



**Submission to ACCC Domestic mobile roaming declaration
inquiry**

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The NSW Farmers' Association (the Association) is Australia's largest State farmer organisation representing the interests of its farmer members – ranging from broad acre, livestock, wool and grain producers, to more specialised producers in the horticulture, dairy, egg, poultry, pork, oyster and goat industries.

Executive Summary

It is the Association's view that the most important consideration for the ACCC (the Commission) in this inquiry is what effect a declaration would have on investment in upgraded or expanded mobile coverage in regional areas. As many of the Association's members experience daily frustrations with inadequate or non-existent mobile phone coverage, the Association would not support any decision that may reduce investment in regional mobile coverage and capacity. It is therefore imperative that the Commission use the current inquiry to undertake a rigorous and detailed examination of the investment claims and plans of different mobile network operators (MNOs) to determine how effectively the current competitive landscape is in promoting investment in regional Australia.

In reviewing MNO investment plans, it is important that the Commission goes beyond headline investment figures and examines whether investment is likely to permeate to the edge of existing mobile networks. The geographic spread and location of any investment is critical in determining what benefit it will have for rural, regional and remote Australians.

Telstra's 3G coverage currently reaches 99.3 percent of the population, and it has announced plans to take its 4G coverage to 99 percent of the population. The Association calls on the Commission to investigate and interrogate what plans Telstra and other MNOs may have to take their coverage to the one percent of the population not currently slated to receive a 4G service from Telstra. Given Vodafone's advocacy for the introduction of roaming, the Association seeks that the Commission interrogate Vodafone's plans invest in its regional network, and particularly its plans to invest up to or beyond Telstra's current network in the event that roaming is declared.

The Association recommends that the Commission only introduce roaming if it is satisfied the decision will not negatively impact on investment in expanded and upgraded coverage in regional Australia. However, in the event that the Commission finds that there has been, or will continue to be a dearth of investment in regional Australia, or if it is satisfied that roaming will not impact upon planned investment, then greater competition would be of benefit to regional mobile users, and particularly to farmers.

If roaming was to be introduced, in order to mitigate any loss of investment incentives, access seekers should be required to meet minimum coverage extension targets, including explicit targets for the extension of coverage into areas where there is currently no coverage. These requirements should be time bound, and should feature sufficient regulatory incentives and penalties to ensure that the targets are met.

Farmers fall into the demographic that are most likely to be affected by the Commission's decision regarding a declaration of mobile services, and when it comes to mobile communications, coverage is the most important factor for farmers. Greater competition is always welcome, but it will never be more important than extended or upgraded coverage.

The Association believes that the Commission must carefully investigate how MNOs might respond to a decision to only declare 3G services, particularly focusing on what outcomes it might have on long term investment in regional Australia. A decision to declare only 3G services may see MNOs compete for customers based on their 4G coverage claims, but it may also create the impression that any future network deployments will eventually be declared, and subsequently stymie investment.



The Association supports modifications to the Mobile Black Spot Programme (MBSP) conditions as an alternative or additional means of promoting long term competition in regional, rural and remote mobile markets. The Association believes that any MNO that receives public funding for a mobile black spot tower should at minimum be required to wholesale the services from that site, making them available to another MNO or a mobile virtual network operator (MVNO). The provision to wholesale could follow a period of exclusive retail access, allowing the MNO that built the tower the opportunity to recover their up-front investment.

Mandating that services from MBSP towers are wholesaled could provide a long term incentive for MNOs to extend mobile coverage to reach those towers, promoting infrastructure based competition at the edge of the network and giving consumers an opportunity to access alternative providers. The same could be achieved through requiring roaming from MBSP towers.

The Association believes that the MBSP should be allocated long term funding from the Commonwealth to ensure that coverage continues to expand across regional Australia. This could be provided from the money currently allocated to the construction and maintenance of payphones under the Universal Service Obligation and as part of a broader initiative to create a new, modern USO that guaranteed minimum standards for both voice and data.

Summary of Recommendations

RECOMMENDATION 1: That the Commission forensically review the investment plans of all MNOs, and discern their intent to invest in expanded and upgraded mobile networks in regional Australia, particularly focusing on any investment plans at the edge of current coverage areas.

RECOMMENDATION 2: That if the Commission chooses not to introduce roaming, it should review the decision within three years and explicitly examine whether MNOs have met the investment commitments outlined in this review.

RECOMMENDATION 3: That the Commission not introduce roaming unless it is satisfied the decision will not negatively impact on any MNO plans to expand and upgrade coverage in regional Australia.

RECOMMENDATION 4: If roaming is introduced, the Commission place strict, time bound covenants on access seekers requiring them to meet minimum coverage extension targets during the period in which they have roaming access. These covenants should also include explicit targets for the extension of coverage into areas where there is currently no mobile coverage.



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1. Legislative Framework and Assessment Approach

The Association notes that the ACCC (the Commission) is required to only consider three objectives as part of any declaration inquiry; competition, any to any connectivity and infrastructure investment.

