

METROPOLITAN PARK PLANNING

CONSIDERATIONS

FOR THE

ELDERLY AND DISABLED

Report prepared by the Planning Branch, Melbourne & Metropolitan Board of Works

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INTRODUCTION

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is study aims to identify how the development of the Metropolitan Parks the best assist in satisfying recreation and leisure needs of the elderly and disabled citizens of Melbourne. Environmental Management Section conducted the study on behalf of Metropolitan Parks Division.

there has been a surge of interest relating to the problems of the handicapped in the media during recent months. Most of this attention has focussed on the problems of access and mobility - particularly in relation to public buildings. The Australian Standard 1428-1972, "Design Rules for Access by the Disabled" is currently under review and it is likely that the Uniform Building Regulations will be amended to incorporate these design criteria in the near future. Almost certainly, interest in the problems of access and mobility will intensify over the next few years, not only because of the expected regulations affecting public buildings, but also because 1981 is to be the International Year of the Handicapped.

There is also an increasing concern for the needs of the aged, and this interest is reflected in the growing number of organisations representing the older sections of the community. These include the Combined Pensioners' Association and the Early Planning for Retirement Association. In the United States, the current rise of "Grey Power" has been likened to the Women's and Gay Liberation movements of the early 1970's. It is almost certain that the over 60 year olds will become increasingly vocal and demanding of their rights, which have often been neglected in the past.

An objective of the Metropolitan Parks' Programme is "to provide diverse recreational and educational experience for people of all ages" (Metropolitan Park Policies, 1975, p 1). Also with regard to the handicapped: "Special provision shall be made for the provision of facilities for handicapped visitors and shall include specially designed facilities in toilets, and where possible, specific areas set aside for their recreational use". (Metropolitan Park Policies, 1975, p 10).

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The Board, therefore, clearly has an obligation to provide opportunities for all people in the community to be able to visit and use the facilities within the parks. Many cutdoor recreation studies, including those performed in the Metropolitan Parks, have indicated a relatively small proportion of elderly people among park visitors, compared with their proportion in the

Second population. The question therefore arises as to whether the Board of itself can overcome the barriers which may be discouraging use of the tropolitan Parks by the elderly. Although previous surveys have not classified the disabled as a separate group, it is almost certain that they are also under represented in the parks. Problems facing the aged and disabled such as access to transport and facilities within parks are becoming more widely recognised. This report focusses on factors inhibiting park use by both the disabled and elderly.

Information for this study has been acquired from two main sources:

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Australian and overseas literature on the recreation needs of the elderly and disabled, including aspects of park design.

discussions with a number of relevant organisations in the metropolitan area regarding their recreation needs and problems affecting their members.

In the light of information obtained from these sources, a number of recommendations have been made, relating both to general policies as well as specific design concepts. The basic conclusions and recommendations well as specific design concepts. The basic conclusions and recommendations of the form the study are commined in chapter 2.

PLANNING FOR THE ELDERLY AND THE DISABLED IN THE METROPOLITAN PARKS. A SUBMARY OF RELEVANT FACTORS

- ... The Disabled
- The 'disabled' in this report will be defined as those people who have a chronic illness or impairment which limits their participation in recreational and other daily activities to some extent. Approximately 10% of the Australian population are affected in this way.
- 2.1.2 The major types of impairments can be grouped according to their effects:
 - temporary impairments (eg. pregnancy).
 - activity impairments (eg. heart and lung diseases, arthritis, and crippling diseases of the nervous system).
 - mobility impairments (eg. various crippling diseases, amputation, paralysis; victims may need wheelchairs or mechanical aids).
 - manual impairments (eg. arthritis, quadriplegia).
 - size impairments (eg. dwarfism).
 - . ' sensory impairments (blindness and deafness).
 - mental impairments.
- 2.1.3 The disabled have basically the same needs and interests as everybody else. Most prefer integration with the community rather than segregation. However, identical treatment is not adequate, special consideration must be given to their needs so that integration is achievable.
- 2.1.4 The major barriers to recreation participation by the disabled are architectural, transportation and social attitudes. Park management authorities can help to minimise architectural barriers as well as influencing other authorities to reduce the transportation barrier.

The Elderly

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- The proportion of elderly people (say over 60 years of age) is increasing in relation to the population as a whole. The proportion of retired people is increasing even more rapidly. Two distinct age groups are emerging, the 'young-old' (55-75 years) who are relatively healthy, active and aware and the 'old-old' (over 75 years). See section 4.5.3. The elderly (particularly the old-old) are more likely to be disabled than younger age groups.
- 2.2.2 The majority of people in the United States and Australia appear to make a successful adjustment to retirement. The major factors determining general satisfaction are good health, adequate finance and companionship. There is also a correlation between satisfaction with leisure and general well-being which is not entirely explained by health and income. A minority of retirees certainly do have adjustment problems and suffer from isolation, loneliness, poor health and immobility. See section 4.5.4.
- 2.2.3 Retirees generally continue with activities enjoyed during their youth and middle age. They do not usually develop a new range of leisure interests after retirement. Leisure skills and values are developed early in life and carried over to later years. Section 4.5.4.
- 2.2.4 Leisure activities preferred by the elderly are predominantly indoor, home and family criented. Preferred outdoor activities are nonresource specific and not physically demanding. Potential for interaction with people is often more important than the activity itself. The number of activities undertaken usually decreases with age, although those activities which are retained are pursued more frequently. Physical activities and commercially oriented pursuits decline with age. Only a minority (8-10%) of the elderly are interested in participating in organised group activities, such as elderly citizens' groups. Section 4.5.5.

The most important leisure needs of the aged are socialising, selffulfilment, closeness to nature and physical exercise. All of these needs can be fulfilled to some extent in open spaces such as the Metropolitan Farks. As a result of the recent increased awareness of the benefits of physical fitness, the elderly of tomorrow are likely to retain this increased awareness. Section 4.5.5.

Elaborate facilities are not required in parks. It is more important 1.2.6 to try to remove some of the barriers which prevent involvement in recreation activities by the aged. The most important constraints affecting the elderly are decreased physical mobility, poor health, lack of money, long distances, lack of transport and lack of opportunities. Park management authorities such as the Board of Works can help to overcome the barriers of distance, transport and opportunity, by providing parks close to people's homes, providing transport or requesting its provision by the appropriate government authorities, and by creating a widespread awareness of these opportunities. The constraint of money can be mitigated by the provision of free entry to parks as well as free or low cost transport. The constraints of old age and poor health can be reduced by appropriate design and layout of park facilities, the presence of sympathetic and helpful rangers and the availability of accessible public transport. Section 4.5.6.

2.3 Design Criteria

2.3.1 Specific design criteria relating to access by the disabled have been outlined in section 4. Most of these are directly derived from the particular requirements of wheelchairs, as it is for this group that the most radical modifications are necessary. These design criteria generally improve access for the ambulant disabled, the elderly. people with respiratory or heart conditions, arthritics, the blind, and people with temporary impairments such as pregnancy. Discussions held with representatives of organisations in Melbourne generally confirmed the design standards as outlined in AS 1428-1977 and the views of most writers on the subject. These informal discussions however, brought out many other aspects which were not adequately covered by the literature available, and also provided some completely new ideas.



Fig. 2-1 PICNIC AREA, SUITABLE FOR USE BY ELDERLY AND DISABLED PEOPLE

Several of these tables (as described above) could be grouped together in a picnic area which is easily accessible to toilets, shelter and a disabled persons' car park. Many groups representing the disabled and the elderly favoured a large undercover area with central fireplace. Sections 4.2.20, 4.5.7, 5.1, 5.3, 5.5, 5.17 and 5.19.

Park Layout

The disabled and elderly do not necessarily expect access to every 2.5.1 section of a park. Steep topography, especially in a park such as Brimbank, may effectively preclude access to certain areas by some disabled or aged people. They do however, expect to gain access to interesting sections of a park (eg. water bodies) and to have easy access to park rangers, visitor information, toilets and one or more picnic areas with accessible tables and fire places. Such areas, however, should not be exclusively set aside for their use, although on the other hand, the able-bodied should not be allowed to monopolise those picnic areas which are most suitable for use by the disabled and elderly. Although special provisions do have to be made for the disabled (except in cases where entire parks can be made accessible without excessive environmental or economic cost) there is no need for obvious segregation. For example, signs which say: 'picnic area for the handicapped', 'nature trail for the blind' are considered offensive by disabled people. Sections 4.1.1, 5.2, 5.3, 5.4, 5.5, 5.18 and 5.20.

2.5.2 It follows from this that a disabled and aged persons' carpark, toilets, visitor information centre, picnic areas and trails suitable for use by the disabled and elderly should all be in reasonably close proximity of one another (without having picnic tables too close to toilets or car parks for obvious aesthetic reasons). It is therefore not absolutely necessary for those picnic areas, trails etc. which are relatively distant from toilets and car parks to be designed for use by the disabled. Sections 4.2.6, 4.2.20, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.17 and 5.19.

Although certain sections of a park should not be set aside and labelled as being for exclusive use by the disabled and elderly, it is necessary to provide specially designed toilets and car parking areas with appropriate signs to direct first-time visitors. Directive signs to special car parks should be placed in at least two locations - just inside the park entrance and at the car park entrance. Such signs should at least give some indication that the car park is not only for those in wheelchairs. The standard 'wheelchair symbol' tends to convey the general impression that all 'disabled' people must be in wheelchairs. See figure 2.2. Sections 4.2.2, 4.2.8, 5.3, 5.4 and 5.20.

2.6 Trails

A CALL STREET, SALES

It is apparent that more than one type of trail is required to cater for the wide variety of community needs, including the needs of the disabled and elderly. For example, the blind would not gain maximum satisfaction from using trails designed to accommodate wheelchairs. Trails in parks such as the Metropolitan Parks could be graded according to accessibility. The following hierarchy is suggested:

> High accessibility (grade 1) - smooth compacted surface eg. asphalt, wide enough to accommodate wheelchairs, gentle grades, easily accessible from car parks and toilets, frequent rest areas, short distances. Suitable for use by wheelchairs, ambulant disabled, frail aged, women in late stages of pregnancy, parents with toddlers and even unfit, overweight people.

Medium accessibility (grade 2) - natural surface (eg pine needles, tandbark, grass, fine gravel) but well maintained with erosion control measures if necessary, free from hazards, longer distances than grade 1 trails and venturing further away from toilets and car parks. Suitable for use by almost anybody except the most severely disabled and wheelchairs. Should be made interesting to blind and deaf people.

Low accessibility (grade 3) - natural surface, narrow trail with minimum maintenance and lower usage. Suitable for use by keen walkers. Minor hazards (eg. ford across stream) may remain. NB. This grade of trail may not be appropriate or feasible in the Board's Metropolitan Parks.

See Sections 4.2.13, 4.3, 5.1, 5.3, 5.4, 5.5, 5.7, 5.8, 5.9 and 5.18.



Fig. 2.2 EXAMPLE OF DIRECTIVE SIGN

Toilets and Washrooms

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- The Australian Standard, AS 1428-1977 sets out design criteria for two types of WC's - one for wheelchair users and one for the ambulant disabled. In areas such as Metropolitan Parks, provision of the first type of WC (ie. for wheelchairs) is considered sufficient. The second type, for the ambulant disabled, (with two grab rails instead of one) is usually only provided in rest homes or hostels where large numbers of ambulant disabled people congregate. The WC designed for wheelchair users can be readily used by practically all ambulant disabled, but the converse is not true - the ambulant disabled person's toilet does not have space for wheelchairs.
- As mentioned in Section 5, dwarfs often encounter severe difficulties 2.7.2 when trying to use toilets, and those designed for wheelchair users are not entirely suitable. The easiest and cheapest solution to this problem would be to instal a ramp or set of steps leading up to one WC in each block of toilets. See Figure 2.3. A simple sign on the toilet door, (such as 'Ramp/steps provided') would indicate which toilet had this facility. An added bonus would be that young children could also use this toilet without requiring an adult to lift them on. AS 1428-1977 gives recommended heights for flush buttons, scap and towel dispensers etc. as 900-1200mm. As this standard does not give full consideration to the needs of dwarfs, it is suggested that the maximum height for these objects should be 1000mm. If this height is thought to be inconveniently low for the general population, an alternative solution is to instal one or more steps below one basin in each washroom, from which a dwarf or small child can reach the taps, soap, towel dispenser or hand drier and also see into a mirror. Flush buttons, however, should definitely not be above 1000mm, and toilet paper should be within 300mm of the toilet bowl, at least in any particular toilet adapted for use by dwarfs and small children.
- 2.7.3 There are real advantages in installing toilet doors which open outwards, in that an epileptic who has a fit or any person who faints or suffers a heart attack (note that when for the face of the face of



2.8 Controls

Although AS 1428-1977 gives recommended heights for door knobs, light switches etc. as 900-1200mm, 1000mm is suggested as the best choice so that the shorter dwarfs will not be disadvantaged. Sections 4.2.7 and 5.6.

2.9 Interpretation

- 2.9.1 Talks and guided walks given by rangers are popular with many groups, including the disabled and elderly. Signs directing people to different grades of walks are desirable, also signs at the start of trails indicating distance, time required to complete walk and difficulty of walk. Sections 4.2.14, 5.1, 5.3, 5.17 and 5.18.
- 2.9.2 Rangers need to be aware of problems old people may experience, such as keeping up with a group and hearing what is being said. There is no evidence to suggest that interpretive material provided in National, State or Metropolitan Parks in Australia is too superficial for retired park goers, as was found to be the case in the United States. This problem, however, has not been specifically investigated. Technical and in-depth material should always be available at parks for those who request it, whatever their age. Sections 4.5.7 and 5.18.
- 2.10 The Blind and Deaf
- 2.10.1 From the foregoing literature review and from discussions with organisations representing the blind in Melbourne, it is apparent that special nature trails for the blind with braille signs and guide ropes are simply not wanted by blind people. They enjoy trails which have natural surfaces and can be distinguished from the surrounding ground cover. Instead of braille signs, portable cassette recorders which can be hired and used on a trail are preferred. Any signs should be in large clear print for the partially sighted. Textured surfaces can be used to indicate points of interest along a trail. Other useful aids for the blind are thermoform maps, braille talking books available on request (perhaps of lower priority) and a three dimensional model of the park in an interpretive centre. Sections 4.3, 5.7, 5.8, 5.9 and 5.20.

2.10.2 When writing interpretive material, the language problems encountered by deaf people should be kept in mind. It would also be useful for rangers to be familiar with sign language. Sections 4.3 and 5.10.

2.11 Playgrounds

The most important aspect of playground design is safety. They should also be designed to cater for children of all capabilities, including the mentally retarded and physically handicapped. As well as creative play areas, defined apparatus is needed to cater for children with below average creativity or mental retardation. Seating and shaded areas should also be located adjacent to playgrounds. Sections 4.2.19, 5.5 and 5.14.

