

A case study: Canberra – Australia’s National Capital

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Abstract

The design of Canberra was the result of an international design competition conducted by Australia’s Commonwealth Government in 1911–1912.

The original concept and vision for the city conceived by Walter Burley Griffin was largely based on principles of grand boulevards with public transport, high-density development, mixed use, a walkable scale and integration with the natural landscape. In other words, the essential underpinnings of a sustainable city construct. However, major city growth in the 20th Century focused on building suburbs ‘suburbanism’ with the car as the primary means of transport. The emphasis was on building expressways, parkways and a road system designed for high-speed car movement. This development was known as the “Y” plan which aimed at decentralizing urban development rather than consolidating the central urban area. Today the focus in urban planning of the city is towards revisiting the original intentions of the “Griffin Legacy” to achieve a more sustainable national capital. The purpose of this paper and its research and observations is to explore recent development projects and planning policies in the nation’s capital city highlighting this paradigm shift back to the original conception of a sustainable city. The research and results demonstrate that the urban structure and urban framework of multi modal boulevards conceived by the Griffins have an inherent energy and dynamic that are driving the move towards achieving sustainable city objectives. These moves towards a more sustainable city are proceeding without losing the strong landscape theme of the original Griffin Plan.

Keywords: Canberra, National Capital, sustainable building, architecture, Walter Burley Griffin.



1 Canberra: the original city vision

This paper is not intended as a historical research paper, but rather a series of observations focused towards understanding the potential for the city of Canberra to become a truly sustainable city construct.



Figure 1: The Griffin Vision for the National Capital 1912–1918 (Source: Griffin Legacy Publication; NCA 2004).

We begin by looking at Griffin's original 1912 plan, which very clearly has an urban structure, made almost entirely of grand avenues connecting all parts of the city. The way this structure of avenues relates to the landscape and the subtleties of the design of the Parliamentary area are the subject of most studies of Griffin. However, I would like to focus on the structure of the avenues that underpin the entire central area of the city. These avenues are the central idea of the original concept and I believe they provide the central opportunity for making Canberra a sustainable city in the future.

Describing his concept for the city, Griffin depicted the avenues as following: *“As we have learned through some phases of the generally baneful “gridiron”, there are advantages in the rectangular plots and in orderly alignment of private, as well as of public building groups. The remarkable parallel in the respective needs of industry demanding publicity; and of habitation requiring seclusion from the stand-point of occupancy; with the needs of circulation for business and of distribution only for access to retired districts, from the stand-point of communications, makes feasible an harmonious organic arrangement without conflict between street and plot requirements”* [1]. Importantly, the avenues and boulevards connected all suburban areas to the central area and were clearly intended to be extended in order to allow the city to grow to any required population.

The essence of the design was therefore a simple, legible and extendable pattern of avenues, all 60 meters in width and meeting together at focal points throughout the city. It was intended that light rail (trams) provided public transport for the city along each avenue, as necessary to serve the population.

The original concept for the city was very much seen as a “sustainable city” in the sense of a walkable city, walkable neighborhoods combined with light rail connecting all areas of the city, or as we say today, extending the “walkability” of the city.

Griffin’s vision did not include a high rise central business district, but quite the opposite. He envisaged a horizontal business district stretching out along the avenues and boulevards of the city. There was a general maximum building height of about 5 to 6 stories, as observed from Griffin’s illustrations.

The strength and clarity of this vision for a city of grand boulevards is extremely relevant to-day, in relation to a world wide move to achieve sustainable city development that promotes the idea of a walkable city, which in turn should mean a sustainable city. Of course, as we know, cities are not built in a day. They evolve and evolve and evolve.

2 Overview of the city’s development

To cut the story of Canberra’s development short (and Canberra’s modern history is indeed very short, in relative terms), the building of the central area plan has generally followed the original vision and it includes almost all the avenues intended as the primary urban structure for the central area.



Figure 2: Aerial photograph of the Central National Area (2008). Photo: www.geoffcomfort.com.

