Western Australian Government Submission
Joint Standing Committee on the National Broadband Network – Inquiry into the Roll-Out of the National Broadband Network (NBN)
Summary
The National Broadband Network (NBN) is a vital infrastructure investment which will shape the future prosperity of Australia, and Western Australia welcomes any opportunity to contribute and collaborate towards its successful completion.

Communications infrastructure is especially important for Western Australians, due to the remoteness of our location—even urban populations in Western Australia are separated from the rest of the world by great distance. Access to fast, reliable, high-volume internet infrastructure will enable Western Australia’s economic and social development to proceed apace with the rest of the world, and unlock latent potential across the State.

The Western Australian Government is committed to bringing about this bright future, and stands ready to work with the Commonwealth Government however it can to deliver the benefits of a fully digitally enabled economy to all Western Australians.

The National Broadband Network (NBN) is not about the connectivity requirements of today; it is a core infrastructure investment which must underwrite the social and economic activities of all Australians for the next 100 years.

Discussions about current internet infrastructure often revolve around specific, relatable usage cases (such as streaming video, or telecommunications with regional areas), but even industry-scale examples are too narrow. The reality is that the internet is already, or soon will be, the central enabling technology for all of modern business and civil society.

Fast, reliable internet connections enable better and more efficient systems, services and interactions in all areas of government, research, business and the broader community. Failure to provide internet infrastructure capable of meeting the requirements of increasing usage at this scale will critically undermine the future economic viability of Australia.

It is important to get modern internet infrastructure right, and as such, this submission seeks to highlight a number of consistent problems the State has encountered with the rollout of the NBN. Western Australia is keen to ensure that the NBN is able to meet not only the current, but also the future needs of its citizens and businesses, and offers the following commentary in an effort to expedite a mutually beneficial outcome for both the State and the Commonwealth.

The key issues fall under the following headings, and are discussed in the rest of the submission:
- The importance of high-speed internet for the future of Western Australia
- Lack of strategic engagement
- Lack of engagement during rollout
- Lack of information in general
- Delays
- Poor technology and downgrades
- Poor performance
- Unclear and expensive
- Social and economic impacts
- Uncertain future

The importance of high-speed internet for the future of Western Australia

The McGowan Government has committed to building a diverse, modern and innovation-driven economy in Western Australia. New technological developments are constantly challenging existing industries, and Western Australia—and Australia’s—future prosperity is reliant on our ability to compete. Fast, reliable internet is a foundational requirement for achieving this goal, as it is the connecting thread which underwrites all other modern systems.

The promise of a full and functioning NBN is significant, and in certain areas, successful rollout has proven to be effective in stimulating economic development which was previously impossible.
For example, the 2016 rollout of fixed wireless NBN in the town of Balingup (230km south of Perth), has allowed a number of residents and businesses to work without commuting long distances to major towns. Such NBN connections also open up internet service provision to the pressure of market forces, introducing competition in areas which have previously faced monopolistic pricing (if service was even available).

This kind of change represents, on a small scale, the kind of change the Western Australian Government wants to generate in the State as a whole. Similar opportunities exist throughout Western Australia – for modern connectivity to drive economic growth, create jobs and build local communities which compete far outside their geographical limitations. For Western Australians in particular, the internet is a vital tool in overcoming the challenges of remoteness—including the metropolitan area of Perth, which is one of the most isolated capital cities in the world.

Unfortunately, positive stories like Balingup are more the exception than the rule. The rollout of NBN in Western Australia has presented a number of issues, which the State is eager to see resolved.

**Lack of strategic engagement**

The Office of the Government Chief Information Officer (GCIO) is the Western Australian Government’s designated point of contact for NBN-related consultation. The Office of the GCIO has attempted to engage with NBN Co on multiple occasions, with a view to ensuring rollout was aligned with service priority areas, and the process well-coordinated throughout the State.

Unfortunately, these attempts to streamline rollout and generate mutually beneficial outcomes have been met with opaque responses and limited engagement from NBN Co.

In addition to this, the Minister for ICT and Innovation the Hon David Kelly MLA; the Member for Morley, Ms Amber-Jade Sanderson MLA; and the Member for Perth, Mr Tim Hammond MP have all independently written to Senator the Hon Mitch Fifield, Minister for Communications, regarding concerns they have with the NBN.

Mr Hammond has also tabled petitions in the Commonwealth Parliament, from residents in the Perth suburb of Morley, concerning their poor internet connectivity (further detailed later in this submission).

While the Commonwealth have responded in some cases, and expressed a desire to achieve the best quality of NBN service, the limited scope and depth of engagement over the length of the project is not conducive to such outcomes at a State level.

