

URBAN MOBILITY FOR ALL



SHEHRI - CITIZENS FOR A BETTER ENVIRONMENT

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Universal Design & Accessibility

The understanding of 'Universal Access' is rooted in an understanding of the concept of 'Universal Design'. The Center of Excellence in Universal Design, based in Ireland defines Universal Design as follows – "Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability."

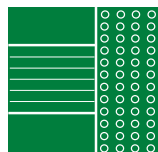
What is Universal Access?

Universal access is the goal of enabling all citizens to reach every destination served by their public streets and pathway system. Universal access is not limited to access by persons using automobiles. Travel by bicycle, walking, or wheelchair to every destination is accommodated in order to achieve transportation equity, maximize independence, and improve community livability. Wherever possible, facilities are designed to allow safe travel by young, old, and disabled persons who may have diminished perceptual or ambulatory abilities.

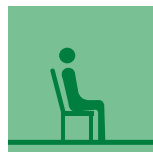
ACCESSIBILITY



Ramps



Surfaces for
visually impaired



Seating



Medians

Source: Global Street Design Guide*

Principles of Universal Access

Universal Access to Destinations

All destinations served by the public road system shall be accessible by pedestrians and by drivers of all vehicles (including bicycles), except that vehicle operation may be restricted for reasons of excessive weight, noise or size, or extraordinary potential for damage to property or person.

Equal Rights of Use

People's right to use that portion of a street designed for travel is not diminished by less weight, less size, or less average speed associated with their travel mode. Demand actuated traffic signals must detect and serve a diversity of users including bicycle operators in the roadway and pedestrians using crosswalks.

Accessible Surfaces

To the extent practicable, travel surfaces should accommodate travel on foot with minimal trip hazards and via common assistive devices such as wheelchairs. Roadway surfaces should be as clear as possible of hazards for narrow tires such as bicycle wheels.

Crossable Roadways

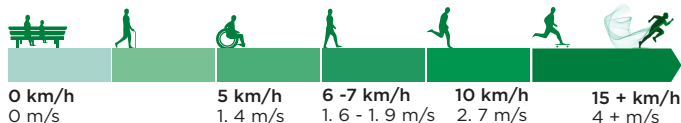
Crossing distances at non-signalized access locations must not exceed the distance that can be covered at walking speed before traffic may arrive from beyond sight distance, or during reasonable gaps in roadway traffic. Refuges provided to reduce crossing distances should be large enough to store assistive devices such as wheelchairs and strollers. Traffic signal timing should provide adequate clearance intervals for safe crossing by pedestrians and slow vehicles.

RAMPS



Mobility for:

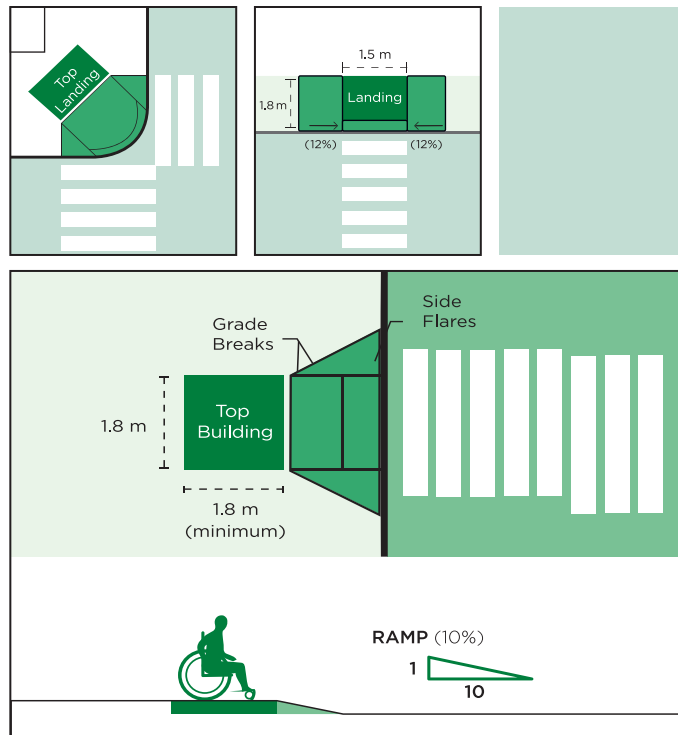
- Disabled
- Personal mobility devices
- Strollers
- Carts
- Heavy luggage



Pedestrian Ramps

Pedestrian ramps are incline planes facilitating the access of sidewalks for people using wheelchairs and other personal mobility devices, as well as those pushing strollers, carts, or heavy luggage. They are generally composed of three elements: the slope, the top landing, and the side flares.