As a part of consideration around incentive for infrastructure investment, the Association believes that the Commission should consider in detail what impact a declaration of roaming will have on network coverage, and whether a declaration will result in a reduction of investment that would otherwise have upgraded capacity and expansion of coverage at the edges of the current mobile network. The geographic location of investment matters, as total investment figures are not a direct proxy for upgraded or expanded coverage at the edge of the mobile network.¹

In this regard, the Association would like the ACCC to attempt to quantify what plans mobile network operators (MNOs) have to extend coverage to take advantage of the innovation and productivity gains that could result from the broad scale implementation of machine to machine (M2M) technologies and the internet of things (IoT) across all agricultural industries. The Association believes that the rise of these technologies heralds significant opportunity in agriculture, and may create sufficient demand dynamics to make expanded mobile coverage in regional Australia more commercially appealing. Conceivably, while the data use of these technologies is likely to be low, their large scale deployment across agricultural industries could make it more commercially attractive to build new towers in areas that, to date, have been without any coverage, and have been regarded as un-commercial by MNOs. As above, while improvements to competition are always welcome, the Association would not want to see a situation where the declaration of mobile roaming stymied investments in coverage and capacity of regional mobile networks to facilitate what many believe is a coming “ag-tech boom”.

As a part of this inquiry, it is also important that the Commission consider the consumers that do not live and work within a reliable mobile network footprint. It is these consumers who may benefit most in the long term through investment that incrementally expands mobile coverage. A large proportion of the Association’s membership does not have reliable mobile coverage on their farms, which creates safety risks and stifles business productivity and investment. The impacts of decisions to invest (or not to invest) extend well beyond the geographic boundaries of the current mobile networks.

Farmers are the people who will be directly impacted by any decision regarding roaming. They are the people most likely to lack choice of mobile services, but they are also the people most likely to lack mobile coverage.

¹ Schoen, D. (2016) Operators all talk: put your money where your mouth is on mobile roaming, *Sydney Morning Herald*, 1 November, available from: <http://www.smh.com.au/comment/operators-all-talk-put-money-where-mouth-is-on-mobile-roaming-20161031-gsehoi.html>, accessed 1 November 2016.

Figure 1: The edges of the 3G network, Telstra's 3G coverage in the Parkes electorate (Source: Telstra)

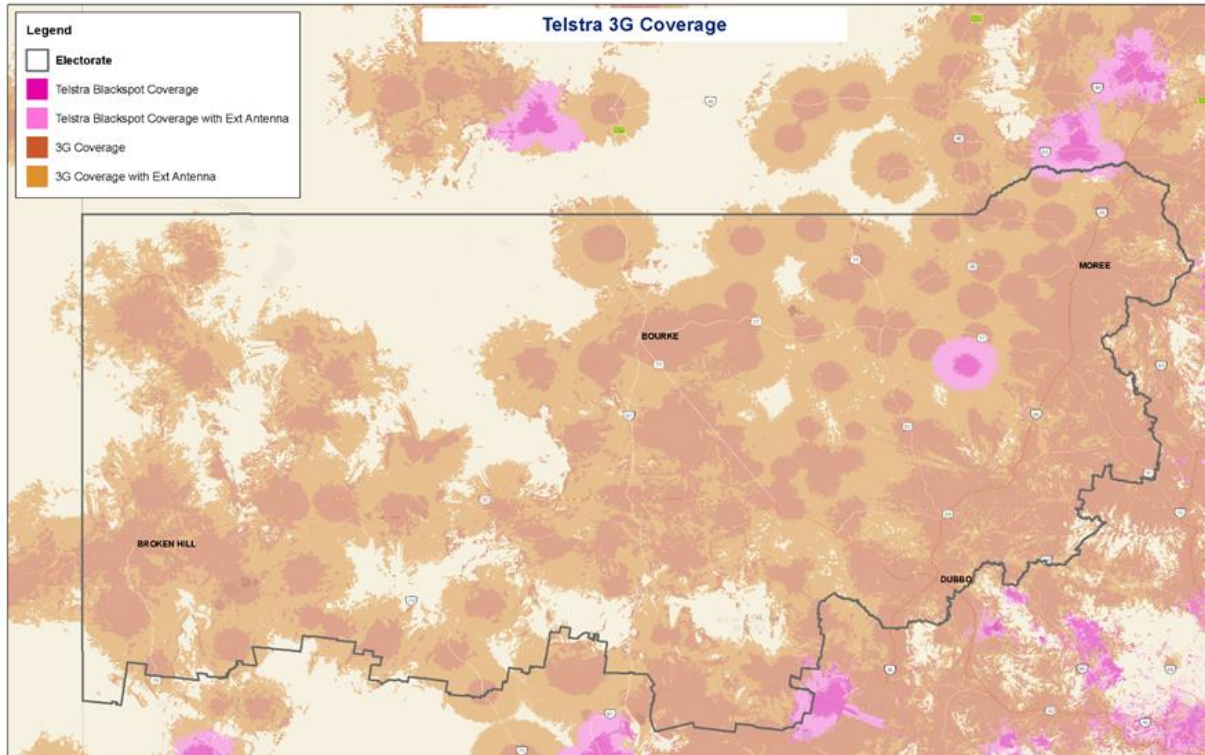
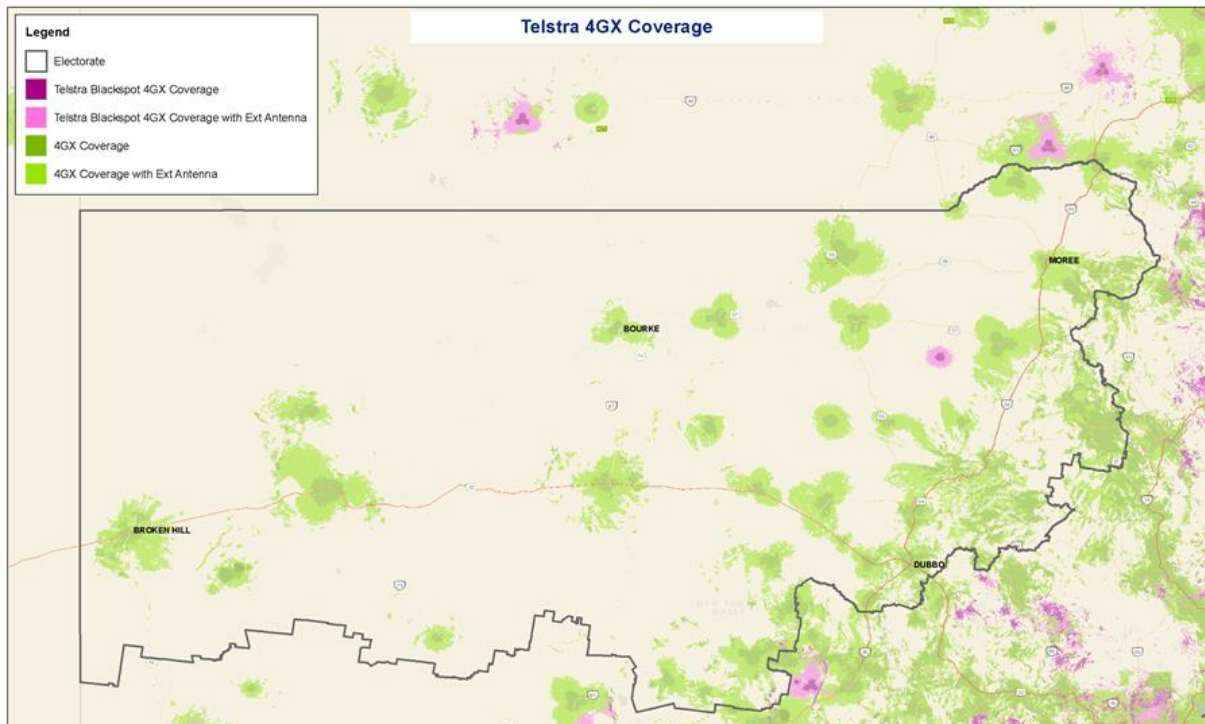