2.12 Transport to Parks

- 2.12.1 Public transport is inaccessible to a large proportion of the handicapped. In Melbourne, buses and trams are less accessible than trains. Jells and Brimbank Parks cannot be reached by any form of transport. Although some disabled groups have access to special buses run by organisations such as the Spastic Society for group outings, many would prefer to be able to visit parks in smaller groups and use public transport. Sections 4.1.2, 5.2, 5.3, 5.5, 5.6, 5.7, 5.8 and 5.13.
- 2.12.2 Groups contacted in Melbourne representing the elderly identified transport as their biggest problem when visiting parks such as the Board's Metropolitan Parks. Hire buses are too expensive for pensioners. Free or low cost public buses, especially on weekdays, would be welcomed. These groups mentioned that new regional parks inside the metropolitan area would be desirable. Many National Parks, reservoir reserves etc. are too distant for old people to visit in a day. Sections 4.5.6, 5.13, 5.17, 5.18 and 5.19.
- 2.12.3 Discussions could be initiated with transport authorities about the possibility of running buses to the Metropolitan Parks. Buses should be designed to be accessible to wheelchair users, the ambulant disabled, dwarfs and the elderly. Bus departure points would need to be located in major shopping centres and railway stations. Any form of public transport would have to receive adequate publicity before commencement of the service.

2.13 Transport Within Parks

Various types of transport systems are being considered for the Board's Extropolitan Parks. These include miniature trains (petrol electric, diesel electric or steam) and horse drawn wagons. These would not only provide transport around certain sections of the parks, but would provide opportunities for interesting recreational experiences.

These transport systems would be particularly beneficial for many disabled and elderly people. Every effort should be made to ensure that such facilities are accessible to the disabled and elderly.

In the case of the proposed miniature train, at least one, or preferably both of the following means of access should be made possible:

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Direct transfer to train seat from wheelchair

If the train was sufficiently close to the ground, (say 100-150mm) then people in wheelchairs could be lifted onto a seat by a companion or a ranger. Some would need to be strapped to their seats. Side rails should be provided as many wheelchair bound and ambulant disabled people are capable of lifting themselves onto a seat. Assuming that passengers could alight from the train at destinations other than the starting point, empty wheelchairs would have to be carried on the train. This would be virtually impossible in the case of electric wheelchairs which are extremely heavy and not collapsible. For these people, only the second alternative (described below) would be possible.

Complete Wheelchair Access

A fold-down ramp would be provided in at least one location on each carriage (or every second carriage, depending on carriage length). This ramp would be adjacent to a space large enough to accommodate a wheelchair, instead of seats. A wheelchair bound person could be pushed up the ramp and onto the train and remain in his wheelchair for the trip. Some means of securing a wheelchair to the train would be necessary, so it would not roll around when the train moves (a quadriplegic would not be able to grasp a rail or the seat in front to hold his wheelchair still). It would be desirable for a wheelchair bound person to have access to more than one section of the train so that he can sit near his friends or family. Disabled people would not like to be put in a special carriage on their own (see figure 2.4).

in seats in a miniature train should have backrests to provide support for the weak and elderly. It would be preferable for the train to be only 100-150mm from the ground, as a big step would be difficult for the elderly, the ambulant disabled, dwarfs and small children. It is anticipated that raised platforms will be installed to give direct, nearly level access to carriages. Such platforms would be essential if the carriage floor was significantly higher than 100-150mm. Ramps would still be required to provide wheelchair access from platforms to carriages.

In the case of a horse drawn wagon, access would be impossible for most disabled and elderly people without the aid of a loading platform at the same height as the wagon, with ramped access. Space on the wagon should be provided for one or more wheelchairs and some seating should have back support and arm rests. Hay bales could be arranged in a variety of configurations to provide a suitable range of seating.

Reduced fares for miniature trains, horse-drawn wagons and any other park transport systems should be available to all elderly, disabled and other people on fixed incomes.



14 Public Awareness

Elderly

- 1.14.1 Pro people in Melbourne have a relatively low awareness of the Board's Metropolitan Parks. This suggests that lack of information could also be a major barrier inhibiting park visits by this age group. There is also a much lower desire for changes in local recreation opportunities among the aged that in younger age groups. In view of all the constraints which have been identified by the elderly themselves, this suggests that they have very low expectations with regard to the possible removal of constraints and improved recreation opportunities. Section 4.5.7.
- 7.14.2 Development of the parks to satisfy the needs of elderly and disabled people should be accompanied by dissemination of information to interested organisations, institutions, local government social frectation workers and the media. A special entry could also be included in the free booklet 'Melbourne for the Handicapped' (published by Ability Press, Yooralla Society of Victoria). Section 5.5.

2.15 Forward Planning

2.15.1 An advisory committee should be established with respect to facility design and park layout during planning and building stages. This committee could include the following people:

Edith Hall	(Paraquads)
Chris Stewart	(Yooralla)
David Craig	(Spastic Society)
Pat Paterson	(Little People)
Peter Rickards	(Association for the Blind)
Ethel Tembey	(STAR)
Anne Fulcher	(Vic. Council on the Aging)
Brian Kidd	(School of Architecture, Melb. University)
Representatives	from MMBW and Youth, Sport and Recreation.

Representatives of other organisations (eg. Adult Deaf Society. Asthma Foundation) could be contacted if the need arises.

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This committee should preferably meet <u>in the parks</u> (eg. one park each month) where the members can inspect samples of park furniture, trails, park layout, interpretive aids etc.

7.15.2 The use of members of organisations representing the elderly and disabled as volunteers in the parks could be further investigated. The use of volunteer peer groups to conduct recreation programmes for the mentally retarded would be particularly valuable. Sections 4.4, 5.2, 5.15 and 5.19.

DEFINITION OF GROUPS RELEVANT TO PRESENT STUDY

(.) Statistical Overview

 $r_{\rm recent}$ health survey undertaken by the Australian Bureau of Statistics (1979) found that:

- 45.1% of the total population in Australia reported suffering from some type of chronic illness condition.
- 9.9% of the total population aged 2 years or more were limited in some way by their chronic illness.
- . medications were reported as having been taken in the two days before interview by 54.6% of adults and 36.9% of children.
 - 17.7% of the total population reported consulting a doctor in the previous two weeks.

As people living in hospitals, nursing homes and other institutions were excluded from the survey, the above figures are likely to be an underestimate of the true proportions. A 'chronic illness' was defined as one which had been present for more than 6 months. Also, any permanent disability was included, irrespective of the length of time the person had had it. A chronic illness condition was defined as limiting if it was considered to have affected the respondent in one of the following ways:

children aged 2 to 5 years:	restricted in the amount or kind of play with other children.
children aged 6 to 14 years:	limited at school or in other activities, such as sport.
persons aged 15 to 64 years	limited in work or housework or school or restricted in other activities, such as sport.

adults aged 65 years or more: confined to bed or house or needed help getting about the house.

0.9% of Australians who have chronic limiting conditions at any one time would generally be inhibited in their ability to gain access to or use witropolitan Park facilities. In 1977, this was 1,367,600 individuals in Australia, and 344,100 in Victoria. Table A1 (Appendix) gives a breakdown of the various categories of chronic illness, according to the accepted international classification of diseases. The total of 804.6 chronic conditions (not necessarily limiting) per 1,000 of population takes into account those with more than one chronic illness. The table shows that diseases of the respiratory and circulatory systems are the most prevalent. A full description of relevant chronic impairments and their limiting effects is contained in the Appendix.

The number of people using wheelchairs in Victoria is not known, but by comparison with overseas statistics, the figure is likely to be at least 10,000. There are more women than men and a relatively high proportion of elderly people using wheelchairs. The number of people in Victoria using other types of mechanical walking aids (crutches, canes, braces, walkers, artificial limbs and special shoes) is also unknown but is likely to be in the vicinity of 150,000 (ie. more than equivalent to the population of Geelong).

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The elderly comprise a significant and rising proportion of our population. In 1976, people aged 60 years and over comprised 12.6% of the metropolitan population. This represented 328,100 people in 1976. There is a strong degree of overlap between these groups - the Australian Health Survey (ABS, 1979) showed that 78% of all people aged 65 years and over had one or more chronic conditions and 13% had one or more chronic limiting conditions. (Note that the elderly in institutions were excluded, and also, the criterion for defining a limiting condition was much stricter in the case of older people). The proportion of people over 60 years of age is likely to be at least 14% (480,000 people in the MSD) by the turn of the century.

3.2 Definition of Terms Relating to the Disabled Population

Some differentiation should be made between the terms 'impaired', 'disabled' and 'handicapped'. The following definitions have developed universal acceptance. Impaired refers to individuals who have identifiable organic or functional conditions - some part of the body is actually missing, a portion of an anatomical structure is gone, or one or more parts of the body do not function properly or adequately. Impairments may be either temporary or permanent.

Disabled refers to individuals who, because of impairments, are limited or restricted in executing some skills, performing tasks or participating in certain activities, movements or patterns.

Handicapped refers to individuals who, because of impairments or disabilities, are adversely affected psychologically, emotionally or socially. A handicap is a disadvantage or restriction of activity caused by disability.

Thus, disability is a primary functional condition resulting from impairment while 'handicapped' reflects the perception of the individual in facing life situations.

The limiting effects of different types of impairments on an individual's ability to participate in recreational activities are reflected in the categories of impairments listed below.

1 Temporary Impairments

A temporary impairment refers to situations in which people are temporarily restricted in their movements; for example, the pregnant woman, the shopper loaded with parcels, the skier with a broken leg and the woman wearing high-heeled shoes are all handicapped to some extent, but the condition is relatively short-lived.

Activity Impairments

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Activity impairment refers to any sort of limitation which curtails the normal activities of a person. Most frequently, heart and lung diseases, rheumatism and arthritis are involved, and people affected cannot usually play strenuous games or engage in unlimited physical activity.

Nobility Impairments

Mobility impairment curtails movement or ambulation. It may be caused by partial paralysis, diseases of the nervous system, loss of limbs, etc. The following mechanical aids may be used by people with mobility impairment: wheelchairs, crutches, walkers, braces, artificial limbs and special shoes.

Manual Impairments

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Manual impairment may be either partial (affecting both hands to a certain degree or total disability of one hand) or total (person has no use of hands or arms). A person is therefore handicapped in those aspects of the exterior environment which require the use of these extremities. It may be the result of amputation (with no replacement by an artificial device), rheumatism, arthritis, muscular dystrophy or quadriplegia.

Size Impairments

A size impairment may cause a person to be handicapped due to his abnormal size - dwarfism, excessive tallness or obesity.

Sensory Impairments

Includes both partial and total visual and audial impairments, ie. blindness and deafness.

Mental Impairments

The two main causes of mental impairments are mental retardation which by definition, originates before the age of 18 years, and mental illness. * Description of the Ageing Process

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. . .

It is more meaningful to regard ageing as a physical rather than as a chronological phenomenon. Although elderly people as a group are subject to a progressive decline in physical and mental health, many continue to icad physically active lives. An old person who has a disability is often cultiply handicapped, for example an amputee who is also affected by arthritis and heart disease.

The following conditions may occur as a consequence of the ageing process:

Diminished height and range of reach.

Impairment of mobility and physical agility, slower reactions. Walking becomes more of an effort than for young people, steps become smaller and there is a tendency to drag the feet. Obstructions at floor level are therefore hazardous.

Stiffening of ligaments and weakening of muscles, affecting ability to grip or stoop.

Tendency to giddiness, especially when standing position is regained after stooping.

Weakening of bladder control.

Impairment of sensory facilities, greater susceptibility to cold. Vision, hearing and sense of smell impaired. LITERATURE REVIEW RELATING TO LEISURE NEEDS OF THE DISABLED AND ELDERLY

2.1 Leisure Needs and the Disabled

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It can easily be forgotten that disabled people are <u>people</u> first and foremost. They exhibit the same range of interests, abilities and skills as the general public and have the same needs for appropriate recreation experiences as the able-bodied. They may even have additional recreation needs as a result of their handicap.

A large proportion of disabled people have <u>more</u> leisure time than other people, but they are likely to have fewer opportunities. A recent study of handicapped persons in the western region (Sal & Towers, 1975) showed the disabled had limited opportunities to participate in recreation, but a keenness to become involved. If a person is handicapped as a child, he will have experienced fewer recreation opportunities than other children and will be faced with a variety of environmental barriers. Opportunities must be provided so that recreation and social skills can be learnt or developed and the disabled person can make worthwhile recreation choices.

It is now generally recognized that disabled people, on the whole, prefer integration to segregation and the key word seems to be accessibility.

> 'Accessibility (in our terms) is a very simple concept. It means opportunity. Disabled people, we think, should have the same opportunity as everyone else to come to a park, to enjoy it, to get out of the experience just what they want to'. (Bowe and Wiseman, 1978).

There are, however, some groups who may not be able or ready to participate with the able-bodied. They may require a continuing sheltered environment, perhaps at home or in institutions.

There are three main aspects of recreation accessibility which are particularly relevant to the disabled: architectural barriers, transportation and social attitudes.

:1.1 Architectural Barriers

This aspect has received the most attention in literature and the media as it is perhaps the most obvious type of barrier to full participation, not only in recreation, but in all facets of community life. As taxpayers and ratepayers, the disabled have equal right of entry to all public buildings, workplaces, parks and gardens, theatres, libraries, swimming pools, beaches, sports grounds and schools.

The Australian Standard 1428-1977, 'Design Rules for Access by the Disabled' sets out design criteria for access and mobility by the ambulant disabled, wheelchair users, the blind and the deaf. Architects in Australia however are under no compulsion to provide access according to this Standard. It is expected that the Standard will eventually be incorporated in the Uniform Building Regulations, making compliance mandatory. Although any new public buildings within parks will be affected by incorporation of the Standard into the regulations, the design and layout of parks and open spaces will not be included. Hence, it will be left up to park planners and managers as to whether they provide access to the disabled.

Although disabled people want to be able to do the same things as everyone else and do not wish to be segregated, this does not mean they can be planned for in exactly the same way as the able-bodied. It is essential to accept that people are not the same, and only by recognizing these differences, can some measure of integration be achieved.

'Identity of treatment can draw attention to differences which would not be noticed if special treatment had been allowed. By treating everyone as normal, abnormal people will be excluded'. (Goldsmith, 1976 p.49). By taking into account particular design criteria to allow access by the disabled, they can achieve a far greater measure of independence, ie. they will not have to ask other people to do things for them such as pushing wheelchairs, lifting them onto toilets or cooking their chops on a barbecue. In areas such as parks it is often necessary to strike a balance between eliminating barriers and destroying natural features that people go to parks to enjoy. Rugged terrain poses natural barriers which can only be eliminated at great economic and environmental cost. The disabled recognize these limitations but stress that those sections of parks which are accessible to them (which should include key features such as water bodies and interpretation centres) should also be accessible to the able-bodied ie. areas should not be set up <u>only</u> for use by one group or another. To be successful, the design and construction of site elements should be effected in such a way as to make all people using them feel normal and inconspicuous.

