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25 May 2016

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Smart Cities Plan – Submission by Julian Ardas, Certified Practicing Planner with 30 Years’ Experience – 25 May 2016

Introduction

Thank you for the opportunity to participate in the Australian Government’s Smart Cities Plan.

On 20 September 2015 the Prime Minister, the Hon Malcolm Turnbull MP, announced cities as a national priority for the Australian Government. The Hon Angus Taylor MP, is the Assistant Minister for Cities and Digital Transformation.

I strongly support an initiative such as the Smart Cities Plan launched on 29 April 2016 to encourage conversations about our Australian Cities and their future directions. This initiative, if appropriately funded and supported into the long term, would contribute to the building of an agile, innovative and prosperous nation.

I was born in Surry Hills and grew up in inner Sydney. I am a Director of a planning and communications consulting firm (PlanCom Consulting Pty Ltd, www.plancom.com.au), have worked in the planning and environment field for over 30 years and am a Certified Practicing Planner by the Planning Institute Australia. I have worked nationally and internationally, travel frequently and am genuinely interested in the balanced and sustainable, multi-generational management of social, economic and environmental issues facing urban settlements.

My submission covers the following 9 topics: 1 - Federal Government City Shaping Levers; 2 - Jurisdictional Boundaries; 3 - Response to Macquarie Park Case Study; 4 – Response to The 30 Minute City; 5 - Infrastructure Project Evaluation; 6 - Roads & Networks; 7 – Response to Value Capture; 8 - Cities & Their Hinterlands; and 9 - The Future of “The Australian Dream”. These topics are addressed below.

1. Federal Government City Shaping Levers

The Federal Government has Federal Legislation which can be utilised as levers to significantly shape cities. Examples include the following:

- **A) Immigration policy and law:** Most immigrants settle in major cities (primarily Sydney and Melbourne). Immigration requirements upon new entrants to settle in regional towns and cities for a minimum number of years would result in increased populations and resultant economic and income multiplier effects in such regional towns and cities. It would also reduce strains on the major cities. (This has similarities to requirements imposed upon migrants after World War 2, including my

relatives, who were sent to regional areas to work and had to stay in the country for two years).

- **B) Taxation policy and law:** Incentives and disincentives for individuals and companies to respond to smart city initiatives should be promoted. Examples include: encouraging public transport use, discouraging unnecessary motor vehicle use, encouraging employers to regions with greater unemployment, providing incentives for local employment and to use local supply chains. In addition, tax deductions for research and development should be provided.
- **C) Banking policy and law:** Bank finance lending policies can profoundly impact which sectors and locations receive and do not receive investment opportunities. For example, banks are often reluctant to lend to small businesses and new technology start-up companies, reluctant to lend to potential buyers in areas perceived to contain too many similar housing types (such as high rise apartments) and so on. Our banks are amongst the most profitable in the world due to Australia's oligopoly market and extremely conservative banking lending practices and they need to respond to social change. Incentives and disincentives imposed by the Federal Government to influence bank finance lending policy to respond to smart policy initiatives would profoundly contribute towards achieving desired outcomes.
- **D) Labour policy and law:** Imposing flexibility and agile working practices for staff upon employers would greatly reduce the peak hour strains upon infrastructure. Increasingly many people's employment is not spatially tied, i.e., they can work from any location through the use of Information and Communication Technology (ICT). Initiatives can include more flexible work hours and arrangements through the provision of computers and appropriate technology. As a result workers are happier and highly productive. By imposing requirements through incentives and disincentives to work in this manner for even 50% of the working week the benefits to an organisation, worker satisfaction and reduced pressure on physical and social infrastructure would be substantial.
- **E) Superannuation and Future Fund (sovereign wealth funds) policy and law:** Policies and laws to enforce a certain percentage of funds towards city shaping projects and programs would greatly influence cities. Australian Super's decision to take an equity stake in NSW Ports was a good example which should be promoted and encouraged. Such funds providers should be mandated to have a minimal amount invested in public private partnerships as part of their investment portfolios. Such organisations could also get involved in community housing initiatives such as essential worker housing, clean energy and renewable energy projects, mine site rehabilitation projects etc.
- **F) Federal Government Sites and Assets:** Maximising public value for money from Federal Government Sites and Assets should be a high priority. An example in the late 1990s was the Federal Government's disposal of redundant defence sites. Many of these sites have been transformed into excellent housing and development projects which reaped excellent financial returns for the Federal Government. In addition, non-critical sites and assets could be sold and leased back to the Federal Government in perpetuity.

