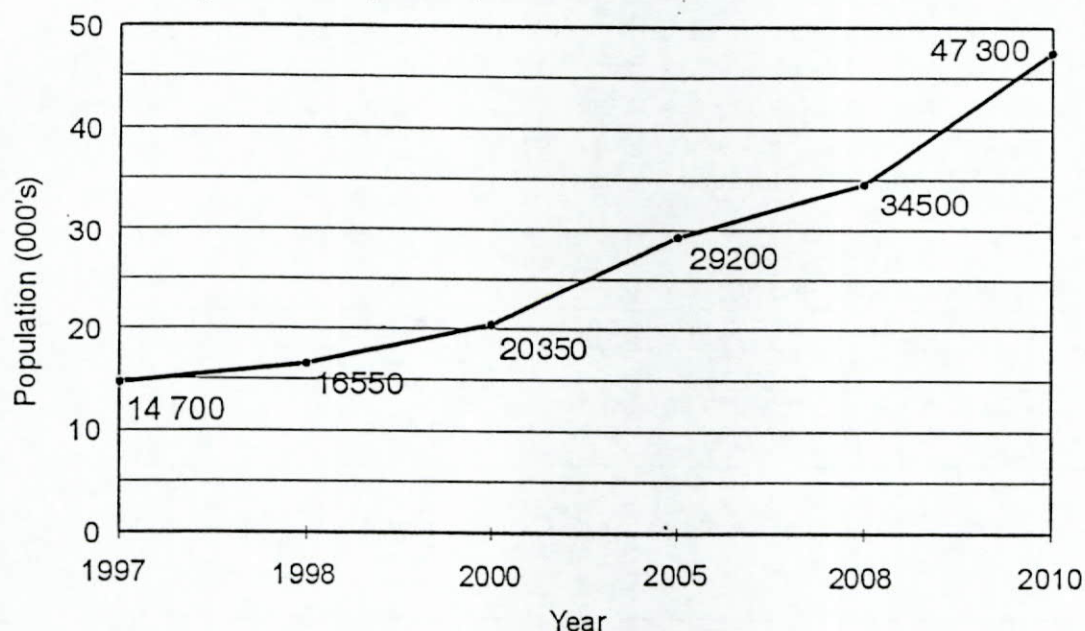


4.2 Population forecasts - the ACT and Gungahlin

The population of the ACT is forecast to steadily increase in conjunction with strong economic growth and an expanding labour market. The population is estimated to grow from 312,350 at June 2000 to 341,050 by 2010 (See Table 4.2 and 4.3).

Table 4.2 Population Projections, Canberra 1996-2010



District	Year 2000	Year 2010	Change
Canberra Central	60,600	69,900	+ 9,300
Woden-Weston Ck	56,300	53,900	- 2,400
Belconnen	84,500	89,150	+ 4,650
Tuggeranong	89,400	89,200	- 200
Gungahlin	19,700	37,000	+ 17,3000
Other	1850	1900	50
ACT TOTAL	312,350	341050	+ 28,700

Various figures have been estimated for the ultimate population capacity of Gungahlin. These range from 80,000 – 85,000 when the original planning for Gungahlin was undertaken, up to approximately 100,000 now. It should be noted that ultimate population figures can be quite misleading, as the population is likely to reach a peak and then fall off as the overall population ages and children leave home to form new households elsewhere. Ultimate population levels refer to the long-term capacity of an area when fully developed, and are an important input for infrastructure planning.

The future sequence of development in Gungahlin is guided by the Gungahlin Development Sequence, April 2000. The sequence of suburb development guides decisions for a wide range of infrastructure and support services, many of which require lead times of several years. Now under review, the sequence ensures that effective use can be made of existing infrastructure and services in the area, and provides support for the Gungahlin Town Centre. In North Gungahlin, the sequence schedules development commencing in Forde and Bonner, to be followed by Casey and the undeveloped part of Ngunnawal. Following a switch to the Gungahlin Central Area,

development resumes in Moncrieff, to be followed by Taylor, then Jacka before moving to complete the northern parts of Bonner and Forde. Development will conclude with the balance of Jacka and Taylor. The sequence anticipates the development of North Gungahlin to be complete by approximately 2020. Subject to the current review and emerging trends in population growth and urban development over this time, the peak population level will not be reached until after this time.

The demographics of the ACT population are continually changing and with them, the demand for facilities and services. The population over 60 years is forecast to increase in all districts. The only district forecast to experience an increase in the 0-14 years population is Gungahlin, the major area of new settlement, where the population under 14 years is forecast to increase by 70%, from 5,050 to 8,650. While there is a substantial fall forecast in the number of people in the 15 to 24 age group in the ACT, growth is forecast to occur in this age group in Gungahlin (from 2,800 to 5,150), in South Tuggeranong (4,250 to 5,450) and Canberra Central (11,300 to 12,100).

Year	0-14yrs	15-24yrs	25-59yrs	60-74yrs	75yrs+	Total
2000	5,050	2,800	11,000	700	150	19,700
2010	8,650	5,150	20,600	2,100	500	37,000
Change	+ 3,600	+ 2,350	+ 9,600	+ 1,400	+ 350	+ 17,300

The demographic change experienced in Canberra is reflected in the changes in dwelling occupancy rates by district.

Year	Nth Canb	Sth Canb	Woden	Weston Creek	Belc.	Tugg	Gung	ACT
1961	4.2	4.2						4.2
1966	4.1	4.1	3.9					4.1
1971	3.4	3.4	3.9	3.5	3.8			3.6
1976	2.9	3.0	3.4	3.7	3.6	3.3		3.4
1981	2.6	2.6	3.0	3.4	3.4	3.5		3.2
1986	2.5	2.6	2.8	3.3	3.3	3.4		3.0
1991	2.4	2.5	2.7	2.9	3.1	3.3		2.9
1996	2.2	2.3	2.4	2.7	3.0	3.0	2.5	2.7

As the population grows and the profile continues to change, it will be necessary to examine strategies for providing the range of social infrastructure needed to support a more diverse community in terms of not only age, but also household structure, recreational needs, employment and ethnicity. Issues include access to services; potential demand for a greater range of services; implications for service capacity, viability and access; and barriers to providing appropriate services and facilities.

4.3 Forecast demand for dwellings

There is no simple formula for estimating dwelling demand. There is a relationship with population growth, household formation rates, and growth in the economy. However, the relationship is not simple, and is in a state of constant change due to the nature of growth in the economy and labour market, housing affordability, investment opportunities, the mobility of the population, and a variety of socio-economic changes.

The assumptions in the range of methodologies result in between 16,200 and 21,600 dwellings being demanded between 2000 and 2010. Approximately 30 - 40% of this demand will be met in Gungahlin. This level will be influenced by the level of supply achieved in land releases in other districts and the level of redevelopment activity.

4.3.1 Dwelling type

There are demands from the community for a variety of dwelling types. As at March 1999, 23 % of dwellings in Canberra were multi-unit (e.g. town houses and flats). The multi-unit share by district varied from 11 per cent in Tuggeranong to 35 per cent in Canberra Central.

Table 4.6 below indicates the multi-unit share of dwelling occupations since 1991/92. Over this period some 44 per cent of dwelling occupations have been multi-unit. This compares to the multi-unit share of occupations of 38 per cent between 1986 and 1991.

Year	Single Dwelling	Multi-unit	Multi-unit Share %
1991/92	1618	482	22.9
1992/93	2469	1391	36.0
1993/94	1958	1453	42.6
1994/95	1661	2157	56.5
1995/96	1378	1012	42.3
1996/97	1092	829	43.1
1997/98	935	895	48.9
1998/99	1289	1685	56.6
1999/00	1142	1274	52.7

The increased demand for multi-unit housing reflects changes in household composition. At 1996 some 52% of households in Canberra were 1 and 2 person households (see **Table 4.7**). This compares to 46 per cent in 1991.

