DEMYSTIFYING ACCESSIBILITY IN CIVIL AVIATION

ACCESS
THE PHOTO-DIGEST

CONTENTS

Accessible India Campaign
Accessible India - Empowered India

MESSAGE FROM
DR. VIRENDRA KUMAR,
HON'BLE UNION MINISTER OF SOCIAL JUSTICE & EMPOWERMENT

Hon'ble Prime Minister has envisioned the creation of an inclusive India where every part of the society enjoys equal participation and dignified living. Universal accessibility leads the way towards actualizing this vision and goes a long way in paving a path for empowerment of not just persons with disabilities but of every vulnerable group, including elderly, new mothers, pregnant women, children, the infirm and the ill or injured. The Sugamya Bharat Abhiyan and the recently launched crowdsourcing mobile application the Sugamya Bharat App are steps towards creation of a barrier free environment in India.

The aviation industry plays a pivotal role in development by facilitating travel, businesses, exploration and networking. Its social and economical benefits are manifold, which our divyangjan must partake equally. I am happy to note that the Ministry of Civil Aviation along with Airports Authority of India have covered substantial grounds in trying to ease air travel for persons with disabilities.

This Volume II in the series of photo-books titled: ACCESS-The Photo Digest is related to the Civil Aviation sector. It is a compilation of the best practices of accessibility demonstrated at various airports across India with the objective of sensitizing and awareness generation towards creation of accessible public centric infrastructure and services.

I wish to compliment Secretary, Smt. Anjali Bhawra and Joint Secretary, Smt. Tarika Roy of the Department of Empowerment of Persons with Disabilities for taking the initiatives for developing such Photo-Digests which can be foreseen to enhance understanding about 'Accessibility'.

MESSAGE FROM
SHRI. JYOTIRADITYA M. SCINDIA,
HON'BLE UNION MINISTER OF CIVIL AVIATION

For a rapidly developing nation such as India, the culture of equal opportunity is a powerful driver of growth. Borrowing from our constitutional values of equal opportunities for all, we at the Ministry of Civil Aviation are committed towards ensuring that all the airports and airlines provide easy accessibility to all travellers. Hence, we are adopting a universally accessible design in our airports.

Universal accessibility encourages people with special needs to access infrastructure and to fully participate in social, cultural recreational and economic activities. We must ensure that we help to create a world where those with mobility related challenges are able to transcend all kinds of barriers. We need to adopt an inclusive approach to make it possible for Divyangjans to enjoy the same standards of equality, rights and dignity as other citizens. With this objective in mind, availability of necessary infrastructure is being ensured so as to enable a convenient air travel experience for Divyangjans.

I am glad that a Photo-Digest on 'Accessibility in different Sectors' – a first of its kind, is being launched, to create awareness about accessibility needs and the corresponding travel related facilities for Divyangjans. I hope that it will be widely circulated and publicized so as to reach out to as many stakeholders as possible.
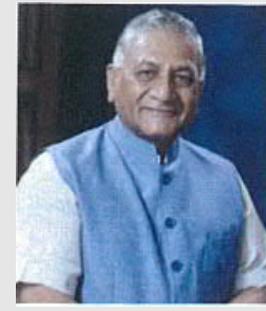
India has ratified the United Nations Convention on Rights of Persons with Disabilities which obligates all signatories to ensure access to physical environment, transportation and information & communication ecosystems for Persons with Disabilities on an equal basis. Building on this, the Accessible India Campaign or the Sugamya Bharat Abhiyan was launched by Hon'ble Prime Minister on 3rd December 2015 with the vision of creating a barrier free environment. The Campaign is also a tool for implementation of the provisions of accessibility mentioned under the Rights for Persons with Disabilities Act, 2016.

Addressing the growing demand for air travel service among the society at large, special focus has been laid upon ensuring that the entire paradigm of air travel, from booking tickets to navigating through the airports is made easy, safe and comfortable. Ministry of Civil Aviation has taken proactive steps in converting airports into barrier free transit hubs, spearheading an organized change in the society.

I commend this initiative of the Department of developing a comprehensive photographic book as a professional guide of the key requirements while showcasing examples of well executed works of accessibility in airports from across the country. I am sure this initiative of the series of Photo-Digests will inspire relevant stakeholders in other sectors in ensuring accessibility in their respective spheres as well and showcase their best practices for awareness-generation and sensitization.

Over the past 30 years, travel has undergone a revolution and has come within the reach of a large part of the population. The rise of low-cost options, the ubiquity of the internet and sharing platforms have created unparalleled demand and choice. Millions of people with accessibility needs around the world want to travel more, be better connected and desire greater variety of personalized travel services destinations. It is their right to do so.

Above all, they want to be considered as travelers first, with the ability to plan, search, book and purchase their travel independently. The travel industry has taken important steps towards providing means for their accessibility needs.

Creating a barrier-free environment is the most basic thing we can do to provide equal travel opportunities to everyone. At Ministry of Civil Aviation, we are committed to making aviation services more accessible. We also believe that technology can play a key role in delivering the right blend of services and options. We understand that the aviation industry can only achieve its best results by collaborating with all the stakeholders to deliver the right solutions throughout the travel process.

This photo-digest will help sensitize people towards the needs of the persons with special needs and also make them aware towards making our surroundings more accessible. We hope that one day our airports become so accessible that everyone irrespective of their challenges, are able to reach their destination independently and comfortably.

Building an accessible and inclusive society are the challenges that are being faced by every policy maker, be that in the field of education, health, infrastructure, information technology or transport systems. With accessibility comes efficiency, time saving, knowledge and growth. To ensure universal accessibility, change needs to be strategically infused in the attitude of the society as well as it's physical structure. This calls for the formulation of progressive and comprehensive accessibility standards/guidelines across all sectors of public services. Each sector requires to work meticulously, in a time bound manner to achieve these goals of accessibility, eventually setting India in the ranks of best global practices available to learn from.

The Civil Aviation Industry has witnessed an exponential growth over the past few years. This dynamism demands for the aviation sector to become more inclusive allowing seamless and elevated travel experiences to all travellers, including the persons with disabilities. For this purpose, it is important that airports are designed along universal and inclusive design principles. Developing focus around the ten basic accessibility features is bound to ensure complete ease of access and use. These 10 basic features include 3 outdoor features of access routes, accessible parking with transfer bays and accessible ramped entrances; and 7 indoor features of accessible reception counters, corridors with tactile paths, accessible lifts with braille buttons and audio announcements, accessible staircases, accessible toilets, accessible drinking water facilities and signages. Apart from these basic features, there are specific requirements of air travel including accessibility and ease of booking tickets, provision of assistance at security check points, assistance at the time of boarding and de-boarding, waiting areas, 'May I Help You' booths, as also, aerobridges, ambu-lifts, low floored buses, to name a few.

While interventions of developing accessible airports reflect the beginning of a transformational change, major grounds are yet to be covered and essentially in compliance to standards and in tune with the requirements of persons with disabilities. This book is a collation of the work that has been carried out on-ground to reflect the commitment of the Government towards developing an Universally Accessible India, as well as an endeavour to generate awareness regarding the requirements of accessibility.

I compliment Ms. Tarika Roy, Joint Secretary and her team of Accessible India Campaign who have taken painstaking efforts in bringing out this Photo-Digest as a compilation of photographs from airports across India to sensitize the society.

In order to meet the obligations under the UN Convention on Rights of Persons with Disabilities, the Government of India has enacted Rights of Persons with Disabilities Act, 2016. In line with the objectives enshrined in the Act, the Ministry of Civil Aviation is committed to create a barrier free environment for Divyangjans for ensuring hassle-free air travel.

With robust aviation growth witnessed in india in the last few years, it has become paramount for all the stakeholders in civil aviation sector to cater to the travel needs of Divyangjans. Air travel is now one of the safest and fastest mode of travel and the benefits of the reach of the civil aviation sector must be available to all. We are striving to create infrastructure that provides equal opportunity to Divyagjans in all spheres of economic activities be it social or financial. The ease of accessibility is, therefore, not only a convenience but a fundamental right of Divyangjans.

I am glad that a Photo Digest on "Accessibility in Civil Aviation" covering physical infrastructure and other services is being complied and issued. I hope this compilation helps in creating awareness about the best practices available for accessible air travel for Divyangjans.

MESSAGE FROM

SHRI. SANJEEV KUMAR,
CHAIRMAN, AIRPORTS AUTHORITY OF INDIA

Air transport has become a major mode of transport in today's world for people all over the globe. More and more people are opting to travel by air due to its comfort, reliability and speed. The concept of low cost and no frill travel have encouraged the common man with an average financial background to travel by air resulting in an increase in the number of users.