A level landing of a minimum 1.8m length accommodates the maneuvering of a wheelchair.



Pedestrian ramps can be oriented parallel to sidewalks where space is limited and it is difficult to fit a top landing.

A level landing of a minimum 1.8m length accommodates the maneuvering of a wheelchair.

Slope

The slope should be constructed of non-slip materials and be of a maximum slope of 1:10 (10%) - ideally 1:12 (8%). The ramp width should be as wide as the clear path: minimum 1.8 m wide, 2.4 m recommended.

Top Landing

The top landing is located at the top of the ramp and allows ramp access across the side flares. The landing should be as wide as the clear path or minimum 1.8 m wide.

Side Flares

Side flares are intended to prevent tripping hazards. Side flare slopes cannot exceed 1:10. Grade breaks at the top and the bottom must be perpendicular to the direction of the ramp.

Detectable Surfaces

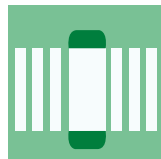
Provide tactile paving or detectable warning strips at curb ramps and other transitions between pedestrian, vehicular, or shared areas. Detectable surfaces should provide a distinctive texture intended to have a uniform meaning in alerting people to the approach of conflict zones.

Source: Global Street Design Guide,
Global Design Cities Initiative

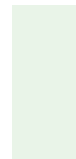
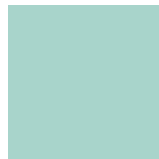
SAFETY



Pedestrian crossings



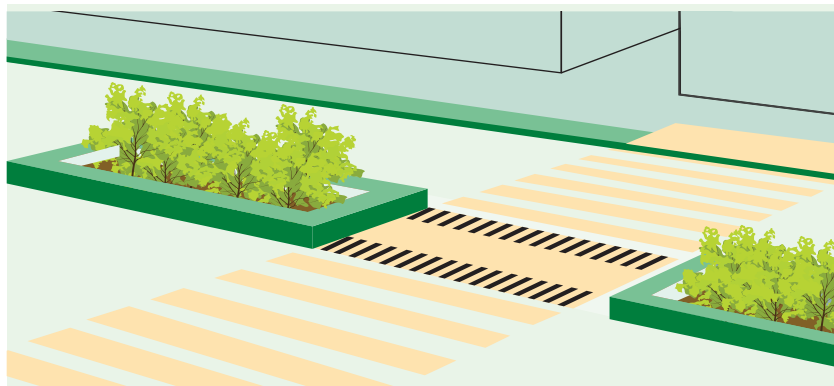
Pedestrian refuges/
medians



Pedestrian Refuges

Medians or refuge islands create a two-stage crossing for pedestrians, making it easier and safer to cross multiple lanes of traffic.

They should be installed in all streets where pedestrians have to cross three or more lanes or in narrower streets where speed and vehicular volumes make single-stage crossings prohibitive or unsafe.



Median cut throughs

Median Cut-Throughs

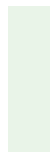
Cut through raised medians to provide level crossing. Cut-throughs should be provided where there is a significant pedestrian desire line, in front of transit stops and key destinations, or when the distance to the closest safe pedestrian crossing is more than 80 - 100m.

For streets with more than one lane per direction or speeds above 30 km/h, crossings should be signalized or traffic calmed.

Medians should be at least 1.8 m deep but have a preferred depth of 2.4 m.

