

BROADBAND CAPABILITY UPDATE

PURPOSE

This report updates Councillors on the current state of broadband provision in Porirua City, identifies some gaps and opportunities, and presents information on current work in this area, as well as options for future consideration by the Council.

SIGNIFICANCE OF DECISION

The issues in this report do not involve the Council's Significance and Engagement Policy.

RECOMMENDATIONS

That Te Komiti:

1. **Receive** the report.
2. **Note** the information provided.

Report prepared by:

Chris Lipscombe
MANAGER, ECONOMIC DEVELOPMENT

Approved for submission by:

Stuart Parkinson
ACTING GENERAL MANAGER, STRATEGY & PLANNING

1 EXECUTIVE SUMMARY

1.1 This report is divided into three sections:

- Broadband provision, gaps and opportunities
- Government and Council initiatives
- Options for further consideration

2 CONTRIBUTION TO COUNCIL'S STRATEGIES

2.1 The issues in this report contribute to the strategic priorities of:

- A growing, prosperous and regionally connected city; and
- A great village and city experience.

3 BACKGROUND

3.1 In April 2015, the Ministry of Business, Innovation & Employment (MBIE) announced the expansion of the Ultra Fast Broadband (UFB) and Rural Broadband Initiative (RBI) programmes, and the launch of a Mobile Black Spot Fund. Local authorities were invited to submit a Registration of Interest (ROI) by 3 July.

3.2 Following this announcement, Cr Douglas asked for information on how the Council had responded to the Government's invitation, and what opportunities an engagement with the Government on this programme (also known as UFB2) might bring for Porirua.

3.3 This report places the Government's announcement in the wider context of the ongoing UFB and RBI rollouts, the ability of these initiatives to meet the needs of Porirua's businesses and residents, and steps taken by the Council and others to ensure these needs are being met, now and in the future.

4 BROADBAND PROVISION, GAPS AND OPPORTUNITIES

4.1 Digital Subscriber Line (DSL) technology delivers broadband over the copper network to all houses connected to the telephone network. This copper network provides broadband connectivity at a minimum 1-2 Megabits per second (Mbps) download and 512 Kilobits per second (Kbps) upload. Subscribers who live close to an exchange or cabinet may connect via copper at download speeds of 20 Mbps or faster. Figure 1 shows the copper network in Porirua, with shaded areas showing the range of broadband speeds available (see Appendix 1).

4.2 The fibre-based UFB network is being rolled out gradually around New Zealand. The original goal was to connect 75% of all New Zealanders to fibre at speeds greater than 100 Mbps in 33 towns across New Zealand by 2019. Under UFB2, over 80% of all New Zealanders will be connected – see Section 5.1. As at 30 September 2015, 37% of the Wellington area (including Porirua and the Hutt Valley) has been connected.¹ Figure 2 shows the UFB zone in Porirua and Figure 3 the fibre rollout, with shaded areas showing existing and planned provision (see Appendix 1).

¹ <http://www.mbie.govt.nz/info-services/sectors-industries/technology-communications/fast-broadband/deployment-progress>

- 4.3 In rural areas of New Zealand, RBI is providing a mix of copper-based and fixed wireless broadband. Some farms, businesses and homes can also apply for fibre connections, where fibre has already been deployed as part of RBI. The original goal was to connect 90% of homes and businesses (outside UFB areas) at 5 Mbps or more by June 2016 and extend mobile coverage to all rural areas. Under RBI2, over 99% of homes and businesses will connect at 50 Mbps – see Section 5.1. As at 30 September 2015, wireless tower installation is at 82.5% and copper network upgrades at 98%.² Figure 4 shows the RBI zone in Porirua (see Appendix 1).
- 4.4 Although the copper network reaches all areas of Porirua, broadband speeds available across the network vary widely. Full participation of homes and suburban or home-based businesses in a digitally enabled society assumes access to fibre – especially in interactive or multi-user environments where fast upload as well as download speeds are required. Figure 3 (in Appendix 1) shows that significant areas of Titahi Bay and Porirua East will not be able to connect to fibre until after July 2017. Some areas may not be connected until 2019.
- 4.5 The distribution of families assisted through Computers in Homes tells a story of digital deficit, with high densities of families in Porirua East/Cannons Creek/Waitangirua/Ascot Park and Elsdon/Takapuwhia/Titahi Bay without prior access to computer technology (see Appendix 2).
- 4.6 Many households in these suburbs do not currently connect to the Internet. Only 50.4% of households in Cannons Creek South are connected to the Internet, compared with 89.2% of households in the neighbouring suburb of Aotea-Papakowhai.³
- 4.7 Some households in Porirua are likely to be accessing the Internet via mobile devices such as tablets or smartphones. After all, seven out of ten users in New Zealand access the Internet from a handheld mobile device.⁴ 73.8% of households in Cannons Creek South have access to a cellphone/mobile phone, but we don't know how many of these are Internet-enabled.⁵ Mobile or fixed wireless connections may provide an interim solution for these households. Affordability may however be an issue.
- 4.8 In areas of intensive commercial activity, standard UFB connection speeds may not be sufficient to support engagement in a modern digital economy – especially where fast, two-way, international connections are required. Gigabit-per-second connections are currently not available to Porirua UFB subscribers, although they have been available in other parts of the country for some time.⁶ As Dunedin's experience is showing, gigabit broadband is now the goal.⁷
- 4.9 There are opportunities for intensification of fibre in Porirua's city centre, enabling access to gigabit-speed broadband from every property in the city centre zone. The commercial area at the intersection of Raiha Street and Kenepuru Drive may also be a candidate for intensification. Locally-sited education and research facilities Whitireia

