



BEFORE QUEENSTOWN LAKES DISTRICT COUNCIL

IN THE MATTER of the Resource Management Act 1991
(Act)

AND

IN THE MATTER of the Queenstown Lakes Proposed
District Plan – Stage 1 (Chapter 30
Energy & Utilities)

**STATEMENT OF EVIDENCE OF
MARY BARTON FOR
CHORUS NEW ZEALAND LIMITED**

15 September 2016

Introduction

Qualifications and Experience

1. My full name is Mary Louise Barton.
2. I am the Environmental Planning and Engagement Manager at Chorus New Zealand Limited (Chorus). I have held this position since February 2015, previously holding the role of Senior Environmental Planner commencing September 2012. I hold the qualification of Bachelor of Resource and Environmental Planning from Massey University and have 15 years of resource management experience, comprising roles in local government and private consultancy.
3. I am currently part of the Technical Advisory Group providing technical advice and input with respect to the proposed amendments to the National Environmental Standards for Telecommunication Facilities (NESTF). I am also a participating member of the New Zealand Telecommunications Forum.
4. In addition to these activities my role at Chorus also involves a range of functions including:
 - Managing and coordinating input to statutory documents;
 - Attending workshops, hearings and informal Council meetings;
 - Providing resource management advice and support with respect to the rollout of Ultra-Fast Broadband (UFB) and the rural broadband initiative (RBI);
 - Developing and managing resource management initiatives to support the UFB and RBI projects and ensure compliance with the relevant regional and district plan provisions;
 - Coordinating and project managing large scale resource consents and archaeological authorities.
5. In my evidence I will cover:
 - An overview of Chorus's role in the Ultra-Fast Broadband Rollout and Rural Broadband Initiative;
 - Recent Government initiatives supporting the delivery of telecommunications, including;
 - The extension to the UFB and RBI programmes (and the mobile blackspot fund);
 - Land Access under the Telecommunications Act 2001

- Confirmation of Mr. McCarrison's summary of the proposed amendments to the NESTF

Code of Conduct

6. I confirm I have read the Hearing Commissioners minute and direction on Procedures for the Hearing of Submissions and the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2014. Similarly to Mr. McCarrison and Mr. Clune, I provide in-house technical and planning advice to Chorus on the provisions of the Proposed Plan as they interface with the operational requirements of the business. My evidence can be read in conjunction of that of the Vodafone/ Spark evidence.

Chorus New Zealand Limited

7. Chorus was formed 1 December 2011 when it demerged from Telecom (now Spark). Structural separation of Telecom's (now Spark) retail business from the business that owns and operates the Fibre-To-The-Premise (FTTP) network was a pre-requisite for participation in the Government's Ultra-Fast Broadband scheme (UFB).

8. The core of Chorus' business is the nationwide network of fibre optic and copper cables connecting homes and businesses together. The fibre network continues growing rapidly with about 1,761,000 fixed line connections and 1,223,000 broadband connections. Cables typically connect back to local telephone exchanges, of which Chorus has about 600 nationwide.

9. The Chorus fibre also connects many mobile phone towers owned by mobile service providers.

10. Cabinets provide interconnection points for around 50% of the lines in the network. A large number of these cabinets are like mini telephone exchanges with electronic broadband equipment installed.

