

# The Use of Urban Parks

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Published in *Annals of Leisure Research*, 2006: 9(4), 245-77

## Abstract

Urban parks are a significant feature of the urban environment and constitute a significant budget commitment on the part of local councils and some state governments, but they are relatively neglected, and often ignored, in mainstream leisure studies. This paper examines two themes in existing urban parks research, namely the 'non-use and decline' theme and the theme of equity. The review concludes that the 'accepted wisdom' on non-use and decline of urban parks is questionable and contrary to available empirical evidence and that leisure studies discourses which ignore urban parks as a leisure sector give a distorted view of the equity outcomes of public leisure services as measured by patterns of usage. The paper presents data from recent surveys of park use in Sydney, Australia, which indicate that visiting urban parks is the most popular of all out-of-home leisure activities and, unlike a number of other public leisure services, urban parks attract high levels of use from virtually all sections of the community.

## Introduction

Parks are significant features of most cities and towns. In England and Wales urban parks amount to 75,000 hectares, some 10-15 per cent of the developed area (Comedia, 1995: 22) and, in 1998/99, accounted for 32 per cent of all local government leisure services expenditure (Urban Green Spaces Taskforce, 2002: 16). In Australia it is estimated that there are over 50,000 urban parks, covering 3.4 million hectares (ABS, 1998) and public expenditure on urban parks is estimated at \$A1450 million annually<sup>1</sup>.

There is a substantial historical literature on the development of urban parks in the nineteenth and early twentieth centuries (eg. Chadwick, 1966; Cranz, 1989; Cunneen, 1980; Jones & Wills, 2005; Taylor, 1999; Young, 2004) and there is a small but growing research literature on urban park use (see Veal, 2006a). In contemporary academic analyses of leisure participation or leisure policy as a whole, there is a tendency for urban parks to be overlooked. Thus Ken Roberts's (2004) *The Leisure Industries*, includes two chapters each on sport and media and popular culture and one each on events, hospitality and shopping, gambling, and the arts, but parks, both urban and non-urban, are ignored. *Recreation Trends and Markets*, by Kelly and Warnick (1999) includes sections on levels of visitation to theme parks, museums, beaches and lakes, state fairs and zoos, but not to parks, urban or non-urban. Torkildsen's (2005) standard UK text, *Leisure and Recreation Management*, all but ignores urban parks. Texts on outdoor recreation (eg. Patmore, 1983; Williams, 1995; Pigram and Jenkins, 1999; Cordell, 1999; Gartner and Lime, 2000) tend to devote far more space to non-urban parks than to urban parks. Two seminal studies of recreation/leisure policy, by Coalter (1988) and Henry (2001), are focussed almost entirely on sport, the arts and countryside recreation; even when discussing local government, they fail to make any mention of urban parks.

Urban open space is encompassed in texts on leisure planning and theoretical models of recreation resource management (Pigram and Jenkins, 1999: 111-129; Veal, 2002: 116ff), but the emphasis in this paper is on the outcomes end of the planning-design-development-

management process, in which the success of a facility or service is evaluated by the extent to which it meets the goals set for it. Typical outcome measures for public leisure facilities, including urban parks, are the overall level of use and the extent to which the facility serves all sections of the community, or at least the providing agency's priority/target groups – the test of equity (Veal, 2002: 62-6). Such outcome measures are increasingly being linked to funding of public leisure services. At the national level, outcomes data in the leisure sector are collected by regular government-sponsored national surveys on participation patterns and visit rates in such areas as sport and physical recreation activities and cultural venues and events (see Cushman et al., 2005; Veal, 2003 ), but no national data are gathered on visits to urban parks in Australia, the United States or Britain. At local level, practices vary, but in general there is a paucity of data on the use of urban parks because, unlike many other types of facility, no entrance fee is charged for urban parks, so there are no readily available ticket sales data to provide a record of visit numbers.

The above suggests a paradox: since urban parks occupy such significant amounts of land and command such significant proportions of the public leisure service budget, it might be reasonable to assume that policymakers and the public would expect them to attract appropriately high levels of use and to serve a wide cross-section of the community, but the ignoring of urban parks in academic discussions of leisure policy seems to imply that they are not significant components of the urban leisure milieu. But if the use of urban parks do, in fact, attract high levels of use, then statements made about leisure participation and leisure policy which ignore urban parks and their use may be distorted.

Two questions might therefore be posed in light of this discussion: 1. What is known about the level of use of urban parks? 2. To what extent do urban parks pass the equity test? The paper first examines existing research on these two questions and then presents some data from recent research in Sydney, which throws some light on the issues.

### **The level of use of urban parks**

#### *The 'non-use phenomenon'*

The question of non-use or under-use of urban parks was raised in the early 1960s in Jane Jacobs' (1961) discussion of 'The uses of neighbourhood parks'. Jacobs' thesis was that successful neighbourhood parks complement the activity patterns of people living and/or working in immediately adjacent built-up areas and that the absence of such complementarity results in parks which are unused or under-used and tend to become neglected and therefore to represent negative, rather than positive, features of the city. A paper by Seymour Gold (1972) is generally cited as the source of the idea of a 'non-use' syndrome, related particularly to smaller 'neighbourhood' parks. Gold's paper was entitled: 'The non-use of neighbourhood parks' and a later version was entitled: 'Neighborhood parks: the non-use phenomenon' (Gold (1977)). Non-use of parks by large proportions of the community resulted in a pattern of *under*-use of many parks. 'Under-use' implies that, for any park, there is a particular level below which the use of a park is deemed to be no longer 'normal' or 'acceptable', but Gold did not spell out the criteria he used to define this level.

It might be thought that the current validity of a finding from data collected a third of a century ago would be questioned from time to time, but the phenomenon of non-use or under-use appears to have become part of the 'accepted wisdom' in the literature. Gold's paper has been referred to uncritically over the years by a wide range of authors, including: Murphy and Howard (1977: 68); Howard and Crompton (1980: 354); Cranz (1982: 221); TRRU (1983);

More, 1986; Hamilton-Smith and Mercer (1991: 48); Pigram and Jenkins (1999: 148); Cunningham and Jones (2000); and Syme et al. (2001). It is therefore worth examining in more detail the nature and basis of the 'non-use phenomenon'.

The empirical basis of Gold's claims are his own systematic observations of neighbourhood parks in Illinois, Michigan and California conducted in the 1960s and early 1970s, but details of this data collection and analysis were not presented in his published papers<sup>2</sup>. On the basis of these observations and a review of quantitative and qualitative research by others, Gold drew three main conclusions: that the under-use of individual neighbourhood parks was widespread; that neighbourhood parks were used by only a small minority of the population; and that part of the explanation for non-use of neighbourhood parks was that many of them no longer met the needs of the urban resident. These conclusions are discussed in turn below.

#### *Under-use of individual parks*

It has not been possible to follow up all of the sources used in Gold's review of existing evidence on the use of parks at the time, but in two examples which have been examined, it appears that the findings were quoted are open to quite different interpretations.

Gold's initial statement concerning neighbourhood park under-use was: 'There is evidence to indicate relatively little use or a decrease in use of neighborhood parks in urban areas' (Gold, 1972: 370). This assertion is referenced to a study of the use of new parks in three neighbourhoods in Baltimore by Bangs and Mahler (1970), but this study showed a level of use of neighbourhood parks (at least once a week) by children, of 33%, 52% and 49% respectively, and concluded that 'the local open space program has been highly successful', with use levels being described as 'very high' (Bangs and Mahler, 1970: 333). While Bangs and Mahler noted a 'lack of use by the adolescent and adult population' (p. 333), they presented no data on this matter.