² <http://www.mbie.govt.nz/info-services/sectors-industries/technology-communications/fast-broadband/deployment-progress>

³ <http://www.censusporirua.org.nz/> under Area Profiles/Dwellings/Telecommunication Access

⁴ https://www.aut.ac.nz/_data/assets/pdf_file/0007/424816/wipnz2013final.pdf

⁵ <http://www.censusporirua.org.nz/> under Area Profiles/Dwellings/Telecommunication Access

⁶ <http://ufb.org.nz/gigabit-residential-ufb-fibre-coming-to-hamilton-tauranga-wanganui-more/>

⁷ <http://www.stuff.co.nz/business/industries/67580924/gigabit-broadband-now-the-goal>

NZ and Environmental and Scientific Research (ESR) already have broadband fibre access at up to 10 Gbps through the REANNZ KAREN network.⁸ Other areas that may respond positively to intensification are Mana Esplanade (north and south), and the Aotea educational, commercial and recreational precinct.

5 GOVERNMENT AND COUNCIL INITIATIVES

- 5.1 In April 2015 the Government invited local authorities to identify areas where UFB coverage could be extended. Under UFB2, coverage would be lifted to at least 80 per cent of New Zealanders, and up to 35 more towns included in the rollout. Under RBI2, new funding was announced for major improvements in rural broadband and mobile coverage in black spot areas along main highways and in popular tourist destinations.⁹
- 5.2 In June 2015, the Council's Chief Executive wrote to the Minister of Telecommunications registering the Council's interest in the extension programme. The Council's main concern was for those who were unlikely to receive fibre connections until 2017 at the earliest, and who were already unable to afford the existing copper-based broadband service. The Council was looking for a solution that addressed both availability and affordability.
- 5.3 Full proposals were due 28 October 2015. A proposal was not submitted, as it had become clear that the Government was offering funding (in reality, co-investment) only for extension of coverage to areas not included under the current plans. The Council's need to accelerate coverage in areas already included and to explore affordable service provision was not going to be addressed.
- 5.4 Porirua City Council's digital strategy is currently one of intensification, in order to deliver business benefits through productivity gains. This fits within the Council's economic development strategy, and is consistent with international research that suggests broadband infrastructure investments can positively impact firm productivity, with more benefits likely to accrue to urban areas, service industries and skilled workers.¹⁰
- 5.5 The intensification of fibre in Porirua's city centre is now well underway, with launch events planned over a four-day period 2-5 December and coverage of the entire city centre to be completed sometime in February 2016. Businesses in the city centre will be able to explore the advantages of fibre connection and access to cloud-based services. Other businesses and start-ups may consider the city centre as a location for their activities.
- 5.6 At the same time, the intensification of fibre allows the introduction of a free public wireless service using the latest technologies to deliver gigabit-speed Wi-Fi to users of mobile devices. This service will be available free of charge to users, and will not be restricted by time or data caps. This goes some way to addressing the growth in mobile Internet access and contributes to increased foot traffic in the city centre, which in turn supports retail activity.

