

A NEW APPROACH TO FRIENDLY DESIGN BUILDINGS IN SINGAPORE

In 1995, the first revision of the Code on Barrier-Free Accessibility in Buildings was launched. The Regulator, Developers and Building Consultants recognized the need to bring accessible features into the infrastructure to facilitate and encourage the integration of people with disabilities into the community.

The original version of the Code Book was found to be lacking in details and specific information on accessibility. As a result, the building professionals and developers had to use their discretion to interpret the provisions and technical requirements therein. The revised edition of 1995 had indeed contributed tremendously towards greater awareness and better understanding and acceptance of the need for a disabled-friendly environment.

Since the launch of the 1995 Code Book, the Handicaps Welfare Association was often called upon to render advice from users' point of view and to conduct surveys whenever necessary. Based on feedback received, the Building Control Authority (BCA) found the need to review the Code again. In 1999, HWA was again invited to sit in the Committee entrusted with the task of further improving the Code Book.

It was also an opportune time to expand the scope to include other disability groups like the visually-impaired, children and the elderly.

The tripartite involvement consisting of the Regulator, Building Consultants and the users help to create a better understanding of the needs of each party and the constraints faced by each. This new Code is certainly a more comprehensive Code and would serve as a useful reference point to building professionals on the needs of various disability groups

Nevertheless, there will be some groups which may require more features and facilities than those provided for in the Code-Book. The Code-Book should, therefore, serve as a guide insofar as the minimum requirements to the design of new buildings is concerned. In carrying out the designs of buildings, the building professionals would need to understand the basic needs of each individual disability group. Whenever necessary, the advice from specific groups should be sought during the initial designing and eventual construction of any purpose-built buildings.

Wherever possible, universal features, such as, gentler gradients or more spacious toilets or corridor spaces should be provided.

To further enhance the quality of buildings, building professionals could add value to them by adopting designs that are Accessible, Adaptive & Universal in nature.

Accessible Designs generally means that the building meets prescribed requirements for access in a built environment.

Accessible features in buildings include items such as wide doors, sufficient clear floor space for wheelchairs, lower countertops, lever type handles on hardware, seats at bathing fixtures, grab bars in bathrooms, knee spaces under sinks and counter-tops, audible and visual signals, switches and controls in easily reached locations, entrances free of steps and stairs, and an accessible route throughout the buildings.

Most "accessible" features are permanently fixed in place and are noticeable.

Adaptable Design: Adaptable features refer to those which are either adjustable or capable of been easily added or removed to meet individual needs or preferences. An adaptable building has all the requirements of accessible features but it has provisions for some items to be omitted or concealed until needed. The adaptation could be carried out without involving any structural or finished material changes.

Accessible features, such as knee spaces under sinks, counters and grab bars in bathrooms, are some of the standard features that could help project what an accessible building would be like. However, these features would not necessarily be favoured by those who have no need for them.

In an adaptable building, wide doors, no steps, knee spaces, control and switch locations, grab bar reinforcing and other access features must be standard provisions. Grab bars however, can be omitted and installed when needed. As the necessary requirement is already provided, the bars can simply be installed when needed without damaging the existing walls. Knee space can be concealed by installing a removable base cabinet that can simply be unscrewed from adjacent cabinets and slipped out when needed or by installing self-storing cabinet doors that fold and slide back. Counter tops and closet rods can be placed on adjustable supports rather than fixed at lower heights as required for some wheelchair users

Universal Design: Universal design approach goes beyond the minimum requirements and calls for more creative design in building. The concept of Universal Design, is aimed at making life easier for everyone. It ensures that products and environment are rendered safer, more comfortable, more affordable, accessible, adaptable and easier to use, regardless of the diverse sizes, age and abilities of our population.

The characteristic of Universal Design is that the design solutions do not segregate users and environments and it does not become less functional by people who do not require such facilities.

Items that are usable by most people regardless of their level of ability or disability can be considered universally usable. Many accessible and adaptable features are universally usable. For example, round door knobs are not usable by people with limited use of their hands, but lever handles which are readily available in all price ranges, styles and colors are usable by almost everyone, including people who have no hands.

Some items are made more universally usable by their placement. For instance, light switches and electrical receptacles located at an appropriate height above the floor allow them within easy reach of most people without requiring bending or stretching. Bathtub controls located outside of the tub provide the same benefit.

