Planning Implications of Telecommunication

Why telecommunication infrastructure? Why now?

The link between planning and infrastructure has been a topic of numerous studies over a long period of time (Dodson, 2009; Graham and Marvin, 2001; Neuman and Smith, 2010). More recently, planning literature is showing increasing interest in telecommunication infrastructure, as it serves as the backbone of the digital economy. Nevertheless there is a dearth of evidence-based research on the implications of this emerging infrastructure on urban and regional Australia (Alizadeh, 2013), which puts the nation behind the US, Canada, Europe and Asia (Frieden, 2005; Grubesic, 2006, 2010; Grubesic and Murray, 2004).

In Australia, it is impossible to talk about telecommunication infrastructure without addressing the National Broadband Network (NBN) which began as the country's largest single infrastructure investment. In response to shortcomings in Australia's telecommunication infrastructure (Barr, 2008; Given, 2008; Middleton, 2009; Middleton and Chang, 2008), the NBN was announced to connect Australians to high-speed broadband through terrestrial fibre network (NBN Co. Ltd., 2010). Since its announcement in 2009, the NBN has been a highly political topic in Australia, influencing and being influenced by politics (Given, 2008; Tucker, 2010). Perhaps the best example of this was when three independent MPs cited the NBN as one of the main reasons for their support for Labor over the Coalition following the hung parliament after the 2010 Federal election. On the other hand, following the 2013 Federal election, the newly elected Coalition Federal Government decided to reassess the scale of the national fibre project and put the first stage of the large-scale NBN rollout on hold. This was followed by the introduction of the "Coalition's NBN" which will continue the initiative using a mix of technologies and final speed network.

The Coalition's NBN has the potential to leave Australia with a patchwork of different levels of infrastructure access. This change of policy intensifies the need to understand the implications of telecommunication at the local and regional level. Appropriate responses need to be crafted across different towns, cities and regions based on the level of access provided for them. For state and local governments, it means that within their own jurisdictions, they have to deal with a diverse level of access to telecommunication.

This special issue acknowledges that despite the hefty government investment on telecommunication infrastructure (in the format of the NBN or otherwise) over the last few years, there is little evidence-based research looking at the implications of this new infrastructure in Australia. This edition of *Australian Planner* brings together research and insights from planning scholars and practitioners involved with telecommunication infrastructure and technology, especially during the early NBN rollout. Researchers from Griffith University, University of Queensland, University of Western Australia, Macquarie University, and Queensland University of Technology join forces with practitioners from state and local governments, private practice and the NBN Co. to share their experience and knowledge. This inclusion of both academics and practitioners has given this special issue a three-fold complexity covering theory, empirical insight, and also policy responses. Articles in this collection seek to advance the understanding of the 'planning implications of telecommunication'; they report empirical insights into the experiences of different levels of public and private sectors in dealing with telecommunication infrastructure; and they examine planning and policy responses on the challenges and opportunities of planning for telecommunication in the form of digital economic strategies.

The special issue highlights the contemporary significance, challenges and opportunities that telecommunication has provided to planning and policy in areas such as socio-economic development (teleworking and digital economy); spatial planning (new land-uses such as

smart work hubs, physical infrastructure design, and live/work community developments); and e-governance involving different levels of government (e-planning, e-democracy, and public engagement). The papers in this collection discuss planning implications of telecommunication at three levels: regional, city, and local.

Discussions at regional level begin with a compelling vision, proposed by Steve Knight, for regional digital growth through which stronger interactions between physical, digital, and knowledge accessibility generate economic growth at the regional level, through increased exposure to the digital economy. This bold emphasis on greater participation in the digital economy with the aim of digital connectivity and growth of digital capability is followed by a discussion on activating smart work hubs for urban revitalisation. Bronwyn Buksh and Clare M. Mouat combine their experiences to explore planning and policy implications of smart work hubs in South-East Queensland during 2012 -2014.

At the city level, there is an article on smart cities model by Tan Yigitcanlar who provides a critical review by looking into emerging practices of eco-cities as exemplar smart cities initiatives. This paper addresses the question of whether the smart cities model is just a city branding exercise or an effective urban development and management model to solve urban problems. This is followed with an article examining Brisbane's Digital Strategy. Tooran Alizadeh and Neil Sipe, combine policy analysis and interviews with stakeholders involved in the digital strategy to understand the degree to which it utilises the potentials of the digital economy.

And finally discussions at the local level, starts with a snapshot of high-speed broadband responses at local government area (LGA) level. Tooran Alizadeh and Heather Shearer explore the significance of federally funded initiatives at the local level, while shedding light on some of the locally driven and innovative approaches used by local governments. This policy discussion is followed with an article on the value of social media in community

participation. Wayne Williamson and Kristian Ruming explore the use of social media by a community group in their opposition to a large urban regeneration project – the North Ryde Station Urban Activation Precinct – in Sydney's north-western suburbs. The last two papers in this special issue focus on the physical aspects of the infrastructure development. First, Yolanda Millar looks at mobile telecommunication infrastructure and how it visually impacts on the urban landscape with focus on current practice in Western Australia. Second, John Devereux et al., describe a mapping tool developed by the NBN Co. that combines telecommunication infrastructure design, the location of construction activities, areas of heritage and environmental considerations to minimise the impact of the telecommunication infrastructure development.

Common to the articles is a passion for improving the understanding the changing role of planning in response to telecommunication infrastructure and the fast-growing digital economy. By outlining this research agenda and its practical implications, the insights shared in this collection are applicable to all cities and regions interested in playing a proactive role in the digital economy well beyond the borders of Australia. This compilation provides the first steps for how urban and regional planning can better engage with telecommunication.

Editors Tooran Alizadeh, Heather Shearer, and Neil Sipe

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