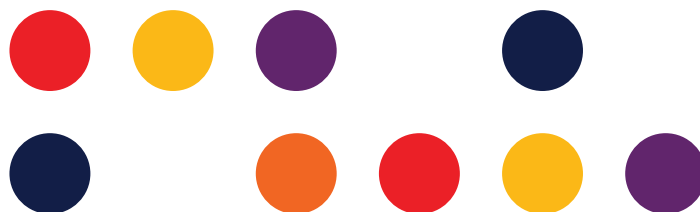# ACCC Regional Mobile Infrastructure Inquiry

Consultation Paper

5 August 2022

Public version

Submission

TPG Telecom Limited (**TPG Telecom**) welcomes the opportunity to make submissions to the ACCC Regional Mobile Infrastructure Inquiry (**Inquiry**).

TPG Telecom is fully cognisant of the poor economics involved in building mobile infrastructure outside of metropolitan areas in Australia. Given this reality, we have strongly advocated for telecommunications policy to create incentives for greater infrastructure sharing – active and passive sharing – between mobile network operators (**MNOs**) in regional and rural Australia. This would enable finite resources to stretch further than any single MNO can hope to achieve alone. Furthermore, it would also increase retail competition, giving Australians who live in regional and rural areas real choice.

It is unfortunate policy makers and regulators have, to date, resisted the idea of doing more to incentivise network sharing. The prevailing misapprehension is that multiple mobile network operators (**MNOs**) could each deploy separate network infrastructure in regional and remote areas even though each MNO would never recoup those investments if they were made.

The ACCC's decision to not declare domestic mobile roaming following its 2016 inquiry was a missed opportunity to make a difference for regional telecommunications. Subsequent ad hoc efforts, such as the ACCC's regional mobile issues forum in 2017/18, did very little to move the needle for regional and rural consumers.

The Mobile Black Spot Program (**MBSP**), commenced in 2017, represents another missed opportunity. The poor design choice of Round 1 of the MBSP continues to have negative impacts on subsequent rounds. Despite the MBSP spending close to a billion dollars of the public's money, politicians and policy makers are still grappling with challenges related to regional mobile coverage.

Some industry participants continue to deliberately and incorrectly claim infrastructure sharing would lead to worse outcomes for regional consumers. However, it is clear these assertions are not supported by the facts. The 2021 Regional Telecommunication Independent Review Committee's findings largely confirmed infrastructure sharing is likely the only path to securing better outcomes for regional and rural Australians.

This is not surprising, given many overseas telecommunications markets comparable to Australia have adopted network sharing as the preferred approach to addressing the coverage challenges in regional and rural parts of their countries. For example, New Zealand's Mobile Black Spot Fund requires MNOs to share publicly funded sites.

Australian State Governments have also designed co-contribution programs with explicit sharing obligations. For example, TPG Telecom strongly supports the funding models used by the Victorian Government, where operators are incentivised to work together to build mobile sites to the benefit of all Australians. Furthermore, the ongoing NSW Government's Mobile Coverage Project has an explicit focus on active sharing. We believe any future Federal Government mobile funding programs ought to have open access as a core

obligation.

For the first time in Australia, the policy and commercial imperatives have aligned to create an environment where real network sharing between MNOs is possible. This shift will lead to significant improvements in the quality of mobile services for regional consumers.

For example, the proposed active network sharing arrangement between TPG Telecom and Telstra (the **MOCN arrangement**) aims to combine the mobile network assets of both MNOs in approximately 81-98.8% population coverage areas, representing approximately 1.5 million square kilometres of mobile coverage, and will increase the amount of spectrum capacity available for consumers to use. This not only improves service quality near mobile sites but will extend usable coverage in cell-edge conditions.

By combining network assets, TPG Telecom and Telstra will be able to save costs, improve the quality of service within the MOCN coverage areas, and increase resources available to improve other parts of the mobile network that are not part of the MOCN arrangement. This includes peri-urban areas of Australia which predominantly sit within the 60-80% population coverage areas, where TPG Telecom and Telstra will continue to operate their own radio access networks.

