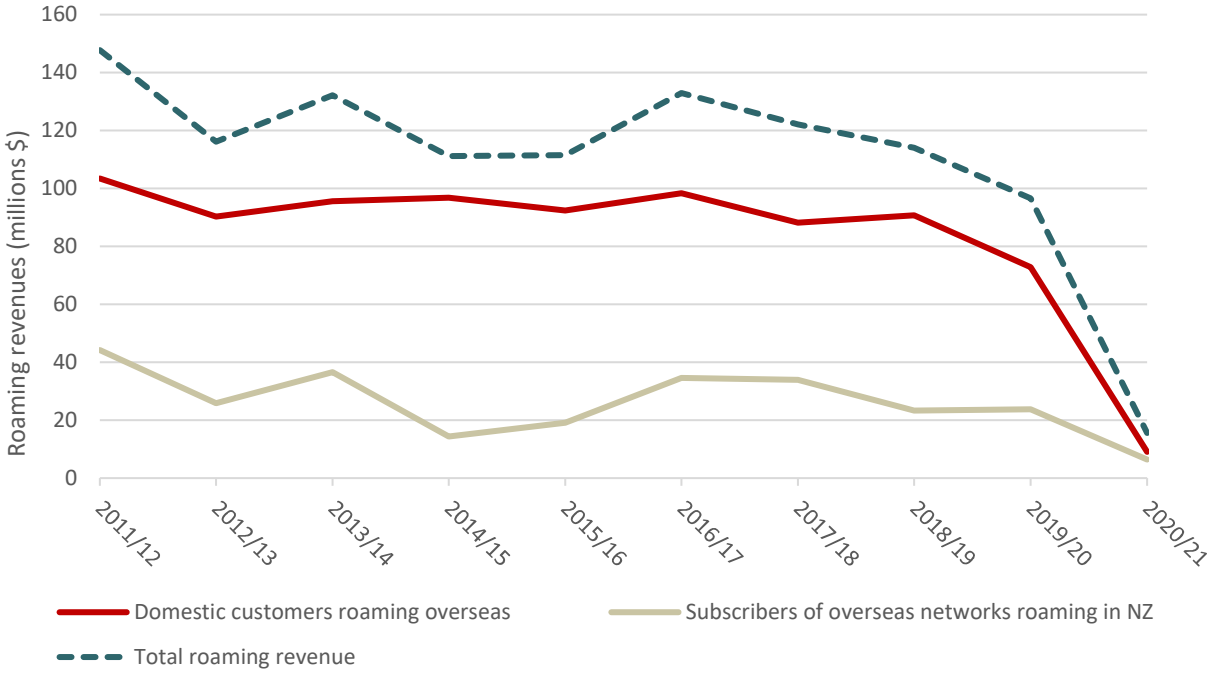


Figure 7 shows that retail telecommunications revenue increased 1% to $5.29 billion in 2021. Fixed network revenue decreased 1% to 2.36 billion in 2021. This fall was offset by an increase in mobile revenue of 4% to $2.93 billion in 2021.

Mobile roaming revenues continue to fall due to travel restrictions

Figure 8: Mobile roaming revenue by type



As shown in Figure 8 above, total mobile roaming revenue in the year to 30 June 2021 fell to $15.6 million, down 86% from 2019. Revenue from domestic customers roaming overseas fell 90%, while revenue from subscribers of overseas networks roaming in New Zealand fell 72% compared with 2019.

OECD price benchmarking

Each year we benchmark the prices New Zealanders pay for common plans for fixed-line broadband and mobile against OECD averages. We use the database that has been prepared by the Teligen division at Strategy Analytics.[15,16]

Price of faster fixed broadband plans rise

Most consumers of fixed-line telecommunications services buy either a bundle that includes both a voice and broadband service or naked broadband.

To get an indication of how New Zealand fixed-line broadband prices compare to those overseas, we compared the price of the cheapest plan on offer in New Zealand against the average price of the cheapest plan available in OECD countries for fixed broadband services over four categories that represent various levels of usage and speed.[17]

With 79% of households on unlimited plans, we track two categories with 500GB of data (as a proxy for unlimited data). The first unlimited category tracks those plans offering speeds of at least 100Mbps, and the second category looks at plans offering at least 800Mbps.