No of persons resident	North Canb.	South Canb	Woden	Weston Creek	Belc	Tugg	Gung.	ACT
One	32.1	31.7	28.7	20.9	18.2	13.8	18.1	21.5
Two	35.3	35.4	33.1	31.7	29.7	26.6	35.5	30.9
Three	16.1	14.2	16.1	18.8	19.7	20.0	18.3	18.3
Four	11.2	11.9	13.7	17.9	19.9	24.1	18.8	18.3
Five	3.9	4.9	6.0	8.0	9.0	11.3	7.1	8.1
Six +	1.4	2.0	2.3	2.8	3.4	4.2	2.2	3.0
Total	100	100	100	100	100	100	100	100

Source: ABS Census 1996

4.3.2 Dwelling Supply

Housing Supply

The suburban forecasts of population have been influenced by assumptions regarding Gungahlin as the main area for greenfields development. The availability of alternative land supply sources

suggests that Gungahlin could attract about 30-40 per cent of new dwelling occupations between 2000 and 2010, compared to 41 per cent of occupations since June 1992. On current assumptions the land supply in Gungahlin will be sufficient to cater for demands for the next 25 years.

Multi-unit Supply

During the next 10 years there will be considerable supply of sites for multi-unit dwellings through redevelopment and the development of vacant sites. Major opportunities include redevelopment in Civic, Kingston Foreshores, Inner Canberra, the Belconnen, Tuggeranong, Woden and Gungahlin Town Centres.

It is unlikely, given the alternative sources of multi-unit dwellings supply (which are closer to employment and the urban opportunities provided by major centres), that the multi-unit share of new dwellings in North Gungahlin will increase much beyond 25 per cent. Currently 23 per cent of dwellings in the district are multi-unit. The depth of demand for dwellings at the various locations will need to be evaluated as further detailed planning for each suburb occurs.

As land supply in other parts of the ACT dwindles, the Gungahlin population growth rate is expected to increase to accelerate to an average annual increase of about 12% of the 2000 population, falling to about 8.5% for the period 2005-2010. Using current housing densities and household size assumptions, PALM forecasts capacity up to 100,000 persons. The North Gungahlin area is expected to house some 34,500 people when fully developed.

Affordable urban land

The ACT Affordable Housing Taskforce is investigating strategies to improve housing affordability in the ACT. The options being explored will include those related to land supply in both greenfield and established areas. They include the mix of block sizes in subdivisions, ensuring an adequate land supply and options for targeting first home buyers ie modest house and land packages.

4.4 Changing nature of work

There are many possible scenarios for the economy. For urban planning purposes, the most critical economic variables relate to employment, specifically, the size of the workforce, the extent of unemployment and the industrial structure of employment⁴.

Whatever the prevailing economic conditions, the economic structure of the workforce will be very different in the future and will influence the distribution of employment. Technological change will radically affect all industries, particularly manufacturing. Additionally, there are fundamental changes taking place in sources of employment, the way we work, and the structure of society.

In the first half of this century and up to the 1970's, the dominant work pattern has been based on long distance commuting to relatively highly paid, full time jobs predominantly occupied by males. This is no longer the pattern of employment growth. The greatest increases in employment are taking place in the service sector, especially involving female and part-time employment in lower paid jobs.

These changes in employment, work and society appear to be sustainable, long term trends. They commenced well before the last economic recession in the 1980's and there is compelling evidence that similar changes are occurring in other western industrial economies, most notably in Europe and North America⁵.

⁴ Sydney into its Third Century, Department of Environment and Planning, 1988.

⁵ Derek Kemp, 'Economic Issues - Understanding the Market for Achieving Desired Outcomes', Better Cities seminar 3, 1994/5.

In combination these socio-economic forces are likely to have a fundamental impact on the form and structure of Australian cities. The growth in part-time, lower paid, and service sector jobs means that it is desirable to provide additional job opportunities close to the resident workforce

Shopping facilities need to be available close to home and work. The latter is especially important for those moving between part-time jobs or working casually. Those working outside normal hours need to be able to shop going to or from jobs outside normal business hours.

By providing jobs, training, education, shopping and social facilities (including child care) close to the resident workforce the need for multiple trip journeys can be minimised possibly negating the need for two or more cars per household.

There are significant environmental and economic benefits that accrue by creating an urban structure that provides the above activities close to the resident workforce. The "Greenhouse Neighbourhood Project" (Environment Protection Authority *et al* 1993) established that a built environment diverse in use and population, scaled for the pedestrian, and capable of accommodating the automobile and mass transit, with mixed-use town centre and other group centres, and higher resident and employment densities was superior to conventional suburban development.

This superiority was established in terms of:

- lower annual energy requirements per household (57% reduction);
- lower greenhouse gas emissions created by heating and cooling of dwellings;
- lower fuel consumption in urban (car) transport;
- lower greenhouse gas emissions generated from urban (car) transport;
- reductions in car travel and distance per household; and
- savings in the cost of infrastructure by upwards of 50%.

Such an ideal urban structure and form would be consistent with changes occurring in employment, the way we work, and the organisation of society. It is flexible and dynamic, capable of accommodating a variety of employment scenarios and shifts in work practices including working from home and self employment trends. The question which follows is the interplay between this ideal and the dynamics of employment distribution in the metropolitan area as a whole.

4.5 Employment outlook

Recent trends in employment in the ACT show that the total number of employed persons increased by 6.7% between 1993 and 2001. Although the number of full time jobs increased from 117,000 to 124,000, the proportion of total jobs fell from 76.7% to 74.7%. However, the number of part time jobs increased by 19% from 35,600 to 42,400 (from 23.3% to 25.3% of total jobs).

In the ACT, the contraction in Commonwealth Government employment has initiated a transition from a city dependent on Government as the generator of employment growth to one in which growth is predominantly generated from the private sector. This trend is expected to continue over the next 10 years.

Much of the increase in recent times of employment growth in the ACT has been in small "consumer service" businesses. Consumer service businesses are those businesses that provide services to the residential population, visitors and tourists. They include educational services, health services, transportation and travel services including tourism.

These trends have occurred in a number of employment sectors within the ACT but have had a major impact upon the growth of business and finance services, community services, recreational and personal services and retail functions.

Local employment opportunities in Gungahlin will increase in response to population growth in the district. Sectors likely to provide employment are retailing, primary and secondary education, small-scale office-based businesses, light industrial uses (in Mitchell) and tourist related employment at Gold Creek Village.

The traffic modelling conducted for this review has assumed that when Gungahlin is fully developed there would be 7,000 employees in the town centre and that there would be 26,800 people employed in the whole of Gungahlin (in a range of private and community facilities and centres), roughly two-thirds of whom would also live in Gungahlin. However, these figures are considered optimistic. Based on the employment levels in the other town centres, it is likely that a total of approximately 14,000 people would be employed in Gungahlin in the long term.

4.6 Metropolitan employment distribution.

Implications

Canberra's integrated land use and transport planning has endeavoured to ensure that the location of development is consistent with sustainability objectives. Employment dispersal, in particular to town centres in each of the new towns, has been a fundamental objective of Canberra's land use/transport planning to date, as it was demonstrated as providing major benefits including reduced traffic congestion, shorter journeys to work, lower transport infrastructure requirements, energy savings and lower environmental impacts.

As the table below demonstrates, there have been varying degrees of success in attempting to maximise self-containment and thus minimise the total distance to work travelled by the workforce. Attempts to achieve this have been militated against by the fact that earlier planning assumed one-income households and stability of location of employment.