Figure 2: The edges of the Telstra's 4G coverage in the Parkes electorate (Source: Telstra)



2. The Supply of Mobile Services in Australia

Competition in regional markets

The Commission notes that the market for retail mobile services is effectively a national market, with national pricing, and carriers competing on factors such as price, data and voice inclusions, customer service, and non-price features such as streaming.² While it could be argued that farmers benefit indirectly from the competitive tension across this 'national' market, the reality is that many farmers feel that they have no choice of mobile providers.

A 2014 survey on NSW Farmers' members revealed that 95 percent use a Telstra mobile service. Most farmers live, work and travel through the areas where only Telstra has relatively contiguous coverage. Access to this coverage, on and off farm, is vital for business productivity, social connectivity and safety. Compromising on coverage is not an option, no matter how dissatisfied you might be with the service that accompanies it. That so many farmers continue to 'choose' a Telstra mobile service, in spite of their deep frustrations with the company's service, reflects the importance that farmers place on having access to some sort of coverage, even if it is frustrating and expensive. An alternative service might have lower costs or better customer service, but these are largely irrelevant factors if there is no accessible coverage.

Coverage will remain the number one issue for farmers when considering mobile service, and is set to become ever more important for farm businesses. Looking into the future, many on farm technological innovations will require connection to the internet. 3G, 4G and 5G mobile coverage will be crucial to providing this connection.

The Future of the Mobile Black Spot Programme

The Association endorses the Commission's comments that the low population density in regional areas makes it difficult to justify duplication of infrastructure by MNOs.³ Long term, and even with increased data use on farm through the mass deployment of machine to machine (M2M) and internet of things (IoT) technology, there will be finite limits to the willingness of MNOs to extend their networks into increasingly un-commercial areas. For many areas with inadequate service, extension of coverage through the Mobile Black Spot Programme (MBSP), or an equivalent program, is the only conceivable means through which mobile network coverage will be expanded and upgraded to meet their needs.

In order for the MBSP to meet these needs, it requires long term funding. This could be achieved through a reallocation of the \$44 million in annual funding for payphones in the Universal Service Obligation (USO) towards mobile black spots. The Association would support this as part of a broader initiative to create a new, technology neutral USO that guaranteed minimum standards for both voice and data.

It is imperative that the Federal Government continue to review and improve the MBSP guidelines to ensure that the funding generates both coverage and competition benefits. The Association believes that amendments should be made to the MBSP guidelines so that any mobile network operator that receives public funding for network infrastructure is

² Australian Competition and Consumer Commission (2016) *Domestic mobile roaming declaration inquiry: Discussion Paper*, pp. 11-13, available from: <https://www.accc.gov.au/regulated-infrastructure/communications/mobile-services/domestic-mobile-roaming-declaration-inquiry-2016/discussion-paper>, accessed 25 October 2016.

³ *ibid.*, pp. 14-16

required at a minimum to allow the coverage to be included in a wholesale agreement with another MNO or a mobile virtual network operator (MVNO). These amendments could be tailored so that they did not diminish the incentive to invest for telecommunications companies. For example, contracts for the construction of MBSP towers could include provision for a limited period of exclusive use, allowing the MNO that built the tower to receive a return on their investment.

