Victorian Government Submission to the Productivity Commission's Issues Paper

Telecommunications Universal Service Obligation

November 2016

Opening comments

1. Victoria welcomes the Productivity Commission's (the Commission) inquiry into the future direction of a universal services obligation (USO) in the telecommunications market. Market, technological and policy developments along with changing consumer preferences have all led to the need for reform. The Commission's final report to Government will be a highly valuable input to national telecommunications funding and policy decisions.

2. This Submission provides the Victorian Government's formal response to the Commission's *Telecommunications Universal Services Obligation* Issues Paper. The Victorian submission reiterates positions consistent with Victoria's previous responses to the Commonwealth on telecommunications related issues. In preparing this submission, relevant Victorian departments and agencies were consulted.

3. The Commonwealth Government is responsible for the adequacy of telecommunications and controls the chief funding and regulatory mechanisms for infrastructure development. Nevertheless, the Commonwealth should work with state and territory governments to maximise regional telecommunications outcomes by leveraging state and territory telecommunications infrastructure, spend and investment.

Key Points - Outcomes sought from the Inquiry

4. That the Productivity Commission provides advice to the Commonwealth Government on how universal service policy and future minimum telecommunications services arrangements could:

   a. Define 'minimum' telecommunications service objectives – refer paragraph 10-19

      Future arrangements should define a minimum level of service that meets the critical needs of end-users, including the equitable participation in society and the economy and the delivery of essential public services. Arrangements should be technology neutral, economically efficient, sustainable, transparent and contestable where appropriate.

   b. Maintain relevance to consumer expectations in a changing technology environment – refer paragraph 20-27

      The standard telephone service (STS) is no longer the preferred means of communication, as a result, existing USO arrangements are becoming increasingly irrelevant. Future arrangements for minimum telecommunications services need to more effectively and efficiently meet consumer expectations and demands, including the preference for mobility and data.

   c. Facilitate technology and market development – refer paragraph 28-38

      Current USO arrangements do not complement efficient infrastructure development as they distort the market and hinder technological development. Future policy needs to be future-oriented, pro-investment, pro-innovation and enable competition where appropriate to support the wide-spread rollout of next generation technologies such as 5G.

   d. Align policy and programs to deliver complimentary infrastructure development – refer paragraph 39-64

      Public investment in telecommunications infrastructure is fragmented and imposes significant opportunity cost. National telecommunications policies and programs (e.g. the USO, Emergency Alert, the nbn™ network and the Mobile Black Spot Programme) should be better coordinated to improve telecommunications outcomes. Greater effort also needs to be taken to align them with State activities and priorities such as the provision of emergency services communications.

Introduction

5. The Productivity Commission's Inquiry is an opportunity to take stock and re-establish what the minimum requirement for telecommunications should be for all Australians and how it can be most efficiently delivered. Specifically, the Productivity Commission must establish a sound policy rationale for definition of the minimum service capability that citizens require and are entitled to for their health and safety and participation in society and the economy.

6. The telecommunications environment is extremely dynamic. Since the USO was established, technology, market and policy developments, coupled with changing consumer preferences has altered what society considers as essential telecommunications services.

7. The change has been most pronounced in mobiles with 32 million mobile services in operation, compared to only 9 million fixed-line telephone services.[1] Driven by people's strong, expressed demand and need for mobility, the preferred communications infrastructure is shifting from fixed to mobile. This shift is underlined by the fact that 29 per cent of Australian adults (5.4 million people) in 2015 only used a mobile and had no fixed-line telephone.[2] Mobility is the new norm and future regulation should reflect this.

8. The nbn™ will deliver universal access to a minimum fixed broadband service level to all Australian premises. However, this fixed broadband service will not address the future needs and expectations of telecommunications users, particularly their preference for service mobility. Additionally, the rollout of the nbn™ is not strategic and is not providing fit for purpose broadband services for high-end business and government demand. Therefore, to ensure all Australians can access the services they require, other technologies, needs, markets and future developments must be considered apart from the rollout of the nbn™.

9. This Inquiry should be focused on determining the most effective and efficient arrangements that ensure communities have access to the communications they need to prosper. The scope of this review appropriately looks more broadly than just the nbn™ and its funding model for loss making areas.

Define minimum telecommunications service objectives

10. The Victorian Government notes that the telecommunications universal service policy generally has two main impacts/functions in relation to basic services.