Unfortunately, the density envisaged was not achieved in the first wave of development. Rather the entire central area was built initially as a suburban form made up primarily of detached housing on $\frac{1}{4}$ acre blocks (1000 m^2) with isolated areas of apartment development at a marginally higher density. In fact, most of

the higher buildings in Canberra's early development were paper thin and designed to give the impression of a big city, when in reality, there was very little extra density. Having built this low density inner Canberra, the original "city of boulevards" was soon built out with very low density suburbia, with only very isolated individual examples of high density development.

With this "suburbanisation" of the central area complete, the major programme of city building from the 50's on to the end of last century was focused on building suburbia beyond the central area and linked to the central area with expressways, not avenues or boulevards, as intended. The American dream of the car – based city came to Canberra, as well as to most Australian cities and Griffin's vision was dumped in favour of the suburban dream of the car – based city of suburban sprawl. In this process, all suburban plans were built around the idea of the "T" intersection, rather than the cross roads found in Griffin Plan and in most traditional cities.

Known as the "Y" plan [7], the form of planning for half a century was about building suburbia, rather than building a city.

The result is an ideal city for commuters who drive on the many expressways or parkways that link the new suburban areas to the central area and to respective new town centres. With this new expressway culture, parking is the priority and the requirement for providing major car parking with each and every new development is arguably the primary planning aspiration or tool, guiding the cities development. We are still building major expressways and they still are – I understand – one of the major public items for expenditure today, leading to the self-destruction of diversity [8].

Of course, Canberra does have some very compelling features, including its comprehensive parklands and open space system which flows right through the centre of the city and around the central lake (Lake Burley – Griffin) which is the centrepiece and "natural" focus of the entire central natural area.

The extensive open space system and the comprehensive system of cycle ways are highly prized assets for both commuters and recreation cyclists.

In fact, we appear to have the best of both worlds at the moment in Canberra. We have a growing city centre and a growing city population of people choosing apartment living, a growing café culture, throughout the inner and outer Canberra and the Australian dream of suburban living is very much alive and well. The creation of the modern compact city demands the rejection of the single function development and dominance of the car [9].

3 The central area today

The Central national area (the triangle) presents a magnificent collection of public buildings in an expansive landscape. However, in contrast, the status of the avenues and other urban areas could be described as follows:

- Low density neighbourhoods generally, except for Kingston and Kingston Foreshore areas.
- Generally underdeveloped avenues, except for Northbourne Avenue and Brisbane Avenue.



- Major frontages to the avenues often characterised by detached single storey houses or parking lots.
- A number of higher density developments on the avenues, but isolated and apparently ad-hoc.
- Some major development in the city centre but almost no new development apparent on Constitution Avenue.
- Major office areas in Civic and Barton.

In other words, we find that our city today is at a crucial turning point, in terms of implementation of the original vision for building the boulevards, but this direction is not confirmed (as of yet?). There is a real doubt as to whether the city has the courage to pursue the idea of making the boulevards. Allowing the main thoroughfares of the central areas to remain as low density thoroughfares for low traffic will deny the original vision of the city and make it impossible to achieve sustainability. Only Brisbane Avenue and possibly Northbourne Avenue have been built up as avenues and even these existing densities may be too low to achieve sustainability. What of the other 25 avenues, which have not been developed? There are some very good projects that have optimised development density on the avenues and are setting the right direction towards realising the original vision for the city. Two such projects we have been involved with are the Kingston Foreshore Development and the Realm Development Project in Barton. Both these projects have had long gestation periods to change planning policy, to enable higher density development.

The Kingston Foreshore Project covers a 37 hectares site; an old industrial area now outdated and undergoing a major redevelopment as a “brown field site”. This project is an initiative of the ACT Government following a land swap with the Federal Government. It has bi – partisan support and is being developed by the Territory’s Land Development Agency (LDA). This project involves building up one side of Wentworth Avenue (one of the avenues of the Griffin Plan), for about 1 kilometre of its length. This increasing density of development, coupled with the earlier development of the Kingston neighbourhood, is producing a density of development that should support future light rail. The extension of the Foreshore Project to the East, known as the East Lake Project, is also in the planning stage and this project could effectively triple or quadruple the size of the Kingston Foreshore Project, thereby further developing the boulevards of Wentworth Avenue and part of Canberra Avenue in the Fyshwick, Griffith and Narrabundah areas.