As our nation aims to improve the experience of all these users, it is our responsibility to be more inclusive and sensitive towards the needs of all passengers. The concept of inclusive design denotes that prior to constructing a built environment, the needs and requirements of all should be taken into consideration. It means we need to make our built environment more user-friendly for old people, children, people with disability and everyone using it. This is to ensure that the finished product is completed to the specification that is suitable for all, rather than one section of the society.

Under the umbrella campaign of Accessible India all the public buildings and modes of transport are being developed to be barrier-free for all users. Airports Authority of India envisions to make all its airports fully accessible in the near future. With this vision in mind, we are taking concerted effort to make the Indian airports more and more barrier-free every day. We have been trying to implement the principle of universal design to transform the airports into more accessible ones. It is an extensive process and we have come a long way in it.

We started our journey from the audit of different airports to understand the scope of improvement. We have been training our staff to communicate efficiently with people with special needs and guide them to navigate independently through the airports. We have also prepared a handbook on "Accessibility standards and Guidelines in Civil Aviation" which will be published soon on our website. Furthermore we have simultaneously taken up the implementation of these standards at various airports. We have advanced a lot from our starting point and are determined to reach the destination of accessible airports very soon.

We at AAI will always continue its support for Accessible India Campaign and make sure that accessible features are integrated into design method and operations to ensure joyful journeys with dignity and safety for all the users.

Accessible India Campaign

Accessible India - Empowered India

ABOUT THE BOOK

With the vision of developing an universally accessible India, the Department of Empowerment of Persons with Disabilities (DEPwD), Ministry of Social Justice and Empowerment, Government of India launched the Accessible India Campaign (AIC) in December 2015. The Campaign is being implemented to bring accessibility across three verticals, namely – the built-up environment, the transportation sector and the ICT ecosystem. Central Government as well as State and Union Territory Governments are working towards providing features of accessibility across sectors.

Furthermore, in order to convert the Campaign into a mass movement through *Jan-Bhagidhari*, the Hon'ble Prime Minister directed the development of a Crowdsourcing Mobile App so that *Divyangjan* can raise issues of inaccessibility being faced by them anywhere in India. Hence, the Sugamya Bharat App, a mobile application has been developed to collate the complaints of persons with disabilities in regard to issues of accessibility faced by them in using public infrastructure, services and facilities. The Sugamya Bharat App was launched on 2nd March 2021 by Hon'ble Minister of Social Justice and Empowerment, Dr. Thaawarchand Gehlot. The user friendly and accessible features of the App make it usable by 'Anyone, Anytime, Anywhere' across the country. This App marks the transformation of the development of inclusive environments into a people's movement. Thus, it is even more prudent to ensure accessibility is provided rationally and in correctness across all sectors of public services.

Over the course of the implementation of the Campaign, clarity has been gained in the practical difficulties being faced on-ground and the gaps in provisions of accessibility in public infrastructure and services have gained clarity. These reflect that the requirements of persons including those with disabilities, the elderly, pregnant women, children, with reduced mobility, those infirm or injured and temporarily disabled, need to be prioritized when envisioning inclusive ecosystems. The need has therefore arisen to sensitize and guide the authorities and professionals working in different sectors of public services regarding the requirements of comprehensive end-to-end accessibility being holistically built into the operational and physical structure of the facilities.

Assessing such a need felt on ground, the Department decided to create a series of Handbooks entitled 'ACCESS - The Photo Digest' to serve as easy to comprehend guides for professionals and enhance their understanding of concept, requirements and delivery of accessibility. Conceptualized to comprise illustrative explanations of good and bad practices as well as examples of on-ground execution of accessibility features, the booklets in this series would also serve as a nudge towards sensitizing the society and generating awareness regarding the importance of barrier free environments. These handbooks will showcase the continued efforts of the government being made across sectors to facilitate equal participation of persons with disabilities in all activities and spheres of life.

In view of this, as a complement to the Sugamya Bharat App, the first volume of this series of 'ACCESS - The Photo Digest' related to Public Centric Buildings has been launched in March 2021. This handbook showcases the 10 basic features of accessibility as the bare minimum requirements to be provided in all public-centric spaces and buildings for enhancing accessibility.

Transportation sector has a major impact on the degree of participation demonstrated by *Divyangjan*. As such, this second volume of the series titled ACCESS – The Photo Digest, pertains to the provisions of accessibility in airports and in air travel services. So far, all 35 international and 55 out of 69 domestic airports are in the process of being made accessible. Guidelines on Accessibility related to this sector are also under finalization for notification under the Rights for Persons with Disabilities Rules 2017.

In line with this, Airports across our country demonstrate examples of innovative and thoughtful initiatives undertaken by the Ministry of Civil Aviation and the Airports Authority of India to create barrier free environments for persons with disabilities opting for air travel. The intent of this booklet is to bridge the gap in interpretation of requirements through a simple at-a-glance understanding of the subject of accessibility in airports being made available through sketches and a photograph-based reference book. This is as an easy to comprehend book, which is not text heavy. It showcases the good practices available on ground across airports in India. However, the compilation also touches upon the areas for improvement to be considered to further enhance accessibility. The photographs collected for this volume are from 63 international and domestic airports. Collated through the Ministry of Civil Aviation, the Airports Authority of India and the MIS portal of the AIC, these photographs demonstrate the 10 basic features of accessibility along with additional special features of accessibility at airports that are required for and pertain specifically to the civil aviation sector. These include among others, notifying areas near luggage carousels with prominent signage and on-ground markings, provisions for aerobridges and ambu-lifts, special enclosure for PwDs, sensitization for the personnel towards the needs of the PwDs as well as training in sign language, etc.

The proactive help rendered by Mr. I. N. Murthy, Member (Operations) and Ms. Charul Shukla, General Manager (Arch), Airports Authority of India, in collating this compilation deserves a special mention.

It is hoped that these photographs assembled and presented in ACCESS – THE PHOTO DIGEST, Volume 2 on Airports would do the necessary talking and help in demystifying accessibility for the purpose of being provided in public infrastructure. This is an endeavour to make India universally accessible, and thereby, eventually becoming truly inclusive. Let's all strive to become Accessibility Warriors!

SMT. TARIKA ROY,
JOINT SECRETARY, DEPARTMENT OF EMPOWERMENT OF PERSONS WITH DISABILITIES, GOVERNMENT OF INDIA

UNDERSTANDING ACCESSIBILITY

Accessibility \ 🔊 ik-ˌse-sə-ˈbi-lə-tē : (*noun*)
Dictionary meaning: Quality of being easy to obtain, understand, appreciate and use

The National Building Code states that 'Accessibility' includes **ease of independent approach, entry, evacuation and/or use of a building and its services and facilities**, by all of the building's potential users with an assurance of individual **health, safety and welfare** during the course of those activities.

Accessibility is essential not only for **Persons with Disabilities** (PwDs) **but for all individuals facing vulnerability due gender, age, physical ability, economic situation or cultural disconnect**, such as the elderly, infants, new mothers, pregnant women, victims of accidents, foreigners, the ill and the infirm.

United Nations Convention of Rights for Persons with Disabilities (UNCRPD) recognizes the **Social Model of Disability** which proposes that **one is disabled not due to the medical condition, but due to the attitudes and structure of society, including inaccessible physical environments and transportation, unavailability of assistive devices & technologies, non-adapted means of communication, gaps in service delivery, and discriminatory prejudice & stigma in society**.

The 2030 Agenda for Sustainable Development states that disability cannot be a reason for lack of access to development programming and the realization of human rights.

The following international mandates set the base for accessibility –

- **United Nations Convention on Rights for Persons with Disabilities, 2007 (UNCRPD)** which has been ratified by India, in its Preamble provides for recognizing the importance of accessibility to the physical, social, economic & cultural environments, health & education and information & communication, in enabling PwDs to fully enjoy all human rights and fundamental freedoms. **Article 26 of Chapter 9 of UNCRPD** obligates ensuring access to physical environment, transportation and Information & communication for PwDs on an equal basis with others in both urban and rural areas.

- **Incheon Strategy, 2012** builds on the UNCRPD towards an inclusive, barrier-free and rights-based society for PwDs in Asia and the Pacific, which has been ratified by India. **Goal No. 3** specifically mentions access to physical environment, transportation, knowledge, information and communication; a precondition for inclusive society. The strategy provided the first set of regionally agreed disability-inclusive development goals and indicators for tracking the progress in accessibility.

