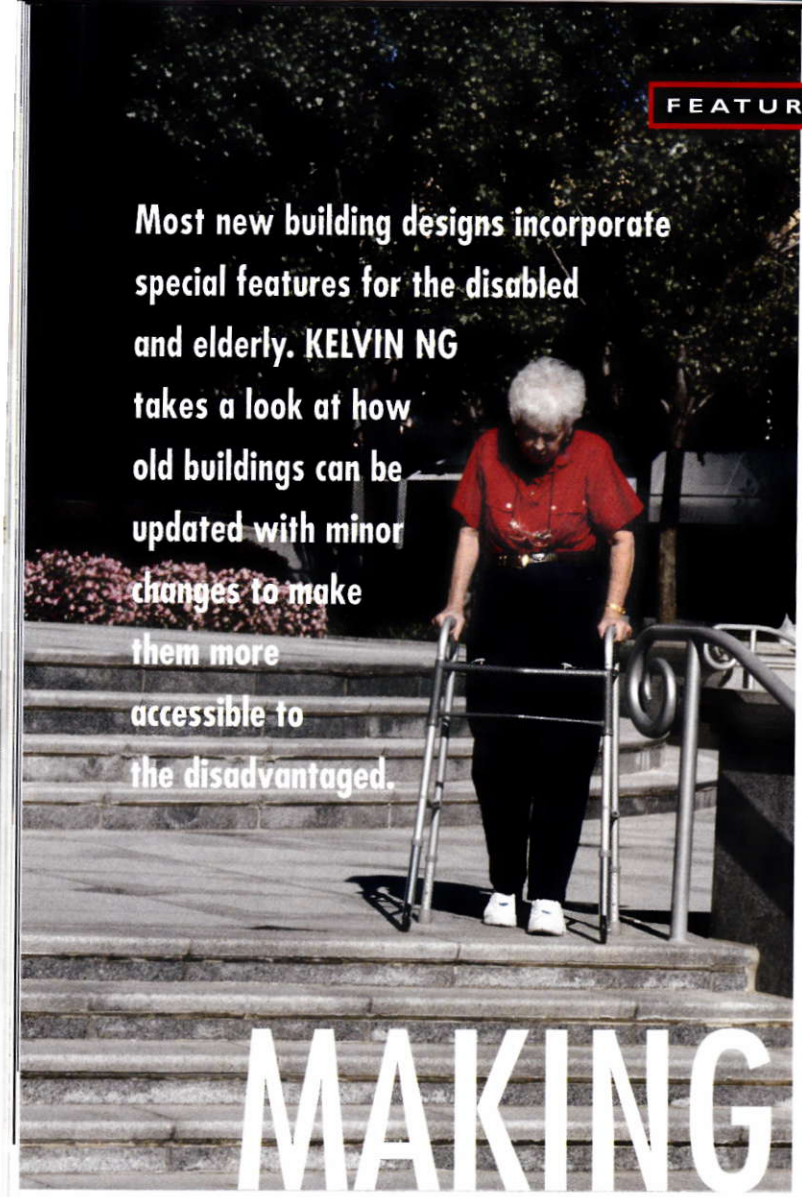
FEATURE STORY



Most new building designs incorporate special features for the disabled and elderly. KELVIN NG takes a look at how old buildings can be updated with minor changes to make them more accessible to the disadvantaged.

MAKING LIFE EASIER

Judy Wee moves around Singapore with her walking sticks. Yet, steps and kerbs never really bothered her – until she joined the Handicaps Welfare Association of Singapore and met people who are wheelchair-bound.

"Our outings were always in groups and with able friends and volunteers who had to carry the wheelchair users up flights of steps and kerbs and into toilets. The disabled had to adapt to various situations and find makeshift solutions or, alternatively, avoid an inaccessible building altogether," says Wee, now the association's President.

Such is the world of the disabled. If this doesn't tug at your heartstrings, consider this: in your old age, you are likely to be handicapped to some degree just like the disabled. "Accepting the notion that the elderly may have many of the handicaps of people with disabilities, the two groups could be considered as having similar needs and requiring similar demands from the physical environment," says Joseph Kwan, a Hong Kong architect renowned for his expertise in designing for the disabled.

Even though critical features can be incorporated into new building designs, there is a whole slew of minor and non-structural changes that can be made to existing buildings to make them more accessible to the disabled.

While the changes mentioned below may seem inconsequential to the able, each of them can make a world of difference to the disabled in their daily lives.

THE WHEELCHAIR-BOUND

- Ramps can replace unneccessary steps and kerbs so as to provide wheelchair accessibility.
- Height of electric switches, telephones and lift control panels can be lowered to within reach of the wheelchair-bound.
- Widen narrow room entrances, especially toilet doors, to accommodate the width of wheelchairs.
- Provision of special toilets for the handicapped at each toilet cluster. These toilets should have foldable grab bars or at least fixed handbars.

THE VISUALLY-IMPAIRED

- Lifts should have Braille on the buttons, intercoms and voice alerts.
- Provision of tactile ground surfaces to cue the visually-impaired, for example, at the beginning and end of escalators.
- Incorporate luminance/brightness and colour contrasts in interior design.