Barrier free design has been shown to benefit the able-bodied as well as the disabled. The most obvious benefits (particularly in relation to buildings) relate to a reduction in accidents, hence fewer public liability and workers' compensation claims and more rapid evacuation in the case of fire. There is also a whole range of people who may be temporarily disabled at any one time and who benefit from barrierfree architecture. These include young children, the aged, pregnant women, mothers with prams, travellers carrying luggage, shoppers loaded with parcels and even unfit, overweight businessmen.

'Most of us are disabled at some time in our lives and it is often only then that we realise what a hostile environment we have built'. (Carter, 1979).

4.1.2 Transportation

Public transport is often inaccessible to the disabled and many, due to the nature of their disabilities, are unable to drive. In Melbourne, trams and buses are inaccessible to many disabled people, particularly those in wheelchairs. A study of handicapped people in the western region (Sal & Towers, 1975) found that they use taxis for 14% of trips (compared with only 2% for the non-handicapped). Taxis absorb a significant proportion of many handicapped people's incomes, which are often fixed at a relatively low level for those who are not employed.

Social Attitudes

The stigma associated with disability is one of the greatest obstacles to be overcome in the development of an integrated lifestyle for the disabled person. Public attitudes also vary according to the type of disability, for instance, there is less social stigma associated with paraplegics and quadriplegics (who are generally accident victims) than with epileptics or spastics.

Disabled people themselves are usually far less neurotic about their disabilities than the able-bodied who place great emphasis on good health and normal physique. A well-adjusted disabled person has come to terms with his disability and accepts its limitations. He does not try to act as if he were able-bodied.

Negative attitudes to the disabled which prevail in the community may be attributed to one or more of the following feelings:

- Strain in social interaction due to widespread uncertainty about proper behaviour with a disabled person, and fear of offending by showing shock, curiosity and even admiration. An able-bodied person may, quite wrongly, feel obliged to act as if the disability did not exist at all.
- 2 <u>Negative atypicality</u> when people feel uncomfortable in the presence of the disabled because they 'look different'.
- 3 Fear it could happen to self which leads to avoidance of the disabled by those people who fear a similar injury to themselves.
- 4 Fear of social ostracism. Some people anticipate that they would be pitied or judged inadequate for choosing to be close to an 'imperfect' person.
- 5 <u>Guilt feelings</u> include (a) guilt over being able-bodied, and (b) guilt over possible injustices to the disabled.

In general, the community attitude to the disabled is that of a community attitude to a minority group, with the resultant discriminative treatment towards the group. The disabled have frequently had individual rights abused or denied, for example, in relation to privacy, access to tertiary study and sexuality. Many have had less experience in social relations, especially if they have attended special schools and sheltered employment. Segregation, lack of opportunity and public prejudice may lead to secondary psychological disabilities such as withdrawal and lack of confidence.

Architects, planners and recreation specialists should not rely entirely on standards (such as AS 1428-1977) when considering the needs of the disabled. The best source of information is often the disabled people themselves.

'Disabled people, better than anyone, know what kind of barriers block them from having the park experiences they want. More importantly, they know how to remove these barriers. From direct, personal experience'. (Bowe & Wiseman, 1978).

In the United States, the importance of physical activities for the disabled has been recognized. (Trends, July/September 1974 p.6). Activities which offer a special experience of speed and motion provide sensations which are not normally experienced by the disabled person. The following list of activities have all been enjoyed by handicapped people and present few constraints to accommodate disabilities:

Skiing for amputees

Kayak racing for paraplegics

Tandem bicycling for blind people

Swimming and horseback riding for paraplegics and the blind

Bowling for the wheelchair-bound

Archery, football, track and field relays and ping-pong for the wheelchair-bound

Wheelchair basketball

need to pay special attention to the recreation needs of the disabled in become even more acute, as one effect of continuing advances in idical technology is that the calibre of the disabled population is deteriorating. The following factors are contributing to this trend:

The number of simple disabilities caused by injury or diseases such as polio is declining;

The most disabling conditions are not yet defeated by medical science, eg. multiple sclerosis, rheumatoid arthritis.

There is a higher proportion of congenitally disabled people who would have died in the past but are now surviving, often with multiple handicaps.

Older people are living longer and there is therefore a higher proportion of people prone to the multiple handicapping conditions associated with old age.

4.2 Activity and Mobility Impairments - Design Criteria

The bulk of literature on design criteria for access by the disabled focuses on the need of people in wheelchairs. The differences between the ablebodied and the chair-bound are fundamental, and the specific design criteria for wheelchair access reflect these basic differences. The differences between the able-bodied and the ambulant disabled (ie. users of crutches, canes, calipers, walking frames etc.) are less fundamental being more a matter of degree according to the type of disability.

The specific design requirements of the wheelchair-bound improve access for the ambulant disabled and the activity impaired (ie. people with arthritis, heart disease, asthma etc.) in nearly all situations. These design criteria also greatly improve access by the elderly, as well as anyone with a temporary impairment such as pregnancy.

4.2.1 Spatial Requirements

The width of circulation spaces and turning spaces for wheelchairs and the ambulant disabled are defined in AS 1428-1977. The recommended width for a wheelchair to move in a straight line is 950mm. It is worth noting that a person sitting in a wheelchair occupies five times as much space as a standing person. In order to turn, he needs nine times as much space.

4.2.2 Car Parks

- . A flat surface is required for car parks for wheelchair users and the ambulant disabled.
- . Parking spaces should be 3000mm wide, allowing space for transfer from car to wheelchair.
- . There should be no grade changes between parking areas and adjacent walkways.
 - Car parking areas for the disabled should be located as close as possible to areas, buildings and toilets likely to be used by the disabled.

avoid wheelchair circulation behind cars.

4.2.3 Walkways and Ramps

- Ramps to be negotiated by wheelchairs should have a slope no greater than 1 in 12 (1 in 8 for the ambulant disabled).
- For slopes of 1 in 33 to 1 in 20, no kerbs or handrails are needed and level rest areas not less than 1200m long should be provided at intervals of 1800mm along walkways.

For slopes of 1 in 20 to 1 in 12, kerbs and handrails should be provided on both sides of ramp, and level rest areas 1200mm long should be provided at each change of ramp direction and at intervals of 9000mm. Minimum distance between handrails should be 1200mm.

- Full details of design criteria for walkways, ramps, cambers, handrails and landings are in AS 1428-1977.
- Walkways which cross drives or car parks should blend to level of drive or parking area. Steps or sharp breaks in grade should be avoided.
- Width of walkways, ramps and corridors should be at least 1200mm.
- . At least one building entrance should be at ground level or have ramped access.
 - Surfaces should be firm, but of non-slip material to benefit the ambulant disabled. Loose or soft surfaces such as gravel, tandbark or lawn are unsuitable. Surfaces should be smooth enough to allow easy passage of wheelchairs, but have enough texture to prevent the ambulant disabled from slipping. Asphalt is often used.
 - Wheel stops are necessary where wheelchairs may roll into a hazardous area. They should be 2-3" high and 6" wide.

4.2.4 Stairs

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- Stairs are more convenient than ramps for some ambulant disabled (eg. amputees). But stairs are not required in all situations, only where extensive or relatively steep ramps are provided, such as up to the first floor of a building.
- Spiral or open riser stairs should be avoided they are hazardous for those prone to dizziness.
- Total rise of any flight should not exceed 2000mm, recommended rise is 1500mm.
 - Handrails should be provided on both sides of steps and should extent 200-450mm beyond top and bottom step. Minimum width between handrails should be 900mm.
For details of handrails, treads and risers, see AS 1428-1977.

:.2.5 Doorways and Entrances

- Details of doorway widths are described in AS 1428-1977 (min. width should be 760mm).
- Where automatic doors are provided, sliding doors are preferred to swinging doors.
- . Manually operated doors should not be heavy, and should have horizontal bars on both sides of door.

4.2.6 Toilets and Washroom Facilities

- Toilets should be conveniently located near car parks, interpretation centres and trails. Many disabled people require toilets more frequently than the able-bodied.
- See AS 1428-1977 for design details of water closets for wheelchair users and the ambulant disabled. WC's for wheelchair users have one grab rail while those for the ambulant disabled have two.
 - Design of washbasins, soap and towel dispensers, showers, baths, etc. are detailed in AS 1428-1977. Note that level for soap and towel dispensers etc. is suggested as 900-1200mm.

4.2.7 Controls

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- Anthropometric data is provided in appendix A of AS 1428-1977. This describes the reach of people in wheelchairs and people standing and has implications for positioning of controls such as door knobs, opening/locking devices on windows, light switches and taps.
- Details of control positions are given in AS 1428-1977.
- Generally, the recommended height is 1000mm for most controls, although a range of 900-1200mm is suggested as adequate.

The recommended design of these controls (AS 1428-1977) takes account of the needs of people with manual impairments, who may not be able to grip properly.

4.2.8 Signs

The international symbol for access for the disabled should be used to identify car parks, access points to buildings etc. The proportional layout of the symbol is given in AS 1428-1977.

4.2.9 Telephones

- Public telephones should be within reach of people in wheelchairs, children and dwarfs, and securely fixed to the wall.
- Acoustic screens are preferable to doors and level to ramped access is necessary.
- Dial, handset and coin deposit should be approx. 1000m above floor level.
- Further details are in 'Design for Access and Mobility', ACROD, 1975.

4.2.10 Drinking Fountains

- As people in wheelchairs must drink a lot of liquid, drinking fountains should be conveniently located, for example, at the start of a trail.
- Drinking fountain controls should be within reach of disabled people. 900mm is preferred level if only one fountain is provided.
- Controls should be operated by one hand or one foot and preferably be a lever or push button type. Water should spout parallel to front face of drinking fountain.
- Further details are in 'Design for Access and Mobility', ACROD, 1975.

- 4.7.11 Picnic Tables
 - Sharp corners and edges should be avoided.

An unobstructed height of 670mm is required to provide adequate clearance over knees for wheelchairs without arm rests. A clearance of 760mm is required for wheelchairs with arm rests. (NB This height - 760mm - may be inconveniently high for other users, and tables allowing knee access only may be preferred ie. 670mm height).

Depth of recess should be 540mm (min.), 600mm (preferred) and width should be 750mm (min.), 900mm (preferred).

Full details of picnic table design are in 'Design for Access and Mobility', ACROD, 1975.

Ground surface surrounding tables should be accessible to wheelchairs and ambulant disabled, ie. should be firm and level.

4.2.12 Seating

A range of seating is desirable, some in the shade, others in the sun, some in groups, others isolated.

Rest areas should be adjacent to, but not on, walkways.

- Rest areas shound be provided at all facilities (toilets, public telephones, drinking fountains etc.) and at exhibition, scenic or spectator areas. Shelter from wind and rain is important.
 - Seats should have backs and arm rests spaced 600mm apart to assist the weak and elderly. Space for a wheelchair should be provided at one end of a bench. (See 'Design for Access and Mobility, ACROD, 1975).

:.2.13 Trails

- Surface should be trafficable in most weather conditions and as natural in appearance as possible. Surface should be firm and smooth enough for wheelchairs but of non-slip material.
- Sections of trails designed for wheelchairs should have some areas wide enough to allow wheelchairs to pass one another. Width varies between 900mm and 1800mm, depending on whether circulation is in one or both directions.
- Trail system should be a continuous common surface, with a maximum grade of 1 in 20, and avoid sharp turns and edges or abrupt changes in level.
- . Special scenic or historic sights should be accessible to wheelchair users.

4.2.14 Interpretation

- Bulletin boards and notice boards should be at a sufficiently low level to be read by people in wheelchairs, dwarfs and children.
 - Information on signs at start of walks or nature trails should indicate length, time, location of rest areas, grade of walk, any dangerous areas etc.
- Signs and maps should indicate which trails are accessible to wheelchairs and the ambulant disabled.

4.2.15 Barbecues

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- Barbecues of adjustable height are most satisfactory.
- A height of 600-760mm is convenient for a seated person.
- Cooking area should be within reach of a person in a wheelchair without scorching or burning in the case of wood barbecues.

- :.2.16 Spectator Areas
 - A firm surface and good access is essential.
 - Ramps are required in addition to stairs.
 - . Areas for wheelchairs should be provided near access ramps.

4.2.17 Boating and Fishing

- . Easy access to docks by wheelchairs should be provided, slope of ramps less than 1 in 12.
- . Docks should have handrails 900mm high to provide support for people getting into a boat.
- . Pontoon boats with spaces for wheelchairs are suitable.

4.2.18 Swimming

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- . Paved walkways and ramps across sandy areas allow access to water in natural swimming areas (rivers, lakes).
- For details of swimming pool design, see 'Design for Access and Mobility', ACROD, 1975.

4.2.19 Playgrounds

Play can either be classified as "defined" or "creative", and a range of play equipment which satisfies needs for both defined and creative play is desirable. Swings and slides define a child's play to a large extent, while the more modern adventure playgrounds encourage creative play. The current trend of relying almost entirely on creative play equipment is not necessarily ideal as it does not cater for the child who is unable to play creatively. Many mentally retarded and emotionally disturbed children are only able to achieve satisfying play through the use of defined apparatus. Playgrounds should be designed to provide a wide range of both defined and creative experiences, and be functional and attractive for all children. By designing play situations in which a disabled child can manipulate his environment as much as possible by himself, regardless of the extent of his disability, the child can have motor experiences comparable to those of normal children.

- Access paths to and within playground areas should be firm and level, to accommodate handicapped children. These paths can also be used by tricycles.
 - The most important consideration is safety, eg. swings should have front guard rails, areas beneath swings, slides, seesaws etc. should be soft (eg. sand or grass), sharp edges should be avoided, timber which splinters easily should not be used, and equipment should be of sound construction.
- Shaded and unshaded rest areas with seats should be provided.
- There should be provision for group play as well as individual play. Private spaces are very important to the handicapped child.
 - Suitable adventure play equipment include cages, ropes, nets, pits, tunnels, forts, tree houses, hills, old cars, trees, walls to climb and building materials.
 - The equipment should stimulate the handicapped child into action involving his whole body climbing, swinging, pulling, pushing, crawling etc.
 - Details of various types of play equipment are given in 'Design for Access and Mobility', ACROD, 1975. For example:
 - elevated play houses with entrances/exits of varying difficulty.
 - foam and sandpits for children who cannot walk or sit without support.

- sand and water tables provided at different heights.

- tubes and tunnels for crawling through.

