

**ACCESSIBILITY FOR WHEELCHAIR USERS IN
PUBLIC PARKS: A COMPARISON BETWEEN
ADELAIDE AND KUANTAN**

BY

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ABSTRACT

This study investigated the accessibility of wheelchairs users in public parks in Kuantan, Malaysia and Adelaide, South Australia. Anthropology of wheelchairs users locally is identified comprehensively. The investigation takes into consideration the needs and difficulties of wheelchairs users to access public parks as well as fundamental facilities required by wheelchair user in public parks.

An inclusive study on Malaysian legislation, *The Persons with Disabilities Act 2008*, Australian legislation, *Disability Discrimination Act 1992*, Malaysian Standard *MS 1184:2002*, Australia Standard *AS 1428.1-2001* and policies and guidelines used by Majlis Perbandaran Kuantan (MPK) and Adelaide City Council (ACC) when planning for people with disabilities specifically wheelchair users is undertaken.

The effectiveness of these governments documents is analysed and compared by conducting observation and documentation on accessibility in selected public parks in Kuantan and Adelaide. Esplanade Park, Kerang Park, Karrawirra-Park 12 Parade Grounds Park and Elder Park are chose to serve as case studies.

Comparison on the observations and documentations conducted between these four parks found that the Australian government document is more effective when compared to Malaysian government documents. The study also found, in providing accessibility for wheelchair users in public parks, common issues such as budgets, conflicts with infrastructure, conflicts with other disabilities, natural factors, effectiveness of government documents, and lack of awareness arise in both states. However the issues in Kuantan are more critical.

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Chapter 1: Introduction

1.0 Introductory Background

Disability can represent different meanings to different individuals. Generically, the South Australian *Disability Discrimination Act 1992* defines disability as a total or partial loss of a part of a body. A more extensive definition is discussed later in Chapter 4.

The *South Australia Government* states that disability can be categorized under six major types comprising acquired brain injury, autism spectrum disorder, development delay, intellectual disability, physical and neurological disability as well as sensory disability.

Mobility impairment falls under the physical disability category this type most affects movement such as walking. Generally people with this type of disability need to use assistive equipment such as walking sticks or wheelchairs in order to move around.

Disability is an international issue. Responding to this issue, as a developing country, Malaysia has demonstrated an active role in the efforts of providing equal opportunity for the people with disabilities through its new legislation, the *Persons with Disabilities Act 2008*. However, consideration of equal accessibility to outdoor environments in Malaysia is still lacking.

Accordingly, the aim of this research is to investigate the appropriateness of key criteria applied for people with disabilities, particularly for wheelchair users in public parks in Australia, for the Malaysia context. A comprehensive investigation of the needs, anthropology and appropriate materials for wheelchair users as well as Malaysian and Australian guidelines, standards and legislations for disabled people will be undertaken in this research.

It is hoped that this research will increase the awareness of the needs of the people with disabilities in public parks among Malaysian architects, landscape architects, planners and local authorities. Significantly, the understanding from the research will contribute to increasing the quality of life of the people with disabilities socially, mentally and spiritually. As a result, it will seek to make them feel appreciated and increase the level of their self-esteem. Gradually, this will then help people with disabilities including wheelchair users to experience a full and equal quality of life. Academically this research will provide framework for those interested in undertaking further research on this topic.

1.1 Scope of the Research

The research is focused on the accessibility of wheelchairs users in public parks in Kuantan, Pahang in Malaysia and Adelaide, South Australia. The needs and difficulties faced by wheelchair users in accessing public parks will be explored. The research takes into consideration the anthropology of wheelchairs users locally and investigates the facilities required in public parks and materials that are suitable for wheelchair users. The effectiveness of Malaysian and Australian legislation, standards, policies and guidelines

are analysed and compared. Lastly this research will seek to recommend some solutions for making Malaysian public parks accessible for wheelchairs and hence improving accessibility for all.