We also track two lower speed plans that have data restrictions. The first category looks at entry level plans that offer at least 60GB of data and speeds of 10Mbps, while the second category tracks light user plans that offer at least 150GB and speeds of 30Mbps.

Table 1: Fixed-line broadband only benchmarking

		Price in NZD (PPP) Dec-21		Price difference from 2020	
Broadband only	**NZ rank in OECD**	**NZ**	**OECD average**	**NZ**	**OECD average**
Entry level **60GB 10Mbps**	26/37	$62	$55	-$3	+$2
Light user **150GB 30Mbps**	29/37	$73	$59	no change	+$1
Medium user **Unlimited (500GB) 100Mbps**	31/37	$86	$65	+$13	-$2
High user **Unlimited (500GB) 800Mbps**	19/35	$90	$108	+$17	-$3

Source: Strategy Analytics

15 Teligen typically collects plan information on the incumbent providers who serve at least 70% of customers in a given country.

16 The countries included in calculating the average vary because not all have comparable plans.

17 Spark, Vodafone, Slingshot and Orcon are the only New Zealand brands included in Teligen's fixed-line broadband benchmark dataset. These brands make up roughly 72% of the fixed-broadband market.

As shown in Table 1 above the price of medium user broadband-only plans has increased, with the cheapest offer in the medium user category increasing by $13 since 2020. Similarly, the cheapest offer in the high user category has increased by $17 since 2020.

Table 2: Fixed-line broadband and voice benchmarking

		Price in NZD (PPP) Dec-21		Price difference from 2020	
Broadband + voice	**NZ rank in OECD**	**NZ**	**OECD average**	**NZ**	**OECD average**
Entry level **60GB 10Mbps**	23/31	$72	$71	-$3	+$6
Light user **150GB 30Mbps**	25/31	$85	$75	+$5	+$5
Medium user **Unlimited (500GB) 100Mbps**	25/31	$97	$83	+$13	+$6
High user **Unlimited (500GB) 800Mbps**	15/26	$101	$118	+$17	+$3

Source: Strategy Analytics

As shown in Table 2 above, since 2020 the price of the cheapest broadband and voice bundles increased in all categories apart from the entry level category.

Like naked broadband, the high user category is the only broadband and voice bundle category where the cheapest New Zealand price is cheaper than the OECD average.

Entry level mobile plan prices drop

To get an indication of how New Zealand mobile prices compare to those overseas, we compared the price of the cheapest plan on offer in New Zealand against an average of the cheapest price available in OECD countries for mobile services over five categories of plans with a range of call and data allowances.[18]

Table 3 shows that New Zealand's benchmarked mobile prices were below the OECD average for the entry level and lower user categories above the OECD average for the medium user, high user, and ultra-high user category.

Table 3: Mobile phone services benchmarking

		Price in NZD (PPP) Nov-21		Price difference from 2020	
Mobile phone services	**NZ rank in OECD***	**NZ**	**OECD Average**	**NZ**	**OECD* average**
Entry level **50 minutes + 500MB**	11/37	$15	$24	-$2	no change
Low user **188 minutes + 2GB**	20/37	$27	$31	-$1	-$1
Medium user **569 minutes + 5GB**	26/37	$40	$38	-$7	-$5
High user **1787 minutes + 10GB**	26/37	$50	$47	no change	-$6
Ultra-high user **Unlimited calls + 20GB**	25/34	$76	$63	no change	-$5

Source: Strategy Analytics

The cheapest plan on offer in the medium user category has decreased by $7 per month since 2020. The cheapest plans on offer in the entry level and low user categories have also decreased in price since 2020. The cheapest entry level offer has decreased by $2 per month and the cheapest low user offer has decreased by $1 per month. While the cheapest offer for all other categories has remained unchanged since 2020.