- **G) Promoting Federal Government Investment Opportunities:** Such examples include, for example, investment opportunities for defence housing. This concept could be rolled out to provide more community housing, aged housing, artist housing, start up organisation accommodation, pro bono initiatives, essential worker housing, Federal Government worker housing etc.
- **H) Information and Communication Technology (ICT):** A critical area both now and the future for the Federal Government is Information and Communication Technology. The concept of Information Super Highways has been publicly discussed since the 1990s and prior to that ICT boffins have been using the term since the 1970s. Given the tyranny of distance we face within Australia, world class ICT would provide people with amazing opportunities for lifestyle, employment and services never previously imagined. The economic multiplier effects would be incredible.

The efforts of NBN Co to date have been reported to be extremely poor and most underwhelming. Similarly, the extremely poor track record of Telstra has also been highly frustrating and problematic, see hyperlink below:

<http://www.smh.com.au/business/internet-not-working-try-again-tomorrow-telstra-tells-customers-20160523-gp1ojn.html>

According to the report by Akamai Technologies, the average broadband speed for Australia in the fourth quarter of 2015 was 8.2Mbps, putting it in the 48th spot (down from 46th) compared to the rest of the world. In terms of average peak internet speeds, at 39.3Mbps, Australia fared far worse, plummeting to 60th position (down from 46th) in the quarter, see hyperlink below:

<http://www.smh.com.au/technology/innovation/a-nonsensationalist-look-at-australian-internet-speeds-20160325-gnr0p7.html>

Excellent quality ICT is perhaps the single most important infrastructure which must be provided if Australia is to truly become an agile, innovative and prosperous nation.

- **I) Budget allocation to Smart City Initiatives:** Federal government plays a large role in allocating money through its budgetary process. Allocation of funds and resources should be clearly articulated and provided toward Smart Cities projects and programs to achieve such initiatives. Through the Federal budgetary process, State budgets could also be influenced by offering “like for like” funding arrangements, via the asset recycling scheme process and other incentivised approaches.

2. Jurisdictional Boundaries

Many of the initiatives presented in the Smart Cities Plan are the responsibility of the State and Local Governments. Opportunities for Federal Government influence are limited via fora such as the Coalition of Australian Governments (COAG), Federal Government Budgets and Deal Making (for example, City Deals).

As described in Point 1 above, if the Federal Government is serious about Smart Cities it needs to look inside its legislative toolkit and better understand and utilise its powers where it can directly be accountable and have an impact.

Also, there are many good examples around the nation which represent best practice. These examples should be identified and shared and their use should be encouraged. Federal Government could have a strong role in identifying and sharing best practice initiatives.

An example is Perth Metropolitan Planning. The Perth Metropolitan Region Scheme (MRS) is a large town planning scheme for land use in the Perth metropolitan area. This plan has been in operation since 1963 and provides the legal basis for planning in the Perth metropolitan region. Both major parties have respected the existence of this plan and allowed it to continue, despite amendments.

Furthermore, the Metropolitan Regional Improvement Tax has been of great benefit and maintained by successive WA governments. The original case for the tax, in summary form, was as follows: *It is very necessary that the regional planning authority should have power to acquire or resume land required for the purposes of the plan...There are various ways in which additional moneys can be raised. They must, however, clearly be related directly to the land in the planning area, and as such might be either a rate or a tax on the land based on an assessment of its value...[T]he payment of a tax in the form of additional land tax and assessed on the same basis [would apply] principally to urban property owners who, in fact, will obtain the main benefit from development proposals under the plan...Additional tax proposals are always received with disfavour, but it should be remembered that any moneys obtained by this method, and used for the purchase and reservation of land for future requirements, will in fact save the State, and indirectly the public, very much greater expenditure at a later stage.* - Gordon Stephenson and Alastair Hepburn, Plan for the metropolitan region, Perth and Fremantle, 1955, page 250. Such an initiative has proven to be highly beneficial in shaping Perth. It is a commendable and exemplary initiative.