- overhead track or conveyors equipped with slings, ropes and hooks can provide a means of locomotion.
- climbing apparatus to allow the teaching of climbing, swinging
 and jumping from graded heights.
- range of steps and stepping stones improve balance and climbing skills.
- mazes with adequate space for wheelchairs.
- safest swings are the box-type with guard rail.
- slide built into mound with graduated ramp-type path curving to the top. Timber climbing apparatus could provide an alternative means of climbing the mound.
- permanent tables and stools at different heights for quiet games, sitting and eating.
- rocking bridge gives sensation of vertical movement to a person in a wheelchair.
- basketball hoops should be adjustable in height to accommodate all children, including those in wheelchairs.
- ground level trampolines can be used by both handicapped and able-bodied children.

4.2.20 General Layout

Areas suitable for use by the disabled should be connected by usable paths, and frequent resting places if distances warrant.

Walking distances and grade changes between disabled people's car park, toilets, shelter, facilities and trails usable by the disabled should be minimised.

Within buildings, toilets, phones, drinking fountains etc should be close to building entrances.

Sensory Impairments

There are 3 types of sensory impairments which are potentially handicapping, coronding on severity and adjustment of the individual - blindness, deafness and deaf-blindness.

There is a significant amount of literature on special nature trails constructed 'for the senses" or "for the blind", particularly in America. For example, La Pasada Encantada Trail in Lincoln National Forest, New Mexico offers visitors a range of sensations through its interpretive trail (Trends, July/ September 1974, p 27). The trail is 1/4 mile in length, has a low pole railing to guide the blind, and interpretive stations along the way indicating distance to the next station. All signs are in large print as well as Braille.

Another example is a self-guiding nature trail in Aspen, Colorado (Bureau of Outdoor Recreation, 1967) which has guide ropes and Braille signs.

In Queensland, Australia (Carter, 1977) a similar "senses" trail (for the blind and blind-folded) was developed, also with guide ropes and Braille signs.

More recently, park managers have come to realise that 'Braille Trails' are not the answer, for a number of reasons. (See Jones, Trends vol 15, no 2, 1978).

Less than 10% of those who are blind read braille.

Braille signs are highly subject to vandalism.

Most groups and agencies working with the disabled do not want to promote anything which isolates them as a group apart.

Rope guides and rails call attention to the blind, and are also subject to vandalism. (One extreme example in the US was the relocation of a guide rope so that blind persons were led off the trail and into a ravine). (1978) and other authors have offered various other suggestions to (1978) and other with have originated from blind individuals and relevant organisations.

Use audic (tape recorder) interpretive devices instead of Braille signs.

Use a "differential" trail surface, which by feel and/or sound distinguishes the trail from its surroundings.

Make the trail safe, without steep inclines or things to trip over.

Make the trail interesting to <u>all</u> the senses of a sighted person and it will be interesting to the blind.

Present trail opportunities of different lengths or challenges from which the disabled person (and the able-bodied) can make his own choice. Blind people often prefer trails which are left in as natural a state as possible. They enjoy trail surfaces such as pine needles or tandbark.

All signs should be in large print (18 point or larger) so that they can be read by partially sighted people. Light coloured letters on a dark background are best.

A large relief map of the park area set up in or near an interpretation centre is useful.

Blind people like sounds of moving water and they also enjoy wading.

Changes in texture of the walking surface can be used to call attention to special areas, seats, drinking fountains, signs or hazards. Different textures could also be used to distinguish different grades of trails.

Signs at start of trails should indicate availability of recorders, meanings of different textures etc. Rangers also need to inform blind visitors of facilities and aids available. introduced earlier, the problems of deafness are more complex than those blindness. Deafness is isolating and socially destructive in a way that lindness is not. Blindness is also a much more obvious handicap than increase and probably for this reason, the blind have received more governint and voluntary assistance than the deaf. As a result of inexperience in verbal communication, a deaf person's command of language is severely retarded and many achieve far below their capabilities in education and injoyment.

Interpretation facilities can accommodate the special communication needs of the deaf with only minor modifications. For example:

Information must be clearly presented in a way which is comprehensible to deaf people. The knowledge of a deaf person is often limited to concrete ideas and objects and he is often unable to deal with abstractions.

It is helpful if at least one interpreter (preferably more) at a park can communicate in sign language.

Films can be made comprehensible to deaf visitors by making an inset in the corner of each frame with a person signing.

Warning signs should be both visual and tactile in danger areas. Emergency signals (eg. fire alarm) should be both visual and audial.

4.4 Mental Impairments

Many mentally retarded children and adults have abundant leisure time, but few recreation opportunities. They need careful guidance to enable them to learn how to make their own choices. Therapeutic recreation can lead to significant improvements in adaptive behaviour. During infancy and early childhood, recreation can build strengths in sensory-motor development, can assist in the acquisition of self-help and communication skills as well as helping socialization skills. During adolescence, the mentally retarded person becomes more aware than ever before of his shortcomings and of his inability to compete with his peers. It is critical that children and adolescents are taught how to use their leisure time effectively, as there is an ever-present danger of retarded adolescents and adults forgetting skills learnt during school and lapsing into passive lethargy - watching television and just siting. rhysical recreation is particularly important and skills need to be developed during childhood. The retarded child is more likely to be able to perform nearer the level of his non-retarded peers in this field.

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After leaving school, many of the mildly retarded merge into the general public, where their lack of academic ability passes almost unnoticed. Many take routine jobs, live normal lives and may excel in certain sports.

Maturing retardates have special needs for organised group-based recreation as they have often lacked sufficient opportunities for personal development and social contact. Generally, special recreation facilities and playgrounds are not needed for retarded children and adults.

"The retarded must learn to live in our world, not in their own special world. Developing special facilities for exclusive use of the retarded would attempt to emphasize their retardation" (Neal, 1970, p 30).

The most important requirement with regard to recreation needs of the retarded is the availability of expert recreation leaders who have the knowledge to provide the necessary guidance and stimulation. Special problems associated with the retarded and relevant to recreation include:

<u>Short Attention Span</u> - retarded children quickly lose interest in activities which are too demanding.

Immature Interests - more consistent with those of younger children.

Lack of Imagination, Originality and Creativeness - retarded children need "defined" play equipment as they lack creativity to use adventure play areas. (see section 4.2.19)

Deficiencies in Higher Mental Powers - eg. powers of abstraction.

<u>Inadequate learning</u> - less ability to learn from failures, tendency to repear errors over and over again.

Disruptive group behaviour - may be a problem as children get older and aware of their deficiencies.

The retarded must be <u>taught</u> to play - they do not learn as normal children do, by observation, innovation and imitation.

4.5 Leisure Needs and the Elderly

4.5.1 The Importance of Leisure in Later Years

A great deal has been written about the problems faced by the worker who suddenly finds himself with unlimited leisure time after spending the major portion of his life working 40 or more hours each week. The benefits previously gained from work, such as status, recognition, self-expression and friendships, must now be derived from leisure. In other words there is a far greater demand being placed on leisure to provide a range of personally and socially satisfying roles.

The increasing concern relating to leisure needs of the elderly is certainly justified, not only due to past neglect, but also because the retired population is increasing in relative terms. This increase can be attributed to two changes:

- . The population in countries such as Australia is ageing, ie. persons over 60 years are comprising an increasing proportion of the total population.
 - The number of years spent in retirement are increasing and although life expectancy has not changed much in recent years, retirement ages are dropping. Retirement at 60 or 55 is now quite common. The following table illustrates this trend for the male labour force in Australia.

AGE GROUP	1967	1977
55-59 60-64 65+	91.5% 78.9% 24.0%	86.7 ‰ 62.8 ‰ 13.8 %

Male Labour Force Participation Rates

(Source: Howe, 1980, p 7)

Recreation studies have shown convincingly that participation rates vary according to age, sex, income, level of education, marital status, living environment, to name a few of the more important variables. These factors indicate that the aged are likely to have fewer recreational opportunities open to them, than the general population. The reasons for this are as follows:

- The aged constitute the largest group of people living in poverty in Australia. About 45% of all aged income units (individuals or couples) in Australia are considered to be living in poverty.
- Women over 65 outnumber men by about 3 to 2, and this ratio is increasing. It is generally accepted that women have fewer recreational opportunities than men.
- One-third of people over 65 live alone, most of whom are widows. Old people are also more likely to be living in flats, boarding houses and nursing homes which tend to inhibit recreational behaviour.
- Elderly people who have retired were more likely to be in the lower status occupational groups with relatively low incomes, than younger people.
 - Older age groups have received less education than younger age groups, and most would not have had any formal education to prepare them for leisure and increase their awareness of new activities.
 - Elderly people are far more likely than younger people, to suffer from chronic impairments to their health, such as heart disease, arthritis, bronchitis, Parkinson's disease, deafness, blindness and diabetes. As stated in chapter 3, 78% of all people in Australia aged 65 years and over had one or more chronic conditions. (ABS, 1979)

4.5.2 Social Myths and Stereotypes

A number of social myths concerning the aged are prevalent among community attitudes. They are generally quite false, although some may be relevant for a minority of the aged. For example:

- The aged are a homogenous group. The public stereotype is one of declining physical, emotional and intellectual health, abandonment by family, isolation and loneliness, dependency and institutionalisation.
 - The physical, social and intellectual capacities of people must decline with age. Growth is finished and maturity is reached by the end of adolescence.

The aged are rejected by their families.

The aged are a minority group with specialised needs. (In fact, they have just as wide a range of needs as any other age group).

The excessively negative views many people have of old age is well illustrated in the results of a recent US study. (see Gray, 1976, p 32). The study suggested that the general population thinks the problems of old age are far more serious than those who are cld find them to be.

	AGREEME	INT
Problems of Old Age	General Population	0ver 65
Fear of Crime	50%	23%
Poor health	51%	21%
Money	62%	16%
Loneliness	60%	12%
Insufficient medical care	44%	10%
Insufficient education	20%	8%
Not feeling needed	54%	7%

The study also showed that many people over 65 supported the stereotype thinking that most old people suffer from poor health, loneliness etc. while they see themselves as being exceptions to the rule.

4.5.3 Age Groups

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Recent literature concerning the elderly has recognized two distinct subgroups emerging. As retirement years are expanding, these two 'age groups' are becoming increasingly differentiated.

Neugarten (1974) has defined these subgroups as follows:

The 'young-old' (aged 55-75 years approx.). This group comprises those within the age group who are retired. They are relatively healthy, affluent, free of work and family responsibilities, increasingly well-educated and politically active. As each succeeding cohort of young-old is progressively more educated they are developing a variety of new leisure needs. In the 1990's and 2000's, the young-old are likely to exert considerable influence. The group will then consist of current activists in consumer affairs, anti-pollution, women's liberation etc.

The 'old-old' (aged approx. 75 years and over). The common stereotypes of old age (failing health, loneliness, dependence etc.) are certainly more likely to be relevant to this age group. The proportion of old-old in the population is increasing, and this group will always have pressing needs for health and velfare services. The current generation of old-old are not as well educated as the young-old, although this discrepancy should eventually vanish. The old-old grew up in a time when the working week was 50 hours and the protestant work ethic was paramount and for this reason, they are often less able to find fulfilment through leisure activities. They may prefer obligatory and instrumental activities (such as gardening, household maintenance, participating in service organisations) which are most consistent with the cultural values of their youth.

The Impact of Retirement

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A large proportion of the literature concerning leisure and the aged has focussed on the effects of retirement and factors influencing satisfaction with life after retirement. Although retirement has traditionally been given euphemistic labels such as 'the golden years' and 'the age of wisdom', the ideal of retirement as an extremely rewarding and happy period where men are freed from the bonds of work and can fully develop their talents, is utopian and beyond the expectations of the majority. The two major theories which have been given serious consideration in recent years have been summarised by Atchley (1971).

1 The Identity Crisis Theory

This theory holds that retirement is basically degrading, because the individual is being coaxed from a role he is no longer able to play. The only legitimate identity a person has is that which derives from his work. All other roles, including leisure, cannot give a legitimate identity in place of occupational identity. Hence the retired person does not feel justified in deriving self-respect from leisure and tends to choose utilitarian activities such as stamp collecting which has financial rewards.

"Leisure does not open up new possibilities for the retired man; just when he is at last set free from compulsion and restraint, the means of making use of liberty are taken from him. He is concemned to stagnate in boredom and loneliness, a mere throwout". (quoted by Freeman, 1979, p 6)

The identity crisis theory rests on the assumption that prior to retirement, an individual derives his identity primarily from his job. Later work has refuted this theory to a large extent, although a minority of people certainly conform to this description.

2 The Identity Continuity Theory

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Atchley (1971) believes that the work ethic does not interfere with successful retirement and even highly work-oriented people are able to take up leisure roles. Older people are increasingly able to accept retirement as a period of leisure that they've earned. Few people rest their entire identity on a single role, so it is unlikely that retirement will lead to a complete identity breakdown.

Several studies (eg. Spreitzer and Snyder, 1974, Thompson, 1973) indicate that adjustment problems of retirement are not generally caused by loss of the work role, but are strongly related to failing health, financial problems and lack of companionship. That is, a person with good health, sufficient finance and a circle of friends is in the best position to make a successful adjustment. An Australian study (Donovan, 1978) also supported these American results, concluding that while a small minority of people suffer some adverse effects from retirement, the vast majority make a satisfactory adjustment. The greatest degree of anxiety about retirement is likely to occur shortly <u>before</u> retirement rather than after the event.

People retiring from high-status occupations sometimes have difficulty in adjusting to the loss of a major role, while those in the low-status occupations are most likely to be hampered by lack of finance and feelings of incompetence. Positive attitudes are most common among the middle occupational levels, and this group adjusts most easily to retirement, given sufficient income, good health and wide friendship networks. Class distinctions do not disappear with retirement - people are either labelled 'pensioners', 'ex-army officers' or 'retired bank managers'.

An important aspect of this theory is <u>identity continuity</u>, meaning a continuity in leisure pursuits before and after retirement. Several studies have indicated that major changes in leisure interests do not occur, even among those who move to a new location. People prefer to retain old interests and old friends, rather than making abrupt changes in all aspects

of their lives. Even those who are well prepared and have positive attitudes to retirement, will still find they have some major readjustments to make on retirement.

Not surprisingly, a strong correlation has been found to exist between satisfaction with leisure and general feelings of well-being among elderly people (Mancini, 1978). This is to be expected, as leisure forms a major component of their lives. Health and income were also found to be related to feelings of well-being, although these factors do not explain the entire correlation between leisure satisfaction and well-being (ie. the primary relationship is fairly resistant to the effects of health and income).

In conclusion, the evidence tends to suggest that a great many people are able to find satisfaction and meaning in their lives after retirement, and that general well-being and happiness are strongly dependent on health, income, friendships and satisfaction with leisure activities. Some authors have observed that the elderly are more content to be themselves rather than constantly playing roles. Because of this, they appear to have a higher degree of self-acceptance than younger people, and many are able to find fulfilment and contentment.

