

# ANNUAL TELECOMMUNICATIONS MONITORING REPORT

## 2017 Key facts

Date: 20 December 2017



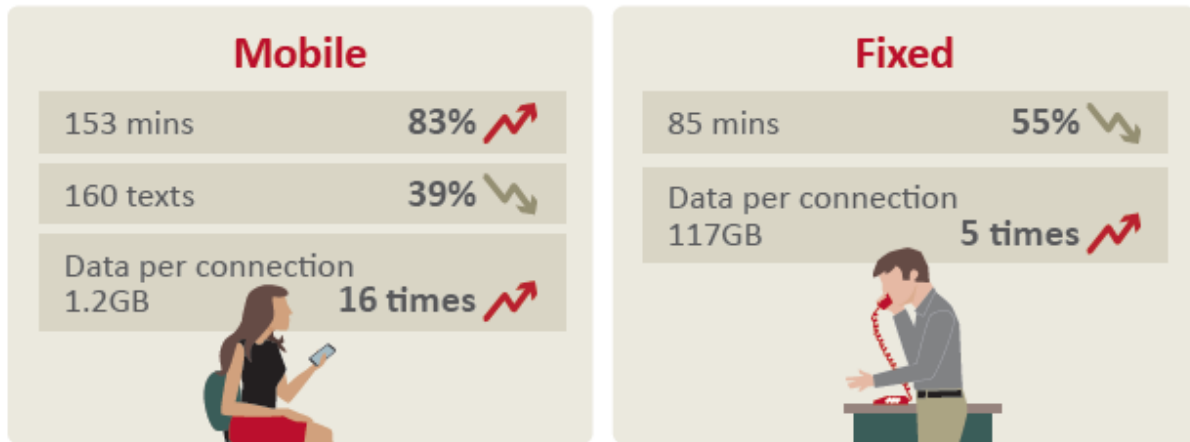
# Contents

---

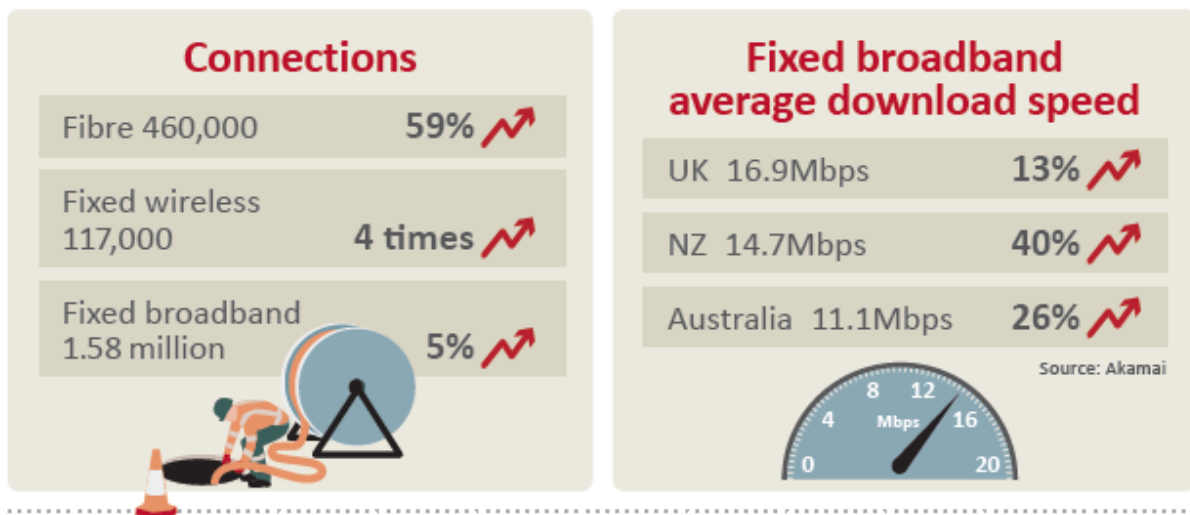
<b>New Zealand telecommunications snapshot statistics</b>	<b>4</b>
<b>Introduction</b>	<b>5</b>
Purpose of this report	5
Upcoming topic papers	5
Ongoing s9A market studies	5
Mobile study	5
Backhaul study	5
Data sources	6
<b>Market overview</b>	<b>7</b>
Fibre take-up continues to show very strong growth in 2017	7
Broadband speeds high and continue improving	7
Strong growth in fixed wireless broadband subscribers	7
Telecommunications sector continues to have more complaints than any other	7
Telecommunications investment remains strong	8
Fixed broadband connections keep rising	9
Mobile calling continues to exceed fixed calling	13
Mobile revenues continue to edge ahead of fixed	14
<b>Retail fixed-line market</b>	<b>15</b>
Smaller players continue to grow market share	15
Strong growth in broadband data use continues	16
Broadband with voice again does better in price benchmarking	17
Rise in average broadband speeds picks up pace	19
<b>Retail mobile market</b>	<b>22</b>
Mobile market shares stable	22
Mobile voice minutes per connection continue steep climb	23
All types of mobile calling growing	24
Texting continues to decline	25
Mobile data consumption continues very strong growth	26
New Zealand prices mostly below OECD average for mobile phone usage	26
The price for most mobile baskets remained stable	28
<b>List of defined terms</b>	<b>29</b>

# Telco trends 2017

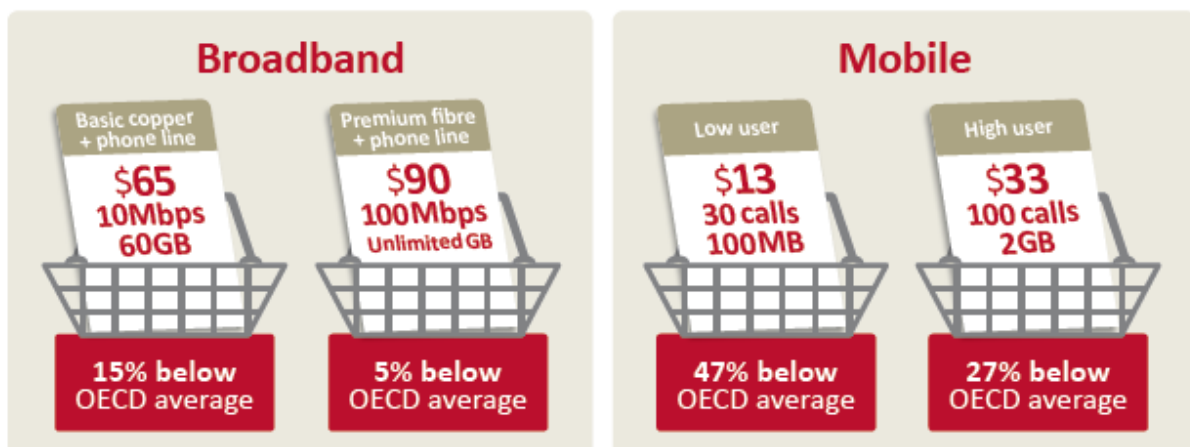
Monthly average usage compared to 5 years ago



Compared to last year



Monthly pricing



More information can be found at [www.comcom.govt.nz](http://www.comcom.govt.nz)

# New Zealand telecommunications snapshot statistics

	2005 /06	2006 /07	2007 /08	2008 /09	2009 /10	2010 /11	2011 /12	2012 /13	2013 /14	2014 /15	2015 /16	2016 /17
<b>Total industry metrics</b>												
Total telecommunications retail revenue (\$bn)	4.92	4.9	4.92	4.93	4.96	5.03	5.25	5.21	5.17	5.11	5.28	5.37
Total telecommunications Investment (\$bn)	0.92	1.07	1.18	1.69	1.55	1.24	1.27	1.58	1.69	1.77	1.59	1.58
Average monthly household telecoms spend (\$) <sup>a</sup>	-	126	-	-	145	-	-	142	-	-	135	-
<b>Fixed line metrics</b>												
Fixed lines (mil)	1.85	1.85	1.86	1.87	1.88	1.88	1.88	1.85	1.85	1.86	1.87	1.79
Fixed wireless & satellite connections (000's) <sup>b</sup>	24	32	40	42	39	39	31	26	24	20	27	122
Total fixed broadband connections (mil)	0.48	0.68	0.85	0.98	1.09	1.18	1.27	1.34	1.41	1.45	1.50	1.58
Fixed line broadband connections per 100 pop	11.4	16.1	19.9	22.7	25.2	27.1	29	30.4	31.6	32	32.5	32.9
Average broadband speed - Akamai Q1 (Mbps)	-	-	-	2.8	2.9	3.5	3.9	4.4	5.6	8.4	10.5	14.7
Number of unbundled lines (000's)	-	-	3	37	67	98	116	129	127	123	107	81
Resold Spark phone lines (000's)	-	168	262	326	374	414	440	421	409	382	341	284
UFB (government sponsored fibre) lines (000's)	-	-	-	-	-	-	1	10	39	106	241	413
Chargeable fixed voice call minutes (bn)	7.29	6.91	6.71	6.67	6.25	6.12	5.71	5.47	5.13	4.66	4.34	3.44
Residential local fixed voice call minutes (non-chargeable) (bn)	-	-	5.31	5.06	4.65	4.45	4.29	3.5	3.13	2.7	2.10	1.48
Total fixed line retail revenues (\$bn)	2.99	2.93	2.93	2.88	2.89	2.89	2.86	2.77	2.68	2.58	2.6	2.62
<b>Mobile metrics</b>												
Mobile connections (mil) <sup>c</sup>	3.8	4.2	4.6	4.7	5	5.2	5.4	5.3	5.6	5.8	6.1	6.4
Active mobile connections per 100 population	92	102	108	109	115	119	122	119	124	127	129	134
Share mobile pre-paid (%)	68.2	67.8	67.6	66.1	67.2	65.7	64.9	63.3	63.6	62.3	60.7	60.3
Mobile voice call minutes (bn)	2.76	3.17	3.66	4.24	4.44	4.40	4.42	4.77	5.30	6.63	7.81	8.77
SMS messages sent (bn)	-	-	-	11.4	12.8	13.6	13.9	13	12	12.1	11.3	9.2
Total mobile retail revenues (\$bn)	1.93	1.97	2.00	2.05	2.07	2.14	2.38	2.44	2.49	2.54	2.68	2.75

<sup>a</sup> Data collected only every 3 years.

<sup>b</sup> Includes satellite but does not include all the small largely rural fixed wireless operators. These fixed wireless and satellite connections are included in total fixed broadband connections.

<sup>c</sup> Prepay connections for all years are counted as those active in the prior 6 months.

# Introduction

---

## **Purpose of this report**

This is the Commerce Commission's 11th annual telecommunications market monitoring report. This year we are publishing the key facts in a more succinct report compared to previous years. The report presents key industry metrics and longer term telecommunications trends in New Zealand.

This report is released under section 9A of the Telecommunications Act 2001. 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.

## **Upcoming topic papers**

In 2018 we anticipate publishing a series of topic papers about areas of interest, market developments, and trends.

## **Ongoing s9A market studies**

### *Mobile study*

In October 2017 we commenced a study of mobile markets in New Zealand, under s9A of the Telecommunications Act, to better understand how mobile markets are developing and performing with a view to developing a common understanding of the forward looking competitive landscape for mobile markets and to identify any emerging competition issues.

