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**URBAN PLANNING AND DEVELOPMENT
OF THE AUSTRALIAN CAPITAL
TERRITORY, CANBERRA: A CRITICAL
REVIEW**

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Urban planning plays an important role in shaping a city. Without prior or appropriate planning, the city may grow or change in an uncontrollable way due to population and social, economic and environmental changes. Such changes are of course fundamental in planning.

In Canberra—the Australian National Capital—the history of development and planning has experienced subsequent changes over time since its formulation. Walter Burley Griffin—the Town Planner for Canberra—created this city on a basis of a Land and Water Axis principle, which is, at present, still the basic concept for the development. Whether the urban planning history of Canberra makes a positive or negative contribution to its development, a number of key factors are taken into consideration in this paper as follows:

First of all, I will briefly trace the history of the Capital City followed by an introduction to planning concepts of the winning design. Secondly, the main focus of this paper, I will argue that the planning and development of Canberra with regard to certain issues such as land use planning and transportation planning and its associates and urban consolidation have so far brought both positive and negative outcomes; and finally, I will draw a conclusion stating my own judgments on the planning implementation followed by an opinion.

1. Historical Background

Canberra District was selected as a site for a new City of Australia in 1909 due to its prominent location and commanding position with extensive views.

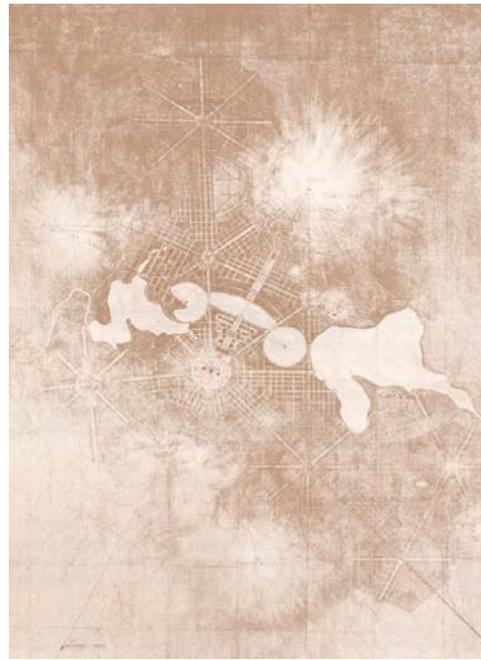
In April 1911, an International Competition for the design of its new city was launched. The first prizewinner was Walter Burley Griffin, a Chicago landscape architect. His design was, however, criticized as extravagant (NCDC, 1970). Then, the three first prizewinning entries were referred to a Departmental Board, still unable to recommend any design but had to incorporate features of the three, which was approved in January 1913. On 12 March 1913 the foundation stone was laid on the Capital Hill and the City was formally named Canberra.

In mid-1913, due to a change of government, Griffin was invited to Australia to help the Board with the development of the City. The new Minister, W.H. Kelly, appointed Griffin as a Federal Director of Design and Construction. In October 1913, he submitted a revision of his plan with Report Explanatory, and became known as Preliminary Plan.

Griffin's design approach was greatly influenced by topographical and landscape considerations, which left for further development of the Capital City today. A number of commissions were set up the following years to take responsibilities of the development planning such as Federal Capital Advisory Committee in 1921, National Capital Planning and Development Committee in 1938 and National Capital Development Commission (NCDC) in 1957.