	No of Jobs*(1996)	Ratio of Jobs to Resident Workers	Proportion of Jobs Held by Residents	Self Containment**
Belconnen	19600	0.5	63.2	32.6
North Canberra	40100	2.6	19.1	50.3
South Canberra	32100	3.8	11.8	44.6
Gungahlin	3800	0.6	19.0	10.9
Queanbeyan	7800	0.7	57.5	38.2
Tuggeranong	12600	0.3	70.2	22.2
Woden	19500	0.8	38.1	28.5

Source: ABS 1996 Census-JtW, Special data service, Table 1, PALM

*Raw data not adjusted

** proportion of people who live & work in the district to the total district workforce

The office-based nature of Canberra's employment structure, was instrumental in the establishment of significant employment in the town centres in Woden, Belconnen and Tuggeranong.

The contraction in Commonwealth government employment and its changed property management practice has meant that effectiveness of this tool for implementing metropolitan planning has diminished. It is unlikely that major government office opportunities will arise in the short to medium term to enable the development of a major government office in Gungahlin.

Employment trends indicate that a substantial proportion of new jobs are likely to be consumer-related. Given that Gungahlin is unlikely to benefit from major government office opportunities, it will be necessary to maximise the opportunities for employment in the town centre by focussing on these types of jobs. Capitalisation of opportunities to provide consumer related employment will assist Gungahlin to achieve a higher level of self containment.

Small "consumer service" businesses serve the needs of workers in other sectors and tend to be co-located with the resident population. Thus there is likely to be increasing demand from small, service businesses that will support the economic viability and provide for local employment. The demand will be for small, low-cost, flexible, multi-purpose business premises. These are consistent with mixed use development and multi-functional buildings envisaged for the local and group centres.

Sustainable small business enterprises require the ability to make the transition from home based accommodation to small, cheap rental accommodation, and eventually to larger more expensive premises. If the business is to survive, each relocation will need to occur within about five kilometres⁶. The necessary range of accommodation for these transitions is catered for by this Review.

The Structure Plan recommends an urban form that fosters and facilitates local enterprise development. Such an urban form would suit trends in the post-industrial society that are leading to rapid growth in the suburbanising service sector, small business, self employment and home-based businesses.

Specialised infrastructure such as fibre optic cable connections in the Gungahlin Town Centre and planned centres will assist in encouraging advanced technology industries, commercial and higher education research establishments. Specific infrastructure to promote innovation and advanced technology in new and existing firms could also be provided in some locations.

Increases in part time and "out of hours" employment places a greater emphasis on finding a job close to home. It is more difficult to become aware of and to access distant part time and casual jobs. This lack of knowledge of job opportunities and the cost and inconvenience of commuting to low paid, part-time or casual jobs contributes to unemployment. In turn this can generate social problems which need to be avoided by enabling and encouraging a broad range of jobs located close to the resident workforce. Employment located within the town centre, group centres and local centres will increase accessibility to part time job opportunities.

Employment opportunities in Gungahlin are expected to increase over time as the area develops. This, combined with the fact that residents moving to the area will often have jobs elsewhere in the ACT, will mean that for some time a significant proportion of Gungahlin residents will leave the district to employment elsewhere in the metropolitan area. Accordingly, physical links to the rest of the region and adequate public transport will be required to enable residents to reach employment destinations. However, accessibility to markets and for workers coming into the district will make these links important for enhancing the attraction of Gungahlin as an employment location.

⁶ Derek Kemp, 'Economic Issues - Understanding the Market for Achieving Desired Outcomes', Better Cities Seminar 3, 1994/95

The development of Gungahlin needs to take account of changing employment and work force trends. Further investigation is required to ensure that appropriate employment solutions and opportunities are provided for, and an important next stage of this process will be the development of an "Economic and Employment Strategy for Gungahlin". Taking account of trends in self-employment, working from home, outsourcing and computer shopping will form an integral part of Gungahlin's future.

The approach to be taken in this strategy will reinforce the outcomes of the recent study undertaken by the ACT Government into the ACT's industrial land. Some of the recommendations of this study included:

- greater flexibility in industrial land use policy
- identification that there is capacity for benign industrial uses (a general, light or inoffensive business) to be located with other urban uses. (For example a furniture renovating business may be considered where a chemical factory would not)
- that there is a need to review the policies to permit development of local scale eco-industrial parks near mixed-use centres
- investigate the possibilities of introducing generic lease purpose clauses for mixed-use centres to allow flexibility in the centres to quickly respond to changes in the market (ie. leases to include commercial and residential purpose clauses)
- block size and building design to be robust to enable a range of uses to occur over time.

(ACT Industrial Land Study, 1998)

4.7 Employment and population

When Gungahlin is completed, its development will provide for up to 100,000 people. Assuming 14,000 jobs are available locally, and that 70% of these are held by local residents (ie a total of 9,800), then 42,200 jobs held by Gungahlin residents will be located outside Gungahlin.

The Preliminary Assessment for John Dedman Parkway (1997) (now Gungahlin Drive Extension), showed that; provided both the John Dedman and Majura Parkways were built, and that the current 10% of overall use of public transport were to be doubled to the 20% found in some of Australia's larger cities, then travel demand for the completed Gungahlin development could be substantially met at least to the point when the overall metropolitan population of the ACT reached 500,000. However, the current employment forecast for Gungahlin is 14,000, which is less than the 22,900 level assumed in the 1997 Preliminary Assessment for the John Dedman Parkway.

This difference suggests that improvements to public transport will now have to be given even higher priority over the medium to long term. This priority would gain further impetus if proposals to further concentrate employment in the metropolitan core were to be adopted. The Sustainable Transport Plan (STP), currently being prepared, seeks to integrate a range of policies, programs and tools to produce a set of specific strategies and actions to achieve government's economic, social, and environmental objectives in the transport sector. The STP recognises that increased use of public transport could improve transport efficiency and reduce the rate of production of transport related greenhouse gas emissions. The STP supports land use and transport integration and policies that encourage trips by alternative modes and public transport. Policies designed to encourage greater public transport usage that affect the city as a whole can be assumed to also have an affect on North Gungahlin.

Within North Gungahlin, it is estimated there will be 3,000-4,000 jobs available in education, services, and local businesses.

When viewed in historic terms, the NCDC 1970 Canberra Metropolitan Plan and the 'Y Plan' can today be viewed as a deterministic and modernist mode of planning, which admirably served the purposes of a fast growing new Capital. The establishment of the city has now led to development of its own internal population dynamic and market mechanisms, and it is these forces that are now the underlying cause of adaptations to the Structure Plan.

In relation to Canberra's Metropolitan Plan, the developments reviewed do not suggest the need to change the form of the 'Y Plan'. Rather, what is indicated is the need to change the balance between its component parts. This change would recognise that the shorter term will be dominated by a period of relatively high centralisation of employment, allied to higher transit use. After several generations, this period will see the re-emergence of decentralising forces, which will come to the fore should the city approach a size of 500,000.

The development of Gungahlin needs to take account of changing employment and work force trends. The distribution of commercial and mixed-use areas will provide opportunities for accommodating appropriate employment solutions. Trends in self-employment, working from home, outsourcing and computer shopping will form an integral part of Gungahlin's future.

The Industrial Land Study in 1998 concluded that it is likely that the ACT has sufficient industrial land to 2020, provided there is sound management of existing land and there are no major economic drivers to generate new business. The Study recommended more flexible, mixed use development, with mixed use precincts replacing current overlapping commercial and industrial policies and also permitted in all Gungahlin mixed use areas. The ACT Industrial Land Policy Review Discussion Paper in 2000 raised issues concerning the relationship of Mitchell with Gungahlin Town Centre, the role of Mitchell including important government archives storage, the possible expansion of Mitchell to take advantage of its location as the only industrial area in the north of Canberra with accessibility to Federal and Barton Highways, and opportunities and timing for industrial/service uses including light industry in Franklin. The Territory Plan land use policies for Industrial Areas are being reviewed in 2002.