    *   Minimum safeguards which ensure individuals affordable access to quality telecommunications services.
    *   Funding of telecommunications services in non-commercially viable areas (typically regional communities).

11. A definition for a minimum telecommunications services capability needs to recognise consumer's preference for mobility, while ensuring the safety of the community and their

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[1] ACMA, 2015, Communications Report 2014-15, pg. 7
[2] ACMA, 2015, Communications Report 2014-15, p. 14

equitable participation in society and the economy. Therefore, mobility and access to the following critical communications services should be considered in the minimum needs for end-users:

- critical emergency communications (e.g. current and next generation Triple Zero and emergency call buttons or equivalent)
- critical safety information in times of emergencies (e.g. Emergency Alert, VicEmergency App or equivalent and VicEmergency Website)
- critical health services (e.g. medical alarms and auto diallers)
- voice capability
- a minimum level of data enabling access to online government services and emails
- appropriate measures to ensure accessibility for people with disabilities.

12. Noting the above, the definition of minimum access needs to reflect the coverage characteristics and limitations inherent in various communications networks. For example, mobile networks are unable to achieve 100 per cent geographic coverage and the quality of coverage is subject to all the variables affecting radio communications.

13. The Productivity Commission's recommendations to the Commonwealth Government should consider minimum telecommunications services and associated funding in relation to the broader role that telecommunications plays. The Victorian Government considers that telecommunications enables the following:

- Economic development: quality telecommunications is an essential component of economic growth as it enables new investment, jobs growth, productivity and innovation, improves general business efficiency and competitiveness and is essential to participating in global markets.
- Public services: the public sector has a responsibility to deliver key services to citizens, on an equitable basis no matter where they reside (e.g. public safety, health and education).
- Social inclusion: all Australians, including disadvantaged groups and those with disabilities, should be able to use telecommunications to access services, connect with family, friends and their community and at the very least have their voices heard.

Principles for future minimum telecommunications service arrangements

14. The Victorian Government believes that whatever the means of delivering minimum telecommunications services that address the critical needs of Australians, it should be consistent with the following principles:

- Technology neutral: a range of technologies, including all nbn™ technologies and mobiles, should be used to provide minimum connection requirements.
- Economically efficient: where government intervenes in the telecommunications market, investment should be targeted, coordinated and minimise waste and inefficiency. This also relates to affordability issues where specific cohorts face systemic barriers to access.
- Sustainable: future minimum telecommunications service arrangements and broader public telecommunications investments should be sustainable in the long-term,

minimise opportunity cost and support the development of the broader telecommunications market. Where markets are thin, a level of collaboration and coordination between all levels of government and industry is required.

- Contestable: where appropriate, a strategic approach to minimising long term incumbency and maximising competition in layers of the network that will benefit end-users the most should be pursued. Publicly funded infrastructure should be designed to enable multiple network elements, users and providers.
- Transparent: where public subsidies are required to provide funding for infrastructure, easily-accessible information should be published relating to the level of investment and related service outcomes.

Minimum telecommunications services in competitive markets

15. In competitive markets, it is primarily a case of defining a minimum level of service and allowing the market to deliver appropriate infrastructure. Although even in competitive markets where infrastructure is available there will still be some consumers that will be unable to afford to pay for a service that meets their needs. From a social policy perspective, there is a clear role for government to ensure all Australians can purchase access to appropriate communications without suffering undue hardship.

16. The Productivity Commission must determine the most appropriate mechanism by which affordable access is guaranteed to all Australians, especially vulnerable and disadvantaged cohorts. Eligibility for a prospective telecommunications affordability subsidy would need to be determined and could potentially be integrated with the welfare system. Any subsidy should be targeted, transparent and increase the overall well-being of the population.

Minimum telecommunications services in non-commercial markets

17. By contrast, in non-commercial areas government intervention may be required and should look beyond the basic consumer telecommunications service level to address the needs of all end-users that face a common infrastructure limitation. Therefore, coordinating and leveraging the funding opportunities from the community, industry and government.

18. Building duplicative infrastructure for networks which address specific end-users individually, worsens the commercial environment for supply and market development. Common infrastructure needs to be used and economies of scope pursued to meet a range of needs that individually have limited commercial viability. For example, service delivery agencies (e.g. public safety agencies) face many of the same coverage problems as regional consumers and potentially have common infrastructure solutions (e.g. fibre backhaul, communications housing and spectrum).