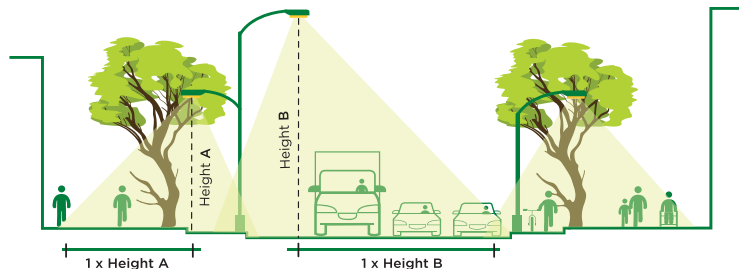
The width of the cut-through should be equal to the width of the pedestrian crossing, or at least as wide as the clear path.

LIGHTING



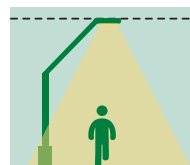
Humanising the design:

- Scale
- Direction and Focus
- Energy
- Cost



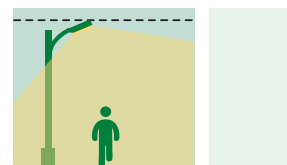
The spacing between the light poles is typically 2.5 - 3 times the height of the fixture. A single row of light poles might be wider streets will require multiple rows.

CORRECT



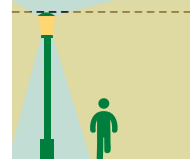
(a) Full Cut-off Fixtures

CORRECT



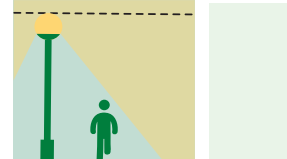
(b) Fully Shielded Fixtures

INCORRECT



(c) Non-Shielded Fixtures

INCORRECT



(d) Upright light poles

ACCESSIBILITY ISSUES IN KARACHI



Our Streets and Public Spaces - Universal Access Design not a priority!

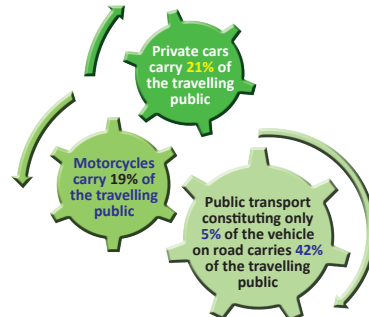
Main traffic corridors and sidewalks in Karachi are the jurisdiction of the Karachi Metropolitan Corporation (KMC) while secondary roads and neighbourhood lanes are with the six (6) District Municipal Corporations (DMC's). Our road construction specifications have no consideration

for requirements of universal access. Recently, the government of Sindh has formed the **Department for Empowerment of Persons with Disabilities**, functioning under the **Sindh Empowerment of Persons with Disabilities Act 2018**.

The Clause 6 - Ease of access and mobility – of the Act covers in a very comprehensive manner matters of universal access. It states:

To enable 'Persons with Disabilities' to live independently and participate fully in all aspects of life, the Government shall take appropriate measures to ensure 'Persons with Disabilities' access, on equal basis with others to public facilities and services, to public buildings, to transportation, to information and communications and to other facilities and services open or provided to the public both in urban and rural areas.

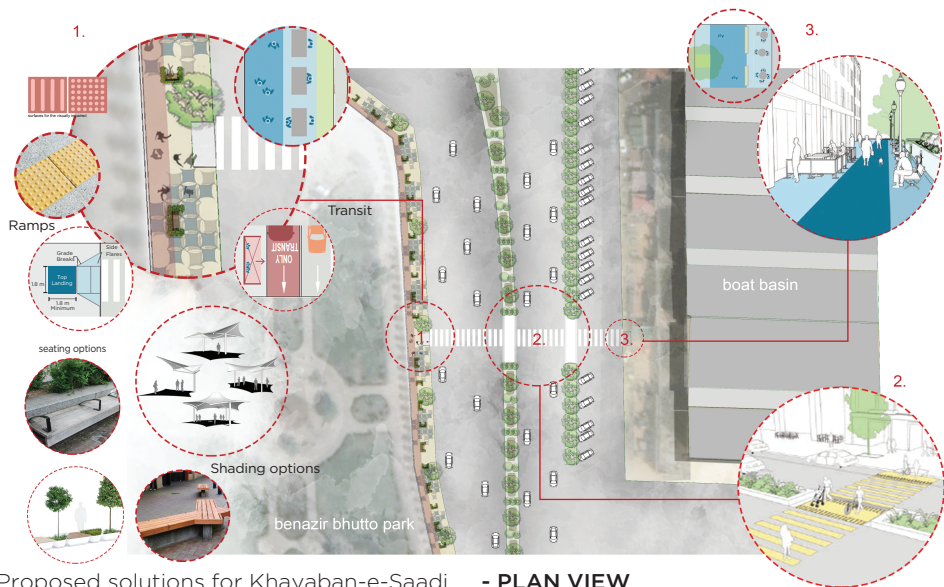
So while the legislative and institutional space has been created, however action on ground is still awaited.



