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House of Representatives - Standing Committee on Communication and the Arts
PO Box 6021
Parliament House
Canberra ACT 2600

By email: communications.reps@aph.gov.au

Dear Madam/Sir,

City of Sydney submission – Inquiry into 5G in Australia

The City of Sydney (the City) welcomes the opportunity to make a submission to the inquiry into the deployment, adoption and application of 5G in Australia. The City offers the following comments:

Introduction and context

The City of Sydney (the City) understands the importance of state-of-the-art infrastructure to support citizens and business. The rapid and priority introduction of 5G is critical to the future of the city. Our strong belief is that the carriers share this view and as such there is strong alignment to achieve this outcome. However, we must balance this innovation driver with city amenity and quality of experience and as such believe the City of Sydney and other councils have a strong proactive role in driving the broader citizen based objectives. It is through this lens that we make the following recommendations to the House of Representatives Standing Committee on Communications and the Arts' 5G Inquiry.

Today, the City is largely unable to influence much of the mobile network deployment unless there are heritage or other special circumstances. However, this must change if we are to ensure the quality of experience in the city that will drive growth and success. It's vital that Sydney continues to attract business and residents who in turn will provide the carriers with high value customers.

In addition, we feel strongly that the public domain should be protected and enhanced for the common good, which requires us to find the right balance of the multiple calls on the public domain physically, digitally, visually and democratically.

We know, for example that the 5G millimetre wave radio spectrum is adversely affected by trees and other physical assets and this adds a critical reason to collaboratively decide on cell heights and locations. We will not be willing to sacrifice trees in favour of network performance. Similarly, we need to consider the aesthetic and physical impacts of a potentially large volume of physical infrastructure which is located based on network performance only. We must find sustainable ways to advance the use of technology and we can do this only if we are an active part of the decision-making process within our city.

Implications of “low impact facilities” in the 5G context

The Telecommunications (Low-impact Facilities) Determination 2018 made under subclause 6(3) of Schedule 3 to the Telecommunications Act 1997 details low impact deployments which form the basis of the carriers’ obligations for deploying mobile base stations and antennas. Through the introduction of 5G, mobile cell sizes will get smaller resulting in the need for more cell sites. This will be particularly evident in the most densely populated areas such as our major central business district (CBD). Three carriers deploying more cells will add clutter and reduce amenity in the city.

Furthermore, as more users demand more bandwidth then the carriers will see business drivers for deploying a greater density of smaller cells. 5G supports this evolution to smaller cells leveraging the higher spectrum in the millimetre frequency bands allocated for very high bandwidth services in the future. This could see the distance between a single carrier’s cells as small as a hundred metres. With three carriers building networks, the number of cells in the city could be overwhelming.

The low-impact facilities determination did not foresee this density of cells and as such the cumulative effect of many more, smaller cells should now be considered. Very small cells concentrated in CBD’s will have a significant impact on the amenity of the citizens and so must be considered.

We propose the following approaches to minimise the impact while delivering the best quality of mobile telecommunications services demanded by citizens and business:

- Empower the City of Sydney and other councils to approve the location and installation of 5G infrastructure within local government areas.
- Force the carriers to provide details of their plans for cell deployments on a whole-precinct basis rather than one cell at a time to ensure the cumulative effect of low-impact deployments are considered.
- As 5G supports cell technology sharing, this should be strongly encouraged or even enforced through an amendment to the Telecommunications Act. Amending the legislation would avoid the proliferation of small cell installations for multiple carriers cluttering the public domain and streetscapes. All three carriers could share the same radio equipment without adversely affecting their service quality while lowering the per-carrier costs, which could also lead to more coverage and faster deployments of 5G services.
- Mandate cell technology design and deployment to be made to blend into the environment to lower their visual impact on the community and the urban landscape.

The 5G business case impact

We understand that over time, one of the features of the 5G standards will be to enable the carriers to seamlessly manage telecommunications services across both the fixed and mobile networks. This will facilitate a new generation of services to citizens and businesses that take advantage of both fixed network assets and mobile network assets. As a result, it will be more complex to deal with mobile cells and coverage and not practical to consider it in isolation from the fixed network.

As 5G deployment matures and the carriers offer these more converged services it will become even more appropriate to consider network planning and its impact on the city in a more holistic manner addressing fixed and mobile assets together. This will require more consultation by the carriers with the City’s planners.

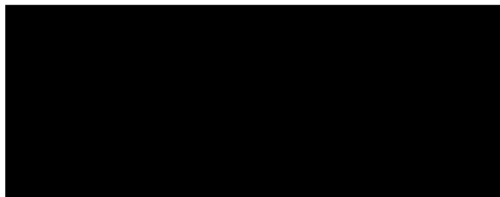
This adds to the argument that low-impact facility definitions may need to change to acknowledge the cumulative effect of so-called low impact network elements.

A city digital twin and augmented reality

As the city invests in its digital assets and planning tools evolve to include digital analytics and simulations, we anticipate an increasing demand on our telecommunications infrastructure. This will include the mobile network. The real value of a city digital twin is yet to be fully appreciated however we see that, as an example, increasing real-time simulation and the ability to demonstrate planning options through advanced augmented reality while on site anywhere in the city will be one of the drivers of the city's ongoing need for 5G.

Should you wish to speak with a Council officer about our response to the enquiry please contact [REDACTED], Executive Manager Strategy and Urban Analytics, City of Sydney on [REDACTED]

Yours sincerely

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Monica Barone
Chief Executive Officer