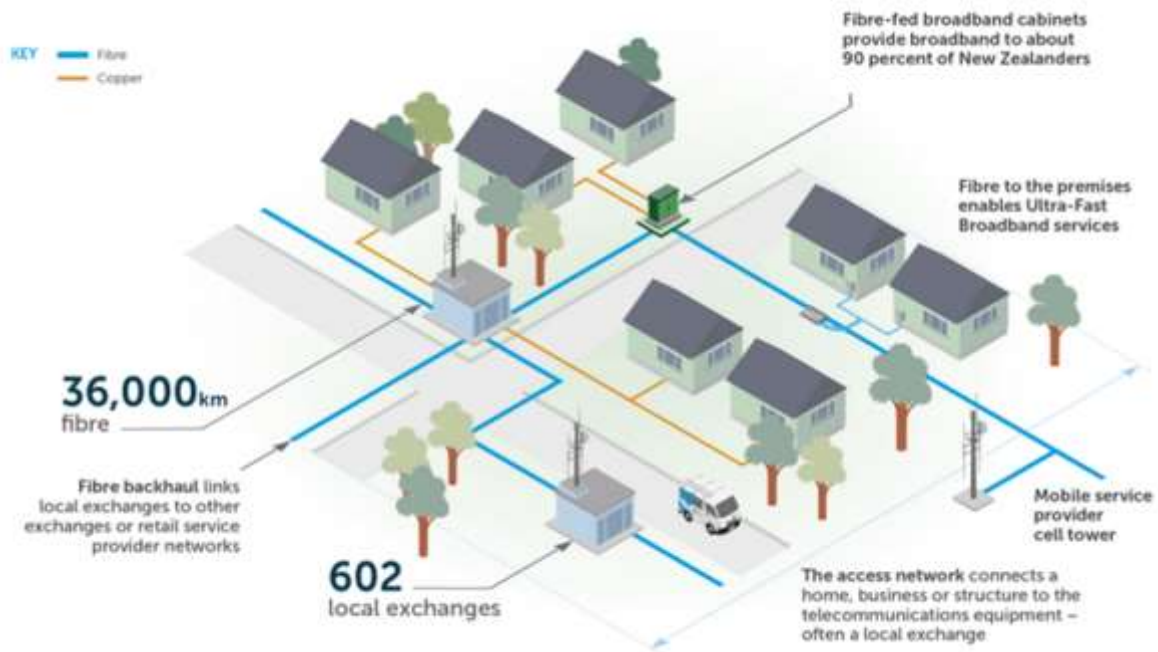


Figure 1: Overview of telecommunications network component parts

11. Attachment A to this evidence details the deployment methods used by Chorus and the different components of the network present within Queenstown Lakes District.
12. Chorus has committed to a significant, ongoing infrastructure investment, building a world-class fibre network across New Zealand in order to help bring economic and social benefits that come with access to high-speed, reliable broadband infrastructure. An Alcatel-Lucent study estimated the economic benefits to New Zealand end-users of high speed broadband applications will amount to \$32.8 billion over twenty years.
13. Chorus' vision is to support the Government's policy of better broadband through ongoing infrastructure investment that continues to close geographic gaps and to do this efficiently to help drive affordable prices. The Government has set a target of achieving at least 50 megabits per second (Mbps) peak speeds for 99 percent of New Zealanders by 2025. This will necessitate the extension of existing networks and building new networks, often in remote areas that present challenges due to geographic and topographic constraints.

Ultra-Fast Broadband and Rural Broadband Initiatives

14. Chorus is the Government's largest UFB partner and is contracted to deliver UFB to over 830,000 properties - approximately 70% of the entire UFB deployment. Through UFB and RBI, we are currently undertaking a once-in-a-generation upgrade of New Zealand's telecommunications infrastructure by laying thousands

of kilometres of fibre optic cable and ducting, the first stage of which will take until the end of 2019 to complete.

15. In line with the requirements of our contract with Crown Fibre Holdings fibre is delivered first to priority customers, including schools, hospitals and businesses. Chorus completed the rollout in Queenstown in June 2016 meaning that there are now almost 7000 households and businesses that are now able to connect to UFB, and six schools in Queenstown are able to connect to UFB and N4L, including the new Wakatipu High Frankton Flats School.

16. On announcing the completion the Communications Minister stated:

UFB helps amplify the tourist experience in Queenstown, as visitors can share their travels domestically or internationally. It also helps tourism businesses in remote locations to promote themselves and take advantage of New Zealand's tourism industry.