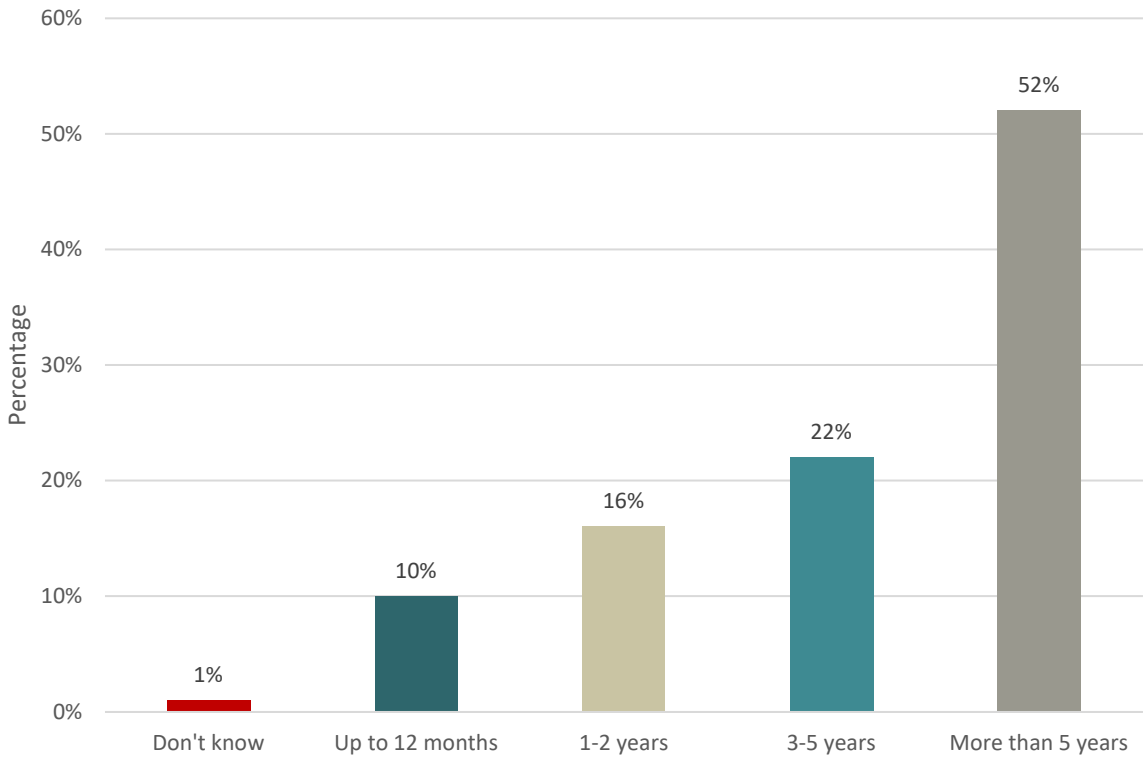
[18] Spark, Skinny and Vodafone are the only brands included in Teligen's mobile benchmark dataset. These brands make up 79% of the mobile market.

Switching

Half of mobile consumers remain with their provider for more than five years

The Consumer Telecommunications Survey 2021 was the Commission's first large scale, statistically significant consumer survey to measure consumers' experience of specific areas of retail service quality.[19,20]

Figure 9: How long mobile customers have been with their current provider



Source: Consumer Telecommunications Survey 2021

The survey found that 52% of mobile customers have been with their current provider for more than five years. However, this data does not capture any switching between different plans with the same provider.

Our industry questionnaire results found that in 2021, 5% (or 136,000) of prepay customers[21] stayed with the same provider but switched their base plan. 10% (or 186,000) of customers now on an on-account account plan had switched from a prepay plan with the same provider. Our industry questionnaire results also found that in 2021, 23% (or 407,000) of residential on-account customers stayed with the same provider but switched their base