The **Department of Empowerment of Person with Disabilities (DEPwD) under the Ministry of Social Justice and Empowerment, Government of India,** came up with a forward-looking Act to protect the rights of PwDs, known as the **Rights for Persons with Disabilities Act, 2016 (RPwD Act)**. It is a rights-based Act that provides PwDs equal opportunities in health, education, employment, non-discrimination, guardianship, and most importantly, accessibility. The RPwD Act, 2016 has enlisted 21 types of disabilities which include impairment of motion, sight, hearing and speech, intellectual impairment, mental illness and other medical conditions like blood disorders (haemophilia, thalassemia, sickle cell disease) as well as multiple disabilities. **Sections 40-46 of the RPwD Act, 2016 mandates Accessibility in the Built-Up Spaces, Transportation, Appropriate Technologies, Consumer Goods and all services to ensure an universally accessible environment for public at large.**

NATIONAL ACCESSIBILITY MANDATES AND STANDARDS

The RPwD Act, 2016 mandates Accessibility through Sections 40 to 46, as under:

- **Section 40:** Formulation of rules for Persons with Disabilities (PwDs) by laying down the standards of accessibility for the physical environment, **transportation**, information and communications, including appropriate technologies and systems, and other facilities and services provided to the public in urban and rural areas.

- **Section 41:** Suitable measures to be taken to provide facilities for PwDs at bus stops, railway stations and **airports** conforming to the accessibility standards, access to all modes of transport and accessible roads to address the need of mobility for PwDs as well as taking measures to promote personal mobility of PwDs at affordable cost.

- **Section 42:** Suitable measures to be taken to ensure all contents available in audio, print and electronic media are in accessible format; PwDs have access to electronic media by providing audio description, sign language interpretation and close captioning; and electronic goods and equipment which are meant for every day use are available in universal design.

- **Section 43:** Promoting development, production and distribution of universally designed consumer products and accessories for general use.

- **Section 44:** Mandatory observance of accessibility norm, by not granting construction permit, certificate of completion or occupancy certificate to buildings not conforming to accessibility rules.

- Section 45: All public buildings shall be made accessible in accordance with the rules formulated within five years from the date of notification of such rules.

- Section 46: All Government or private service providers, shall provide services as per the accessibility rules within two years from the date of notification of rules.

Accessibility standards available for designing or planning accessible public facilities and infrastructure include :

For Buildings and Public Spaces

- **Harmonized Guidelines and Space Standards for Creation of Barrier Free Environment for Persons with Disabilities and Elderly Persons 2016** (Harmonized Guidelines) *by Central Public Works Department, Ministry of Housing and Urban Affairs* – Notified under the RPwD Rules, 2017
- **National Building Code 2016** (NBC) *by Bureau of Indian Standards*

For Transportation Systems

- **Harmonized Guidelines for Passengers with Disabilities over Indian Railways** *by Ministry of Railways* – Yet to be notified under the RPwD Rules, 2017
- **Code for Approval and Design of Bus Body** *by Ministry of Road Transport and Highways* – Notified under the RPwD Rules, 2017
- **Accessibility Standards and Guidelines for Civil Aviation** *(Draft) by Ministry of Civil Aviation* - Yet to be notified under the RPwD Rules, 2017

For Information and Communication Technology (ICT) Ecosystem

- **Guidelines for Indian Government Websites** by *Ministry of Electronics and Information Technology* – Notified under the RPwD Rules, 2017
- **Guidelines for Accessible TV Viewing by Persons with Hearing Impairment** by *Ministry of Information & Broadcasting* - Not notified under the RPwD Rules, 2017

ACCESSIBLE INDIA CAMPAIGN

The Department of Empowerment of Persons with Disabilities is dedicated towards development of awareness, education and sensitization towards Persons with Disabilities (PwDs) in the society. To set out the Government's commitment on ratification of UNCRPD, a Flagship Campaign called the **Accessible India Campaign (AIC) or Sugamya Bharat Abhiyan** was launched by DEPwD on 3rd December 2015. Taking after the Incheon Strategy 2012, the **vision of the Campaign is to a create barrier free environment across the three verticals of the Built-Up Environment, the Transportation System and the ICT Ecosystem**.

The **Mission** of the Campaign is to create tangible assets of accessible infrastructure, through guided change in the society towards standardized, organic and intentional development of accessible facilities and services. To actualize this mission, the Campaign identifies its **core principles** as follows:

- **Universal Design** - The design of products, environments, programmes and services usable by all, to the greatest extent possible, without the need for adaptation or specialised design, applicable to assistive devices and advanced technologies.

- **Reasonable Accommodation** - Necessary and appropriate modification and adjustments, without imposing a disproportionate or undue burden in a particular case, to ensure to PwDs, the enjoyment or exercise of rights equally with others.

Built-Up Environment

Under the Built-Up Environment of AIC, DEPwD is working with States/UTs across India for development of accessible public centric buildings. For this, Central and State/UT Governments have identified buildings to be retrofitted in Phases I, II and III of the Campaign. Endeavours are being made for enforcement of the accessibility rules and ensuring a minimum of 10 basic features of accessibility in all public spaces and buildings. These features of accessibility that have been culled out from the *Harmonized Guidelines*. Sector specific actions are also being undertaken so as to promote development of accessible infrastructure in a focussed manner, thereby creating models for future replication.

Transportation System

Under the transportation sector, not just are the premises of railway stations, **airports** and bus stops considered for being made barrier-free, but also the carriers and the services themselves are being made accessible. Introduction of disabled-friendly coaches by railways, low floor buses by various transport authorities and aerobridges, ambu-lifts in airports are among the steps being taken towards creation of accessible carriers. Accessible Transport related services such as enquiries, ticket bookings, booking of services are also being made disabled friendly. Overall, upgradation of the accessibility standards of transportation are being taken up to develop more modern, inclusive and sustainable systems that are universally accessible.

ICT Ecosystem

Due to the increasing dependency on digital and virtual infrastructure in today's world, the Campaign is also promoting accessible practices around Information and Communication Technology (ICT). Accessibility standards for accessible TV viewing by persons with hearing impairment have already been issued which provide for closed captioning of programs. Web Accessibility is also being taken up within the laid down guidelines for development of government websites catering to the requirements of the visually and hearing impaired persons.

DESIGN PRINCIPLES OF ACCESSIBILITY

*Graphic reference source: Harmonized Guidelines as per mentioned clause*

The principles of design are based on:
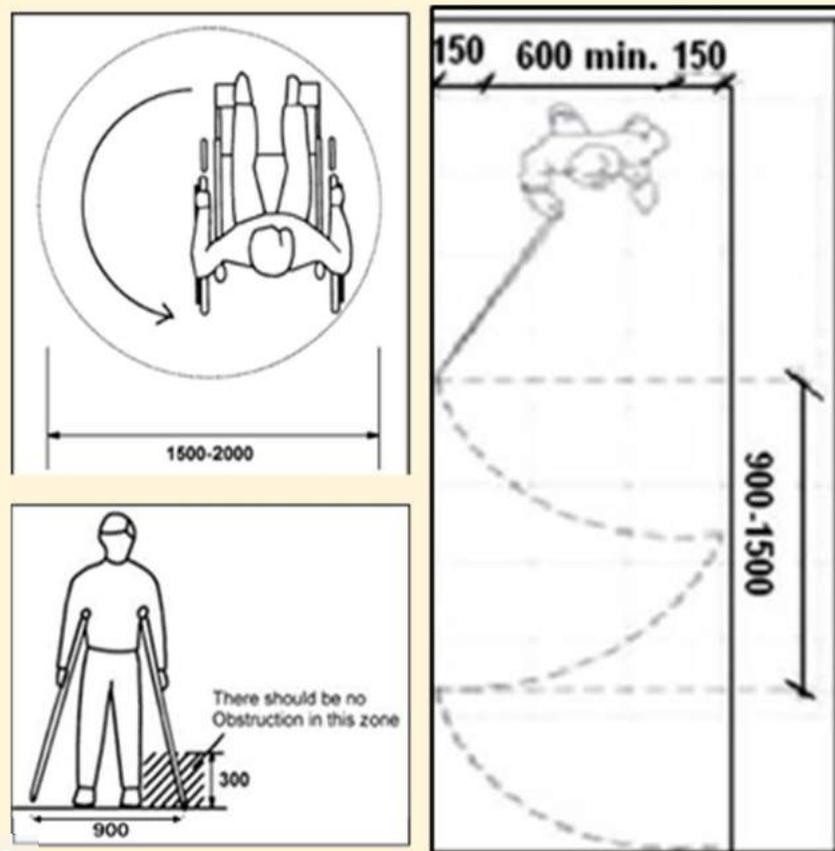
1. Assistive Devices and Space Allowance
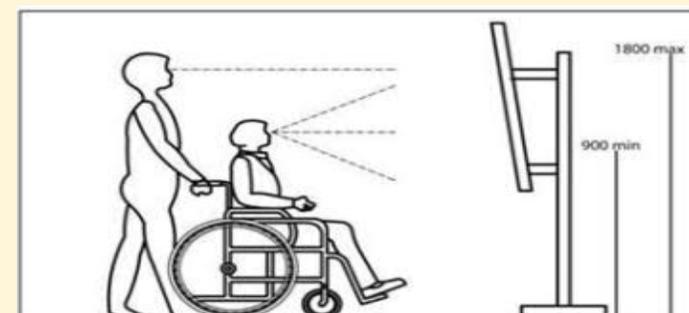*Clause 3.1 of Harmonized Guidelines*

- **Wheelchairs -** 1200mm X 900mm (4ftX3ft) ground space and 1500mm (5ft) radius to turn.