We recently engaged with a wide range of interested stakeholders on the scope of the study and will confirm the sequencing and timetable for this work in early 2018. We expect to conclude the study in late 2018.

More information about our mobile market study can be found on our [website](#).

### *Backhaul study*

In February 2017 we suspended our s9A study of domestic backhaul services pending the finalisation of the Telecommunication Act Review, given likely interdependencies between the current regulation of backhaul and its future treatment with respect to building blocks regulation. We will recommence the study in the near future however it remains on hold at present.

More information about our domestic backhaul services study can also be found on our [website](#).

## Data sources

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

The data in this report comes from various sources, but mainly a voluntary questionnaire sent to industry around October each year. It requests information we expect the companies completing the questionnaire to have from the financial year ending in June. We refer to the data in this report as 2017 results.<sup>1</sup> Where more recent industry data is available and used, the different time period is noted.

Revenues and prices are expressed as nominal figures (not adjusted for inflation) unless otherwise indicated.

Aggregated results from our annual industry questionnaire will be published shortly and will be available on our [website](#).<sup>2</sup>

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

---

<sup>1</sup> The data from the industry questionnaire is for the 12 months to 30 June 2017 when it is a measure of volume like minutes. Where the data is a snapshot in time such as subscriber numbers, the date used is 30 June 2017.

<sup>2</sup> 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.

## Market overview

---

### **Fibre take-up continues to show very strong growth in 2017**

The number of fibre connections continued to increase rapidly with the Ultrafast Broadband stage 1 (UFB1) rollout reaching 75% completion in June 2017. As at 30 September 2017 there were 460,000 UFB fibre connections out of the 1.2 million households and businesses able to connect to UFB.<sup>3</sup>

The retail price of a 50Mbps fibre broadband service continues to be generally the same as an equivalent copper broadband service. A 100Mbps fibre broadband service is usually priced at \$5 per month more. A 'premium' 100Mbps fibre broadband service with unlimited data and a voice line can still be obtained for \$90 a month which is 5% below the OECD average and 24% below the equivalent Australian offering.

### **Broadband speeds high and continue improving**

Increasing connections to the fibre network appear to be contributing to increasing average broadband speeds, which is also helping to drive increased data consumption. New Zealand's average broadband download speed, as measured by Akamai, showed another significant improvement to reach 14.7Mbps.<sup>4</sup>

The independent broadband monitoring that the Commission funds also shows high speeds are being consistently delivered by most fibre retailers.<sup>5</sup>

### **Strong growth in fixed wireless broadband subscribers**

Following on from last year, growth in fixed wireless subscribers has continued to be strong in 2017. Fixed wireless subscribers (excluding satellite) quadrupled over the year to reach 117,000 in June 2017. Spark has the largest share of fixed wireless subscribers announcing on 12 December 2017 that fixed wireless customers have reached 100,000.<sup>6</sup>

### **Fixed-line calling plummets**

Fixed line calling has continued to decline significantly with residential local calling in particular falling by 45% in the 2 years to 30 June 2017.

### **Telecommunications sector continues to have more complaints than any other**

Almost every New Zealander uses a mobile or fixed-line phone and broadband, meaning the telecommunications sector has the potential to have a significant impact on consumers. Although telecommunications services are complex and fast changing, we would like to see a reduction in the number of problems consumers are reporting.

---

<sup>3</sup> See MBIE's Broadband deployment updates available at <http://www.mbie.govt.nz/info-services/sectors-industries/technology-communications/fast-broadband/deployment-progress>

<sup>4</sup> See [www.akamai.com](http://www.akamai.com)

<sup>5</sup> More information on this testing and results can be found on our independent tester's [website](#).

<sup>6</sup> Spark (12 December 2017) "Spark trials portable wireless broadband as it hits 100,000 customers", available at <https://www.sparknz.co.nz/news/Spark-trials-portable-wireless-broadband/>

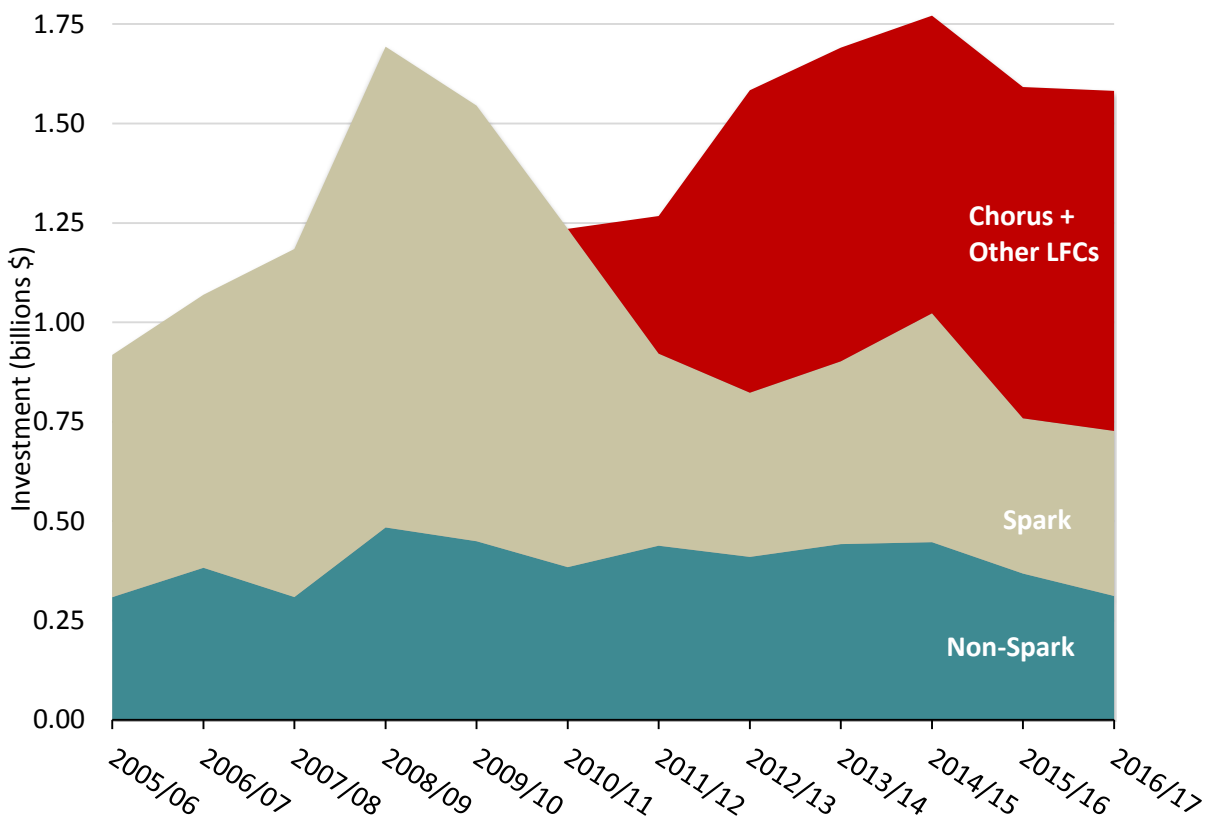
Our Consumer Issues Report 2016/17 highlighted that the provision of telecommunications services continues to generate more complaints to the Commission than any other industry. The number of complaints received increased by 31% in the 2016/17 financial year over 2015, continuing an upswing in complaints observed since 2014.<sup>7</sup>

We have identified retail telecommunications as a priority focus area across both our consumer and regulation work for 2017/18.<sup>8</sup> Our initial focus for 2017 has been to provide consumers with information that helps them make informed purchasing decisions as well as to know where to go when they have an issue. Our beginners' guides to broadband can be found on our [website](#).

We also anticipate receiving greater powers as a result of proposed changes to the Telecommunications Act which will assist us further in addressing issues and protecting consumers.

### Telecommunications investment remains strong

**Figure 1: Telecommunications investment**



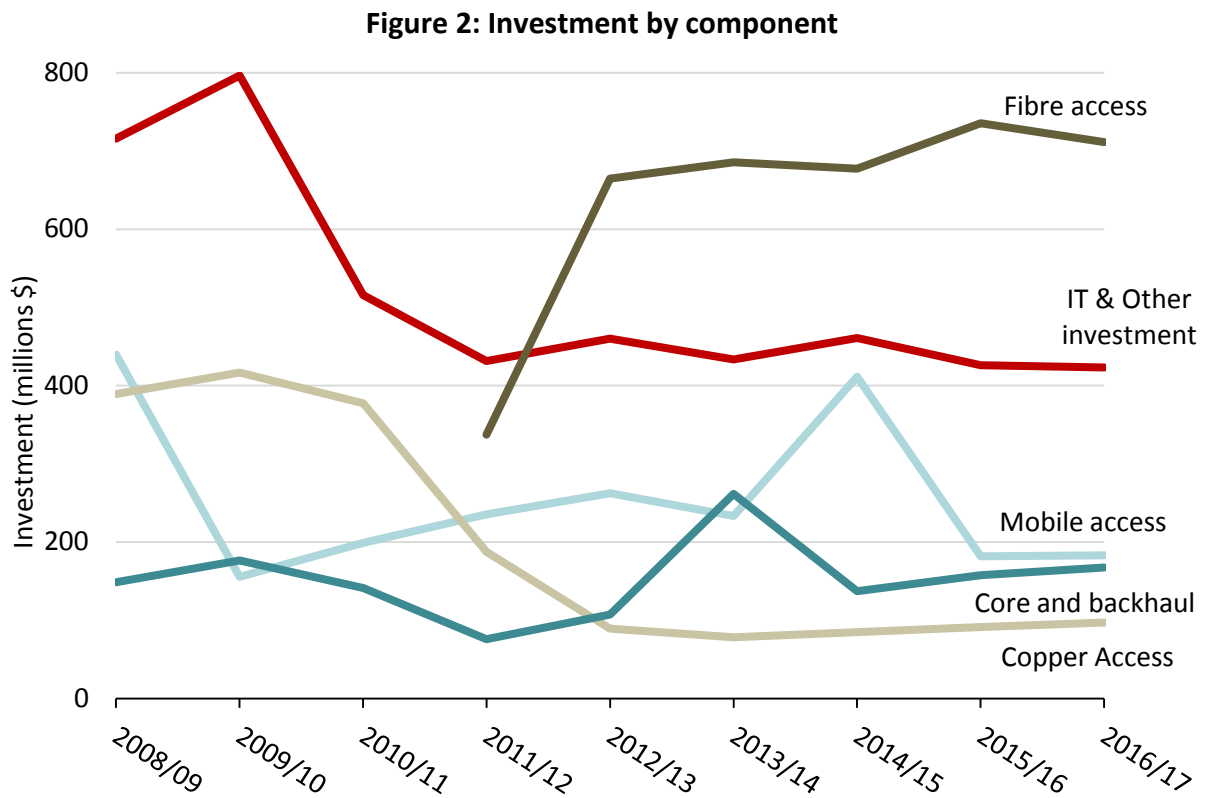
<sup>7</sup> Commerce Commission "Consumer Issues Report 2016/17", available at <http://www.comcom.govt.nz/the-commission/consumer-reports/consumer-issues-report/>

<sup>8</sup> Commerce Commission "Priorities 2017/18", available at <http://www.comcom.govt.nz/the-commission/about-us/>



Telecommunications industry investment remained high at \$1.58 billion in 2016/17. Investment continued to be underpinned by the ongoing UFB fibre roll-out undertaken by Chorus and Local Fibre Companies (LFCs), as shown in Figure 1.