If funding is provided under the MBSP for towers that are not co-shared and coverage that is not wholesaled by the relevant MNO, the government is effectively providing public funding for the extension of monopoly networks. Given the low take up of co-sharing between providers under Round One of the MBSP, requiring wholesaling of coverage, or even requiring roaming from MBSP towers, may help the MBSP better achieve its dual aims of improving coverage and competition.⁴

By itself, the establishment of a network of towers providing either wholesale or roaming covered at the edge of existing mobile network coverage would not overcome the systemic competition issues in regional mobile markets. However, it may provide an additional incentive for providers to build out to the edge of the network at strategically chosen points in order to facilitate contiguous coverage with the MBSP towers. This would likely generate infrastructure based competition in regional areas, particularly if coverage area was still available as a point of differentiation between MNOs.

It may be argued by MNOs that any requirement for mandatory wholesaling (or roaming) from MBSP towers would diminish their incentive to invest alongside the Commonwealth. This raises a broader question about how quickly the towers built under the MBSP will reach the absolute edge of the area where MNOs are willing to co-invest. It may be that Rounds 1 and 2 of the MBSP exhaust much of the 'low hanging fruit', resulting in a situation where MBSP towers require an increasingly large proportion of public funding. For coverage to continue to expand there may soon come a time when the Commonwealth will need to wholly fund black spot towers, through the NBN or some other commercial partnership.

International Regulation of domestic mobile roaming

In some international cases, the decision to introduce mobile roaming appears to have been targeted at promoting the entry of additional MNOs, with new entrants and access seekers required to hit coverage targets in return for receiving roaming access.

France and New Zealand

In France, regulated roaming was introduced to facilitate the establishment of a third and fourth MNO, and appears to have required that access seekers *Free* and *Numericable-SFR* meet minimum coverage targets in rural areas.⁵ Notably, with the third and fourth networks established, the French competition regulator, ARCEP, wants to end roaming, "Because investments in 4G infrastructure are crucial to the market's vitality".⁶

⁴ Information received from briefings with Telstra and Vodafone indicates that approximately half of Telstra will co-locate on approximately half of Vodafone's Round 1 sites, while Vodafone will only locate on one of Telstra's sites. Further information about the wholesaling of Telstra towers built under the Mobile Black Spot Programme is available at:

<https://www.telstrawholesale.com.au/products/mobiles/mobile-blackspot-program.html>.

⁵ Morris, A. (2015) French mobile operators invested €2.2B in networks in 2014, but rural challenges remain, *Fierce Wireless*, available from: <http://www.fiercewireless.com/europe/french-mobile-operators-invested-eu2-2b-networks-2014-but-rural-challenges-remain>, accessed 10 October 2016.

⁶ ARCEP (2016) *Mobile Network Sharing: ARCEP submits its analysis to public consultation*, available from:

Similarly, in New Zealand national roaming was introduced to allow new entrants to build market share and simultaneously required them to expand coverage as a result. The New Zealand *Telecommunications (National Roaming) Order 2008* requires that any access seeker must already have coverage of 10 percent of the population, and must have plans to extend coverage to 65 percent of the population.⁷ In a recent submission relating to the New Zealand regulator, Vodafone New Zealand noted that, “National Roaming has effectively supported new entry, but it’s important to preserve room for genuine commercial negotiation now that all three mobile operators are well-established”.⁸

Canada

In Canada, perhaps the most comparable market to Australia in terms of geography and population, the Canadian regulator introduced roaming in 2008. The Canadian decision to introduce roaming was accompanied by a spectrum auction that reserved 40MHz out of 105MHz auctioned for new entrants.⁹ New national entrants were required to meet coverage targets as a part of the regulations that accompanied the decision,¹⁰ and it was initially introduced for a period of up to 10 years to allow new entrants to build out their networks.¹¹

However, Industry Canada has since extended roaming provisions indefinitely, following a 2012 review that found that the new entrants had yet not been successful in establishing sufficiently large networks as, “the coverage footprint for most of these new entrants is limited to major urban areas within their licensed areas”. The decision to extend roaming was taken to allow “new entrants additional time to build out their own networks while maintaining service where they have not yet deployed within their licensed areas.”¹²

Lessons to be drawn from overseas comparisons

The roaming debate in Australia appears to be framed differently to how it has been constructed in the examples cited above. In France, New Zealand and Canada, three of the examples cited by Vodafone as relevant to the current debate, roaming was introduced as a means of encouraging the entry of a new MNO.¹³ The chief public

[http://www.arcep.fr/index.php?id=8571&no_cache=0&no_cache=0&tx_gsactualite_pi1\[uid\]=1825&tx_gsactualite_pi1\[annee\]=&tx_gsactualite_pi1\[theme\]=&tx_gsactualite_pi1\[motscle\]=&tx_gsactualite_pi1\[backID\]=26&cHash=3ec025a73cbc672646e582732508ac9e&L=1](http://www.arcep.fr/index.php?id=8571&no_cache=0&no_cache=0&tx_gsactualite_pi1[uid]=1825&tx_gsactualite_pi1[annee]=&tx_gsactualite_pi1[theme]=&tx_gsactualite_pi1[motscle]=&tx_gsactualite_pi1[backID]=26&cHash=3ec025a73cbc672646e582732508ac9e&L=1), accessed 10 November 2016.

⁷ New Zealand *Telecommunications (National Roaming) Order 2008*, available from <http://www.legislation.govt.nz/regulation/public/2008/0251/latest/whole.html>, accessed 10 October 2016.