3. Response to Macquarie Park Case Study

Page 10 of the Smart Cities Plan provides Macquarie Park as a case study and cites its benefits as “the lower construction and rental costs and a range of allotment sizes as advantages”.

After having worked at Macquarie Park since March 2015, I along with the majority of my colleagues vehemently disagree.

The area was previously touted as a “high tech industrial area” being located near Macquarie University and has now morphed into a recent major employment area with limited facilities and services as one would expect in an industrial area. Although it has become commercially successful, particular for companies such as AMP and Macquarie Goodman (now Goodman Group), it contains many operational problems. Many colleagues have indicated that it may take up to 30 minutes to drive into or out of Macquarie Park, i.e., to get out of the precinct from the workplace or to get in to the precinct from the adjacent major arterial roads. Furthermore, if travelling along the M2 and during peak hour the motorist is also confronted with dense traffic and slow vehicle speeds (even though the M2 widening project was completed in recent years).

The amenity of the area is very poor with very few facilities near your workplace, very narrow footpaths, high volumes of traffic, high vehicle speeds and very few opportunities for employees to mingle and connect with others. Trains and train stations are becoming increasingly crowded. With the proposed \$900 million AMP/Macquarie University development along Herring Road and other current development there will be even greater pressure upon already inadequate services. Attracting and retaining quality knowledge workers to Macquarie Park is also problematic.

4. Response to The 30 Minute City

The 30 minute city concept on Page 11 is a fascinating one.

Let's consider this scenario for the Prime Minister. The Prime Minister's house is generally located at Lady Martins Beach, Point Piper. To get to his Wentworth Electoral Office on 287 Edgecliff Road Edgecliff (which is only 2.4 kilometres away by road) requires a 6 minute drive without traffic, a 29 minute trip by public transport (12 minute walk followed by an 17 minute bus trip), an 11 minute cycle ride or a 31 minute walk. To get to Kirribilli House (which is 11 kilometres away by road) requires an 18 minute drive without traffic plus tolls, 50 minute by public transport, a 45 minute cycle ride or a greater than 2 hour walk. This demonstrates that only under certain travel modes does the 30 minute city concept apply to the Prime Minister's two Sydney workplaces.

Most of my work colleagues take at least 1 hour to get either to or from the workplace at Macquarie Park. Some even commute from other cities, states and countries!

Assuming someone worked adjacent to Martin Place Station in Sydney let's consider what a 30 minute city means using different transport modes.

Motor Vehicle (without traffic, hence outside weekday peak hours and weekend peak times during the day): Hurstville 27 minutes (24 kilometres), Lidcombe 30 minutes (19 kilometres) (with tolls), Wahroonga 30 minutes (26 kilometres).

During peak hours the locations contract substantially to the following locations within 30 minutes: Kogarah 28 minutes (18 kilometres), Burwood 27 minutes (13 kilometres), Killara 29 minutes (16 kilometres),

Public Transport (Train): Hurstville (27 minutes), Burwood (26 minutes), Chatswood (28 minutes).

However, for the majority of people living outside these areas the 30 minute city concept to Martin Place Station is not achievable using these modes of transport.

A further complexity with dispersed employment areas in a city is the cross-city commuting issues this creates. One cannot impose controls on the location where one must work. Instead of a hub and spoke or tidal flow travel arrangement created by centralised highly accessible employment areas, these dispersed locations create travel movements previously not anticipated and generate myriad almost intractable problems.

However, if more and more people not spatially tied to a physical workplace became increasingly agile and nimble through the use of high speed and reliable Information and Communication Technology (ICT) you have the real possibility of a **1 Click City** for Citizens! This has to be the future for cities and its citizens.

