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Mobile Black Spot Program
Department of Infrastructure, Transport, Regional Development and Communications

By Email: MBSPRound5@communications.gov.au

Mobile Black Spot Program Round 5A Discussion Paper

Vodafone Hutchison Australia (VHA) welcomes the opportunity to provide feedback on the design of the latest round of the Mobile Black Spot Program (MBSP), Round 5A.

The MBSP has undeniably delivered new and improved regional mobile coverage. Under the first two rounds of the MBSP, VHA alone has delivered approximately 36,600 square kilometres of new external coverage, extended 4G services to more than 16,000 additional homes and added more than 1,500 kilometres of 4G connectivity along regional transport routes.

Unfortunately, the MBSP has had less success improving competition and has aided the expansion of Telstra's regional mobile monopoly. The causes of this are two-fold: Telstra has received the vast majority of MBSP funding (71% of funded sites to date) and only 11%¹ of Telstra's towers are being shared with other mobile network operators under the MBSP's co-location arrangements.

VHA has long been calling for reforms to the MBSP in order to deliver on its original objectives of delivering improved coverage and the promotion of competition. In our submission to the 2018 Regional Telecommunications Review², we urged the Government to move away from the costly and unsuccessful co-location model. Under this model operators share only the physical tower under unregulated terms, which means that a dominant regional operator has the incentive and ability to deter co-location. In any case, the co-location model requires access seekers to duplicate any and all other costs including Radio Access Network (RAN) equipment, power and backhaul for each site.

We are pleased the Government has indicated a willingness to explore different solutions and approaches under the latest round, in particular the shared RAN model adopted by the New Zealand Rural Connectivity Group (RCG). The RCG project is being delivered by New Zealand's three major mobile network operators – Vodafone, Spark and 2degrees. The mobile network operators are jointly building towers in the most efficient way with one set of RAN equipment on each tower and shared power and backhaul. The operators also pool their spectrum, each owning a third of the capacity from each site. This project will not only provide much-needed mobile coverage on highways and in townships via some 500 new mobile base stations, but also on-farm coverage which enables environmental monitoring and management and precision agriculture and horticulture via the global Narrowband IoT (NB-IoT) standard.

¹ Department of Communications statement to Senate Estimates, Tuesday, 9 April 2019

² <https://www.communications.gov.au/sites/default/files/submissions/vodafone.pdf>

Shared RAN models have the potential to help overcome the significant challenge of the economics of mobile network expansion and to promote competition in areas of Australia with low population densities. It is likely to generate interest from infrastructure providers who can deliver sites on an open-access basis to mobile network operators, and potentially third parties offering complementary telecommunications services, who can then compete for customers at the retail level.

However, we note that mobile networks are inherently complex, with the value of the network to consumers and society not determined solely by coverage from a base station in a particular area, but by contiguous coverage across significant geographic areas. In our view, the primary reason which has enabled the success of the New Zealand model has been the fact that domestic roaming has been required by law in New Zealand for many years. This ensured that the three operators considering RAN sharing under the RCG had similar incentives and would be able to deliver not only new unique regional coverage, but also contiguous coverage across their own networks, roaming network and the new coverage areas of the RCG.

To put it another way, there is likely to be little value in new shared RAN model coverage if some mobile carriers do not have an economic way to provide in-fill coverage between the new coverage area and their own networks. Telstra's regional mobile monopoly coverage footprint means there are invariably gaps of potentially hundreds of kilometres between new unique coverage areas and the other operators' own networks. Well-intentioned initiatives to provide new unique coverage under shared RAN models are likely to be substantially undermined unless solutions to the isolated versus contiguous coverage issue are in place.

We are supportive of the MBSP's proposed focus on high priority natural disaster-prone areas including those affected or prone to bushfire, which can include transport corridors that are vital in connecting communities. In order to encourage respondents to propose innovative solutions for these areas, the MBSP should not be overly prescriptive about the types of solutions that are eligible for funding. For example, the MBSP should have the flexibility to fund solutions which can rapidly deploy temporary coverage in disaster situations. It should also accommodate short-term trials and have an assessment methodology which includes the evaluation of the public safety and social benefits a solution will provide.