⁸ Vodafone New Zealand (2015) *A bold vision for the future - Response to the Ministry of Business, Innovation and Employment’s Review of the Telecommunications Act 2001: Regulating Communications for the future*, available from: <http://www.mbie.govt.nz/info-services/sectors-industries/technology-communications/communications/regulating-the-telecommunications-sector/review-of-the-telecommunications-act-2001/submissions/Vodafone%20New%20Zealand%20submission.pdf>, accessed 10 October 2016.

⁹ Innovation, Science and Economic Development Canada (2013) *Government Opts for More Competition in the Wireless Sector*, available from: <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10021.html>, accessed 11 November 2016.

¹⁰ Innovation, Science and Economic Development Canada (2012) *Proposed Revisions to the Frameworks for Mandatory Roaming and Antenna Tower and Site Sharing*, available from: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10250.html#sec4>, accessed 11 November 2016.

¹¹ *ibid.*

¹² *ibid.*

¹³ Lloyd, D. (2016) Regional Australia needs roaming, *The Australian*, 7 September, accessed 7 September 2016, available from: <http://www.theaustralian.com.au/business/technology/opinion/regional-australia-needs-roaming/news-story/30ef403a24e15df42733851a4ed03bb8>.

proponent of introducing roaming in Australia is an incumbent MNO with established national coverage.

In the event that the Commission introduces roaming, Canada's experience points to the caution that must be taken to preserve investment and coverage incentives. The need for Industry Canada to extend the period of roaming shows that without the right regulatory settings, access seekers may renege on their requirements to expand coverage through an expediently slow roll out of towers. If the Commission chooses to introduce roaming, the Association believes that access seekers should be required to meet minimum coverage requirements, including the expansion of coverage into areas that do not currently have any coverage.

If the Commission judges that it wishes to promote the entry of a new MNO into the Australian market through the introduction of roaming, then the Association requests that consideration is given to what requirements will be put in place for that MNO to build networks into parts of regional Australia currently only served by one carrier, or currently without coverage.

Access regulation and investment across OECD Nations

A study published by Bond University, and subsequently in the journal of *Telecommunications Policy* conducted an assessment of the impact that access regulation had on the investment of MNOs across 21 Organisation for Economic Co-operation and Development (OECD) countries. The study noted that generally, "access regulation will exacerbate an investment disincentive for MNOs", partly by, "creating an asymmetric allocation of risks and payoffs" between MNOs and MVNOs.¹⁴ It also noted that the need to protect its position through pre-emptive innovation and investment may mean that in certain cases, "an incumbent in a less competitive market may have more investment incentives than it would experience in a more competitive market".¹⁵ However, the model also notes that, "a highly concentrated market structure is associated with a lower incentive to invest".¹⁶ The modelling undertaken by the study, based on the data from the 22 OECD nations, found that a move to regulated roaming from a situation of no previous regulation could result in approximately a 15 percent reduction in investment by MNOs.¹⁷

¹⁴ Kim, J. et al. (2010) *Access Regulation, Competition, and the Investment of Network Operators in the Mobile Telecommunications Industry*, pp. 5-6. available from: http://epublications.bond.edu.au/business_pubs/490/, accessed 10 October 2016.

¹⁵ *ibid.*, p.6.

¹⁶ *ibid.*, p.13.

¹⁷ *ibid.*, p.12.

3. Promoting the long term interests of end users

Boundaries of retail mobile markets

The Association supports the Commission's comments that in spite of national pricing, there is not an effective national market for retail mobile services.¹⁸ Anyone that lives, works or travels beyond areas covered by either Optus or Vodafone has no choice but to subscribe to a Telstra service. For farmers, compromising on coverage is not an option, to do so would be to sacrifice the safety, productivity and other benefits that accrue from access to Telstra's coverage area.

As indicated under section 1 of this submission, it is important that the Commission not only considers consumers that live within the footprint of existing mobile networks, but also those that live beyond it. It is these consumers that stand to benefit from any future investment in coverage which may not eventuate if roaming is introduced.

The boundaries of the retail markets are effectively delineated by the population areas with coverage from more than one MNO.

Commercial roaming arrangements

The Association believes that it is unlikely that there will be future commercial roaming arrangements in areas where there is limited infrastructure-based competition. In this case, it is most likely to be Telstra that has the coverage, and Optus, Vodafone, or a MVNO that are seeking roaming access. For Telstra to grant roaming access across sections of its network where it was the sole infrastructure provider it would have to excise sufficiently large payments from access seekers to compensate for the loss of the coverage claim that constitutes a significant portion of their competitive advantage as a business. This emphasises the need for mobile service from towers built under the MBSP to be wholesaled at minimum (discussed above), so that governments are not providing public funding to entrench a commercial competitive advantage.

Competition in regional retail mobile markets

The Association acknowledges that while most farmers pay a premium for their mobile services, they also receive some benefit from competition in metropolitan mobile markets.

Competition for urban consumers has arguably resulted in the expansion of regional and rural mobile networks. Telstra has informed the Association that many of its towers in regional areas are un-economic, and cannot be justified by the number of customers that use them. However, Telstra holds that its coverage claim allows it to capture a large part of the urban market, at a premium, which cross subsidises the regional network.

However, not all of Telstra's consumers in urban areas attracted by their coverage claim will regularly travel to areas where Telstra is the only service provider. Presumably, for customers such as these, there is a limit on their willingness to pay for the Telstra coverage – a limit to the premium that they are willing to pay for access to the superior coverage offer. If Telstra were to increase its mobile prices to a point where it lost significant urban consumers, there is the risk that its revenue would fall below what is justified to operate its existing network. Therefore, the ability for urban customers to be able to switch to a competing service offered by another MNO or MVNO does act to introduce a form of price ceiling for Telstra's retail mobile services, benefiting farmers.