Topography of Canberra City District

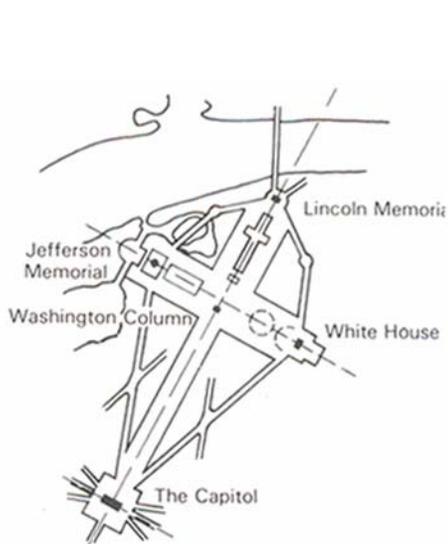


Walter B. Griffin's Competition Plan 1911
Plan for the City and its Environs

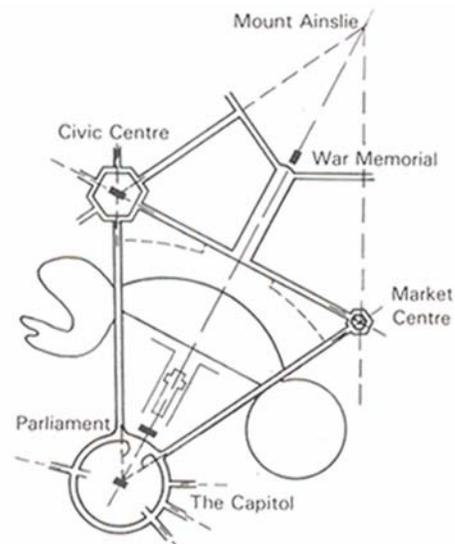
2. Original Planning Concepts

Griffin's design of Canberra was influenced by two popular movements of the nineteenth century (Colman, 1971; Overall, 1995); which are "City Beautiful"—an idea used in Chicago City Plan by Daniel Burnham involving planning and landscaping, main buildings around formal water basins and "English Garden City" by Ebenezer Howard which used parks to screen residential areas by major highways and used street patterns to change directions so as to discourage through traffic from using residential roads as shortcuts. In comparison with the Central Washington Plan designed by McMillan in 1901 (NCDC, 1982), Griffin's Geometrical Concept is much the same.

With this regard, it is evident that government buildings were located around an artificial lake—named Lake Burley Griffin—and reflecting the identity’s Canberra as a National Capital (Fisher, 1984) and residential buildings adjacent to Northbourne Avenue and Federal Highway were built and separated by residential streets.



WASHINGTON
Based on McMillan Plan 1901



CANBERRA
Based on Griffin's Plan 1912

3. Is Canberra a Garden City?

It has been said that Canberra is a garden city whose interpretations are based on the way it integrated natural landscapes, the hills and locations of monumental buildings, lake into the design. The people of Canberra and official committees have consistently argued that this “Garden City” aspect should be retained (NCDC, 1970). In response to the aspect, the development and planning for the City to provide an attractive and efficient environment is always taken into consideration to ensure and

enhance its meanings. It is of the importance that people can enjoy their living states with beautiful landscapes, gardens, and parks at any place, at home or along the streets, if the planning matters are realised.

Whether this aspect, in my opinion, can last forever or not, it is in doubt. As far as the population growth is concerned, the places with low housing densities will physically change to fit high ones in order to satisfy people's demand. Trees are cut down; gardens are reduced in size to give way to new building developments; Privacy is lost as adjacent houses look into each other. Availability of private cars in city streets is increasing since people become more affluent. This will put more pressure on the environment and the concentration of greenhouse emissions is relatively on the rise, which will consequently affect the "Garden City" concept. However, I hope that to retain this aspect and reinforce the meaning of Canberra as the Australian National Capital, the Australian Government will make the efforts to get it free from any negative effects.

4. Planning and Development

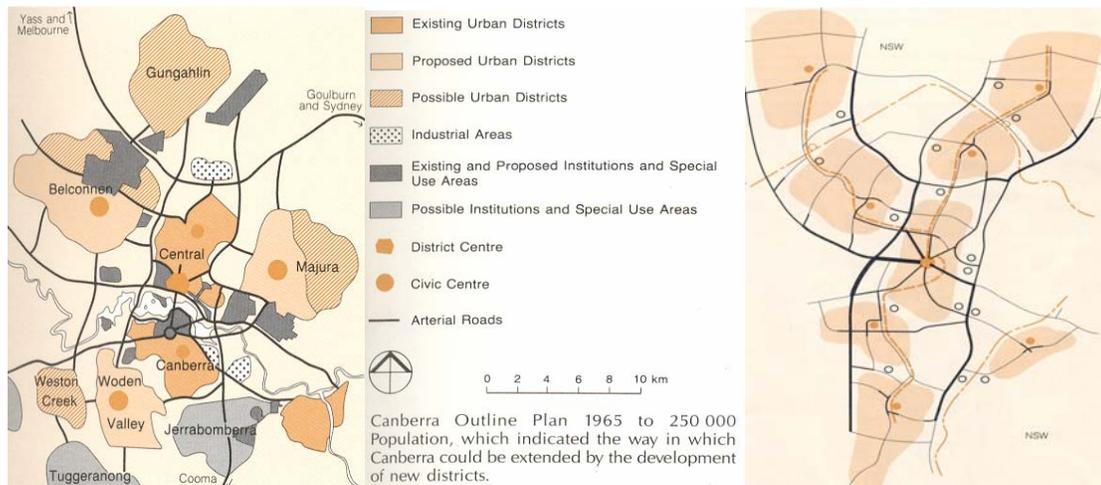
Many developed countries have two most difficult problems facing urban physical planning, traffic congestion and the size and the arrangement of activity centres (NCDC, 1970). In Canberra, these problems (which will be discussed later) have already occurred at the Government Triangle ⁽¹⁾ (Holford, 1958). The philosophy in Canberra is that planning should be directed towards the users' convenience; so, all