In another statement Gold (1972: 371) declares: 'The literature indicates that only a fraction of the potential users in a given service area regularly use neighborhood or community public parks', a finding referenced to Herbert Gans (1957). Examination of the original source indicates that, in regard to neighbourhood parks, the reference was accurate in reporting Gans' concern with under-use, but his statement was based on just one 0.5 acre neighbourhood park in Philadelphia, where daily usage was about 7.7% of the population residing within two blocks (Gans, 1959: 274). But when Gans examined available evidence on *community parks* he noted that one study in Peoria recorded 'three fourths of a sample of 900 families visited a park once a week or more' (Gans, 1959: 277) and a study of parks in a number of English towns recorded a quarter of adults and 20% of children visited parks at least once a week and a further 12-28% less often (p. 282).

Based on his own empirical research, Gold concludes:

Most use levels [of neighbourhood parks] seldom exceed 10 percent of the total possible users at peak use periods and average between 1 and 5 percent during normal use periods. These percentages hold constant for both inner city and suburb and show little deviation in regard to the total supply of recreational opportunities available, family income, age, sex, race, or national origin. (Gold, 1972: 371)

At first sight this statement seems to refer to the level of utilisation of the physical capacity of parks, but a later statement indicates that the percentage use levels mentioned follow the example of Gans in referring to the population of the catchment areas, or service areas, of parks:

Based on this quantitative and qualitative overview, it is reasonable to conclude that: (1) public parks accommodate only a *small* proportion (1 percent) of the total population at any given time or with any degree of regularity; (2) peak use levels seldom exceed 10 percent of the service area population ; (3) public parks now accommodate an *insignificant* portion of the average adult and child's leisure time budget; and (4) both the number of users and amount of time they spend in public parks is *decreasing* relative to the total number, length, and frequency of recreation visits to nonurban public parks or private recreation opportunities. (Gold, 1972: 372, emphasis in original)

Gold asserts, then, that a leisure facility which attracts 10 per cent of the population at peak times and one per cent during off-peak times can be described as under-used. This is clearly contestable and is discussed in more detail below.

A further issue arises concerning wider applicability of the non-use or under-use thesis to other types of park. Gold defines *neighbourhood* parks as:

.. public, outdoor spaces, facilities or opportunities at the pedestrian scale used primarily by residents for recreation. This designation includes: tot-lots, playgrounds, mini-parks, vest-pocket parks, and commons. The typical neighborhood school park on a three to five acre [0.75-1.25 hectares] site is the focus of this study. (Gold, 1972: 377)

The 1.25 hectare maximum is very restrictive and few subsequent studies of urban parks, even of 'neighbourhood' parks, have been so strictly limited. But Gold frequently drops the 'neighbourhood' descriptor, as the earlier quotation demonstrates. In his later textbook, *Recreation Planning and Design*, he states: 'Most urban parks are underutilized or unused by a majority of the population they were intended to serve' (Gold, 1980: 33). And he makes an explicit claim with regard to other types of park when he says:

If the majority of potential users or tax-payers should decide to no longer support the neighborhood park concept, it is not conjectural to project the demise of public park systems in many cities and suburbs because neighborhood parks are both the actual and symbolic bases of these systems (Gold, 1972: 376)

Arguably, such a statement is, indeed, conjectural. Gold did not present any comparable empirical analysis of use levels for other types of park and neither, in general, have those who have referred to his study in later years. In the absence of any critical appraisal of Gold's assertions or any alternative data sources, there is therefore a tendency for all urban parks to become associated with the statement about under-use.

Judging a park to be 'under-used' would require a systematic approach to measuring use levels in relation to physical capacity or optimum use levels, and a policy framework for judging when the level of use reaches a point which is deemed unacceptable and therefore classified as 'under-use'. This sort of analysis is not presented in Gold's published papers and is generally absent in later published research on urban parks.

Despite the widespread acceptance of Gold's paper as seminal, it has not apparently been replicated by others, and certainly not in recent years. The curious status of the work is highlighted by its treatment by Hamilton-Smith and Mercer (1991: 48) in their extensive review of primarily Australian research on *Urban Parks and their Users*. They refer to Gold's paper as 'well-known and significant' but own their discussion of non-use or under-use is quite brief and makes no reference to evidence of its existence in Australia. Instead, they use it as a springboard for a theoretical discussion of leisure constraint and choice. Non-use or under-use is not then raised as an issue in the report, indeed, they give equal weight to a discussion of 'the opposite problem – that of too much access, which may often result in environmental degradation and/or overcrowding' (Hamilton-Smith and Mercer (1991: 52–53).

The few studies that have been subsequently published on the question of urban park use levels tend to adopt alternative approaches to the question of measurement of use and under-use.

#### *Measuring the use and under-use of urban parks*

A rare example of a project which comes close to replicating Gold's study was the survey of 61 small (up to 5.3 ha.) parks in greater Melbourne conducted by the Melbourne and Metropolitan Board of Works in 1982. The results were, however, published as a corporate report (MMBW, 1983) and in summary form in an Australian professional journal (Boyle, 1983), so did not attract the attention of the leisure studies mainstream. The full report of the project (MMBW, 1983: 18) presented data on the total number of visitors present at peak hours and at off-peak times in all 61 parks, as shown in Table 1. But peak and off-peak usage figures were not the prime focus of the study and the usage numbers are not related to catchment area populations as Gold's data were. Instead, the study offered alternative ways of measuring and assessing use levels, including the use of the concept of 'visitor-hours', based on hourly counts of park visitors throughout the day, and comparison between parks. The number of visitor-hours accommodated by a park may be more or less than the total number of *visits*, depending on the average length of stay (Veal, 2002: 188), but the number of visitor-hours is a valid measure in its own right and in the Melbourne study it was 20 times the number of peak-period visits, and therefore gives a very different impression of the level of park usage from a peak hour count only.

**Table 1. Melbourne small parks, visit levels, 1983**

	<b>Total</b>	<b>Per park</b>
	<b>Average number of visitors present</b>	
Peak period: weekend day, 1-4pm,	783	13
Off-peak period: weekdays, 1 hour period, mid-morning or afternoon	60-70	1
	<b>Visitor-hours</b>	
Peak period: weekend: all day total	4993	82
Off-peak period: weekday: all day total	1226	20
Weekly total	16,000	262

Data source: Boyle, 1983

One of the findings of the Melbourne study was the substantial range in the levels of use of individual parks. The average number of visitor-hours was 262 per park, with parks in the top quintile of parks having an average of 797 and those in the bottom quintile an average of just 23 (MMBW, 1983: 12-13). Likely explanations for this variation are discussed at length in the report. The idea that some neighbourhood parks have very much lower levels of use than others

of comparable size seems a more plausible basis upon which to judge some as under-used than judging all parks as under-used on the basis of an overall average usage figure.

In addition to the issue of just how to measure usage levels, and the possibility of comparing one park with another, the question arises as to whether levels of use of a park might be assessed against some measure of its capacity. There is a substantial literature on capacity of non-urban outdoor recreation areas (Pigram and Jenkins, 1999: 90-99), where the key issues are environmental capacity, which is defined as the level of use beyond which a site would suffer irreversible damage, and optimum perceptual capacity, being the level of use at which aggregate user enjoyment is optimised. *Under-use* is generally not seen as an issue in such areas since low levels of use are entirely compatible with their conservation functions.