As a result of less than ideal engagement with Western Australia, the NBN rollout has progressed in a patchwork and inconsistent manner, often with poor performance, and low levels of sign-up for NBN services as a result.

**Lack of engagement during rollout**

Despite issues with engagement, many Western Australian Government agencies have had little choice but to engage with NBN, as its rollout directly intersects with their delivery of services.

Agency comments indicate that, in areas where they have attempted to work with NBN, it has been difficult to get information from NBN Co in a timely manner, if at all.

Feedback from the Health Department of Western Australia and the WA Country Health Service indicates that interactions with the NBN are characterised by:

- lengthy delays in delivery;
- confusion over NBN readiness of sites; and
- poor troubleshooting due to a lack of NBN Co consultants within Retail Service Providers (RSPs).
Similar feedback was also provided by the Department of Fire and Emergency Services, which further highlighted:

- a two-fold increase in the cost of its monitored alarms service due to NBN installs; and
- problems liaising between NBN Co and RSPs.

These kinds of frustrations have a direct impact on service delivery, which for the cited examples frequently involves life and death situations. Receiving and responding to triggered alarms and ensuring communications between front line health services are not optional extras, they are critical components of agencies’ operations. If Western Australian agencies are unable to guarantee reliable connections for their services through the NBN, the lives of Western Australians are potentially at risk.

NBN Co’s low level of engagement in the preparation for rollout, unavailability (both directly, and via RSPs), and poor coordination with State-level service delivery is costing WA agencies time and money. Agencies now report that they are reticent to engage with NBN unless strictly necessary—this despite expressing a clear need for reliable, high speed connectivity for their services.

**Lack of information in general**

Difficulty in engaging directly with NBN Co on specific deployments is further compounded by limited access to NBN rollout information in general.

The information provided on the NBN Co website frequently changes, and in some instances, whole categories have been removed with no notice. For example, NBN removed all Fibre To The Curb (FTTC) information from its interactive rollout map on 16 June 2017 with no further information about when this might be restored.

Consumers and businesses are clearly struggling to resolve their issues with NBN Co, as evidenced by the flood of complaints raised with Australia’s Telecommunication Industry Ombudsman (TIO). The TIO reported a 117.5 per cent year-on-year increase in specifically NBN-related complaints in 2016.

**Delays**

Limited information and communication from NBN Co has made it difficult to track the progress of the overall rollout of the NBN. Perhaps the greatest example of this is the fact that the full three-year rollout plan for the NBN was removed from the NBN Co website in December 2016. Irrespective of progress to a specific plan, it is not unreasonable to argue that delivery of the NBN is far behind schedule, with serious consequences for members of the Western Australian community.

Significant numbers of Western Australians are now unable to access any broadband connection at all. Residents in inner metropolitan areas of Perth, such as the suburb of Morley, have been told by Telstra that exchanges are full, and connections to copper line broadband are unavailable.

Mobile internet options in the area are unreliable, and prohibitively expensive, leaving residents with little to no viable broadband internet options until their scheduled NBN rollout in late 2019—more than two years away.

In addition to suburbs with slow rollout, an increasing number of Western Australian properties are being deemed “service class zero” (SC0): too difficult for NBN connection. There are over 21,000 such properties in Western Australia as of 29 June 2017, an increase of nearly 7,000 in just one month. NBN Co CEO Bill Morrow has testified that the number of SC0 properties are likely to continue to increase.

The end result of these delays is an unacceptable level of service for many Western Australian citizens and businesses, who are left not only with no NBN connections, but often no viable, affordable internet at all – and in many cases, no timeline for when acceptable connections will arrive.
Poor technology and downgrades

When NBN does arrive for many Western Australians—including many in metro suburbs—it will in many cases be via the problematic Fibre-to-the-Node (FTTN) NBN technology,\(^\text{vii}\) which is reliant on often kilometres-long stretches of degrading copper phone line. The result for many residents, such as those in Morley, will be internet access equivalent to or worse than many third world countries.\(^\text{vii}\)

The issue-prone FTTN technology is also planned for Henderson (south of Perth), which is the centre of Western Australia’s ship-building industry, and a critical component of the recently announced $1.3 billion plan for Securing Australia’s Naval Shipbuilding.\(^\text{viii}\) As an area of significant potential growth, Henderson is highly likely to require an NBN technology with greater speed and stability than a solution with degrading copper cables across long stretches of its network. A more strategic planning decision could have been reached through more extensive consultation with the State Government.