17. UFB fibre lines, like telecommunication copper lines or power lines, can be deployed either by overhead or underground means. In Queenstown Lakes the deployment was undertaken entirely by underground means. Clear and flexible district plan provisions have been integral to the efficient and timely rollout of UFB. It is for this reason I support the relief set out in the evidence of Mr. McCullum-Clark, as it relates to activities associated with the deployment of telecommunications infrastructure.

18. While Wanaka is not included in the Government's UFB initiative, Chorus has collaborated with a group of local business and community leaders, supported by Queenstown Lakes District Council, jointly-funded the rollout of fibre in the town's central business district. This new fibre network puts about 200 premises in reach of fibre services and has enabled the establishment of a number of new businesses to establish within the town.

19. The coverage areas for Queenstown-Lakes is shown on the map below:



Figure 2: Coverage Map showing completed UFB build in Queenstown Lakes

20. Uptake within Queenstown, while below the New Zealand average (22%), is increasing - as evidenced in the two graphs below. As at July 2016 there were over 1200 connections to UFB. A clear and appropriately balanced regulatory framework is an essential component to ensuring customers are able to connect to our network quickly and efficiently.

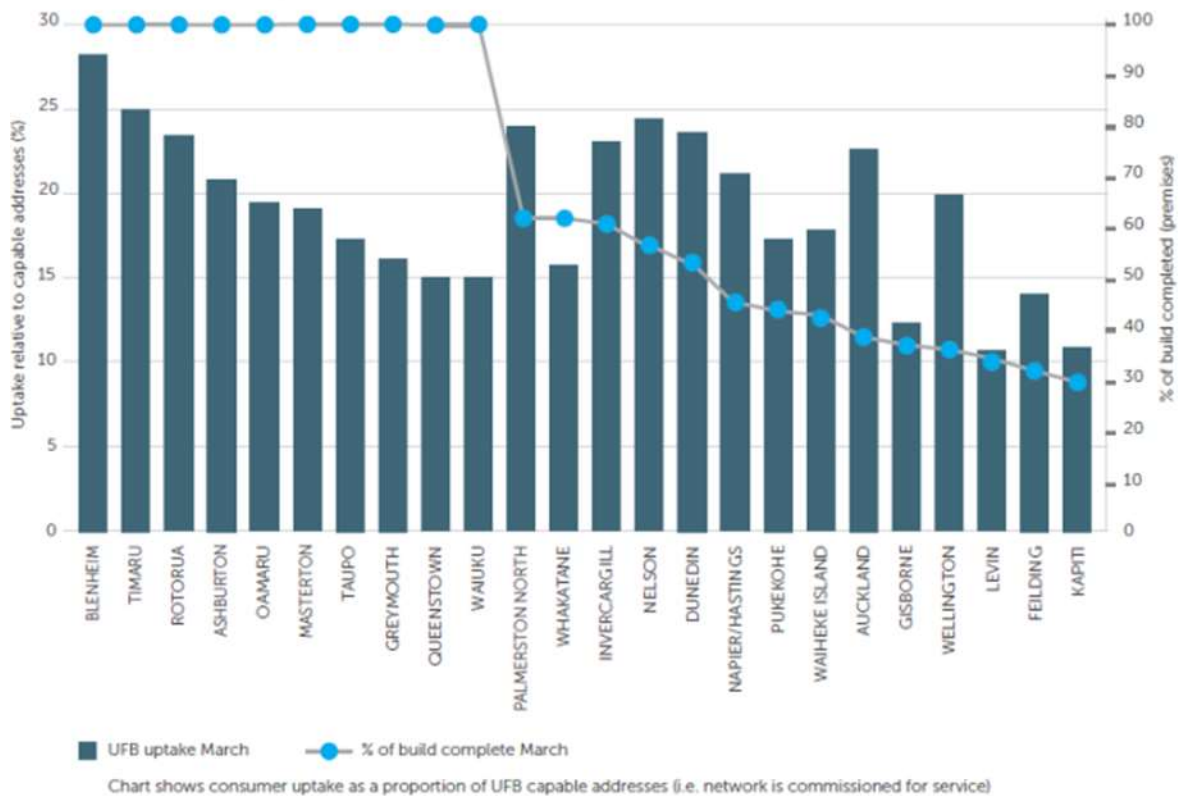


Figure 3: Chorus UFB build areas consumer uptake as a proportion of UFB capable addresses (as at March 2016).