- **Crutch -** minimum clear passage of 920mm (3.06ft) unobstructed up to 300mm (1ft) height.

- **White canes -** radial range of 900mm (3ft) wide band, no obstruction above 600mm (2ft).
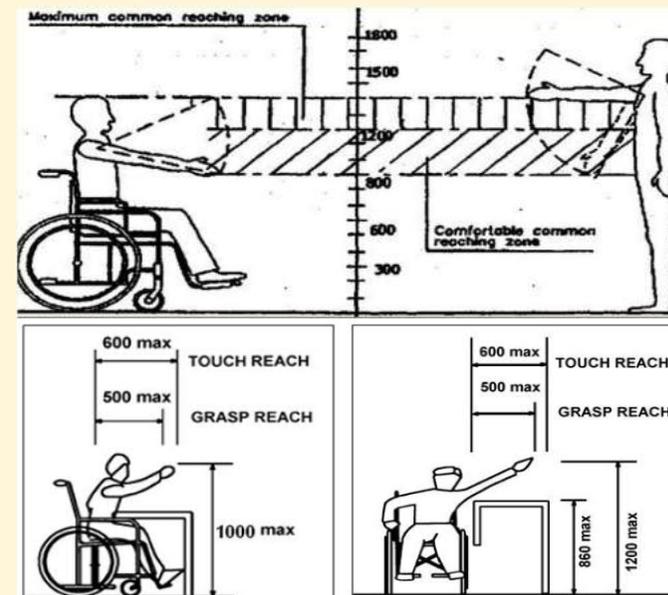
## 2. Reach Ranges of Wheelchair Users
Clause 3.2 of Harmonized Guidelines

- **Comfortable reach -** 900 to 1200 mm (3ft to 4ft).

- **Maximum lower reach level -** 250mm (0.8ft) and higher reach level - 1300mm (4.3ft).

- The maximum **side-reach** over an obstruction 860mm (2.75ft) high x 500mm (1.75ft) deep, is 1200mm (4ft.)

3. Vision Zone
Clause 3.3 of Harmonized Guidelines

- **Comfortable Vision zone -** 900 to 1800 mm (3ft to 6ft).
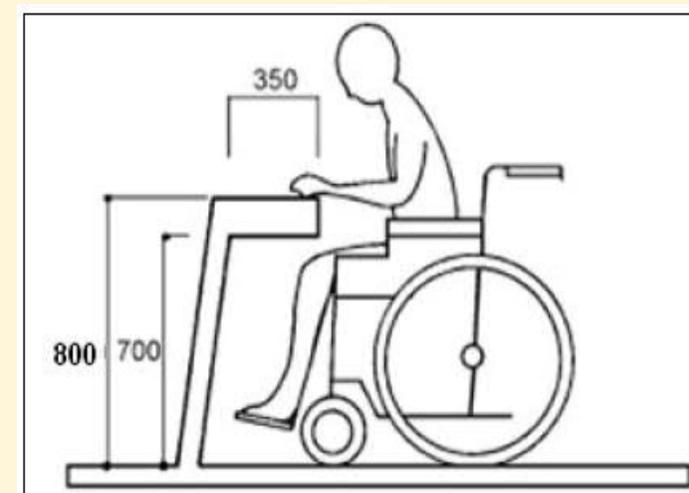
4. Height and Width Zone
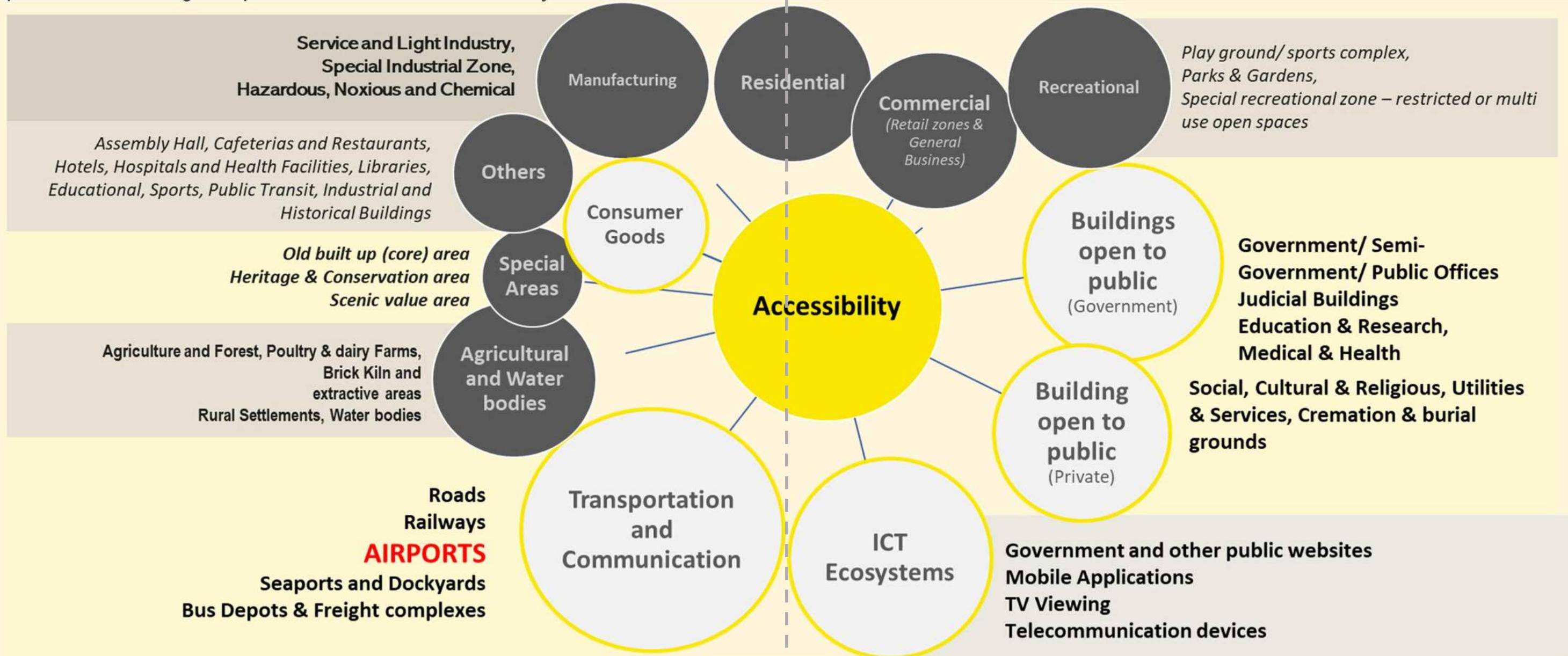*Clause 3.4 of Harmonized Guidelines*

- Height of controls (switch boards, alarm buttons etc.) from floor - 400 to 1200mm (1.3ft to 4ft).

- **Counters –** Maximum height of 800mm (2.5ft), Legroom depth under counter - 350mm (1.15ft).

- **Minimum Door width –** 900mm (3ft).

WHERE ALL IS ACCESSIBILITY NEEDED

All public centric buildings and premises need universal accessibility

The **Rights for Persons with Disabilities Act 2016**, defines 'Public Buildings' as a Government or private building, used or accessed by the public at large, including a building used for educational or vocational purposes, workplace, commercial activities, public utilities, religious, cultural, leisure or recreational activities, medical or health services, law enforcement agencies, reformatories or judicial foras, railway stations or platforms, roadways bus stands or terminus, **airports** or waterways.

