REGIONAL TELECOMMUNICATIONS REVIEW 2018

SUBMISSION BY VODAFONE HUTCHISON AUSTRALIA

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Introduction

The 2015 Regional Telecommunications Review was the catalyst for reform of the Universal Service Obligation (**USO**). It called for a flexible approach on the part of NBN Co. and mobile operators and a willingness to depart from a "one size fits all" approach to regional telecommunications. The report noted that despite increased investment in mobile networks, including the Mobile Black Spot Program, "new approaches are needed" for those in the 70 percent of Australia's land mass that have no mobile coverage, and to improve poor coverage elsewhere.

Three years on, these statements have never rung truer. While the rollout of the NBN has accelerated significantly and is nearing completion in regional areas, many people in regional areas continue to endure unreliable or non-existent mobile coverage and a lack of choice. This is despite the promises of the Mobile Black Spot Program. Further, despite a number of inquiries and reports, the USO reform outcomes and the details of the proposed model for its replacement - the Universal Service Guarantee (**USG**) - are still unclear.

While the Mobile Black Spot Program has undeniably improved incremental mobile coverage, the question remains: why do those living in regional areas continue to have no choice of provider? Telstra's mobile monopoly covers 60 percent of the total mobile coverage area of Australia and has increased in the last three years as a result of the Mobile Black Spot Program, with Telstra receiving 75 percent of the program's subsidies. The program has, unfortunately, further entrenched Telstra's mobile monopoly due to a lack of infrastructure sharing, with very few of Telstra's towers being shared with other operators under the program's co-location arrangements.

The Mobile Black Spot Program needs an urgent rethink in order to deliver on its original objectives of increased coverage and competition. Vodafone believes there is a strong public benefit argument for all mobile sites which have received public funding to be subject to open-access obligations. This would involve an obligation on the site owner/operator to commercially negotiate with potential access seekers for access to the relevant site. These obligations, if implemented for all sites built under the Mobile Black Spot Program, would enable the program's objectives of increased coverage and competition to be delivered and place mobile network operators on a more even playing field when seeking to invest in future rounds of the program.

Vodafone also believes the model for delivery of the Mobile Black Spot Program needs to change for future rounds. There are tried and tested models for government requiring and/or incentivising collaboration and infrastructure sharing which have delivered enhanced infrastructure and competition in regional areas. We need look no further than Victoria and New Zealand where state of the art communications services are being delivered with minimal government contributions in challenging regional areas. These models deserve close examination as they have the potential to offer far better outcomes for regional Australia.

In New Zealand, a single network of around 500 mobile towers is being built in the most remote areas of the country. This has been able to happen with funding from government via its equivalent of the USO, and from New Zealand's Rural Connectivity Group, a joint venture between the country's three major mobile operators Spark, Vodafone and 2degrees. This project involves the three mobile operators co-building towers and sharing one set of radio access network equipment on each tower. The operators also pool their spectrum, with each owning a third of the capacity from each site. The project not only provides much-needed mobile coverage on highways and in townships, but also on-farm coverage; this enables environmental monitoring and management, and precision agriculture and horticulture via the Internet of Things (**IoT**).

The Victorian Regional Rail Connectivity Project is another example of government putting the right incentives in place for the mobile industry to collaborate for the benefit of taxpayers and regional rail customers. As in New Zealand, the Victorian government specified the coverage and competition outcomes it required and encouraged mobile operators to work together to develop an innovative solution which best achieves these outcomes. As a result, the $18 million project will see 35 towers built along the state's five busiest regional rail corridors through a co-building partnership between Vodafone, Telstra and Optus, with the government's contribution funding the installation of repeaters in the train carriages.

As with the USO, the Mobile Black Spot Program demonstrates that sub-optimal results for regional consumers result from well-intentioned publicly-funded programs that are overly prescriptive about technologies to be used and/or the models of delivery, instead of the outcomes that need to be achieved. This approach has long benefitted Telstra as the incumbent telecommunications provider, and the dependence of many regional Australians on Telstra to the detriment of competition and investment in productivity-enhancing technologies including IoT.

As we stated in our 2015 Regional Telecommunications Review submission, overcoming the roadblocks to competition in regional communications will ensure consumers and businesses receive more coverage, better value, better service, choice and innovation. The limitations to regional telecommunications services are not necessarily the result of a lack of aggregate investment in regional telecommunications infrastructure. Rather, it is the lack of efficient coordination and the unnecessary duplication of infrastructure that is holding regional Australia back.