1.2 Research Questions

- i. What are wheelchair users' needs and difficulties in accessing public parks?
- ii. What is the anthropology of wheelchair users, and what are the fundamental facilities and appropriate materials necessary for wheelchair users to access public parks?
- iii. What are the relevant Malaysian and Australian guidelines, standards, policies and legislation for disabled people in public outdoor environments?
- iv. How successful are Adelaide's public parks and Kuantan's public parks in addressing and fulfilling the needs of the wheelchair users?
- v. How effective are the relevant design guidelines, standards, policies and legislation for disabled people in outdoor environments in providing for disabled needs and in influencing architects, landscape architects and planners to consider the disabled needs in their designs?

1.3 Objectives of the Research

- i. To identify the needs and difficulties of wheelchair users to access public parks.
- ii. To identify the anthropology of wheelchair users, fundamental facilities required and appropriate materials for wheelchair users to access public parks.
- iii. To ascertain Malaysian and Australian guidelines, standards, policies and legislation for disabled people in public outdoor environments.
- iv. To conduct field studies in an Adelaide public park and in a Kuantan public park in order to measure the effectiveness of the parks in providing for the needs of the wheelchair users.
- v. To analyze the effectiveness of Australian and Malaysian guidelines, standards, policies and legislation for disabled people in public outdoor environments in providing for the needs of the disabled and in influencing architects, landscape architects and planners to consider these needs in their designs based upon results from these field studies.
- vi. To increase awareness among Malaysian architects, landscape architects, planners and local authorities on the needs and rights of disabled people.

1.4 Thesis Structure/ Chapter Outlines

Sequentially, to answer the research questions and to fulfil the objectives of the research, an understanding of the needs and difficulties faced by people with disabilities is explored. A literature review is provided in Chapter 2. Chapter 3 outlines the methodology of the research. A deeper understanding of disability is presented in Chapter 4 whereas Chapter 5 looks in more depth into the anthropology, needs and difficulties of the wheelchair users in specific. Chapter 6 reviews the Australian and Malaysian Government's documents. Consecutively, the case studies conducted in chosen public parks are presented in Chapter 7. Finally Chapter 8 summarises the comparisons and conclusions of the study.

Chapter 2: Literature Review

2.0 Introduction

Every person from any background has the right to live in a physical environment of equity of access. As a response, governments have sought to enact laws to protect the rights of the disabled. However, grievances still arise from disabled people suggesting that having laws is one thing, ensuring their implementation is another issue. It needs not only initiatives by governments but actions by professionals such as architects, landscape architects and planners as well. Consequently, better actions and improved solutions can only be achieved with adequate knowledge and presence of awareness.

2.1 The Government's Initiatives

In the process of providing equal opportunities for the disabled, considerable initiatives have been taken by Australian and Malaysian governments. In Malaysia, the first rights-based legislation for people with disabilities, the *Persons with Disabilities Act 2008*, emphasizes that disabled people are entitled to equal opportunity in all circumstances. In South Australia, the *Disability Discrimination Act 1992* underlines that it is unlawful to discriminate against a person's disability by refusing to allow access to places the person is entitled to enter. In Adelaide, the Adelaide City Council developed an *Action Plan 2006- 2010* (2006) to assist providing better access to the city. The plan is committed to:

- Promotion of the rights of people with disabilities to participate equitably in the life of the community;
- Freedom from discrimination for all, including people with disabilities;
- Promotion of positive attitudes and behaviours which respects the right to equal access and dignity for people with disabilities;
- Provision of appropriate public and private infrastructure to support people with disabilities, having regard to their type or types of disability, gender, cultural background and income.