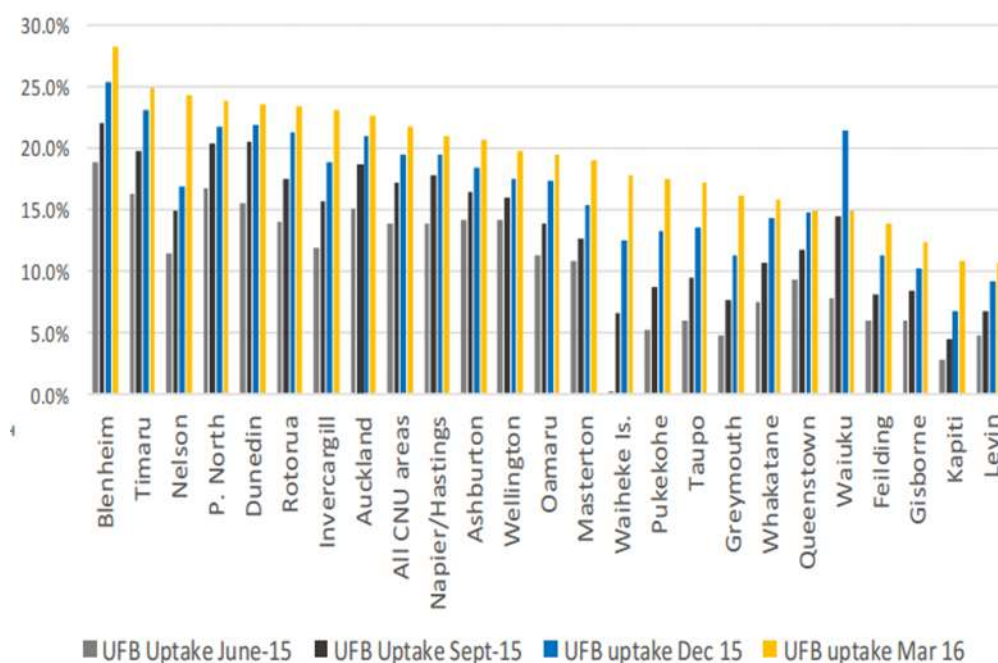


Figure 4: Chorus UFB fibre uptake trends (June 2015 – March 2016)

21. The Rural Broadband Initiative (RBI) has involved providing better broadband to rural schools, health providers, some libraries and tens of thousands of residents throughout the country. RBI combines copper, fibre and wireless networks to overcome the technical and financial difficulties that come from line distance and low population density. The RBI works programme is also complete, however as detailed below, an extension to this initiative is proposed.

22. Chorus has worked with Vodafone to roll out the Government’s RBI programme which has delivered improved services to 87% of rural New Zealand. The project involved the installation of an additional 1,200 fibre-fed cabinets nationwide to deliver fixed line broadband access to around 57% of rural New Zealand. We are also working with Vodafone to provide fixed wireless solutions to some rural communities.

23. Within Queenstown Lakes District Chorus constructed a number of additional cabinets to support RBI and improve broadband in rural communities.

Government recognition of the importance of telecommunications

24. There are a number of Government initiatives currently being progressed that provide a clear indication of the importance that it is placing on access to telecommunications.