Urban parks are different: they exist on a spectrum from relatively pristine, natural areas which happen to be located within urban areas, and to which the above approaches might therefore apply, via artificially created horticultural landscapes, to areas which are substantially paved to accommodate high densities of pedestrian traffic. When wear and tear suggests that over-use is occurring, capacity can be increased by additional attention to maintenance, increasing the width of pathways, increasing parking provision, and so on; thus it is difficult to be precise about the ultimate capacity of an urban park. Gedikli and Ozbilen (2004) have devised an algorithm to prescribe the capacity of neighbourhood parks on the basis of 0.4 square metres per individual user and corresponding areas for groups of users, but the approach appears to ignore features of parks other than space for occupation by people and seems to envisage 'wall-to-wall' people as an indication of the theoretical capacity of a site. Assessment of use levels of urban parks against a theoretical measure of capacity therefore seems to be fraught with difficulties. But even if these difficulties were to be overcome, the problem of specifying *under-use* would still remain.

Two alternatives to the use of capacity for evaluating use levels are assessment in terms of visits per square metre and financial/economic measures.

Assessment on the basis of visits per square metre would be an improvement on visit numbers alone. This is the approach used by Bowler and Strachan (1976) in their observational study of parks in Leicester, UK. However, rather than making judgements concerning the absolute level of use of parks, Bowler and Strachan compared levels of use between parks and between various functional areas within parks. This approach is valuable in providing guidance on how design and layout affects use levels, but it still leaves unanswered the question of how many visits per square metre constitutes under-use and how to account for differences in the landscape and layout of parks.

Assessment on the basis of *costs* per visit would at least have the advantage of enabling park costs to be compared with costs per visit in other leisure facilities. But high costs per visit in particular parks could be associated with low visit numbers *or* with higher than average levels of expenditure designed to achieve high quality. Thus a fuller assessment would seem to be required, involving consideration of costs per square metre *and* levels of quality *and* levels of user satisfaction achieved.

All of these methods for assessing levels of use ignore one potentially important factor, namely *non-user* values. Parks in urban areas can have value to members of the community who do not visit them or to users at times when they are not actually visiting. Such values arise from the

external visual amenity offered to adjacent land-users and passers by, the dispersal of air pollution and, in some cases, conservation of wildlife. The economic concepts of 'option demand' and 'merit goods' suggest that non-users of publicly provided amenities may place a value on them. One Australian study suggested that non-use values of an urban park were about 10 per cent of use values (Lockwood and Tracy, 1995).

This discussion suggests that the ideal form of assessment of park use levels would be a complete cost-benefit analysis which seeks to take account of all benefits produced by a park and all associated costs. Judgement on whether a park – whether heavily or lightly used – is producing an acceptable level of net benefit for the community could then be based on standard rate-of-return criteria. Lockwood and Tracy's (1995) study of Centennial Park in Sydney, the study of botanic gardens in Britain by Garrod, Pickering and Willis (1993) and the study of four parks in Worcester, MA, by More, Stevens and Allen (1988) are the only known examples of cost-benefit studies of urban parks. The first two relate to large parks and neither includes all costs and benefits. The study by More et al. is the most complete of the studies identified; it focussed on medium-sized parks (12-20 ha.) and included, as well as user benefits, non-use benefits reflected in property values. In three of the parks, the study showed a net surplus of benefits over operating costs, although capital costs and some 'option demand' benefits were not included.

In summary, therefore, despite the apparent longevity of Gold's assertions on non-use in the literature, based as they are on research from the 1960s and early 1970s, the idiosyncratic measures he used have been supplanted by more appropriate measures, including: visits per square metre and visitor-hours over a period of time. Individual parks have been assessed by means of comparisons with other parks, rather than by the use of some absolute scale. Estimates of total numbers of visitors to urban parks are scarce in the literature and assessment on the basis of net costs per visit even scarcer. There have, however, been some limited cost-benefit studies, which base assessments on the value of the benefits generated by parks.

#### *Community patronage of urban parks*

In discussing urban parks, Gold refers to '.. nonusers that are a majority of the electorate' (Gold, 1972: 370) and '.. the silent majority of nonusers' (Gold, 1972: 371), and states that, '.. most people do not use neighborhood parks' (Gold, 1977: 319). These statements are based on the same data as his conclusions about the level of use of individual parks, that is that a minority of the population makes use of a facility *at any one time*. But, as with individual parks, this observation does not automatically preclude the possibility that, over a period of time, a majority of the population might make use of a service. An alternative, and more common, approach to measuring the community's level of use of a service is to interview residents and ask them about their use levels over a specified period of time. A number of studies of park use, before and since the publication of Gold's work, have adopted this approach, arriving at very different conclusions concerning the public's use of parks.

Table 2 presents a meta-analysis of 22 studies presenting 33 estimates of urban park use levels in the USA, the UK and Australia, over the period 1957-2003. It should be noted that, while all the studies relate to urban parks, not all refer to neighbourhood parks and, even among those that do, few refer to small parks below 1.25 hectares as used in Gold's study.

**Table 2. Meta-analysis of estimated levels of urban park use, 1967-2003**

#	Date	Country	Population sampled	Type of park	Method	Sample size	% visiting urban parks	Ref. period	Source
1	1957	USA/UK	Residents of: a. a n'hood of Philadelphia b. Peoria c. Adults in English towns	a. N'hood b. Community pk c. Community pk	a. Observation b. na c. na	a. na b. 900 c. na	a. 7.7% b. 75% c. 25%	a. Day b. Week c. Week	Gans (1957: 274-81)
2	1967	USA	Three neighbourhoods in Baltimore, Maryland	N'hood parks	Household interviews	154	60%	Week	Bangs & Mahler (1970)
3	1962-72	USA	Parks in Detroit, MI; Springfield, IL; Ann Arbor, MI; Davis, CA	N'hood parks	Observation	-	a. 10% b. 1%	a. Peak periods b. Off-peak periods	Gold (1972, 1977)
4	1968	UK	London residents	All urban parks	Household interviews	na	a. 70% b. 39%	a. Month b. Week	Patmore (1983: 114)
5	1970s	UK	Adults, national	All urban parks	Household interviews	na	40%	Month	TRRU (1983: 1)
6	1971	USA	Urban area	N'hood parks	Household interviews	301	90%	Month	Cheek, Field & Burch (1976: 106)
7	1983	USA	Residents in a. Dade County, FL; b. Austin, TX; c. Springfield, OR	All urban parks	Telephone/household surveys	a. 1523 b. 3595 c. 421	a. 47% (30) b. 81% (75) c. 51% (21)	Year (Month)	Howard & Crompton (1984)
8	1985	USA	Residents of Detroit	N'hood parks	Telephone interviews	456	64%	Year	West (1989)
9	1986	UK	Residents of Greenwich (targeted sample)	N'hood parks	Household interviews	212	72%	'Throughout the year'	Burgess, Harrison & Limb (1988)
10	Spring 1985	Australia	Adults, national	All urban parks	Household interviews	2500	9%	Week	DASETT (1987, 1991); DSRT (1986a-e).
11	Summer 1986					2500	9%		
12	Autumn 1986					2500	9%		
13	Winter 1986					2500	9%		
14	Spring 1987					2068	11%		
15	Summer 1991	2103	19%						
16	1992	UK	Adults, national	All urban parks	Household interviews	na	70%	Year	Comedia (1995: 9-10)
17	1994	UK	Households 'adjacent' a park: i. in Cardiff ii in Southwark	N'hood parks	Drop-off & collect questionnaire survey (4 forms per house-hold)	i. 134 ii. 161	i. 66% ii. 76%	Week	Comedia (1995: 95)
18	1999	Australia	3 suburbs IN Ipswich, Qld	N'hood parks	Drop-off & mail back questionnaire survey	379	42%	Month	Cunningham & Jones (2000)
19	2000	USA	Residents: area of Cleveland OH	N'hood parks	Telephone interviews	631	78%	Year	Payne et al. (2002)
20	2001	Australia	Residents of Perth, WA, n'hoods on: a. large lots, b. small lots	N'hood parks	Drop-off & pick-up questionnaire survey	252	a. 40% b. 50%	Year	Syme et al.(2001)
21	2001	UK	Residents of 10 cities in England	Urban parks	Telephone survey	1588	86.5%	Month	Dunnett et al. (2002: 35)