2.2 The Voice of Disabled

In Malaysia, however, there have been several challenges which question the effectiveness of the law and the government's initiatives. Yue (2009) claimed that the *Persons with Disabilities Act 2008* had been reduced to a mere administrative document. This statement was supported by Christine's complaint (2009, cited in Yue, 2009), affirming that even though the *Act* had come into force, she still found herself being discriminated against because of her physical disability. Further, a proclamation from Mah Hasan (2009, cited in Yue, 2009), President of the Malaysian Confederation of the Blind, declared that the final version of the *Act* did not fully consult people with disabilities

2.3 The Professionals' Responsibilities

Responding to these voices, it appears that there is a limit to what legislation can do in providing equal opportunities to disabled people. Initiatives taken by the governments cannot alone provide equality to people with disabilities. Imrie & Hall (2001) state that the problem of accessibility cannot be tackled in a piecemeal manner. They claim that it requires a holistic approach and that there is a need for architects, engineers and urban planners to realise this. A survey by the National League of Cities (1967) found, in general that, women, the young and the highly educated are more concerned with the problem of environment barriers than the general populace. As educated professionals, therefore it is architects', landscape architects' and planners' responsibilities to provide full access in addition to designing safe and comfortable public spaces for people with disabilities.

2.4 Lack of awareness

Despite knowing their responsibilities, professionals still seem to disregard the importance of accessibility for people with disabilities. Winslow (1977) noted that professionals perceive that they feel that there is not a need for barrier free design because there are not many handicapped people in community (Bednar, 1977). This view is often expressed by professionals in the belief that there is little or no effective demand for the provision of an accessible built environment (Imrie & Hall, 2001). One outcome from an interview undertaken by Imrie & Hall (2001) was that a developer questioned the point of providing facilities for disabled people when he never saw any people and claimed that it would be a waste of resources. In contrast, interviews carried out by Templer & Jones (1977) indicated that people with disabilities made remarks such as "I would go out more often or make more trips if public transportation was made accessible". This remark suggests that the reason the people with disabilities were not to be seen in society was because built environments were not accessible for them.

2.5 The Significance of Knowledge

It is important that the awareness of the needs of people with disabilities be communicated to professionals. Education is one of the key elements to increase awareness and this enhanced awareness can influence professionals in protecting the rights of the disabled. Accordingly, if Malaysian laws are to be effective and awareness among Malaysian professionals is to be increased, there is a need to disseminate more knowledge. General Director of the Malaysia Local Government Department (Malaysia Ministry of Housing & Local Government, 1999) stated that even though access requirements had been integrated into the Malaysian Uniform Building By-Laws, information and technical knowledge concerning barrier free environments was still lacking among policy makers, urban planners, architects, designers and local authority officers. In contrast, a statement by the *Adelaide Action Plan 2006-2010* (2006) claimed that Adelaide was one of the most accessible cities in the world demonstrating the effectiveness of Council's policy in disseminating the knowledge of barrier free design. Goltsman & Driskell (1992) cite that even though landscape architects have made some improvements in providing entries into public parks for people with disabilities, once a visitor with a disability is further than the parking area, he or she is usually excluded

from many activities. This statement suggests that even if professionals have the awareness to design for people with disabilities, without a comprehensive understanding of this knowledge, the design will become impractical and thus fail to provide full access to people with disabilities.

2.6 The Demands of Research for Disabled People in Parks

In order to gain knowledge, an essential approach that has to be taken by professionals is to identify the needs of people with disabilities in outdoor environments. Designing for people with disabilities involves searching out design solutions that respond to their needs. It is also important for designers to be aware of the characteristics associated with disabilities and in particular the effects these have on people whom use their environments (McNab (1969), Hougland (1985), Carstens (1985), Jones (pers. comm.)). In fact an understanding of these needs is the main element to research. A comprehensive understanding can only be achieved through inclusive research. Stoneham & Thoday (1994) point out that there has been little research on the preferences of the disabled, especially the range of facilities and features that are wanted in public parks and through observation, and that existing sites are often unsatisfactory. They claim that this provides little guidance to direct new initiatives, therefore making it harder for design policies to be implemented with any conviction.