5. Infrastructure Project Evaluation

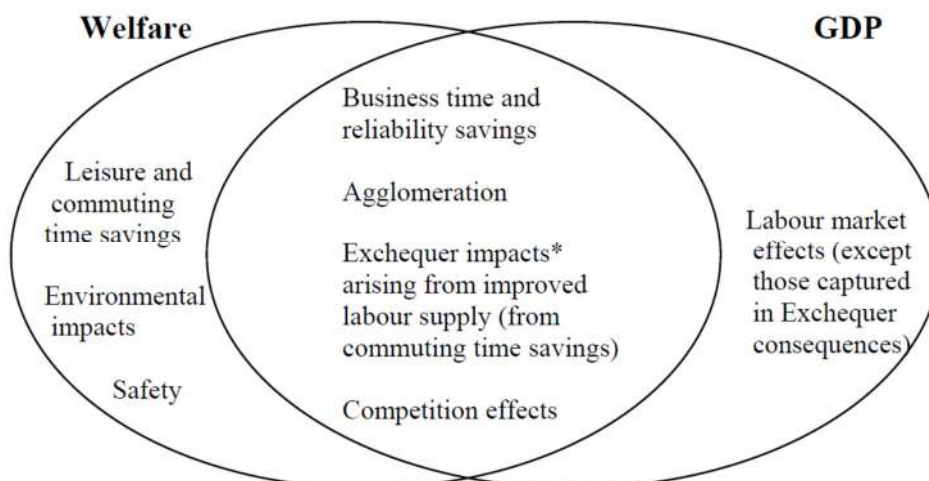
Benefit Cost Analysis (BCA) is an evaluation technique used to determine the feasibility of a project. Apart from being used internationally, the technique is also used in Australia by State Government Treasury Departments and, Infrastructure Australia at the Commonwealth level.

The technique involves the consideration of social and environmental costs in the financial analysis of a project. BCA determines the ratio of the discounted costs and benefits for a project over its economic life and if the Benefit Cost Ratio (BCR) is greater than one the project is viable.

The term “wider economic benefits” has been succinctly defined as being about the relationship between the density of jobs (agglomeration) and improved economic outcomes (increased labour, productivity and human capital). This relationship can be used to identify external benefits that arise from the provision of infrastructure, such as transport, outside the standard BCA appraisal.

The UK Department for Transport (2006) defines wider economic benefits as including: *agglomeration economies (WB1); increased competition as a result of better transport (WB2); increased output in imperfectly competitive markets (WB3); and economic welfare benefits arising from improved labour supply (WB4).*

The venn diagram from the UK Department of Transport (2006) below illustrates the inter relationship between welfare and GDP and the contributions of wider economic benefits.



Infrastructure Australia, in its document titled “Outline of Infrastructure Australia's Prioritisation Methodology” describes wider economic benefits as improvements in economic welfare that are acknowledged but which have not been typically captured in traditional BCA. Wider economic benefits can be disaggregated into a number of specific sources of benefit. The most significant is agglomeration. Another source of benefit covered by wider economic benefit is that related to imperfect competition in the labour market.

Travel time savings are used as a measure of improved productivity following the reduction in journey time associated with a transport improvement. However, if the labour market is imperfect, the value of the travel time change is not equal to the production change, so that the travel time benefit will underestimate the true production improvement. Finally, wider economic benefits can include the labour market impact resulting from welfare benefits generated from improvements to the supply of labour as a result of transport improvements (Infrastructure Australia 2008).

The table by Rognlien (2010) below identifies numerous international transport projects which have been appraised. The wider impacts (wider economic benefits) presented as agglomeration, imperfect competition and labour market demonstrate the extent to which they contribute to conventional BCA. Although the table highlights High Speed Rail (HSR) it also provides many international examples illustrating the range of contributions (between 5% - 56%) provided by wider economic impacts when included in BCAs for transportation projects.