19. The strategy for ensuring a minimum level of service needs to complement and be consistent with an overarching approach for the delivery of an adequate service for a range of needs. Future arrangements should not only deliver a minimum level of service to meet the communities most critical needs, but should be designed to complement the progressive development of the full range of services a community needs to prosper (i.e. economic development, public services and social inclusion).

Maintain relevance to consumer expectations in a changing technology environment

20. The telecommunications market today is very different from the one in which the USO was first introduced. Consumers access an increasingly wide variety of technologies and services to fulfil their communications needs. The proliferation of mobile services and the increasing reliance on Voice over Internet Protocol (VoIP) has seen consumers turn away from the traditional circuit-switched fixed voice services.

21. The standard telephone service (STS) is simply no longer the preferred means of communication and is heading towards obsolescence. In 2014-15, mobile originating voice minutes (51.5 billion) were 2.5 times greater than fixed line originating voice minutes (20 billion).[3] Just four years ago the number of fixed and mobile minutes was the same. This trend is seen across the all applications. Of the 8.3 million calls made to Triple Zero (000) in 2014-15, 66.9 per cent (5.6 million) were from mobile phones.

22. The STS simply no longer meets consumers' needs as society is becoming increasingly reliant on data and consumers' preference is for mobility. The Productivity Commission's Issues Paper illustrated this shift.

23. Infrastructure Australia has also highlighted the importance of mobile coverage to regional communities and the need to reform the USO in its *Australian Infrastructure Plan*:

    The Australian Government should consider phasing out its existing USO and diverting it to improved mobile coverage. Diverting funding to provide better mobile coverage in the regions will support greater use of new technologies that rely on smartphones. This could involve introducing a technology-neutral USO to support mobile services, in conjunction with existing programs...

    Without better mobile services, regional Australia will not fully benefit from new technologies and the associated business opportunities and better service delivery. For example, mobiles (and other technology) enable remote control of agricultural tasks including monitoring soil moisture, supplying water to drinking troughs for cattle and opening and closing gates.

    Mobile coverage also means a quicker response to car accidents and greatly assists in fighting bushfires, floods and other natural disasters. Mobile access is important for regional tourism because visitors expect to have mobile services wherever they stay.[4]

24. The Victorian Government notes the findings of the 2015 Regional Telecommunications Review (RTR) that prompted this Inquiry and the recommendation of a new consumer safety net funding model. In preparing the RTR report, Regional Telecommunications Independent Review Committee engaged with a broad range of users and providers of telecommunications services in regional Australia as well as infrastructure investors, state and local governments, and peak bodies. The RTR report highlights:

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[3] ACCC, 2016, Telecommunications Report 2014-15, p. 15
[4] Infrastructure Australia, 2016, Australian Infrastructure Plan, pg. 66

- the importance of adequate telecommunications services to people living and operating businesses in regional Australia
- the irrelevance of the STS and inefficiencies within current USO arrangements
- the importance of mobile coverage
- the potential to maximise benefits from the rollout of the nbn™
- the need to develop new consumer safeguards for the future to support regional Australia.

25. The Victorian Government also sees modern digital voice and data services as an enabler to deliver improved government services across a number important areas including health, education, public safety, environment, social inclusion and industry development. Digital networks provide the means to overcome the tyranny of distances that have always posed a barrier to delivery of the best services government can provide. As such, a more effective universal service arrangement in regional areas is critical to the government's future plans to serve, sustain and develop regional Victoria.

26. Future arrangements should be designed around providing services to premises through the most effective means possible. It is difficult to see the long term efficacy of maintaining expensive technologies such as copper in regional and sparsely settled locations, where substitutes such as the nbn™ fixed wireless and mobile networks are available and meet multiple needs.

27. Developments in small cell infrastructure and satellite technology are also offering new opportunities for telecommunications to be deployed to small communities in remote areas. Alternative networks comprised of technologies such as small cell technology offer cost-effective alternatives to connecting the remotest Australians.

28. Telecommunications access policy should focus on end-user service outcomes rather than the delivery mechanism (i.e. technology) to enable innovation and keep pace with consumer preferences. It must also support and leverage other telecommunications initiatives aimed at improving access, competition and market development.

Facilitate technology and market development

29. Technology and the communications landscape continues to evolve at an extraordinary pace. We've seen great change in recent years which has led to consumer preferences shifting and the need to examine and reform existing USO arrangements. With technologies such as 5G on the horizon we can be confident that another great change is around the corner. We need to ensure that we are ready and that we can adapt.