22	2003	USA	Six ethnic groups in Atlanta, GA and Philadelphia, PA	N'hood parks	Mail questionnaire survey	1500	74%	Year	Sasidharan et al. (2005)
	Means						31% 57% 62%	Week Month Year	

The studies vary enormously in the methodology used and in sample sizes. In terms of methodology and reference period, the contribution Gold is the only one to use observations at 'peak' and 'non-peak' periods to estimate park usage. All the other studies use questionnaire-based surveys and indicate the percentage of the population who claim to visit a park in a given reference period, namely the week, month or year prior to interview. A reference period of one year has the advantage of capturing more of the less frequent park users, but suffers from the likelihood that recall over such a long time period will be inaccurate. Shorter reference periods of a week or a month are likely to provide more accurate data, but capture only a proportion of infrequent users and are subject to the vagaries of the season in which the survey is conducted (Cushman et al., 2005: 288-289). It should also be noted that the samples used in the surveys listed in Table 2 generally do not include children but it can be speculated that children's use of urban parks are at least at the level of that of adults.

Unweighted means of the estimates of levels of use for the three reference periods are: one week: 31%; one month: 67%; and one year: 62%. The one-week figure is not inconsistent with Gold's finding that 10% of the population visit neighbourhood parks at peak periods. The Melbourne study of small parks referred to above suggests that the period 1-4 pm on Saturday and Sunday accounts for 29% of all visitor-hours (MMBW, 1983: 18). This suggests that total usage is more than three times that which takes place during peak periods. Thus Gold's 10% could be said to be broadly compatible with a one-week use level of 31%. But a minority of 31% is somewhat different from a minority of 10%. Further, the one-month and one-year visit levels suggest that urban parks are used not by a minority, but by about two thirds of the population.

Of particular note in Table 2, is the study by Howard and Crompton (1984), which analysed data on the use of eight different public leisure services in three US cities. While the overall finding of the study is that 'municipal park and recreation agencies serve a narrow and limited range of adult clients' (p. 33), 'parks and playgrounds' are found to be an exception to the findings for other services:

Only one type of facility, parks and playgrounds, could be truly classified as a 'public' resource. While approximately half of the responding adults in all three cities visited a park or playground at least once during the previous year, only a small minority reported using any of the other major recreation facilities with any regularity. (Howard and Crompton, 1984: 45)

#### *Urban parks and contemporary needs*

The above discussion considers park usage in quantitative terms. Jane Jacobs, who was mentioned at the beginning of the discussion as a source of the concept of non-use, also considered park usage in qualitative terms. While Jacobs discusses numerous examples of successful parks in American cities, it is the unsuccessful ones that were the focus of her attention:

For every Rittenhouse Square in Philadelphia, or Rockefeller Plaza or Washington Square in New York, or Boston Common, or their loved equivalents in other cities, there are dozens of dispirited city vacuums called parks, eaten around with decay, little used, unloved. (Jacobs, 1961: 89-90)

Gold endorses this view, and the remark was echoed decades later in the 1995 report of a study by Comedia consultants, sponsored by twelve English local authorities, which stated: 'Successful parks are the tip of the iceberg. For every well managed, well supported park, there are many other open spaces which the public feel to be in decline or empty or bleak' (Comedia, 1995: 13), and:

.. the position common to many local authorities is that they are now responsible for a large number of open spaces, which have through management practices tended to lose their distinctiveness; budgets on the whole have declined; parks provision has lost status within the wider leisure field; and some local authorities are now wondering aloud how they can continue to manage the infrastructure of open space, other than by simply overseeing a process of continuing decline. (Comedia, 1995: 22-23)

The Comedia report led to the commissioning by the UK government of a second report from Comedia on 'best practice' in park management (Greenhalgh and Worpole, 1996) and the subsequent establishment of the Urban Green Spaces Taskforce, which stated: 'In spite of the great potential of parks and green spaces to revitalise towns and cities, a great many – in fact a majority – have suffered neglect and decline' (Urban Green Spaces Taskforce, 2002: 16).

The perceived contemporary problems of urban parks – including under-use – have been variously ascribed to: the failure of planners, designers and managers to respond to changing community needs arising from changing demographics and lifestyles (Gold, 1972: 370-371; Comedia, 1995: 19-20, 64-5; Williams, 1995: 171); physical changes, such as inner city population decline and road developments creating barriers to access (Comedia, 1995: 18); professional attraction to more fashionable forms of leisure provision such as indoor leisure centres (Williams, 1995: 172); and general budgetary restrictions (see Comedia quotation above; CABE Space, 2006: 3). All this has resulted in a negative view of urban parks being commonly portrayed in the literature.

However, while this is a feature of American and British commentary it is much less noticeable in the Australia literature. Thus, in their review of *Urban Parks and their Visitors*, Hamilton-Smith and Mercer (1991) refer to '.. uncertainty or even conflict and confusion about the role of urban parks' (p. 39), but not to decline and neglect.

### **The Test of Equity**

A common theme in the discourse on public leisure policy, is that publicly subsidised leisure services and facilities as a whole fail the test of equity or, in recent British parlance, the test of social inclusion – particularly that services and facilities are under-utilised by disadvantaged members of the community (eg. Roberts, 2006:103-04; Torkildsen, 2005: 103). Such discussions often use the word 'leisure' in their titles and in their initial discussions and conclusions, suggesting, indirectly and directly that their analysis encompasses all forms of public leisure provision, but invariably the discussion is illustrated using just one sector of leisure and invariably the sector chosen does not include urban parks. For example:

1. Coalter's (1988) influential monograph *Recreational Welfare* was based primarily on an analysis of three UK national 'quangos' concerned with, respectively, sport, the arts and countryside recreation.

2. McKay's (1990) paper on 'Sport, leisure and social inequality in Australia', includes data on participation in sport and non-sporting leisure activities, including park visitation and, sports participation showed marked inequities in relation to various socio-economic variables, non-sporting activities show a very mixed picture. Nevertheless, the general conclusion is drawn that: 'Sport *and leisure* .. neither transcend nor create social inequalities, but, rather, reproduce them. .. leisure is yet another area of Australian society in which structured social inequalities can be demonstrated (p. 149, emphasis added).
3. Hamilton-Smith and Mercer (1991: 46) refer to a number of equity studies with a sports emphasis as a preamble to their brief discussion of inequality of access to parks, but provide no evidence of social inequalities in urban park usage from the many empirical studies which they review.
4. Yule's (1997) study of leisure policy and gender includes interviews with local government arts and 'recreation' officers, but the latter appear to be comprised entirely of sport development officers or sport centre managers.
5. Ravenscroft's (1992: 164 ff) discussion of the shortcomings of the public sector in urban leisure provision is illustrated primarily by reference to the British government's 'Sport for All' policy.
6. Henry's (2001: 131) reference to 'social class differences in the usage of facilities' is illustrated by data from indoor leisure/sport centres only.
7. Aitchison (2003: 86 ff) and Kay (2000), in analysing inequitable outcomes of leisure policy in regard to gender, illustrate their arguments almost entirely with reference to sport.