The experience in Victoria and in New Zealand demonstrates that a truly collaborative approach can deliver cost effective, improved mobile coverage and competition for regional communities. Together with the completion of the NBN and the implementation of a technology-neutral and contestable model for the USG in place of the current USO, the future for regional telecommunications could be much brighter by the time of the next Regional Telecommunications Review, provided there is the will to challenge the status quo and break with past approaches.

Rethinking the Mobile Black Spot Program

In our 2015 submission, we advocated for greater sharing of telecommunications infrastructure in regional Australia. We welcomed the Mobile Black Spot Program and saw its potential, contributing significant funds to build 75 towers under the program and calling for further direct budget funding to guarantee future rounds of the program.

Since then, almost 600 mobile towers have been built under the program, providing improved incremental coverage for regional communities. However, an unfortunate outcome of the program, which has seen federal and state governments contribute around $360 million in funding to date, has been the further entrenchment of Telstra's monopoly at the expense of taxpayers. Of the 867 towers scheduled to be built under the first three rounds of the program, approximately 75 percent will be built by Telstra. It is not widely understood that Telstra has received around $2 billion in taxpayer subsidies over the last 10 years, which is the true reason it has been able to build out its regional mobile network. Those subsidies have tilted the playing field clearly in Telstra's favour, meaning that it is in pole position to take the lion's share of any ongoing subsidies because any black spots are by definition nearer Telstra's mobile network and further from other mobile networks. While Telstra was always going to face little competition in bidding for sites in areas where other mobile network operators lack backhaul capacity and/or do not have coverage in contiguous areas, the situation has been made significantly worse by the lack of infrastructure sharing under the program.

The Mobile Black Spot Program guidelines[1] clearly intended that scarce taxpayer subsidies delivered coverage ***and*** competition. When round 1 was announced, the then Minister for Communications, the Hon. Malcolm Turnbull stated that the program "aims to stimulate competition in mobile services in regional and remote Australia[2]." As the ACCC has noted however, "the Mobile Black Spot Program appears to have been implemented with insufficient weight given to competition when allocating funding[3]". Further, the ACCC states that "this means that governments are subsidising individual commercial concerns and may be limiting the potential for these programs to promote competition for mobile services by providing a mobile network operator with a competitive advantage in competing for customers in certain areas[4]". At the ACCC's Regional Mobile Issues Forum in February 2018, participants raised concerns that co-location requirements do not work so well for greenfield sites, including those built under the Mobile Black Spot Program.

Vodafone's view is that the program's co-location arrangements have been unsuccessful. Of the 765 round 1 and 2 towers being built, co-location between mobile network operators is expected

[1] https://www.communications.gov.au/documents/mobile-black-spot-programme-round-1-guidelines
[2] https://www.malcolmturnbull.com.au/media/mobile-black-spot-programme-to-deliver-almost-500-new-or-upgraded-base-stat
[3] ACCC Communications sector market study Final Report, April 2018
[4] Ibid

to occur on just 85 taxpayer funded towers, or just 11 percent of the towers being built[5]. Further, 36 of these towers which are being shared are being built by Vodafone. This is despite Vodafone only receiving subsidies to build 74 round 1 and 2 towers, compared to Telstra's 577 round 1 and 2 towers. Almost half of Vodafone's towers are being shared, while just 4.5 percent of Telstra's towers are being shared.

This situation is not due to a lack of interest from other mobile network operators in co-locating on Telstra's government funded towers. Vodafone expressed interest in co-locating on a number of Telstra's round 1 towers only to be presented with co-location terms which were plainly inconsistent with the spirit and the letter of the program's guidelines. These terms greatly favoured Telstra and were the result of bi-lateral negotiations between the Department of Communications and Telstra without any consultation with other mobile operators. Telstra managed to agree with the Department a specification for co-location space on its towers which Telstra knew was substantially less than the minimum required for the standard space and weight requirements of co-location seekers and therefore rendered co-location on most round 1 sites practically impossible. Telstra also insisted on standard co-location pricing despite having received substantial subsidies (~50 percent) for the capital costs of building its towers.

To add insult to injury, Telstra defined the backhaul service it was obliged to provide to other operators in a manner which effectively doubled the cost of transmission compared to commercially available rates. Telstra also insisted that this was the only structure under which transmission to black spot sites could be procured. ACCAN has been particularly vocal in raising concerns about the terms and conditions relating to backhaul access and pricing under the Mobile Black Spot Program and this issue was noted recently by the ACCC[6]. While there have been some improvements to the co-location and backhaul arrangements under subsequent rounds of the program, without a beachhead formed by our presence on Telstra's round 1 sites, it was not feasible for Vodafone to bid for the more remote sites included in rounds 2 and 3 of the program. The effect of this was to further reduce competition for investment in regional mobile services.