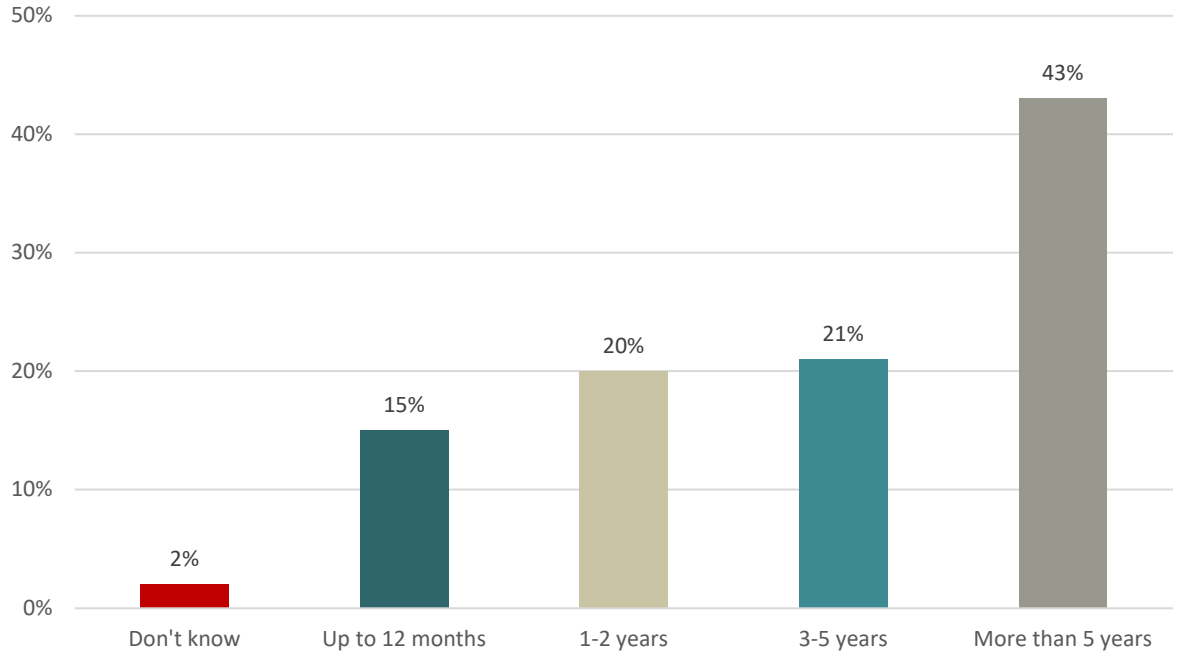
19 The survey questions were developed in partnership with Consumer NZ.

20 The survey was carried out by Research New Zealand. A report from Research New Zealand which provides detail on the methodology used and results of the survey can be found at https://comcom.govt.nz/__data/assets/pdf_file/0030/265539/Research-New-Zealand-Consumer-Telecommunications-Survey-2021-14-September-2021.pdf

21 Percentage of total prepay customers who were active in the last 6 months as at year end.

plan, and 3% (or 78,000) of customers who were now on a prepay plan had switched from a residential on-account plan with the same provider.

Figure 10: How long fixed broadband consumers have been with their current provider



Source: Consumer Telecommunications Survey 2021

The survey also found that fixed broadband customers switched more frequently than mobile customers, with 43% of fixed broadband customers remaining with their current provider for more than five years compared with 52% of mobile customers.