The MOCN arrangement will also increase the choice of providers available to regional and rural consumers. This increased competition is likely to spur *smarter* investment decisions by MNOs to improve the quality of mobile services in regional and rural Australia.

Network sharing must be done in the right settings to promote competition and not harm the long-term interests of end-users. The MOCN arrangement achieves this. For example, non-discrimination obligations regarding TPG Telecom and Telstra consumers, and non-exclusivity provisions built into the MOCN arrangement are clearly designed to ensure the MOCN arrangement does not negatively impact the competitive process, while preserving the cost-cutting benefits of the arrangement.

While we support the goals of this Inquiry, it focusses on passive asset access and active network sharing in emergency situations. These will likely only result in incremental changes to the status quo. Any improvements as a result of this Inquiry will pale in comparison to the benefits of the MOCN arrangement. For example, an immediate public benefit of the MOCN arrangement is all MBSP sites within the MOCN coverage area will become multi-carrier by default, whereas the majority of them are only used by a single MNO today. This fixes the critical flaw of the MBSP design and improves the 'bang for buck' of the public's money previously spent under the MBSP.

Nonetheless, TPG Telecom embraces any changes which would lower the barriers for TPG Telecom to improve its network coverage and lead to improved mobile services for TPG Telecom customers.

TPG Telecom supports the ACCC's close examination of the market for mobile infrastructure access, noting the ACCC must discourage pure rent-seeking behaviour by tower companies and promote incentives that make co-location a preferred outcome by all industry participants.

With respect to temporary roaming in emergency situations, TPG Telecom notes that the difficulties lie in implementation and operation. Furthermore, fixing temporary power outages to mobile sites would likely ameliorate most, if not all, mobile network outages in emergency situations and reduce the need for temporary roaming.

Given the above, TPG Telecom welcomes the ACCC's fact finding Inquiry and looks forward to engaging with the ACCC over the course of this 12-month Inquiry. However, if completed, the MOCN arrangement will improve the trajectory of mobile coverage in regional and rural Australia many times over incremental changes to the existing regulatory framework for tower access, or the introduction of temporary roaming measures.

TPG Telecom's responses to the ACCC's questions are attached below.

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TPG Telecom response to ACCC questions

Access to towers and associated infrastructure

1. *What are the typical costs incurred in providing telecommunications towers and associated infrastructure? Can you quantify these costs by providing examples?*

   Following TPG Telecom's tower sale to OMERS, TPG Telecom will no longer supply access services as all TPG Telecom sites will be owned by OMERS. TPG Telecom will pay an annual rental cost for accessing OMERS sites.

   Generally speaking, costs incurred by tower providers in order to provide another party access may vary across different types of tower owners. TPG Telecom has always been pro-sharing and consistently advocated for barriers to co-location to be lowered.

   [c-i-c]

   [c-i-c]

2. *What costs are involved (for example, in setting up and maintaining) business practices and systems needed to support the provision of access to towers and associated infrastructure?*
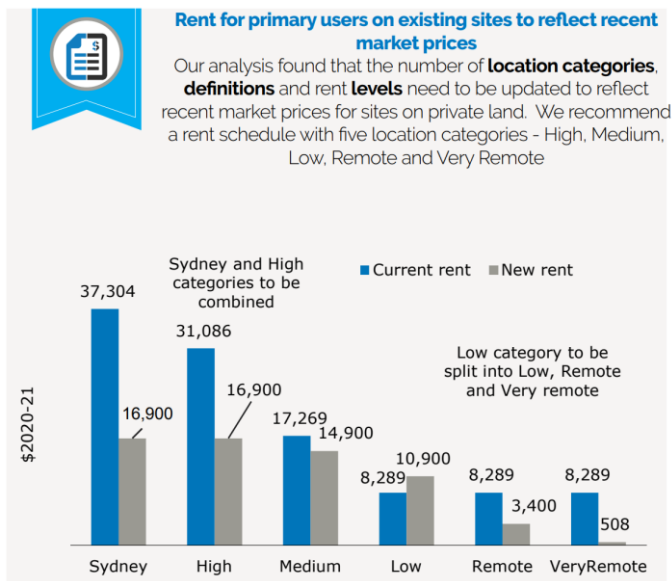
   [c-i-c]