5. COMMUNITY AND CULTURE

The 1998 Review was able to take advantage of the lessons learned from the existing development in Gungahlin, and to consult with the existing community about their aspirations and ways of better meeting their needs. The existing community provided both a "surrogate" for the future residents of Gungahlin, and the core group for the future community, with a wealth of knowledge and ideas to contribute. The cultural planning and consultation process allowed members of the Gungahlin community to provide information about their community and place that provided a context for the development of this plan.

5.1 Cultural profile

The Gungahlin community is young in terms of length of residency, but the majority of residents are not new to Canberra and have many established links to the wider metropolitan community through family, work and recreational activities.

The existing Gungahlin community appears to be highly mobile and in a state of growth and change which influences people's perceptions of community spirit and attachment. It can be expected to take some time for a sense of stability to emerge. Nevertheless, residents generally express strong satisfaction about their move to Gungahlin and hold high expectations for the future of Gungahlin as a place to live.

The existing community is both socially and culturally diverse. Residents perceive that the community is made up of a mix of families and many other household types, including professional couples and retired people. Residents come from a wide range of backgrounds and many speak other languages. This diversity was generally viewed favourably by those consulted.

At a local level, private gardens and the landscaping of new homes provide a strong cultural focus for the community, both as a means of communicating a sense of pride of ownership and as a device for sharing information and initiating contact with others. This contrasts with an earlier strong sense of the natural environment evident at the time of the town centre variation in 1995/96.

At a suburban level, streets, public transport and open space play significant roles in the shaping of community culture. The physical separation of suburbs by open space corridors with limited access was believed to contribute to experiences of isolation and negative perceptions of differences between suburbs.

5.2 Heritage review

Cultural planning in Gungahlin offers the first opportunity in the ACT for comprehensive conservation and presentation of a range of European and Aboriginal heritage sites and places within an urban context.

Current archaeological evidence indicates Aboriginal occupation of the area for at least the last 5,000 years. Hundreds of Aboriginal sites have so far been recorded in the wider Gungahlin district and include campsites, scarred trees, chert quarries, grinding grooves and an ochre source. The most common sites recorded are surface scatters of stone artefacts. The distribution of Aboriginal sites reveals a past way of life which depended on a detailed knowledge of the environment and its useable resources. The main drainage lines across Gungahlin were a focus of Aboriginal occupation.

European settlement in the area began with land holdings on Ginninderra Creek, to the south of Gungahlin, taken up by George Thomas Palmer in about 1826. By the early 1850s, settlement had extended along Ginninderra Creek into the area now known as Gungahlin. By the end of the last century, a pattern of large and small land holdings was established throughout the region, with many farm buildings and estates established.

Various sites have been investigated for conservation, including Aboriginal campsites, quarries and scarred trees, nineteenth century homesteads and associated agricultural features, and archaeological building sites dating back to early European settlement. In each case, the conservation objectives are to conserve significant sites and places within an appropriate context and promote a sense of place and local identity by maintaining links with the past. Final boundaries and curtilages of these sites are subject to further detailed planning.

5.3 Community facilities review

An important issue identified by the Community Facilities Strategy⁷ is the fact that fewer households now have children than in the past, which has major implications for the planning of schools. Schools will therefore generally serve a larger catchment size to fill places, which means that the role of the primary school as a focus of a single suburb may no longer be viable. Instead, schools will generally serve more than one suburb, which is similar to the way that schools are provided in North Canberra and where schools are shared with a number of suburbs.

Changes in demography and increased cultural diversity mean that there are likely to be different demands for community facilities in Gungahlin, especially places of worship, than has been the case in the past. While there will still be a need for traditional places of worship, over the past 15 years there has been a growth in non-traditional religious denominations in Canberra. These sometimes include an associated demand for special language schools and cultural associations.

At the same time, there have been many changes to delivery of services and provision of facilities that also impact on the range of facilities provided. There is an increasing focus on the actual service provided as opposed to the facility it is based in, involving a shift to mobile and home-based services, particularly in the health area. There is also a Canberra-wide trend away from community management of facilities to private management, particularly for sports and recreation facilities.

Government, non-government and community organisations are operating within an environment of increasing financial constraints. As a result, organisations are seeking evidence of demonstrated need for a facility, rather than providing facilities in anticipation of demand.

Many community facilities are not developed until several years after initial residential settlement occurs. The community workshops conducted as part of the 1998 Review indicated that there is considerable concern as to whether sufficient vacant sites are being retained in developing areas to meet future local demand. The changes taking place in the way that community facilities are provided in the ACT suggest that a variety of organisations are constantly seeking more efficient ways of delivering services. There has been an increasing focus on provision of multi-use, shared and co-located facilities (to reduce land costs and cost of associated facilities such as car parking). Facilities generally are becoming larger and fewer, although often of a higher standard.

⁷ Gungahlin Community Facilities Strategy: Background Paper. Report to Planning and Land Management prepared by Purdon Associates Pty Ltd, September 1998

While changes to community facility provision may result in different types and locations of services and facilities, Gungahlin residents should have opportunities that maximise their capacity to participate in the everyday life of the community. These changes generate opportunities and constraints for the future development of community facilities in Gungahlin:

- in order to maximise accessibility, many community facilities will be located in the town centre, which will reinforce its role as the major centre of the Gungahlin community;
- co-location of facilities will provide an opportunity for some households to minimise trips, but sensitive design becomes increasingly important to ensure that larger complexes do not become barriers in the residential environment, and are easy to enter and find places within;
- an effective and accessible public transport system will be required to ensure that residents are not disadvantaged by transport access to facilities and services within Gungahlin; and
- primary schools will serve catchments larger than a single suburb.

6. NEEDS ASSESSMENT

6.1 About needs assessment

As part of a commitment to planning equitably, effectively and efficiently, there has been an increasing focus on needs assessment. Commonly cited definitions of need include:

- Normative need (the way an 'expert' defines need eg. standards);
- Expressed need (the demand for a service);
- Felt need (individual perception/articulation of need); and
- Comparative need (defined by some form of indicator that compares with other localities/individuals/households).

Often a needs assessment will encompass more than one of the above elements and involve qualitative and quantitative information as well as community participation. With the broad objective of contributing to quality of life, planning encompasses a range of issues and potential community needs. It also has to identify how it addresses competing priorities in a way that is equitable to all members of the community. While the planning process requires a focus on needs, the type and degree of needs assessment evolves during the planning process.

The structure planning stage is concerned with needs assessment in a very broad sense - a strategic overview which identifies key trends and examines the possible impacts, particularly in terms of physical and social infrastructure, the environment, urban form, and the community. It identifies desired broadly defined outcomes, possible impacts affecting these outcomes and strategies, taking into account likely resources. As it is about planning for a community that does not yet exist, it can only make assumptions about the type of needs and often only in terms of demographic trends and standards. This stage is about gaining a sense of the potential scope of issues so that a framework can be developed which is flexible enough to respond to future changes.

More detailed needs assessment will occur later as residents move into the area. Community consultation will be essential throughout the planning process to identify unmet needs, the range of community requirements and to continually test assumptions drawn from the information gathered.

6.2 Housing

The Structure Plan is intended to provide a planning and urban design framework within which:

- the ACT government will release land to developers and other agencies (subject to Government Policy);
- both the government and private infrastructure providers (eg. telecommunications, electricity) will provide necessary services;
- developers will construct houses; and
- new neighbourhoods will be created.

The housing market in the ACT has traditionally been dominated by demand for single-family detached dwellings. However, the trend in smaller households has led to a need for higher density housing and accommodation for the aged, especially in areas with good access to facilities, shops and public transport.