2.7 The Needs of Wheelchair Users in Parks

The needs of people with disabilities encompasses a wide range of complex issues because different categories of disability have different necessities. Hence it is difficult to facilitate all needs in one single design. Nevertheless, there are still certain fundamental needs that can be taken into account which can offer benefits to all, including the mobility disability. Stoneham & Thoday (1994) believe that where a design is to serve a group of people it must cater for those with the more restricted disabilities. The most common and often restricting disabilities are associated with reduced mobility (Martin, Meltzer & Elliot, 1988). Wheelchair users, as a small part of the population of people with disabilities, are often the largest demander for specific landscape facilities (Stoneham & Thoday, 1994). Because wheelchair user needs are the most demanding, when outdoor environments have full wheelchair access, they will generally cater for people with other mobility disabilities. Therefore, by improving accessibility for people with mobility disabilities, it is hoped to improve access for all categories of disabled people improving access for everyone.

2.8 Summary

In conclusion, it is hoped that with sufficient knowledge, comprehensive research in understanding the needs of people with disabilities and increase awareness among professionals, better considerations and improved solutions can be archived in order to improve the quality of life of people with disabilities in general. It is important to emphasize that everyone deserves equal opportunities in their life regardless of any difference.

Chapter 3: Methodology

3.0 Introduction

This research project seeks to investigate the needs and difficulties of wheelchair users to access public parks, to identify the anthropology of wheelchair users, fundamental facilities required and appropriate materials for wheelchair users to access public parks and having regard to Malaysian and Australian guidelines, standards, policies and legislations for disabled people in public outdoor environments. For this reason, a mixture of qualitative and quantitative research methodologies was selected.

Research was carried out in several stages in order to gather data for analysis, comparisons and report writing. This chapter outlines the theoretical framework of this interpretive research through the following steps:

3.1 Literature Review

- i. Review all literature on related topics from previous research including secondary sources such as books, magazines, journals and published articles; and,
- ii. Review all literature of relevant national and local government documents, guidelines, policies and standards from both Australia and Malaysia.

3.2 Primary Data Collection

3.2.1 Pilot Interview

Data was collected by interviewing wheelchairs users and professionals such as landscape architects, planners and authorities through structured questions in both Adelaide and Kuantan. The questions were designed for wheelchair users and professionals are outlined below.

3.2.1.1 Wheelchair Users

- i. What caused your disability?
- ii. How long have you used a wheelchair?
- iii. How do you spend the leisure or recreational time?
- iv. Do you go to park?
If yes,
Which park do you often go to?
What are the qualities that attract you to this park?
Do you think this park provides facilities for people with disabilities especially for wheelchair users?
If no,
What is missing, or a problem?
- v. Can you describe to what is your dream park? What are the things that you think this park should have?
- vi. Do you know your legal rights as a person with disability as to accessibility?

- vii. Do you think that people with disabilities should have special rights in the community as to accessibility?
- viii. What law protects your rights as a person with disability?
- ix. Do you think that governments provide adequate rights for people with disabilities as to accessibility and public place design?
- x. What other rights that should be addressed as to accessibility and public space design?

3.2.1.2 Professionals

- i. Why do you think it is necessary to provide full access and satisfactory facilities for wheelchair users in public parks in Australia
- ii. Have public parks in Australia provided a satisfactory level of access and facilities for wheelchair users?
- iii. What is your opinion about public parks in Adelaide in term of their accessibility to wheelchair users? Do these public parks provide an adequate level of access and facilities for wheelchair users?
- iv. Who, in your opinion should be responsible for ensuring that public parks in Adelaide have a satisfactory level of access and facilities for wheelchair users?
- v. In your opinion, how seriously do you think the needs and difficulties of wheelchair users are being considered in the process of designing public parks in Adelaide?
- vi. What, from your perspective are the three most important issues and problems faced in providing a satisfactory level of access and facilities for wheelchair users for public parks in Adelaide?
- vii. From your knowledge, what are the relevant guidelines that inform the provision of access and facilities for wheelchair users for public parks in Adelaide?
- viii. From your opinion, how effective are these guidelines in addressing the rights of people with disabilities in general, and for wheelchair users specifically?
- ix. Who do you think should be is responsible for ensuring the implementation of these guidelines?
- x. From your knowledge, is there any penalties should these guidelines fail to be fulfilled?
- xi. In your opinion, what are the three most important propositions that need to be addressed to improve access and facilities for wheelchair users in Adelaide?

