

3.2 Connectivity and Interfacing Elements

3.2.1 Introduction

To create an accessible built environment, the connection spaces between the various buildings and facilities must also be accessible in order to form a complete travel chain. The travel chain should be continuous such that all users, regardless of their capabilities, can reach their final destination as well as the various points along the way without undue difficulty (3.2.1a).

Connectivity can be achieved by eliminating or mitigating the obstacles found along the travel path. Not only does it entail the provision of accessibility elements such as ramps, lifts, and tactile guide paths, but connectivity also concerns the whole travel experience and it should be looked at holistically at the early stage of a development. Continuity should be maintained throughout the travel journey. The physical pathway, orientation, as well as the sensory effects along the access route should be considered.



3.2.1a The elevated walkway is commonly used in Hong Kong to connect buildings, facilities and external spaces

3.2.2 Access Strategy and Planning

3.2.2.1 Access Strategy

As mentioned in *Section 3.1 — Access Route*, early development of an access strategy is essential. Major access issues for the whole travel chain should be addressed. Piecemeal additions provided later on can sometimes be costly, unsightly and do not fully serve the function (3.2.2a).

For guidelines on access strategy and developing an access plan, refer to *Section 6.1 of “Universal Accessibility — Best Practices and Guidelines”*.

3.2.2.2 Connecting and Interfacing Elements

Some connecting and interfacing elements found in an external urban context include the following:

- Bridges and elevated walkways
- Tunnels and subways
- Stairways
- Escalators
- Ramps and dropped kerbs
- Lifts and platform lifts
- Transport drop-off areas



3.2.2a Provision of sloped surface added as afterthought

3.2.3 Connection and Transition

3.2.3.1 Spatial Changes

A user may experience many spatial changes along a travel path, which could be an enriching experience *if* such changes are well planned and suitably connected. Linkages and transitional spaces should not form obstacles to users. Attention should be paid to the following when designing interfacing areas:

- (a) As with all walkways, the ground surfaces of all interfacing areas should be firm and slip-resistant.
- (b) Junction between the different floor surfaces should be levelled; any gaps or expansion joints between different materials should not exceed 13mm wide.
- (c) Where tactile guide paths are provided, they should continue from one area to the next along the travel route to maintain the continuity (3.2.3.1a). If there is a change in the use of way finding tool, adequate notice should be provided to alert users to such change.
- (d) If a pathway leads to a spatial change or a change in level, e.g., from a narrow walkway to an open playground or from an outdoor walkway to a subway, directional cues such as signage, kerbs, handrails, etc. should be provided at strategic locations to maintain travel continuity for the user (3.2.3.1b and 3.2.3.1c). This is particularly important for visually impaired users to continue along the travel path to reach their destination.



3.2.3.1a Tactile guide path continuing from walkway to a link bridge



3.2.3.1c Handrails as directional cues to aid users to continue along their travel path at a spatial transition point



3.2.3.1b Tactile guide path leading from external area to an accessible directory and other destinations



3.2.3.1d Multi-media signage for way finding at key junctions to indicate direction



3.2.3.1e Busy floor patterns combined with lighting effect can cause discomfort and hazard to users travelling on the staircase



3.2.3.1f Abrupt illumination level changes between different spaces should be avoided

3.2.3.2 Horizontal and Vertical Movements

- (e) Signage for way finding and orientation should be provided at key junctions to clearly indicate directions. Visual, audio and tactile information should be provided as appropriate (3.2.3.1d).
 - (f) Texture, colour and pattern of the change in floor surfaces, as well as the lighting effect on the floor surface, should not be too sudden as to cause hazard or discomfort to users (3.2.3.1e).
 - (g) Change in illumination levels between one space and the next should not be abrupt, as the eye requires some time to adjust to the change in lighting levels (3.2.3.1f). For example, the lighting change should be very gradual at the transition zones between a tunnel and its open ends. For details on best practices with regard to lighting, refer to Section 3.8 — Lighting.
- (a) If a change in level between spatial connections is unavoidable, then there should be adequate provisions such as a gradual sloped surface at a gradient not steeper than 1:20, an accessible ramp, or an accessible lift to facilitate access by users with varying needs (3.2.3.2a).
 - (b) Tactile warning strips in contrasting colours should be provided where there is a change in levels, e.g., at top and bottom of stairways and ramps, at entry to pedestrian link bridges and subways (3.2.3.2b).
 - (c) Pedestrian overpasses, link bridges and subways are commonly found in Hong Kong as means of connection between streets and linkages between buildings (3.2.3.2c and 3.2.3.2d). Provision of lifts to footbridges is being implemented in stages around Hong Kong as improvement works.
 - (d) Adequate signage, including tactile and audio guides where appropriate, should be provided to lead users to the transporting facilities and to their onward destination (3.2.3.2e).