Figure 2 shows how the investment in the fibre roll-out dominates all the other industry investment, despite falling slightly from last year to \$711 million in 2017. Other investment categories remain at similar levels to 2016. Investment in mobile access had a substantial fall in 2016, after being pushed up in the prior year by the purchase of 4G spectrum.

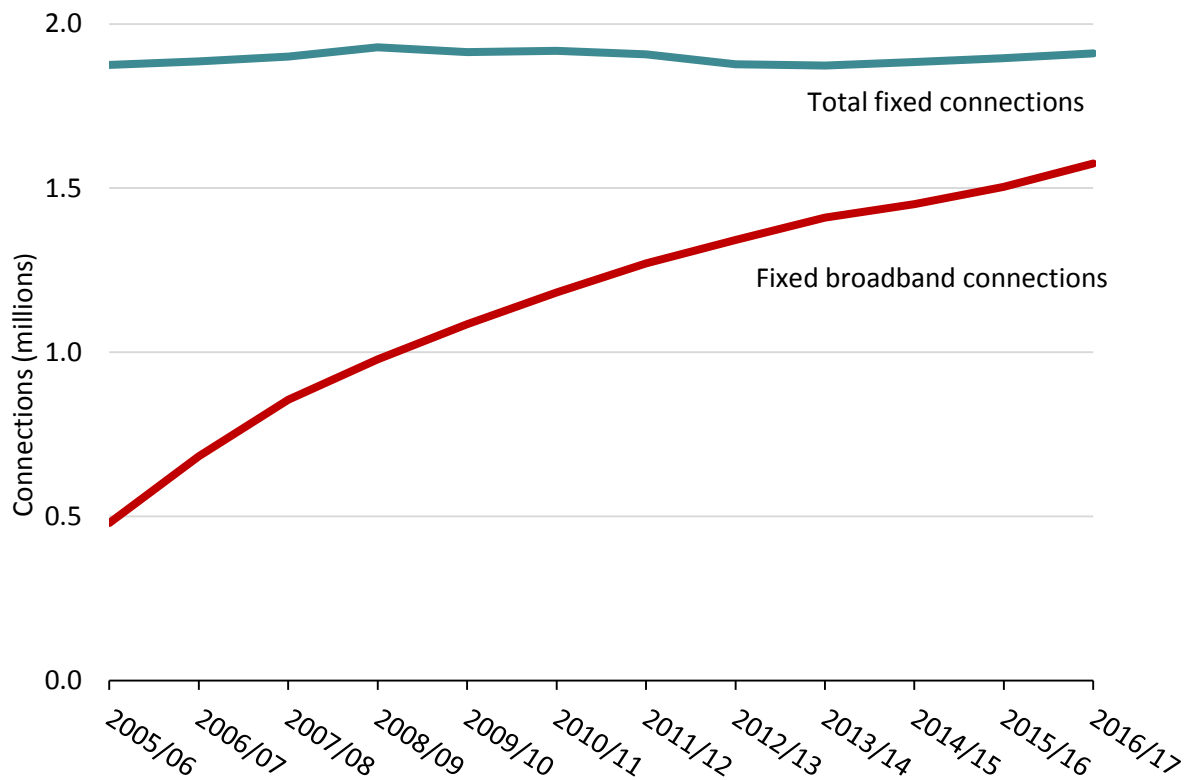


### Fixed broadband connections keep rising

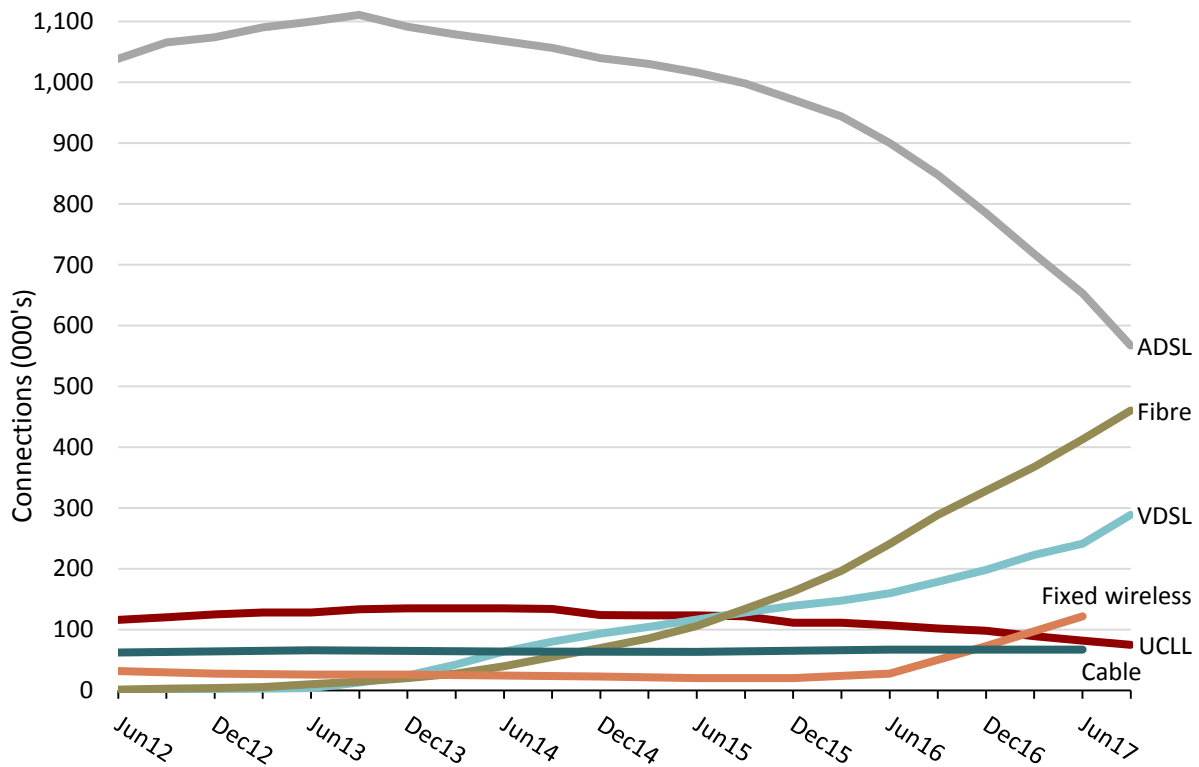
The total number of fixed-line connections (including fixed wireless and satellite connections) was much the same in 2017 as the prior year, as shown by Figure 3. Fixed broadband connections continued to grow, although slowly, to reach 1.58 million.<sup>9</sup>

<sup>9</sup> Including around 120,000 fixed wireless and satellite connections.

**Figure 3: Fixed telephone and broadband connections**



The continued demand for fixed-line connections was likely underpinned by the strong uptake of fibre. Despite the ever increasing use of mobile devices, fibre gives consistent delivery of high-speed data which cannot currently be matched by mobile. Approximately three quarters of fixed connections are residential connections, with the remainder being business connections. Data from the Statistic New Zealand internet service provider survey shows that the number of households with a fixed broadband connection in 2017 reached 87%.

**Figure 4: Fixed broadband connections by technology**

Source: Chorus, MBIE, annual telecommunications questionnaire

Figure 4 shows the breakdown of fixed broadband connections by technology. Copper broadband connections fell 16% in the year. ADSL connections are falling rapidly as fixed broadband subscribers migrate to higher speed VDSL and fibre services, with some subscribers choosing fixed wireless for convenience or price.

The OECD compares the rate of fixed broadband penetration between countries by measuring fixed connections per 100 of population. As at 31 December 2016, New Zealand had 32.9 fixed broadband subscriptions per 100 of population compared with the OECD average of 30.1. This gave New Zealand a ranking of 15th out of the OECD countries, ahead of the US at 16th and Australia at 21st.

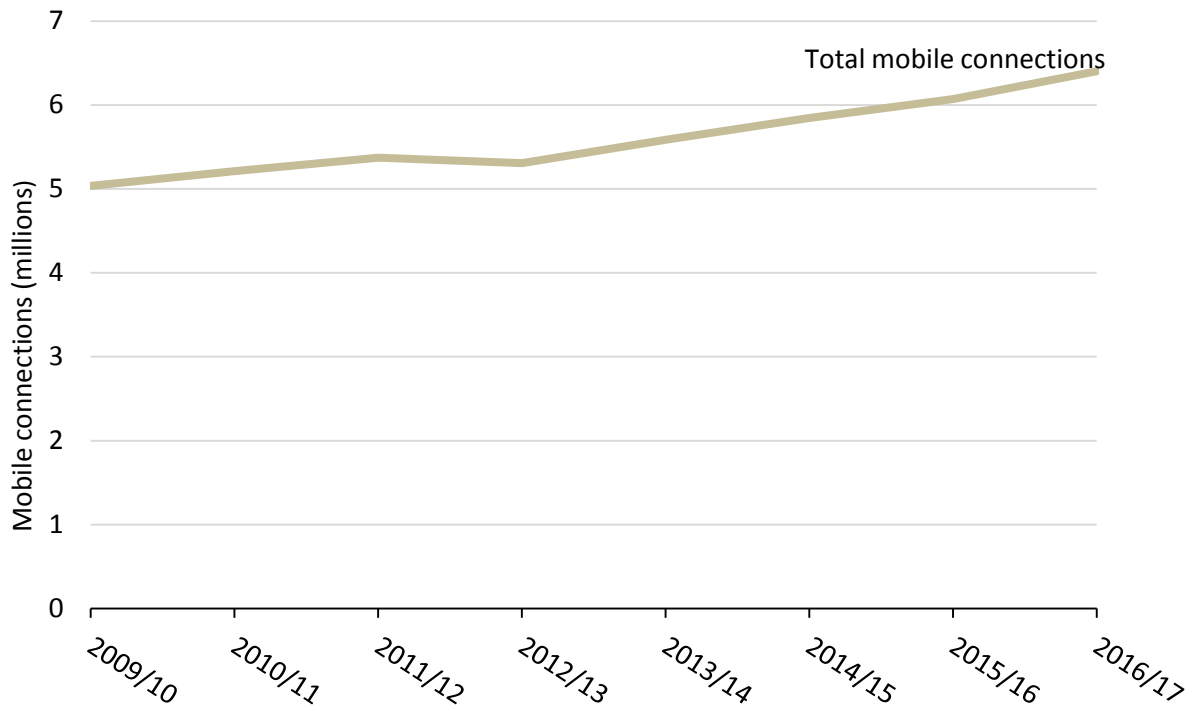
**Figure 5: Total mobile connections**

Figure 5 shows that the number of mobile connections continued to grow in 2017 to reach 6.4 million (using the active in last 6 months definition), up about 300,000 or 5% on the prior year. This result gives a mobile penetration of 134 connections per 100 of population. The total also includes 337,000 data-only mobile device connections such as tablets with a SIM card.