UFB and RBI extensions

25. The Government announced last year its intention to extend its two flagship broadband initiatives (UFB and RBI) and establish a new initiative to expand mobile coverage. This commitment for further investment provides a clear indication of the importance the Government places on access to telecommunications. To this end the Ministry of Business and Innovation (MBIE) publication: Registration of Interest – Support¹ states:

In the digital age, information and communication technologies are critical for economic growth and social inclusion for New Zealanders, in order to enhance and create links both within New Zealand and internationally. Access to and use of digital technologies, particularly broadband infrastructure, has been shown to achieve a range of social and economic outcomes. Greater and smarter use of these technologies can encourage business productivity across a range of sectors and industries, improve health and education outcomes, enhance service delivery, and increase social connectivity and inclusion.

26. MBIE sought registrations of interest from local authorities for the supply of information and support to facilitate infrastructure deployment under each of the initiatives. This includes commitments to reducing costs, regulatory barriers, demand-side risks and other factors associated with deployment.

27. While there is no copy of the Queenstown Lakes District Council ROI for UFB2/RBI2 on its website I note that Wanaka and Arrowtown are listed on the Government's "Long Shortlist" of potential candidate areas: [https://www.beehive.govt.nz/sites/all/files/UFB-extension-RFP-long-list-\(Embargoed-until-12am,-1-September-2015\).pdf](https://www.beehive.govt.nz/sites/all/files/UFB-extension-RFP-long-list-(Embargoed-until-12am,-1-September-2015).pdf)

28. In my opinion the Panel is now in the ideal position to provide a clear policy direction to support these towns by ensuring that the provisions incorporated into the Proposed Plan recognise the importance and provide for the efficient deployment of telecommunications.

Land Access

29. On 29 June this year the Government announced that the Telecommunications (Property Access and Other Matters) Bill had been introduced to Parliament. The Bill involves changes to the Telecommunications Act 2001 that will make it easier

¹ ROI released: 12 March 2015

<http://www.med.govt.nz/sectors-industries/technology-communication/fast-broadband/pdf-and-documents-library/new-initiatives/roi-support.pdf>

for people involved in shared property or apartments to connect to UFB. In summary this involves:

- The creation of a new tiered consent regime for different fibre installation methods, such as aerial cabling, micro trenching, burying the cable in grass or mounting the cable on structures like fences or retaining walls in certain instances.
- The establishment of two new categories for installation methods depending on the impacts each method has on the property that neighbours share. Each category has a different consent requirement.
 - Category One methods have no lasting impacts on the shared property, such as a fibre cable buried in grass on the side of a driveway. For these installations, network operators installing fibre will not require consent but will need to provide neighbours with no fewer than five working days' notice.
 - Category Two methods have lasting impacts, for example an incision about 1cm wide is made in a concrete drive to conceal a cable and is then reinstated. For these installations neighbours will be provided a high level design of what is proposed and will have 15 working days to object based on a limited number of grounds. If they do not object within that timeframe, their consent will be deemed.
- Higher impact installations that have an impact that go beyond these two categories are outside this regime. For example, if the length of a driveway needs to be dug up it will still require all parties to agree.

National Environmental Standards for Telecommunication Facilities Review

30. Mr. McCarrison has provided a summary of the current status of the proposed amendments to the NESTF. I concur with his evidence and note that the proposed amendments to the NESTF are intended to be enabling in recognition of the benefits associated with access to telecommunications, while ensuring environmental effects are mitigated through the imposition of appropriate conditions. While the policy direction of the proposed NESTF is clear these changes have not yet been finalised and confirmed in a revised NESTF. Chorus is therefore continuing to seek the relief set out in its submission.

31. These changes to existing legislation provide an indication of the degree of importance being placed on access to telecommunications and recognises the contribution that this makes to the productivity, and therefore economic development, of the Country as a whole.

Response to s42A report and Reporting Officer's Comments

32. As highlighted in Mr McCullum-Clark's evidence we support the approach proposed in the s42A report with respect to the provisions relating to underground lines and the changes proposed to the definition of "minor upgrading". Inclusion of these provisions will remove potential ambiguity associated with any future deployments.