4.5.5 Activities

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A number of studies in the United States have focussed on the specific activities preferred by the elderly and/or the retired.

For example, Peppers (1976) undertook a survey of retired males and found the most popular activities to be:

- . visiting friends
- . watching television
- , **odd** jobs at home
- , travelling
- . reading
- . sitting and thinking
- , fishing
- . walking
- , gardening

Peppers found that there was a significant rise in the absolute number of activities in which individuals participated after retirement. The respondents indicated a mean of 8.25 activities prior to retirement and 12.00 after retirement. There was also a strong correlation between numbers of activities in which the retiree is engaged, and his life satisfaction score. Peppers also found that activities which are primarily <u>social</u> and/or <u>physical</u> in nature have the most positive effect on life satisfaction. This result was found to be partially explained by variables such as health, income and location which have been shown to affect adjustment to retirement.

Morgan and Godbey (1978) examined past and present participation in leisure activities of 160 retirement village dwellers in California. They found a slight drop in the number of activities, but increased <u>frequency</u> of participation, after the retirees moved to an agedsegregated environment. Their study also gave support to the idea of continuity - most pre-retirement activities were continued after retirement and few new activities were initiated. The following activities were participated in 'regularly' by at least 50% of respondents:

watching television

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- listening to the radio
- talking on the telephone
- visiting friends
- writing letters

(NB. apparent differences among survey results are largely due to the range of choices provided in the various questionnaires). McAvoy (1979) sampled non-institutionalized persons 65 years and over, and found the recreation activities most frequently identified as one of the top five they participated in most often during the past year were:

visiting friends and relatives (74.6%)

- . watching television (68.5%)
- . reading (66.9%)
- . gardening (49.4%)
- . indoor hobbies (45.6%)
- . driving for pleasure (32.4%)
- . walking (30.7%)
- . indoor games (29.4%)
- . attending organization and club meetings (29.2%)
- . caring for animals (10.6%)

(NB. these figures do not represent absolute participation rates, only the percentage of respondents who placed an activity in their 'top five').

Most of the leisure activities preferred by a large percentage of the elderly were indoor activities, with the outdoor activities most preferred tending to be non-resource specific in nature, such as walking and gardening. Over 92% of the respondents began participating in their most frequently occurring activities before the age of 50. A majority participated in leisure activities with their own age group.

These and other American studies have generally found that older people spend considerably more time reading, watching television, resting and relaxing and less time on outdoor activities, sports and pleasure driving than younger people. Activities preferred by the elderly are predominantly home and family oriented; only about 8%-10% of the elderly (in the United States) are interested in organised senior citizens' programs. Similar figures have been reported for Australia (Howe, 1980).

Recent recreation studies in Melbourne have shown that similar types of activities are favoured by the elderly. Seedsman (1973) found that among the aged in Frankston, 75% of their total discretionary time was devoted to home activities, with television playing a major role. The Dandenong Valley Metropolitan Park Home Interview Survey (Adcock, 1978) found that the elderly participate in fewer activities than the general population:

	No. of activities undertaken in previous 2 weeks		
Elderly males	7.8		
Elderly females	7.6		
All males	12.4		
All females	11.8		

This survey found that most physical activities declined in popularity with increasing age. Activities most popular with people over 60 years of age (% participation rates during previous 12 months) were:

shopping (84.9%)

. visiting family and friends (78.8%)

- . reading/writing (77.1%)
- . gardening (72.1%)

. casual walking (63.0%)

. driving around (39.2%)

. picnic/BBQ (37.8%)

. participating in service organisations (37.1%)

Activities which were relatively more popular with the elderly than other age groups were:

. outdoor bowls

. participating in service organisations

. indoor hobbies/home activities

The Dandenong Valley Metropolitan Park Survey also found that frequency of participation in a number of activities favoured by the elderly was greater for this age group than for younger adults. Activities undertaken relatively more frequently by the elderly included:

- . outdoor bowls
- . casual walking
- . craft/weaving/pottery
- . gardening
- . participating in service organisations
- . shopping

Although these results indicate an increasing 'specialization' of leisure activities with age, they give no measure of actual time spent on particular activities.

Overall, it appears that the <u>degree of preference</u> and performance of various activities, rather than the type of activity, changes with age, and that the home and family retains a central role.

McAvoy (1979) identified the needs which prompt elderly persons to participate in leisure activities. The most frequently identified needs (for a sample in the over 65 age group) were:

- . needs of socializing (88.9%)
- self-fulfilment (79.6%)
- . closeness to nature (73.3%)
- . physcial exercise (61.0%)
- . learning (51.6%)

Group discussions carried out for the Dandenong Valley Metropolitan Park Recreation Survey (Parkhowell, 1976) included one group of retired persons and one group of pensioners. These groups highlighted the importance for old people to have contact with others and their need to feel useful.

4.5.6 Barriers to Participation

Numerous factors limit the recreational opportunities available to the aged; these factors include health, finance, transport, age, moral values, personality, availability of facilities and preferences of family and friends. Scott and Zoerink (1977) found the relative importance of various constraints differed when the under 55 year age group were compared with the over 55 years group.

People over 55	People under 55		
Health 64% No Interest 39% Cost 28% Availability of facilities 25% Transport 25% Time 20%	Cost 46% Time 42% No Interest 30% Facilities 26% Health 24% Transport 13% Skill 4%		
Skill 4%			

McAvoy (1979) identified the major barriers to recreation participation by the aged as:

lack of physical ability (ie. health related)

. lack of companionship

- lack of time
- . lack of transport

lack of money (in that order)

Architectural barriers in recreation facilities were seldom identified by the subjects as barriers to participation in preferred leisure activities.

McKenry (1975) found the biggest constraint to recreation participation by older people in Victoria was age itself (ie. decreased physical mobility).

Inhibiting Factor	40-60 years		60 + years	
	M	F	M	F ,
Lack of time	63%	52%	19%	14%
" " money	22	25	28	33
" " companions	9	22	12	33
" " opportunity	23	29	18	29
" " transport	7	21	21	24
Age	8	8	54	57
Poor health or fitness	9	9	26	24
Distance to be travelled	24	32	22	24
Family commitments	42	46	15	19
Inconvenience to others	10	10	12	19

(McKenry, 1975)

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Factors more inhibiting among the aged (60 + years) than younger adults were money, transport, lack of companions, age, health and inconvenience to others. On the other hand, lack of time and family commitments were far less important than among younger adults. These results are not dissimilar to those reported by Scott and Zoerink in the United States.

4.5.7 Use of Parks by the Elderly

Very few studies have been concerned solely with the use of parks by this particular age group, however recent observation. home interview and visitor use surveys in Melbourne have indicated that the elderly use parks less than the population as a whole. Even on weekdays, visitor use surveys at Jells and Brimbank Parks (1978, 1979) have found that the over 60 years olds are under-represented. The observation survey carried out for the Gardiner's Creek Valley Study (1977) also found that relatively few elderly people use the open space in the valley. People over 60 comprised only 3% (2% males, 1% females) of the total numbers observed over 9 days. This age group represents approximately 12.6% of the population in Melbourne. The home interview survey carried out as part of the Gardiner's Creek Valley Study confirmed that non-users of the valley tended to be older residents, and more likely to be female than male. This survey also found however, that 'casual walking' was relatively more popular as an activity among the over 60 year olds than in the general population.

Group discussions carried out as part of the Dandenong Valley Metropolitan Park Recreation Study (Parkhowell, 1976) indicated that unusual or elaborate facilities are not wanted by the elderly. Their most important requirements were:

toilets

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. shelter

- barbecue area
- . place to have a cup of tea

Likewise, the Dandenong Valley Metropolitan Park Home Interview Survey found that shelter, seating and a kiosk were relatively more popular among the aged than younger groups.

This home interview survey confirmed the results of on site visitor surveys, finding that elderly people use local parks least. Elderly females were most likely to be part of the 7.7% who had not visited any park in the previous 12 months. The elderly were also relatively less aware of the existence of the Metropolitan Parks. The desire for changes in local recreation opportunities also diminished with increased age. Only 20% of elderly females desired changes, compared with 63% of female teenagers. This difference probably reflects the relatively low expectations of the aged - some surveys in Melbourne have reported a general reticence among old people to answer questions as they feel that such matters should be decided by the young, rather than those whose 'usefulness' had ended. The Dandenong Valley Home Interview Survey found that the elderly had a slightly lower preference than the total sample for parklands with natural bushland, but a relatively high preference for more formal parks with lawn, trees, flower beds and well-marked paths. This appears to be a reflection of prevailing community values at the time of their youth. Other statements which received a relatively high degree of support from the elderly were:

"I like doing my own thing rather than participating in organised activity" and "I would rather visit a large natural park near home than have to drive outside the city to find such a park". A recent US study looked at the interpretation needs of retired park visitors. Most retired National Park visitors were found to be in good health, vitally interested in the parks, physically active and socially involved (ie. largely the 'young old'). The major criticism of this group was that interpretation programs were geared to first-time visitors and were often superficial and uninformative. Many had extensive park-going experience and prior knowledge of park flora and fauna and sought more in-depth and challenging presentations than were provided. Other protlems faced by older people included 'being left behind' on nature walks as younger visitors and rangers walked rapidly from one site to the next, being relegated to the fringes of groups as younger more aggressive visitors monopolised park naturalists, and difficulties in hearing in these situations.

4.5.8 Conclusion

With the declining influence of the 'Protestant Work ethic' in Australia, retirement is gaining greater acceptance as a valid lifestyle. As the present generation matures and retires, it is likely that current leisure interests will be maintained, replacing the present need for many old people to justify their retirement by choosing work-related and instrumental pursuits. The new vogue for retirement planning is likely to intensify, with potential benefits for reducing adjustment problems associated with retirement. The creation of 'retirement communities' in areas such as the Gold Coast is a phenomenon which is on the increase, although the majority of Australians will probably continue to live where they have spent the bulk of their working lives.

Finally, the following quotation by Howe (1980) points toward a course of action by which leisure opportunities can be enhanced for the aged in our community:

"The most realistic basis for enhancing the leisure of older people lies in facilitating the maintenance of their existing patterns rather than attempting to stimulate a range of new activities. A starting point for alternative programs may be in the removal of constraints which old people perceive as limiting their leisure, with efforts directed towards selecting groups and locations. With most of the aged finding their leisure in family settings and informal pastimes, there is arguably little demand for organisation on a large scale".

SUMMARY OF PERSONAL DISCUSSIONS WITH REPRESENTATIVES FROM VARIOUS ORGANISATIONS IN MELBOURNE

During November 1979, several organisations concerned with care of the physically and mentally handicapped and the elderly were contacted, and the specific recreation needs and problems of the various groups were discussed with a suitable representative from each organisation. Many of these representatives were themselves disabled.

5.1 Multiple Sclerosis Society (Helen Brown)

The MS (Multiple Sclerosis) Society organise regular outings to parks for their patients. They have recently acquired a bus and normally go out on weekdays. Helen pointed out that MS people get very fatigued in hot weather, so spring and autumn are the best times for outings. People in the early stages of the disease may still be able to drive but those in the later stages could not drive and would not be capable of using public transport.

The following aspects of park design were seen to be important from the point of view of MS sufferers:

Toilets must be accessible (as described in Australian Standard 1428 - 1977) and not far from car or bus parking area.

Would appreciate large undercover area with central fire place to provide relief from hot sun or rain. This would need to be easily accessible from car park.

Nature trails need to be short and have a smooth surface (eg. concrete). Fatigue is an important factor for this group.

Picnic tables should be round and at least some tables should be partially and others completely without seats. This would suit groups of people who are all wheelchair bound and individuals who come with their families. There is also a need for tables to be grouped together to cater for group outings. Tables with space for wheelchairs should be located close to toilets and car park.

Preferred activities:

Picnics and barbecues.

Interested in short guided tours lead by rangers, MS suffers need encouragement to show an interest in their surroundings.

Wildlife and flora displays.

Helen Brown had visited Jells Park with a group of MS patients two months previously. She liked the toilets and Visitors' Centre, but said there was a lack of wheelchair paths and access to the lake was impossible. The picnic tables were not entirely suitable as those patients who could still walk were unable to climb onto the seats while those in wheelchairs could not pull their wheelchairs up to the ends of the tables because of the positioning of end supports. She would prefer seats not to be attached to tables. She believes there is a need for more parks such as Jells, close to Melbourne.

5.2 Paraplegic and Quadriplegic Association, 'ParaQuads' (Edith Hall)

The Association caters for both paraplegics and quadriplegics, most of whom have been victims of car and sporting accidents. <u>There are approximately</u> <u>100 new cases of paraplegia or quadriplegia each year in Victoria (approx.</u> <u>60% quads and 40% paras</u>). Also, people who use calipers while young, whatever the reason, usually have to use wheelchairs (and finally electric wheelchairs) as they get older and their strength declines.

Many paraquads work full time and live at home, although some live in institutions (particularly quadriplegics). Many paraplegics and even some quadriplegics are able to drive cars.

Edith believes there is a great need for disabled people to get outside and participate in outdoor recreation, as many spend most of their days sitting around indoors. Paraquads have the same needs and interests as everybody else, and they do not wish to be segregated from the general community.

Edith herself is not concerned with organising outings to parks although she is intensely interested in the problems of access and mobility. She had not heard of the Board's metropolitan parks. Design aspects:

Picnic tables need spaces for wheelchairs and tables should not be surrounded by rough, uneven ground.

Toilets not too far from car park.

Want access to main features in parks - disabled people often get stuck in least attractive, barren areas where there is no shade.

Grass is a poor surface for wheelchair access. It may be acceptable for some paraplegics with strong arms, but is very difficult or impossible for others. It is also a poor surface for people on crutches.

Transport

Edith strongly believed in the need for public transport to the parks. Buses would need to be fitted with hydraulic hoists so that wheelchair users were not denied access. Buses at weekends could cater for paraquads who work fulltime, and buses on weekdays could cater for disabled (and able-bodied) housewives and others not in the workforce. There is also a great need for old people in nursing homes to go on outings and transport is one of the major problems for the elderly. Loading points at bus stops should have raised platforms so that elderly and disabled people do not have to climb steep steps. A dial-a-bus system was thought to be desirable.

Edith suggested that the Board could employ groups of volunteers (both disabled and normal) to give talks on flora and fauna, history etc. and lead guided tours in the parks.

5.3 Yooralla Society (Chris Stewart and Rob McNamara)

Yooralla caters for patients with the following afflictions:

- Cerebral palsy
- Spina bifida
- Muscular dystrophy
- Brain injuries
- Epilepsy (usually combined with physical disability)
- Multiple Sclerosis
 - After effects of Polio

Chris pointed out that people who can't work have a great deal of leisure time. and Yooralla helps to provide alternatives for use of their leisure time. Neither Chris nor Rob had heard of the Board's metropolitan parks although they are very interested in the problems of access to parks and recreation facilities.