Source: Transforming Karachi into a Livable and Competitive Mega City, World Bank



The number of passengers competing for a bus seat in Karachi is 45



Proposed solutions for Khayaban-e-Saadi - PLAN VIEW

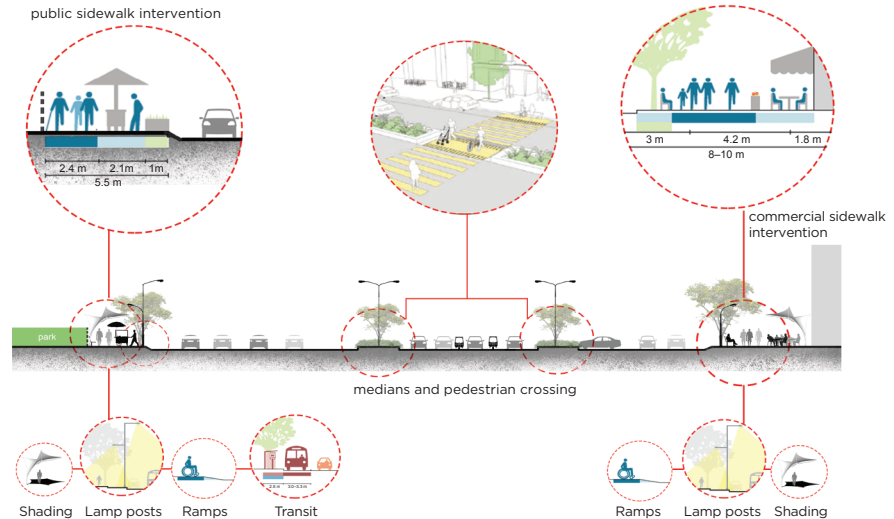
ACCESSABLE STREETS AND PUBLIC SPACES CAMPAIGN!

Within the ongoing project 'Climate Efficient Urban Mobility and Smart City Growth', Shehri-CBE has recently launched an **'Accessible Streets & Public Spaces' campaign**. This campaign focuses on highlighting mobility challenges faced by pedestrians and people with special needs.

The aim is to develop a comprehensive strategic roadmap, to be followed by actions on ground, on how we can move towards having 'accessible' streets and public spaces in Karachi where our streets/sidewalks, public spaces can be designed to make them accessible and walkable for pedestrians and people with special needs.

The campaign would be employing a number of advocacy modes to promote its agenda that among other things is looking at implementation of existing legislative instruments such as the **Sindh Empowerment of 'Persons with Disabilities Act', 2018** and the **Accessibility Code of Pakistan 2006**.

Also to be advocated would be the enactment of further legislative measures such as passing of relevant resolutions in the City/ District Assemblies and preparation of legal standard documents such as **Urban Street Design Manuals**. Shehri-CBE has taken an initiative and done a basic universal access street design of Khayaban-e-Saadi in Clifton. This is part of the ongoing campaign on Accessible Streets and Public Spaces and our continued advocacy for having prepared an Urban Street Design Manual for Karachi.



Proposed solutions for Khayaban-e-Saadi - SECTIONAL STUDY

"This publication has been produced in partnership with the Friedrich-Naumann-Stiftung für die Freiheit. The contents of this publication are the responsibility of the Shehri - Citizens for A Better Environment"