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3. *What costs are involved in accessing land required for the establishment and operation of telecommunications tower infrastructure? Do these fees differ depending on the owner of the land (for example, public v private ownership)?*

Other than the cost of building the physical tower, the main costs involved are ongoing rents paid to property owners. The market rate for rent varies but generally speaking are higher than necessary given landowners may have some bargaining power in relation to preferred and legacy sites. This increases the barriers to deployment and co-location.

For example, in a 2019 report,[1] IPART recommended the NSW Government significantly reduce rents charged on Crown land in NSW in almost all cases, and the removal co-user fees:

While this report is about rental costs on public land, the outcomes and recommendations made by IPART can be generally applied across to private land (although rental contracts with private landowners are more varied). TPG Telecom strongly supports IPART's recommendations.

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[1] IPART, Review of Rental Arrangements for Communication Towers on Crown Land, Final Report, November 2019

4. *What are the typical commercial arrangements for access to towers and associated infrastructure?*

Historically, due to the potential competitive impacts on downstream markets, Telstra engaged in practices that increased the barriers to co-locate. For example, as the ACCC is aware, TPG Telecom has made public submissions regarding Telstra's practice of reserving tower space on a site, often several years in advance based on speculative requirements. This is a problem because often the second operator must undertake to strengthen the site to *account for future Telstra capacity requirements* which may or may not eventuate when the second operator seeks co-location. These additional costs to strengthen a site can be prohibitive. Moreover, the second operator is given an artificially lower position on the tower leading to reduced signal propagation and hence lower quality of mobile service for consumers.

Other practices also contributed to increasing the barriers to co-locate. These included requiring the second operator requesting co-location to enter into separate rental agreements with property owners, when the hosting operator could accommodate the second operator's ground equipment under its existing rental agreement. This has the effect of increasing the cost for the second operator seeking to co-locate.

[c-i-c]

[c-i-c]

Until recently, there has been only a limited number of tower companies (eg Axicom, now part of ATN) and therefore there was little meaningful competition in the supply of mobile infrastructure as well as significant vertical integration. Historically, issues arose when an operator sought to upgrade/replace the radio equipment on a mobile tower. This triggers additional payment demands by tower owners which made it more difficult for operators to upgrade their networks.

More recently, all three mobile operators have sold their towers (to various ownership degrees). This structural change may solve some of the legacy issues within the industry, however it may also amplify other issues such as increasing the incentives for rent-seeking behaviour by tower companies.

[c-i-c]

[c-i-c]

5. *What role do specialist entities such as land aggregators, both commercial and government, play in acquiring access to land or the sites of towers?*

    TPG Telecom does not have any specific comments but notes rental costs are generally high and such arrangements tend to exacerbate such costs, thereby increasing the barriers for operators to deploy/upgrade mobile sites.

6. *Are there any other considerations that contribute to/determine these commercial and other fee arrangements for access to towers and other infrastructure?*

    Historically, downstream competitive considerations may have contributed to a mobile operator's willingness to co-locate or grant affordable access to a second operator. While the recent tower sales may resolve some of these non-fee issues, they may create or enhance other problems.

7. *What other matters do providers of towers and associated infrastructure consider in deciding to provide towers and/or provide access to towers?*

    The relevant commercial contracts contain a specific procedure for seeking access that reflects industry best practice and the bespoke arrangements of the parties.

8. *Are current commercial arrangements for access to mobile towers and associated infrastructure effective? If not, why and what could be done to improve their effectiveness?*

    [c-i-c]

    [c-i-c]

9. *Are current regulatory arrangements for access effective? If not, why and what could be done to improve their effectiveness?*

    Historically, TPG Telecom found the barriers to co-locate are high and the regulatory arrangements did not necessarily lower these barriers sufficiently to ensure timely access on reasonable terms. These barriers were often practices designed to frustrate a second operator, for example, through capacity reservations.