At a smaller scale, but equally important in establishing new models for mixed use development on a major avenue, is the Realm Project in Barton. This development is being undertaken by a local property developer, on a site of 26000 m², or 2.6 hectares. Upon completion, the project will have a Gross Floor Area of approximately 75000 m². The Hotel Realm is the first stage of the multistage development, which includes residential, commercial retail and cultural uses.

Both the Kingston Foreshore Development and the Realm Projects are importantly outside the city centre, but have avenue frontages and represent models for other avenue development.



Other recent and significant development projects that achieve appropriate and sustainable densities for avenue developments include:

- New Acton Project by the Molonglo Group, on Edinburgh Avenue,
- Space project by Space Developments on Northbourne Avenue
- The RSL Project by Hindmarsh, on Constitution Avenue East
- The Ambassador Project by Canberra Investment Corporation, on Adelaide Avenue

While there are also a number of other avenue projects in the design phases throughout the central area, the general character of Canberra's main avenues is one of undeveloped or underdeveloped land. Commonwealth Avenue, Constitution Avenue and King's Avenue comprise very large and extensive underdeveloped frontages, which include vast surface car parks or vacant land.

The experience of walking along Commonwealth Avenue is a daunting experience because of its emptiness, with almost absolute priority given to the car; and it is dangerous and difficult negotiating a pedestrian journey at either the city end or the Parliament House end of the avenue. Commonwealth Avenue is indeed an expressway with only one crossroad in three kilometres of avenue. King's Avenue is marginally better in terms of a walking experience. In the car, it's fine, rather enjoyable and grand as an urban landscape gesture. To walk along Constitution Avenue is also a daunting prospect. More than 75% of the southern frontage to Constitution Avenue is devoted to car parking. In contrast, Brisbane Avenue offers a fine experience and reasonable comfort for the pedestrian. It offers parking on the boulevard. Each building addresses the avenue and the overall experience is fine, in terms of pedestrian viewpoint and the drivers' viewpoint. In summary, it is clear that the city is only partly complete, in terms of the original vision and in terms of city building.

4 The Griffin Legacy

This major publication [2] of 2004 of the National Capital Authority (NCA) is primarily directed at refocusing on Griffin's vision for the city, his vision for grand boulevards, for the development of the city centre and the benefits and logic of repositioning Griffins vision high on the urban development and urban planning agenda. It is indeed a credit to the NCA for producing such a document and for challenging the status quo, especially in relation to reasserting the original vision of the city's avenues and boulevards. The focus within the Griffin Legacy is towards building and transforming Constitution Avenue. It focuses on the making of a grand "Parisien"-style boulevard, to link two important apexes of the triangle of avenues that define the central parliamentary area. This is an excellent initiative to focus planning and development, investment and energy. This is an appropriate place to redirect our attention towards the implementation of the original vision for this city. But will it be enough to change the direction and priorities of strategic planning in the National Capital? If Constitution Avenue is implemented as intended, will that be enough to create a sustainable city? My concern is that the paradigm shift needed to achieve a sustainable national capital is much greater and requires a much more drastic change in



planning policy at a much broader level. The need for Canberra as the Nations Capital to address the options for making the city more environmentally sustainable is now on the political and public agenda. The recent 2020 summit instigated by our new Prime Minister, Kevin Rudd, placed the challenge of achieving sustainable cities alongside achieving the status of Australia as a republic at the top of the list of priorities and challenges ahead of our small nation and ahead of Kevin Rudd's Government. The Inconvenient Truth documentary has definitely influenced this popular call for rethinking our cities. I believe there is an urgent need to refocus planning in Canberra towards developing a strategic position outlining the ways forward, in terms of achieving a more sustainable national capital. We have no strategic planning policy document that sets out the options for creating a sustainable Canberra. This is surely the same challenge that many modern western cities are faced with, today. This is not a criticism of Canberra's planning, but a view about our next challenge that should inform the next phase of Canberra's growth and development. Canberra, as outlined above does have a fascinating and unique legacy and public infrastructure and public domain capable of being adapted [10] to meet this new challenge. We have an amazing inheritance to work with, in order to meet this environmental and social challenge. But at the same time, we should be bold and set out in detail the steps that need to be taken to transform our city from almost a totally car reliant city to a first class, leading, modern city in terms of environmental sustainability that will have a drastically reduced environmental footprint. This is a concept of an "urban renaissance city" utilising "brown field sites" [5].

