

FACILITIES PROVIDED FOR PEOPLE WITH DISABILITIES IN MRT/LRT STATIONS

ABSTRACT

When the nearly completed NorthEast Line and the Sengkang LRT open to the public, they will be accessible to all including the elderly, mobility impaired, wheelchair users, families with young children and commuters with shopping bags. The new stations will have lifts, ramps, wide automatic fare gate and tactile guidance system to guide the visual impairment to use the station with confidence. A plan is in place to extend these user-friendly to all the existing MRT/LRT system. This paper illustrates the friendly facilities included in the NEL station to assist commuters with disabilities using the railway system as their means of transport.

The North East MRT Line (NEL)

NEL comprising 16 stations and a depot is the second major MRT line since the completion of the main MRT network in 1990. The 20-km NEL sets a first in the public transport system with its extensive features to enable commuters to commute conveniently by train. The stations are designed to integrate with commuter facilities to provide a seamless journey to all commuters. Facilities to enhance accessibility and riding quality are included in the station design for a wide group of commuters including the elderly, mobility impaired, wheelchair users, families with young children and commuters with luggage or shopping bags.

Barrier-Free Accessibility Group

LTA's set-up a Non-Handicapping Environment (NHE) Working in August 1999 to spear head accessibility studies of rail transit station, with an emphasis on NorthEast Line stations. The working group consists of representatives of multi-discipline professionals from different departments within LTA.

The representatives of various user groups, agencies and associations were consulted to determine suitable requirements to be provided for different group of disabilities. The National Council of Social Services, Handicapped Welfare Association (HWA) and the Singapore Association of the Visually Handicapped (SAVH) were among the associations and agencies consulted and briefed.

Enhancement Facilities

In December 1999, the working group concluded their findings and non-handicapping environment guidelines were produced. By this time, work on the NorthEast Line was already in an advanced stage. Thus, only several proposals recommended in the guidelines were adopted. However, these are enhancements compared to the provisions in to the Building Control Authority's 1995 Code of Barrier Free Accessibility. These enhancement features include protrusion, lifts provision, automatic wide fare gate, seat with armrest, colour contrast and tactile guidance system.

The enhancement facilities provided have their own special merits and functions. The seats at station's platform are equipped with secured armrests to assist commuters with limited dexterity that has difficulty in getting up. The colour contrast ensures that colour is used to benefit everybody especially to commuters with partial vision impaired. At least 30% difference in tonal value of the colour is required for colour contrast. Background colour is to be contrasted against fittings, protrusions, between floor and wall and other surrounding elements. These would help these commuters to form their impression of space, shape and proximity in large areas.

Another special facility that has been installed in NEL station is tactile guidance system for commuters with visual impairment. This system would be the first guidance system installed in Singapore. The guidance system consists of tactile tiles with raised surface of rounded and elongated studs. These tactile tiles are laid to form a route within station, which would assist the commuter from the time they arrive at a designated station's entrance to a waiting point at platform area and wait for train to arrive. The rounded studs indicate a decision point where they will stop and decides for direction for example at turning points, junctions or when there is an amenity fronting them for example, fare gate, lift or screen door. The elongated studs indicate the direction of walking. Commuters with vision impaired would recognise these indicators of decision and direction by tapping with their white cane or by feeling the studs with their feet. This guidance system would assist the commuters especially the totally vision impaired to use the stations independently and with confidence.

Conclusion

Apart from complying with the Code of Barrier Free of Accessibility, these new facilities has been included as a standard design provision in future MRT and LRT station design. LTA has also embarked on a programme to retrofit all existing stations with similar facilities in stages. When the programme has been completed, the RTS would be accessible and enjoyed by all commuters.