    Due to the recent tower sales, some of these legacy issues may be resolved but continuing issues are created by vertical integration. See our comments above.

10. *Has the recent divestiture of tower infrastructure by MNOs impacted on the*

effectiveness of current commercial and regulatory arrangements? Please provide details and examples.

See our comments above.

11. *What costs do providers of towers and associated infrastructure incur in providing active and/or passive mobile infrastructure? Can you quantify these costs?*

We have provided previous separate submissions to the ACCC on these issues in various contexts, including in the context of the mobile roaming declaration inquiry.

12. *How does the cost of providing new, or upgrading existing, mobile tower (both active and passive) infrastructure impact the decision to invest in infrastructure that can be used to supply mobile telecommunications and other radiocommunications services?*

[c-i-c]

[c-i-c]

13. How does the cost of access to mobile towers impact the decision to provide access to mobile telecommunications and other radiocommunications services?

Access costs and frustrating practices to prevent co-location do impede an operator's ability to provide downstream services. Several examples are provided in our responses above. TPG Telecom also provided submissions to the ACCC on these issues in the context of the mobile roaming declaration inquiry.

14. Are there additional costs specific to rural, regional, remote or peri-urban areas?

There are additional cost considerations to building a site beyond metropolitan areas. Costs are usually higher due to increased difficulty and/or remoteness of a site. For example these increased costs can be in the form of connecting power to a site, requiring engineers and machinery to travel to a remote location, and other civil works.

15. What are the implications of MNOs divesting their tower assets on the current commercial and other fee arrangements for access to towers? How have these changed as a result of the divestment of tower assets by MNOs? Do you expect these to further change in the future and why?

It is unclear whether the new tower owners would be incentivised to cooperate to co-locate infrastructure to drive down costs. [c-i-c]

[c-i-c]

16. How has the recent divestment of tower infrastructure by MNOs impacted:
    (i)   the scope of access offered
    (ii)   the terms and conditions of access, and
    (iii)   the commercial and other fee arrangements for access.

See our response to question 8 above.

17. How does the cost of providing mobile towers and associated infrastructure affect the provision of greater mobile coverage?

At a high level, high access costs heighten barriers to co-location and negatively affects the ability of operators to provide better mobile coverage. Lower access costs will do the reverse. TPG Telecom made submissions to the ACCC on these issues in the context of the mobile roaming declaration inquiry.

TPG Telecom believes it is better to share infrastructure under the right settings to benefit everyone, rather than waste resources to overbuild. This means as an industry, we could do more with the same amount of resources. This would disproportionately benefit those who live outside the major Australian cities (ie >60% population coverage areas).

18. *What kinds of measures would promote improved mobile coverage?*

Due to the unescapable fact Australia is a large continent with very low population densities beyond the capital cities, promoting the right kind of network sharing is the only realistic policy option available to improving mobile coverage in areas that are uneconomic for operators to build their own infrastructure.

For some time, TPG Telecom has been a strong proponent of infrastructure sharing. For example, TPG Telecom sought a domestic roaming declaration in 2016, and more recently announced a regional active network sharing agreement with Telstra that would increase the quality of regional mobile coverage and offer regional consumers more choice of providers.

When done in the right way, network sharing, will not only improve coverage but it would also improve competition and bridge the digital divide. However, when policies are poorly designed, they can lead to non-optimal outcomes. For example, TPG Telecom has been a critic of the poorly designed MBSP which had no obligations to provide open access in Round 1 of the MBSP.

19. *To what extent will the matters raised in the consultation paper impact, or be impacted by, the extension of 5G coverage?*

TPG Telecom believes any policy changes must be generation agnostic and not just be applied to 5G. This is because there will be a 6G, 7G, etc, and ideally, any policy changes should be just as applicable to 4G, 5G, 6G and so on.