Service and Light Industry, Special Industrial Zone, Hazardous, Noxious and Chemical — Manufacturing

Assembly Hall, Cafeterias and Restaurants, Hotels, Hospitals and Health Facilities, Libraries, Educational, Sports, Public Transit, Industrial and Historical Buildings — Others

Old built up (core) area
Heritage & Conservation area
Scenic value area — Special Areas

Agriculture and Forest, Poultry & dairy Farms, Brick Kiln and extractive areas
Rural Settlements, Water bodies — Agricultural and Water bodies

Roads
Railways
AIRPORTS
Seaports and Dockyards
Bus Depots & Freight complexes — Transportation and Communication

Residential

Commercial (Retail zones & General Business)

Recreational — Play ground/ sports complex, Parks & Gardens, Special recreational zone – restricted or multi use open spaces

Consumer Goods

Accessibility

Buildings open to public (Government) — **Government/ Semi-Government/ Public Offices Judicial Buildings Education & Research, Medical & Health**

Building open to public (Private) — **Social, Cultural & Religious, Utilities & Services, Cremation & burial grounds**

ICT Ecosystems — **Government and other public websites Mobile Applications TV Viewing Telecommunication devices**

BASIC FEATURES OF ACCESSIBILITY

The following accessibility features reflect the minimum requirements for creating an barrier-free built environment and have been derived from the *Harmonized Guidelines*.

10 basic features of accessibility in the Built-Up Environment	
OUTDOORS	INDOORS
1. Accessible route 2. Parking 3. Entrance to building	4. Reception 5. Corridors 6. Lifts / Elevators 7. Staircases 8. Toilets 9. Drinking water provision 10. Signage

OUTDOOR FEATURES

Accessible Route with tactile

Ramped Accessible Entrance

Reserved Parking

INDOOR FEATURES

Double Height Reception

Drinking Water Facility

Accessible Toilet with grab-bars

Signage

Wide, Obstacle-free Corridors

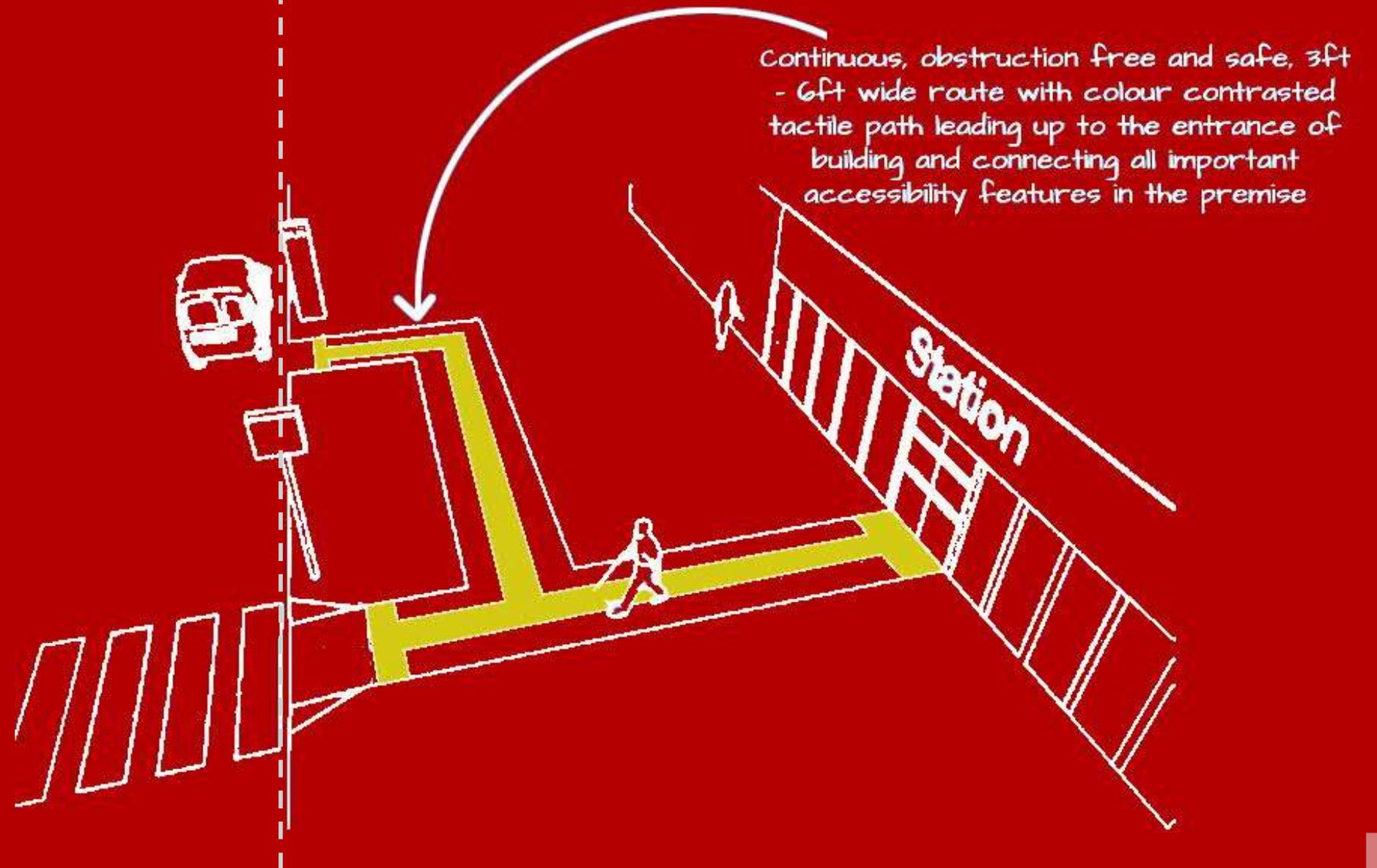Staircase (Colour-strips, handrails)

Lifts (Braille, Audio, Warning tile)

AT A GLANCE SPECIFICATIONS OF THE 10 BASIC FEATURES OF ACCESSIBILITY

Features	Specifications
OUTDOOR FEATURES	
Accessible Route/ Pathway	900mm - 1800mm, anti-skid surface, tactile path, signage (directional and informational), well lit, unobstructed pathway.
Accessible Parking	5000mm X 3600 mm, within 30m of entrance, transfer bay, connected to accessible route, vertical and on floor signage.
Accessible Entrance to the Building	900 - 1800mm width, ramp with gradient 1:12 and double height handrail with proper grips rounded at the edges, anti-skid flooring, colour contrast, main door to be provided with minimum width of 1000 mm, signage prominently displayed.
INDOOR FEATURES	
Accessible Corridor	1500mm to 1800mm clear width, anti-skid surface, tactile path, well-lit, unobstructed by chairs/plants, doors should not open on to the corridor.
Accessible Reception	Low height counter (750-800mm) with 750-900mm width and leg space of 800mm height and 480 mm depth below the counter, information of accessible features, alternative media for communication - induction loop, braille, audio, etc.
Accessible Lifts/ Elevator	900 mm wide door with warning tiles at the entrance, 1500mm X 1500mm lift car size, braille buttons, auditory information and digital display, grab bars on three sides, alarm button, mirror on the rear wall.
Accessible Toilet	2000mm X 2200mm size, grab-bars around all sanitary fittings easy to be used by left and right handed users, 900mm door (double swing or outside opening), anti-skid floor, emergency button, latches (also middle, base), easy to operate handles and lever type taps with long neck, no *chaukhat.*
Accessible Staircase	Colour contrasting strips on the horizontal surface of the steps, double height rounded handrails (38mm to 45mm diameter) with proper grips rounded at the edges, warning tactile tiles at beginning and end, 50mm gap between wall and handrail for proper grip.
Accessible Drinking Water Facility	Low height counter (750-800mm), leg space below counter (300mm), ramps, no drains/ holes, double height fountain type taps that are easy to operate.
Signage	Directional and informational, high contrast, easy to understand, prominent locations, unobstructed, standardized and in alternative formats such as in braille, through audio output, tactile maps/boards, regional languages, etc, material of the signage should be anti-glare or preferably of matte finish, of durable quality.

Continuous, obstruction free and safe, 3ft - 6ft wide route with colour contrasted tactile path leading up to the entrance of building and connecting all important accessibility features in the premise

Station

1

Clause 5.5, Harmonised Guidelines
Clause B 2.2, Chapter 13, Part 3, NBC Vol.1

ACCESSIBLE ROUTE

Accessible Route

Wide access, continuous guiding tactile path up to entrance

- **Minimum width for pathway should be 1500mm (5ft)** for one wheelchair and 1800mm (6ft) for two wheelchairs to cross simultaneously.
- Obstacles, projections or other protrusions should be avoided.
- The route connecting the entire building **should be well lit and provided with high contrast tactile floor guidance path**, connecting all public utilities, entrances and exits.
- Informational and directional signage to be provided.

