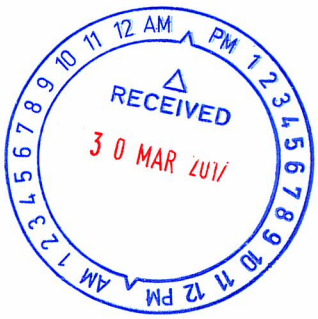
Andrew Barr MLA
Chief Minister

Member for Kurrajong

Treasurer
Minister for Economic Development
Minister for Tourism and Major Events



Mrs Lucy Wicks MP
Chair
Joint Standing Committee on the National Broadband Network
PO Box 6100 Parliament House
CANBERRA ACT 2600

Dear Mrs Wicks

Thank you for the opportunity to provide a submission to the Joint Standing Committee on the National Broadband Network (NBN). The aim of the inquiry to assess the progress and effectiveness of the NBN roll-out provides a good opportunity to assess whether the current NBN roll-out schedule is providing equitable outcomes for both Canberra and the surrounding region. The ACT Government submission is attached.

Australia's growth as a knowledge based economy, and the prosperity this offers, goes hand in hand with the growth of our cities and the regions surrounding them. The ACT Government recognises that high quality NBN infrastructure is essential to success in the 21st century. High speed internet access is fundamental to enabling the close integration between business, higher education and Government sectors positioning the Canberra region as a force in Australia's national innovation system and cementing its status as a world-class knowledge-based economy.

The experience in the ACT shows that the current NBN roll-out schedule is not best suited to meet the needs of our community. Significant areas of North Canberra already receiving NBN quality internet on the existing TransACT network are being prioritised and provided with duplicated NBN services, while other suburbs with sub-standard internet connectivity are not yet on the NBN construction plan. Additionally, NBN rollout in the ACT has slowed significantly since a decision in 2013 to de-prioritise Canberra due to the availability of existing internet infrastructure.

The ACT Government recommends the use of Fibre to the Premises (FTTP) NBN infrastructure, as this system is considered faster and more reliable than the Fibre to the Node (FTTN) model currently preferred by the Commonwealth. While some premises in Canberra have received FTTP, it is understood that future NBN construction will focus on FTTN. The current FTTN infrastructure model will not deliver a sufficient platform for future economic development and expansion, and I urge the Government to reconsider the value of investing in substandard infrastructure.

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Thank you for the opportunity to provide input to this inquiry, and I welcome the opportunity to further engage with the Committee on this matter. Geoffrey Rutledge is the best contact in my Directorate on this matter, and may be contacted at Geoffrey.Rutledge@act.gov.au.

Yours sincerely

Andrew Barr MLA
Chief Minister
28 MAR 2017

Background

Economic prosperity in the 21st century will be driven by a global knowledge-based economy, underpinned by the high quality digital infrastructure necessary create and sustain a highly skilled workforce. For this reason, it is the Commonwealth Government's stated objective for high speed broadband internet to be accessible in all Australian homes and businesses by 2020, with 8 million premises to be connected to the NBN network.

Canberra is a city-state in its own right as well as the primary regional centre for South East NSW, providing important services for a broader catchment population of nearly 900,000 people. Canberra has long been at the forefront of the knowledge economy in Australia, supported by the close integration of Government, academic institutions, and private business. Canberra also provides the access to education and employment opportunities required to attract and retain knowledge workers in the region, with over 50 per cent of workers in the closest NSW council areas and more than 20 per cent of workers in the wider South East and Tablelands region relying on job opportunities in the ACT. The ACT Government also recognises the immense value of community access to high-speed internet, evidenced by the creation of the high speed TransACT internet network in the late 1990s and ongoing development of innovative digital services such as the CBRFree WiFi network.

Comparative Global Position

Australia's comparative global position for internet access and connectivity is relatively poor, ranked 48th for global average broadband connection speed in 2016 by Akamai Technologies. This reflects the decision to utilise Multi Technology Mix (MTM) for the NBN network, designed to minimise expenditure by integrating existing internet infrastructure within a new optical fibre network. The two primary NBN technology methods utilised in the ACT are Fibre to the Premises (FTTP), where fibre optic cabling runs directly from an NBN node to the premises, and Fibre to the Node (FTTN), which connects premises to a nearby NBN 'node' street cabinet using the existing copper internet network. However, concerns have been raised regarding the reliability and effectiveness of FTTN connections, as the existing copper network was not designed for high-speed broadband use. For this reason, FTTP is considered the superior option for speed and reliability. A new 'type-3' or 'MT-FLN' FTTP network has been successfully trialled in Ballarat, Victoria, resulting in lowered construction time and expenses. This indicates that the cost differential giving Commonwealth preference to FTTN installations is reducing, increasing viability for future ACT FTTP installations.