30. The change offers enormous opportunities. Digital technologies such as next generation 5G wirelesses technologies will create new ways of doing business, establish new markets and generate new value networks. Advancements in next generation wireless networks will create enormous value for individuals, businesses, and society.

31. 5G wireless systems due to be rolled out from 2018 are predicted to provide for considerably faster data rates (up to 1 gigabit per second), allow hundreds of thousands of simultaneous connections and operate with significantly better spectral efficiency, improved coverage and reduced latency. 5G has the potential to be a game-changer across the economy with applications within advanced manufacturing, mobile agriculture, the Internet of Things, connected health applications and autonomous driving among many others.

32. In the future, telecommunications will increasingly be comprised of integrated infrastructure that supports multiple uses/systems (e.g. 5G). That is, a network of networks where mobile, fixed as well as satellite technologies come together to create a common infrastructure. We will see low bandwidth/high coverage and high bandwidth/low coverage wireless technologies and everything in between.

33. For example, the recently released NB-IoT (Narrowband Internet of Things) standard enables existing Long Term Evolution networks to provide very long range coverage with a focus on indoor coverage, low cost, long battery life and reaching a large number of devices. This narrowband radio technology could play a role in the delivery of emergency alerts and other critical emergency communications beyond the current capability of mobile voice services. Therefore, it may not be necessary to deliver the full range of 3G and 4G services and related infrastructure to a region to deliver public safety outcomes sought as a component of minimum telecommunications access.

34. This public safety infrastructure may also provide platforms for broader economic benefits. The same infrastructure can also be utilised for industry applications that can be employed by the agriculture sector in sensor networks and big data that can improve the productivity and competitiveness of regional businesses. Similar benefits would also apply to the health, advanced manufacturing, utilities, transport and logistics, and tourism sectors, all of which are critical to regional development.

35. Current USO arrangements do not complement this evolution of needs and solutions, but are fixed to an outdated service and technology. Future arrangements for a defined minimum telecommunications service should not necessarily prescribe an access technology but rather, ensure access addresses the communications needs of today and the future without distorting the market or hindering technological development.

36. If people or businesses cannot access quality communications networks in the future they will face all the negative consequences of digital disruption (e.g. competitive disadvantage, dislocation of labour and displacement of capital) without being able to access any of the opportunities new technologies bring. A lack of connectivity will restrict business productivity and competitiveness, limit the ability of communities to fully participate, reduce health and education outcomes and put people at risk during emergencies. The consequences will be especially dire for regional communities where connectivity is already inadequate.

<u>What should future regulation look like?</u>

37. Next generation networks such as 5G will require significant investments over time across mobile access points and supporting fixed infrastructure. Governments need to ensure that the right policy environment (e.g. appropriate minimum service and spectrum arrangements and the removal of deployment barriers) is created to enable the rollout of evolving network technologies to as many communities across Australia possible. Governments need to respond to emerging requirements with policy and regulation that is future-oriented, pro-investment and pro-innovation to support the wide-spread rollout of emerging technologies such as 5G.

38. Policy should define principles to encourage infrastructure provision, protect consumer rights and enable competition where it can be effective. The focus should be on outcomes (e.g. service characteristics), rather than how operators design and manage their networks. We need to ensure that the positive impacts on competition, workers and society, and the way governments operate extends to all Australians, not just those in metropolitan areas. This needs to begin with reforms to Australia's telecommunications universal service policy.

Align policy and programs to deliver complementary infrastructure development

<u>Public telecommunications investment is fragmented – not investing efficiently</u>

39. Existing USO arrangements are antiquated and hinder the market's ability to deliver the full suite of necessary telecommunications services. Current Commonwealth investments are not cost-effective and existing USO arrangements impose significant opportunity cost.