5 Strategic initiatives

Steps towards making a more sustainable Canberra include many possibilities. In terms of Central Canberra and the Griffin Legacy we have the following suggestions:

- a) Realising the original vision for Canberra's Avenues by increasing the density of avenue buildings.
- b) Pursuing other opportunities for selected precincts or Urban Villages [4] to increase density of development similar to the Kingston Foreshore project, while minimising the impacts on existing residential neighbourhoods. (West Deakin would seem to be an appropriate candidate in this regard).
- c) Ensuring that the strategic planning and design of the city is geared towards creation, to the maximum extent possible a walkable series and sequence of inner neighbourhoods that combine to make up the city. Generally, 500 meters should be the maximum distance to a local centre or tram stop.
- d) Preparation of a strategic policy plan that identifies neighbourhood population targets to enable each neighbourhood to be sustainable in terms of social, economic, cultural and educational objectives including access to high frequency public transport.

These strategic measures should generally assist in containing the growth and development of Canberra within the existing urban area. This will further



improve the prospects of containing the environmental footprints of the city. These strategies will also avoid the inevitable problems of building high density suburban areas furthest from the city centre, where they become difficult to service, due to the complete lack of social, educational and transport infrastructure.

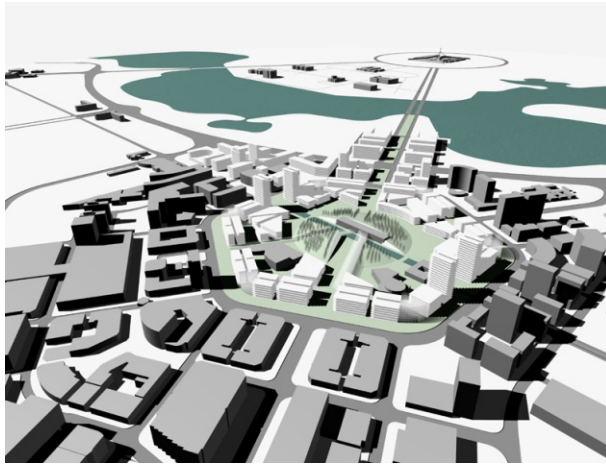


Figure 3: Living City proposal by Colin Stewart Architects (2005) [3].

The scope for developing the avenues is awesome indeed. The existing network of avenues in central Canberra (i.e. inner North and inner South) provide an integrated network of broad 60 metre reservations all integrally linked to each other and giving access to almost all suburbs in the central area. These avenues extend over 50 kilometres in length and are ideally suited in the longer (and medium) term for light rail. They are also landscape corridors. Their redevelopment at medium to high density for residential as well as non residential uses places people close to public transport but also maintains the idea of the quieter lower density neighbours off to the side of each avenue. The density of urban development is crucial to achieving a capacity to support public transportation, in particular light rail. Canberra's traditional suburban density even within the inner areas is 15 to 20 units per hectare. This is extremely low and incapable of generating the movements necessary to support almost any regular form of public transport. New residential projects, including the Kingston Foreshore, the Realm in Barton or the Ambassador at Deakin will achieve a ten fold increase in suburban density up to 125 to 150 units/hectare. This is a realistic target density for all new development on the avenues or in redevelopment areas with height limits of 25 metres. City densities should be even higher at 250 to 300 units/hectare, on sites with height limits up to 50 metres. This concept of "Urban Villages" or concentrated nodes of development is keeping with these proposals [4].