In comparison to Australia's Multi Technology Mix approach, South Korea and Hong Kong utilise solely FTTP NBN networks and are at the forefront of the world's fastest internet connections. Similarly, nine US states are currently trialling FTTP infrastructure and have achieved gigabit (1000 megabytes) transmission rates, over 100 times Australia's goal of 50mb. FTTP connections are preferred in New Zealand, Canada, France, and urban China, while even developing economies in India, Indonesia, South Africa, and Brazil are focusing on FTTP connections as they recognise this to be the best long-term investment decision. Australia's current FTTN approach will see a significant proportion of NBN technology considered outdated before installation has been completed. It is the position of the ACT Government that the current FTTN infrastructure model will not deliver a sufficient platform for future economic development and expansion, and urge the Government to reconsider the value of investing in substandard infrastructure.

Identification of opportunities to enhance economic and social benefits

Access to high speed broadband via the NBN network will bring unprecedented benefits and opportunities to the Canberra Region, particularly by providing Australia's leading knowledge economy with a substantially increased and upgraded operational platform. The NBN rollout creates direct economic benefits from infrastructure investment and consumer expenditures on broadband services, while indirect benefits are created as productivity gains create cost savings and broadband facilitated services create additional

economic activity. Research[1] has also shown that communities with high speed internet availability generate a higher local GDP than low speed communities due to economic advantages relating to communications availability, business from home operability, housing market rates, access to knowledge bases and education, and increased flexibility and productivity rates. Additionally, social benefits – particularly for minority groups – are produced by increased access to education, employment participation, health care and social services.

The ACT Government recognises that access to reliable high-speed internet is essential to participation and economic growth in today's digital society. For this reason the ACT Government have historically invested in the TransACT network, and are supporting the rollout of Australia's largest free WiFi network - CBR*free* WiFi - to provide high speed broadband access in the public spaces of many of Canberra's town centres, libraries, and schools.

There are concerns that the current NBN rollout schedule for Canberra does not adequately address the needs of the most technologically disadvantaged areas, and research indicates that a delay in NBN allocation for these areas will create increasing social and economic disparity compared to areas with priority access. For example, despite having some of the poorest broadband ratings in the country, ACT suburbs Monash and Theodore are not currently listed on the NBN rollout plan to commence construction prior to 2018.

Rollout Progress

The slow pace of the rollout is resulting in a rising degree of frustration from Canberra businesses and residents. The ACT has long been an early adopter of digital services, as evidenced by the ACT's move to be the first jurisdiction to regulate ride sharing services such as Uber. With the ACT NBN take-up rate being the nation's highest at 60%, NBN connectivity is a clear priority for Canberrans. Unfortunately, NBN rollout has been significantly slowed in Canberra since 2013 as a result of a decision by NBN to de-prioritise the ACT, which was supported by the Minister for Communications.

As of 23 June 2016, NBN had rolled out its FTTN and satellite technology to 54,123 premises around the ACT, and by January 2017 around 42,000 premises in the ACT had active NBN connections. This is an increase of just 22,000 premises over three years since December 2013. While these connections are a mixture of FTTN and FTTP technologies, it has been determined that FTTN technology will be used in future ACT NBN installations.

In December 2016, the ACT Government wrote to Senator Mitch Fifield, Minister for Communications, regarding community concerns about the location and type of NBN installations being deployed in the ACT. Minister Fifield replied that the Commonwealth Government's policy is to address areas of greatest need, and NBN rollout in the ACT had been reprioritised in light of survey by the Department of Communications which found the ACT to be one of the locations in Australia best serviced by broadband.

However, the current ACT rollout plan appears to be at odds with the Commonwealth expectations that the NBN rollout prioritises areas currently poorly served by existing internet infrastructure. NBN is currently installing FTTN networks in inner North Canberra as it is deemed "not adequately served," even though these areas already possess NBN level internet speeds over the TransACT FTTN network. In comparison, parts of Canberra that receive internet speeds of less than 2Mbps are yet to appear on NBN's rollout schedule. For these reasons, Ms Gai Brodtmann MP, Member for Canberra, supports the FTTP model for the ACT and believes the NBN rollout should be prioritised for suburbs with poor existing internet infrastructure, including Gowrie, Kambah, Wanniassa, Banks, Monash, Calwell, Bonython and Duffy.