Also, making them adjustable makes some features more universally usable. Closet rods, shelves, countertops and wash-basin are a few adjustable universally usable items. Some universally usable items must be selected. For example, to be user-friendly and comfortable to most people, a water cooler may need to be of dual height model with both standard and lower spouts and controls.

Universal design addresses the scope of accessibility and suggests making all elements and spaces accessible to and usable by all people to the greatest extent possible. This is accomplished through thoughtful planning and design at all stages of any design project. Universal design requires an understanding and consideration of the broad range of human abilities throughout the lifespan. Creative application of that knowledge by professionals results in products, buildings and facilities that are usable by most people regardless of their level of ability or disability.

The underlying Principles of Universal Design are such that the design should be:

- **Equitable Use** - The design is useful and marketable to people with diverse abilities.
- **Flexibility in Use** - The design accommodates a wide range of individual preferences and abilities
- **Simple and Intuitive Use** - Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
- **Perceptible Information** - The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

- **Tolerance for Error** - The design minimizes hazards and the adverse consequences of accidental or unintended actions.
- **Low Physical Effort** - The design can be used efficiently and comfortably and with a minimum of fatigue.
- **Size and Space for Approach and Use** - Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

These principles offer designers guidance to better integrate features that meet the needs of as many users as possible.

The design of “**Smart Building**” could be leverage to further enhance their dependency on its usage for moving around in the building. This could come in the form of controls, timer or any features that could aid people with disabilities in moving around or calling for assistance when required.

It is not uncommon for people to develop discriminatory attitudes to people with disabilities or those in needs because they know that these groups of people would have difficulties in using such facilities and moving around. So many a times, instead of thinking about changing the facilities or the environment, these groups are just excluded from participation.

An access-friendly environment, though presenting more challenges for the Developer and Building Consultants initially, would ultimately have more value-added and will remain relevant for a longer period of time. This will translate in more cost-effective and higher usage for each building over time.

In some countries, it is difficult and complex to enforce the Code and Standard into the actual situation. The developers and professionals may be unaware of such a need or were reluctant to provide handicaps friendly buildings.

There is therefore, a need to inculcate a greater awareness of the need for such designs. Professional and Developer have a crucial role to play and be supportive of these changes.

In Singapore, our thanks goes to the Building Control Authority (BCA), Singapore Institute of Architects (SIA) and our building developers which have done much to improve and enhance the accessibility to buildings. We, the users need to work closely with the authorities and building professionals to make Singapore a truly accessible place which will be appreciated by every segment in our society.

Today's launch of this 2nd revised Code Book marks an important milestone in our strive for total accessibility for all. Much efforts and contributions have gone in to achieve this noble objective to which we are very proud to be associated with. It may now be timely for us to seriously look at some of the blatant deviations by building managements.

Through our surveys and feedback, we have noticed that building managements had allowed or even encouraged their so called accessible facilities to deviate from its intended use. There were cases of toilets meant for the disabled being locked up and even worst still, used as a cleaner's storeroom. Such negative acts should be discouraged.

There are also instances where management or its security enforcer had misinterpreted the usage of the vehicle lots meant for "DISABLED DRIVERS ONLY". They even allowed non-disabled drivers who fetch disabled persons to park at such lots and thus deprived disabled drivers from parking there. Disabled parking lots are limited in any building and once these are taken up, the disabled driver has to wait or find a non disabled parking lots which can pose a lot of inconvenience. A disabled driver need wider space to fully open the doors and where needed, place the wheelchair within these wider spaces or to place their walking aids to get in and out of the car. This explains why a disabled parking lot has to be bigger than a normal parking lot.

In the eighties and early nineties, it was a rare sight then to see disabled persons coming out to integrate with the society. This is due mainly to the lack of accessible features in our buildings and also our public transport. With the 1st revision of Code Book in 1995, many disabled started to gain independent to a certain extent and this gave them confidence to come out. Though our public transportation is still some way to go in terms of accessibility, much effort has been put in by our transport authority and operators. We hope our public transport could proceed with the same momentum as when we first started out with accessibility in building.

It is always important to have contributions by all parties involved in making these changes; it will go a long way in helping people with disabilities. It will make life more convenient and complete for the frail elderly and people with special needs. With more independent in their activities of daily living, people with special needs would be able to live with dignity and contribute to society.

HWA wishes to extend its grateful thanks to BCA, SIA and all who have in one way or another, enhance our lives and thus help to integrate us into mainstream society. On our part, we will continue to render our assistance to all that come to us for help and advice on all aspects of accessibility.