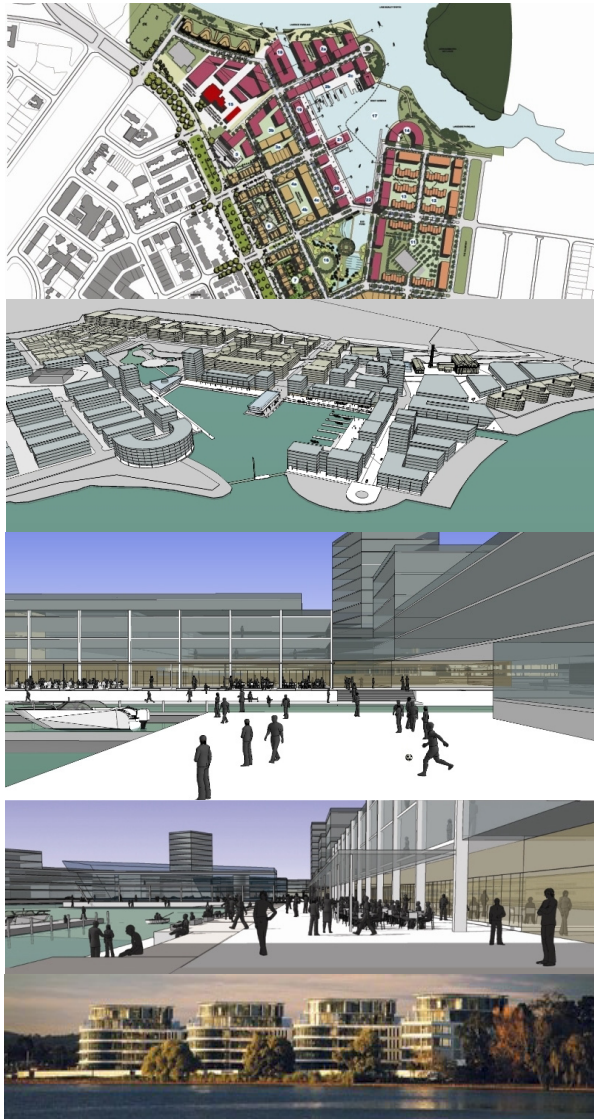


Figure 4: Kingston Foreshore Project by Colin Stewart Architects (1997 to present). Bottom photo: The Waterfront Apartments, PTW Architects.

These density targets will over time foster an attractive context in which to deliver light rail services. Light rail has a long history in Australian cities and is still popular and expanding its network in both Sydney and Melbourne. Canberra's central areas were designed for light rail and a service linking Dickson to Civic and on to Russell and/or the Parliamentary area is a logical first

step towards making a comprehensive service for the entire central area. The concept of “sustainable density” will foster walking trips [6] and support for light rail. Such a policy needs to be applied to all major avenues and development areas. The Avenues offering this opportunity for intensification include – in addition to Constitution Avenue: Commonwealth Avenue, Kings Avenue, State Circle, Brisbane Avenue, Sydney Avenue, Canberra Avenue, Wentworth Avenue, Captain Cook Crescent, Jerrabomberra Avenue, Sturt Avenue, Adelaide Avenue, Limestone Avenue and Ainslie Avenue.

Higher densities can and should be achieved on London Circuit and Northbourne Avenue. Inner Canberra areas that are currently being investigated for intensification opportunities will include in addition to the city centre:

- Lyneham/Downer/Watson
- Curtin/West Deakin/Yarralumla
- Kingston/Fyshwick
- Narrabundah/Symonston
- Russell/Campbell



Figure 5: Recent Avenue Buildings and Projects in Canberra.

These strategies can also be applied with appropriate modifications to Canberra’s newer outer areas and town centres.

6 Conclusion

Notwithstanding the “dynamic conservation” of the Canberra community intent on preserving what they see as an ideal low density garden city made up of garden suburbs, there is strong evidence that the inherent energy embodied in

Griffins Boulevards and the Griffin legacy which should produce the density of development essential to achieving a sustainable and walkable city. Recent new development projects fronting a number of Canberra's broad avenues combined with pivotal urban "brown field" consolidation projects including the Kingston foreshore Development must be seen as absolutely essential moves towards achieving a more sustainable National capital city. As professor Rob Adams AM has rightly noted, "*factors such as density, mixed use, connectivity, adaptability, local character and a high quality of public realm now recognized as driving good livability are identical to those factors responsible for environmental sustainability*".

The Commonwealth Government of Australia, as custodians of the national capital, has prime responsibility for ensuring that Canberra becomes a model city and benchmark for environmental sustainability in the western world.

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