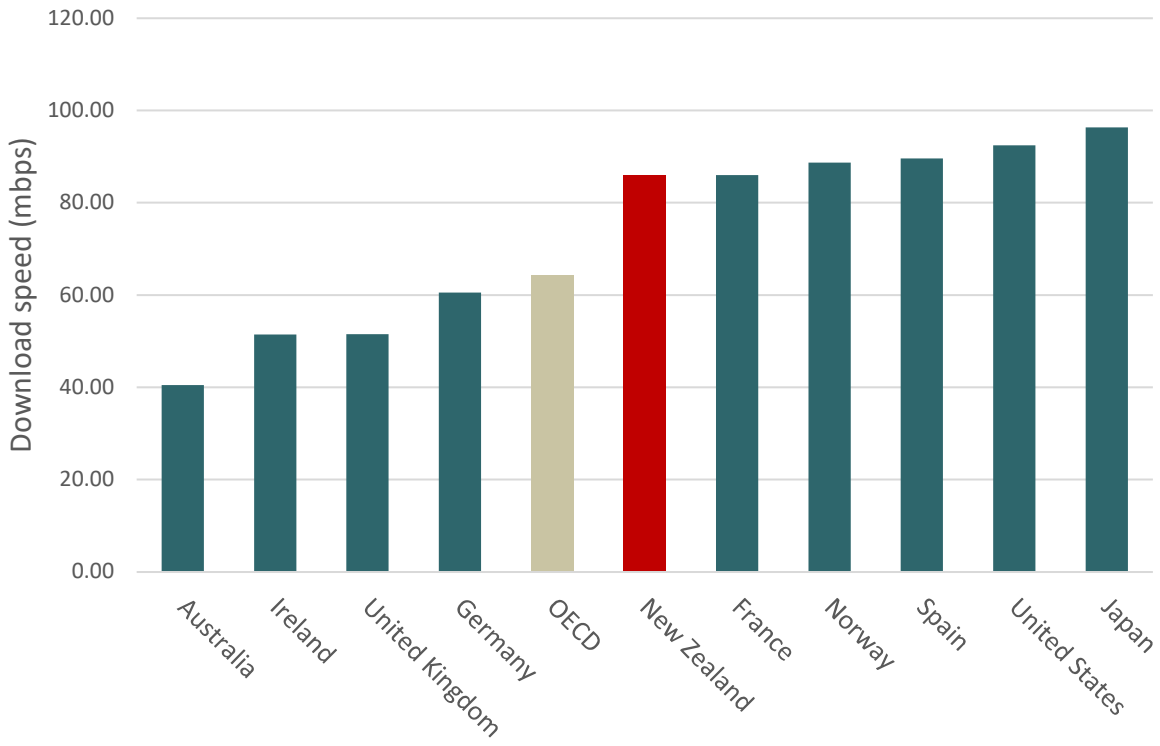
Broadband speeds

Average broadband download speeds exceed OECD average

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.[22]

In 2021, New Zealand ranked 11th in the OECD, with average fixed broadband download speeds of 86Mbps up from 67Mbps in 2020. Figure 11 below compares New Zealand against the same subset of OECD countries shown in the affordability graphs on page 3. New Zealand's average fixed broadband download speeds exceed average speeds in Australia, Ireland, the UK, Germany and the OECD average of 64Mbps.

Figure 11: Average broadband download speed



Source: Cable.co.uk

In December 2021, Chorus, Enable and Tuatahi First Fibre increased the wholesale speed for consumers on 100Mbps fibre plans to 300Mbps free of charge. We anticipate that the 2022 speed results will show an increase in average fixed broadband speed due to this change.

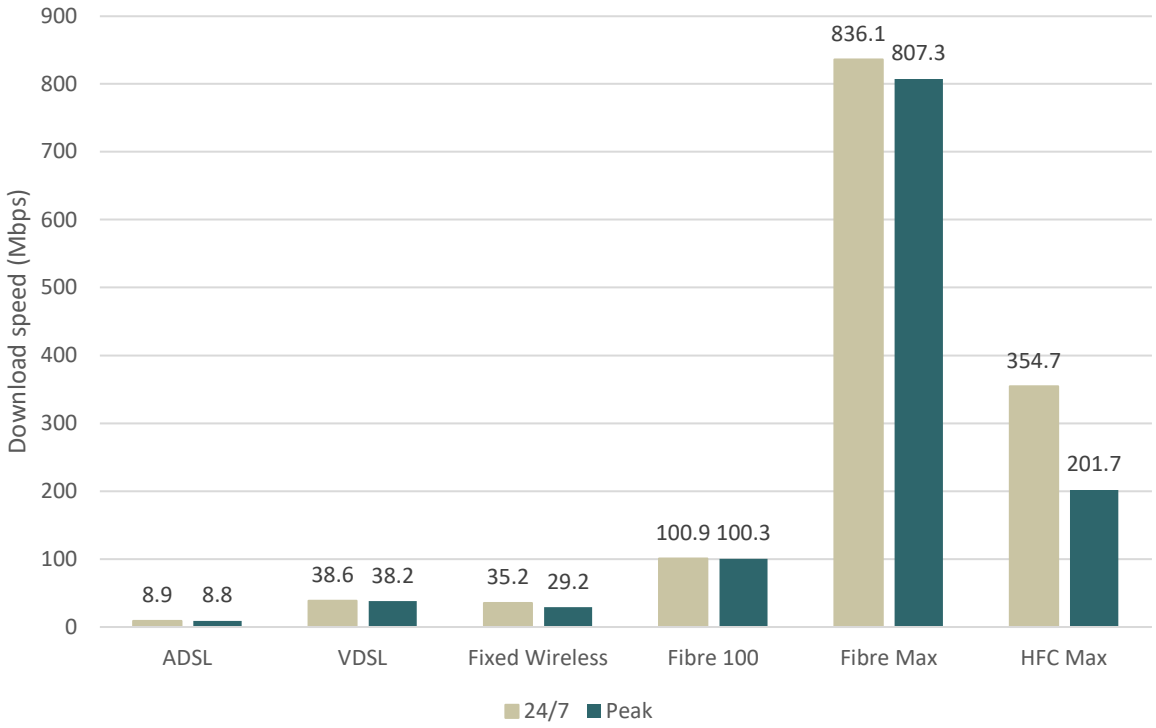
[22] Full results and methodology can be found at https://www.cable.co.uk/broadband/speed/worldwide-speed-league/#map

Local performance

On 1 December 2021 we released our Spring 2021 Measuring Broadband New Zealand (MBNZ) Report. The full report and previous reports can be found on our MBNZ reports webpage.[23]

This report, prepared based on information from independent testing partner SamKnows provides a breakdown of the broadband speeds by technology in New Zealand, as shown in Figure 12 below.

