Speedchecker Ltd: Comments on Study of Mobile Telecommunications Markets in New Zealand

Speedchecker Ltd is pleased to participate in public comment on the Commerce Commission New Zealand's Study of Mobile Telecoms Markets in New Zealand.

Since 2008 we have helped millions of users get a better understanding of how to make their Internet go faster. Our solutions empower telecoms, governments and researchers in making their Internet infrastructure better and more available for everyone.

Our active measurement networks and speed checking tools that are used to collect datasets all share the spirit of showing true end-to-end performance as experienced by the end users giving realistic metrics and insights.

It is with this expertise and background that we offer our comments. Our comments are confined to questions included in the study to which I believe we have some useful and relevant information.

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Summary

This is the right time to be reviewing and updating plans for mobile connectivity because with 5G on the horizon the demand for excellence in mobile data provision will be huge and it is important that it is made available to all that need it. This will be demanding in terms of the technical infrastructure but also politically to ensure that providers make services available to all at a competitive price. Failure to meet these challenges will impact on New Zealand's businesses' success and we would recommend that the Commerce Commission seek out existing studies and lessons learned regarding the potential and the challenges of 5G in the coming months and years.

Market shares

Q2.1 What are the most important features of a mobile service for business consumers?

A report by the Ofcom (the UK's communications regulator) shows that business consumers are more likely to:

- Use all of the features of their phones (data, email, text and calls)
- Complain about:
    - Not being able to make or receive calls or texts
    - The quality of customer service when things go wrong
    - Speed and reliability of their Internet
    - Phone reception: reception, sound quality, calls ending suddenly

The important features for business consumers are:

- Reliable reception that allows calls and data to be made and received at work, home and whilst travelling
- Quality of calls and speed of data are adequate, reliable and consistent
- High standards of customer service that will solve issues quickly and permanently

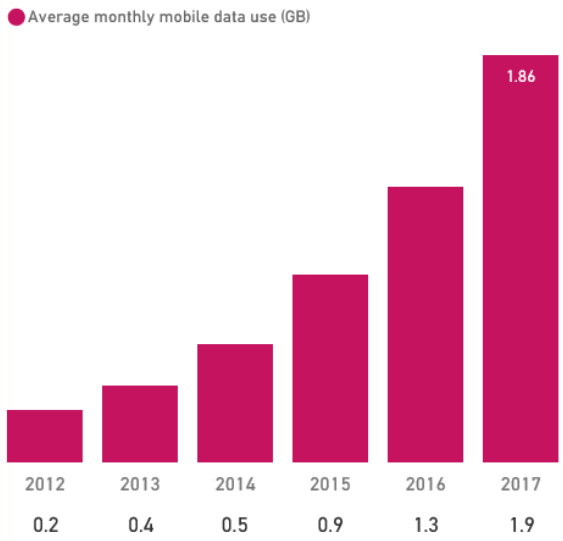
We can see in our speed test results how the speed of data can vary over very small distances (from one street to the next) but also how moving from one area in a city to another can see a reduction in quality across the entire area / district. This difference in speed is more evident when comparing and contrasting rural speeds and availability. The UK and USA have both recently focused on this which makes the New Zealand very timely. In each case they asked for comments from interested parties and we would encourage you to review these to help inform your study:

- In March 2018 the UK Government introduced legislation for a broadband universal service obligation ("USO"), which will give eligible homes and businesses the right to request a decent broadband connection.
- In July 2018 the US FCC (Federal Communications Commission) asked for comments on its Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion.

Usage Trends

Q7. How are mobile data usage trends expected to evolve in the next few years, and how might that affect suppliers of mobile services?

Average monthly data usage will increase by 50% every year if results from the last 6 years continue. A report from Ofcom shows average monthly mobile data use rise from 0.2 Gb in 2012 to nearly 2Gb in 2017. This has been built on the back of continued improvement in technology with 4G being the latest technology. In 2017 63% of connections had access to 4G. However, with 5G (now being rolled out in some cities in the USA) offering speeds of up to 10x faster the amount of data being consumed is likely to be much greater.