The accepted wisdom regarding uneven patterns of use of public leisure services, particularly in relation to socio-economic status, is reinforced by the collective impact of numerous studies which are overtly concerned with specific categories of leisure activities and facilities, including: sport and indoor leisure/sport centres (Audit Commission, 1989: 10; Collins, 2003: 34-59; Hylton and Totten, 2001; Roberts, 2004: 50-53); the arts and culture (Audit Commission, 1991: 16-17; Casey et al., 1996; Evans, 2001: 113;); non-urban outdoor recreation (Johnson, 1999; Devlin and Booth, 1998: 117); and a combination of the above (Centre for Leisure and Sport Research, 2002).

Some of the reviews of urban park management and research over recent years have either failed to explore the available evidence on socio-economic variation in use patterns (Hamilton-Smith and Mercer, 1991) or have suggested that usage patterns are inequitable on the basis of limited or ambivalent evidence, for example, Urban Green Spaces Task Force (2002: 19), which refers to Dunnett et al., 2002: 40), which refers to Comedia (1995), even though the latter presents no actual data on participation rates of social groups.

The overwhelming impression is therefore given that leisure services as a whole, possibly including urban parks, fail the test of equity. But it is possible that conclusions based on analysis of organised sport and the arts, or on non-urban leisure activity, might not apply to urban parks. The unique characteristics of urban parks raise the possibility that their use patterns might differ from those of other types of facility. Urban parks generally have a longer history and are generally more widely distributed than most other community leisure facilities, they accommodate, for the most part, 'unorganised' activity and they are not subject to entry charges. Examination of a number of studies of urban park use appears to suggest that the patterns of use of urban parks are, indeed, different.

A major review of research on urban parks, conducted in Britain in the early 1980s by the Tourism and Recreation Research Unit (TRRU) of Edinburgh University, gave a hint that urban parks might indeed be different from other leisure facilities:

One of the key findings that has emerged from surveys of park users ... is that urban parks and open spaces attract a wider spectrum of visitors from the urban community than almost any other outdoor recreation activity. (TRRU, 1983: 57)

Data on the social class of visitors from four urban park surveys conducted by TRRU in the 1970s are summarised in Table 3. It shows that, in three of the parks, visitors classified as 'manual' are over-represented compared with the surrounding resident population, while in the fourth park, they are under-represented, but by just 5%.

**Table 3. Park visitors and social class, in four Scottish parks, 1979**

	Park visitors	Population within 2km of parks	Difference signif-icant at 5% level
	% in 'Manual' social class		
Cathkin Braes Park	83	71	Yes
Rouken Glen Park	43	41	No
Castle Semple Park	41	44	No
Pollock Park	38	43	Yes

Data source: TRRU, 1980: 30

Ravenscroft and Markwell (2000), in a study of park use in Reading, near London, found that:

.. there was a consistently greater percentage of black and Asian park users than the proportion of ethnic minority residents in either the town or the neighbourhood of the parks.  
 .. This is a highly significant finding, given that both black and Asian people have been found to be under-represented in the use of most other public leisure facilities in the town.  
 (Ravenscroft and Markwell, 2000: 143)

In a study of the use of public leisure facilities in three US cities, Howard and Crompton (1984) found increasing levels of park use with income in one city, but no such relationship in the other two, and the two cities for which data on race were available showed contradictory results.

A number of studies of urban parks in the USA have focussed particularly on equity in regard to race, and broadly suggest that the pattern of use by various racial and/or ethnic groups is more equitable than is often found for other types of public leisure facility.

- West (1989) reported that urban parks in Detroit were used by 75% of black respondents but only by 48% of white respondents.
- Payne et al. (2002) report that black residents of Cleveland, Ohio, are more likely to use urban parks than white residents.
- Sasidhara et al. (2005), show a more mixed outcome, with substantial variations in urban park visit rates among six ethnic groups in US cities. Some 82% of Koreans visited parks in

the last twelve months, compared with 78% of whites and, while African-Americans had the lowest usage rate, at 61% it still constituted a majority of that group.

- In a US study by Ho et al. (2005), the rank order of urban park visitation among ethnic groups was: 1. Hispanic; 2. White; 3. Chinese; 4. Japanese; 5. African-American; 6. Korean.

Relatively high levels of use of urban open space by deprived groups could be viewed as merely demonstrating their deprived status, since it may reflect their lack of mobility and resources to visit non-urban open space, and even racism experienced in out-of-town parks (Low, Taplin and Scheld, 2005: 42-3). This raises the broader issue of whether leisure facilities *should* be used as a palliative to relieve symptoms of deprivation, a question which is beyond the scope of this paper.

Overall, it must be concluded that, while urban parks have been inadvertently 'tarred with the same brush' as other public leisure facilities with regard to inequitable access and use, such evidence as is available, suggests that this is unjustified.

### **The Sydney urban parks research program**

The research described here was not designed specifically to address the broad debates about urban parks outlined above, but it is believed that it can make such a contribution, given that much of the research which has informed the debates is somewhat dated and often limited in scale. Further, there is reason to believe that some of the empirical findings on urban parks emanating from Britain and the United States may not be applicable to the Australian situation.

The data presented here are derived from a research program conducted by the Sydney Parks Group (SPG)<sup>3</sup>. The group was founded in 1987 and comprises a number of government-funded trusts and government departments with responsibility for major parks in the Sydney metropolitan area. One of the activities of the group has been to conduct regular community surveys of park use designed to meet a variety of policy, planning and management needs of member agencies.

This section of the paper draws on the findings from the latest of these surveys, conducted in early December 2004. The survey of a random sample of 1500 adults (aged 15+) resident in the Sydney metropolitan area was conducted by telephone. Questions were asked about awareness of, and last visit to, a list of some 20 parks managed by member agencies and 'a local council park near to your home'. Further detailed information was collected on respondents' last park visit and on respondents' socio-demographic characteristics. The key data item used in the presentation below does not deal with individual park visitation but with whether a respondent has visited at least one park in the year before interview and whether the last visit was within the last: week; two weeks to one month; five weeks to six months; or 7-12 months.

Data are presented below to throw some light on the following: 1. the question of the non-use/under-use of neighbourhood parks; 2. the proportion of the population which uses parks; 3. the issue of equity.

### *1. The question of non-use/under-use of neighbourhood parks*

The SPG survey variable on visits to 'a local council park near to your home' comes close to measuring use of neighbourhood parks in the metropolitan area as a whole. In the 2004 survey, 45% of respondents had visited such a park in the week prior to interview, on an average of 2.8 days. Assuming one visit per day, this implies 126 visits per 100 population per week (see first row of Table 4). Assuming that children visit parks at the same rate as adults, this results in a total of 5.4 million visits per week across the Sydney metropolitan area.

**Table 4. Visits to local council parks in the Sydney metropolitan area, December, 2004**

	Visits per 100 popn	Total visits, across Met. Sydney, millions
Visiting at least once in week prior to visit	126	5.4
Weekend days & public holidays total	62	2.7
Weekend days & public holidays peak period (arrival midday-2pm)	10.2	0.4
Weekdays total	64	2.8
Single weekday total	13.9	0.6
Single weekday average visitors at any one time*	1.7	0.1

Data source: Sydney Parks Group 2004 community survey. \* Based on average length of stay of 1.5 hours, giving 20.85 visitor-hours per day; over a 12-hour day, an average of 1.7 persons present at any one time.