40. For example, some regional markets receive significant government and industry based subsidies supporting disaggregated technology platforms. For example:
    a. Telecommunications USO supports increasingly expensive and duplicative copper based services. **Approximately $300 million p.a.**
    b. Mandated rollout of nbn™ wholesale fixed wireless (LTE) and satellite services with a recognised long term funding issue. **Estimated $9 billion (NPV) to FY2040.**
    c. Commonwealth funded remedial and equity programs, such as the Regional Backbone Blackspot Program (RBBP) and the Mobile Black Spot Programme (MBSP) for mobile LTE (leveraging significant state government contributions). **The Commonwealth has committed $220 million over three MBSP rounds. The $100 million Round 1 leveraged an additional $285 million from mobile network operators and state and local governments for an overall $385 million investment.**
    d. State funded public safety communications networks. **In Victoria, in excess of $150 million p.a.**

41. The practical effect of this lack of coordination over time is an inefficient fragmentation of investments such that some premises in regional communities (though not all premises) are likely to have access to four subsidised telecommunications platforms:

a. an industry subsidised fixed line copper service (and possibly an industry and government subsidised ADSL connection)

b. nbn™ government subsidised fixed wireless or satellite service

c. a commercial mobile service subsidised by state and Commonwealth governments

d. State subsidised emergency services communications network.

42. The above programs tend to fund separate networks which are not integrated to serve multiple needs. The Productivity Commission should consider how these platforms might be better integrated by regulatory and or policy change to more efficiently (sustainably) meet multiple needs including a more sustainable and valuable minimum telecommunications service, particularly in the context of 5G development.

43. Co-investment opportunities mainly exist within the Commonwealth's domain, and these will be best realised through its coordination of regional telecommunications policy, regulatory, funding and market procurement activity. However, state and territory governments also have telecommunications assets and spend that could be leveraged to deliver better telecommunications outcomes. Any state investment in telecommunications where sought by the Commonwealth should align with state specific objectives.

Victorian emergency services telecommunications spend

44. Victoria spends more than $150 million per annum operating emergency services communications networks for a range of different needs. Currently, in Victoria there are over 20 duplicative networks utilised by police and emergency service agencies. These networks are currently being rationalised, as public safety agencies (PSAs) are migrated onto common, state-wide, shared emergency services networks. These networks:

- cover more of Victoria's landmass than any mobile network operator's 3G/4G coverage
- provide dedicated highly resilient voice networks that provide state in-vehicle coverage of approximately 96 per cent of the land mass and more than 99 per cent of the population
- are built to mission critical standards, with high availability.

Victorian emergency services telecommunications' future requirements

45. Victoria's PSAs are being challenged by rapidly growing demand for services, the frequency of large scale emergency events and natural disasters and increasing technological capability which is changing how the community seeks to interact with government and PSAs.

46. As the demand for emergency services increases each year, a heavier burden is placed on operational communications networks, systems and personnel. To meet future demand, Victoria's sector-endorsed Emergency Management Operational Communications Program sets out a plan to transform the sector's communications capability to meet future demand by utilising the latest mobile radio and data technologies.

47. In the foreseeable future, the existing emergency services Land Mobile Radio networks will remain in use, especially in remote locations. However, they will be supplemented with LTE

based broadband networks, using a hybrid of existing commercial services and dedicated infrastructure in specific locations.

48. There is however strong interest in the transformative use of mobile networks for critical emergency communications (e.g. mobile Emergency Alert) and broadband applications (e.g. access to real time video and maps). Planning for the adoption of a Public Safety Mobile Broadband (PSMB) capability has been happening across Australia and around the world for a number of years with the Productivity Commission also recently examining how a PSMB capability could be most effectively delivered to Australian PSAs. Victorian Government submissions were provided in response to the 2015 PSMB Inquiry.[56]

49. Significant synergies exist between future public safety communications and other Commonwealth telecommunications activity. PSMB coverage, capacity and resilience along with its cost-effectiveness could all be enhanced if linked to other initiatives such as the USO, Emergency Alert, the nbn™ network and the Mobile Black Spot Programme. The Productivity Commission should consider how future minimum telecommunications arrangements and other government telecommunications programs and expenditure can complement the delivery of a PSMB capability to all Australian PSAs and maximise efficient investment in telecommunications.

50. The Victorian Government notes that most of the emergency services network infrastructure in Victoria has been procured through either Public Private Partnerships or service based contracts, so few of the assets are State owned. However, the State does have other assets which could be used in the future for telecommunications network infrastructure, particularly in regional areas, including towers (with power and lease agreements), fibre, land, rights of way and spectrum. These assets could be leveraged to extend or improve services to regional communities and deliver a more efficient outcome for all.

The nbn™ is changing the telecommunications landscape

51. The nbn™ will ensure every premise across Australia has access to fixed voice and data services through a range of fixed and wireless technologies. In rolling out the nbn™, the Commonwealth Government determined that broadband should be universally accessible (establishing minimum service standards) and that the nbn™ would be the universal fixed access network infrastructure of the future.