These kinds of less-than-ideal outcomes for Western Australian businesses and consumers are also likely to become more prevalent over time. Evidence from NBN Co indicates that Fibre-to-the-Premises (FTTP), the fastest NBN option (and the one most likely to meet future infrastructure needs) is less and less of a priority in the NBN’s “multi-technology mix” as the project seeks to hit rollout targets. This is especially the case in Western Australian regional towns, which are facing downgrades to lower classes of NBN technology.\(^\text{ix}\)

The compromise solution of Fibre-to-the-Curb (FTTC) is being offered in some areas—but still leaves copper connections of varying length between properties and full-speed NBN fibre. For many addresses, even within the Perth metropolitan area, the location of a residence can be hundreds of meters from the curb.

In addition to the above, over 1,400 premises within the Perth metro area have been allocated Sky Muster connections, with no explanation for why that allocation has been made.\(^x\) Sky Muster was originally intended to service only very remote locations, with little or no current internet access at all, and has drastically diminished performance compared with other NBN options. Opaque NBN rollout plans make certainty difficult, but it appears that many premises, across Western Australia, are being downgraded and de-prioritised. The promise of the NBN, to provide a universal level of service for the internet as a primary utility, is left out of reach for many Western Australians.

Poor performance

Unfortunately, the situation is not greatly improved, even for Western Australians who have been connected to the NBN. Existing NBN connections face a wide range of performance issues, which add up to service which, in many cases, is more expensive, slower, and less reliable than the copper-based internet it was supposed to replace.

This kind of NBN experience has already made national headlines in relation to Western Australian businesses. In some cases, business owners have moved to particular suburbs with the express purpose of purchasing top-tier FTTN plans, only to receive a fraction of a percentage of their connection’s promised speeds.\(^{xi}\)

Situations such as these are far from rare, and reports from around the country\(^{xii}\) have prompted a formal investigation by the Australian Competition and Consumer Commission (ACCC)\(^{xiii}\) into NBN performance.

Consumer advocacy group CHOICE Australia have also launched their own survey, and ongoing monitoring, regarding Australian internet (and NBN) performance. Results from the nationally representative survey show that 60% of people on the NBN had issues with their provider, and 42% reported disconnections, dropouts and poor performance.\(^{xiv}\) Additionally, the survey found that problems were consistent across all service providers—suggesting that the issues are endemic to the NBN itself. These are worryingly high figures, which indicate widespread instances of the NBN struggling to deliver on its promise of fast, reliable connections.
These high levels of dissatisfaction sit alongside the broader context of Australian average internet speed, which is ranked 50th in the world, down from 47th in 2015. This put Australia behind Romania, Bulgaria, Russia and Latvia — often by a significant margin. Less than 20% of the Australian population achieve speeds greater than 15 megabits per second\textsuperscript{ix} - let alone the 100 megabits promised by full-speed NBN.

NBN Co has consistently shifted blame for internet speeds on to service providers,\textsuperscript{xvi} but service providers are equally quick to blame NBN Co for its pricing model and congestion.\textsuperscript{xvii} Combined with the previously cited difficulties with communication and transparency, these issues present customers with a confusing and frustrating process, that makes speed problems nearly impossible to resolve.

NBN Co has in recent months, under significant pressure, launched a new initiative to ensure consistent connection for consumers,\textsuperscript{xviii} but it remains to be seen how effective such measures will be.

Even further complications are likely to arise for Western Australian addresses that have been allocated Sky Muster connections. The rollout of Sky Muster has already seen significant issues with congestion, dropouts and outages—and much of the allocated data for users must be used during night-time hours, which is ill-suited to rural needs.\textsuperscript{xx}

Whilst regional and remote users, who have battled costly and ineffective solutions for years, may still see Sky Muster as a better alternative, the service is not suitable for many common internet usage cases. For example, Sky Muster’s satellite technology features a transfer delay so significant that it is effectively unusable for two-way communications (for example, video conferencing). The rollout of this technology to major regional towns, and numerous locations even within the Perth metro area, is highly unlikely to be adequate for Western Australians’ current (let alone future) internet needs. Furthermore, adding non-remote users to the network will increase congestion, lowering the quality of service for all users.

In the areas NBN has been rolled out in Western Australia, significant issues with speed, reliability and service quality are not uncommon. The NBN is in many cases struggling to meet current needs of Western Australian citizens and businesses, which gives rise to reasonable concern for its capacity for future usage, which is predicted to dramatically rise.\textsuperscript{xx}

**Unclear and expensive**

The performance and technology issues outlined above are compounded for Western Australians, as a result of the often unclear and potentially misleading way in which NBN plans are sold. Retail service providers commonly promote NBN connections in NBN-ready areas, without making clear what actual speeds will be delivered. For example, residents with FTTN connections may be offered plans at “up to 100mbps” where in actual fact the lengthy distance of copper wire to their premises will produce speeds drastically short of that theoretical maximum. One service provider has recently confirmed that thousands of their customers were sold plans with speeds that were not actually achievable.\textsuperscript{xxi}

Further adding to these concerns, the already-high cost of NBN fixed-line service is to be increased with an additional tax, which will fund the rollout of less effective technologies.\textsuperscript{xxii} This sits on top of price increases of up to 20 per cent for NBN connection—which users are forced to adopt.\textsuperscript{xxiii}

Even where NBN has been made available in Western Australia, generic and potentially confusing sales models are contributing to a lack of understanding amongst consumers, who frequently end up with service which falls far short of their expectations, and at greater cost.