¹⁸ Australian Competition and Consumer Commission (2016) *Domestic mobile roaming declaration inquiry: Discussion Paper*, p. 21.

As discussed above, for the Association's members, coverage is the key determinant of carrier, and is therefore the key drive of any competition in regional mobile markets.

The effect of declaration on the wholesale roaming market

If the Commission chooses to declare mobile services, the regulated price that it sets for access will play an important role in what the impact of the declaration is on the wholesale roaming market. If the Commission still wishes to encourage infrastructure-based competition in areas where roaming is declared, then it must set an access price sufficiently high that it creates a commercial incentive for an access seeker to build their own network and transition their customers away from roaming on a competitor's network and onto their own network. However, the risk in setting a price to do this is that it may drive up prices for customers across all networks. This would result in a perverse outcome for farmers, who may experience an increase in coverage but also witness a rise in the costs of all retail mobile prices, diminishing the consumer benefit that would have otherwise accrued to them from the declaration.

The effect of declaration on competition for retail mobile services

The Association would like to make the following comments regarding the Commission's discussion of the three groups of consumer who are likely to benefit from each MNO having the same level of coverage¹⁹:

1. A large proportion of the 200,000 consumers that live in or regularly travel between areas where Telstra is the only service provider are farmers. Farmers are the demographic that stand to benefit most, or suffer most, from the introduction of roaming, depending on your view.
2. There is nothing constraining Optus and Vodafone from building towers to achieve more contiguous coverage, or offering Telstra a sufficiently lucrative deal to unlock the coverage along transit routes that connect any islands of coverage.
3. The Association understands that both Optus and Vodafone are building towers and are planning to make their coverage more contiguous in areas where they believe they can achieve the greatest commercial benefit from doing so. As discussed previously, the Association requests that the Commission examine the current investment strategies of all existing MNOs in detail as a part of their consideration of whether to declare mobile roaming.
4. Declaration would certainly allow MNOs and MVNOs to better compete for consumers in metropolitan areas. However, the Association would not support the introduction of roaming on these grounds, as the impacts of roaming on metropolitan customers should be a secondary consideration. Metropolitan consumers already have access to the benefits that arise from highly competitive mobile markets. The inquiry needs to focus on the outcomes for regional Australians. The segments that deserve the greatest focus are the 200,000 people that live in an area that only receives Telstra coverage, and the population that lives beyond existing coverage areas.

Declaration of roaming would provide greater choice of providers for regional consumers, especially those that live and work predominantly in areas only serviced by Telstra. However, the Association's greatest concern is what impact it would have on future investment in upgraded and expanded coverage. If investment diminished in regional and rural areas as a result of roaming, then this would mean that roaming could present rural Australians with greater choice on a service that diminished in quality over time. Rural

¹⁹ Australian Competition and Consumer Commission (2016) *Domestic mobile roaming declaration inquiry: Discussion Paper*, p. 26.

Australia already faces a digital divide in terms of telecommunications accessibility. Any regulatory intervention that exacerbated this would be unwelcome.

One means to overcome this would be through making the declaration time bound, and placing a requirement on any access seeker, regardless of whether they were an existing MNO or a new entrant, to meet specified coverage targets before the end of the roaming period. The example of Canada suggests that this would require careful design of incentives and penalties to ensure that any access seeker does not expand its coverage at a deliberately slow pace in order to pressure the Commission to grant an extension of the declaration.

Any to any connectivity

The Association understands that 3G mobile towers were not designed and configured for the requirements of M2M or IoT technology, meaning that the roll out of 4G and 5G networks will be crucial to facilitate the mass deployment of internet connected sensor technology in agriculture. The roll out of broad scale “any to any connectivity” in agriculture could be stymied if the introduction of roaming proves to have a negative impact on investment in upgrade and expanded networks. This may even be the case if the Commission chooses to only declare 3G services (regardless of any reassurance that the Commission gives) as MNOs may be wary of rolling out further 4G and 5G technologies if they believe that there is a risk that they will be declared before they have had the chance to extract full commercial benefit.

The roll out of M2M and IoT technology across agriculture is driving interest and investment in the sector, and is expected to deliver significant productivity benefits. While improved competition in telecommunications markets would certainly benefit farmers, they would most likely be far outweighed by the productive, on farm benefits that are set to be derived from improved 4G and 5G coverage. Again, it is vital that the ACCC assess in detail the potential investment plans of incumbent MNOs in regional Australia before deciding to declare any mobile service. Vodafone Hutchinson Australia CEO Iñaki Berroeta recently said, “5G will unlock enormous potential for business – particularly the agricultural and industrial sectors. Farms can already automatically monitor growing conditions, and send video and other sensor information back to farmers. They can even perform activities such as spraying, pruning and harvesting. However, the step-change to true automation will only be possible with the increased capacity and reduced latency of 5G.”²⁰

If the Commission proceeds with declaration, then it must put in place safeguards to ensure that the agricultural sector is still able to benefit from the coverage expansions and particularly from the upgrades to 4G and 5G that will be necessary to allow the broad scale roll out of M2M and IoT technology.