⁸ <https://reannz.co.nz/membership/members/>

⁹ <http://www.crownfibre.govt.nz/ufb-initiative/ultra-fast-broadband-extension/>

¹⁰ http://www.whatworksgrowth.org/public/files/Policy_Reviews/15-03-10-Broadband-Full-Review.pdf

6 OPTIONS FOR FURTHER CONSIDERATION

- 6.1 Projects to address gaps in broadband provision may deliver long term social and educational outcomes. Te Mana o Kupe Trust makes Chromebooks affordable for families in Porirua East to purchase, in order to help students with their studies and engage their families in their learning. Nine schools are now participating in the scheme and access to affordable broadband has become an urgent priority. The development of a Wi-Fi network in Porirua East has been identified as a goal for the Trust in 2016.¹¹
- 6.2 The Council has entered into a strategic partnership agreement with SHINE, a group of education stakeholders working together to help Porirua youth succeed. Access to affordable broadband is one of the group's concerns regarding opportunities for young people in Porirua and was supported in an educational summit held in Porirua in 2013.
- 6.3 In Te Komiti meeting of 5 November the Council undertook to report publicly on definable and measurable outcomes flowing from the Children and Young Persons strategic priority; a recommended workplan based on these desired outcomes; and the scope and measures that will form Porirua's first Status Report on Child and Youth Wellbeing. Affordable broadband may receive consideration as both a measure and a programme of work as part of this exercise.
- 6.4 The Council has previously received proposals for fibre loops around Porirua East/ Cannons Creek/Waitangirua/Ascot Park and Elsdon/Takapuwahia/Titahi Bay. Alternate fibre networks can reduce cost of service provision, through the avoidance of tariffs charged for connection to UFB and RBI broadband services. The expense has not fitted easily into any existing programmes of work, and there has been some reluctance to duplicate fibre networks already planned and funded through government channels.
- 6.5 Wireless services can be provided as fill-in or temporary services until fibre-based provision can be established. High-speed wireless can connect to existing fibre networks and backhaul services, with transponders providing last-mile connections to households, local businesses and institutions such as sports clubs and churches. Such services require a small amount of capital expenditure and identification of an anchor user or group of users can subsidise the cost of providing access to others.
- 6.6 Previous attempts to provide free community-based Wi-Fi services in Porirua have struggled to meet operational costs. The Cannons Creek Free Wi-Fi service was established in 2012 by the Porirua E-learning Trust, with the capital cost covered through a grant from InternetNZ. An unlimited 100Mbps broadband Internet service is currently provided by Smartlinx3 but without an anchor user or group of users the service is commercially unsustainable.
- 6.7 Community groups, residents associations and organisations in Porirua may want to consider how their broadband service requirements might be aggregated in order to negotiate deals with vendors that provide flat rate coverage in particular areas.
- In areas where broadband affordability is not a problem, vendors may be happy to respond directly with a proposal.

¹¹ <http://www.tmok.org.nz/2015/09/17/goals-for-2016/>

- In areas where financial assistance may be required, and the goals of the project match Council priorities, the Council might consider making small grants available to meet establishment costs.

7 OPERATIONAL IMPLICATIONS

- 7.1 There are no direct operational implications attached to this report. Work in progress is being managed by Council officers as part of business as usual.
- 7.2 Should the Council wish to explore additional intensification opportunities, or partnership/co-investment opportunities as part of an aggregation strategy, then priorities will need to be set, a work programme agreed and resources allocated (or reallocated) by the new General Manager, City Growth & Partnerships.

8 FINANCIAL IMPLICATIONS

- 8.1 There are no direct financial implications attached to this report. Work in progress is being managed within existing budgets as part of business as usual.
- 8.2 Should the Council wish to explore additional intensification opportunities in other mixed commercial-retail-residential areas of the city, then an investment similar to that made in the city centre would be required. This includes one-off capital and ongoing operational expenditure. Opex would need to be covered within existing budgets.
- 8.3 Should the Council wish to explore partnership/co-investment opportunities as part of an aggregation strategy to address the city's digital deficit, then a small amount of money needs to be identified for one-off capital work grants and an application and grants programme developed and managed by the General Manager, City Growth & Partnerships.

9 STATUTORY REQUIREMENTS

- 9.1 There are no significant legal implications associated with this project/decision.

10 CONSULTATION

- 10.1 The Porirua E-learning Trust has been consulted in the preparation of this report, with specific reference to the Computers in Homes project and the Cannons Creek Free Wi-Fi project. Representatives from SHINE and Te Mana o Kupe have also been consulted on the importance of wireless broadband to their goals for Porirua's young people.