Accessible Route

Only differently coloured tiles used to create pathway but actual tactile tiles, guiding or warning not used, pathway ends abruptly

- **Path obstructed** by landscaping, manholes, potted plants, parking etc.
- **Tactile path provided is not continuous or not designed appropriately.**
- Warning and guiding tiles not provided or wrongly placed.
- Provision for lighting the pathway not considered.
- **Pathway/Route** created for wheelchair movement **is narrow**, less than 1500mm (5ft).

Veer Surendra Sai Airport, Jharsuguda, Odisha

- Access route created using well contrasted flooring and stainless steel tactile buttons. Appropriately placed guiding and warning tactile tiles for persons with visual impairment.

- The route starts from a prominently marked drop-off area for persons with disabilities and leads them to the nearest entrance.

- Ensuring a continuous tactile path is required for seamless access throughout the facility to help persons with visual impairment.

- Appropriate provision of kerb ramp would further enhance accessibility.

Birsa Munda Airport, Ranchi, Jharkhand

- Access route developed by earmarking a wide obstruction free path with anti-skid finish and provided with tactile buttons.

- Stainless steel tactile buttons used to create a continuous access route leading the way to the building entrance. This option of using tactile buttons is most feasible for buildings which have high public traffic through out the day.

- The route has been provided with appropriately placed warning and guiding buttons ensuring movement around the barricade. This also helps to manage queuing in front of the entrance to the airport.

Chaudhary Charan Singh International Airport, Lucknow, Uttar Pradesh
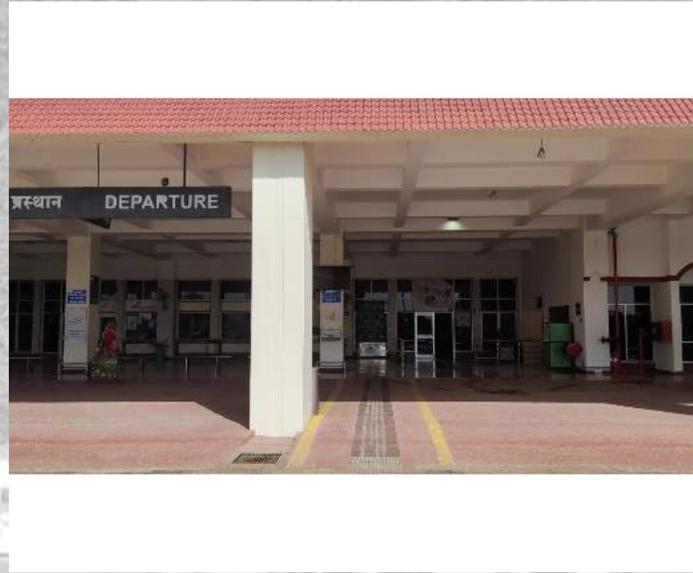
Bhuj Airport, Gujarat
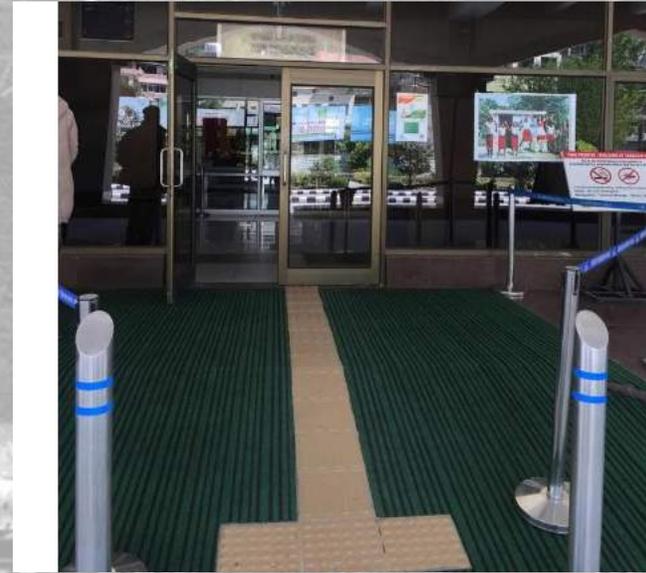
Kullu Manali Airport, Himachal Pradesh

Mysuru Airport, Mysore Karnataka

Biju Patnaik International Airport, Bhubaneswar, Odisha

Aurangabad Airport, Maharashtra

Rajkot Airport, Gujarat

Jamnagar Airport, Gujarat

Sardar Vallabhbhai Patel International Airport, Ahmedabad, Gujarat

Vijayawada International Airport, Andhra Pradesh

Gaya Airport, Bihar

Civil Aerodrome, Porbandar, Gujarat

Devi Ahilya Bai Holkar Airport, Indore, Madhya Pradesh

Trivandrum International Airport, Kerala

Belagavi Airport, Karnataka

Lokpriya Gopinath Bordoloi International Airport, Guwahati, Assam

Reserved parking of size 16.5ft X 12ft, with 4ft wide transfer bay, within 100ft of the building entrance. Connected to the accessible route. Vertical and on ground signage mandatory.