Responses from the interviews were recorded subject to approval.

3.2.2 Observation Techniques

Observation and documentation on accessibility was conducted in select public parks in Adelaide and in Kuantan. Elements that were identified, observed and analyzed include:

- Are ramps provided? If provided, do they fulfil the anthropology of the wheelchairs users?

- Are pavements continuous and even?
- Are there obstacles in pathways that can impede wheelchair movement such as street furniture?
- Are fundamental facilities, such as toilets, telephone booths and drinking fountains, adequately provided for wheelchair users? If provided, do such facilities accord with the required Standards?
- Are there sufficient signage indicating facility locations for wheelchair users?
- Are car parking spaces provided for wheelchair users?
- Is movement between car space and park easy for wheelchair users?

Photographs will be taken while field studies are being conducted for further documentation. Observation is helpful in:

- getting a better view and understanding of the context ; and
- gaining new insights and discovering things that may have not been asked, mentioned, or not revealed during interviews.

3.3 Data Analysis

- a. Material collected from both observation and interview will be analyzed.
- b. Drawings such as plans of both case study parks and detailed drawings of the facilities provided in these parks will be analyzed.
- c. The effectiveness of Australian and Malaysian guidelines, standards, policies and legislations will be analyzed based upon the data analysis and results from field study in Adelaide and Kuantan.

Chapter 4: Disability

4.0 Definitions

Disability in relation to a person is defined in the South Australian *Disability Discrimination Act 1992* as:

- (a) total or partial loss of the person's bodily or mental functions; or*
- (b) total or partial loss of a part of the body; or*
- (c) the presence in the body of organisms causing disease or illness; or*
- (d) the presence in the body of organisms capable of causing disease or illness; or*
- (e) the malfunction, malformation or disfigurement of a part of the person's body;*
or
- (f) a disorder or malfunction that results in the person learning differently from a person without the disorder or malfunction; or*
- (g) a disorder, illness or disease that affects a person's thought processes, perception of reality, emotions or judgement or that results in disturbed behaviour*

As in the Malaysian *Persons with Disabilities Act 2008*, persons with disabilities are interpreted as:

- (a) those who have long term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society.*

4.1 Types of Disability

The Government of South Australia has categorized disability under six main types which include acquired brain injury, autism spectrum disorder, developmental delay, intellectual disability, physical and neurological disabilities and sensory disabilities. These types are expanded below.

4.1.1 Acquired Brain Injury

Acquired brain injury is defined as any brain injury after birth that might have occurred from either mild injury or major injury. An acquired brain injury that results from mild injury will cause a short loss of consciousness and does not require medical treatment. However, on the other hand, if the injury is resulted of a major accident, it will cause a significant disability and required medical treatment. People with acquired brain injury have the potential of facing difficulty with concentration, changing in behaviours such as having difficulties of managing anger or planning and carrying out daily activities or routines as well as experiencing physical effects such as pain and changes in senses in a part of the body.

4.1.2 Autism Spectrum Disorder

Autism spectrum disorder encompasses having difficulties with communication and social interaction and demonstrates limited repetitive patterns of interest and activity. Autism spectrum disorder is believed to be present soon after birth and the

characteristics of the disorder are noticeable in the three first years of life. People with autism spectrum disorder may also have intellectual disability and impaired sight.