The provision of residential land in Gungahlin aims to provide opportunities for a full range of housing choice. Current estimates (Land and Property, June 2000) of existing suburbs in Gungahlin show about 25.9% of dwellings were multi-unit housing and 74.1% were standard detached or cottage/courtyard dwellings.

Given the changes in the population structure it is likely that the multi-unit share of demand will increase between now and 2010 in response to factors such as the increasing number of one and two person households, smaller family size and the supply opportunities becoming available. However the increase may be moderated by preferences for detached houses; while 52 per cent of households are of 1 or 2 persons, only 23 per cent of the dwellings occupied were multi-unit. It does not necessarily follow that all small households will demand a multi-unit dwelling.

Various population trends are expected to affect the demand for housing over the next 15-20 years, only some of which can be predicted with any confidence:

- ageing of the population together with increases in single-person households and working couples are likely to boost demand for higher quality medium-density housing;
- growth of single-parent families and a continuing need for "affordable housing" (housing which is affordable to low income households - purchase or rental) are likely to maintain demand for smaller blocks and low-cost housing;
- Increasing numbers of people working from home are likely to boost demand for larger houses with space capable of being adapted to a home office or a separate rental unit; and
- increasing numbers of people seeking to minimise human impacts on the environment are likely to boost demand for lower-impact residential designs and lower-impact technologies (eg. solar energy and gas, rainwater collection and grey water recycling, home computers linked to household energy and water management).

6.3 Commercial and retail

As a planned city, Canberra has an established retail hierarchy of centres made up of small local centres, medium-sized group centres and larger town centres for each district. In the last few years, many local centres in older parts of Canberra have failed to thrive, and the ACT government has experimented with various initiatives to sustain local shops.

In late 1997, PALM released a discussion paper on a preferred retail structure and strategy for Gungahlin. This draft strategy was included for consideration as part of the overall ACT Retail review through the BIS Retail Study which was released in early 1999. Following the release of the Report, the Government undertook an extensive and comprehensive consultation program with consumers and retailers in respect of the recommendations of the BIS Retail Study.

In July 1999, the Government released *The ACT Retail Sector, New Directions for Government* together with a Consumer Consultation Report in response to the BIS Study. The Retail Objectives for Canberra in this document are:

- Retailing should provide convenient access for the community to a wide range of goods and retail opportunities in a competitive market;
- It should also encourage retail trade, which stimulates investment and employment and contributes to community facilities. Change and adaptation of retail centres should be encouraged and supported to match community and retail needs; and
- Major retail redevelopments should ensure retail centres and their associated public places are designed to be functional and attractive to all users and ensure they contribute to public place infrastructure.

Significant policy directions in the document in terms of Gungahlin Retail Planning are:

- The Government will continue to ensure that retail planning focuses on making space available which encourages the provision of retail services that optimise consumer demands and convenience. While it is noted that there may be turnovers in retail tenancies, the Government will not impede business from moving in and out of the market place to meet consumer and market needs;

- The concept of a rigid retail hierarchy will be replaced by a more flexible and dynamic structure that better reflects changing and evolving consumer and market needs. However, this will be pursued in a temperate way which optimises the effectiveness of the existing retail structure. Work on this new approach to managing future retail development has commenced and this will contribute to a modernisation of the Territory; and
- The land use policies and planning controls that currently apply to adjacent town centre malls, will be broadened to ensure greater flexibility and consumer and market needs are being met. This will be undertaken in such a way that ensures existing traffic, urban design and environmental conditions are not adversely affected.

The BIS Report has generally supported the Gungahlin retail strategy and did not propose any alternative strategies. The Government policy direction stated that the retail strategy for Gungahlin will be monitored to ensure that it remains appropriate for consumers and retailers.

In the metropolitan structure of Canberra, convenient and equitable access to goods, services and facilities has been a major consideration. The amenity provided and the satisfaction of the community with the retail structure is testimony to the success of the retail strategy.

The 1998 community workshops confirmed the importance of reinforcing the role of the Gungahlin Town Centre, and supported the notion of local mixed use areas in each suburb. The North Gungahlin Structure Plan uses the terms B8 and B9 to show areas which are intended for local and group centres, and which also contain the bulk of higher density housing. Other uses include retail and commercial activities, community uses, and areas for use as plazas or recreation. Commercial land use policies and leases will be flexible and enable ready conversion to other uses if necessary as demand arises.

The retail strategy input into the North Gungahlin Structure Plan work will be tested through retail model runs to ensure its effectiveness. As the development of North Gungahlin will occur over many years, the retail strategy will need to be monitored continuously. Development of retail centres will be staged in accordance with population growth and demand. They will commence as small centres and increase to their maximum gross floor area (GFA) as the suburb development, population levels and the demand for services increase.

Over the next ten years there will be a demand for new retail outlets in North Gungahlin to meet the needs of the growing population. Given the proposed residential development sequence, the majority of these needs will be catered by the town centre. Nevertheless the staged development of some group centres may be facilitated at an earlier time. Convenience shopping opportunities at suburban locations are provided in the planning policy. This will provide high accessibility for basic needs if such development opportunities are taken up in the market.

At June 2001 about 20,800 residents lived in Gungahlin. The population is served by the Palmerston and Ngannawal local shops and the first stage of the Gungahlin Town Centre which was opened in September 1998 - a total of about 8,500 m² of retail space. In 2001 a mixed use convenience centre was completed (Platypus Centre) to serve Amaroo and part Ngannawal, in addition, a site in Nicholls was released for mixed use development to serve that suburb. Nearby, Mitchell and Gold Creek cater for more specialised retail needs with about 30,000 m² of floor space. As the population of North Gungahlin grows and demand increases development of new retail outlets together with other services will need to be carefully planned and released at accessible locations, tying in with the sequenced residential development of Gungahlin.

A major challenge will be how to encourage the development of retail facilities within walking distance of people with limited mobility such as aged, children, disabled and families with no car.

The share of trade at many local centres has fallen over time in response to changes such as the increased workforce participation of women and longer trading hours at centres. Sites for local and group centres, the main locations for retail and other services, are identified clearly so that the less mobile can locate around them because of the certainty in the provision of services.

In Belconnen per capita provision of retail space was about 1.39 m² in 2001. In Tuggeranong the per capita provision was 1.20 m². Assessment of retailing trends and the expenditure likely by Gungahlin residents suggests that the town centre will be smaller than the other town centres in terms of retail provision with around 50,000m² of space. The amount of floorspace identified in commercial centres is provided as a guide to indicate the relative provision and for infrastructure planning. Ongoing monitoring of the retail market will enable the identification of changing needs of the community. Given the rapid change in retailing a flexible policy framework is required.

6.4 Commerce and industry

The earlier planning for Gungahlin made provision for Mitchell as the service trades area for Gungahlin. Mitchell currently also provides a wide range of wholesale and retail services, and supplies office and storage space to various users.

The town centre is projected to be the major employment node in Gungahlin. The eventual floor space will be occupied by a mixture of uses, including retail, offices, services, and residential. Planning for the town centre estimates that there will be around 50,000 square metres of retail floor space provided and the equivalent land area for commercial use as in Canberra's other town centres, at this time. While the complete development of this estimated figure may not be achieved, it is important to factor into the planning of North Gungahlin the potential for achieving this figure in order to cater for the full range of demands, especially housing needs.

6.5 Community facilities

It will be as important in North Gungahlin as in other areas to develop a range of community facilities to meet the needs of residents. This will only be achieved if sufficient sites are reserved at the planning stage and if they continue to be available until required for development.

The profile of the community is changing and this will affect the number and type of facilities that are required as well as their location. It will also be necessary to ensure that facilities are provided efficiently and that planning and site identification and reservation are sufficiently flexible to meet changing needs and requirements.