52. Currently, USO arrangements maintain the copper networks outside of the fixed nbn™ footprint to premises which will receive connection via wireless nbn™ technologies. This copper is generally the poorest quality and most expensive to operate. In these regional areas, there could be greater amenity and value in providing critical services over alternate technologies via nbn™.

53. Where there are appropriate nbn™ connections – reliable and reasonable quality voice service and access to critical emergency and health services – the copper network should

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[5] http://www.pc.gov.au/__data/assets/pdf_file/0018/191340/sub028-public-safety-mobile-broadband.pdf
[6] http://www.pc.gov.au/__data/assets/pdf_file/0011/194366/subdr044-public-safety-mobile-broadband.pdf
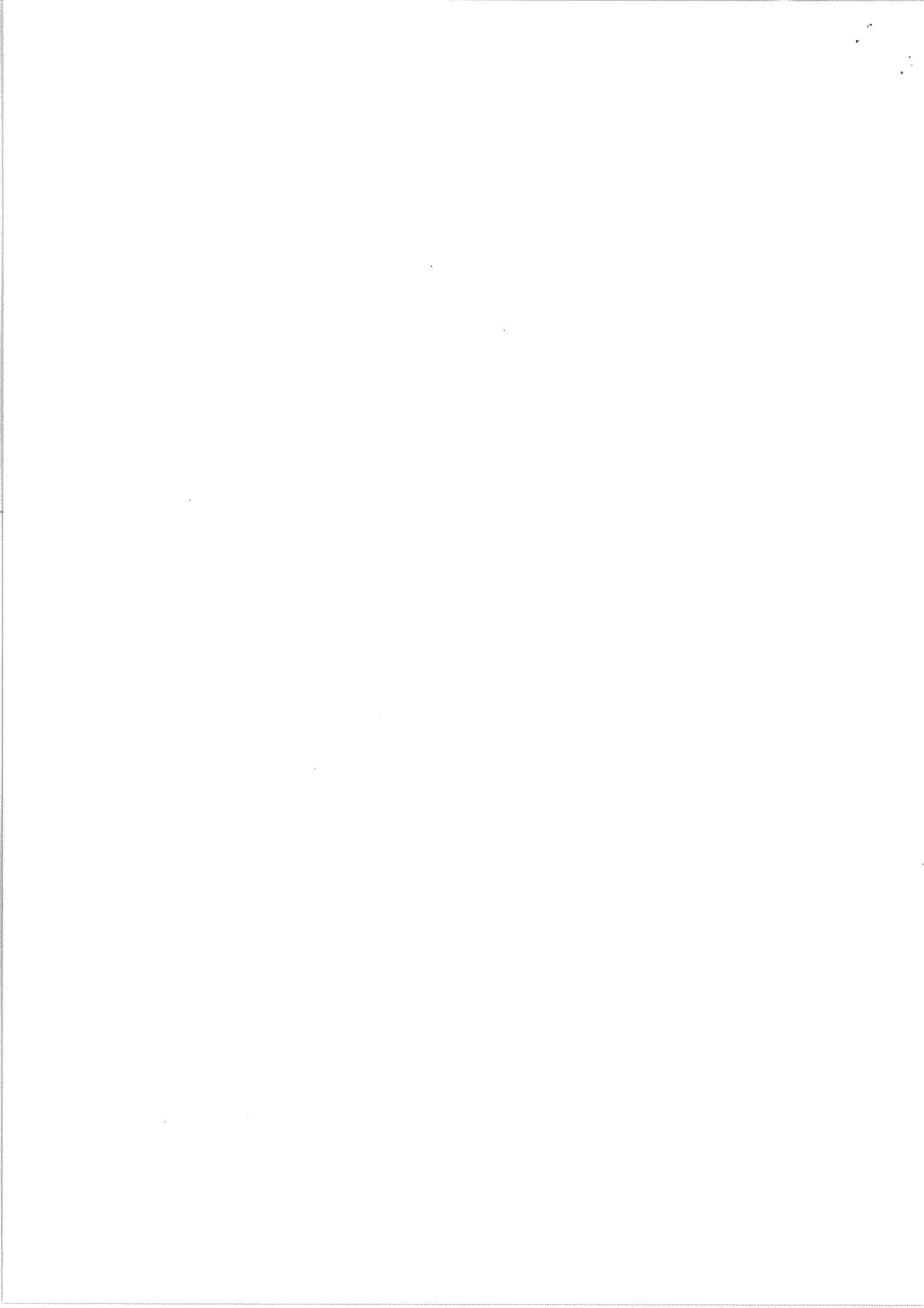
not be maintained. In satellite areas (3 per cent of population), connectivity should be provided by other technologies where it is more efficient.