11 CONCLUSION

- 11.1 The UFB rollout in Porirua has delivered some good, early outcomes to residents and local businesses (including home-based businesses) in our northern suburbs. Proposed extensions to the UFB and RBI programmes will deliver little additional benefit to Porirua.
- 11.2 The Council is currently focussing on the opportunities for intensification of fibre and provision of free public wireless services. The first deliverable will be the launch of gigabit-speed public Wi-Fi in Porirua's city centre in December.

11.3 The major gap in current provision is the need for affordable broadband in Porirua East and Titahi Bay, now and in the future. The Council, in association with community groups and organisations, may be able to help through support for aggregation proposals.

11.4 No funding provision has been made for any new work in the broadband area.

12 ATTACHMENTS

APPENDIX 1

BROADBAND COVERAGE MAPS

These maps have been sourced from the Chorus website at www.chorus.co.nz/maps, accessed 21 November 2015. Actual broadband coverage areas and available speeds may vary slightly from those shown.



Figure 1: Copper network in Porirua

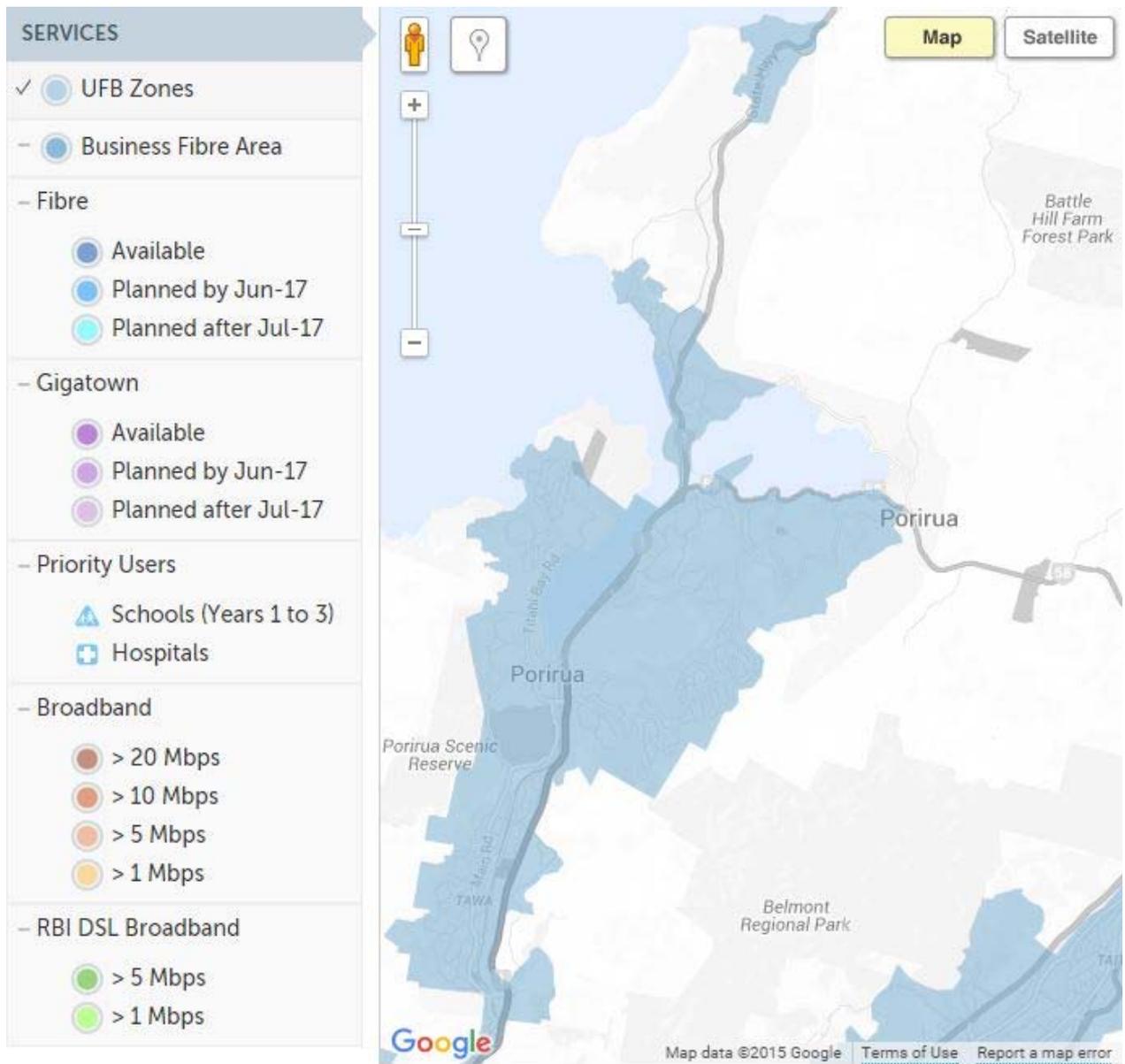


Figure 2: UFB Zone in Porirua

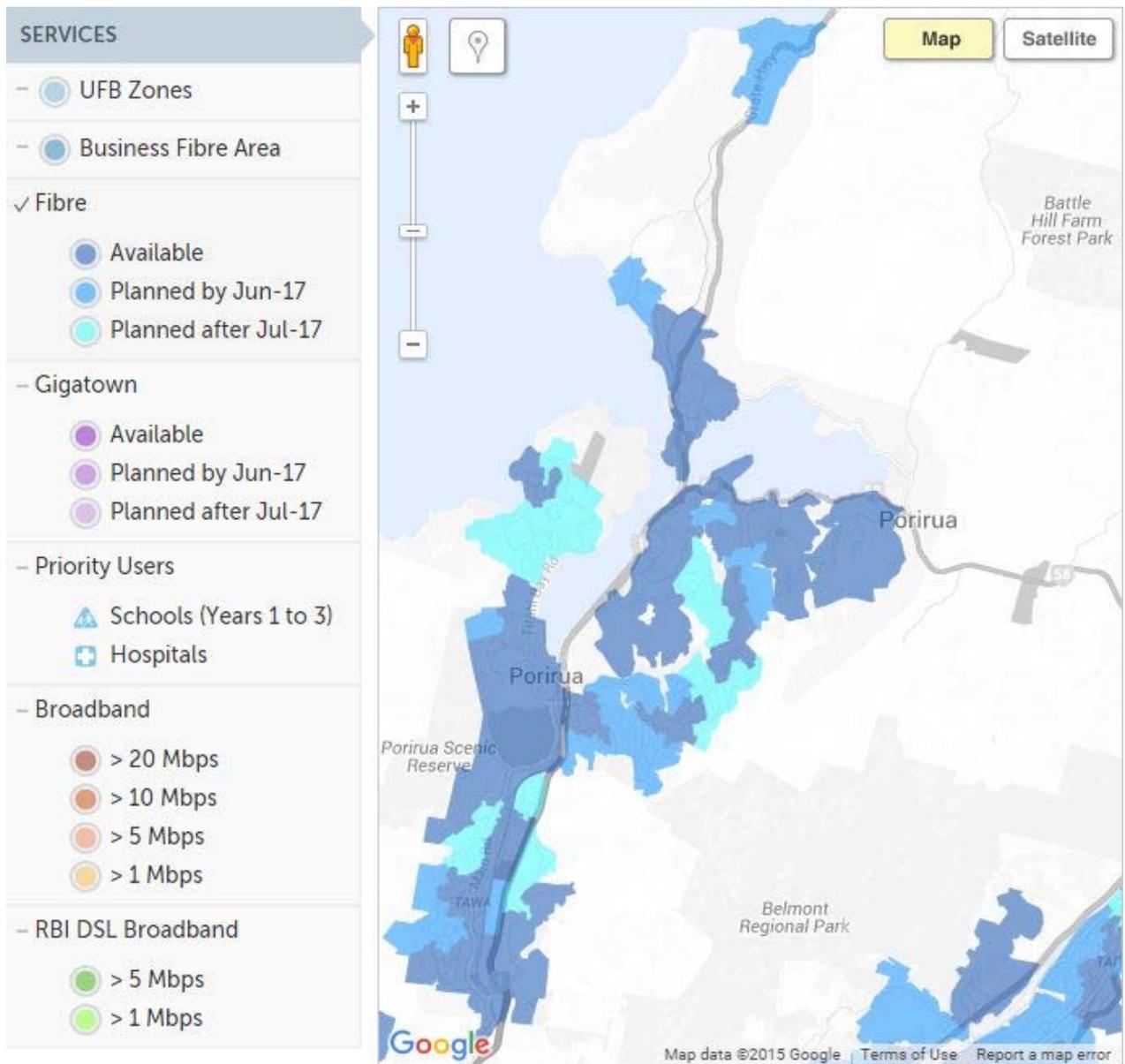


Figure 3: Fibre Rollout in Porirua

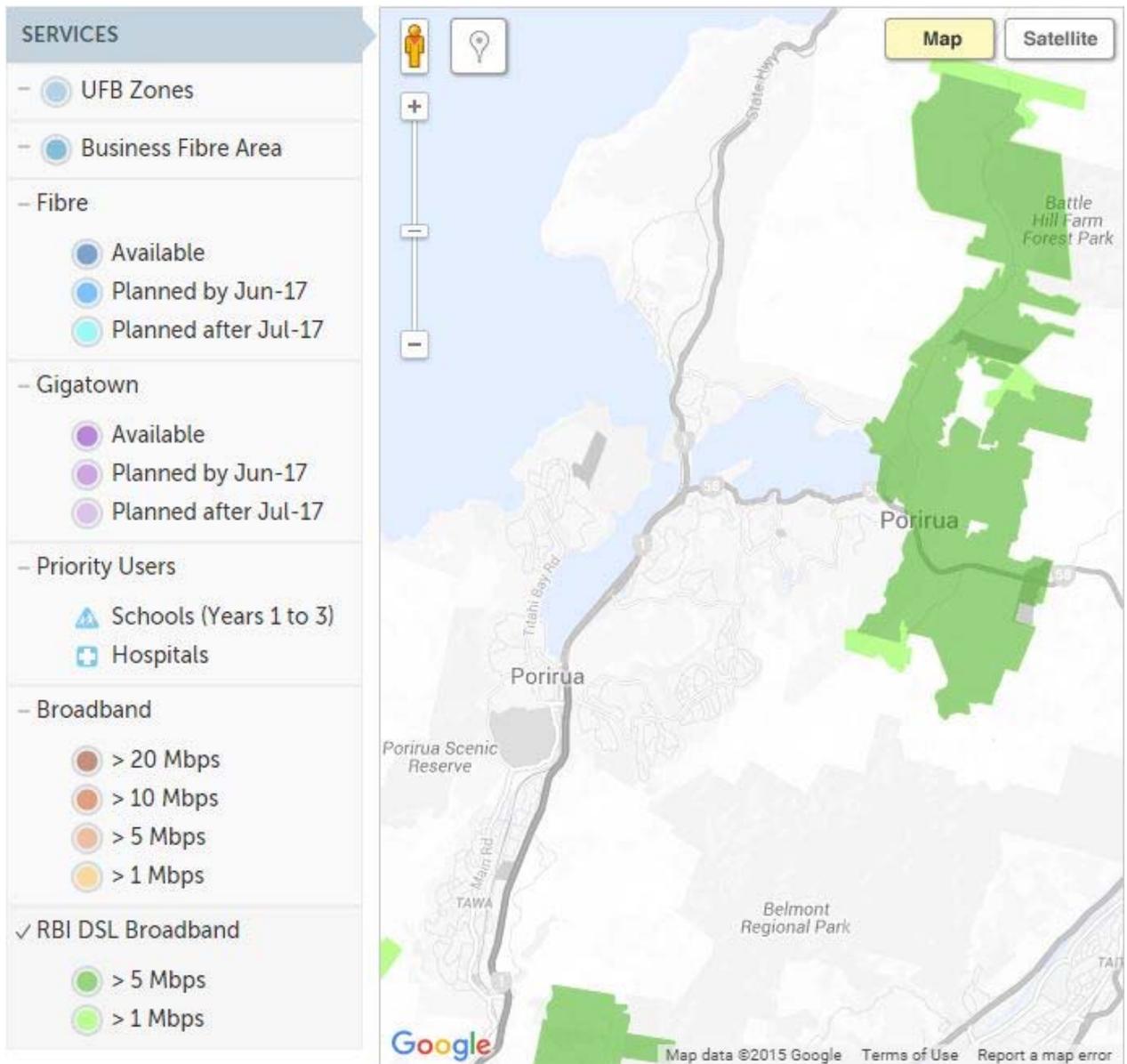


Figure 4: RBI Zone in Porirua

APPENDIX 2

COMPUTERS IN HOMES – DENSITY ANALYSIS

This map has been produced from the home addresses of 1500 graduates of the Computers in Homes programme, managed by the Porirua E-learning Trust. The map was produced in October 2015.