Gold's measure of park use, discussed above, refers to the number of visitors during 'peak' and 'off-peak' periods. The SPG survey indicates that 49% of visits to local council parks take place on Saturdays, Sundays or public holidays and 18% of arrivals occur between midday and 2pm. As indicated in Table 4, this would suggest that, of the 126 visits per 100 population in a week, 10.2 take place in peak period and 1.7 take place during any weekday off-peak period. These figures are comparable to Gold's figures of 10% of the population being present in neighbourhood parks during peak periods and 1-5% during off-peak periods. However, as suggested in the earlier discussion, it is the interpretation of such figures as representing 'under-use' or 'non-use' which is questionable.

Data are not available to undertake the various analyses discussed earlier, which might provide the basis for a valid judgement as to whether any of Sydney's parks are 'under-used'. Thus: data on individual parks would be required to compare one park with another; the area of local council parks would be required to provide a measure of visits per hectare; and data on operating and capital costs would be required to calculate costs per visit. And much more data would be required to perform complete cost-benefit analyses. Given appropriate data, it is possible, even likely, that individual parks in the metropolitan might be judged to be 'under-used' but, in the absence of such data, it would seem unreasonable to conclude that, overall, a service which caters for 5.4 million resident visits in a week is 'under-used'.

### *2. The proportion of the population which visits parks*

Although, as discussed above, the use of a one-year reference period to measure leisure participation surveys has drawbacks, it has become the norm, in Australia and elsewhere (Cushman et al., 2005: 288-289). Using this measure, the 2004 SPG survey indicates that 97% of Sydneysiders claimed to have visited at least one park in the year prior to interview. Figure 1 compares Sydney park visitation in 2004 with national data on a range of other leisure activities. It can be seen that visiting parks, with a participation rate of 97%, is significantly more popular

than participating in activities for 'exercise, recreation or sport' as defined by the Australian Sports Commission and the Standing Committee on Recreation and Sport, and more popular than visiting any of the cultural venues and events included in the Australian Bureau of Statistics survey. Parks clearly attract many more users than any other out-of-home leisure facility. By this measure, far from being a minority activity, visiting parks in Sydney encompasses almost everybody. Comparable park visiting data are not available for other major cities in Australia, but there is no reason to believe that the level of visiting would be very different from that in Sydney.

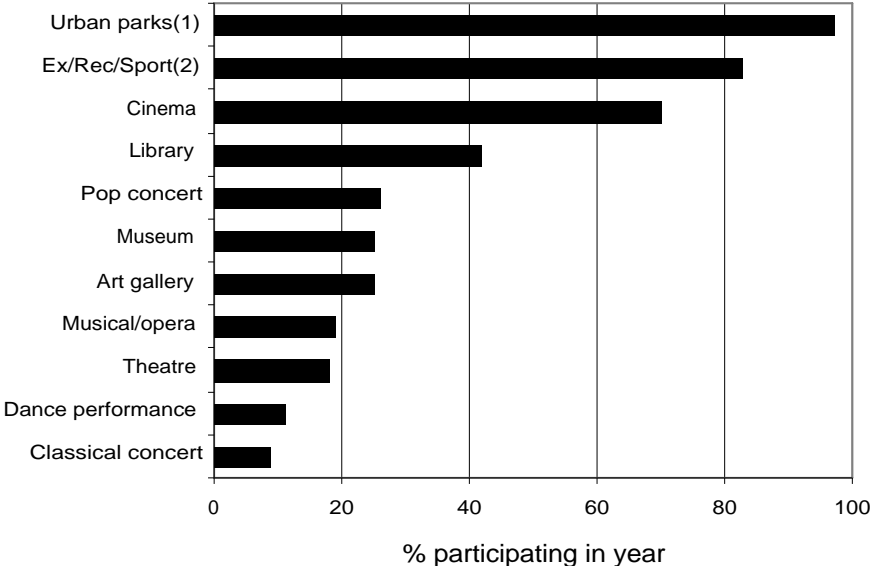
The inclusion in the SPG survey of data on when the last park visit took place overcomes the limitations of the one-year reference period. Figure 2 shows visit levels for the last week, the last month, the last six months and the last year for all parks and for local council parks only. Comparable information is not available for the other activities included in Figure 1. The data indicate that, even within a week, some 55% of residents visit an urban park of some sort and 45% visit a local council park. Some respondents visited both council and non-council parks.

Thus it would seem that visiting urban parks is far from being a minority activity: such high visitation figures suggest that general conclusions about leisure activity and leisure policy which do not take account of park visiting are likely to be inaccurate.

*3. The Issue of Equity*

Studies of equity in leisure facility access and use involve identifying variations in participation or use levels across social groups defined by variables such as age, gender, economic status and ethnicity. Thus, such analysis is, in effect, identifying those groups who *do not* participate in activities or use facilities. Using the one-year reference period, the proportion of Sydneysiders who do not use urban parks is 3% of the population. So using that measure, any non-user group will be small indeed. In the analysis that follows, therefore, in order to delve more deeply into the issue of variations in use among social groups, the one-week, one-month and six-month participation rates are also included.

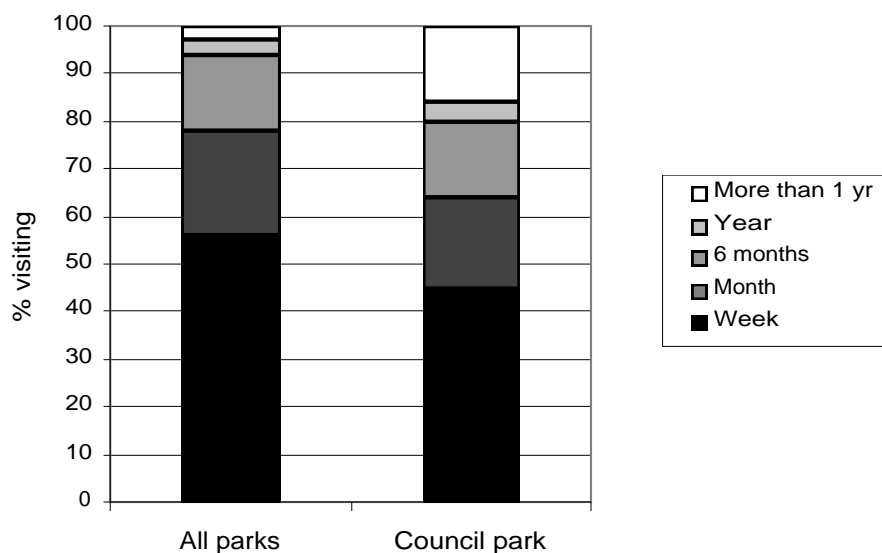
**Figure 1. Leisure activity participation levels in Australia compared**





Sources: (1) Sydney Parks Group (2005), n=1500; (2) Exercise, Recreation and Sport Survey (ERASS), 2005 - ASC/SCORS (2006), n=c.13,000; All others: Others: ABS (2003), n=c.13,000.

**Figure 2. All parks and local council parks visiting in last year, Sydney, 2004**

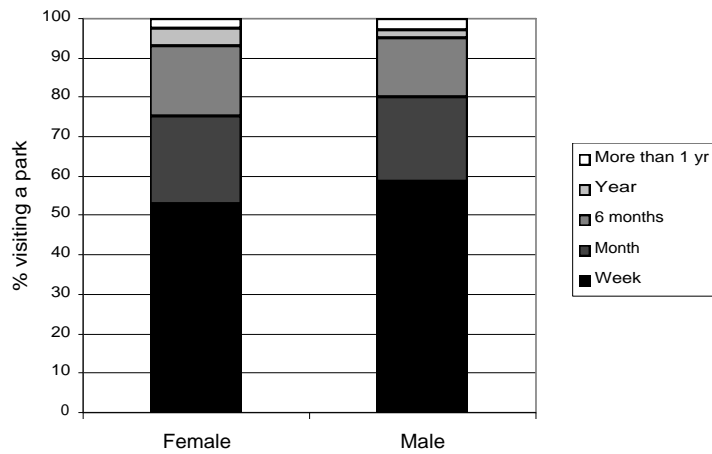


Source: Sydney Parks Group Survey, 2004

Figures 3-7 present information on gender, age, level of education, economic status and country of birth of the SPG survey respondents. In each figure, the 'More than 1 year' category can be seen as 'non-users' of urban parks. The key features of the data can be summarised as follows.