## Mobile calling continues to exceed fixed calling

Figure 6: Fixed, mobile, and total calling minutes

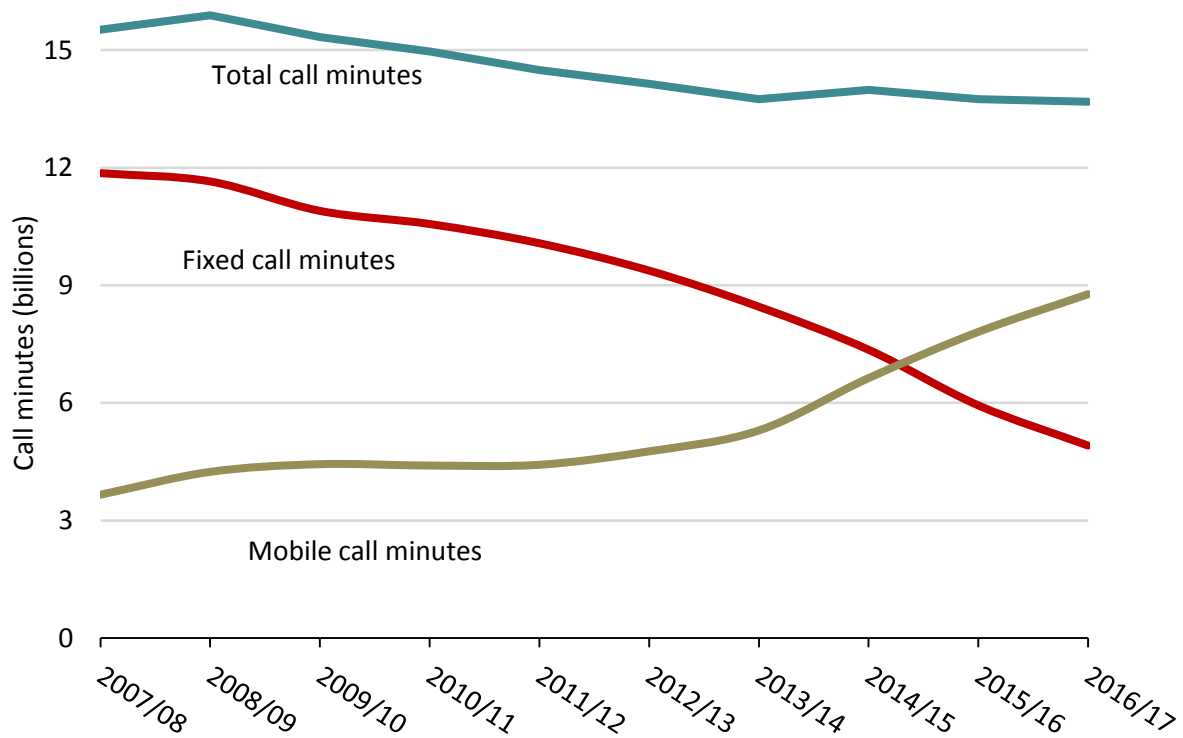


Figure 6 shows that mobile calling minutes continued to grow strongly in 2017 and continued to climb above fixed-line calling minutes. While fixed calling has continued to decline, this has been offset by the growth of mobile calling, meaning total calling minutes has remained about the same. We attribute the growth in mobile calling to it now being relatively inexpensive and often more convenient than fixed-line calling.

## Mobile revenues continue to edge ahead of fixed

Figure 7: Telecommunications retail revenues by service

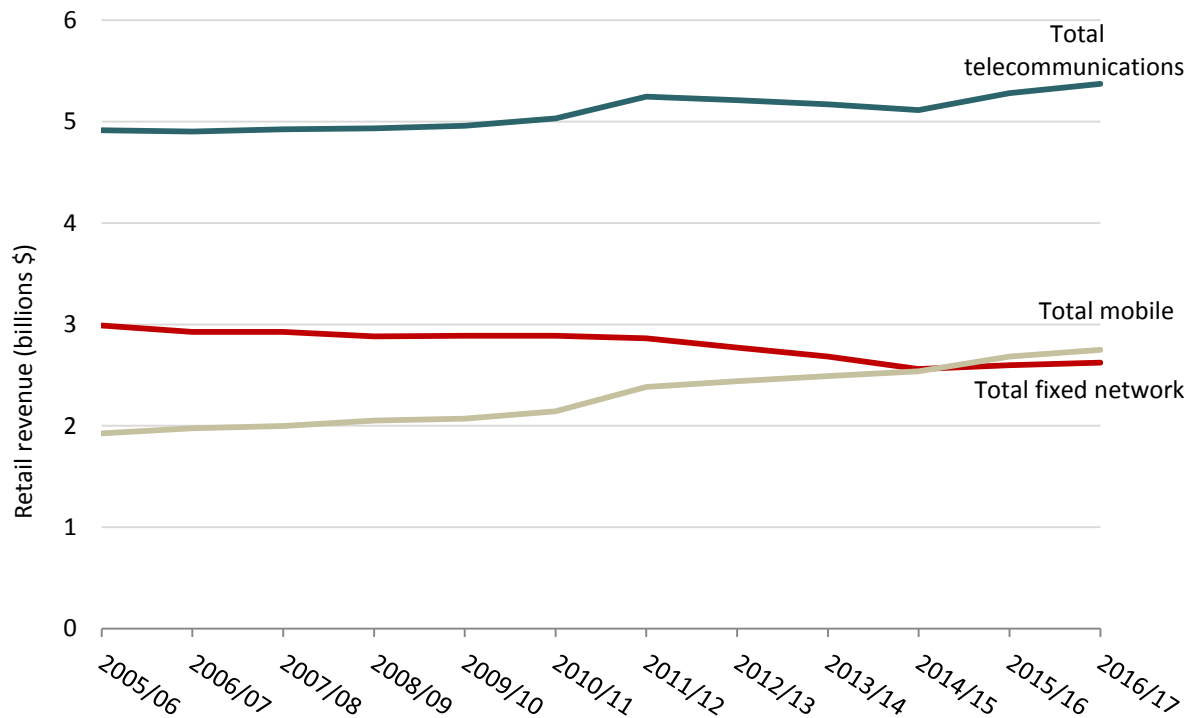
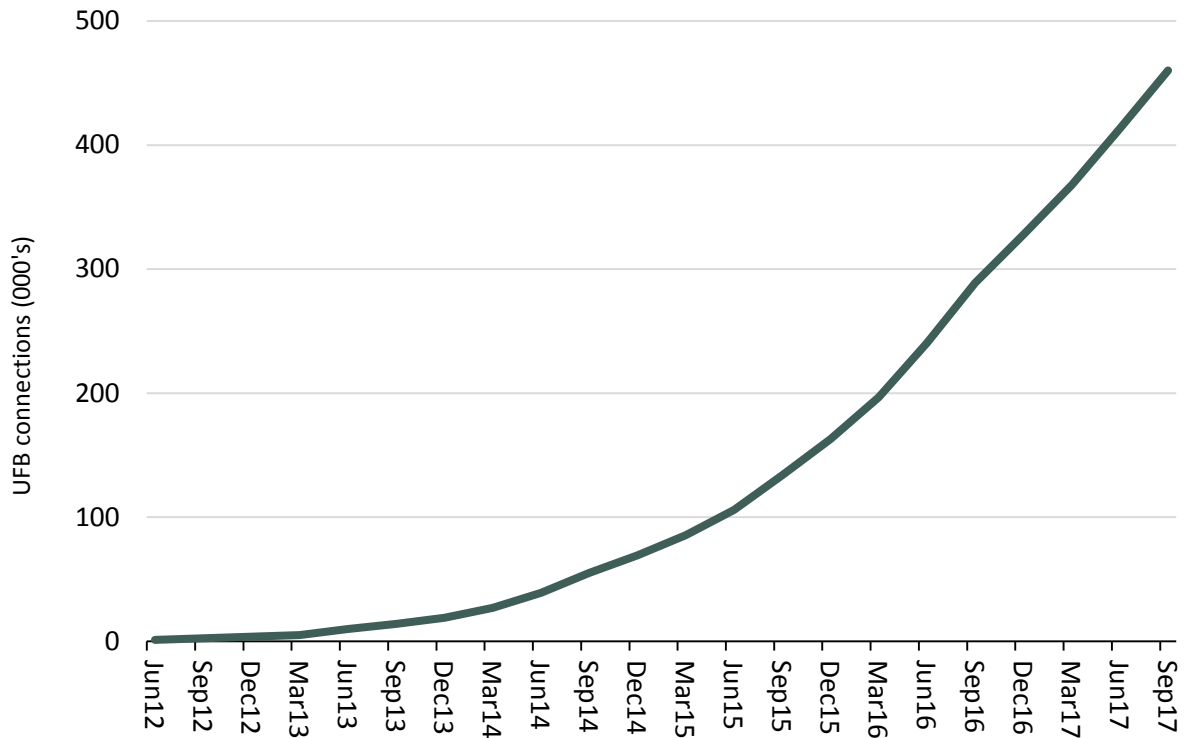


Figure 7 shows mobile revenue edging ahead of fixed network revenue. Mobile revenue has continued the recent trend of modest rises to hit \$2.75 billion in 2017. There was also a small increase in fixed network revenue to \$2.62 billion.

Total telecommunications industry retail revenue rose slightly (by 2%) in 2017 to reach \$5.37 billion.

## Retail fixed-line market

**Figure 8: UFB Connections**



Source: MBIE

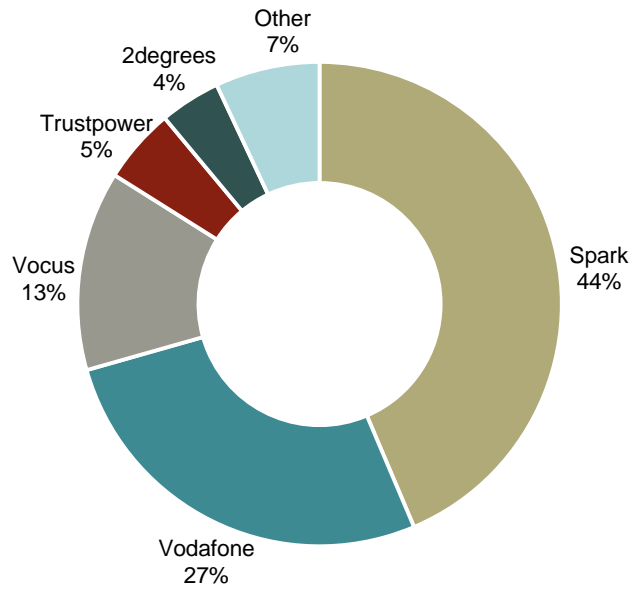
Figure 8 shows that the number of consumers, including businesses, connecting to the UFB network to purchase fibre services has continued to increase rapidly reaching 460,000 by 30 September 2017. This increase is up around 60% from September 2016.

### Smaller players continue to grow market share

The Commission has estimated the main retailers' fixed-network broadband market shares by number of connections using public investor reports as shown in Figure 9. This year we have included fixed wireless subscribers in the estimated market shares because of the significant increase in these subscribers. For this reason, the estimated market shares are not directly comparable to previous years.