There should also be flexibility under the MBSP for Commonwealth funding of operational and maintenance expenses in some circumstances. For instance, where there is a particularly strong potential social and/or public safety benefit to be delivered by a proposal, the Government might judge in those cases that the subsidisation of ongoing operating expenses for a defined period is justified. Removal of the existing funding cap will also help accommodate solutions requiring multiple base stations where a higher level of funding may be required.

The total amount of new unique and new overlapping coverage offered by a solution should be equally weighted as part of the coverage benefit assessment criterion. This is particularly important in encouraging solutions that strengthen redundancy and/or resilience in natural disaster-prone areas so that communities can stay connected during emergencies. It is also important in helping to improve coverage and promote competition in areas with only one mobile network operator which in turn can help improve the economics of delivering new unique coverage in remote areas through the creation of contiguous geographical coverage.

We welcome the Government's consultative approach on the design of the next round of the MBSP. We believe the Government's proposals together with the recommendations we have provided in this submission will enhance the MBSP's delivery of its dual objectives of improved regional mobile coverage and the promotion of competition.

Our responses to the key questions raised within this discussion paper are attached. If you have any questions, please do not hesitate to contact Tim McPhail, Head of Public Policy, at tim.mcphail@vodafone.com.au

Yours sincerely

A handwritten signature in blue ink, appearing to be "Dan Lloyd".

Dan Lloyd
Chief Strategy Officer & Corporate Affairs Director

ATTACHMENT: VHA ANSWERS TO DISCUSSION PAPER QUESTIONS

<p>Question 1: Are there any comments on the coverage areas proposed to be targeted?</p>	<p>We are supportive of the proposed focus on high priority natural disaster-prone areas including those affected or prone to bushfire, areas with low population densities and major regional and remote transport corridors.</p> <p>We support the proposed eligible areas identified in the discussion paper with the following comments:</p> <ul style="list-style-type: none"> • Natural disaster-prone areas including those affected or prone to bushfire includes areas in outer suburbs/on the fringe of major cities. • Transport corridors that deliver recognised economic and social benefits to the community includes those routes located within natural disaster-prone areas. For this reason, transport corridors should not be restricted to those which are defined in the Roads of Strategic Importance initiative and National Land Transport Network.
<p>Question 2: Are there any comments on the types of proposals that would be eligible for funding, including the required coverage outcomes?</p>	<p>The MBSP should not be overly prescriptive about the types of solutions that are eligible for funding, in order to encourage innovative solutions to achieve the MBSP’s objectives of improved coverage and the promotion of competition.</p> <p>The MBSP should be capable of considering and funding a wide array of proposals including:</p> <ul style="list-style-type: none"> • Flexible solutions which can provide temporary coverage in disaster situations. • High-impact/lower-cost solutions where deployment is rapid. • Solutions that may not yet be commercially available in Australia. • Solutions that are easily replicable in other parts of regional and remote Australia. <p>The MBSP should accommodate short-term trials and an assessment methodology which includes the evaluation of the public safety and social benefits a solution will provide.</p> <p>While the overall coverage benefit offered by each solution will be measured against the total amount of new unique and overlapping coverage offered by the solution, these should be</p>

	<p>equally weighted as part of the assessment methodology. This is particularly important to encourage solutions that strengthen redundancy and/or resilience in natural disaster-prone areas so that communities can stay connected during emergencies.</p>
<p>Question 3: Is the RAN model an effective sharing model for Australia?</p>	<p>RAN sharing models have the potential to help overcome the significant challenge of the economics of mobile network expansion in regional and remote areas of Australia. This proven model reduces duplicative costs and can deliver greater choice of service provider for end-users.</p> <p>However, there is likely to be little value in new shared RAN model coverage if some mobile carriers do not have an economic way to provide in-fill coverage between the new coverage area and their own networks. This requires solutions to the isolated versus contiguous coverage issue. For example, the equal weighting of new unique and overlapping coverage offered by a solution as part of the assessment methodology.</p>
<p>Question 4: What other design options could be considered that provide multi-provider outcomes?</p>	<p>The MBSP should prioritise 'neutral host' solutions where an infrastructure provider delivers base stations with one set of RAN equipment. Mobile network operators who want to provide a service from these base stations can contribute spectrum in order to share the capacity from the base station via Multi Operator Core Network (MOCN) technology.</p>
<p>Question 5: Are there any comments on the funding cap for Round 5A and eligible costs?</p>	<p>We support the removal of the existing funding cap in order to accommodate solutions requiring multiple base stations where a higher level of funding may be required.</p> <p>There also needs to be flexibility for Commonwealth funding of operational and maintenance expenses in some circumstances. For instance, where there is a particularly strong potential social and/or public safety benefit to be delivered by a proposal, the Government might judge in those cases that the subsidisation of ongoing operating expenses for a defined period (or periods) is justified.</p> <p>We note it is proposed that Round 5A will permit funding recipients to capitalise the costs of leased optical fibre and microwave backhaul in addition to the cost of satellite backhaul which occurred under Round 5. The prohibitive costs of backhaul, particularly leased optical fibre, is a major factor in the lack of co-location on Telstra's MBSP towers and the profitability of site deployment by its competitors.</p>