3.2.3.2a Accessible lift to subway



3.2.3.2b Access to a subway led by tactile guide path



3.2.3.2c Signage and tactile warning strips to indicate entrance to a subway



3.2.3.2d Accessible lift at link bridge to facilitate vertical movement



3.2.3.2e Way finding information at change in levels to lead users to their onward destination

3.2.3.3 Access from Transport Facilities

Vehicular transport forms an important link in the travel chain. Where buildings and external spaces are serviced by public or private transport, such facilities should be accessible to all users. There should be a direct travel path connecting the transport facility to the respective destinations.

(a) Car parking

- Accessible car parking space should be located near an accessible pedestrian route that leads directly to one of the main entrances of a facility. Its location should be clearly indicated (3.2.3.3a). The best practices recommendations for accessible car parking can be found in Section 6.3 of “Universal Accessibility — Best Practices and Guidelines”.

- Where accessible car parking space is not provided, there should be an area for drop-off, complete with dropped kerb or ramp as appropriate, provided near an accessible entrance (3.2.3.3b). Such entrance should be located at or close to the prominent entrance of the facility.

(b) Public transport interchange (PTI)

- An area of not less than 1500 x 1500mm should be designated near the boarding point for users in wheelchair. Such area should be provided with a dropped kerb and clearly marked by the international symbol of accessibility (3.2.3.3c).
- An accessible route should be provided from the boarding/drop-off point to an accessible entrance of the facility, guided by tactile surfaces and/or other way finding tools.



3.2.3.3a Accessible car parking space with dropped kerb to pavement



3.2.3.3b Dropped kerb identified with the international symbol for accessibility at a drop-off area



3.2.3.3c Accessible route and designated wheelchair space at public transport

3.2.3.4 Urban Squares, Plazas and Other Open Spaces

- Tactile guide paths and warning strips facilitate visually impaired users to find their way around the PTI and to the respective transport services (3.2.3.3d).
- The general layout and the transport connections of a PTI should be simple and easily comprehensible, with clear and accessible signage pointing to the respective routes and destinations. Provision of a multimedia layout plan showing the locations of all the bus stops and the bus routes would be desirable.

Urban squares, plazas, and outdoor sitting-out areas are an important part of a city's built environment and many enjoy using them as transitional resting places and meeting points. They also serve as linkages between buildings and facilities, and as part of a travel path. When designing such open spaces, attention should be paid to the following:

- (a) The layout of the square, plaza or open space should be clear and uncomplicated such that users can easily find their way around the space. For example, the entry/exit locations should be well identified and the various functional areas should be clearly demarcated.
- (b) Signage for way finding and orientation should be provided at key junctions to clearly indicate directions so that users can easily identify the way to their next destination. Visual, audio and tactile information should be provided as appropriate (3.2.3.4a).



3.2.3.3d Dropped kerbs and tactile warning strips at public transport interchange



3.2.3.4a Provision of tactile guide path in open space leading to various buildings

- (c) Where possible, tactile guide path should be provided at main pedestrian crossings, along the main access route and leading to a tactile directory at the square, plaza or open space.
- (d) In addition to signage and tactiles, directional cues such as kerbs, rails, fences, hedges, or other continuous elements could also be provided in the space to define a path and to maintain travel continuity for the user.

3.2.3.5 Use of Reference Points

Elements such as architectural features and sculptures at transitional places can serve as reference points to help users identify and connect various spaces along the travel chain (3.2.3.5a). They should be positioned such that they do not obstruct the main travel path.

In addition to serving as visual connections, such landmarks may incorporate tactile, audio, or other sensory components to allow physical and sensory interaction by users (3.2.3.5b).

3.2.4 Sensory and Psychological Needs

A sense of disorientation may sometimes occur when one passes from one space to the next. The careful planning of connecting and interfacing areas can help all users to orientate themselves and better utilize such transitional facilities. Universal accessibility concepts should be incorporated into the planning design such that travel continuity would not be broken at the interfacing areas.

The interfacing areas can be greatly enhanced if sensory considerations are integrated into the design of those spaces. Sensory enhancements such as natural lighting, soft landscaping, water features, tactile sculptures, even if subtly introduced, may turn ordinary transitional spaces into special places of interest (3.2.4a, 3.2.4b, and 3.2.4c).



3.2.3.5a Sculptures in open plaza can serve as useful reference points to facilitate orientation



3.2.4a Water feature at open plaza



3.2.3.5b Eye-catching sculpture in an open space can serve as a reference point and also invite user interaction



3.2.4b Greenery planted along both sides of a connecting ramp greatly enhances the journey



3.2.4c A wide covered walkway enhanced with soft landscaping and natural sunlight penetrating from the top