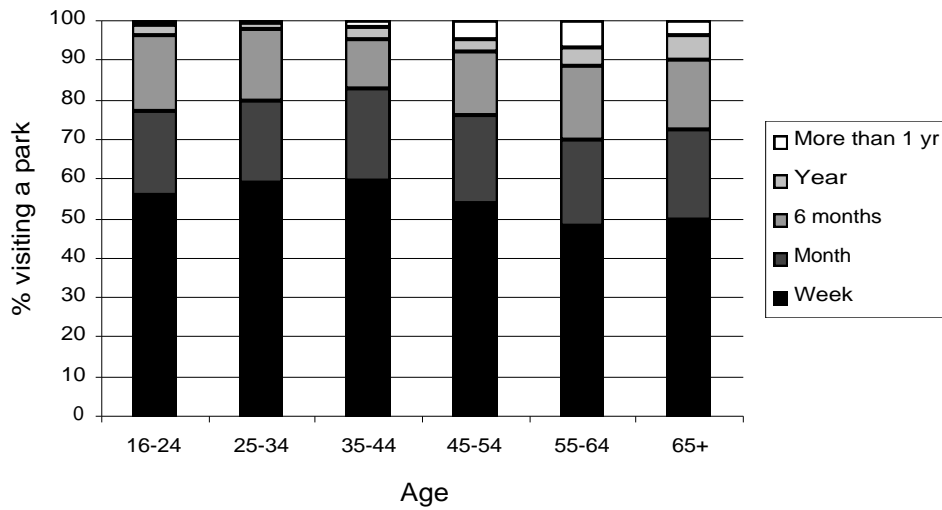
- Only one variable of the five variables examined, level of education (Fig. 5), shows any statistically significant differences in park visit rates: Chi-square tests indicate that differences in the one-week participation rate are significant at the 1% level of probability and in the one-month rate at the 5% level<sup>4</sup>. However, the group with the lowest visitation rate, those who did not complete High School, still have a visit rate of over 90% using the one-year measure and 40% using the one-week measure.
- Women's park visit rate is 6% lower than men's using the one-week measure (Fig. 3), but the Chi-square test indicates that this is not statistically significant; using the one-year measure the difference in visit rates for men and women disappears.
- While there is some fall-off in the level of park visiting among the middle-aged (45-64), there is a recovery among the 65+ age-group (Fig. 4), but no age-group has a one-year visit rate of less than 93% or a one-week rate of 48%.
- In regard to occupational status (Fig. 6), four groups have a lower than average visit rate using the one-week measure, namely: those on a part-time/casual employed; those engaged in full-time home duties; students; and the retired, although the differences are not statistically significant. The differences persist using the one-year measure for three of the groups but not for students.