	<p>Traditionally, transmission links to remote and difficult-to-service locations have had higher Special Linkage Charges (SLCs) levied upon them. VHA recognises that providing transmission to these areas can be costly. However, there is a lack of transparency surrounding how Telstra’s SLCs are calculated. Access seekers are often required to pay for most (if not all) of the costs of installation, notwithstanding that the linkage is an investment in the infrastructure of the service provider which may be used to supply services to other access seekers and/or generate potential benefits for the access provider. In VHA’s experience there are significant variations in the SLCs levied by Telstra.</p> <p>[c-i-c begins]</p> <p>[c-i-c ends]</p>
<p>Question 6: Are there any comments that you wish to make in relation to eligibility to apply for funding?</p>	<p>We support infrastructure providers being able to apply for funding under the MBSP. Round 5A is likely to generate interest from non-carrier providers to deliver base stations under RAN sharing models. These would be made available on a commercial basis to mobile network operators who wish to provide a service and compete for customers at the retail level.</p>
<p>Question 7: Are there any comments that you wish to make regarding ways the program could assist potential state government and third-party co-contributors?</p>	<p>In-kind co-contributions should be considered as part of the value for money assessment. In-kind contributions can reduce the cost to the Commonwealth. They can sometimes be more significant than cash contributions, because the in-kind provider may have access to assets, experience or services that would cost far more if they were sourced elsewhere.</p>
<p>Question 8: Are there any comments regarding the need for a shorter minimum operational period, particularly in remote and very remote areas?</p>	<p>A 10-year minimum period for supporting a retail is appropriate for solutions providing permanent coverage however the MBSP should be capable of considering and funding a wide array of proposals including flexible solutions which can provide temporary coverage in disaster situations. The MBSP should accommodate short-term trials and an assessment methodology which includes the evaluation of the public safety and social benefits a solution will provide.</p>
<p>Question 9: Are there any comments on the proposed equivalency requirement and 4G reference power levels for handheld and external antenna coverage?</p>	<p>There needs to be some flexibility in the handheld and external antenna coverage requirements under the MBSP to accommodate innovative solutions, provided these solutions don’t deliver an unacceptable user experience.</p> <p>[c-i-c begins]</p>

	[c-i-c ends]
Question 10: What criteria should be used to identify key sites where independent power systems or redundant backhaul could be funded?	Proposals for natural disaster-prone areas, including those affected or prone to bushfire, should be assessed on the strength of their redundancy and resilience solutions. The MBSP should prioritise innovative solutions such as those that can operate independently of the power grid indefinitely and/or don't rely on terrestrial transmission, for example.
Question 11: Are there any comments regarding the requirement for at least 12 hours of auxiliary backup power for small cells?	The MBSP should specify service availability requirements rather than being prescriptive about how that availability is achieved (in this case auxiliary backup). There are multiple ways of achieving the required service availability.
Question 12: Do you have any comments on the proposed assessment criteria?	<p>We propose an additional assessment criterion – that of Innovation. This criterion could assess the degree to which the innovative nature of the solution meant that it had uncovered new ways to solve connectivity problems, provide greater redundancy and resiliency, could be replicated more widely, and/or can be deployed more flexibility and quickly.</p> <p>While the overall coverage benefit offered by each solution will be measured against the total amount of new unique and overlapping coverage offered by the solution, these should be equally weighted as part of the assessment methodology. This is particularly important to encourage solutions that strengthen redundancy and/or resilience in natural disaster-prone areas so that communities can stay connected during emergencies.</p> <p>We also suggest the assessment methodology prioritise the recognised public safety and social benefits that would be generated by a proposed solution.</p>