2

Clause 10.1, Harmonised Guidelines
Clause B 3, Chapter 13, Part 3, NBC Vol.1

ACCESSIBLE
PARKING

Transfer bay for wheelchair boarding, deboarding and transfer
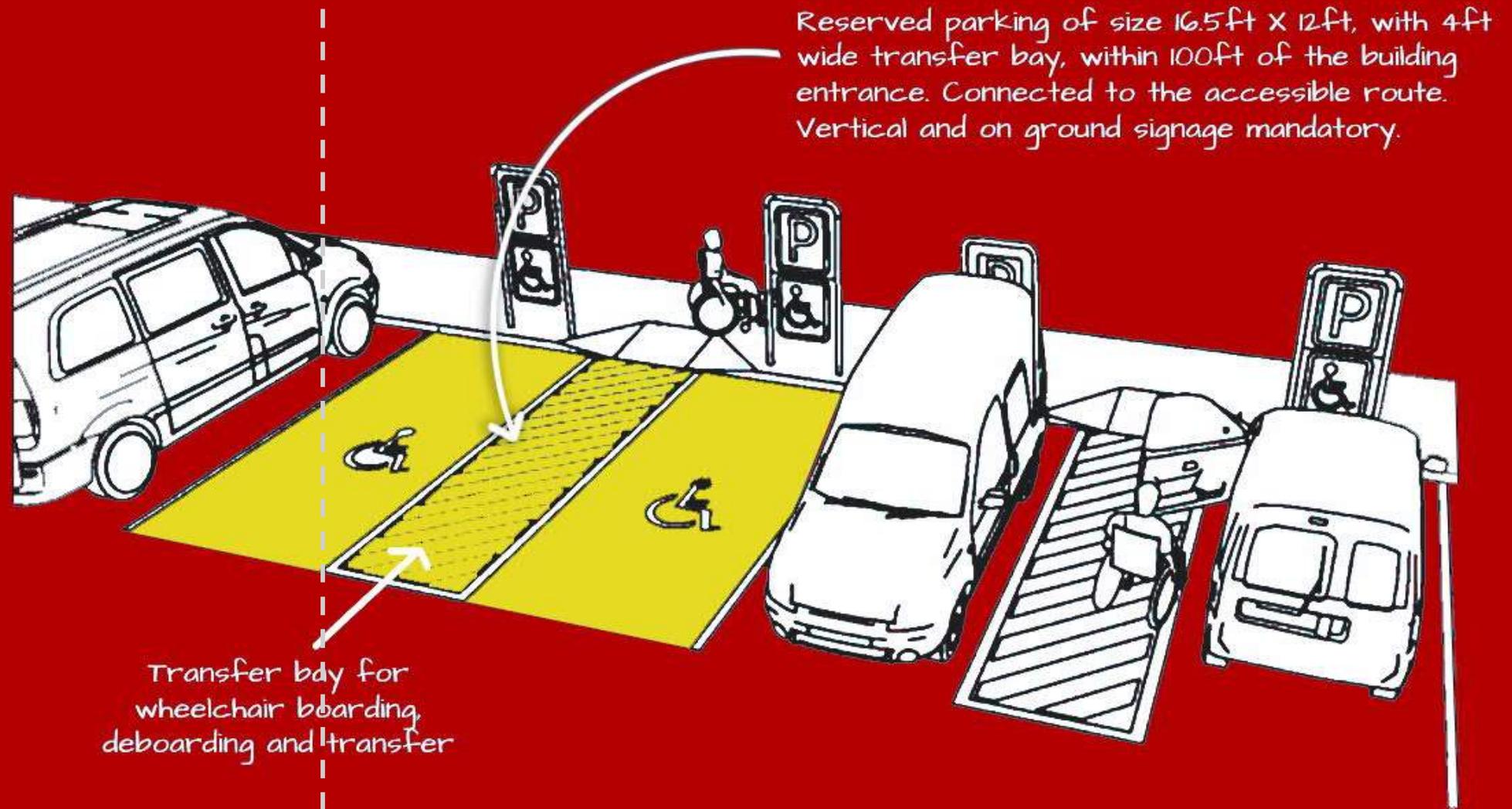
Accessible Parking
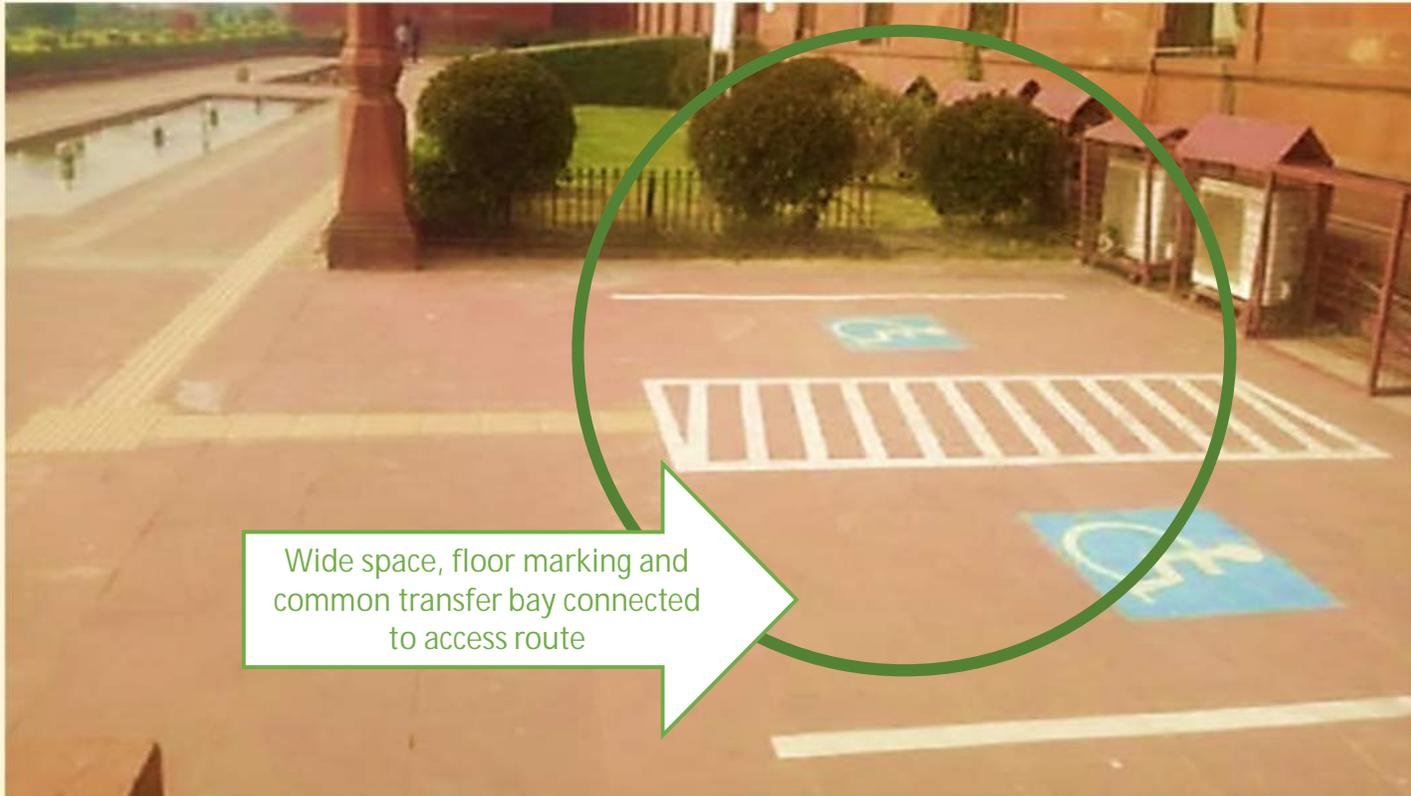
Wide space, floor marking and common transfer bay connected to access route

- Parking must have **minimum dimensions of 5000 mm×3600 mm.** (16.5ftX12ft) **located nearest to an accessible entrance or lift lobby within 30m** (100ft).
- A **transfer bay 1200mm** (4ft) **wide** is required for transfer of wheelchair users, which **must be connected to the accessible route.**
- **Accessible parking lot should be identifiable by the International Symbol of Accessibility, marked on ground and provided on a sign post.**

Accessible Parking

Narrow parking at a non conspicuous location, not designed as per standards, and without any accessible route

- **No reserved parking provided for PwDs and if provided, not located near the entrance.**
- **Signage not as per standard** – Missing ground marking, vertical post not provided, signage provided is not prominent.
- **No transfer bay** provided for alighting and boarding of wheelchair users or **not connected to an unobstructed accessible route.**

Trivandrum International Airport, Thiruvananthapuram, Kerala

- A designated drop-off/pick-up area created for persons with disabilities near the entrance gate.

- The zone has been prominently marked with both on ground marking and signage on a high pole visible from a distance.

- The parking area should have a clearly marked transfer bay in order to have increased visibility and space allocation for the parking spot and ease of embarkation/disembarkation.
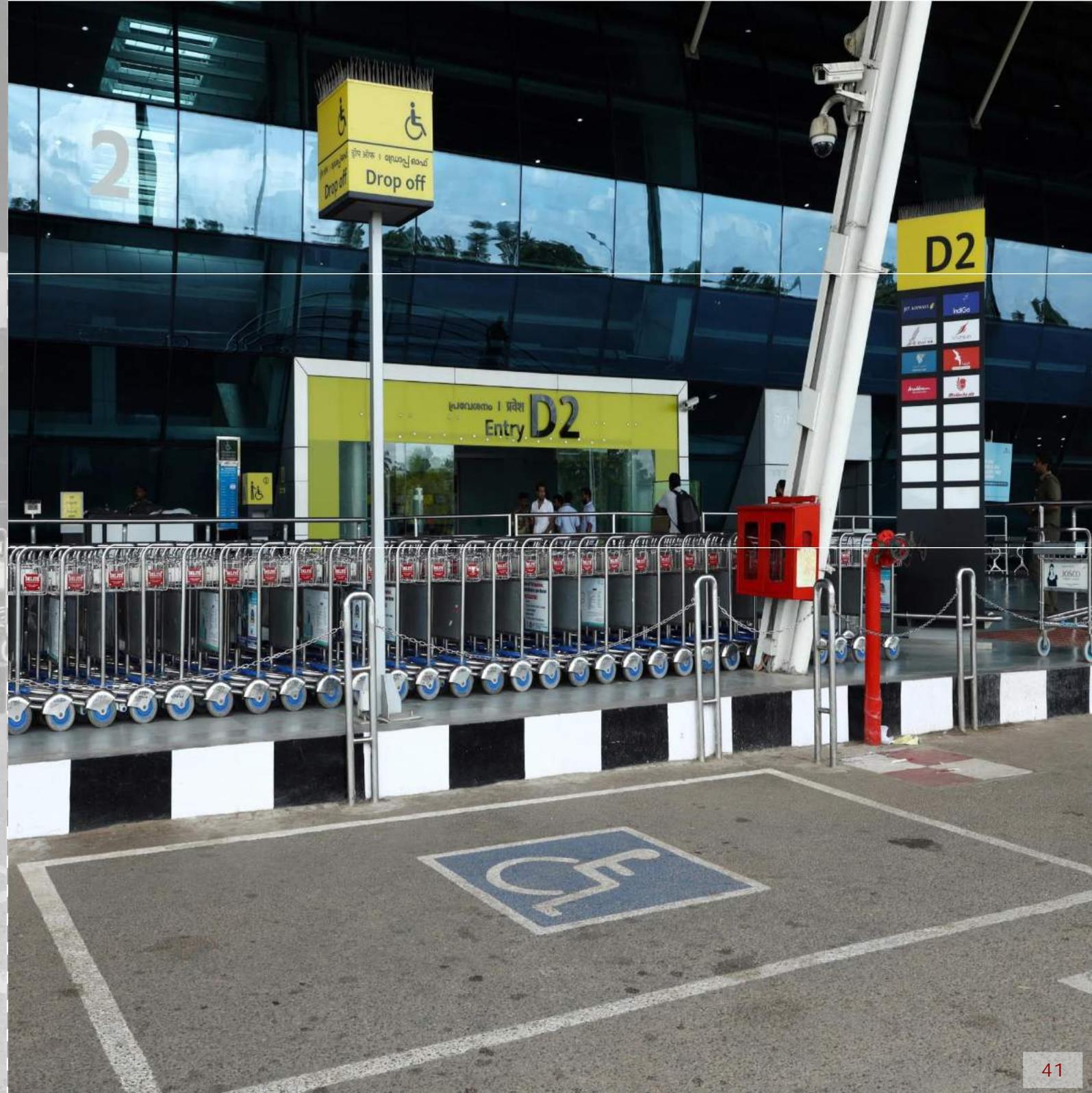
Mangaluru International Airport, Karnataka

- Prominent parking space created for persons with disabilities, provided with on ground marking and a transfer bay for wheelchair movement.
- The accessibility of the parking could have been improved by providing a signage post, visible from a distance. The corner position, with one side blocked by a platform is also not preferred.