Efficient use of infrastructure

The Commission’s discussion of the efficient use of infrastructure raises the issue about network capacity and relative utilisation of infrastructure in regional areas and notes, “it is likely that demand at most mobile base stations in these areas will be low”.²¹ While this may be true in some cases, the Association has become aware of instances where towers at the edge of the current Telstra network are experiencing what appear to be capacity issues that affect their range and reliability. While only MNOs will be able to comment on the full extent of capacity issues experienced on their regionally based

²⁰ Berroeta, I. (2016) *Charles Todd Oration*, available from <http://telsoc.org/sites/default/files/events/pdf/2016-10-19-cto-speech-inakiberroeta.pdf>, accessed 21 November 2016.

²¹ *ibid.*, p.31.

mobile towers, issues reported by the Association's members suggest that there is an urgent need to upgrade the capacity of mobile towers across Telstra's regional network to deal with an almost exponential increase in data use.

Telstra's incentive to establish a tower in a regional area is based upon its coverage claim. The experience of the Association's members suggests that infrastructure competition has a relatively weak effect at the edge of the network. Maintaining or upgrading the capacity of a tower does not tangibly affect Telstra's coverage claim in the short term, and so may have a lower priority in regional areas. Assuming that roaming is not introduced, as Optus and Vodafone expand their networks (albeit off a much smaller base than Telstra) it is conceivable that Telstra will be forced to expand its geographic coverage if it wishes to retain its comparative advantage as a business, and also to more frequently invest in the capacity and reliability of its regional network.

The Association notes that Telstra has recently announced an additional \$3 billion will be spent on its network, including on capacity upgrades.²² For farmers, total investment numbers are meaningless if none of that money makes its way into rural areas. The pressure at the edge of the network underscores the need for the Commission to examine the investment plans of all MNOs in detail to understand how they plan to invest in upgrading capacity and expansion of coverage in regional Australia.

The Association agrees with the Commission's comment that if roaming was to be declared, it would be unlikely to generate increased traffic through mobile towers in many areas. However, if roaming was to be introduced in rural areas, the subsequent movement of customers away from the incumbent MNOs, particularly towards MVNOs, may reduce the income a MNO can expect from a rural tower and in turn reduce the incentive for further investment.

In areas where there is a low volume of traffic, introducing roaming could also entrench the first mover advantage for any MNO. This is because infrastructure based competition, arguably already untenable at the edges of the network under current market conditions, could conceivably become even less attractive for MNOs. The dynamics of these interactions will depend on the regulated pricing and detail of any roaming decision, and again, the Association urges the Commission to carefully consider how any roaming decision will impact upon MNO investment and the potential for coverage expansion.

RECOMMENDATION 1: That the Commission forensically review the investment plans of all MNOs, and discern their intent to invest in expanded and upgraded mobile networks in regional Australia, particularly focusing on any investment plans at the edge of current coverage areas.

²² Telstra (2016) *Market Release: Telstra invests up to extra \$3 billion on next generation network leadership, digitisation and customer experiences*, available from: <https://www.telstra.com.au/content/dam/tcom/about-us/investors/pdf-e/FY16-Extra-Investment.pdf>, accessed 11/10/16.

Member example: declining service from mobile towers

When the Naradhan mobile tower was established, it serviced the school and the township, providing internet and mobile services to both.

However, over the past three years, service from the tower has progressively declined to the point where the school and the town can no longer access reliable mobile and internet services. For the school, this has meant switching over to a satellite service, which has been unable to provide sufficient capacity to undertake even the most mundane of activities that should be supported in a 21st century classroom.

Compounding this frustration, there are also on going issues with the landline services at Naradhan. Anyone with a landline up to four kilometres from the town struggles to hear calls. Telstra has attempted to remedy the issue, but existing work has not made any substantive improvement to the service.

How declaration may affect the access provider's incentives to invest

As discussed by the Commission, the Association recognises that many new towers in regional areas may generate limited direct revenue from the new coverage that they generate. From our discussions with Telstra, we understand that the justification for building any new towers relates to whether the direct revenue that could be attributed to a tower, together with the extent that it will help to secure metropolitan customers through building their coverage claim, result in a sufficient return for the company.

The Association is hopeful that there are two market dynamics that may provide an incentive for telecommunications companies to extend their networks further. Firstly, the exponential increase in data use, which Telstra expects to increase five times in the next five years, should result in a general increase in the revenue that can be attributed to regional towers.²³

Combined with this, the Association is hopeful that the widespread implementation of M2M and IoT technologies in agriculture should facilitate an increase in data use that will improve the commercial case for extending mobile coverage beyond existing network boundaries. Telstra's public commentary regarding the opportunities that will arise from the use of sensor technology indicates that they are hoping that the data generated will provide a new revenue stream for the organisation.²⁴ Vodafone's public comments, cited above, indicate that they see similar opportunities.

The Association believes there is empirical evidence to support the view that the declaration of mobile roaming will dampen investment in mobile networks.²⁵ As indicated

²³ Chanticleer (2016) No sugar hit for Telstra Investors, *Australian Financial Review*; 18 November.

²⁴ Neales, S. (2016) Telstra's Hugh Bradlow pushes hi-tech agriculture solutions, *The Australian*, 9 September 2016, available from: <http://www.theaustralian.com.au/business/companies/telstras-hugh-bradlow-pushes-hitech-agriculture-solutions/news-story/17a50f50645a20f52c53ef9477e5f0c9>, accessed 9 September 2016

²⁵ Australian Competition and Consumer Commission (2016) *Domestic mobile roaming declaration inquiry: Discussion Paper*, p. 33.

above, the study by Bond University published in *Telecommunications Policy* suggests that roaming could reduce investment by MNOs by up to 15 percent.²⁶

Whether access providers' investment would be efficient

Telstra has committed to expanding their 4G coverage network to cover 99 percent of the population by June 2017.²⁷ Telstra's 3G network currently covers 99.3 percent of the population, and there are a lot of farmers in that last one percent that would like to see MNOs commit to go beyond the current 3G coverage area. In assessing investment plans, the Association particularly requests that the Commission examine what plans Telstra may have to extend its 4G coverage to 99.3 percent and beyond. Associated with this, the Commission should examine Vodafone's willingness to invest up to and beyond points of coverage in Telstra's network in the event that roaming is declared.