**Social and economic impacts**

Poor and worsening internet infrastructure in Western Australia has a wide range of negative potential impacts on the State’s economy.

Western Australia faces increasing and fierce competition from global challengers who are able to undercut its businesses due to lower standards and working conditions in overseas markets. Despite this challenge, Western Australian businesses have managed to remain
competitive—largely due to their innovative use of cutting edge technology to drive down costs.

One example of this is the remote management technology deployed by Western Australian mining companies. Remote solutions use high-speed connections to enable many minesite processes to be automated and controlled from operations centres in Perth, with better results at a lower cost. Major mining companies report their operations could be even further improved—including the possibility of remote management for sites across the globe—with better quality internet infrastructure in Western Australia. If such global-scale operations were possible in Western Australia, the result would be a significant boost to the local economy, generating more jobs, and further investment for the future. The opportunities passed up as a result of insufficient Western Australian internet infrastructure represent a loss to the community, and Australia as a whole.

It is also important for Western Australia that connectivity-driven technological innovations are available to a wide range of industries outside of mining, and at various scales. Internet-connected productivity improvements are now taking hold across all fields, but are not possible without stable connections to enable them.

For example, numerous technology solutions are currently available for remote management of agriculture, with proven efficiency gains—but Western Australian farmers are often unable to use them because their internet connectivity is so unreliable. These kinds of negative consequences from poor internet infrastructure in Western Australia are not limited to economic and industrial applications either. A 2016 study of regional Australia has shown that regional communities with access to the internet have a better economy, more jobs and feel more positive about the future when compared with communities with poor or no internet access. A functioning, modern internet has palpable social benefits which Western Australia is keen to realise – for individuals in its communities, and also in its services.

Connectivity is critical to the future of service delivery in regional and remote Western Australia, as it collapses the significant distances which disadvantage rural and remote communities. Numerous improvements are available through technology-driven service delivery—especially in health—but these benefits cannot be realised without fast and reliable internet.

This is of particular concern to Western Australia, which recurrent Report on Government Services (ROGS) reports highlight as having extremely high service delivery costs. For example, the State’s user cost per student in education is the highest in Australia largely due to its regional and remote population. Significant investment is, and continues to be, made in digital service delivery to drive down costs, but this means little if it cannot be accessed by those it was designed for in the first place.

Currently, Western Australia faces real, tangible costs—reflected in dollars spent and opportunities lost for its citizens and business—as a result of poor internet connectivity that a full and functioning NBN rollout would be able to fix.

**Uncertain future**

Western Australia firmly believes that fast, reliable, high-speed and high-volume internet connections such as those promised by the ideal version of the NBN are crucial to the State’s future prosperity.

The current state of the network’s rollout is, however, limited enough in many cases that consumers and businesses are opting out of land-line internet altogether, and using mobile alternatives. In December 2016, there were already 6.1 million active mobile (3G and 4G) internet connections in Australia, compared with 7.4 million for all other kinds (including NBN and existing wired internet). In addition to this, mobile internet increasingly offers larger download limits at affordable prices. The issues with service delivery detailed above, in combination with increasing value-for-money over mobile networks, present a significant threat to the viability of the NBN.
This should be of serious concern to NBN Co, as it needs to secure NBN subscribers in order to justify its business case. It is of serious concern to Western Australia also, as mobile internet cannot deliver the kinds of high-volume, high-bandwidth internet connection which are vital to the State’s future social and economic needs.

If the NBN business case cannot be met, rollout may falter or even halt entirely in some areas. If this were to be the case, Western Australia would risk being left without the infrastructure it requires to participate in a global, 21st century economy over the next 100 years.

The importance of fast, reliable, fit-for-purpose internet infrastructure cannot be overstated: it is an essential service now, and for the future. The NBN was conceived to provide this infrastructure for all Australians—including Western Australians—because without it, Australia will languish in the slow lane of world economic development, and fail to deliver the services and opportunities its businesses and citizens deserve.

The Western Australian Government remains hopeful that the issues highlighted in this submission can form part of a meaningful and forward-looking dialogue, with a high-performing and fit-for-purpose NBN as a result.

Western Australia commends the content of this submission to the Joint Standing Committee on the National Broadband Network in the strongest possible terms.


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