The need for community services and facilities is affected by changes in government policies and in the socio-demographic characteristics of residents and the planning process should be regarded as a dynamic rather than a static process. The use of standards to determine the desirable community facility provision levels has a number of major limitations:

- standards tend to be too prescriptive;
- standards do not recognise the unique and changing characteristics and needs of each community;
- standards do not readily accommodate new service models, nor recognise funding constraints and opportunities; and
- there is no commonly accepted method for determining population thresholds and therefore the standards tend to be arbitrary.

In addition to the provision of a range of appropriate community facility sites, the following objectives ensure that planning for community facilities and services is a dynamic process which responds to the changing needs of North Gungahlin residents:

- co-ordinated and effective community consultation to identify and fine-tune needs and priorities;
- efficient provision and use of facilities;
- identification and retention of sufficient community facility sites throughout the development process; and
- establishment of co-ordination mechanisms among government agencies to monitor and respond to changing requirements.

Assessing the needs and likely demand for community facilities in Gungahlin, included:

- Consultations with a wide range of Territory and Commonwealth Government agencies with responsibility for education, health, child care, recreation, aged care and cultural facilities.
- Consultations with peak organisations representing users and providers of community of community and recreational facilities.
- Consultations with community organisations that either have or will have a presence in Gungahlin.

The Structure Plan allocates sites suitable for future community facilities that may be required in North Gungahlin. The strategy is based on trends that are evident at least several, and often many, years before actual development. In the period between structure planning and the development of community facilities, many of these trends may change and other factors will emerge. It is therefore important to distinguish between site identification and the actual provision of facilities.

Site identification is based on estimated demand at the time of structure planning. Facilities planning and provision is based on estimated demand and demographic characteristics before and during the development of an area. Because of the time lag between structure planning and settlement, the actual number of facilities may vary from the number initially planned. The Structure Plan needs to be sufficiently flexible to cope with changing requirements and the evolution of new activities.

From a planning perspective, it is difficult at the structure planning stage to be too specific about the characteristics of the future population, their needs, or the range of facilities that will be required to meet those needs. Similarly it is not possible to consult with potential users of services. Limited information is available at the structure planning stage and population guidelines, which are based on current practice, are the only source of information to inform site reservations. This is considered a useful guide for identifying sites for community facilities at the structure planning stage.

The difficulties associated with forecasting future needs at the structure planning stage has resulted in an emphasis in planning on:

- retaining flexibility to respond to emerging needs and changing conditions;
- determining the needs and priorities of the local population as people move into an area;
- monitoring and refining population projections as population growth occurs;
- fostering co-operation and commitment among service providers to ensure the timely and efficient provision of facilities and services; and
- adapting solutions to local circumstances and opportunities.

The planning task in the early stages is therefore one of determining the processes, strategies and consultative mechanisms which will enable on-going planning to occur, rather than developing a blueprint for the provision of services and facilities which may quickly become outdated. The Structure Plan is essentially concerned with the identification of long term site requirements rather than identifying specific sites for community facilities which is the focus of the later detailed planning processes. Nevertheless, as part of the ongoing implementation of the strategy, it will be

necessary to monitor requirements for sites designated for community uses within a broad, asset management strategy. This implementation strategy also will need to ensure that appropriate sites, in terms of location, size, orientation and relationship to other activities are available for community uses when required.

A problematic issue in many new release areas has been finding the right balance between provision of local and group level facilities. Generally group level facilities are of superior size, quality and resourcing than more basic neighbourhood facilities. The earlier consultations with members of the Gungahlin community and review of community facilities planning in other areas of Australia found that, depending on the pattern of development and transport networks, residents prefer to travel to a larger centralised facility which offers greater quality and diversity of services than to use a local neighbourhood hall with lesser amenity and more limited services.

One of the main findings is that the population required to support a facility is increasing. Consequently, larger population catchments are required now to support facilities than when Tuggeranong was developed or even when the draft provision guidelines were prepared in 1994. For example, the population required to support a clergyman has increased over time. In 1994, the Anglican Church estimated that 30,000 people were required to support a clergyman and it is now closer to 50,000 people. Similarly, the Catholic Diocese estimated that 25,000 people were required to support a church compared with 30,000 people now. Similar trends are affecting the provision of schools, library facilities, health facilities and many sporting and recreation facilities.

In addition, many facilities are becoming larger which further reinforces the trend towards larger catchments. For example, the basis of provision of tennis courts has in the past been a four court complex. A tennis court complex of 16 courts may now form the basis of any future developments. Similar trends are apparent in other sports.

Accompanying the trend towards larger, fewer community facilities is a trend to locating facilities that were previously found at local centres are now in group centres and those that were located at group centres are now in the town centre. For example, community health centres were previously located in a number of group centres but only one facility will be developed in Gungahlin and that will be located in the town centre.

These trends are not unique to community facilities provision, and mirror trends in the location of a range of commercial activities. For example, food retailing, non-retail commercial activities such as service stations, banks and post office and recreation activities such as tennis facilities have ceased operating at a local level. This trend signals a shift of emphasis to service outcomes rather than facility provision and is not indicative of more or less services to the community.

These changes have a number of implications for the future planning and development of North Gungahlin. Firstly, there will be fewer facilities located at a local/neighbourhood level. Secondly, it will be increasingly important to ensure that facilities that serve a local catchment are well located to meet the needs of all residents. The main locational criteria are:

- the site should be accessible to the area served;
- the site should be visible from surrounding areas;
- the road layout, bicycle and pedestrian paths, should reinforce visibility and access; and
- if facilities are collocated with other facilities, care should be taken to ensure collocation does not act as a barrier to use for groups in the community.

Because of changing levels of provision, only one of some types of community facilities will be provided in North Gungahlin. It will be imperative that these facilities are accessible to all residents. The town centre is the most accessible location in Gungahlin due to transport networks and its location and may be the most appropriate location for these facilities.

As the use of a particular community facility is therefore likely to change over its life cycle, flexible community facilities should be developed that can respond to changing needs of the community and requirements of service providers.

6.6 Open space

The importance of the natural setting of the Canberra region has been a significant element of Canberra's planning since the survey work undertaken by Charles Robert Scrivener in 1910 to define a site for the National Capital design competition. Walter and Marion Burley Griffin in their winning submission drew inspiration from the chosen site by closely integrating the surrounding natural elements of the site in the layout for the planning of the new City of Canberra. Canberra is now a significant landscape achievement drawing increasing recognition throughout the world. The landscape ideas initiated by Griffin, and the planting policies implemented by Thomas Weston, have led to a consistent application of landscape design principles over a period long enough to create a city and landscape character that is unique.

Canberra Urban Parks and Places (CUPP) has completed its own Nature Conservation Management Study (Ecology Australia Pty Ltd 2000). This study, in addition to ranking urban open space land parcels for the relative conservation value, also recognised the value of connectivity in conserving remnant habitats for flora and fauna. This information, together with all other data and studies on ecological values for Gungahlin, cited in the PA and this document, provides a basis for CUPP, in support of its forthcoming management planning, to develop a Draft Management Plan for Gungahlin's Urban Open Space and Sportsgrounds to be commissioned in 2002.

6.6.1 National Capital Open Space System (NCOSS).

The importance of this foundation work for the National Capital is recognised by the creation and formal adoption of the concept of the National Capital Open Space System (NCOSS). This system essentially comprises the inner hills and ridges which surround and frame the urban areas, the major lakes and river corridors, and the distant mountains and bush lands to the west of the Murrumbidgee River. Closely associated with NCOSS and bushlands are the Territory's rural lands which also contribute significantly to Canberra's landscape setting.