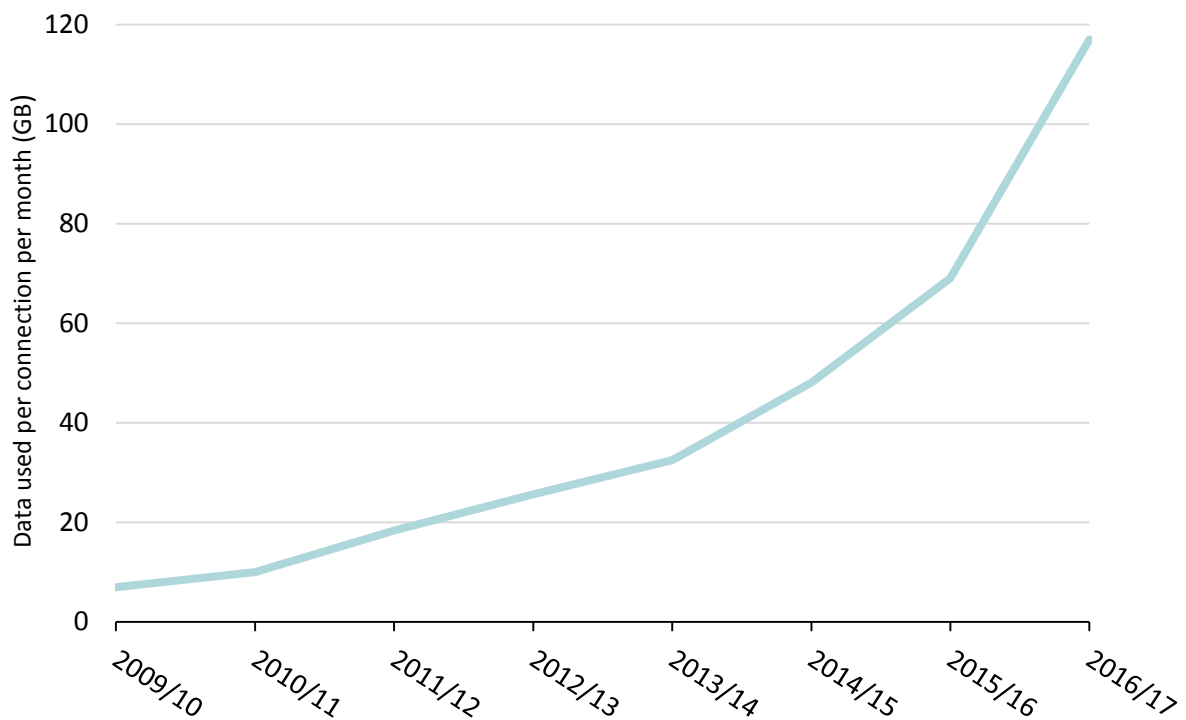
The smallest two retailers have continued to grow with Trustpower and 2degrees both increasing their share by one percentage point to an estimated 5% and 4% of the market respectively. There has been growth in the 'other' providers due to growth by smaller players and new fibre retailers.

**Figure 9: Estimated broadband retailer market share by connections**



**Strong growth in broadband data use continues**

**Figure 10: Fixed-line broadband data consumption**

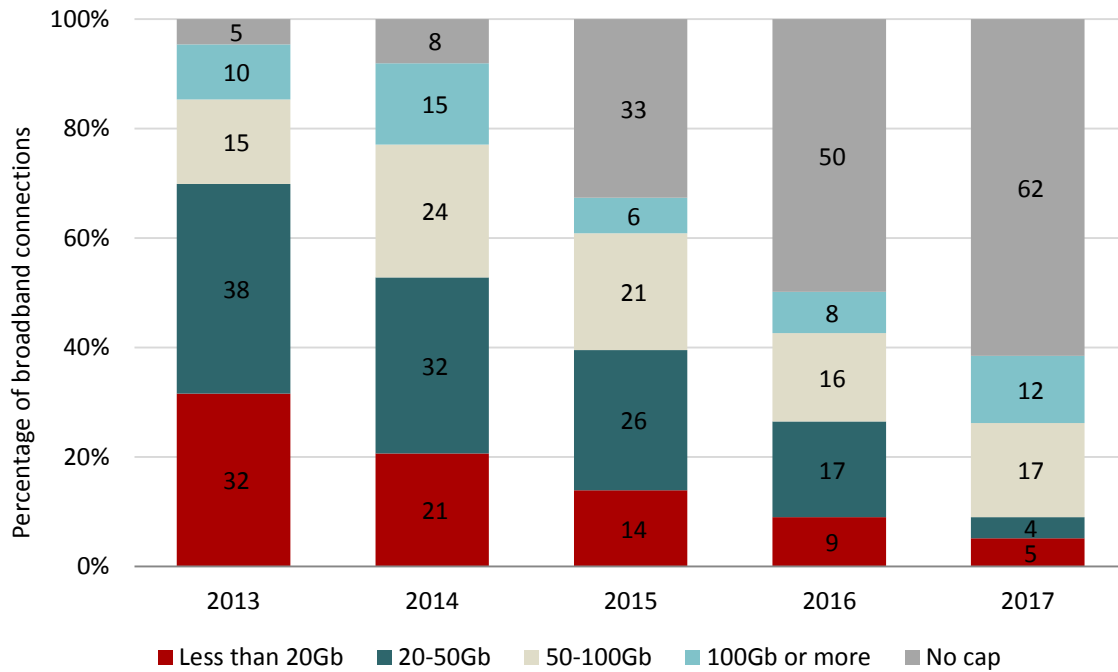


The strong growth in the consumption of fixed-line broadband data continued in 2017 as shown by Figure 10. Our questionnaire responses indicated that the average amount of data



used by each fixed-line broadband subscriber hit 117GB per month in 2017.<sup>10</sup> This usage is significantly higher than the 69 GB recorded for 2016. The average growth in fixed-line data consumption over the period 2010 to 2017 (CAGR) was 50%. This shows data usage has been roughly increasing by half each year.

**Figure 11: Broadband internet data caps**



Source: Statistics New Zealand, Internet service provider survey

Statistics NZ surveys Internet Service Providers in June each year and asks about data caps. Figure 11 shows the latest data from Statistics NZ which shows that the majority of broadband plans now have no data cap.

**Broadband with voice again does better in price benchmarking**

The majority of consumers of fixed telecommunications services still buy a bundle that includes both a voice and broadband service. Sixty-two percent of residential consumers are buying such a bundle compared to 27% buying naked broadband and 11% buying only a voice 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 and voice bundles for various levels of usage and speed.<sup>11,12</sup>

<sup>10</sup> This is an average for whole year to 30 June 2017 for all fixed-line connections is not comparable to the monthly broadband connections averages published by Chorus.

<sup>11</sup> The countries included in calculating the average vary because not all have comparable plans. They are mostly OECD countries but some extra European countries are also included in the Teligen database <https://www.strategyanalytics.com/access-services/networks/tariffs---mobile-and-fixed/broadband/oecd-fixed-broadband/about#.WRahHGmGOBo>

As the entry level fixed broadband plan offered by most retailers is now 40GB to 100GB and many consumers are on unlimited plans, we use baskets of 60GB, 150GB and 500GB. The 500GB basket is used as a proxy for unlimited plans. As the cable network tends to offer similar advertised speeds to fibre, we group fibre and cable together and benchmark DSL plans separately.

**Table 1: Results of fixed-line broadband and voice benchmarking**

Broadband and voice basket	NZ rank	Sep 2017 price (NZD PPP)			NZ % price var. from	
		NZ	Aust.	'OECD' Average	Aust.	'OECD' Average
60GB 10Mbps (DSL)	11/25	65	65	76	1%	-15%
150GB 30Mbps (VDSL)	5/19	75	N/A	101	N/A	-25%
Unlimited 10Mbps (DSL)	15/25	85	65	77	31%	7%
60GB 30Mbps fibre and cable	12/25	65	97	78	-33%	-17%
Unlimited 100Mbps fibre and cable	18/31	90	118	92	-24%	-5%

Source: Teligen

Fixed broadband pricing remains unchanged with an entry-level copper broadband and voice service indicated by the 60GB basket priced at \$65 a month. This is 15% below the OECD average as shown in Table 1.<sup>13</sup>

This year we have specified a mid-level broadband service as a VDSL service with a minimum speed of 30Mbps and 150GB of data. There are a more limited number of comparators for this service. Australian operators specify VDSL as a 20Mbps service so Australia drops out of the comparison. The price of this service including voice is \$75 a month which is 25% below the OECD average.

A premium 100Mbps fibre service with 500GB of data and a voice line is priced at \$90 a month, which is priced 5% below the OECD average. This fibre price is 24% below Australia where the National Broadband Network (NBN) pricing structure forces retailers to price all but the slowest fibre services relatively high.

<sup>12</sup> 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 <http://www.comcom.govt.nz/regulated-industries/telecommunications/monitoring-reports-and-studies/monitoring-reports/>

<sup>13</sup> Teligen sometimes include countries outside of the OECD for their OECD average for fixed broadband price comparisons.

Table 1 shows that the prices of copper (DSL) broadband bundles with unlimited data are above the average of the benchmarked set of countries. Unlike New Zealand, in other countries these larger baskets are usually filled by the same plans (at the same price) as the smaller baskets because broadband is priced by speed only, with all plans giving unlimited data. This is not a like for like comparison and helps explain why New Zealand are above the average of the benchmarked countries.

**Table 2: Results of fixed-line naked broadband benchmarking**

Naked broadband basket	NZ rank	Sep 2017 price (NZD PPP)			NZ % price var. from	
		NZ	Aust.	'OECD' Average	Aust.	'OECD' Average
60GB 10Mbps (DSL)	15/33	60	65	69	-7%	-13%
150GB 30Mbps (VDSL)	10/26	70	N/A	94	N/A	-26%
Unlimited 10Mbps (DSL)	21/33	80	75	69	6%	13%
60GB 30Mbps fibre and cable	23/37	60	70	62	-14%	-4%
Unlimited 100Mbps fibre and cable	23/37	85	102	79	-17%	4%

Source: Teligen

Table 2 shows that New Zealand's prices for unlimited naked broadband plans are higher than the OECD average. However, the entry level copper broadband is well priced at 13% below the OECD average and the mid-level VDSL plan is 26% below the OECD average. Fibre broadband plans are again priced well compared to Australia.

### Rise in average broadband speeds picks up pace

One indication of fixed broadband quality is the average download speed being achieved by end-users. It is difficult to track this measure over time on a consistent basis, especially when the speed of plans being purchased and typical consumption is rising.