**Figure 3. Park visiting by gender, Sydney, 2004**



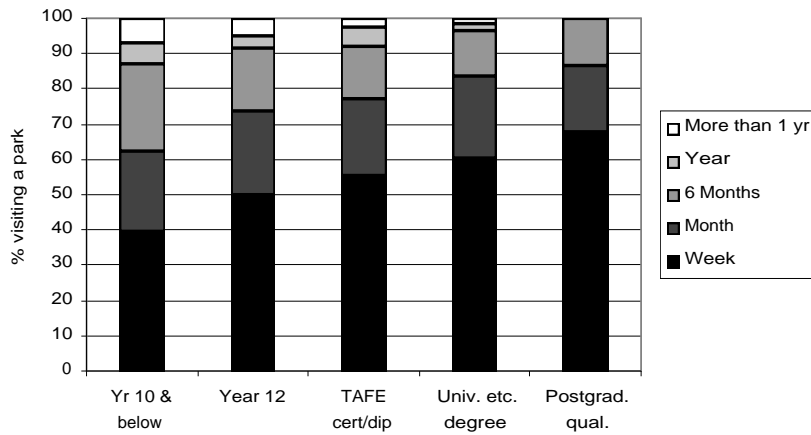
Source: Sydney Parks Group Survey, 2004

**Figure 4. Park visiting by age, Sydney, 2004**



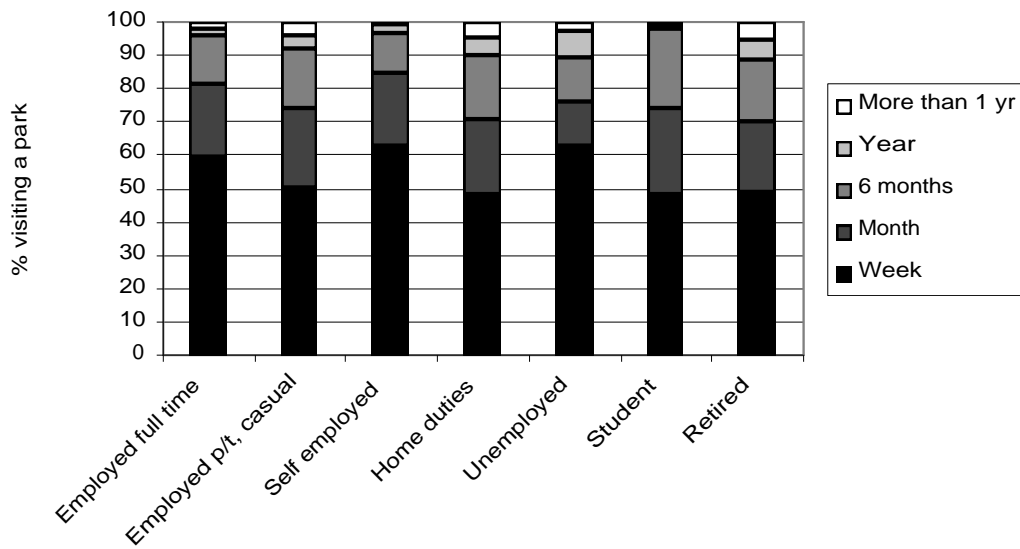
Source: Sydney Parks Group Survey, 2004

**Figure 5. Park visiting by level of education, Sydney, 2004**



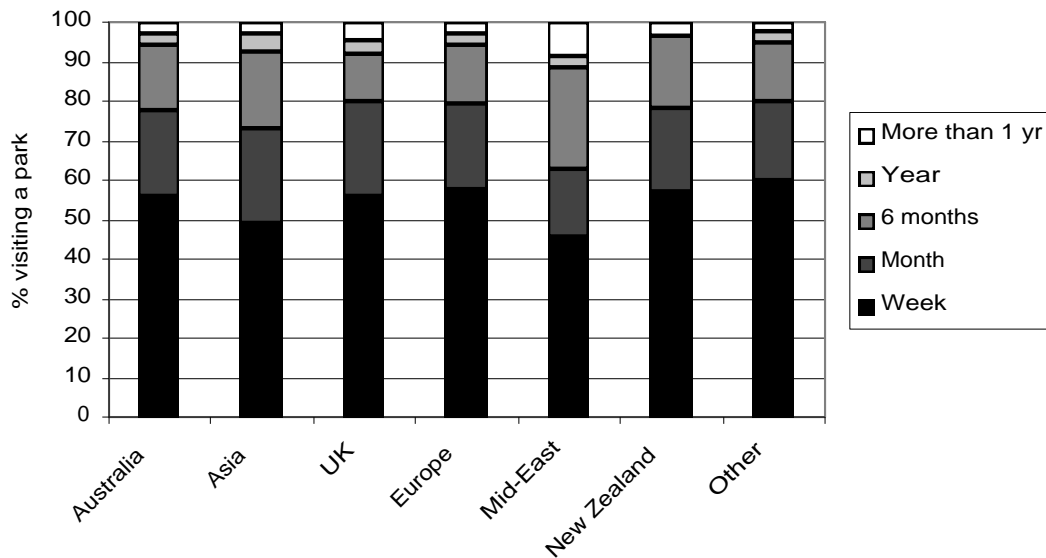
Source: Sydney Parks Group Survey, 2004

**Figure 6. Park visiting by occupational status, Sydney, 2004**



Source: Sydney Parks Group Survey, 2004

**Figure 7. Park visiting by country of birth, Sydney, 2004**



Source: Sydney Parks Group Survey, 2004

- In regard to country of birth, one group stands out as having lower visit rates than the rest, namely those born in the Middle East; again, the differences are not statistically significant, but this may be, in part, a reflection of the small sample size for some of the groups.

It can be seen that, across the 27 socio-economic groups included in the graphics, in no case does the proportion of non-users reach 10%, and in 23 of those cases it is 5% or less. The group with the lowest participation rate is the group born in the Middle East, of whom 'only' 91.4% visit a park in the course of a year and 46% in a week. If the more demanding 'one-week' participation criterion is examined, it can be seen that in only one case, those with education at Year 10 or below, does the proportion drop below 45%.

Level of education is the only variable to exhibit any statistically significant differences in visit rates. As with all sample surveys, statistical significance is affected by sample size. In the context of urban park research, the SPG survey sample size of 1500 is not small, as Table 2 indicates, but it nevertheless results in some small sub-samples (see Note 4) which increases the margins of statistical error. If the same differences were to be found using a larger sample size, then a number of them might emerge as significant.

Overall, it can be concluded that, unlike many public leisure facilities, urban parks pass the test of equity.

### Summary and conclusions

Given the significance of parks as a component of the urban environment, they have been relatively neglected in leisure studies. Somewhat dated research, using questionable forms of measurement has for many years been the basis of an 'accepted wisdom' that urban parks are

under-used and in decline and are used by only a minority of the population. Further, general discussions of equity in regard to public leisure facilities have tended to ignore urban parks and have therefore given the impression that all types of such provision fail in regard to overall levels of use by the public and in equity of access and usage. Existing research on urban parks, which has been widely ignored by mainstream leisure studies, raises doubts about this accepted wisdom. In particular, it indicates that levels of use of urban parks are much higher than suggested by the accepted wisdom and that they serve a wider cross-section of the community than many other publicly provided leisure facilities. While it remains possible that some individual urban parks may have exceptionally low levels of use, the Sydney survey data presented here confirms that, in one Australian metropolitan area at least, urban parks have a higher rate of utilisation among the population than any other type of out-of-home leisure facility. Far from serving a minority, based on widely used measures of use/participation, urban parks are visited by 97% of the population in the course of a year and 55% in the course of a week. Further, it is difficult to identify any social group with a usage rate of less than 90% in the course of a year, and 40% in the course of a week. The Sydney data therefore suggest that urban parks pass the test of equity.

## Notes

1. Data for 2000-01 (Lynch and Veal, 2006: 173) indicate that expenditure in the 'Sport and recreation' and 'Heritage' sectors included the following (figures in brackets are inflation adjustments to 2006, at a rate of 2% pa):
 

a Recreation parks and waterways	\$680 million (751)
b Venues, grounds and facilities	\$610 million (673)
c Participation by clubs, teams and individuals	\$76 million (84)
d Special events	\$450 million (497)
e Botanic gardens, zoological gardens and aquaria	\$130 million (141)(2003-04 data)

The estimate of \$1450 million for expenditure on urban parks is based on 100% of item a and 50% of items b-e.

2. The impression might be gained that full details of the collection of the observational data referred to were in Gold's (1969) thesis. But this is not the case. No published detailed account has been located. It should be noted that the 1972 paper was published in the *Journal of the American Institute of Planners*, which is not a refereed journal: this may explain the absence of detail regarding the data collection and analysis.
3. The Sydney Parks Group, formerly known as the Sydney Urban Parks Education and Research (SUPER) Group, comprises: the New South Wales National Parks and Wildlife Service (the Central Division of which manages a number of parks within and immediately adjacent to the metropolitan built-up area of Sydney); the state Department of Planning; the Centennial and Moore Park Trust; the Royal Botanic Gardens and Domain Trust; the Parramatta Park Trust; the Sydney Olympic Park Authority; the Sydney Federation Harbour Trust (a federal government-funded agency); and the University of Technology, Sydney. Details of the SPG's activities can be found at: <http://sydneyparksgroup.net.au>. The author is the UTS representative on the SPG committee and has had access to the SPSS data files from the community surveys to produce the graphics included in this paper.
4. Tests of significance are not presented in detail here, but the status of differences as statistically significant or not significant are indicated in the discussion. In Figure 1, the park visiting figure is based on the SPG survey with a sample size of 1500, so is subject to a 95% confidence interval of  $\pm 0.3\%$ . The ERASS and ABS surveys are based on samples of around 13,000, so are subject to very small confidence intervals. See Veal (2006b: 290) for table of confidence intervals related to sample size. The sub-sample sizes for the categories in Figures 2-7 are as follows:  
 Fig. 2: both columns are based on 'n' of 1500.  
 Fig. 3: Females: 750; Males: 750  
 Fig. 4: 16-25: 242; 26-34: 306; 35-44: 300; 45-54: 256; 55-64: 168; 65+ 228.  
 Fig. 5: Yr 10 & below: 268; Yr 12: 271; TAFE cert/dip.: 292; Univ.etc. degree: 449; P/grad. qual.: 221;  
 Fig. 6: Employed full time: 605 ; Employed p/t, casual: 283 ; Self employed: 113 ; Home duties: 113 ;

Unemployed: 38; Student: 93; Retired: 260.

Fig. 7: Australia: 1038; Asia: 144; UK: 109; Europe: 69; Mid-East: 35; New Zealand: 28; Other: 80.

5. Data are not readily available to perform a similar analysis for other public leisure services. The data sources on 'exercise, recreation and sport' and 'attendance at cultural venues and events' referred to in Figure 1 suffer from a number of limitations which make such an analysis problematical. First, all data relate to participation in the last year only; as can be seen in the analysis for urban parks presented here, the more demanding one-week or one-month measures are more likely to throw up differences than the one-year measure. The published reports on 'exercise, recreation and sport' (ASC/SCORS, 2006) include data on participation rates by age and gender for individual sports activities, but other socio-economic variables are provided only for the single aggregate participation rate for all activities taken together. The problem with this measure is that it is dominated by 'walking' (aggregate participation rate: 83.3%; participation in walking: 38.3%), which produces an 'evening out' effect and is likely to overlap considerably with urban parks use. Regarding cultural/events activities, one-year participation rates related to socio-economic variables are included for individual activities in the published reports (ABS, 2003) and show that library use has more equitable outcomes than other publicly subsidised services and, for a number of activities, there are significant inequalities in participation in relation to education level.

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