

No More Barriers

PROMOTING UNIVERSAL DESIGN IN SINGAPORE

Singapore



Retrofitting and revamping access to all public buildings in a whole country is a massive task. **Dr John Keung**, CEO of Singapore's Building and Construction Authority (BCA), describes the agency's efforts to make buildings friendly for people of all ages and abilities.

The Challenge

Along with Singapore's rapid urbanisation from the 1950s, a dense, high-rise built environment was created. At that time, the majority of the population was young and able. The need to provide barrier-free accessibility was not a critical concern, compared to maximising land resources for the economic and social needs of a growing population.

1990 was a milestone year for Singapore's accessibility efforts. Although the population was still fairly young, a Code on Barrier-Free Accessibility in Buildings was introduced to help improve accessibility standards, especially for wheelchair users.



It had been estimated that the number of senior citizens, many of who would face deteriorating physical abilities, would increase threefold. Thus, the goal of cultivating an inclusive built environment that supported “ageing-in-place” was conceived, to help individuals adapt to ageing in their homes – surroundings familiar to them. This would also allow families to care for older members. The concept of universal design, or “design for all”, was incorporated into BCA’s mission, to address the needs of people of all ages and abilities.

With this goal, a key challenge was upgrading the large existing stock of buildings built before the 1990 Accessibility Code came into force. There was also a need to go beyond providing barrier-free accessibility within buildings and ensure that the surroundings of buildings are similarly barrier-free.

01 Long flights of stairs impede access for the physically disabled and parents with strollers.

02 A friendly built environment that supports ageing-in-place.



The Solution

In 2006, BCA started a big push for universal design with the Accessibility Master Plan. Holistic and collaborative in nature, the plan allows BCA to work with other agencies to tackle the past, present and future challenges of creating a user-friendly built environment in Singapore.

To address older buildings which were not barrier-free, BCA implemented an accessibility upgrading programme from 2006 to 2011, targeting buildings and areas regularly visited by the public.

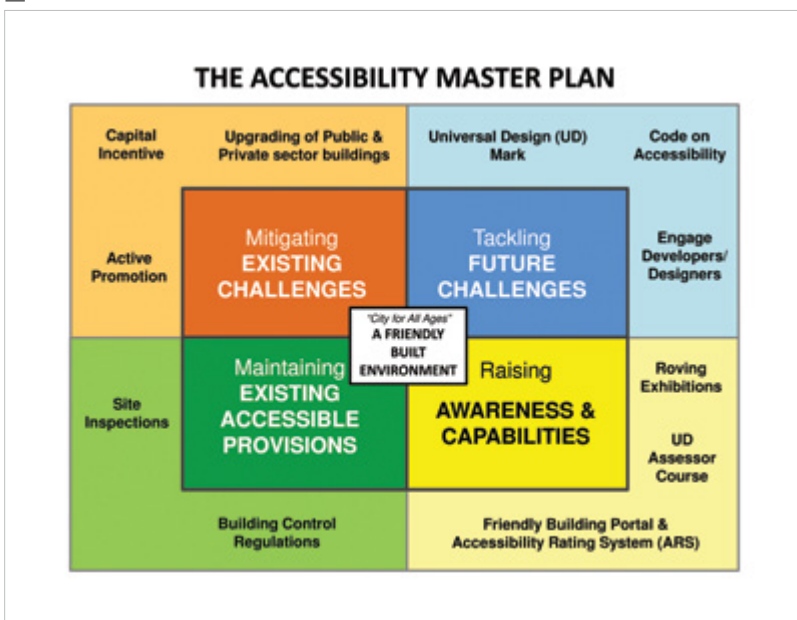
Since 2007, BCA has been advising government agencies on the upgrading of public-sector buildings with a base set of features for accessibility, which covers accessibility of approach to buildings

and within the first storey, including a toilet on that level. BCA has also played a role in facilitating and monitoring the upgrading progress.

To incentivise owners of private-sector buildings to upgrade their premises to be barrier-free, BCA introduced the Accessibility Fund in 2007, which supports up to 80% of the total cost of refurbishing buildings to include basic accessibility features. In particular, BCA worked with building owners to improve accessibility along Orchard Road, a popular shopping district where most of the buildings were built before mandatory requirements were set in 1990.

The Accessibility Code has undergone several revisions and updates to meet the needs of the time. The last review of the Code was conducted between 2011 and 2013, based on collaboration among the people, private and public sectors. Numerous public consultations, focus group discussions and user trials with stakeholders were held, to ensure the Code was comprehensive and could benefit more Singaporeans.

For example, the 2013 Code review highlighted the need for more facilities that could cater to people with diverse needs. Child-friendly sanitary facilities and family car park lots have thus become required in buildings such as sports complexes and large shopping malls. Other facilities that have also become mandatory include Braille and tactile information for public toilet signs, and hearing enhancement systems in venues such as function rooms and auditoriums. The Code was also refined to include wider corridors for easy access for wheelchairs and prams.