6.6.2 Hills, ridges and buffer areas

Hills, ridges and buffer areas (See **Figure 14**) are part of the Territory's National Capital Open Space System that contributes to the unique landscape setting of Canberra and provides an example of typical Southern Tablelands countryside. Different parts of the hills, ridges and buffer areas have their own special character and use. They comprise of significant elements of our cultural heritage (See **Figure 15**) and diversity of habitats and wildlife corridors for native flora and fauna, such as significant woodlands or the Horse Park wetlands.

One of the greatest attractions of Canberra is that from almost anywhere in the city the ridges and hill-slopes can be seen with their varied pattern of grasslands, woodlands and forests together with views of the mountain ranges beyond. They are also an important community resource in terms of recreation and education potential and contain significant elements of the ACT's natural heritage. Large parts of the hills, ridges and buffer areas include the specially protected areas of the Canberra Nature Parks, such as Mulligans Flat Reserve and Mulanggarri Grasslands Reserve.

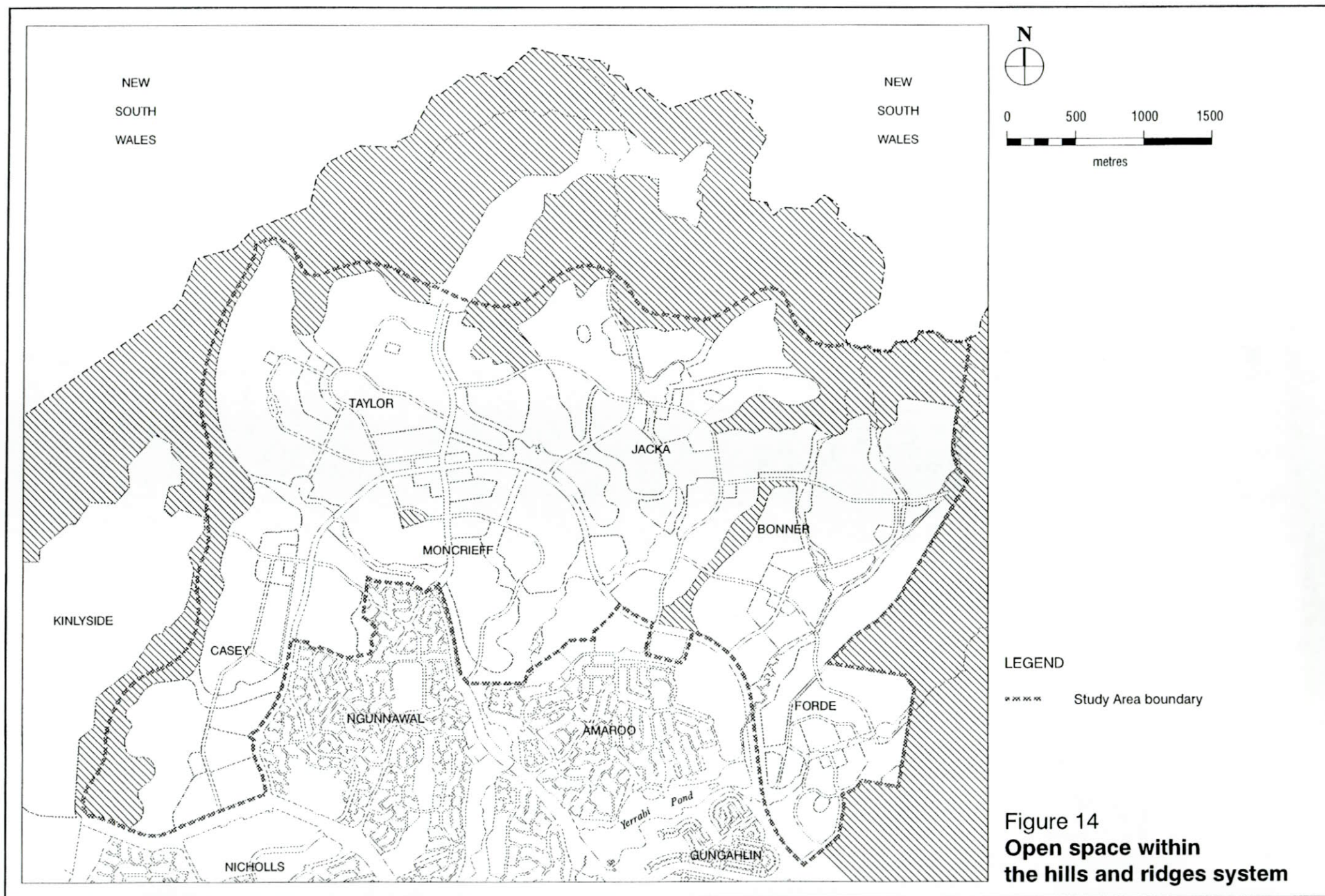


Figure 14
**Open space within
 the hills and ridges system**

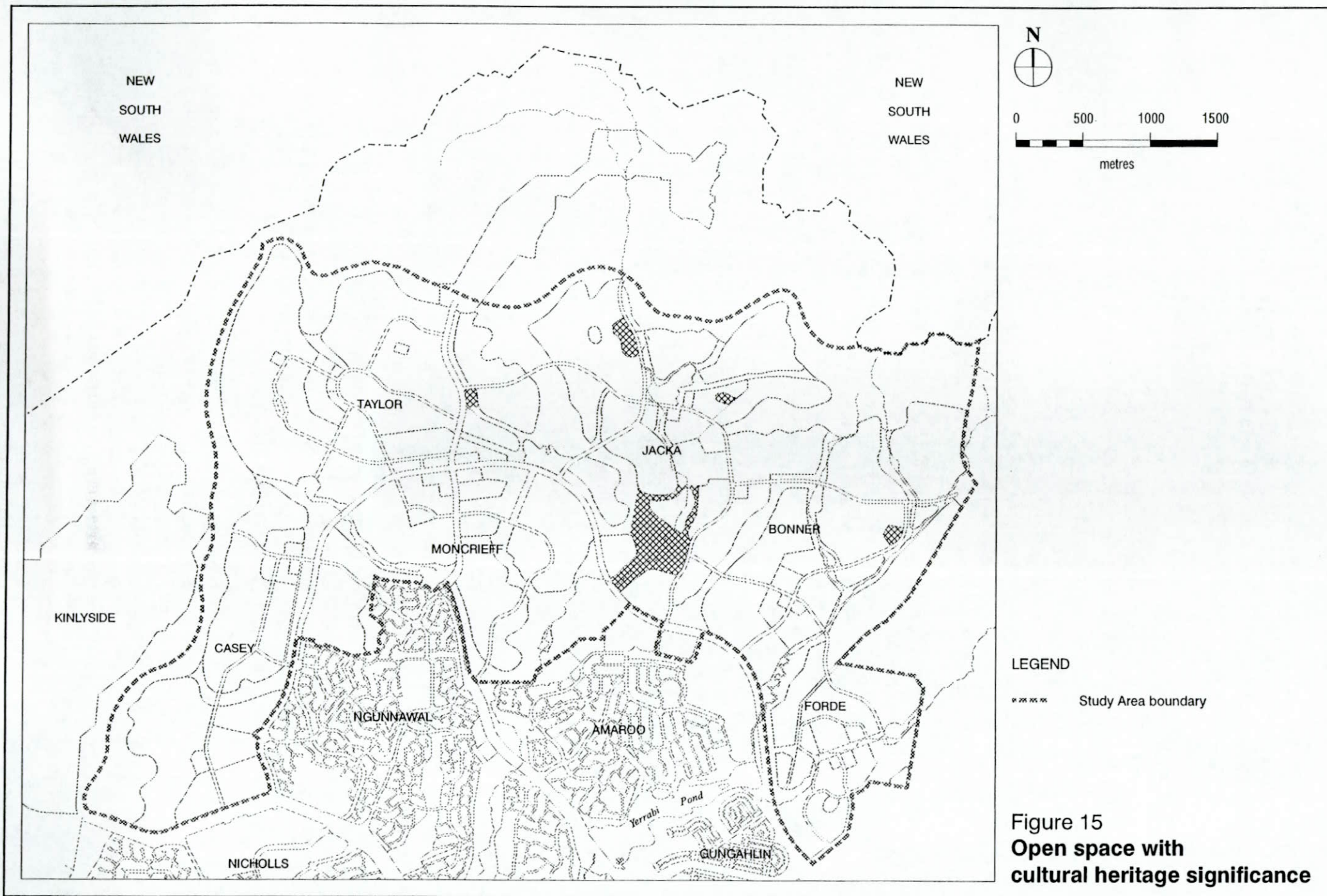


Figure 15
**Open space with
 cultural heritage significance**

The inner hills, ridges and buffer areas shape and contain the spread of urban development and are of local importance because they are visually prominent from the main approach roads. Land included in the hills, ridges and buffer areas are to be protected from all forms of development which would interfere with the backdrop to Canberra.

6.6.3 Urban open space

Open space is one of the key determinants of the Structure Plan. Urban open space (See **Figure 16**) generally allows unrestricted public access, for example, parks, sports grounds and general open space. In some cases, small community facilities may be permitted where they do not detract from the open space character or impact on surrounding development.

Public open space is divided into parks, sportsgrounds and open space types which are dedicated to passive and active leisure for adults and children while providing a landscape setting for these activities. The types of parks and open space include:

- parks (District, Local);
- transport related (pedestrian parkland, major road verges, medians, laneways and cycle paths);
- sports grounds (enclosed, District or Neighbourhood);