[1] Analysis Group 2014, 'Early Evidence Suggests Gigabit Broadband Drives GDP,' p6.

Unfortunately, due to consequences of the current NBN prioritisation, areas of the ACT with very poor internet connections, particularly in the south, are yet to appear on NBN rollout schedule and are unlikely to be connected to the NBN before 2020. As of November 2016, NBN was behind schedule on their three year construction plan, with no construction commenced in either the Kambah or Scullin Fibre Serving Areas. While Tuggeranong was added to the NBN rollout plan on 27 February 2017, with construction due to commence in the second half of 2018, there is no current estimate for the completion and activation date. Several inquiries have been made by the ACT Government as to when additional ACT suburbs will be added to the NBN rollout schedule; however NBN has yet to reply.

Impediments to NBN take-up

Incompatibility with existing technology is the most substantial impediment to NBN take-up, as transferring to the NBN network may require individuals and businesses to invest in new hardware, software, and training. Community concerns have also been raised regarding landline phones, security alarms, medical alarms, emergency call buttons, Priority Assistance Service alarms, monitored fire alarms, and lift emergency phones, as these devices – if compatible - will need to be transferred to the new network and will not function during power failures. As the Canberra Region has an ageing population demographic, the potential functionality of medical alarms and similar devices may negatively affect NBN acceptance. Other impediments include internet cost and connection speed, the availability of existing network infrastructure and ISP provider packages, concerns surrounding advertised and actual NBN speed and reliability, and the technological literacy, skills, and education levels in the general population.

Market, industry or regulatory characteristics which may impede efficient and cost-effective rollout

The ACT is effectively being de-prioritised in the NBN rollout due to historical investment in the TransACT high-speed broadband network. The TransACT network (now owned by TPG) was originally developed through a partnership between ACT Government (ACTEW) and several private sector investors in the late 1990s. This 'fibre to the curb' network is reliable, capable of NBN similar download speeds, and arguably remains superior to the NBN FTTN as it does not incorporate any copper infrastructure. Existing copper networks are ageing, and may reduce the reliability and efficiency of FTTN NBN connections as they were not originally designed for the transmission of high-speed broadband internet. While some areas of TransACT have been purchased by NBN, the price of purchasing the entire network from TPG was not considered cost-effective. As a result, some areas of TransACT will be duplicated by the NBN network. As these areas already receive high quality internet connectivity, the resources for duplication would be more economically beneficial if reallocated to disadvantaged suburbs where it will provide a substantial upgrade compared to existing internet infrastructure.

Additionally, changes to the Commonwealth Government's Telecommunications Policy now permit a fee for providing NBN connections in new housing developments - a service previously supplied by NBN free of charge. As developers are not required to provide connections from the NBN network to individual premises, leaving home owners to organise, finance and complete NBN installations may impede efficient rollout. The ACT Environment, Planning and Sustainable Development Directorate is considering options to address the consequences of this change in policy, including amending the Territory Plan and future Deeds of Agreement entered into by private sector land developers to ensure that new developments provide telecommunication services satisfactory to the Territory.

Other Concerns

The Australian Communications and Media Authority advise that telecommunications carriers, including NBN, have the power to install low-impact facilities without seeking state, territory or local government planning approval. NBN node street cabinets are classed as low-impact installations according to the

Telecommunications (Low-impact Facilities) Determination 1997. NBN is required to notify land owners/occupiers of the intention to install a low-impact facility, and if the land owner/occupier objects they may raise this with NBN. If the matter is unable to be resolved at this level, it may be referred to the Telecommunications Industry Ombudsman to direct a course of action.

There have been a number of ACT resident complaints regarding the placement of NBN street cabinets on nature strips. NBN appears to be relying on the fact that nature strips are considered ACT Government land, and thus it is currently not clear what status an adjacent property owner/occupier has in making a complaint. The ACT Government maintains the expectation, reiterated to the Minister for Communications, that public infrastructure must be planned in consultation with the community upon which it impacts and efforts should be made to reduce negative impact wherever possible.