As a principle, providing funds to one mobile network operator to expand coverage that only benefits that operator's customers is not an effective use of public funds. Unfortunately, this has effectively been the outcome for the vast majority of sites built or scheduled to be built under the first three rounds of the Mobile Black Spot Program. Vodafone believes that there is a strong public benefit argument for all mobile sites which have been built with public funding to be subject to open-access obligations. We are encouraged that the ACCC has identified the Mobile Black Spot Program as an area for improvement, noting that such open-access obligations will deliver more benefits to those regional consumers who are seeking improved coverage.[7]

[5] http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;db=CHAMBER;id=chamber%2Fhansardr%2F55ca705c-f4c5-4a16-a7f5-47295e740c6e%2F0261;query=Id%3A%22chamber%2Fhansardr%2F55ca705c-f4c5-4a16-a7f5-47295e740c6e%2F0011%22

[6] ACCC Measures to address regional mobile Issues Paper, October 2017

[7] ACCC Domestic mobile roaming declaration inquiry Draft Decision, May 2017

In Vodafone's view, open-access obligations in the context of publically funded mobile infrastructure need only light-handed regulatory oversight. A light-handed approach would be to impose a variation of the well-understood negotiate-arbitrate model where there is an obligation on the site owner/operator to commercially negotiate with potential access seekers for access to the relevant site. Regulatory oversight is only required where parties fail to reach a commercial agreement. These obligations, if implemented for all sites built under the Mobile Black Spot Program, would enable the program's objectives of increased coverage and competition to be delivered and place mobile network operators on a more even playing field to invest in future rounds of the program.

Vodafone also believes the model for delivery of the Mobile Black Spot Program needs to change for future rounds. The Victorian Regional Rail Connectivity Project[8] is an example of the type of approach that could be adopted by the Commonwealth. The $18 million project will see 35 new towers built along the state's five busiest regional rail corridors through a co-building partnership between Vodafone, Telstra and Optus. While each operator installs their own radio access equipment and transmission, the project involves full sharing of designs, joint site acquisition and power sharing. The most effective model, however, is being deployed in New Zealand, where a collaborative approach to infrastructure sharing is delivering both coverage and choice for regional mobile customers as well as on-farm connectivity under the Rural Broadband Initiative 2 (**RBI-2**) and the Mobile Black Spot Fund (**MBSF**).

The New Zealand experience

The Rural Connectivity Group[9] - a joint venture between the country's three major operators Spark, Vodafone and 2degrees - is building around 500 mobile towers by 2022 in remote and rural areas, as well as in significant tourist areas. The project includes $75 million in funding from the three mobile network operators and $150 million from the contestable Telecommunications Development Levy which was established in 2011 to fund the Telecommunications Service Obligation - the equivalent of Australia's USO. An additional $100 million in government funding has recently been announced. A government tender process was undertaken with clear outcomes specified for both coverage and competition. Unlike the Mobile Black Spot Program, the onus was placed on the mobile operators to work together to develop an innovative solution which best meets these outcomes.

The Rural Connectivity Group builds, owns and operates each site with the three shareholding mobile network operators contributing spectrum, funding and resources to the partnership. The project involves all three mobile network operators sharing their radio access network equipment and the capacity on each tower built by the partnership via Multi Operator Core Network (**MOCN**) technology. All antennas, equipment, transmission/backhaul links and power supply is shared[10] and each operator pays a monthly fee based on the amount of capacity its customers use on each

[8] https://economicdevelopment.vic.gov.au/connecting-victoria/regional-rail-connectivity
[9] http://www.thercg.co.nz
[10] The Rural Connectivity Group – sharing infrastructure animation: https://youtu.be/xHx9VSf6bXY

tower. For the most remote sites solar power is used where there is no access to mains power. In addition, the global Narrowband IoT (**NB-IoT**) standard is deployed on all towers[11].

The philosophy of the project is "competition on a level playing field" with the mobile network operators competing for customers at the retail level. Through this collaborative approach the Rural Connectivity Group is able to leverage the funding provided by the government to minimise the cost of each site and maximise the coverage outcome for consumers. The project will deliver new mobile and wireless broadband coverage to at least 30,000 rural homes and businesses and provide mobile coverage to a further 1,000 kilometres of state highways[12].

The project provides emergency services access as well as delivering on-farm coverage, enabling environmental monitoring and management and precision agriculture and horticulture via NB-IoT. Vodafone has deployed a range of IoT services in New Zealand which have increased productivity in agriculture. These include services for water management, fertiliser management, farm safety and business automation. All of these services are designed and implemented to achieve the same goal of improving efficiencies and reducing waste in the agribusiness sector. Such applications would have immense benefit to Australian farmers.