Policy and regulation should be designed with the aim of being as agnostic as possible to ensure it remains fit for purpose in the long run.

20. *How are consumers impacted by a lack of mobile coverage? What are the impacts for indigenous people in regional and remote areas?*

Historically, TPG Telecom has had a limited presence in regional and remote areas. However, this may change in the future under the recently announced active network sharing agreement between TPG Telecom and Telstra.

Consumers, including First Nations people, can be negatively impacted by the lack of

mobile coverage. The keenest impact would be when a person needs to contact emergency services but find they have no mobile service reception. Day-to-day impacts of poor coverage should not be underestimated either, as many people use their mobile phones as the only way to stay in contact with friends, family, and their community.

TPG Telecom is aware First Nations people are disproportionately disadvantaged by the lack of mobile services in their local communities. According to the ABS, 62.9% of the Aboriginal and Torres Strait Islander population live outside the major cities.[2] TPG made submissions to the ACCC on these issues in the context of the mobile roaming declaration inquiry and highlighted the benefits of local communities having a choice in their service provider.

This disadvantage can manifest in simple everyday activities other Australians take for granted. For example, due to the lack of mobile coverage, people in a community may not have access to the social services they need because of the inability for the service provider to contact people in order to deliver those services.

Missed appointments to basic social services, such as healthcare and education, due to the inability to communicate frictionlessly in real time, is a major issue caused by the lack of persistent mobile coverage in communities where First Nations people live.

Furthermore, as Government services continue to digitise, people living in remote communities will be left further behind. For example, the best way to logon to myGov (and many other public and commercial services) is using a one-time-PIN sent via SMS. If a community does not have access to mobile services, they are essentially foreclosed from these services.

Lastly, the mobile blackspots program was a missed opportunity that could have improved the situation. However poor program design led to a lack of incentive on the part of MNOs to share infrastructure that could benefit all. Sharing costs would stretch the pool of available funding further, increasing coverage and improving the quality of coverage in regional and remote Australia.

21. *In what areas could mobile coverage be improved?*

   N/A

Mobile roaming during natural disasters and other emergencies

22. *What are the benefits to the general public from the provision of temporary mobile*

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[2] See: https://www.abs.gov.au/statistics/people/people-and-communities/location-census/2021

roaming during emergencies? Are there any potential detriments?

The benefits of temporary roaming during emergencies (we refer to this as 'disaster roaming') are self-evident, however a poorly designed implementation could lead to even worse outcomes.

From a mobile network operator's perspective, the key risk is the visited network (the one providing the roaming service) becomes overloaded because it was never provisioned to provide temporary services to additional users on its network. The consequence of this is parts of the visited network may be unusable *for everyone*, both home and roaming customers, due to congestion.

The bookend cases for considering the merits of disaster roaming are: (1) in rural Australia where only Telstra has network coverage, and (2) in a populated area where there are three mobile networks present. The second case is likely to require the most consideration and careful planning due to the potential for a visited network to experience up to 200% increase in users in a populated area.

23. *What are the benefits to emergency service personnel and organisations from the provision of temporary mobile roaming during emergencies?*

Emergency service personnel and organisations would have greater access to mobile coverage.

24. *What are the technical requirements to enable temporary mobile roaming during natural disasters and other emergencies?*

Disaster roaming would require agreement and implementation of roaming architectures and the methods of communicating and enabling roaming in the event of a disaster and disabling roaming once the disaster is over. Generally speaking, the risk of congestion on the visited network must be a primary consideration from a technical perspective. As discussed above, if the visited network is flooded with traffic and becomes unusable for everyone, it would be a worse outcome compared to a situation where disaster roaming was not available.

The 3GPP has developed a set of 'Disaster Roaming' protocol for managing roaming in an emergency[3] which sets out in detail what the requirements might look like, assuming standard roaming is already established between MNOs.

Even in the most optimistic case, we expect it would take many years for the disaster

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[3] 3GPP TR 24.811

roaming feature to be implemented and consumers having compatible devices to benefit from this feature.