Design aspects:

- The disabled want opportunities to do the same sorts of things as everybody else. They want integration rather than segregation.
- Need <u>range</u> of facilities to cater for different needs, ranging from easy access facilities, wide, smooth trails etc. to more natural and challenging environments. Disabled want access to <u>main</u> attractions and landmarks.

Do <u>not</u> want concrete trails. Trail surface at Warrandyte State Park was specially designed to suit wheelchairs - it is made of compressed clay and gravel.

Gradients less than 1 in 12. Handrails may be necessary in some areas. Have rest sections on trails (approx. every 50m) where there is room for wheelchairs to pass and seats are provided.

Picnic tables need to be accessible to wheelchairs. Some with partial seating and round tables preferred.

Special car parking spaces (12 times normal width).

Toilets/car parks/barbecues within easy access of each other. Want picnic tables near car park although not immediately adjacent.

Want sheltered area with barbecue inside.

Signs, literature etc. giving information about parks. Talks by rangers would be popular.

Need group of experts and disabled people to <u>check</u> design details of facilities as they are <u>being built</u>. Architects often not aware of minor details which may be important. Additional costs only add about 1% to total.

Chris and Rob suggested that an emergency health care service should be available to park users.

Transport:

Only a small proportion of cerebral palsy, muscular dystophy and spina bifida patients are able to drive.

Yooralla has mini buses available, but these have a stigmatising effect - they do not like to be all shoved together into a special bus and labelled 'cripples' or 'spastics'.

Those who are able would like to use same transport as general public. At the moment, all buses and trams are inaccessible to people in wheelchairs. Trains can be used as ramps are now provided on request.

Need combination of dial-a-bus and buses leaving from various termini to service the metropolitan parks. Would need reasonable length of time (eg 2 years) before judging success or failure of a pilot bus service. Disabled people are often distrustful of park facilities and may take a long time to be persuaded to make use of them.

5.4 Disabled Motorists' Association (Ilma Lever)

Association caters for all types of disabilities, but all members are able to drive. Many members have had strokes or limbs amputated. The association tests and recommends special fittings and controls in cars. They organise outings once a month on Sundays, often picnics in parks close to Melbourne. Ilma had visited Jells Park recently, although she had not heard of the other metropolitan parks. She liked Jells Park, although she said that because the toilets in the visitors' centre were downhill from the picnic area, she found it difficult to get back up the hill and had to find someone to push her wheelchair.

Design aspects:

Toilets must be adjacent to car park.

<u>Flat</u> car parking area, wide enough to get wheelchair out $(1\frac{1}{2}$ times normal width). If car park is sloping, wheelchairs run away. <u>NB</u> Electric wheelchairs (used by quadriplegics, people with multiple sclerosis and muscular dystrophy) are two big and heavy to take in cars, so these people can only take ordinary wheelchairs and put up with reduced mobility. Special buses can carry electric wheelchairs.

No steps.

Don't want special facilities built, only equal access.

Picnic table design not critical - they often take their own folding tables. However, round tables with partial seating would be good.

<u>Smooth</u> surfaces for trails (but not slippery when wet - eg. like bricks). Loose gravel or tandbark are very unsuitable, both for wheelchairs and crutches.

Transport is not a problem for this group, as the association only caters for those who are able to drive. Most members can get in and out of cars without help. Ilma suggested that a 'watchdog' committee should be formed to look carefully at facilities during the designing and building stages.

5.5 Spastic Society (David Craig)

The Spastic Society regularly organise outings to parks (eg MMBW catchment reserves, Kinglake National Park). David had heard of Jells and Brimbank parks and had visited Jells very recently. He thought that the sloping path leading to the Visitors' Centre appeared to have a gentle enough slope, although a more compacted surface, rather than loose gravel, should be used. Also, many disabled people would benefit from provision of a rail along one side of the path.

David said that the design of the barbecues and picnic tables at Jells Park could be improved. Apparently people in wheelchairs are unable to get close enough to the barbecues to cook their meat without getting scorched by the fire below the hot plate. They cannot reach across from the sides of the barbecues. There is also insufficient room at the ends of the picnic tables for wheelchairs to pull up. David hopes that access will eventually be provided to Jells Lake.

Design aspects:

Maximum slope for trails is 1 in 12. Loose gravel or grass are not suitable surfaces.

Need car park reasonably close to toilets - takes comparatively long time for many spastic people to get along.

Design features of barbecues and picnic tables discussed above. Need tables with and without seats, mix up seats and gaps around tables.

Very important to have shelter, preferably with barbecue inside. Have to plan outings in advance so can't predict weather.

Most playground equipment, especially adventure-type playgrounds, can be used by handicapped children. Back supports on swings are useful.

At least <u>some sections</u> of parks should be accessible, can't expect access to areas where topography is steep. However, don't want obvious segregation. Not interested in special recreation programmes organised just for them. Transport

Many people with cerebral palsy would like to be able to use public buses. Buses to metro parks would be very worthwhile.

Suggest buses could leave from key railway stations as most people can travel by train.

Buses would need hydraulic hoists.

Weekday and weekend services needed.

David said that if they know of any parks which are accessible to people with cerebral palsy, they can include relevant information in their newsletter, and also tell parents. They should also be advertised in the booklet 'Melbourne for the handicapped'.

5.6 Little People's Association (Pat Paterson)

The association organises regular outings to parks and they are planning to visit Jells Park in February 1980. Pat had heard of Jells, Banksia and Westerfolds parks.

Heights of dwarfs vary from 3' 2" (normal 2 year old) to 4' 9" (normal 12 year old). Generally the trunk is of normal size while arms and legs are exceptionally short.

Design Aspects:

Toilets provide worst problems for this group. Some are incapable of getting onto toilets without help. Obviously they don't like to have to ask people to lift them. They require a rail along one wall so they can lever themselves up, or preferably, steps or ramps below the toilet bowl. They don't expect lower toilets to be specially provided, only a means of getting on. All toilet doors should have locks and handles (max. 1 metre from ground) as dwarfs cannot put a foot against the door to stop intruders. Toilet paper should be on the side wall close to the toilet (NB. shortest combined arm-hand lengths may be only 300mm) - not on the back of the toilet door. Flush buttons are usually too high - foot flush buttons are preferred. Toilet doors are often very heavy to push. The possibility of dwarfs using toilets designed for use by the disabled was discussed. One drawback is that they simply do not realize that they are allowed to use these toilets - they (and most able-bodied people also) assume they are only for people in wheel-chairs. Another design problem is that for some dwarfs, the rail along the wall would be too far away for them to use it to lever themselves up easily.

Other objects which are often beyond the reach of dwarfs include:

- door handles
- light switches
- public telephones
- wash basins, mirrors, towel dispensers and hand driers
- drinking fountains

They don't expect 'mini' picnic tables to be specially built - would make them feel like children. They normally bring folding chairs on picnics.

Steps cause difficulties - ramps are better.

Lower washbasins, door handles etc. also benefit children, and people in wheelchairs.

Transport

Most can drive although they need special foot pedals.

Public buses (preferably dial-a-bus) to parks would be welcome. However, they need special step or loading platforms. Ordinary bus steps are very steep and difficult for dwarfs to manage. Some dwarfs are too small to get on to buses, trains and trams unaided. Others can scramble up on their hands and knees.

5.7 Association for the Blind (Peter Rickards)

Peter organises weekend bushwalks once a month for people who are blind or have impaired vision. They often visit National Parks and Peter had been to Jells and Brimbank parks. He said he would like to be able to go on a longer walk around the circumference of Jells Park and he would like to see more native vegetation planted so that there is a feeling of being away from suburbia. Peter liked Brimbank Park, particularly the trail beside the river. He would be interested in going back to both Jells and Brimbank Parks.

Design aspects:

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Trails should have even surface for walking - no unexpected rocks, tree roots or steps. Don't want <u>hard paved</u> surfaces - loose bush experience. Tandbark or pine needles are ideal. Steep gradients cause problems.

Nature trails with braille signs are not much use as few blind people read braille. Need signs with <u>large</u>, <u>clear</u> letters for people with low vision. For totally blind, ranger could give talks or provide portable cassette recorders with recorded information about various items of interest in parks and along nature trails. Signs pointing to trails should give distances as well as times.

This group does not use built picnic tables and seats - they like to have lunch well away from these facilities. Picnic tables should not be provided in all sections of parks - only in selected locations.

Like plenty of shade.

Where steps exist, these should have a white line painted along top edge.

Wildlife (eg. kangaroos) is popular.

Guide dogs should be allowed in. Also need large areas where they can be let off to have a run.
They like large parks with several different walking trails. Facilities such as toilets should be provided at start of walks. Toilets should be close to car park.

Transport

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Blind people like to use public trains or buses. Few blind people would visit a park on their own, but they would go in groups or with families. They are usually able to get to a central point (eg. Flinders Street Station) on public transport. Could have buses to pick people up from Chadstone Shopping Centre or Glen Waverley station and take them to Jells.

5.8 Royal Victorian Institute for the Blind (Ralph Lightfoot)

Outings are organised for adults on weekends and public holidays, sometimes to parks in the metropolitan area. Blind school children use parks on weekdays in organised groups. Ralph had heard of Jells Park, but not the other metropolitan parks.

The blind have basically the same needs for recreation as everyone else. Although most blind people have some sight, they would rarely go to parks without a sighted person. They can cope with most physical conditions in parks, unlike people in wheelchairs.

Design aspects

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They like to have interesting things to touch (bushes, trees etc.). Concrete paths are not desirable - might as well be in suburbia.

Don't want braille signs or guide rails. Only 5% of the blind read braille (less than 50% of the <u>totally</u> blind - a small proportion of all blind people). Many become blind late in life and don't learn braille. Signs should have <u>large clear print</u> which can be read by many with impaired vision. Also have recordings on cassette recorders - blind could hire these from rangers after paying a deposit.

Transport

Transport is a <u>community</u> need not just a blind need. Public transport to parks is definitely needed.

Few blind people would travel to parks without a sighted person.

Trains and trams are easier to use than buses.

5.9 National Federation of Blind Citizens (Ray Hannah - phone conversation)

Must consider need of two main groups - the totally blind and those who are partially blind.

Blind find it hard to relate to wide open spaces. Need system of paths so that they can find their way around. Drinking fountains and seats should be close to paths. Also need path leading to toilets.

Paths should have distinct <u>texture</u> from surrounding land - doesn't matter what texture it is as long as not too rough.

Where steps are present, need rails on both sides. If steps are set into paths, need a signal on ground to indicate presence of steps (eg. small upward slope at top and bottom of flight).

Bridges over rivers/creeks should have rails, at least on one side. Feel unsafe without rails, also like to lean over edge and listen to water under bridge.

If there is a steep or precipitous drop beside walking trails, need logs or something beside trail.

Braille signs not worthwhile as few blind people read braille. Print on sign posts should be raised up (use English, not braille). Large print for partially sighted.

Don't need guide rails except on steps and bridges,

Cassette recorders to hire - very good idea.

Could have braille books available on request for blind to read. The Braille Talking Book Library would co-operate.

Thermoform maps would be excellent. Institute for the Blind can produce them.

5.10 Adult Deaf Society (Damien Lacy)

Society caters for partially and completely deaf people of 15 years and over. Most recreation programmes are for 18-35 year olds - mainly camping weekends to National Parks, also evening activities. Normal types of outdoor activities are popular.

> The profoundly deaf have difficulties with reading and language as they have had no experience in verbal communication. Signs and pamphlets at parks need to be in simple English (ie. not too many technical terms and botanical names). Technical information can be provided for those who desire it. Damien looked at copies of the nature trail pamphlets for Jells and Brimbank parks and thought that they looked quite suitable - not too difficult for a deaf person to understand. He pointed out, however, that the heading on the Jells Park pamphlet 'Shades of England' would be understood in the literal sense by a deaf person. They are not familiar with the multitude of abstract expressions such as this. A more appropriate heading would be 'Memories of England' in this case.

Obvious need for visible as well as audible warning signs.

Would be nice if at least one ranger at each park knew sign language. It is possible to teach oneself sign language in a very short time. All deaf children learn sign language at 4-5 years of age.

Deaf people are able to drive. Cars may have to be fitted with extra mirrors.

5.11 Epilepsy Foundation (Dorothy Neal - phone conversation)

Design aspects

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Toilets should have outward opening doors. If a person has a seizure in a toilet he is likely to fall against the door. If the door opens inwards, other people may be unaware that someone has collapsed for a considerable length of time. It may also be difficult to open the toilet door if someone is slumped against it on the inside.

Sharp edges should be avoided in buildings, and on park furniture. Rounded edges are preferable.

Epileptics may be able to get a drivers' licence if they have not had a fit during the previous year. They must then continue to have a medical examination each year, however many epileptics do not drive as they have fits fairly frequently. Some are allergic to controlling drugs. People with cerebral palsy, spina bifida etc. often have epilepsy as well.

5.12 Asthma Foundation (Pam Ford)

The Foundation is an educational advisory centre which organises group sessions for adults and children. They do not organise outings to parks, but they do organise a swimming programme, with 3,500 children participating. Swimming is particularly beneficial for asthma sufferers. They also organise camps over the Christmas holidays for school children, many of whom are not allowed to go on normal school camps.

Pam complained about the ignorance of many school teachers and the overprotectiveness of parents - many children with asthma are not allowed to do anything.

Asthmatics may be allergic to pollens, many are allergic to a large number of things. However, many asthmatics are able to visit parks if they are premedicated. Pam had heard of the Board's metropolitan parks and said that they hope to introduce a wider range of activities in the future.

Many elderly people have asthma and bronchial problems, and hills and stairs may be impossible for them. Generally speaking, if parks are designed to cater for the needs of the elderly, then they will also benefit asthmatics.

5.13 Rheumatism and Arthritis Association (Mr McCrowl)

The association operates an advisory centre, they do not organise outings. However, local subsidiary groups may hold meetings and organise outings. Mr McCrowl had not heard of the Board's metropolitan parks.

People of any age may suffer from arthritis or rheumatism and different parts of the body can be affected. These diseases cause a whole range of disabilities - some people are bedridden, others have restricted hand or leg movements, others can only walk short distances while others are unable to drive. Drugs can ease pain but no cures are available. A few people recover spontaneously. All social classes and all races are affected equally.

Important park design features are the same as those which are important to the elderly and disabled generally eg. ramps instead of steps, easily accessible toilets, gentle slopes.

Mr McCrowl believed that mobility is the main factor limiting the use of parks by the elderly. He thought that public transport is particularly important for this age group.

5.14 Helping Hand Association (Ron Laine)

This association provides a number of activity centres for mentally retarded children and adults. Most live at home and come to the centres during the day. The centre at Coburg, where Ron Laine works, caters mainly for the moderately retarded and some have additional physical handicaps. The main emphasis is on independence and self help. Many are capable of performing simple routines such as catching public transport.

