Chapter 4
Accessibility for Seniors: Barrier-Free Society

Vision

Singapore will be an inclusive elder-friendly place, one that allows older persons to integrate with the wider community and lead active lives. Starting from the home, flats and buildings will be elder-friendly. Coming out of their homes, the built environment and transport system will be barrier-free. They will afford seniors a safe and unhindered travel passage; via accessible lifts, walkways and transport pick-up points, complemented by a user-friendly transportation system to their destinations.

Introduction

1.   Accessibility is a key enabler for people to have more opportunities, be it with regard to social, cultural or economic participation. An accessible environment allows our seniors to maintain essential links to friends, family and the wider community. It facilitates seniors in maintaining their independence. In its report, The Inter-Ministerial Committee on the Ageing Population (IMC) made recommendations to develop an elder-friendly built environment.

2.   Moreover, an accessible environment is an important complement to "Ageing-in-Place", which was mentioned in the previous chapter. For the "Ageing-in-Place" concept to be successful, the physical environment must be made elder-friendly to provide safe and unhindered access from homes to public amenities, communal and recreational facilities as well as the public transport system. The physical environment has to be conducive to the well-being of seniors and should enable them to participate in activities as an integral part of the community just like any other person.

3.   Given the increasing trend of seniors living alone, making Singapore elder-friendly becomes even more pertinent. The number of wholly seniors households rose from 10,400 in 1990 to 25,700 in 2000. Elder-friendly physical infrastructure in the community, including transport and public access infrastructure, will help seniors living alone to access essential support services and programmes as they age within their homes and communities.

Efforts Over the Last Five Years

4.   The Government has implemented various measures over the last five years to make homes, the physical environment and the transport system more elder-friendly and barrier-free.

Accessibility of the Built Environment
5.   The implementation of the Code on Barrier-Free Accessibility in Buildings in 1990 was a critical milestone in making our built environment user-friendly to people with difficulties in movement, which include seniors. The Code ensures that all new buildings built from 1990 onwards conform to a minimum set of standards on barrier-free provisions. It also applies to existing buildings that undergo major refurbishment.

6.   In the last review in 2002, the Code was expanded to include more mandatory barrier-free features to be provided in the common area of new buildings. In addition, four design guidelines on (a) facilities for seniors, (b) family-friendly facilities, (c) facilities for the visually handicapped and (d) facilities for children with disability were incorporated as appendices to the Code. Although non-mandatory in nature, these design guidelines provided reference on feasible solutions, and were helpful for architects and building owners in designing special buildings for specific needs.

7.   Efforts were also made to raise awareness among developers and architects on the needs and benefits of designing for accessibility. In a private initiative to promote public awareness of the special needs of persons with disabilities, the Singapore Institute of Architects (SIA) and Handicaps Welfare Association (HWA) jointly spearheaded the biennial "Barrier-Free Accessibility Award" in 1998. The latest SIA-HWA Award was given out in November 2005.

8.   The Government also introduced the Lift Upgrading Programme (LUP) in 2001 to provide lifts at every level of high-rise HDB blocks where feasible. The LUP has benefited seniors in particular, by providing them with improved mobility and barrier-free accessibility. The LUP was extended to cover four-storey low-rise blocks in December 2004 and would be stepped up and completed over the next 10 years in view of our ageing population.

Transport Accessibility

9.   Since 2000, Land Transport Authority (LTA) has been retrofitting existing Mass Rapid Transit stations to enhance accessibility to seniors and persons with disability. The retrofitting exercise, costing $81.5 million, will be completed by mid-2006. All future lines will comply with barrier-free requirements. In addition, Public Transport Operators (PTOs) have been bringing in low-floor buses over the past few years. To date, there are about 91 low-floor step-free buses in Singapore.

CAI's Focus

10.   The CAI feels that we should mount a full and coordinated effort to make Singapore an "Accessible City". This goal is definitely within reach. Conceptually, we need to start from the individual and expand his "reach" outwards – starting from his home, lift access to every floor; next, barrier-free accessibility within precincts; beyond that, barrier-free connectors between precincts to develop accessible housing estates; user-friendly public transport system to facilitate access all over the island; and finally, plans to make all buildings accessible eventually. Such an effort will ultimately benefit seniors, persons with disability and other user groups with mobility problems.