Separate to the technical considerations, there are many policy and operational considerations, including questions of liability. For example, it is not clear who is best placed to declare disaster roaming. In cases where the visited network is going to become congested unless measures are taken, who decides the prioritisation of users/use cases? And if something terrible happens because the visited network operator deprioritised a user due to congestion issues, who bears liability?

25. *Are there limitations (eg. capacity) to current technology and business processes that would impact the ability for MNOs to provide mobile roaming during natural disasters and emergencies?*

As discussed above, congestion risk for the visited network is a priority consideration. It may be difficult for the visited network operator to predict usage of the network during disaster roaming in a populated area, and hence prepare ahead of time for it. Adding capacity to a network takes time (eg densification, site equipment upgrades, core network upgrades), and capacity cannot be quickly added to a network during an emergency on short notice.

As discussed above, there are many policy and operational considerations.

26. *Are there any likely impacts on quality of service if mobile roaming during emergency situations was enabled? What level of service should be enabled – voice, sms, data?*

In an emergency scenario, there is a risk of creating a signalling storm in the visited network caused by large numbers of devices trying to attach to the network if the activation is not well managed. The larger the area of the emergency, the greater the risk. This signalling storm has the potential to impact visited network customers outside the affected area in addition to those in the affected area.

Once attached to the visited network the additional customers could impact the quality of service provided if it is activated in a populated area. This is because during an emergency, many people simultaneously want to use their phones and if they cannot connect, they try again and again.

This network congestion can happen for a single network and its users from time to time, for example during New Year's Eve celebrations or major sporting events, when there are many people concentrated at a location and they all attempt to simultaneously use their phones.

During disaster roaming, the visited network may be flooded by additional demand

from customers from two other networks. This additional demand is difficult to anticipate and provision for. Capacity management protocols must be implemented ahead of time, and this still does not guarantee services would not be degraded if disaster roaming is switched on.

The determination of which services should be enabled will ultimately be settled by policy trade-offs. For example, if data services were limited during temporary roaming, then OTT messaging services will not work. Many people rely on OTT services as their primary form of communications, and these include vulnerable groups such as non-native English speakers who are accustomed to using OTT apps and not SMS.

27. *What are the protocols for declaring a natural disaster or emergency? How is this communicated and co-ordinated with mobile network operators?*

TPG Telecom reserves its position on this consideration. Any design of a disaster roaming protocol will involve policy trade-offs.

We look forward to engaging with the ACCC over the next 12 months of this Inquiry on these important operational issues.

28. *What alternative solutions (other than temporary mobile roaming) could be considered to improve network resilience during or after a natural disaster or other emergency?*

Any alternative power sources (eg back-up generators), could significantly improve network resilience.

In TPG Telecom's experience, in almost all cases where there is network outage due to an emergency, it is due to disconnected power to the mobile site. If power can be restored, and done quickly, it would likely resolve any need for disaster roaming.

TPG Telecom's experience is that once power is disconnected, no operator on that site (and likely all sites in the area) will have network services. In this case, disaster roaming will not achieve the intended outcome. The only way to restore network services is to restore power to the affected mobile sites.

29. *What are the costs involved in providing temporary mobile roaming during emergencies?*

TPG Telecom reserves its position on this consideration. Implementing disaster roaming that is standardised by 3GPP should be easier than a non-standard implementation. However, there are likely unavoidable industry and ecosystem costs. For example, consumers will need to have compatible handsets, and network operators may need to upgrade their radio access network equipment. Quantification

of such costs should, ideally, only be undertaken once a number of high-level questions are resolved.

We look forward to engaging with the ACCC over the next 12 months of this Inquiry on these important issues.

30. *To what extent can emerging technologies improve mobile coverage, including during times of emergencies such as a natural disaster?*

We would need to understand what emerging technologies were being considered and the circumstances. For example, satellite technologies deliver a lower quality of service to mobile services, but may be an important fallback if local mobile network coverage is not available due to the nature of the natural disaster.