Not surprisingly, annual mobile advertising expenditure has also increased at a rate of 50% per year.

	2010	2011	2012	2013	2014	2015	2016	2017
Mobile advertising expenditure (£m)	94.0	219.0	554.0	1021.0	1631.0	2509.0	3786.0	5201.0

Source: Ofcom Communications Market Report 2018

Investment

Q9. Do you agree that we have identified the relevant measures of mobile service Quality?

The study correctly identifies the key requirements of mobile service provision (coverage, availability, speed and service). It is noted that useful comparisons are made with New Zealand's position in an international league table, however, we would have liked to have seen how it compares with previous years and more detail about the current figures. This would give an indication of how much room there is for improvement and would inform the plan for the next few years.

Q10. What further measures and evidence may be relevant for monitoring retail service Quality?

We would recommend that achievable speed targets are set for the coming years with faster speeds expected in urban areas sooner compared to rural areas.

Regardless of the actual benchmark targets, it is essential that the achieved speeds are measured accurately, independently and consistently and these measurements record the actual user experience.

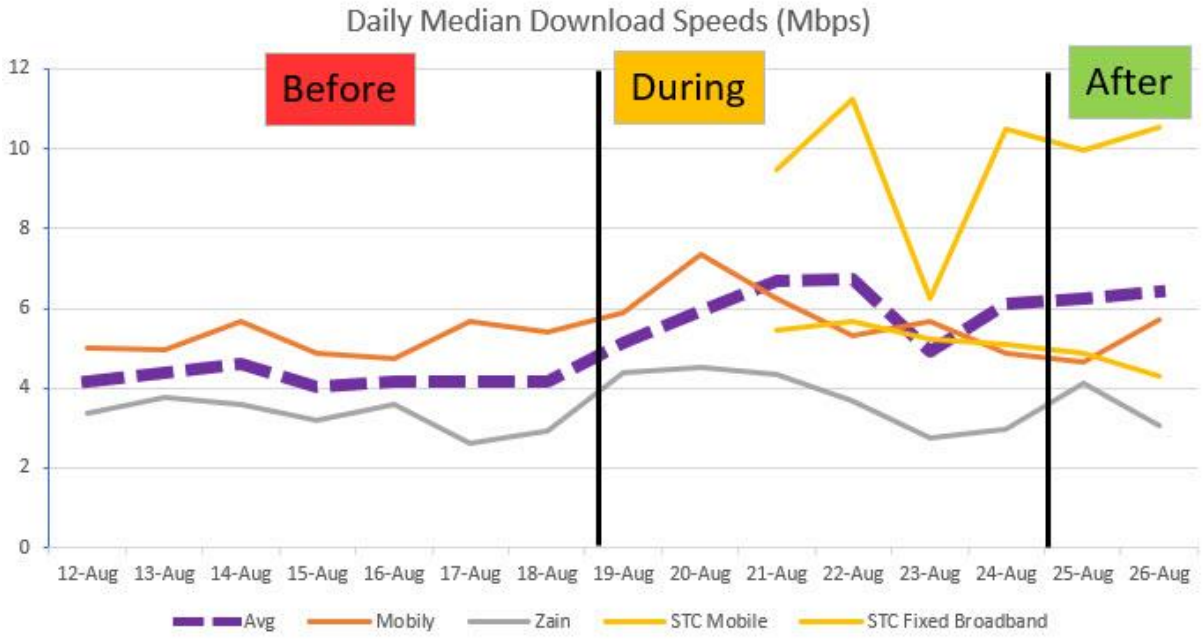
We believe that crowdsourced internet measurement data have the best opportunity to meet these requirements.