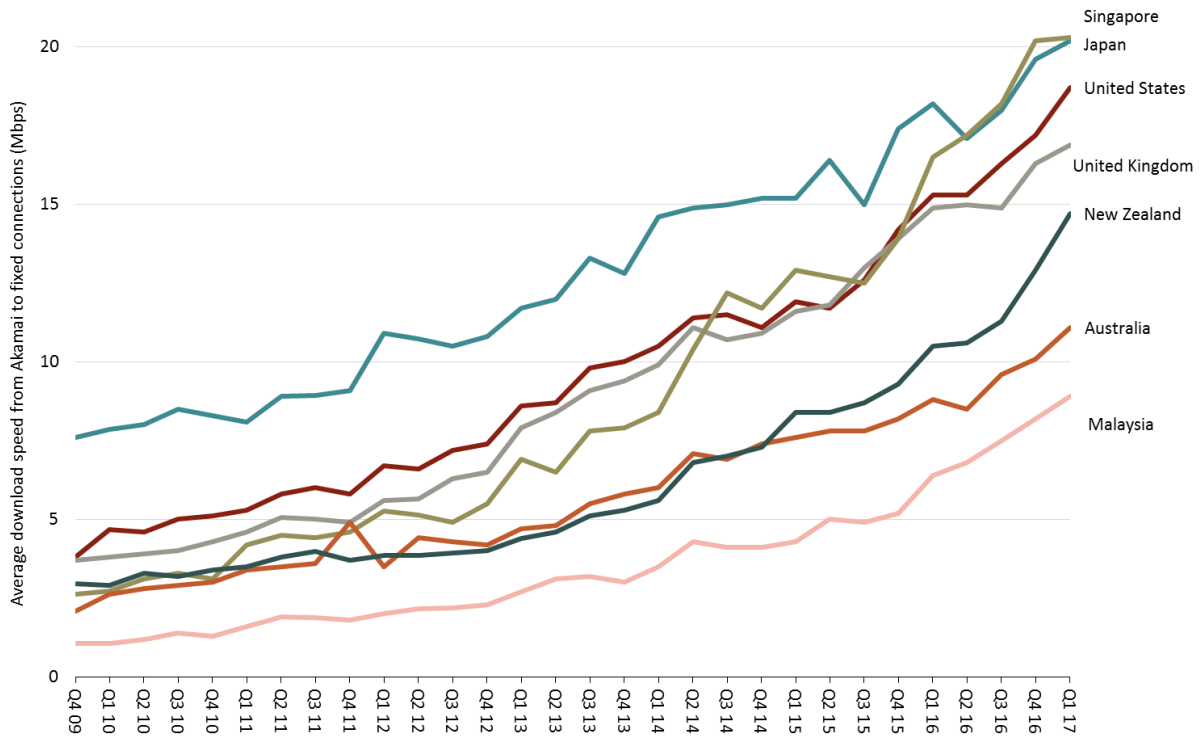
Data distribution company Akamai provides data about average and peak throughput speeds achieved by internet users (from delivery of large content files such as operating system updates from a distributed system of servers typically located in the retailer's networks) in most countries around the world.<sup>14,15</sup>

<sup>14</sup> See [www.akamai.com](http://www.akamai.com)

<sup>15</sup> The testing carried out by Akamai has been described as 'in the network, third party testing'. Akamai measures speeds locally so speeds are not affected by international backhaul, and measured as delivering a real service unlikely to be influenced by specific ISPs or users. Akamai measures a significant number of individual downloads because it delivers data to virtually every internet connection in the country.

The migration of consumers to higher-speed copper VDSL plans, higher-speed cable plans and high-speed fibre plans, where available, could be expected to push up average download speeds. Networks do have to be appropriately provisioned for higher speeds and the greater data consumption they allow so they are not ‘costless’ improvements for retailers.

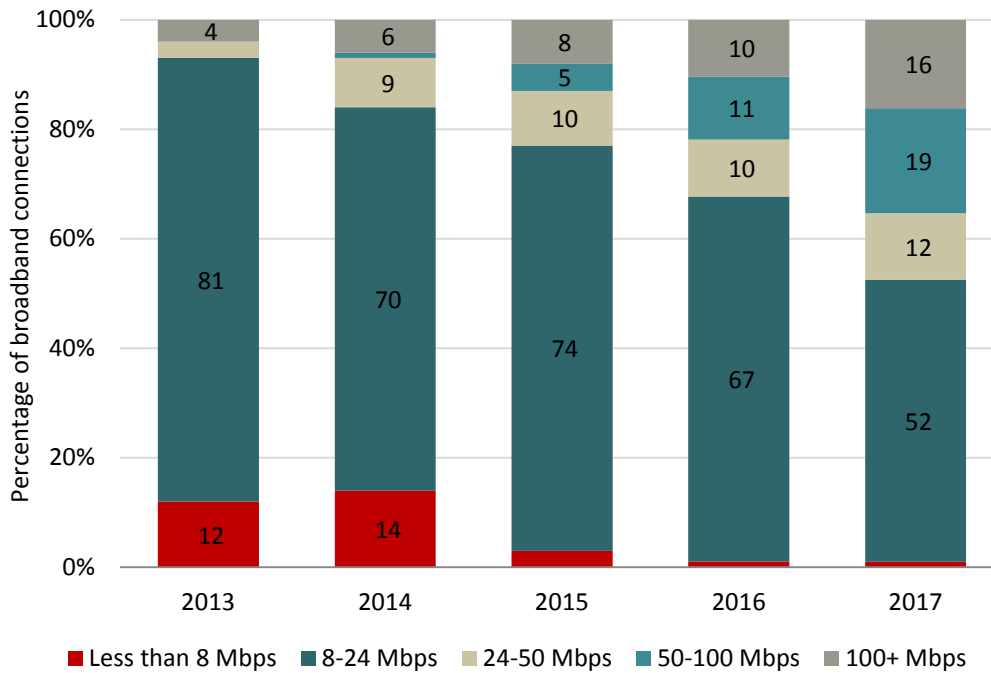
**Figure 12: Average download speeds by country**



Source: Akamai

New Zealand’s average fixed broadband download speed, as measured by Akamai and shown in Figure 12, had another significant improvement to reach 14.7 Mbps in the most recent data published by Akamai for 2017.<sup>16</sup> This speed was up from 10.5 Mbps in Q1 2016. New Zealand continued to widen its lead over Australia on the Akamai speed measure, but continues to hold its position relative to other countries shown in Figure 12.

<sup>16</sup> Akamai calls the measure it reports a ‘connection speed’, but it calculates that from the size of the files delivered and the amount of time it took to download those files.

**Figure 13: Broadband connections by speed**

Source: Statistics New Zealand, Internet service provider survey

Statistics NZ's internet service provider survey also tracks reported download speeds over time. The speeds indicated are theoretical maximums and do not necessarily reflect speeds experienced by customers.

Figure 13 shows how the distribution of fixed broadband connections by speed has been shifting upwards overtime, with ISPs reporting almost 50% of fixed broadband connections with a potential speed of over 24Mbps in 2017.

We also fund independent testing to monitor New Zealand's average fixed broadband performance. More information on this testing and results can be found on our independent tester's [website](#).

## Retail mobile market

### Mobile market shares stable

Figure 14: Mobile market share trends

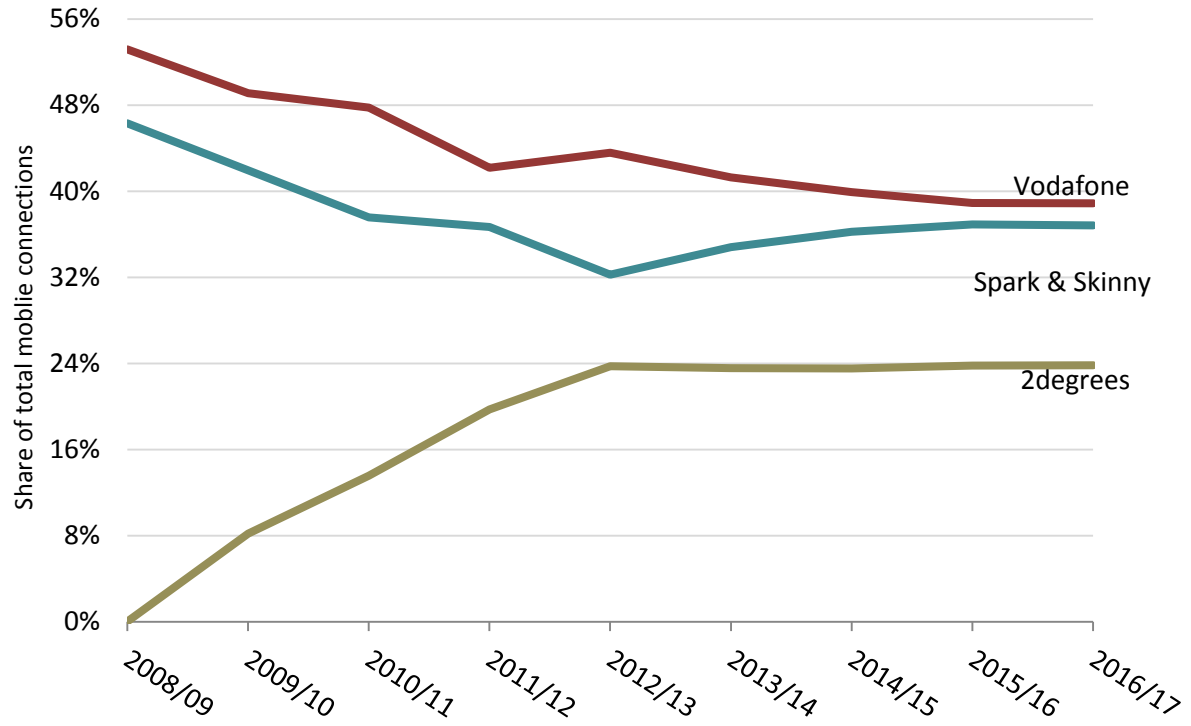
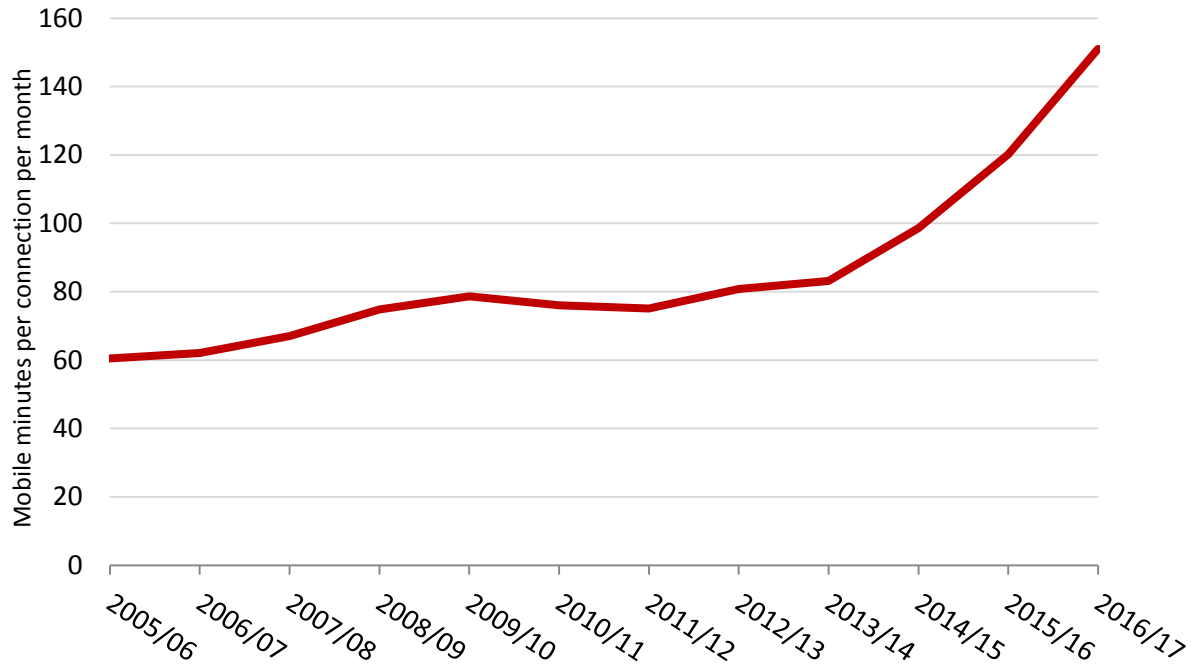


Figure 14 shows that in 2017 the market shares of Spark, Vodafone and 2degrees remained relatively stable. These market shares were estimated for the most recent year using 'active in last 6 months' subscriber numbers and before that 'active in last 90 days'.