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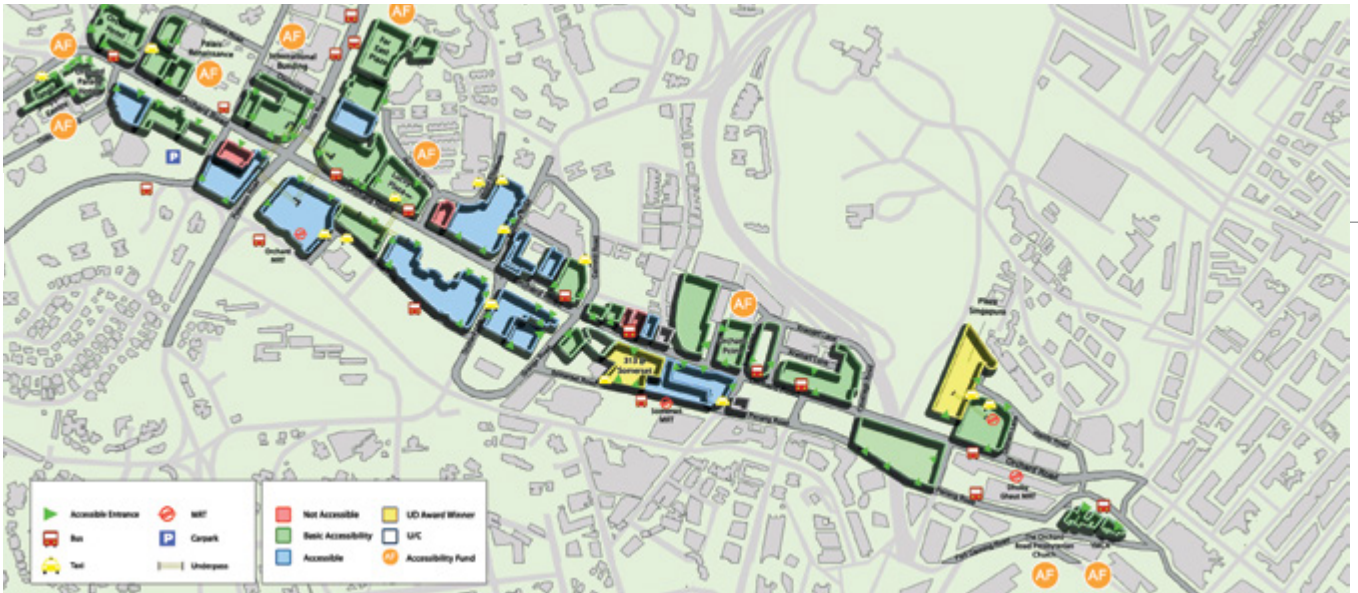
At the same time, BCA continues to encourage developers, building owners, designers and other industry stakeholders to apply universal design in new developments and those undergoing upgrading. To encourage stakeholders to do more than just comply with the Code, BCA promotes universal design through courses, roving exhibitions and seminars. In particular, the BCA Universal Design Awards recognises development projects that show extensive efforts in applying universal design concepts with user-friendly features. A “sensory garden” available for public viewing at the BCA Academy also serves as a model to demonstrate the universal design concept.

To widen outreach efforts, BCA has also begun to rate the user-friendliness of buildings. This information is available in the Friendly Buildings Portal, where users can check the level of accessibility of a building. A mobile application is also being developed for this purpose.

⁰¹ The Accessibility Master Plan.

⁰² The tactile pathways in the BCA Sensory Garden.

⁰³ The musical pipes at the Sensory Garden allow visitors to create music.



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The Outcome

Today, people with mobility aids or on wheelchairs are no longer confined to their homes. They can now be seen moving around neighbourhood markets, food centres, shopping malls and activity centres with ease. Close to 100% of public-sector buildings regularly frequented by the public now have basic accessibility. About 90% of buildings along the Orchard Road shopping belt are now universally accessible – a marked improvement from 41% in 2006.



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Since the introduction of the BCA Universal Design Mark, a voluntary certification scheme, BCA has received more than 70 applications and recognised 57 building owners for their efforts in incorporating universal design into their developments. Many developers now specify, as part of their design briefs, their desire to achieve Platinum rating for the BCA Universal Design Mark, the highest standard. In 2013, the BCA Universal Design Mark was recognised as an innovative practice at the international Zero Project Conference at the United Nations Office in Vienna, Austria. Universal design is certainly no longer an unfamiliar term.



Dr John Keung

is the Chief Executive Officer of Singapore's Building and Construction Authority. A chartered town planner, Dr Keung is also an Adjunct Professor in the Department of Architecture, National University of Singapore and a member of the College Advisory Committee, College of Engineering, Nanyang Technological University.

He was instrumental in the implementation of the Barrier-Free Accessibility Masterplan that resulted in the proliferation of barrier-free and universal design features in buildings.



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01 The Orchard Road Shopping Belt has improved its accessibility from 41% to 90%.

02 The Interlace was awarded a Platinum rating for the BCA Universal Design Mark in 2014 for its attention to universal design, such as furniture which can be adjusted to accommodate wheelchair users.

04 The wheelchair- and stroller- friendly ramps in the Flower Dome and Cloud Forest were some of the features which earned Gardens by the Bay their BCA Universal Design Mark Platinum rating in 2014.