Within current network footprints, the areas shaded on a MNO's coverage map and the areas that receive reliable mobile coverage often diverge significantly. Many farmers notionally fall within current footprints (see Figure 1 and 2, above), but don't receive the coverage that is supposedly delivered. Accordingly, the Commission should also investigate what plans MNOs have to improve the reliability of mobility coverage in areas such as these, which are often external antenna only, or which are towards the edge of the area that notionally allow handheld coverage.

Reviewing investment

The *Competition and Consumer Act* (2010) requires that a declared service must be reviewed between three and five years after a declaration is made.²⁸ This provides appropriate scope for a review if the Commission chooses to declare mobile services. However, in the event that the Commission does not declare mobile services, the Association believes that it should still publically commit to reviewing the decision within five years. This will ensure that there is an additional incentive on any MNOs to complete the investment plans that they have committed to undertake.

RECOMMENDATION 2: That if the Commission chooses not to introduce roaming, it should review the decision within three years and explicitly examine whether MNOs have met the investment commitments outlined in this review.

How declaration may affect the access seeker's incentives to invest

The Association recognises that declaration of mobile roaming will almost certainly remove the incentive for all MNOs to compete on the basis of mobile coverage, an outcome that would certainly alter their pattern of investment in regional Australia.

The extent to which a declaration removed the incentive for access seekers to invest in coverage extension would, to a large extent, depend on the regulated access price that was set by the Commission. If the price was set sufficiently high, and it was sufficiently costly for an access seeker to have their customers operating on another network, then there would be an incentive for an access seeker to build infrastructure that would allow it to shift this mobile traffic onto its own network.

²⁶ Kim, J. et al. (2010) *Access Regulation, Competition, and the Investment of Network Operators in the Mobile Telecommunications Industry*, available from:

http://epublications.bond.edu.au/business_pubs/490/, accessed 10 October 2016.

²⁷ Penn, A. (2016) *TELSTRA INVESTOR DAY 2 MAY 2016*, available from:

<https://www.telstra.com.au/content/dam/tcom/about-us/investors/pdf%20D/160502%20Investor%20Day%20-%20FINAL.pdf>, accessed 18 November 2016.

²⁸ *Competition and Consumer Act* (2010) Section 152 ALA, available from

http://www.austlii.edu.au/au/legis/cth/consol_act/caca2010265/s152ala.html, accessed 25 November 2016.

If the Commission sets a price that allowed this to occur, the second consideration would be the location of the towers that would be built. As the benefits of shifting mobile users off a roaming service and onto a proprietary tower would be greatest in areas where there is the greatest concentration of users, it is conceivable that any new towers built by access seekers would be clustered around population centres. If this were the case, this would not be likely to achieve a substantial expansion or upgrade of coverage and capacity at the edges of networks in regional Australia, the areas that would benefit most from new infrastructure. In the event that it declares mobile services, the Commission may want to address this in the conditions that it places on access seekers, through introducing mandatory coverage expansion targets that features explicit targets in areas that are without coverage, or feature poor coverage.

Options to address the effect of declaration on investment incentives

Noting the pattern of regulatory decisions regarding roaming in overseas nations, if roaming was introduced the Association would support covenants being placed on access seekers requiring them to meet mandatory coverage expansion targets within strict timeframes. The experience of Canada suggests that appropriate regulatory “carrots and sticks” must be in place to ensure that access seekers do not deliberately slow their investment in new coverage so that they can extend the period in which they have access. The Association also recommends that these covenants contain requirements for access seekers to extend their coverage into areas that do not currently receive any mobile service. Without the imposition of covenants such as these, or any equivalent regulatory measure, the Association would be reluctant to support any proposal to declare mobile roaming.

Regarding the Commission’s discussion of a declaration that would be limited to 3G services, the Association believes the following points should be considered:

- A decision to declare only 3G services may set a precedent in the eyes of Telstra and lead to a belief that any mobile network they build in the future will be declared once it reaches the geographic limits of its roll out.
- Declaring only 3G services may limit Telstra’s willingness to deploy 4G and 5G services into areas where doing so will be uncommercial on a standalone basis.
- Depending on the regulated price set by the Commission and the structure of any access determination, a decision to allow 3G roaming may reduce the revenue that Telstra receives from its existing mobile network and may undermine its capacity to deliver new and upgraded coverage, especially in areas where extending coverage is notionally uncommercial.
- These factors should be weighed against the consideration that declaring only 3G services may see MNOs compete for customers based on their 4G and 5G coverage claims.

RECOMMENDATION 3: That the Commission not introduce roaming unless it is satisfied the decision will not negatively impact on any MNO plans to expand and upgrade coverage in regional Australia.

RECOMMENDATION 4: If roaming is introduced, the Commission place strict, time bound covenants on access seekers requiring them to meet minimum coverage extension targets during the period in which they have roaming access. These covenants should also include explicit targets for the extension of coverage into areas where there is currently no mobile coverage.