Wider Impacts in proportion to conventional benefits						
Type of scheme	Location	Scheme	Agglomeration	Imperfect competition	Labour market	Total additional
Rail	Major City	Crossrail	24%	4%	28%	56%
HSR	Interurban	HSL London Birmingham	44%	8%	0%	52%
Road	Conurbation	Leeds to Bradford Improved Highway Connections	30%	6%	5%	41%
Road	Conurbation	Leeds Urban Area Highway Improvements	31%	5%	3%	39%
Mixed	Major City	Melbourne East West Road and Rail package	22%	2%	6%	30%
Rail	Major City	AirTrack	26%	2%	1%	29%
Road	Interurban	Leeds to Sheffield Highway Improvements	24%	6%	-2%	28%
HSR	Interurban	HSL Lisbon Porto	18%	8%	0%	26%
HSR	Interurban	HSL Y-line London - Manchester and Leeds	18%	7%	0%	25%
Road	Urban	Waterview Connection	18%	5%	0%	23%
Bus	Conurbation	Leeds to Bradford PT Improvements	18%	3%	2%	23%
HSR	Interurban	HSL London - Scotland (west coast)	14%	8%	0%	22%
Road	Interurban	A46 interurban road	13%	6%	1%	20%
Mixed	Conurbation	Victoria Transport Plan package	17%	1%	1%	19%
Bus	Urban	Intra Leeds Bus Fare Reduction and Frequency	13%	2%	2%	18%
Road	Interurban	M6 shoulder	11%	5%	0%	17%
Rail	Major City	Melbourne East West Rail package	14%	1%	2%	16%
PT	Conurbation	Leeds Urban Area Major PT Investment	11%	3%	2%	16%
Bus	Area-wide	W Yorkshire Bus Fares and Frequency	10%	2%	2%	15%
Bus	Area-wide	Sth and W Yorkshire Bus Fares and Frequency	8%	3%	2%	12%
Bus	Area-wide	Sth Yorkshire Bus Fares and Frequency	3%	3%	0%	5%

Empirical results suggest that wider economic benefits do exist and are substantial. Numerous examples can be found to support this claim.

The wider economic benefits of major infrastructure projects can play a significant role in shaping human settlement patterns. Smart City advocates have the opportunity to leverage off identified wider economic benefits to substantiate the operational success of viable projects.

6. Roads & Networks

Investing in road projects whilst failing to consider the road network impacts they create is disastrous. The creation or expansion of major roads increases demand for the use of that section of road and within a certain period of time, the road is again at capacity.

An example is the M2 Motorway in Sydney which opened circa 1998 and by 2010 plans to widen the Motorway were well underway. Furthermore, the creation or expansion of major roads has a significant effect on the surrounding road network with secondary roads and intersections being impacted and new rat runs being created.

An example of complete disregard for future road network impacts is the WestConnex project. It proposes to introduce 100,000 vehicles per day to St Peter interchange and a similar number of vehicles to Haberfield. In addition, it will focus traffic upon other interchanges such as Strathfield. Introducing such a road project to established areas of Sydney already suffering from acute traffic congestion and parking problems will require the need for a large program of ancillary projects to deal with flow on effects of the traffic from the WestConnex project. None of these highly unpopular potential ancillary projects have been publicised to date.

7. Response to Value Capture

The term value capture has recently been strongly touted by Governments to support urban development near proposed public transport projects. There are advantages and disadvantages with such a model which need to be carefully considered to ensure community benefits around stations are maximised and not compromised by private sector interests. A good example is the amount of control created by private shopping malls versus public shopping areas. It should also be noted that cities where value capture has been effective are highly planned societies, generally under authoritarian or totalitarian control such as Hong Kong and Singapore. There will be many issues to consider in the application of value capture to a highly democratic society such as ours. The following hyperlinks to media articles and videos provide good examples.

<http://www.smh.com.au/video/video-news/video-nsw-news/hong-kong-high-rise-a-bad-model-for-sydney-20151107-45vb6.html>

<http://www.smh.com.au/nsw/high-rise-living-at-train-stations-suburban-cellulite-warns-healthy-cities-expert-20151106-gkt23c.html>

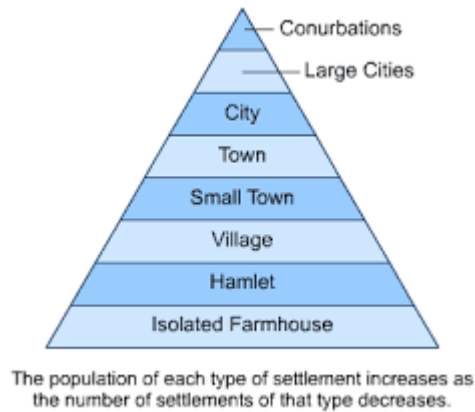
<http://www.smh.com.au/national/hong-kong-rail-operator-mtr-corporation-seeks-to-strengthen-presence-in-sydney-and-melbourne-20151215-glo3b8.html>

8. Cities & their Hinterlands

Cities need hinterlands. Smart Cities need to be equally connected to their hinterland and population centres as well as interconnected within the City.