54. It is inefficient to spend $300 million a year through to 2032 to maintain an inferior network which is being overbuilt by nbn™ infrastructure at an estimated total cost of over $50 billion. It is not cost-effective to subsidise redundant infrastructure when the same services can be provided over the nbn™. Future minimum telecommunications arrangements must take into account and be designed to supplement, rather than replicate the nbn™ and the services it provides.

55. In areas where nbn™ is not making use of Telstra's copper network, the copper continuity obligation should be phased out wherever nbn™ services have been activated. There is no justification for the USO to continue to fund these areas.

56. Wherever the nbn™ cannot provide the level of service required by consumers (e.g. medical alarms in satellite areas), it may be possible for other networks to provide alternatives. This will become increasingly possible in a 5G landscape and with network sharing.

57. The provision of lifeline services (low bandwidth, high coverage and high availability) in remote locations could be provided by networks currently outside the consumer space. For example, Victorian public safety agencies run networks across the entire state. Within the appropriate commercial and regulatory framework its associated infrastructure could be leveraged to provide emergency communications for citizens, acknowledging that access to these shared networks for emergency response during major incidents must be carefully controlled to ensure vital communications are not compromised due to network overload and congestion.

58. It should be noted that whilst the nbn™ will generally speaking greatly improve telecommunications outcomes, a range of regulatory, policy and commercial constraints limit its ability to effectively meet all needs. In particular, the nbn™ does not provide a fit-for-purpose solution to address all industry demands for bandwidth and mobility. Due to its charter, the national wholesale network provider isn't a flexible entity capable of providing a range of different services to complement the development of other networks that can service alternate demand (e.g. mobility, higher bandwidth solutions, and public and private wireless networks).

59. Victoria's Regional Economic Development and Services Review found that the telecommunications market and the nbn™ is not working effectively to meet economic development objectives in regional areas:

> *The slow and uncertain roll out of the National Broadband Network (NBN), combined with large areas of Victoria lacking reliable and appropriate broadband and mobile coverage, must be addressed. The NBN and its rollout are driven by supply-side factors with not enough concern for demand considerations and specific regional needs. For parts of regional Victoria, the NBN has uncertain rollout plans and where they are known, it is slow to arrive.*

Another significant concern is that the rollout may not provide the appropriate technology for economic and social development (such as demand for mobile broadband or business demand for fibre optic infrastructure).[7]

60. In non-commercial areas, there is a lot more that should be done with the nbn™ in partnership with other telecommunications providers, the community and industry to meet the broadest range of needs. Currently, there are constraints on leveraging nbn™ infrastructure to address other gaps in the market. The Productivity Commission may wish to comment on changes required to nbn™ infrastructure, technology and rollout to complement the development of non-nbn™ solutions.

Exploring options to coordinate telecommunications investment in non-commercial areas

61. A holistic approach to consolidating public telecommunications investment in non-commercially viable areas is required. Building purpose built networks which solely address specific end-user needs, may worsen the commercial environment for supply and market development. Common infrastructure needs to be used to meet a range of needs that individually have poor business cases. For example, service delivery agencies (e.g. public safety agencies) face many of the same problems as regional consumers and potentially have common solutions.

62. Coordinated activity will enable multiple funding sources and existing infrastructure to be leveraged to support the development of a high quality telecommunications platform that meets multiple public and private objectives including equity, safety and productivity.

63. The Productivity Commission can make a valuable contribution to solving these issues if it considers options to coordinate investment and consolidate infrastructure (e.g. mobile roaming) and networks to facilitate better outcomes.

64. The Productivity Commission may also wish to explore new governance models and potentially corporate models for a region by region approach to delivering coordinated regional telecommunications investment. This might involve the consideration of innovative models, such as the establishment of a corporate entity tailored for loss-making areas that unlike the nbn™ has the capability and flexibility to coordinate and aggregate other actors in the market to fill supply gaps and develop permanent strategies that enable multiple market suppliers to participate in regional solutions.

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[7] Victorian Government, 2015, Regional Economic Development and Services Review Final Report, pg. 30