⁽¹⁾ Griffin's Triangular Layout for the Parliamentary Zone with his Land and Water Axis.

development must be aimed to satisfy their desires and to ensure that business could operate economically, residents could travel without facing chronic traffic congestion, people from Canberra region and other cities could move in and out without transport frustration (Overall, 1970). City structures must be flexible to adapt to new social and technological change, possible more outdoor leisure pursuits, new methods of transports and it could be a structure that could be transformed easily into a practical program for development.

The major planning and development of Canberra, the National Capital, has been greatly based upon the Griffin's Layout of Land Axis, which is represented by Constitutional Avenue and Kings Avenue. In relation to the principle, Vorhees and Associates in 1970 proposed a development in a linear pattern with a 'Y' shape, known as a 'Y' Plan (the Report of Joint Committee on the Australian National Territory, 1987), of new towns such as Tuggeranong, Belconnen and Gungahlin etc. outside the City Centre in order to disperse land use and transport movements.

Westerman (2000) states that every transport route has a land use footprint that should be considered all stages of planning and development. In the Capital City, the development of existing and new town centres in a form of the linear pattern has contributed some outcomes resulted from land use planning and transportation planning. In my following arguments, I will demonstrate that the contribution of this 'Y' Plan concept development of land use and transport provision influenced the National Capital both positively and negatively.



Canberra Outline Plan
1965

Canberra General Plan Concept
1969

4.1 Land Use Planning and Development

The general ‘Y’ plan concept is to disperse land use for residential settlement purposes in distinct towns, linked by a system of peripheral parkways and decentralise population growth from the central cities. I strongly believe that the implementation of the plan, in fact, has brought about both advantages and disadvantages.

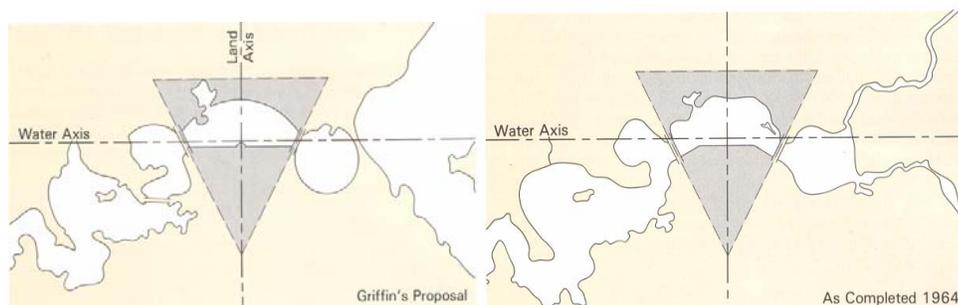
Firstly, dispersal planning provides positively development aspects, no traffic congestion in one area and promoting local business and employment opportunities for people in the areas, upon which economic growth is based. According to Joint Commission’s Report (1987), this dispersal planning concept is of “self-containment”. This refers to a situation where people in a community can reduce journey to work times and achieve other transport and economic benefits. The concept would, as well,

be a perfect solution to the urban dilemma; sub-urbanization was seen as a vital force not only in urbanising the countryside, but also in revitalizing the city (Southworth and Ben-Joseph, 1997). In these cases, it is admitted that dispersal planning methods is fundamental for solving the problems of people and vehicle concentration.

