
Mobile Black Spot Program Round 5A discussion paper

About Vocus

Vocus is Australia's specialist fibre and network solutions provider operating the country's second-largest intercapital network. In total, the Vocus terrestrial network is ~30,000km of high-performance, high-availability fibre-optic cable supported by 4,600km of submarine cable connecting Singapore, Indonesia and Australia and 2,100km of submarine cable between Port Hedland and Darwin connecting offshore oil and gas facilities in the Timor Sea. Vocus owns a portfolio of brands catering to enterprise, Government, wholesale, small business and residential customers across Australia and New Zealand. Vocus welcomes the opportunity to provide this submission.

Executive Summary

The Mobile Black Spot Program (MBSP) has delivered a substantial increase to mobile coverage in regional Australia, with 1,229 new sites announced under the first five rounds. But while the MBSP has successfully expanded mobile coverage, more can be done to improve competition. Of the sites funded to date, close to three-quarters are being delivered by a single operator, and only ~10% of these new sites are being utilised for co-location by other Mobile Network Operators (MNOs) to provide competitive coverage.¹

One key constraint on co-location and competition in regional areas is the prohibitive cost of backhaul – that is, the cost of carrying data from the mobile tower back into the MNO's core network, typically done via a microwave backhaul link or fibre optic cable. While microwave is common for 3G and 4G networks in regional and remote locations, fibre is a necessity for MNOs seeking to offer the full gamut of 5G capabilities – exacerbating these already prohibitive backhaul costs.

Vocus submits that the refreshed approach to 'promoting competition outcomes' proposed for Round 5A would benefit from the inclusion of 'backhaul sharing' models alongside RAN sharing. The deployment of new fibre backhaul constitutes a much higher proportion of the cost of a new mobile tower than RAN equipment, so the economic benefits of fibre backhaul sharing are likely to promote competition outcomes to a greater degree than RAN sharing alone.

As well as improving the investment case for new base stations in non-commercial areas, backhaul sharing could also deliver auxiliary benefits by driving fibre deeper into regional Australia, improving the business case for further fixed-line and fixed-wireless network deployments to nearby communities.

¹ Department of Communications statement to Senate Estimates, Tuesday, 9 April 2019: 96 of 1,047 new sites funded under rounds 1-4 were being used for co-location.

Response to the Department's questions

Note: Vocus is not a Mobile Network Operator, so will respond only to questions which are relevant to Vocus' business as a provider of specialist fibre and network solutions.

Question 4: What other design options could be considered that provide multi-provider outcomes?

The discussion paper notes that internationally there has been a move to more advanced infrastructure sharing models to deliver mobile services in non-commercial areas. The paper goes on to propose that funded solutions should employ active RAN sharing models.

Vocus submits that active RAN sharing is just one element of infrastructure sharing, and that backhaul sharing models should also be considered for inclusion in the program guidelines to promote multi-provider outcomes. Given that the installation of fibre backhaul constitutes a far higher proportion of new site costs than RAN equipment, shared backhaul arrangements are likely to have a far greater impact on the feasibility of a new site in a non-commercial area than RAN sharing alone.

Design principles for backhaul sharing could include open-access and pricing equivalence obligations on the fibre provider, or a process to appoint a carrier-neutral backhaul provider – which would have the financial incentive to provide services to as many MNOs as possible.

This model has a precedent in the New Zealand Rural Connectivity Group (RCG) initiative, where Chorus acts as a carrier-neutral, wholesale-only fibre backhaul provider to all three MNOs at a site². The RCG deployment model included three separate 'sharing' elements to provide the most efficient economic case for the rollout: a Multi-Operator Core Network (MOCN), a Multi-Operator Radio Access Network (MORAN), and a carrier-neutral, wholesale-only fibre backhaul provider.

The MBSP could benefit from these additional elements of the New Zealand RCG sharing model. Under previous rounds of the MBSP, backhaul arrangements were largely left to market forces, where competitive MNOs seeking to co-locate RAN equipment would either purchase backhaul from the site owner at a commercial rate, or would be required to install their own backhaul equipment. This approach is likely to have contributed to low levels of co-location, as either option was often commercially-unviable for a second or third MNO. There is also the risk that the MNO responsible for building a new MBSP site could have the incentive to keep its commercial backhaul prices high to maintain its coverage monopoly, despite the fact that co-location could reduce overall costs.

Government should consider the merits of including open-access, carrier-neutral and/or pricing equivalence backhaul provisions in Round 5A and subsequent rounds. A carrier-neutral operator has a commercial incentive to provide backhaul services to as many MNOs as possible on each tower, as it would enjoy economies of scale from having multiple operators' traffic on the backhaul link.

² <https://www.thercg.co.nz/rcg-appoints-chorus-to-deliver-backhaul-fibre-to-rbi2-cell-sites/>

This model would be particularly useful to meet Round 5A's objective of improving coverage along transport corridors, where a single fibre line could be used to connect multiple base stations (or a 'cluster') along a stretch of highway. This would also deliver additional benefits to communities along that highway, which would not only have access to new mobile coverage but could also benefit from improved fixed-line services due to the ability to access the new backhaul link.

Additionally, Round 5A will be the first round of the MBSP to be conducted in a market where all MNOs are actively rolling out 5G networks – where fibre backhaul is a necessity to offer the full capabilities of 5G. While MNOs have previously been able to reduce deployment costs in non-commercial areas by utilising satellite or microwave backhaul, these technologies are suitable only for 3G and 4G networks with relatively limited capacity. Ongoing dependence on satellite and microwave backhaul risks entrenching a 'digital divide' between full-capability 5G sites with fibre backhaul and 3G/4G sites (or limited-capability 5G sites) on alternative backhaul technologies.

Question 12: Do you have any comments on the proposed assessment criteria?

The proposed assessment criteria for new sites is largely limited to coverage outcomes and value for money. Government may wish to consider assessing the auxiliary benefits of a new sites, such as whether it includes the deployment of new fibre deeper into a regional area which will have additional uses beyond just providing backhaul to the MBSP site.

For example, a new mobile site funded under the MBSP could include the deployment of a new fibre line which traverses a regional community, and that fibre could then be extended to businesses or premises within that community. In this case, the fibre is unlikely to have been connected to that community without the Government subsidy offered as part of the MBSP funding, therefore could be considered as an auxiliary benefit of the site.

Another example is that new fibre deployed to an MBSP site may also be able to serve nearby NBN Fixed Wireless towers, or could allow NBN to establish a new Fixed Wireless tower in a location which would otherwise be economically unviable. NBN's loss-making Fixed Wireless rollout is heavily reliant on microwave backhaul to manage costs, leading to the network suffering from capacity constraints in some areas. Vocus submits that fibre backhaul capacity deployed to serve MBSP sites could equally benefit NBN's Fixed Wireless network. Equally, shared backhaul provisions in the MBSP guidelines could be used to promote further co-location of mobile equipment of NBN Fixed Wireless towers. Some 72 MBSP sites were co-located on NBN fixed wireless towers at April 2019³, and this number could increase if a greater proportion of NBN Fixed Wireless towers had fibre backhaul.

Please direct any questions regarding this submission to:

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Vocus

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³ Department of Communications statement to Senate Estimates, Tuesday, 9 April 2019