Figure 12: Average broadband download speed by technology



Source: Measuring Broadband New Zealand Spring Report, December 2021

The Spring 2021 report includes further regional and retailer breakdowns for Fibre 100 and Fibre Max plans.

The report also includes tests showing disconnection rates and the performance consumers can expect on popular online gaming servers.

[23] https://comcom.govt.nz/regulated-industries/telecommunications/monitoring-the-telecommunications-market/monitoring-new-zealands-broadband/Reports-from-Measuring-Broadband-New-Zealand

Industry investment

Fibre investment drops while mobile investment rises

In recent years, telecommunications industry investment has been led by Chorus and the other Local Fibre Companies (**LFCs**), as shown in Figure 13 below. However, with the UFB build now 98% complete, investment by Chorus and the other LFCs has dropped. This drop has been offset by investment increases in other areas, with overall investment increasing by 1% to $1.62 billion in 2021.

Figure 13: Telecommunications investment

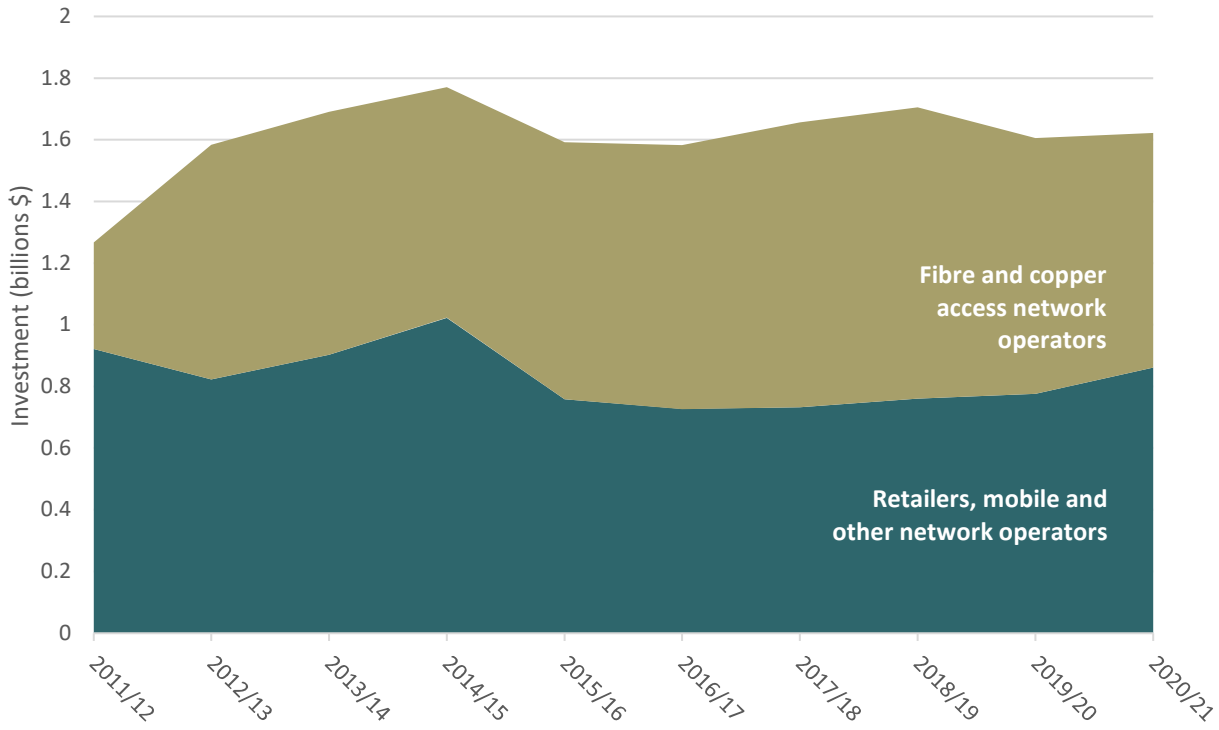
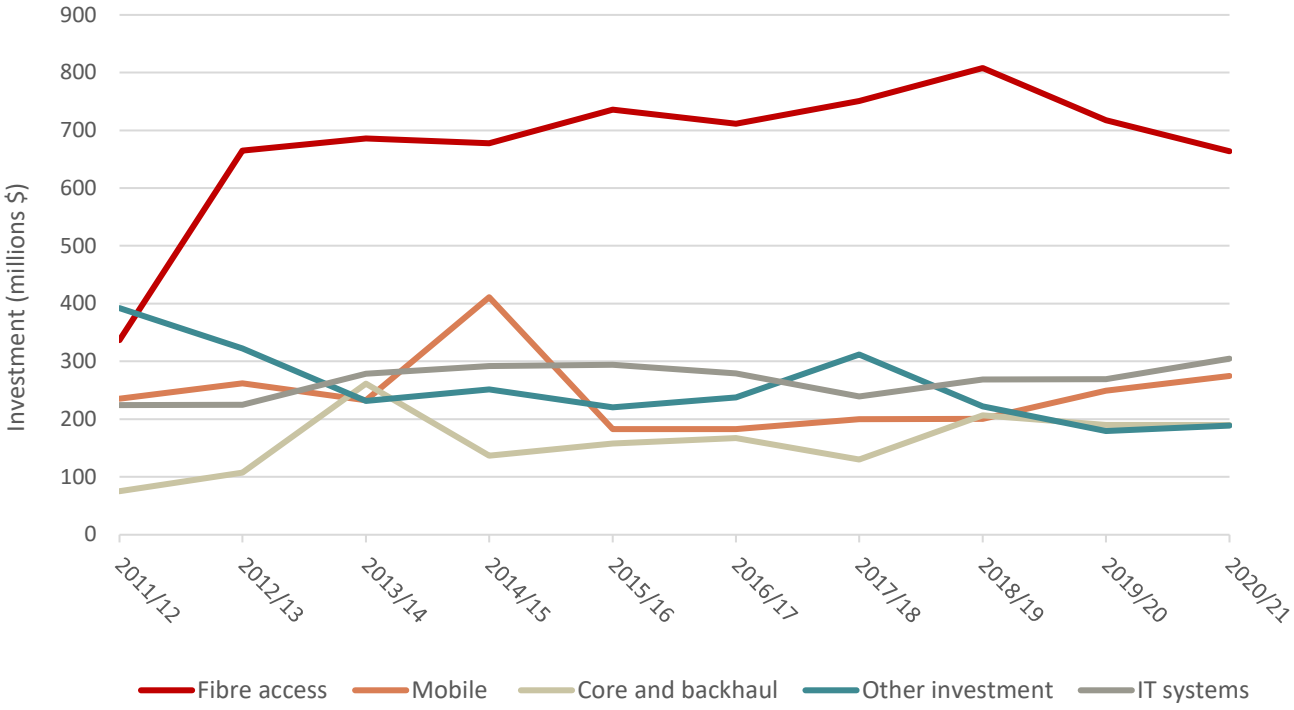


Figure 14 below shows investment broken down by component. In 2021, investment in the fibre access network decreased 8% to $664 million, while investment in the mobile networks increased by 10% to $274 million. This lift in mobile access network investment is likely due to the ongoing rollout of 5G.

Investment in the core and backhaul network was unchanged from 2020 at $190 million, while investment in IT systems increased 13% from 2020 to $305 million. Other investment, which includes copper access and spectrum investment, increased 5% in 2021 to $189 million.

Figure 14: Investment by component



Market shares

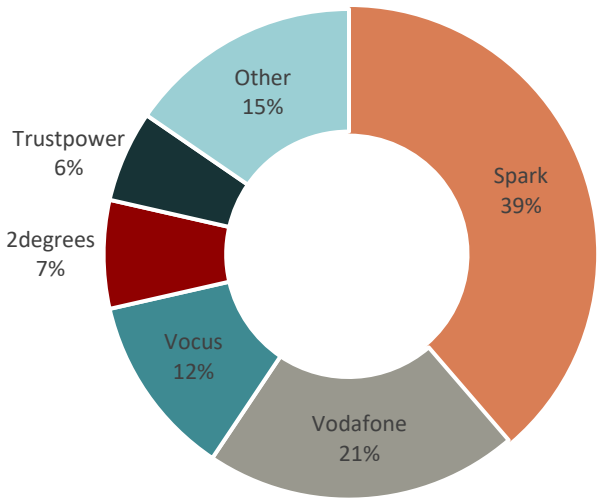
Fixed broadband market

Figure 15 shows the 2021 estimated market share of the largest retailers of fixed-line broadband by number of connections.