33. I further support the statements in Mr. McCullum-Clark's evidence with respect to masts and antennas. While Chorus primarily owns and operates a fixed line (fibre and copper) network the company also owns and operates a number of DMR / Radio sites that provide telecommunication services in more remote areas. With the Government indicating the intention to bring better broadband to more New Zealanders it is likely that more of these facilities will be required. Accordingly having district plan provisions that do not represent a barrier to the establishment of these is essential.

Conclusion

34. The telecommunications network is made up of many constituent parts. Fibre is at the heart of everything. Mobile, copper and wireless technologies all ultimately require fibre transport. As the availability of fibre increases together with increase in capacity its contribution to social and economic development will continue to grow.

35. As identified in my evidence the successful rollout of the fibre infrastructure necessary to support UFB uptake and any future extension to the current footprint together with the RBI programme is reliant on an appropriate and enabling regulatory framework. I consider that the Panel has an opportunity to ensure unnecessary and ambiguous provisions that may affect the rollout are removed or rectified in order to provide a balanced and clear regulatory framework for future deployment.



Mary Barton

**Environmental Planning and Engagement Manager
Chorus New Zealand Limited**



Chorus Network – Queenstown Lakes District

What Deployment Looks Like

UFB Deployment in Queenstown Lakes completed – July 2016

- Involved primarily working in the back berm
 - between the footpath and the property boundary in residential areas
 - in footpath area in more urban areas
- Follow the path of existing services



Drilling



Directional Drill



Hydro vac excavation



Some digging



Overhead deployment

Note: Overhead deployment was not used in Queenstown Lakes for the UFB communal (distribution network) build



UFB Deployment – Levin (on electricity poles)



Underground Fibre Flexibility Point (FFP)

- Management of up to 48 customer connections
- Same closure type for micro duct – Air Blown Fibre (ABF) and also fixed fibre both below ground and aerial



Customer Connections

- Overhead
- Underground
- Surface Mounted

Surface Mounted Customer Connections



- If there's a suitable surface such as a driveway edge, footpath, curbing, retaining wall or structurally sound fence from the street to the property, fibre cable can be mounted to that surface, minimising the digging needed.
- Cable hidden as best as possible by mounting it at the base of the fence or under the fence rail.
- Sometimes the fibre cable is installed inside a pipe where there's a risk of impact or more protection needed such as for a school or where there's multiple fibre cables needed like in a rights of way.

Overhead Connection

If the copper and broadband services are delivered via an aerial cable fibre cable is installed in the same way. There are a number of ways an aerial cable may be installed:

- A new fibre cable in addition to the copper cable
- Remove copper cable and replace with fibre
- Replace existing cable with a hybrid copper/fibre. Used if copper service still required for monitored alarm.



Underground



Exchanges and Microwave Stations (designated)



Arrowtown Exchange



Wanaka Exchange



Glenorchy Microwave Station



Queenstown Telephone Exchange & Microwave Station

Note: Refer Chorus designations PDP or Chorus rollover notice

Cabinets



RBI Cabinet



Air Blown Fibre Access Terminal (ABFAT) – only used Year 3 (2013 – 2014)



Telecommunications Pillar (pale green)



UFB Cabinet (Belfast Terrace)

Pole replacement



- Existing poles are required to be replaced as part of maintenance. These poles are generally between 40 – 80 years old meaning that they are nearing or have reached the end of life.
- Chorus runs a proactive pole replacement programme to identify and replace poles based on age and condition in order to mitigate health and safety risks.
- The replacement of poles also allows a rationalisation of the existing overhead network, resulting in an overall reduction in the number of lines.
- Damaged poles are also replaced as and when required (for example poles damaged by vehicles).
- Electrical safety standards (as set out under NZECP 341) dictate the position of lines on poles, this may require the existing pole to be replaced to ensure compliant ground clearances are achieved.