Strategic Thrusts to Improve Accessibility

11.   The provision of barrier-free accessibility (BFA) features should be provided in an integrated fashion so that the user will not be impeded in moving across different domains, such as buildings-to-buildings and roads-to-buildings. In particular, the CAI sees the importance of taking a holistic approach to address the issue. A four-prong strategy of the approach is proposed:
  i)   Mitigate existing challenges;
  ii)   Tackle future challenges upstream;
  iii)   Maintain elder-friendly infrastructure; and
  iv)   Raise awareness and capability of the industry and stakeholders.

Mitigate existing challenges

Implement improvement works for BFA features in HDB precincts

12.	Most of the older HDB precincts have achieved improved barrier-free accessibility through upgrading programmes or redevelopment. However, there are some precincts built before the 1990s which are still lacking in barrier-free provision. As these precincts are generally not that old, they may have to wait several years before they will undergo upgrading. Yet given our ageing population, it would make sense to retrofit such precincts early.

13.	The CAI has considered a joint pilot study by HDB and the Jurong Town Council to improve barrier-free accessibility in a precinct in Bukit Batok East. The study showed that it is relatively cost-effective to retrofit existing precincts to provide barrier-free access within and beyond the precinct[1].

14.	Depending on the outcome of the pilot project, it would be beneficial to extend this to precincts in other Town Councils. Thus, the **CAI recommends that Town Councils should make all HDB precincts barrier-free as part of their estate improvement works, in a coordinated effort to make Singapore an "Accessible City" for all.**

Upgrading of road facilities

15.	As improvements are being made to the accessibility of buildings, it is just as important to ensure that the connecting roads and walkways are accessible. Hence, in tandem with the earlier initiative to implement BFA features at the precincts level, the **CAI recommends that LTA should expand and accelerate the upgrading and improvement of existing barrier-free measures on road facilities to enhance accessibility between destinations.** This will make it easier for seniors and persons with disabilities to move about on public streets and to use the public transport system. Priority should be given to HDB estates that will be undergoing upgrading and development programmes (to dovetail and coordinate with other agencies) as well as other high-traffic areas. The works could include enhancements such as:

- removing obstacles where feasible on pedestrian walkways to allow barrier-free access for the wheelchair bound;

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[1]	The extent and corresponding cost of retrofitting will vary among precincts.

- thickening of road crossing lines to aid the visually impaired;
- installing traffic signal posts with vibrating push button capability as an audio alert for the visually impaired;
- using reflective sheetings of higher reflectivity (at shorter viewing distance) for traffic signs, street name signs and temporary traffic control signs. This will meet the needs of older motorists;
- providing ramps connecting bus interchanges and buildings / train stations;
- providing kerb-cut ramps to be flushed with road surface that allows a smooth level transition with decision tactile to guide the visually impaired; and
- providing decision tactiles at bus stops, taxi stands, and the top and bottom landings of pedestrian overhead bridges, underpasses and boarding points at bus interchanges.

Provide for wheelchair-accessible buses

16.   The transport system is a critical component complementing the built environment. With the efforts to enhance accessibility within the built environment, we must similarly step up our efforts to make our public transport system more elder-friendly. The rail system is currently being upgraded with more accessibility features, and hence the missing link will be an accessible and elder-friendly bus network.

17.   The CAI notes that the PTOs are already bringing in low-floor step-free buses, with some 91 of these buses already in operation. The elimination of steps at the bus entrance and exit has provided a more direct and easier access for passenger embarkation (especially seniors) from the road kerb. Many countries, e.g. U.K., U.S. and Australia have also adopted such measures to improve the accessibility of their local public transport.

18.   With the provision of more low-floor step-free buses, it is possible to enhance such buses with additional accessibility features in a cost effective manner. In many countries, low-floor step-free buses are fitted with features such as access ramps to provide passengers with a more holistic accessibility experience. In addition, it is possible to adopt cost effective measures such as fleet replacement to gradually overhaul the mainstream transport system to cater to the above improvements. The beneficiaries will not be limited to seniors and persons with disabilities alone, but will include other user groups such as families with young children in prams and strollers.

19.   Hence, the **CAI recommends LTA work with the PTOs to make all new public buses low-floor step-free and wheelchair-accessible**. **As there would be additional costs required to make these buses wheelchair-accessible, the CAI also recommends that the Government consider helping the PTOs defray the additional costs involved.** This would further enable the less mobile elderly population as well as the population with mobility challenges to enjoy greater accessibility to the public transport system.

Feature Highlight: Low-floor step-free buses

A low-floor step-free bus has a lower gap between the bus floor and road kerb.

In addition, the low-floor step-free bus does not have the typical $1-2$ extra internal steps in current buses on which one has to climb up to board the bus.

The low-floor feature extends throughout the entire bus and exits, too, are step-free to facilitate easy alighting.