THE ELDERLY

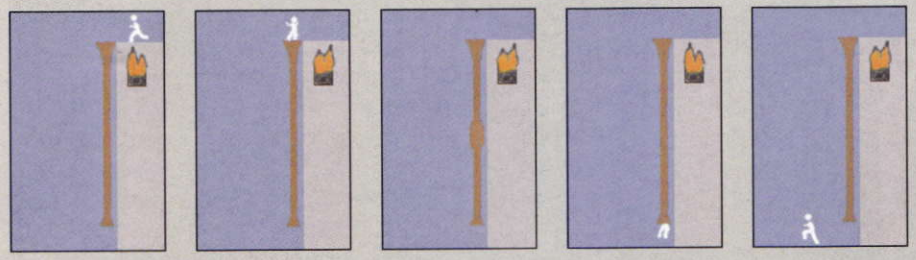
- Installation of handrails and grab bars at critical places like walkways, stairs, bathrooms and toilets.
- Floors should have non-slip surfaces. They should also be flat with minimal steps or sills.

AN ALTERNATIVE TO STAIRCASE ESCAPE

Currently, designated staircases are the minimum fire escape requirement in buildings. However, this minimum may no longer be adequate as the global population ages rapidly.

Injury statistics from the US Consumer Product Safety Committee (CPSC) estimated the number of stair-related injuries has been increasing over the last 25 years (1974-1998). Of this, the number of people aged 65 and above suffering from serious stair-related injuries increased from about 16 per cent to about 23 per cent. But a more disturbing fact is revealed – most stair-related fatalities occur among people over 65 years of age.

In all cases of mass evacuation of people in high-rise building, it is believed that 20 per cent of the occupants need assistance to use stairs in an emergency. This can be a slow, dangerous, strenuous and painful process that can also jeopardise the lives of those rendering assistance.



An alternative has been provided by a Finnish company, AB Mobiltex. It produces specially-designed chutes that provide fast and safe vertical escape from buildings.

The escape chute system works on the principle of gravity. Using the stress-and-friction vertical method, occupants can control the speed of descent by moving into different body positions. Once inside the chute, the evacuee will arrive at ground level quickly and relatively safely.

THE CHUTES ARE MADE OF:

Outer layer – flexible elastic fabric. Acts as a brake and operates effectively in a temperature range of -45°C to 175°C.

Inner layer – Du Pont kevlar or Enka twaron fabric. Can resist temperature of up to 650°C. This layer supports the whole chute load. Kevlar has the breaking strength of over 10 tonnes.

Information provided by John Ng, Managing Director of Escape Consult Mobitex.

DEVELOPMENTS IN HDB HOUSING

Naturally, when the Housing and Development Board houses 86 per cent of Singapore's population, the question will pop up – how disabled-friendly are HDB flats?

The signs are encouraging. All new HDB blocks now have lift access at every floor. Inside the lifts, control panels have buttons with Braille and voice alerts to announce the floors where the lifts stop.

Ramps with gentle gradients can be found not only in void decks but also car parks and most common areas. When upgrading old flats, sitting toilet pans replace the old squat holes. Grab bars are installed in bathrooms and toilets.

However, the most major development announced for old flats came in the form of the Lift Upgrading Programme (LUP). As a demonstration phase, 14 HDB precincts will receive LUP as part of the nation's ongoing public housing upgrading works or as stand-alone projects. When they are completed, over 7,000 households in 66 blocks will be able to have direct access to lifts. In addition, LUP will be offered to the 50 precincts that have been identified for upgrading this year.

"The MUP (Main Upgrading Programme), the IUP (Interim Upgrading Programme) and now the LUP are three key programmes to rejuvenate our public housing estates. The programmes are heavily subsidised by the Government and provide good value for money for HDB residents," says Mah Bow Tan, Minister for National Development.

The benefits of having lift access on every floor cannot be over-emphasised. In the case of LUP, the Government will subsidise 75 per cent to 90 per cent of the costs. The maximum amount that each household has to pay is capped at $3,000. With an affordable new level of convenience, the disabled residents in these blocks will at least find it less of a struggle to get in and out of their homes.

As Singapore incorporates more and more of the 'inclusive approach' when designing new buildings and upgrading existing ones, people like Wee and her friends will be even more heartened.

Wee says, "Access is now a standard feature in new office buildings, shopping complexes and residential areas. Now, in Singapore, it is common to see the disabled and elderly moving about freely with their families and friends." R

A MODEL BLOCK

Block 12 in Bedok South Avenue 2 may seem like a typical old HDB block – that is, until you spot the Senior Activity Centre (SAC) at the void deck. At this centre, you will find a gathering of elderly residents exchanging banter or watching television.

At a cost of $4.8 million, the Government carried out improvement works on the old block and within its flats to make it more elderly-friendly. These works include upgraded lift access to every floor and long grab bars flanking the common corridors.

But the most helpful feature is the installation of an Alert Alarm System (AAS). The system allows residents to pull emergency cords installed in their flats for prompt help.

It doesn't just stop there – wireless alarm transmitters costing $300 each are provided for residents who are very frail. To be worn around the neck or on the wrist, these transmitters are used to activate an alarm when the resident is in grave condition and cannot reach the pull cords.