The smaller retailers continue to grow their share of market connections with the market share of 'Other' providers increasing from 13% in 2020 to 15% this year.

Spark's market share — which includes its sub-brands Skinny and Bigpipe— dropped a percentage point to 39%, down from 40% in 2020, while Vodafone's market share remained steady at 21%. Vocus' market share dropped by 1% to 12% in 2021. 2degrees' and Trustpower's market shares remained steady across 2020-2021, at 7% and 6% respectively.

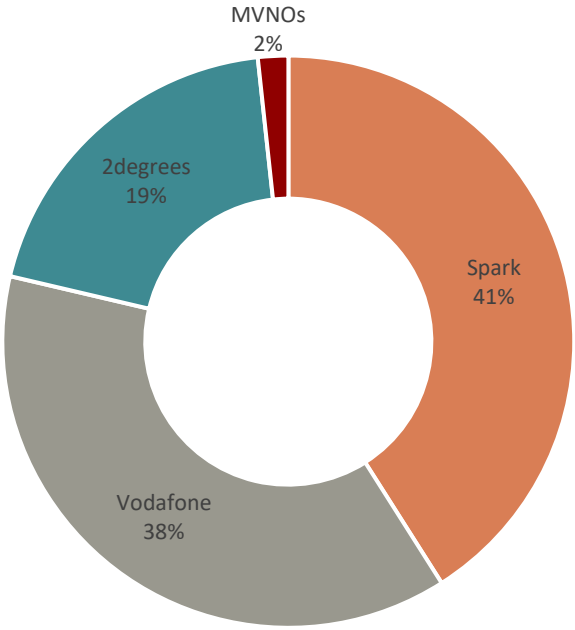
Figure 15: Estimated fixed broadband retailer market share by connections



Mobile market

Figure 16 shows the 2021 market share of the main mobile market operators plus the six Mobile Virtual Network Operators (MVNOs) included in our questionnaire (Compass, Kogan Mobile, Megatel, Trustpower, Vocus, and Warehouse Mobile).

Figure 16: Mobile market share by subscribers



Spark's market share increased to 41% of the mobile market in 2021, up from 40% in 2020.[24] Vodafone's mobile market share dropped by 2%, from 40% in 2020, down to 38% in 2021. 2degrees' mobile market share remained unchanged from 2020 at 19%.

MVNO subscribers make up the final 1.8% of the mobile market, with 106,000 subscribers, up from 1.4% in 2020.

[24] Includes Spark's sub-brand, Skinny.

Market monitoring updates

Ongoing section 9A studies

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 ten reports that compare technologies across several measures, including download and upload speeds, latency, video streaming, social media, online gaming, and video conferencing performance. Our December 2021 report also included geographic and provider comparisons for Fibre 100 and Fibre Max.[25]

Upcoming section 9A work

Broadcasting Transmission Review

On 17 February 2022 we published terms of reference for our broadcasting transmission services market review.[26] The purpose of the review is to better understand the broadcasting transmission market in New Zealand, how it is performing, and how it might develop. In particular, we are seeking to develop a better understanding of the forward-looking competitive landscape for the broadcasting transmission services market; and inform the need for, and level of, monitoring of broadcasting transmission services.

Monitoring strategy refresh

Following the confirmation of additional levy funding we are revising and refreshing our telecommunications monitoring strategy. As a result, the data we seek to collect from stakeholders and the format of our publications may change in subsequent years.

[25] Our Spring 2021 MBNZ report can be found at https://comcom.govt.nz/__data/assets/pdf_file/0026/271961/MBNZ-Spring-Report-2021-01-December-2021.pdf

[26] The terms of reference can be found on our broadcasting transmission services market review project page at https://comcom.govt.nz/regulated-industries/telecommunications/monitoring-the-telecommunications-market/topic-papers-other-reports-and-studies/broadcasting-transmission-services-market-review