Tackle future challenges upstream

Promote universal design to benefit all users
20.   Currently, the Code on Barrier-Free Accessibility in Buildings caters primarily to the needs of wheelchair-bound users. Going forward, the CAI recommends that all buildings should be designed such that they cater to <u>all</u> persons, be they visitors or occupants, or persons with disability, seniors or children. Such an approach is termed "universal design", i.e. the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. While achieving benefits to more users, there is also considerable cost savings if requirements are incorporated in an inclusive design at the upstream. It is therefore important for architects / designers to adopt universal design.

21.   Hence, the **CAI recommends that the Building and Construction Authority (BCA) should promote universal design through courses and guidelines**, so as to encourage architects and designers to develop a built environment that caters to all. For example, BCA could work with industry partners to publish a good practice guide on the design of accessibility features based on universal design principles. BCA could also work with tertiary institutions to incorporate universal design courses in architectural and engineering programmes.

Feature Highlight: Universal design

An illustration of universal design is the provision of both ramp and steps for access by everyone – not just by those with special difficulties, but for all users in all situations.

Enhance inter-connectivity between buildings

22.   The Code on Barrier-Free Accessibility in Buildings currently applies only to the approach to a building and the common spaces within a building. The CAI notes that it does not apply to the interconnection between adjacent buildings and infrastructures especially if they are not part of the same development. Barriers that exist at such interfaces can pose challenges, e.g. persons in wheelchairs may need to travel between buildings by entering and exiting via the main approaches. The **CAI recommends that BCA introduce guidelines to improve inter-connectivity between buildings, through a review of the Code on Barrier-Free Accessibility**, so that everyone can travel between buildings; and between buildings and walkways with minimal obstruction.

Maintain elder-friendly infrastructure

23.   Under the current provision of the Building Control Act and Regulations, the BFA requirements will apply whenever building works are carried out. However, after a new building is completed and the Certificate of Statutory Completion is issued, if the building owner or management misused these facilities or cause these facilities to be un-useable, e.g. blocking pathway for wheelchair access, etc., BCA is currently unable to take action against the party or parties concerned.

24.   To address such issues, the **CAI urges BCA to introduce new legislative measures to ensure continued compliance to the Code on Barrier-Free Accessibility and other building requirements**, so as to prevent tampering and abuse by the building owners and users. This will help to ensure that elder-friendly infrastructure remains useable.

Feature Highlight: Ensuring continued compliance to Code on Barrier-Free Accessibility

The picture on the left illustrates an example of how accessible features are rendered un-useable. The driveway is meant as a passageway for wheelchair users. However, to avoid other car drivers from using the passageway as well, chains have been erected across the bollards. This impedes wheelchair users from using the passageway.

Raise awareness and capacity of the industry and stakeholders

25.   Beyond building-to-building inter-connectivity, there are areas, typically at interfaces between new developments and existing spaces / buildings, where the responsibilities for implementing accessibility provisions are not clearly established or defined. The lack of coordination between persons / organizations in managing the interfaces has contributed to problems on barrier-free accessibility at the inter-connections.

26.   To encourage closer coordination and integration of public-private-people efforts in resolving such inter-connectivity issues, the **CAI recommends that the Government set up an inter-agency barrier-free accessibility coordination committee[2] to coordinate efforts for barrier-free accessibility** and remove impediments towards the development of barrier-free accessible features.

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[2] This inter-agency workgroup will be similar in concept to the Zero-In-Process (ZIP) committee, which helps to resolve difficult and systemic problems facing the public. These problems typically are cases that involve more than one public agency, or that fall into grey areas between existing regulations and agency boundaries.

Feature Highlight: Inter-connectivity issues

A typical example of an inter-connectivity issue is the difference in levels. There is no continuous ramp constructed to link between the precinct space and the pedestrian walkway along the main road. It is difficult for a wheelchair user to reach the main road.

27.   Besides raising the capability of the industry and stakeholders, there is a need to increase their awareness of accessibility issues. It is not enough for designers and developers to follow the letter of accessibility legislation. It is important that they understand the intention behind these rules, imbibe the rationale and work towards the creation of an inclusive environment. As accessibility extends beyond the built environment, professionals, user groups and the public also need to understand and accept the benefits of an inclusive transport system. To achieve this, the regulators, building and transport professionals and user groups must play their part and work in close collaboration with one another. Hopefully, this will lead to more ground-up initiatives and a holistic approach in tackling the challenges. These combined efforts of the public-private-people sectors will help to bring us another step forward in making Singapore a more gracious and inclusive society.