## Mobile voice minutes per connection continue steep climb

**Figure 15: Retail mobile voice minutes per connection**

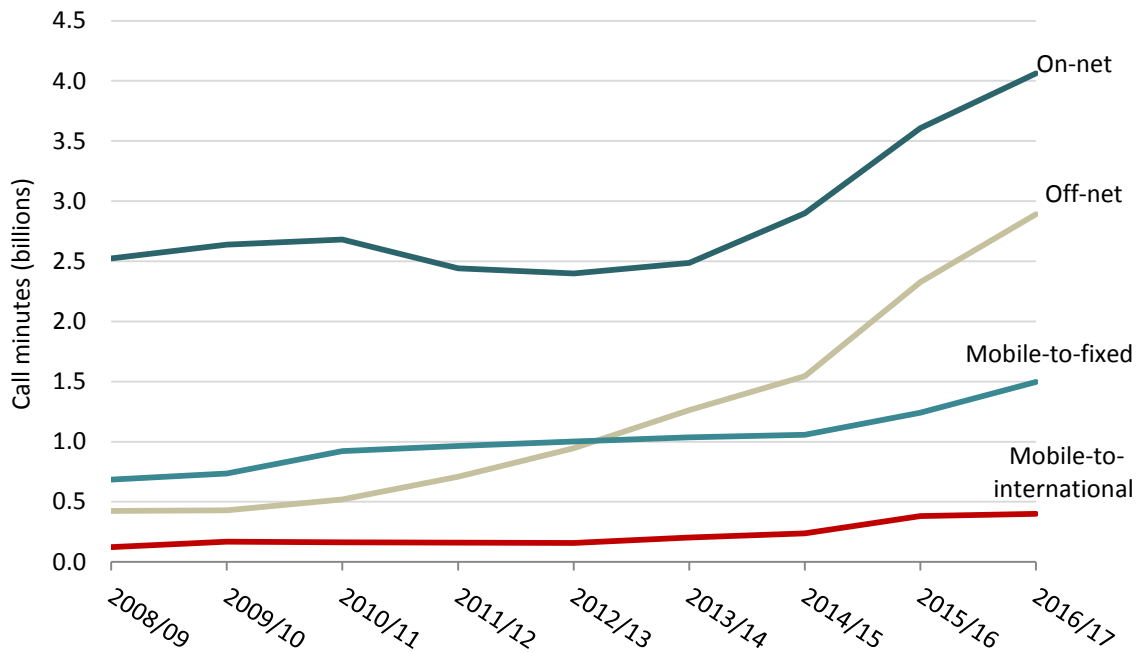


Mobile users continued to make more calls in 2017, with mobile minutes per connection in 2017 continuing to exhibit the same strong growth they did in both 2015 and 2016, as shown by Figure 15. Average mobile calling in New Zealand reached 153 minutes per connection per month. This compares with an average of 158 minutes per month per subscriber in the UK in 2016 as reported by Ofcom.

Consumers continued to use more mobile calls as a substitute for fixed-line calls, as shown by falling fixed-line minutes in Figure 6. Mobile calling is often more convenient than fixed-line calling and many mobile plans have large buckets of calling minutes or even unlimited calling so the marginal cost of making an additional call is often zero.

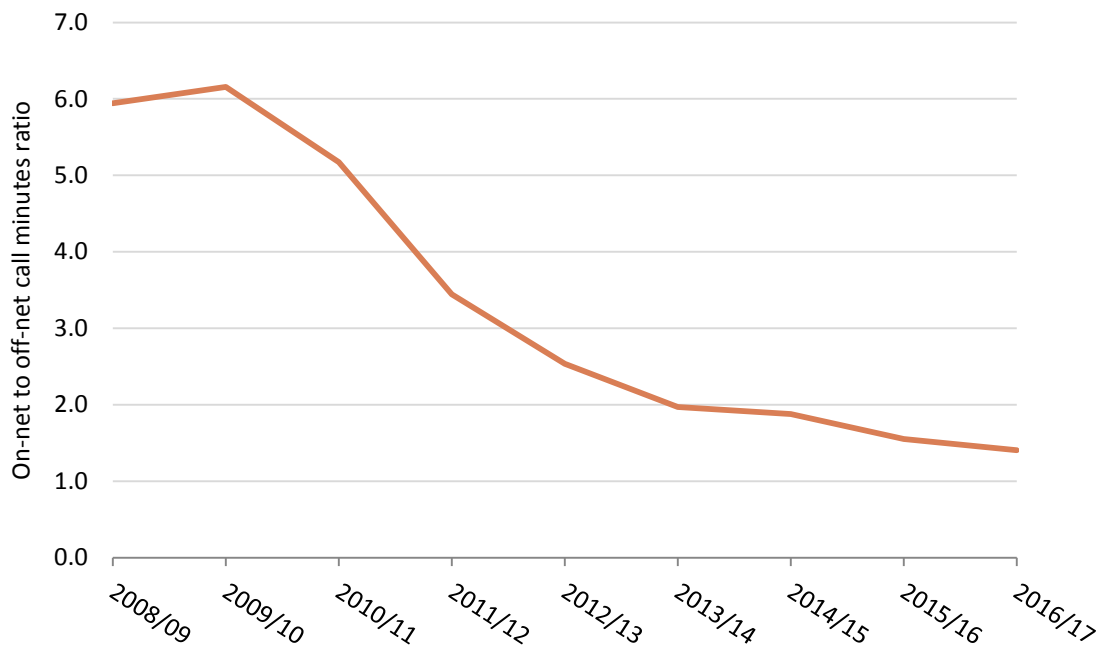
## All types of mobile calling growing

**Figure 16: Mobile call volumes by call type**



As in previous years, the growth in mobile calling has come mostly from increased calling between mobiles. This is growth in both off-net calling (calling between users on different mobile networks) and on-net calling (calling between users on the same mobile network). Overall, there has still been growth in all types of mobile calling as shown by Figure 16.

**Figure 17: On-net to off-net call minute ratio**



The ratio of on-net to off-net traffic has continued to decrease, as can be seen from Figure 17, to reach 1.4 in 2017. This decrease means the increase in calling to phones that are not other mobiles on the same network has been greater than the increase in calling to mobiles



on the same network. This trend has been the case for every one of the last 7 years and means mobile traffic is no longer dominated by closed calling circles. This situation makes it easier for smaller players to compete in the market. However, given no mobile operator has a market share greater than 40%, everything else being equal, we would eventually expect to see off-net minutes exceed on-net minutes and therefore the on-net to off-net ratio to drop below 1.0. Most mobile offerings now have no on-net price differentiation.

### Texting continues to decline

Figure 18: Text volumes

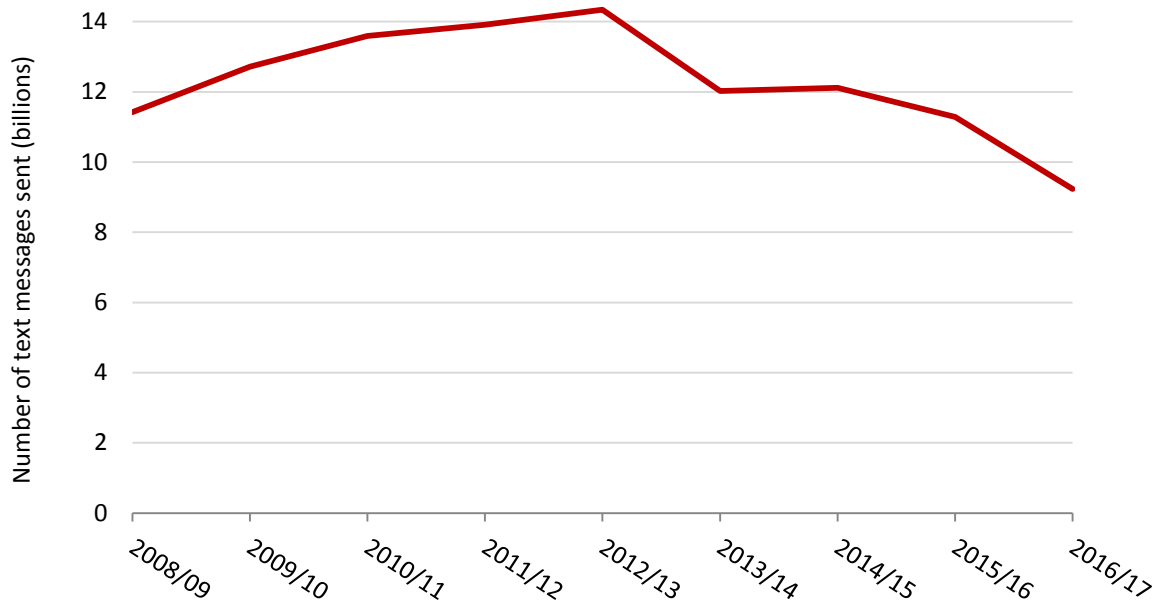
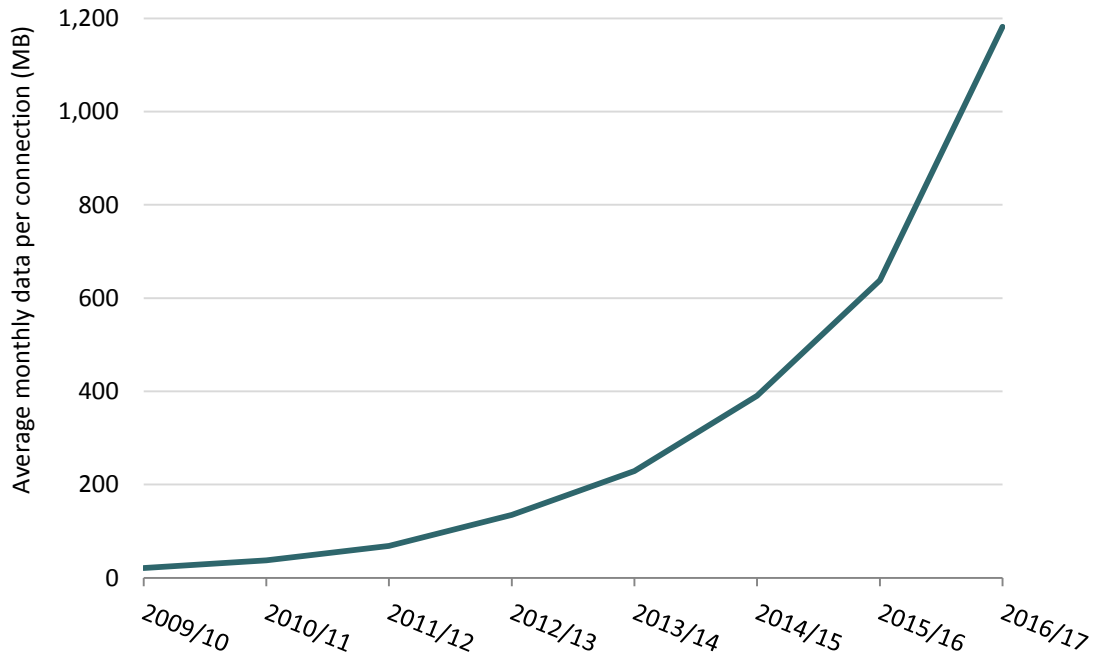


Figure 18 shows that text message volumes have continued their downward trend in 2017. The volume of text messages is now lower than when we first started collecting data for this measure in 2008. Despite many mobile plans now offering unlimited texting, this decline is expected to continue given the increasing popularity of various OTT messaging services like Facebook Messenger, iMessage and Viber. Text volumes per subscriber have been declining for both prepaid and on-account subscribers.