Secondly, a controversial view, Vorhees's dispersal planning was criticized for excessive car use and car dependence to overcome the distance (Newman and Kenworthy, 1991) and cities or towns will lose open spaces to cars and routes. This car dependence will, of course, impact on environments; concentration of pollutants will significantly increase in cities. A review of US cities and air pollution relating to land use patterns (Berry et al, 1974 Cited by Newman and Kenworthy, 1991) concluded that the more compact cities with viable and the better utilized public transport systems were better off in terms of air pollution than the dispersed, car based cities one of which, from this point of view, Canberra is now seen.

In particular, land use considerations in vicinity the Parliamentary Zone has still emphasized the Griffin's original Land and Water Axes along government buildings are symmetrically arranged on either side to produce a triangular form (NCDC, 1982). This arrangement strongly emphasizes the focal significance of the Parliament House, the most important government architecture in the Australian Capital Territory, on the Capital Hill. However, it is argued that Griffin major land use divisions for avenues in relation to the Parliamentary Zone and its setting provided many traffic difficulties to the area (Holford, 1958).

It can be concluded that history of land use planning and development of the Canberra Capital City is partly successful. Apart from the positive impacts on the development of Canberra as well as the Territory in terms of providing employment opportunities and economic growth in the town centres, the ‘Y’ Plan concept of dispersal land use planning causes consequences to the environment, in regard with emissions of pollutions, as it depends on enormous car basis to travel a long distance.



Land and Water Axes

4.2 Transportation Planning

Transport planning is one the most striking issues which cause many consequences to urban planning areas. To achieve adequate circulation is traditionally a major planning goal (Levy, 1957) of planners. In fact, no country in the world has solved its present-day traffic and parking problems occurring in cities and towns in advance (Holford, 1958). In Canberra, the linear pattern “Y” Plan development to disperse land use and population from the City Centre brought transport planning issues for considerations.

On the basis of the linear development of Canberra, major highways and route networks were constructed to link new town centres and dispersed residential areas together. It is certainly true that people in the newly developed areas spend less time for travels and economically saved money on some services and facilities such as less petrol consumption for private cars. Another case is that the spatial locations of the communities can reduce excessive car uses in one area so that traffic activities are relatively low. In relation to the activities, Chapin (1957) argued in favour that business districts and residential areas can serve their functions well if there is an easy movement of people and goods from one place another. It can be reflected from my own view that an economic issue also grows in terms of the fact that the people in the area can generate more incomes due to the favourable condition of economic activities and time consuming.

Nevertheless, from an environmental perspective, some people, I am included, argue that the dispersal planning will generate more traffic flows in the connected routes to travel long distance for different purposes. This is a good response to the argument that Canberra is a car-based city (Newman and Kenworthy, 1991). In Canberra, of course, public transport modes are provided to link one town to another as for the purpose to reduce number of private car uses so that pollution can be cut down but people still use their cars for their own reasons. As a result, it could be said concentration of pollutants will increase due to excessive car use with long distance traveling.

Fischer (1984) argued that the urban development in linear form allows the traffic movement to concentrate on one or two corridors. As the city grows, the problem of traffic is becoming more evident (Newman and Kenworthy, 1991). For example, the transport network around Parliament House is the only corridors to accommodate traffic flows from many major avenues, Commonwealth Avenue, Kings Avenue ect. So far, the road system has been taken into account by the National Capital development Commission for study in order to solve the problems of traffic circulation in present day as well as in the future. There may be some solutions for consideration as suggested by Newman and Kenworthy (1991:49, 143) such as the applications of light rail or make the city less car-based by providing a good transit system which performs a much greater role than at present.

Being aware of any traffic problem, principles and policies relating to planning and arterial road systems are set out for implementation throughout the Territory (National Capital Planning Authority, 1990:45). The efficiency of the road system is based not only on the physical provision of infrastructure but also operation and control facilities. The systems of roads depend on the planning and the design of the total road network, which should be consistent with the traffic function of the road. The provision of public transport and the implementation of related policies must keep pace with residential commercial and industrial development and aim to minimise the energy consumption and to enhance the environment of the Territory.