Picnics, outings and camps are organised several times during the year, the association hires buses for these occasions. The retarded living at home would also visit parks with their families.

Design Aspects

Want to use facilities provided for general public.

Need variety of things to do - concentration span of a retarded person is limited.

Need plenty of seats and shade as they can't concentrate on specific activities for long periods.

Would be helpful for rangers to give brief, simple talks to groups.

Playgrounds must be safe (eg. tyre swing safer than conventional swing). Many retarded adults like to use playgrounds, so equipment should be sufficiently robust.

5.15 State Association for the Retarded (STAR) (Ethel Tembey)

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Star is an information and referral centre which is also involved in public education and the requesting of needed services. Their lending library has material suitable for parents, social workers and students.

Ethel suggested that the Board should co-operate with local councils and use local recreation officers to conduct recreation programmes for the mentally handicapped in the metropolitan parks. She also suggested using volunteers and stressed the importance of age peers in running programmes. Apparently younger people can relate better to the retarded of their own age, while older people tend to be over protective. She believed that many people would like to help, but are not sure where to go or what to do. She said that there are many social involvement groups within high schools which may be willing to act as volunteers by providing recreation programmes for the retarded in the Board's parks.

The mentally retarded, particularly those in institutions, are often not encouraged to make decisions for themselves. Unlike the physically handicapped, who are capable of making recreation decisions, the retarded have to be taught how to make their own choices.

Many retarded people would be capable of using public transport, however many have never been allowed to. Most are required to use taxis to get to day centres. System in Victoria is very protective.

5.16 Larundal Psychiatric Hospital (Fiona Moore)

The hospital has 550 patients, half of which are in chronic wards. The largest proportion of those with chronic conditions are schizophrenics, others have manic depressive psychoses and a few are alcoholics. There are some short term patients with neuroses and personality disorders, although there is an increasing trend for those people to live at home and visit clinics. The mental hospitals are therefore catering for an increasing proportion of psychotics.

Schizophrenics often lack energy and motivation. they relate poorly to others and are timid about going out. They need regular outings to provide stimulation. The hospital organises many outings to parks where they have picnics or barbecues. Buses are hired for outings. Fiona had not heard of the Board's metropolitan parks. The mentally ill have no special requirements in parks, they enjoy the same activities as everybody else. Guided walks and talks by rangers would provide stimulation which would be beneficial.

5.17 Combined Pensioners' Association (Mrs Ellis and others)

The Combined Pensioners' Association has 60 metropolitan and 40 country branches, representing 10,000 members in Victoria. All branches organise outings when they can afford them. Mrs Ellis and the other pensioners present believed that transport is the biggest problem for old people.

Design aspects

Want plenty of seating, tables, shelter, toilets, barbecues, kiosk, shade. Would like hot water for making cups of tea. They said they liked the old rotundas with fireplaces inside.

Picnic tables, toilets and shelters must be <u>close</u> to car parking area. Need smooth surface in parking area. (NB proximity of toilets is important as old people have poorer bladder control than the young, and they also cannot run when they need a toilet. The same applies to a large number of the physically disabled).

Would like guided walks given by rangers.

Transport

Transport is biggest problem. Most CPA members are mobile enough to catch public transport. Would like special buses to meet trains. It is usually too expensive for pensioner groups to hire buses - they may cost \$200 per day. They like to visit parks which are not too far from Melbourne as old people do not like getting home late.

They were very enthusiastic about the idea of public buses being organised to service the metropolitan parks, particularly on weekdays.

Most of the group had not heard of the Board's metropolitan parks, although they were familiar with the catchment reserves.

5.18 Victorian Council on the Ageing (Anne Fulcher)

The Council is concerned with education, research, and co-ordination with the aged and they also sponsor the development of local groups.

Design aspects

Need to indicate distances and also <u>grading</u> (eg. hilly, rough, smooth etc) on signs at start of walks. Don't put up signs saying 'walking trail for old people' or 'trail for the handicapped'.

Use rangers to give talks to old people.

Have detailed/technical information on sale at parks for those who want it.

Anne had heard of the Board's metropolitan parks, but the council does not organise outings.

Transport

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Main problems for old people is transport.

Need bus service - free or low cost fares. Buses must be accessible to disabled (many old people are disabled).

Clubs/organisations would like to hire buses on certain days (eg elderly citizens' groups) at reduced cost.

Work through local Government social/recreation workers - they can tell old people about parks and buses when they provide services such as Meals-on-Wheels.

5.19 Western Region Committee on the Ageing (Mrs Olarenshaw)

The committee is connected with the nine councils of the Western Region. They organise a festival each year in a park and had considered Brimbank Park as a venue, but decided against it due to the lack of shade.

Design aspects

Toilets very important - biggest concern for elderly - Need to be on flat ground, not up hill. Toilet situation often discourages elderly from going out.

Hot water or means of heating water is important.

Plenty of shade.

At annual festivals - need stage or rotunda for concerts.

Not much need for highly organised activities, although old people like community singing in parks (old songs).

Transport

Transport is major inhibiting factor for elderly.

There is a shortage of buses available for hire - also too expensive for many groups.

Many very old people would need dial-a-bus service so they can be picked up at home. 60-70 year olds can normally use public transport. Groups could arrange to use dial-a-bus through local elderly citizens groups and combined pensioners' associations.

Bus fare should be minimal (eg 20¢).

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House-bound old people can be contacted through their doctors and council social workers.

Many groups in government or church-run day centres would go on picnics if they had transport.

Mrs Olarenshaw thought that volunteers are now harder to get, although churches may be the major source. Would have to supervise young people acting as volunteers - Board would be responsible.

5.20 Brian Kidd, School of Architecture, Melbourne University

Brian is involved in revising Australian Standard 1428-1977. He is hoping that the Uniform Building Regulations will be modified next year to incorporate design features contained in Standard 1428-1977. Initially, only new buildings (rather than existing ones) will be affected.

> Disabled toilets should not be exclusively for their use. Necessary to have symbol on door, however. Would be preferable for toilet in Jells Park Visitors' Centre not to be locked, but vandalism problem is recognised.

Special car parks for disabled/frail aged must be policed by rangers. Able-bodied people who are too lazy to walk would take them if opportunity arises. Need to have sign indicating special car park. Also put international symbol on road in parking spot.

Need to provide continuous circulation routes, not dead ends.

The disabled can't expect access to absolutely everything. Topography may provide limitations.

Ramps - need level resting place every 9 metres.

Blind - maps and signs should be bold and contrasting colours eg. yellow and green orange and green

Get <u>thermoform maps</u> made of the parks for the blind - they are stamped out on a type of plastic and are very cheap to produce.

Need for advisory committee to check facilities as they are built.

Australian Standard does not fully cater for needs of dwarfs - would be good idea to have ramps/steps in front of 1 toilet and basin would also benefit children.

Toilet doors opening out are very advisable - benefit any person who faints, as well as epileptics. Another alternative would be to have a <u>large gap</u> at the bottom of the toilet door so a collapsed person is visible. ŧĽ.

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APPENDIX

Table A1 CHRONIC ILLNESS CONDITIONS

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International Code No	Major Categories of Illness	No pe in Au	r 1,000 stralia	
000-136	Infective and parasitic diseases (inclu late effects of poliomyelitis)	des	4.3	
140-239	Neoplasms (tumours)		6.8	
240-279	Endocrine, nutritional and metabolic diseases 23.7 (includes diabetes, dwarfism)			
280-289	Diseases of the blood and blood-forming	eases of the blood and blood-forming organs 9.8		
290-315	Mental disorders (includes psychoses, neuroses, 24.0 alcoholism, mental retardation)			
320-389	Diseases of the nervous system and sense organs 113.2 (includes Parkinson's disease, epilepsy, multiple sclerosis, Huntington's Chorea, cerebral palsy, muscular dystrophy, blindness and deafness)			
390-458	Diseases of the circulatory system (includes 150.4 heart disease, strokes)			
460-519)iseases of the respiratory system (includes bronchitis and asthma)		175.4	
520-577	Diseases of the digestive system		38.4	
580-629	Diseases of the genito-urinary system		14.6	
630-678	Complications of pregnancy, childbirth puerperium	and	0.35	(includes 760-779)
680-709	Diseases of the skin and subcutaneous	tissue	57.3	
710-739	Diseases of the musculoskeletal system connective tissue (includes rheumat and arthritis)	and tism	135.5	
740-759	Congenital anomalies (includes spina b	oifida)	6.9	
760-779	Conditions originating in perinatal pe	period (figures included with 630-678)		
780-796	Symptoms, signs and ill-defined condit	tions	13.7	
800-999	Accidents, poisoning, violence		16.5	
	Absence of limbs or organs		137	
Total no of	conditions per 1.000 of population:		804.6	

DESCRIPTION OF RELEVANT CHRONIC IMPAIRMENTS AND THEIR LIMITING EFFECTS

Infective and Parastic Diseases

1 Poliomyelitis

Poliomyelitis is an acute viral disease affecting anterior nerve cells of the spinal cord and brain stem, causing paralysis of the muscles. The virus does not strike in a regular pattern and in some cases, recovery may be complete. In others, residual effects may involve complete or partial muscular paralysis, for example, in one leg or arm. In severe cases, paralysis of all four limbs may be virtually complete. Polio victims are generally less disabled than victims of many other illnesses (see Table A2), many are not confined to wheelchairs and most can drive. The disease is now largely controlled by vaccines.

Endocrine, Nutritional and Metabolic Diseases

2 Diabetes

Diabetes is a disorder in which the body is unable to control the use of sugar as a source of energy. This is caused by failure of the pancreas to produce sufficient insulin which regulates the use of glucose by the body. When diabetes is present, the amount of sugar in the blood exceeds normal levels and escapes into the urine. Severe reactions can occur if too much or too little insulin is present, and in extreme cases, nerve degeneration may impair walking ability, diabetic gangrene may develop and leg amputation may be necessary. Diabetes can be a cause of progressive sight impairment. In most cases, however, the disease can be kept under control by drugs or daily insulin injections, dietary care, exercise and special care of feet, teeth, etc. Diabetes affects at least 1% of the population.

Diseases of the Blood and Blood-Forming Organs

3 Haemophilia

This is a hereditary disease affecting males in which the blood clots only very slowly, so that a minor cut or bump can cause prolonged bleeding. In severe cases, internal bleeding erodes joints of arms and legs and



no directly associated effects
directly associated effects in some cases, or slightly associated effects in general
commonly associated effects, particularly prevalent where the disability is severe
associated effects in the majority of cases, general where the disability is severe
associated effects in all cases, with exceptions only where the disability is minimal

TABLE A2 HIERARCHY OF DISABLING CONDITIONS

(Source: Goldsmith, 1976, p45)

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the patient may have to use a wheelchair. The disease affects about 1 in 35,000 (ie. about 100 cases in Victoria).

4 Mental Disorders

These include psychoses, neuroses, personality disorders, alcoholism and drug dependence.

A psychosis is a major mental disorder of organic and/or emotional origin in which there is a departure from normal patterns of thinking, feeling and acting. Common characteristics include loss of contact with reality, distortion and perception, regressive behaviour and attitudes, diminished control of elementary impulses, delusions and hallucinations. Impairment of mental function has developed to a degree that interferes grossly with ability to meet ordinary demands of life. The most common psychoses include schizophrenia, manic depression and paranoia. Autism is a psychosis originating in childhood which leads to problems in language understanding, speech and social relationships.

The second major category of mental illness is neurosis. On the whole, neuroses are less severe, involve minimal loss of contact with reality, although thinking and judgement may be impaired. Patients with neuroses are not normally in institutions. Neurotic disorders include anxiety states, hysteria, phobias, and depression.

Before the twentieth century, mental illness was not understood and many of those affected were rejected and feared, perhaps even tortured and killed. Today, the behavioural model (rather than the medical model) of psychiatric illness regards abnormal behaviour as learned rather than symptomatic of some underlying defect or disease.

5 Mental Retardation

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There are many definitions of mental retardation in the literature; all of these invariably involve two criteria - intellectual limitation and social incompetence. For example, Stein and Sessoms' definition (1977, p 69):

> "the subaverage general intellectual functioning which originates during the developmental period (ie. first 18 years of life) and is associated with impairment in adaptive behaviour".

Classification according to intellectual functioning reveals those displaying mild impairment on one hand, the majority, and those displaying moderate, severe or profound retardation on the other hand. The dividing line between these two groups is roughly at an IQ measure of 50.

Levels of Measured Intelligence

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Level	Stanford Binet IQ Test		
Borderline retardation	68-83		
Mild retardation	52-67		
Moderate retardation	36-51		
Severe retardation	21-35		
Profound retardation	≤ 20		

<u>The mildly retarded</u> are limited with respect to academic achievements, but may attain a level of self-sufficiency as adults through special education.

<u>The moderately retarded</u> can learn to care for personal needs, travel by themselves in their own neighbourhood, and do many tasks at home or in a sheltered workshop.

<u>The severely retarded</u> have potential for self-care, but their economic potential is severely limited.

<u>The profoundly retarded</u> cannot usually become independent in eating and dressing.

Retardation is also classified according to social adaption. Four levels have been defined, ranging from levels 1 and 2 ('educable'), level 3 ('trainable') to level 4 ('need total care'). Only those individuals who demonstrate deficits in both measured intelligence and adaptive behaviour should be classified as mentally retarded. There is obviously a positive relationship between intelligence and adaptive behaviour (see Figure A1). Mild retardation may be minimised by education - a child classified as mildly retarded may be defined as 'normal' in later years through improvement in his adaptive behaviour.





The causes of mental retardation are both biological (eg. Down's syndrome) and environmental. In most cases the exact cause is unknown. It appears that about 80% of mild cases are, to varying degrees, victims of an adverse environment. Below an IQ level of 50, 100% of cases have a biological cause. The retarded are often affected by additional physical impairments. for example, auditory and visual impairments, mobility impairments caused by cerebral palsy or spina bifida and speech impairments. The proportion of mentally retarded in a population is commonly specified as 3%, a figure based on expert opinion rather than hard data. A review of past attitudes toward the mentally retarded indicates the reasons behind the social stigma which still exists, to some extent, today. Attitudes in different eras ranged from pity and protection to persecution and ridicule. During the Middle Ages, the mentally retarded were exploited as court jesters and fools. and during the Renaissance, such individuals were usually referred to as 'Village Idiots' or 'Simple Simons'. In the more recent past, institutionalisation has been the policy so that the retarded were 'hidden' from the community, so as not to embarrass their families. Before World War I. public programmes were geared towards providing basic necessities only for these people. Since that time, there has been a gradual change in attitudes and an attempt to integrate both mentally and physically handicapped people into the mainstream of society.