## Mobile data consumption continues very strong growth

Figure 19: Mobile data retail consumption



As expected, the amount of mobile data consumed over mobile networks (excluding WiFi) by retail customers continued to grow significantly in 2017, as shown in Figure 19. The average monthly mobile data consumed is now over 1GB per month. The average growth rate (CAGR) for mobile data over the time we have been measuring it is 80%. In the UK, Ofcom reported that the average monthly mobile data consumed per connection in June 2016 was 1.3GB.

The mobile data consumption shown in Figure 19 still remains relatively small compared to fixed-line data consumption, although a lot of the data consumed on a mobile typically comes from WiFi served by a fixed-line connection and not shown above.

### New Zealand prices mostly below OECD average for mobile phone usage

Mobile phone users tend to buy a bundle with buckets of minutes, texts and data that often never come close to being 'emptied'. This makes it challenging to separately price these components on a consistent basis. To benchmark New Zealand mobile pricing we look at the cost of filling variously sized bundle 'baskets' compared to the cost overseas. Generally both prepay and on-account mobile plans are included. This benchmarking approach is described in more detail in our report, 'International Price Comparison for Retail Mobile Telecommunications services 2013'.<sup>17</sup> For each basket described in Table 3 below, a mobile call is generally assumed to be just less than 2 minutes in length.

<sup>17</sup> <http://www.comcom.govt.nz/regulated-industries/telecommunications/monitoring-reports-and-studies/monitoring-reports/>

We have tried to use the most recent data available, which was August 2017 data for mobile phone services. The baskets used for the comparisons below are the standard OECD baskets with data added as specified. Generally the plans from the top two mobile operators in each country are used to populate the dataset. Note that Skinny is not included for New Zealand.

**Table 3: Results of mobile phone services benchmarking**

Mobile phone services basket	NZ rank	Aug 2017 price (NZD PPP)			NZ % price var. from	
		NZ	Aust.	OECD Average	Aust.	'OECD' Average
30 calls + 100MB (Inc. GST)	6/36	13	32	25	-59%	-47%
100 calls + 500MB (Inc. GST)	11/36	21	32	34	-34%	-39%
100 calls + 2GB (Inc. GST)	16/36	33	32	43	3%	-27%
300 calls + 1GB (Inc. GST)	21/36	43	32	47	34%	-8%
900 calls + 2GB (Inc. GST)	13/36	60	32	59	87%	1%

Source: Teligen

Table 3 shows that New Zealand's mobile prices were below average for most of the OECD baskets, with the smaller to medium baskets being significantly below average.

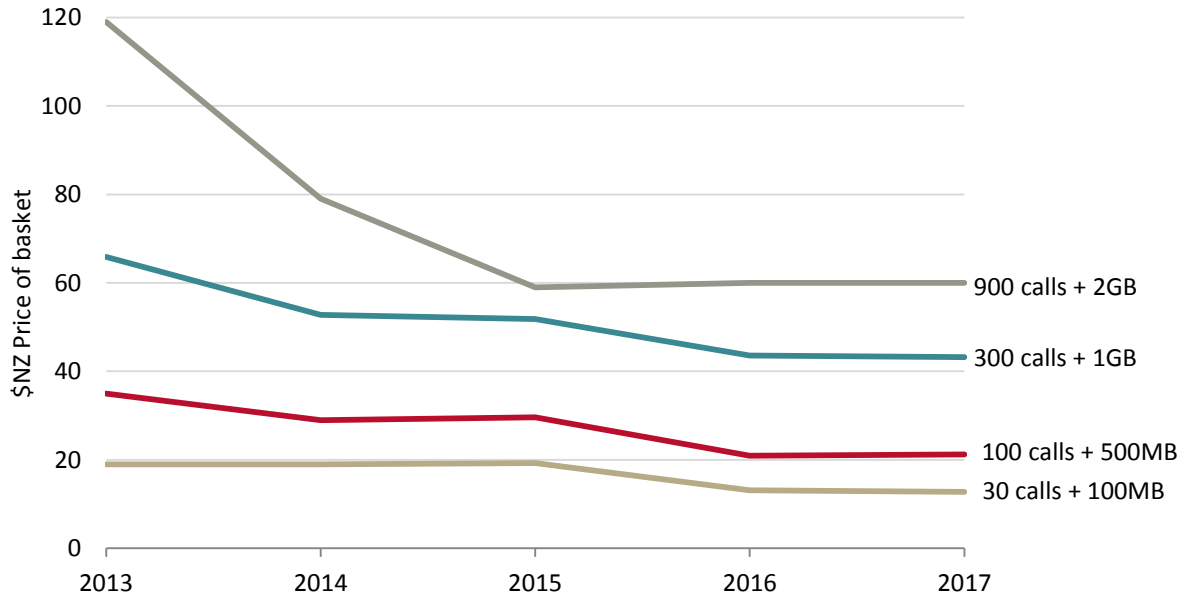
Teligen added a new 100 calls + 2GB basket in 2016 which in New Zealand represents a 'high' user. The basket has enough minutes for the average business user and more than enough data for the average residential on-account user. The New Zealand price was 27% below the OECD average and 3% above Australia.

In late 2016 Vodafone introduced its My Flex Prepay plan that gives tech savvy customers the flexibility to significantly adjust the amount of data, minutes and texts in their prepay bundle and therefore the price. This plan was still able to fill most of the OECD baskets more cheaply than any other Vodafone or Spark plan.

### The price for most mobile baskets remained stable

We now have 4 years of prices from benchmarking the same four mobile baskets. These results are plotted in Figure 20 so we can see the trends.

**Figure 20: Trend in \$NZ price of filling OECD mobile baskets including data**



Source: Teligen

All the mobile baskets tracked in Figure 20 had significant price falls over the period to 2016 and showed no price change in 2017.

## List of defined terms

<b>ACCC</b>	Australian Competition and Consumer Commission
<b>ADSL</b>	Asymmetric Digital Subscriber Line – a type of DSL
<b>App</b>	Application – an app is a standardised piece of software that runs on a computing platform. The term ‘app’ originally referred only to applications for mobile devices and tablets, but is now also used when referring to a wide range of devices including desktop computers
<b>ARPU</b>	Average revenue per month per user/subscriber
<b>CPI</b>	Consumers Price Index – provides information on the price change of goods and services purchased by private New Zealand households
<b>CAGR</b>	Compound annual growth rate – used to describe the average annual growth rate of something over a period of time
<b>DSL</b>	Digital Subscriber Line – method of transmitting high-speed data and, if necessary, voice simultaneously over a copper phone line
<b>FPP</b>	Final Pricing Principle – the process of setting the final price for a regulated service by use of cost modelling
<b>GB</b>	Gigabyte. 1 gigabyte = 1024 megabytes
<b>GSM</b>	Global System for Mobile communications – a widely used digital second-generation mobile phone standard
<b>GST</b>	Goods and Services Tax
<b>HES</b>	Household economic survey – a 3-yearly survey run by Statistics New Zealand that collects information on household expenditure and income, as well as a range of demographic information
<b>IPP</b>	Initial Pricing Principle – the process of setting the initial price for a regulated service by using benchmarking
<b>IoT</b>	Internet-of-Things – the network of physical and virtual objects accessed through the internet
<b>IP</b>	Internet Protocol – a method that computers use to communicate over the internet
<b>ISP</b>	Internet Services Provider. Most ISPs have now morphed into retailers of a full suite of telecommunications services
<b>LFC</b>	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
<b>LTE</b>	Long Term Evolution – a name given to the fourth generation of mobile technology that can provide high-speed mobile broadband
<b>MB</b>	Megabyte – a multiple of the unit byte for measuring the quantity of digital information
<b>Mbps</b>	Megabits per second – used to measure data transfer speeds of high bandwidth connections, such as fibre, Ethernet and cable modems
<b>MTAS</b>	Mobile Termination Access Services – the standard terms determination where the Commission has determined the price and non-price terms for the services that provide for the termination on a cellular mobile telephone network of voice calls and SMS messages
<b>MVNO</b>	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
<b>Naked broadband</b>	A fixed-line broadband service provided without a traditional analogue voice service also being provided over the same line
<b>NBN</b>	National Broadband Network is the Australian national wholesale open-access data network being rolled out and operated government owned NBN Co Limited

<b>Ofcom</b>	Office of Communications – the regulatory and competition authority for broadcasting, telecommunications and postal industries in the UK
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>OTT</b>	Over-the-top – refers to content and applications provided from a third party and delivered to an end-user device, leaving the retailer responsible only for transporting IP packets
<b>PPP</b>	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
<b>RBI</b>	Rural Broadband Initiative – an initiative where the government partners with private sector telecommunications operators to upgrade or extend telecommunications networks in rural areas
<b>SMS</b>	Short Message Service – commonly known as a text messaging, is a service for sending short messages between mobile devices
<b>SVOD</b>	Subscription (or streaming) video on demand – refers to services which allow users to watch video content such as movies when they choose to, by streaming the content to a device usually via a broadband connection. If it is a subscription service then it will give the user unlimited access to a range of programs for a flat monthly fee
<b>TCF</b>	New Zealand Telecommunications Forum (formerly Telecommunications Carriers’ Forum)
<b>TSO</b>	Telecommunications Service Obligation – an obligation to provide a residential telephone service and very basic data service at an historic price that can be raised at the same rate as inflation.
<b>UBA</b>	Unbundled Bitstream Access – a regulated wholesale service that gives access to a full-speed DSL broadband service on copper lines on Chorus’ access network
<b>UCLL</b>	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.
<b>UFB</b>	Ultra-Fast Broadband – the name given to the Government’s initiative to roll out a fibre-to-the-premise access network to give households and businesses access to very high-speed broadband
<b>UMTS</b>	Universal Mobile Telecommunications System (UMTS) – the 3G successor to the 2G GSM standard, which allows voice telephony, mobile internet access, fixed wireless internet access, video calls and mobile TV
<b>VoIP</b>	Voice over Internet Protocol – a way to send voice calls over a data connection such as a broadband connection
<b>VDSL</b>	Very High Bitrate (high-speed) DSL
<b>WiFi</b>	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