There are numerous historical examples to demonstrate the size of empires during their period of prominence such as the size of the Roman Empire to support the City State of Rome and the size of the Venetian Empire to support the City State of Venice. The point here is that it is naïve to consider a city in isolation of its necessary hinterland (including population centres) to provide goods and services such as food, water, materials, power, and human services and facilities and ensure the city's success.

A major failure in Australia has been a very poor recognition of our urban settlement hierarchy. We are a nation of two key primate cities (Sydney & Melbourne) followed by the other substantially smaller capital cities. Australia has a substantial deficit of smaller settlements. Therefore, the opportunities for citizens to live anywhere other than primate cities are greatly limited. An ideal urban hierarchy should accord with the figure presented below.



We also fail to acknowledge the great success of the Federal Government's "Canberra Experiment" which has grown from a few thousand bureaucrats settling on a sheep farm in the early 1930s to a vibrant Capital City with a diverse economy and population approaching 400,000 in 2016. Initiatives such as this are a prime Smart City example. More is needed.

9. The Future of "The Australian Dream"

Many Australians have a strong desire to own their own property. However, the opportunity to achieve this desire in the inner and middle ring areas of the two major cities of Sydney and Melbourne are becoming increasingly restricted to the affluent classes. Even in Sydney entry level properties have reached \$1million in many areas and is out of reach for most first home buyers unless they are bankrolled by their wealthy parents or other wealthy benefactors.

In more affordable regional cities and towns the ability to achieve the Australian dream increases for a greater proportion of the population. By making such regional cities and towns well connected with the world via excellent Information and Communications Technology (ICT), the opportunity for people to settle in such areas greatly increases. This technology would provide a great economic boost to regional towns and centres.

Serious agenda resetting is required regarding property. **Shelter** is one of life's three essentials along with food and clothing. It is not just a privilege but it is also a human necessity. Failure to provide shelter for its citizens shows how much we have lost touch with key human needs. In Australia's history we have had many significant housing initiatives including rent control, government housing contributing approximately 13% of housing stock until the early 1980s, assisted first home buying schemes etc. Government housing was once quite acceptable worker housing. Nowadays government housing has become crisis accommodation. What has gone wrong?

The use of Federal Government City Shaping Levers described above for Taxation, Banking, Superannuation and Future Funds, and Promoting Federal Government Investment Opportunities are tools that should be utilised to redress this burgeoning housing problem.

Furthermore, in many cities in the United States of America there are serious housing market failures. Many older people living in larger suburban homes have become empty nesters and are seeking to downsize their properties to meet their changed housing needs. The problem is that there are very few buyers available to negotiate a price for the property and/or do not have a desire for the type of property hence causing market failure. This phenomenon will inevitably be upon us within the next 10-20 years.

Conclusion

A number of key points have been raised in this submission for the Federal Government to consider in further developing Smart City initiatives.

Undoubtedly, the single most significant form of infrastructure investment needed to achieve Smart City initiatives is excellent quality Information and Communication Technology (ICT) which must be urgently provided to ALL CITIZENS if Australia is to truly move towards becoming an agile, innovative and prosperous nation.

Based on Donald Horne's famous 1964 book, Australia is "The Lucky Country". However, our Luck is rapidly running out as we deplete the resources of this vast old continent. Furthermore, Luck is a Very Poor Strategy upon which to base the management of our Country, our People and our Prosperity.

For Australia to transition from a Resource Based Economy to a Smart Economy there is an urgent need for bipartisan agreement and cooperation between the two major parties regarding Smart City Initiatives.

Should you have any questions, please do not hesitate to contact me.

Kind Regards and Best Wishes.

Julian Ardas