4.1.3 Developmental Delay

Development delay describes the development of a child that is slower than other children of a similar age. Children with development delay may have delays in their gross motor skills such as walking, fine motor skills such as the use of hands to manipulate objects, speech and language to communicate and understanding, cognitive such as learning as well as having a delay in their social and emotional development.

4.1.4 Intellectual Disability

In general intellectual disability is characterised in individuals as having major difficulties than others in learning, understanding, remembering, concentrating and problem solving in new tasks due to a development disorder. However the international definition defines intellectual disability as a person who has all of three criteria including having significant limitations in intelligence, having significant limitations in daily basic skills and that such are apparent before the age of 18. People with an intellectual disability may also have dual disability which includes an intellectual disability itself along with mental illness. They may also have a physical impairment and sensory impairment.

4.1.5 Physical and Neurological Disability

Physical disability is defined as having difficulties in movement due to impaired musculoskeletal systems and connective tissues, which may be genetic or acquired. Neurological disability is defined as having difficulties in movement due to the way the brain processes information and communicates with the rest of the body, which also may be genetic or acquired. People with a physical or neurological disability need to use assistive equipment such as walking sticks or wheelchairs in order to move around.

4.1.6 Sensory Disability

Sensory disability is defined as having visual impairments or blindness or having hearing impairments or deafness. People with a sensory disability are either born with no vision or hearing, experience radical reduction of vision or hearing, or lose these senses due to an accident or because of the natural aging process. People with visual impairments or blindness need to use assistive equipment such as walking sticks to move around while people with hearing impairments or deafness need to use hearing aids or sign language to communicate with others.

4.2 Statistics

4.2.1 Malaysia

According to *Malaysian National News Agency* (2009), there are more than 1.3 million people with various types of disabilities in Malaysia. This number suggests that more than 4.6% of the total population of Malaysia has some sort of disability.

4.2.2 Kuantan

Based on statistics from the *Social Welfare Department of Malaysia*, in 2008, some 2434 residents in Kuantan reported that they had a disability. This number implies that 0.6% of the total population in Kuantan has a disability. Of this 2434, 15.9 % or 387 reported having a physical disability.

4.2.3 Australia

According to the *2003 Australian Bureau of Statistics (ABS) Survey of Disability, Ageing and Carers (SDAC)*, some 3,958,300 in Australia reported possessing a disability. This number conveys that one in five people in Australia, or 20% of the total population of Australia has some sort of disability. Some 86% reported that this disability limited their core activities such as self-care, mobility or communication.

4.2.4 Adelaide

The *1998 Australian Bureau of Statistics (ABS) Survey of Disability, Ageing and Carers, Summary Tables, South Australia* recorded that 22.4% of the South Australian population had a disability. Of this, some 6.3% reported that this disability had profound impact upon their core activities. In addition, some 4.2% reported that they had a moderate core activity restriction and some 6.9% a mild core activity restriction which results in a total of 17.4% people in South Australia possessing with a core activity restriction. Core activities are described as a disability that may include one or more of communication, mobility and self-care.

Chapter 5: Wheelchair Users

5.0 Definitions

Wheelchair users are defined in the *Malaysian Standard MS 1184:2002* as persons who depend upon wheelchairs for mobility and including attendant propelled wheelchairs, powered wheelchairs and self-propelled wheelchairs.

According to the *Guidelines on Buildings Requirements for Disabled Persons 1999*, consideration is recommended to be taken on the range of reach topics for wheelchair users accordingly to the dimensions of wheelchairs used locally. The range of issues includes forward and side movement and dimensions; with or without obstruction.

Consequently studies of the anthropology of wheelchair users in Malaysia and Australia should be carried separately.

5.1 Anthropology

5.1.1 Introduction

Reported by *Distribution of Body Weight, Height and Body Mass Index in a National Sample of Malaysian Adults(2000)* based on a research carried in 1996 the average height of Malaysian aged 20 years and plus, 1.647m (5ft 5 in) while for Malaysian female, the average height is 1.533m (5ft 1/2in).