The following points illustrate this argument:

- Independent / unbiased – Crowdsourced data can be obtained from many independent parties – e.g. private companies such as Speedchecker as well as from research organizations etc. These are independent measurement companies that can be trusted to provide accurate and trustworthy results. New Zealand can and should acquire data from many sources and combine them together to ensure that they give unbiased insights as well as ensuring that they complement data sources which may have gaps in coverage.
- High data granularity – Crowdsourced internet speed test data are collected with accurate location alongside other collected KPIs. Location is typically collected using GPS or Wi-Fi geolocation which can provide street-level geolocation accuracy. This greatly improves the spatial granularity, particularly in rural areas, to ensure the best possible information.
- Frequency of updates – Crowdsourced data are continuously updated and can provide insights much sooner about how the connectivity changes in different areas. This has the added advantage of being able to identify the improved speeds as a result of recent changes.
- Data recency – data can be collected in real-time and integrated to mapping.
- Access type / technology agnostic – Crowdsourced data can be collected from end user devices such as mobile phones, tablets or computers. The methodology does not limit what

access type the user is using e.g. whether it's a fixed or mobile network. The measurements can be made from a user device to a target measurement server on any access type. Depending on the chosen access technology, different KPIs are collected and are available for further analysis. For example, if a user is connected to a fixed broadband via wi-fi, then mobile signal quality data is not available or needed.

You can read more about this methodology including some of the drawbacks in recommendations given to FCC in 2018 by Speedchecker Ltd and you can see how this was used to analyse mobile speeds before, during and after Hajj in Mecca here.



The ability of consumers to switch

Q27. A) What difficulties do consumers face in comparing retail offers for mobile services?

B) How could consumers access better information about prices and plan packages, service levels and associated facilities like international roaming in order to identify the package that best suits their needs?

One of the most mis-leading claims made by internet providers is the speed of connection. The UK have recently (2018) introduced a regulation that Internet providers can only quote average speeds (not maximum). The average figure has to be achieved by 50% of consumers at peak time (defined as 8pm to 10pm). A similar restriction in New Zealand would be helpful.

Q28. Should mobile providers be required to provide consumers nearing the end of a fixed term with information on options that could better meet consumer needs?

The simple response to this is “Yes”. For too long providers have relied on inertia for their customers to carry on paying for an unsuitable contract. Rather than seeing such a change as an imposition, providers should see this as an opportunity to build a long-term relationship with its customer.

Q29. Should mobile providers be required to provide consumers with access to their data (usage, locations etc) in a format that facilitates comparison of services that best meet their needs?

We can see the benefit in using this information to compare providers but don’t see it as essential. The data usage profile will certainly be useful if the consumer is considering switching to ensure they get the data package they need. The location data is probably less useful because the mobile coverage varies over time as will the location of the user and historic data showing previous locations may have little bearing on future needs.

Q30. What barriers and costs do consumers face when switching and what improvements could be made to make switching easier?

Consumers may be concerned about losing connection or poor coverage. They may also be concerned about slower speeds. In the UK you can see the other users test results on different networks anywhere in the Country. This is great for when you are moving address but also for switching because the results show the network provider allowing to compare real speeds from providers in the area.

Infrastructure

Q41. How important is access to the infrastructure established by the Rural Connectivity Group to rollout 5G services to rural areas and is their Deed of Open Access Undertakings adequate to facilitate the rollout of improved mobiles services in rural areas?

This will become more and more important very quickly as the benefits of 5G become apparent. The rollout needs to be ambitious but realistic. It should take into consideration the need for companies to see a return on their investment whilst ensuring that the less profitable consumers are, eventually, catered for. We would recommend that there be a pragmatic approach to the rollout that sees a different schedule for the following types of property:

- City/Town
- Conurbation
- Town / Village
- Sparse Town / Village
- Sparse Fringe

You can read more about this recommendation in our comment to the FCC in August 2018.

There is a danger that with a staged rollout the more remote areas would never be connected. This could be offset with penalties imposed for late delivery potentially paid for by contributions taken from the more profitable rollout in the early years.