Diseases of the Nervous System and Sense Organs

6 Parkinson's Disease (Paralysis Agitans)

Parkinson's disease is a chronic, progressive disease of the brain, principally affecting people over the age of 50 years. It is characterised by tremors and muscle rigidity causing slowness of movement, shuffling gait and impaired speech. There is no cure.

7 Cerebral Palsy

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Cerebral palsy is a collection of symptoms associated with brain damage caused at birth, following accidents, disease or faulty development in early life. According to the location of the injury, varying disabilities occur. The most common is spastic cerebral palsy; other types include athetoid cerebral palsy (athetosis) and flaccidity. A spastic person has particular problems with the large leg muscles in front of and at the sides of the thigh and calf. When spastic, they tend to overpull the muscles on the opposite side, so the legs are drawn in together, the knees tend to flex into a bent position, the toes are drawn down and the heels up. In the upper limbs, similar problems are found, hence the typical gait and arm posture of the cerebral palsied child. The degree of spasticity varies, and all four limbs may be affected, or just two, leaving one side normal.

Athetoid cerebral palsy is characterised by writhing movements in gait patterns, arm movements and facial grimaces.

The effects of cerebral palsy are permanent and regular treatment is necessary to prevent disabilities becoming more severe. Many spastic people need to use calipers or wheelchairs. Surveys of cerebral palsied children have shown that at least half are intellectually retarded, three quarters have some degree of speech defect, a quarter have poor vision, a quarter have hearing loss and an unknown number have epilepsy.

There are approximately 3,000-4,000 people affected by cerebral palsy in Victoria.

8 Multiple Sclerosis

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Multiple sclerosis is the most common organic disease of the central nervous system. It is also the most disabling (see Table A2). It can cause locomotor paralysis, incoordination, incontinence, vertigo, slurring of speech, loss of sensation, deafness, blindness, impotence and impairment of mental faculties.

The disease is often characterised by relapses which may be followed by a gradual, partial or complete recovery. Remissions may also occur over periods of months or years when the disease is not active and there is no deterioration. In some cases, after one or two attacks, the disease may be permanently arrested, while in other cases, there is a gradual deterioration with no recovery. About one-third of people affected have the progressive form of the disease, while about two-thirds the cyclical form with remissions succeeding exacerbations. Multiple sclerosis differs markedly from person to person and shows so much variation, even on a day to day basis, that it is difficult to predict its course. People with multiple sclerosis may experience swings of mood between exaggerated cheerfulness and depression. They are likely to become irritable, apathetic and disinclined to do things for themselves, and deleterious personality changes often occur. These pathological conditions are the consequence of damage to the central nervous system, rather than responses to physical disablement.

Multiple sclerosis is not inherited, though it is sometimes familial. It is a disease of civilisation and the infecting agent may be a virus. About two-thirds of those with multiple sclerosis are affected between the ages of 20 and 40 years, with most becoming aware of symptoms in their late twenties.

Multiple sclerosis patients need constant care as their disease progresses, most require wheelchairs and few would be able to drive cars or travel alone, except in very mild cases or during remissions. Some eventually have to live in nursing homes or hospitals.

Approximately 1,500-2,000 people have the disease in Victoria.

9 Epilepsy

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Epilepsy is a relatively common disorder of the nervous system, affecting at least one person in two hundred. It is characterised by fits and/or sudden loss of consciousness. A warning of an attack may be recognisable, and between attacks the individual is normal. In the great majority of cases the condition is not handicapping and medication usually reduces the number and severity of attacks.

The two main types of seizures are:

. Grand mal, or major fits . Petit mal, or absences

Petit mal is the most common; the person may be unconscious for 5-10 seconds, but usually does not fall. Turns are generally confined to children and are not dangerous.

Grand mal episodes are more frightening as the person usually falls to the ground, becomes unconscious and goes into a spasm. The attack is usually over within 5 minutes but the patient may be confused or drowsy for some time.

There is still considerable prejudice in the community relating to epilepsy. A 1972 study in Sydney found that 13% of adult Australians would not be happy about allowing their children to play with a child who had epilepsy ('The Age' 23/11/79).

10 Muscular Dystrophy

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Muscular dystrophies are a group of genetically determined, hereditary diseases causing progressive muscle weakness. There are three main types:

The Duchenne type, or pseudohypertrophic muscular dystrophy which affects boys only, usually between ages of 2 and 5. Walking ability is usually lost by the age of 12, and the paralysis spreads until all muscles are involved except facial muscles. Death occurs with complete paralysis before adult life is reached, usually between 16 and 20 years.

Limb girdle dystrophy which affects both sexes, starting during adolescence or early adult life. It is a slowly progressive disease which affects muscles of the shoulder and hip girdles. People affected usually survive to middle age but are severely disabled.

Landouzy-Dejerine dystrophy is a more benign form affecting both sexes and beginning in teens or early adulthood. Face, shoulders and arms are affected and the person may have a normal life span although becoming increasingly disabled.

A child or adult with muscular dystrophy usually needs a wheelchair as muscle power deteriorates and eventually, an electric wheelchair may be necessary. Approximately 1,200 people would be affected by one form or another of muscular dystrophy in Victoria.

11 Other Disabling Diseases of the Nervous System

There are numerous other, less common, diseases of the nervous system, many of which are progressive with no prospect of cure. These include:

Huntington's Chorea: a hereditary disorder marked by abnormal, involuntary movements and mental deterioration terminating in dementia. It generally affects people in their forties. 238 people have the disease in Victoria.

The hereditary ataxias (eg. Friedrich's ataxia): these are rare conditions which run in families. The part of the nervous system controlling muscular coordination steadily degenerates, causing paralysis and death.

Motor neurone disease: rare disease of central nervous system causing rapid and progressive physical deterioration. Onset usually in middle age.

Syringomyelia: a rare and slowly progressive disease of the nervous system affecting adults.

12 Blindness

In Victoria, a person is 'legally blind' if he has less than 10% sight in his best eye after correction (glasses). There are 5,000-7,000 blind people in Melbourne, and approximately 10,000 in Victoria. The totally blind represent only a small proportion of the visually impaired and more than 50% of the legally blind have some usable vision. There are various types of vision impairments, including colour blindness, tunnel vision, and the reverse situation, where vision directly in front of a person is limited.

Many blind people are also old, and for them mobility is their major problem. Blindness in the community is increasing because the population is ageing.

Causes of blindness include glaucoma, cataracts, detached retina, congenital birth defects and accidents.

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If blindness occurs at some stage after birth, psychological problems often have to be overcome, such as general self-doubt and denigration of ego. Limitations occur in five major areas of human behaviour due to blindness - personality adjustment, mobility restrictions, space perception, communications and creativity. In 1932, a psychologist (T D Cutsforth) said: "Blindness is not the mere absence or impairment of a single sense. The human organism functions as a dynamic whole and blindness changes and completely reorganises the mental life of an individual". (Case, 1966).

13 Deafness

Deafness affects people in varying degrees. There appear to be three main categories:

The totally deaf, who cannot hear any sounds at all. The usual causes include congenital birth defects, disease, or steady audial deterioration culminating in total deafness in old age.

The partially deaf, who have a limited ability to hear, but can still detect major sounds such as loud noise or warning sirens.

The hard of hearing, which comprise 5% of the population. Sometimes a hearing aid can take a partially deaf person into the 'hard of hearing' category. Loss of hearing in one ear only makes it difficult to determine the location of sound sources.

There are 1,600 Victorians sufficiently deaf to have to use sign language. Only 5% of the pre-lingual deaf (born deaf or become deaf before age of 2 years) can speak and lipread. It has often been stated that deafness is a worse handicap than blindness - deaf people are probably more isolated than the blind due to their inability to participate in conversation. Even background noises are important as they keep a person in touch with his environment. A totally deaf person is unaware of background noise, warning sounds, aesthetic sounds (eg. music) and of course, speech. Due to his inexperience in communicating, a deaf person has difficulties in the understanding of written language.

14 Deaf-Blindness

This dual handicap is particularly disabling, and is often caused by the mother contracting rubella during pregnancy. Deaf-blind children are very difficult to educate and usually have psychiatric problems such as autism. - Some also have brain damage.

Diseases of the Circulatory System

Diseases associated with the heart and circulatory system are the second most common type of chronic disability. Common causes are arteriosclerosis, coronary heart disease, high blood pressure and stroke.

15 Cardio-Vascular (Heart) Diseases

The degree of heart disorder varies from conditions where ordinary physical activity causes no discomfort to those where it is impossible to perform any activity without discomfort. For people with severe heart disorders, the conservation of energy and avoidance of excessive physical activity, such as climbing stairs, are important.

16 Cerebro-vascular disease, causing hemiplegia

Hemiplegia is paralysis of one side of the body, commonly referred to as stroke. It may be caused by damage to the brain due to thrombosis, embolism or cerebral haemorrhage or, less often, head injury or brain tumour. In some cases, paralysis is only temporary and recovery is complete. Recovery is more likely to occur in the leg than in the arm.

The extent of paralysis varies considerably. Speech may be affected and also the muscles of one side of the face. Mental as well as physical changes may occur, including complete personality changes and loss of memory. There may also be incontinence. Some hemiplegics can use a stick or caliper, but a person with severe hemiplegia is obliged to use a wheelchair.

Diseases of the Respiratory System

Chronic respiratory diseases include bronchitis and asthma and affect 17.5% of the Australian population.

17 Bronchitis

Chronic bronchitis involves inflammation of the bronchial tubes, causing coughing and shortness of breath. It occurs most frequently among elderly people, especially men.

18 Asthma

Asthma is a respiratory complaint characterised by paroxysms of difficult breathing and wheezing. It is caused by narrowing of the small air ducts of the lungs.

The incidence of asthma in Melbourne schoolchildren aged 10 years has been noted to be 11%, the majority of these being only mildly affected. It does, however, cause more lost school days than any other condition. The majority of children grow out of asthma at puberty, although one quarter, particularly those severely affected, will continue to have the illness during adolescent and adult life.

There is no single cause of asthma, different factors act at different times during childhood and adolescence. The following factors are important: family background, infection, pollens, house dust and animals, nervous tension, exercise, sudden temperature changes, coughing and laughing, irritating dusts and smog. There is no simple cure for asthma, however, the severe asthmatic can be greatly helped by modern medical treatment.

Diseases of the Musculoskeletal System and Connective Tissue

19 Rheumatism and Arthritis

The terms arthritis and rheumatism refer to a group of conditions where there is inflammation of the joints. The chief diseases are osteoarthritis and rheumatoid arthritis, which between them account for the prescription of more wheelchairs than any other disabling condition. Rheumatism is a lay term generally applied to inflammation or degeneration of joints and muscles, and should not be confused with rheumatoid arthritis. These diseases are the mostly costly of all in terms of lost work time, accounting for an annual loss of \$51 million in Victoria alone. Far more medical research has been devoted to the killing diseases such as cancer, than to diseases such as arthritis which are crippling but not fatal.

Osteoarthritis involves painful degenerative changes of the joints. In the majority of cases, there is no serious disability. Osteoarthritis of the hip joint is painful, however, causing impairment of gait and pain while walking.

Rheumatoid arthritis is the most crippling and painful of all rheumatic diseases and strikes 4% of women and 1.5% of men in our community. It is most common among the middle aged. The disease usually starts in the small joints of the hands or feet, later involving other peripheral joints including shoulders and hips. Affected joints are painful, becoming swollen and stiff.

20 Brittle Bones (Fragilitas Ossium)

A rare inherited disease which may cause severe deformity. Fractures are frequently caused by trivial falls, or even sneezing, although liability to fracture reduces with age. The person affected may be chairbound.

Congenital Anomalies

21 Spina Bifida

Spina bifida is a congenital abnormality of the spinal cord. The developing spinal canal fails to close completely and as a result, part of the spinal cord can herniate through, damaging the nerves emerging from it.

This causes paralysis of the legs, underdevelopment of bones, incontinence and in many cases, brain damage. Spina bifida is often accompanied by hydrocephalus, where excess fluid builds up in the brain.

If paralysis is limited to the thighs, calipers can be worn, but if the legs are completely paralysed, a wheelchair must be used. There are approximately two or three spina bifida babies born with every 1,000 births, but many die soon after birth. There may be 3,000-4,000 people living in Victoria today who are affected by spina bifida.

Accidents and Absence of Limbs

22 Paraplegia and Quadriplegia

A paraplegic is a person who is paralysed as a result of injury to, or disease of, the spinal cord below the neck. This causes paralysis of the trunk and lower limbs.

A quadriplegic is a person who is paralysed as a result of either injury to, or disease of, the spinal cord in the neck. This causes paralysis of legs and trunk and also upper extremities. The higher the level of injury the greater the arm and hand impairment.

Most paraplegics and quadriplegics are incontinent, and are confined to wheelchairs. Quadriplegics with no residual arm or hand function need to use electric wheelchairs. Road accidents are the most common cause of paraplegia and quadriplegia, closely followed by diving and swimming accidents. Before the second world war, most people with spinal injuries died within a few weeks, but now the initial death rate is only 5%. There are approximately 1,000 spinal injury patients in Victoria, and almost 100 new cases appear annually. 73% of spinal injuries affect people under the age of 40, and two-thirds are male.

23 Amputation

A large proportion of amputees are over 60 years of age and leg amputations are more common than arm amputations. Most cases of amputation are attributable to disease, particularly arteriosclerosis and diabetes.

Lower limb amputees are not severely disabled, and artificial legs are more often successful than artificial arms. Young amputees can usually adapt successfully to wearing a prosthesis (artificial limb), and double lower limb amputees may be able to walk. Among older people, the remaining limb is more likely to fail and there is a greater change of multiple handicap, particularly of a cardiovascular or respiratory nature. As a consequence, elderly amputees invariably rely on a wheelchair for mobility.

Among lower limb amputees, the most distressing effect can be phantom pains of the non-existent foot which pain-killing drugs are incapable of defeating. Impairments with Varying Causes

24 Dwarfism

Dwarfism, or seriously stunted growth, may be caused by any one of a variety of factors, including hormonal failure, bone disorders, defective genes and poor nutrition. About half of Australia's dwarfs suffer from foetal bone disorders, the most common of which is achondroplasia, a disease causing stumpiness of the extremities, a large globular head and powerful torso. Pituitary dwarfs, commonly known as midgets, are perfectly proportioned and account for 10-20% of the total. Most dwarfs attain a final height of between 100 and 137 cm (ie. 3'2" to 4'5").

Dwarfs live a normal life span and with the exception of some midgets who fail to reach puberty, they are generally able to have children. Their main handicaps result from their abnormally short stature and limited reach. Approximately one in every 5,000 births is a dwarf, so there would be approximately 700 dwarfs in Victoria.

In past eras, dwarfs were ridiculed and encouraged to join circuses. Even today, dwarfs are still associated with the 'funny little men' popularised in children's fairy stories, eg. 'Snow White and the Seven Dwarfs', 'Noddy and Big Ears'.

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