Once these principles and policies are fulfilled, I am convinced that the Canberra Capital will not be faced with traffic problems. I would, however, agree

with Holford's idea as mentioned earlier that no city solves the problem of traffic in advance.

4.3 Environmental Issues

There is growing intention given in city planning to local environmental questions. In my opinion, an environmental issue in an urban context is closely associated with the planning of land use and transportation. As can be seen in the dispersal planning development in Canberra, land use and transportation planning have contributed a great deal of problems to the city's environment as the city becomes car-dependent. In contrary, Vorhee (cited by Newman and Kenworthy, 1991) argued that dispersal planning could solve the problem of traffic and pollution concentration in the city. This was the reason he proposed the "Y" shaped plan for the development of Canberra.

From a landscape viewpoint, Canberra should deserve the name of "Garden City" because this well planned city had its settings with the integration of natural landscape, hill backdrops and water basins and used topographical elements to form its structure.

In order to ensure and enhance a good environment, the Local Government has conducted planning and development of Canberra and the Australian National Territory (ACT) over time to keep up with the environmental, social and economical change. The challenge facing the ACT is that of maintaining and enhancing its environmental qualities under the pressure of population growth and related urban

development (National Capital Planning Authority, 1990:67), which need to be considered at all times.



Parliament House from Water Gate with extensive landscape

4.4 Residential Development

With the pace of population growth in Canberra, space requirements for residential development, recreational facilities become a major factor for planning bodies to consider. Based on the “Y” plan concept for development, the space for residential buildings has been provided in many new areas to disperse population concentration. Some people, Vorhee for example (mentioned earlier), argued that this is a good idea to cut down concentration of pollutants as no congestion of people and traffic. It is good for one reason but may bad for another. In my opinion, dispersal of a residential community would lose social contact between other community in a way that the people live far away from each other and it would be uneconomical for them to travel long distance. As mentioned earlier, long distance traveling may lead to other consequences.

Another fundamental problem is of building sites in regard to the Capital City topographical settings. From my experience, building new homes on hills or slopes is more problematic than those on flat sites; it needs to take into account the gradient for sewer and sewerage systems and driveway; and of course, the cost of the buildings are almost twice as much as normal ones. Still, some people prefer hill site for their homes as they can see distance views.

It can then be said that residential development based on the Y-Plan concept bring about both positive and negative effects to the Capital City as well as its people.

5. Urban Consolidation

Urban consolidation is becoming more concerned for planning and development as the number of population is rising and need more rooms to live. According to NCDC (1986), the Y-Plan gives a framework for consolidation and intensification without the congestion, pollution, environmental degradation and inconvenience, which often associates with the planning and development of urban areas. In this case, it means that the Y-Plan development is beneficial for traffic circulation and the environment.

From a different point of view, I would argue that a form of urban consolidation creates more compact development; it reduces building setbacks, verge widths, non-residential space such as open spaces. All these reductions will put more pressure on natural environment as well as living environment, which are now a prime concern for many people.

So, besides good aspects, urban consolidation also has bad aspects. In my argument, these aspects are intolerable as they could spoil the urban environment, the city streetscapes and importantly the idea of Canberra as a “Garden City” would no longer be in people’s mind.

6. Conclusion

On the basis of the original plan concepts created by Walter Burly Griffin, many ideas of urban planning of the Capital City of Canberra have been put forward for its subsequent development. From my arguments and analysis, I can see that urban planning of the Capital City has influenced its development both positively and negatively throughout its history since the beginning. I strongly believe that although there are some negative points in the development, the positive outcomes are far more acceptable and those are what all the people expected.

The negative influences of urban planning, which were seen in the development of the Capital City, are a good lesson for the consideration of any new associated ideas before they are implemented. For example, the “Garden City” aspect, which is always in the people’s hearts, must be the focal point for planning in Canberra to retain its positive meaning.

It should be borne in mind that urban planning is one of the most challenging issues which needs to be thoroughly considered in order to avoid as many negative impacts on its implementation as possible. New planning and development of

Canberra must be made to ensure and enhance its meaning as the Australian National Capital and as one of the cities with the idea of the “Garden City” in the world.



The Location of the Australian National Capital

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