- semi-natural open space (areas of remnant grazing land or native vegetation including hill-top areas, creek corridors, ridges and buffer areas between suburbs. It may also provide sites for community activity by Urban Landcare, parkcare or bushland regeneration groups);
- native grassland or woodland areas (remnant grassland or woodland species sites important for nature conservation purposes); and
- special purpose reserves (large areas of open space or lake surface which for safety or management reasons are dedicated for particular specialised activities such as sporting events, recreation, education, or conservation).

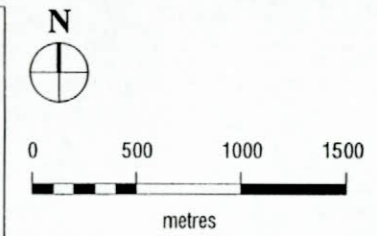
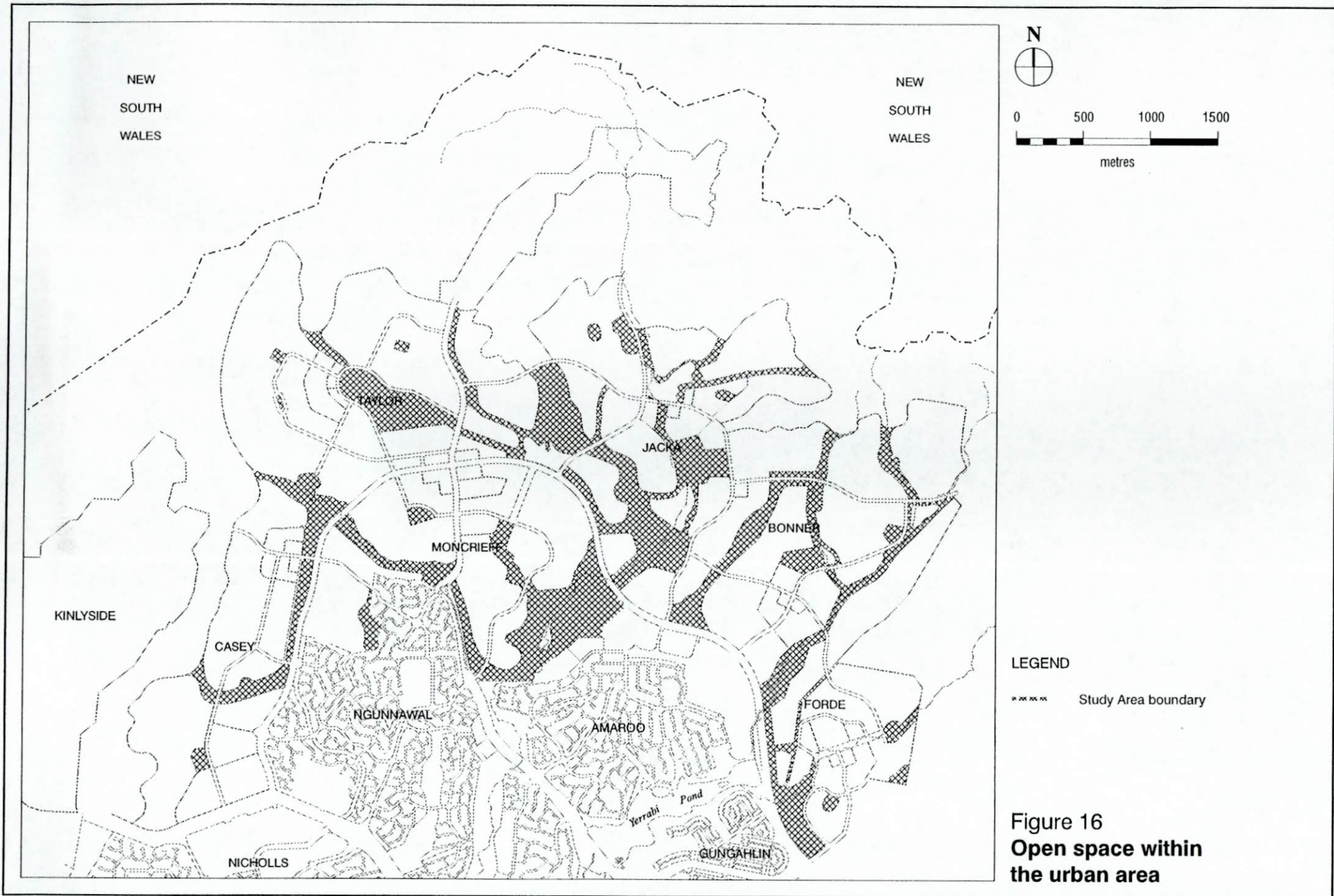
The Structure Plan provides for the co-location of urban open space with possible future community facility uses, particularly where the site is:

- Accessible to the area (both pedestrian and vehicle);
- Visible from the surrounding areas; and
- Of an appropriate scale.

In addition to open space having a passive and active recreation role for the general community, it needs to be designed with public safety as a major design consideration. In particular, it plays an important role in determining whether an area of open space is generally safe and useable, and provision of facilities such as paths, seating, barbecues, playgrounds, bins and car parking can radically alter the appeal of an area.

The concept of combining a dual use of open space for both storm water drainage and recreation purposes (watercourse parks) has gained widespread acceptance. Such areas have value for water quality maintenance, habitat retention and water conservation. Multiple use drainage systems provide settings for recreational activities. This potential can be realised as part of strategic planning for the urban open space provision (See **Figure 17**).

Open space in urban areas serves a number of important functions - recreational, social, ecological, climatic, hydrological and in some cases transport, conservation and as land for urban services. Open space is also an important component of the overall "amenity" of an area, and the value placed on proximity to open space is reflected in actual land values - hence the success of golf course estates and lakeside developments. Canberra's planning has resulted in relatively high levels of open space provision compared to other Australian cities, and these standards appear to be strongly supported by the community.



LEGEND
 - - - - - Study Area boundary

Figure 16
**Open space within
 the urban area**