Acknowledging the commercial sensitivity of build costs, a simple calculation provides an indicative average cost of each tower being built under the project of 650,000 NZD (~$598,000)[13]. This compares to the average cost of each tower being built under the Mobile Black Spot Program of $784,000[14]. While accepting there are unique geographic challenges in each country which contribute to the costs of building new mobile towers, we believe Australian policy-makers should take a serious look at the New Zealand model. This project will deliver around 500 new mobile towers, each with coverage provided by three mobile operators and each providing NB-IoT capability for less per tower than towers being built under the Mobile Black Spot Program - the vast majority of which only offer coverage to the customers of one operator.

Implementing the Universal Service Guarantee

The 2015 Regional Telecommunications Review kick-started the process of reviewing and overhauling the government's USO arrangements with Telstra. Despite government confirmation that the number of services delivered under the arrangement have decreased significantly since it was implemented, Telstra continues to collect $297 million per year for the delivery of fixed line copper voice and payphone services.[15]

A report by the Australian National Audit Office (**ANAO**) found that the arrangement did not reflect value for money principles and "there is a lack of clear evidence that a net public benefit has been

[11] https://www.vodafone.com.au/business/internet-of-things/narrowband
[12] http://www.thercg.co.nz
[13] 325m NZD total funding divided by 500 total sites.
[14] $680m total funding divided by 867 total sites - https://www.communications.gov.au/what-we-do/phone/mobile-services-and-coverage/mobile-black-spot-program
[15] https://www.itnews.com.au/news/telstras-uso-phone-services-fall-22-percent-487329

realised" as a direct result of the introduction of the agreement with Telstra.[16] The Productivity Commission's 2017 inquiry into the future of the USO concluded that the USO is no longer serving the best interests of the Australian community and recommended that the government agreement with Telstra be wound up following the completion of the NBN.

Given the lack of transparency, accountability and controls in the USO arrangements identified by the 2015 Regional Telecommunications Review, the Productivity Commission and the ANAO, the Minister for Communications has announced the establishment of the USG. The government established a taskforce within the Department of Communications and the Arts to develop the USG in line with the Regional Telecommunications Review and Productivity Commission reports. This taskforce has been consulting with regional stakeholders and industry and is expected to provide its advice to government shortly.

It is critical that the mistakes of the past under the USO are not repeated with the USG, by not locking in the delivery of services by one company and by not mandating the use of a particular technology. The 2015 Regional Telecommunications Review report noted the "rapidly declining relevance of the USO" and urged the phased introduction of new standards for voice and data. It recommended the establishment of a technology-neutral, contestable and transparent fund to replace the existing telecommunications industry levy and to support the provision of necessary loss-making infrastructure and services in regional Australia.

A technology-neutral and contestable model must be adopted for the USG which both draws on and enhances competition between mobile, satellite services, wireless and other technologies which may develop over time to provide a reasonable quality, cost effective voice service for regional and remote Australians. It is clear that outside of government subsidies, mobile network coverage expansion is not being delivered on a commercial basis by the market. In order to provide a voice service to those currently without a mobile service, the USG would need to subsidise the expansion of mobile coverage and/or alternative technologies based on a comprehensive evaluation of service quality and reliability and costs. For example, OneWeb[17] plans to deploy a constellation of 900 low-earth orbit (**LEO**) satellites to provide low latency high speed internet access globally and is planning full coverage across Australia by 2022. OneWeb's service is tolerant to rain fade and would be capable of delivering a high quality, cost effective and reliable voice service under the USG.

Contestable universal service schemes are already working well in practice in other markets. In New Zealand for example, a flexible, transparent and competitive Telecommunications Development Levy was established in 2011 to fund the Telecommunications Service Obligation. This arrangement, as outlined above, is flexible enough to support the funding of innovative solutions such as that which was proposed by the Rural Connectivity Group. Vodafone supports the establishment of a flexible, technology-neutral fund for the USG as recommended by the 2015

[16] https://www.anao.gov.au/work/performance-audit/management-contract-telephone-universal-service-obligations
[17] http://www.oneweb.world/

Regional Telecommunications Review. In Australia, given our land size and low population density, a model would need to be implemented in which the delivery of USG services is divided into defined geographic areas. Otherwise, it would not be feasible or cost-effective for alternative providers to tender to deliver services. This is a key element of avoiding the current "winner takes all" situation with the USO.