In Australia, reported by *Australia Bureau Statistics (2008)*, based on *ABS How Australians Measure Up, 1995* data, the average height for male for aged 18 years to 24 years is 1.784m (5ft 10in) as for female, the average height is 1.645m (5ft 5in).

Since there are differences in the average height for Malaysian and Australian, the anthropology for wheelchair users in both these countries are difference as well. Below are the anthropology for wheelchair users in Malaysia and Australia.

5.1.2 Introduction

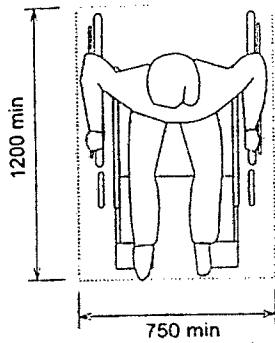


Figure 5.1.2a: Space allowance

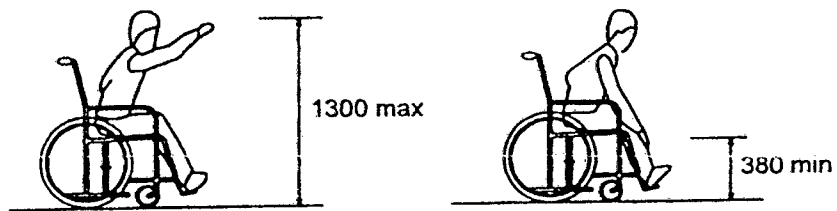


Figure 5.1.2b: Forward reach without obstruction

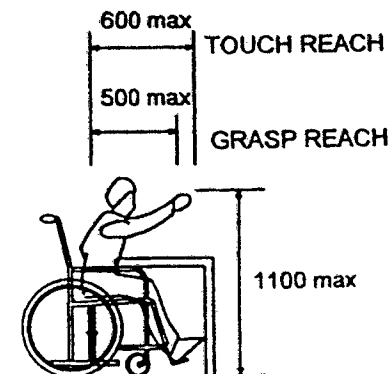


Figure 5.1.2c: Forward reach over obstruction

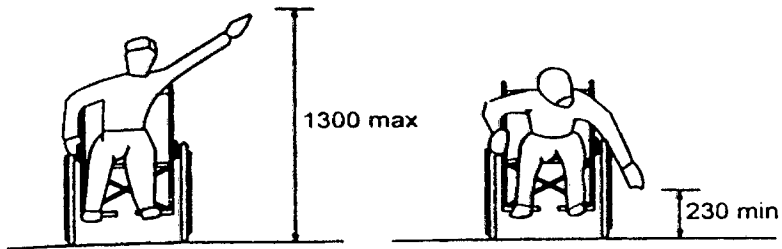


Figure 5.1.2d: Side reach without obstruction

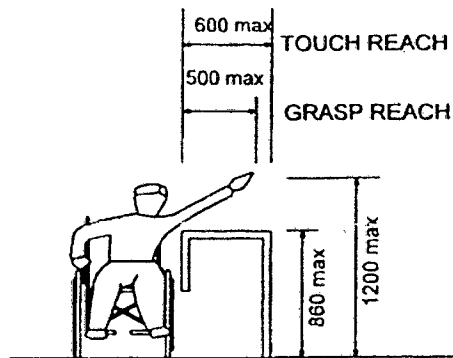


Figure 5.1.2e: Side reach over obstruction

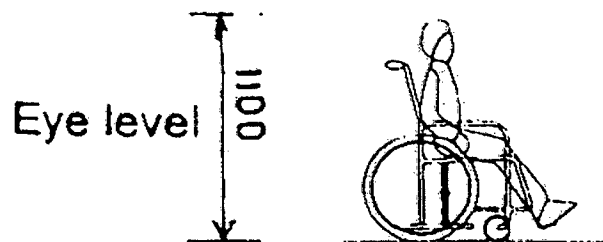


Figure 5.1.2f: Eye level

5.1.3 Australia

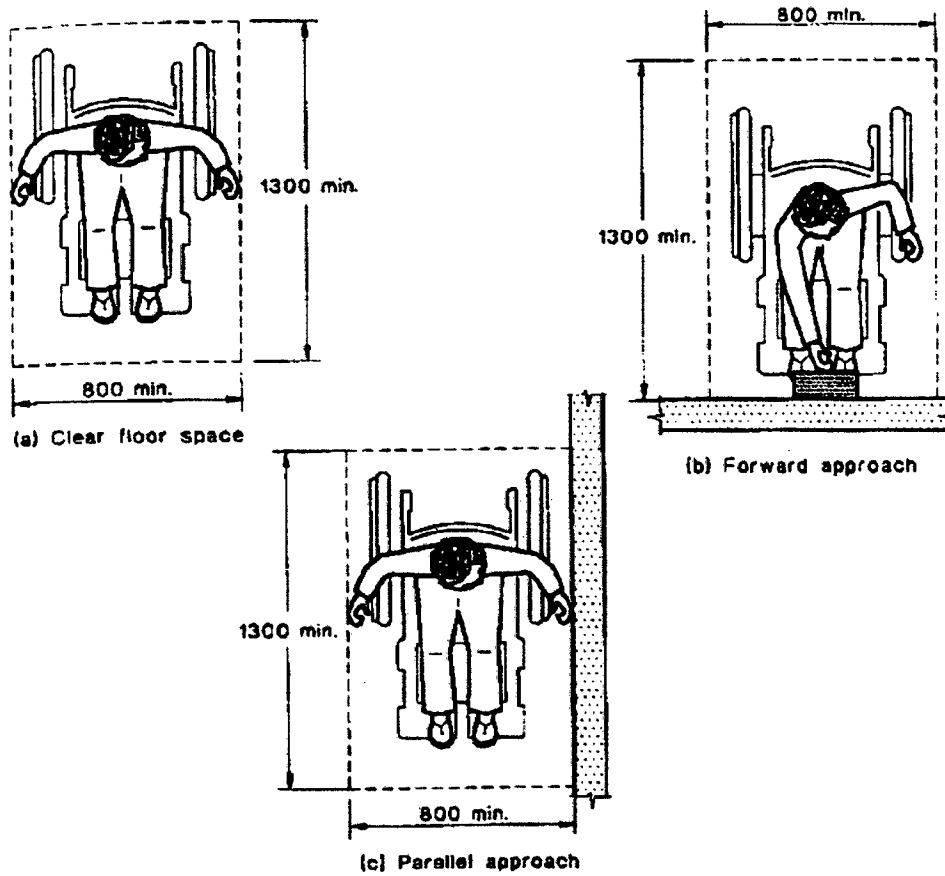


Figure 5.1.3a: Space allowance

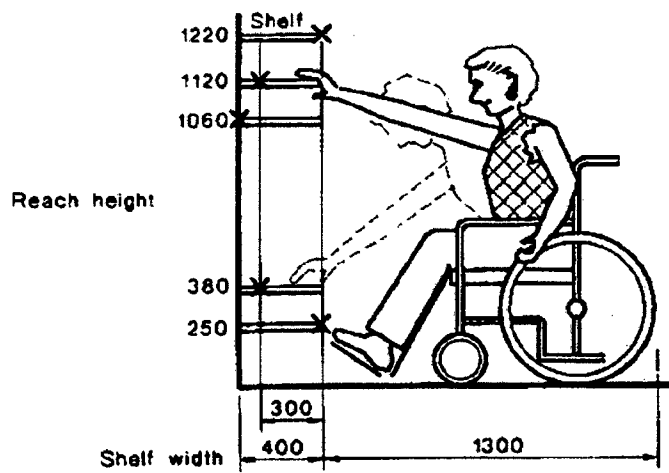


Figure 5.1.3b: Forward reach without obstruction