Surat Airport, Gujarat

- Reserved parking located close to the entrance of the building.
- On ground marking delineates the space for vehicles to halt and park.

Rajahmundry Airport, Andhra Pradesh

Dibrugarh Airport, Assam

Bhuj Airport, Gujarat

Goa International Airport, Goa

Gaya Airport, Bihar

Lokpriya Gopinath Bordoloi International Airport, Guwahati, Assam
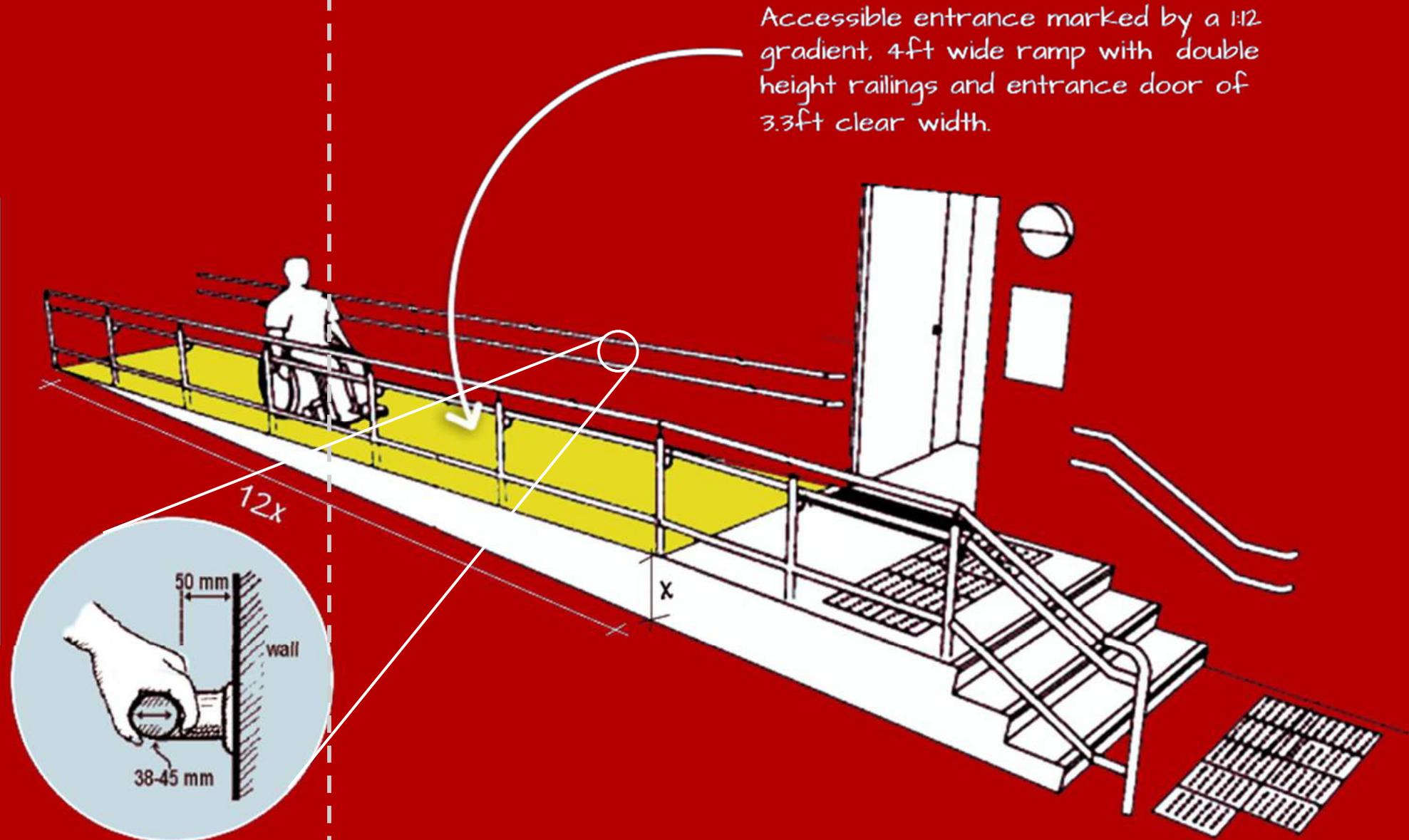

Puducherry Airport, Puducherry
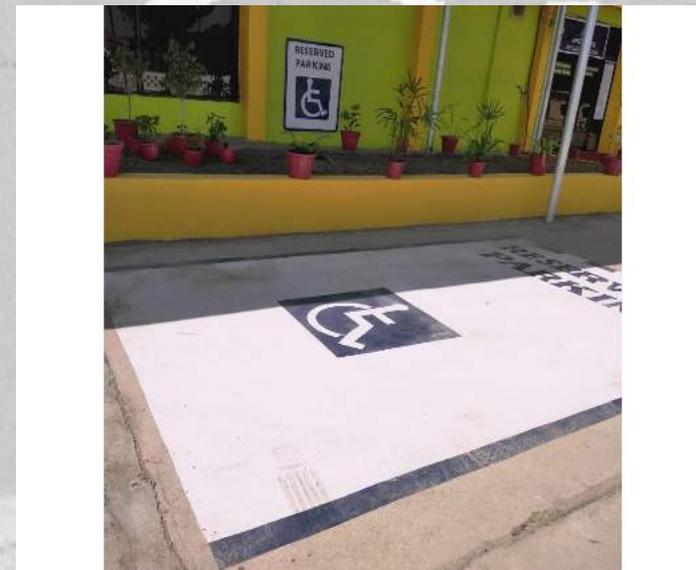
Diu Airport, Daman and Diu

Accessible entrance marked by a 1:12 gradient, 4ft wide ramp with double height railings and entrance door of 3.3ft clear width.

3

Clauses 5.4 and 7.2, Harmonised Guidelines
Clauses B 4 and B 6.2, Chapter 13, Part 3, NBC Vol.1

ACCESSIBLE ENTRANCE

12x

50 mm

wall

38-45 mm

x

Accessible Entrance ✓

Gentle slope starting with warning tiles, double height rounded handrails

- Minimum **1200mm (4ft) wide unobstructed ramped entrance/approach of gradient 1:12, with stairs and minimum 1000mm** (3.3ft) wide door.

- Ramp must have **continuous rounded double height handrails (760mm(2.5ft)** and **900mm(3ft))** on both sides; may also be provided with **Braille indicators** marking start and end of ramp, on the handrails.

- **Warning tiles at start and end, non-slippery flooring, landing and signage is mandatory.**

Accessible Entrance ✗

ENTRY FOR DISABLED

Slippery steep ramp without any warning tiles or handrails, obstructed

- **No ramp provided and if provided, designed very steep, narrow or slippery.**

- **Handrails not provided or not as per standard design**

- **Ramp not accentuated** with warning tiles, braille indicators or signage.

- **Ramp obstructed** by landscaping, protruding objects, parking etc.

Maharana Pratap Airport, Udaipur, Rajasthan

- The entrance has been created by providing a sufficiently wide automated sliding door.

- The entrance is levelled to ensure unhindered movement of wheelchair users.

- The entrance has been provided with an accessible route. The route is sufficiently wide with a well contrasted and continuous tactile path.

Aurangabad Airport, Maharashtra

- Accessibility of the entrance gates has been ensured by providing automatic sliding doors and gently sloping kerb ramps.

- The access route demarcated through tactile path continues into the lobby area through the entrance without any warning strip since the entrance is operated through automatic doors.

**Hindon Airport,
Uttar Pradesh**

**Kolhapur Airport,
Maharashtra**

**Calicut International Airport,
Kerala**

**Bathinda Airport,
Punjab**

**Diu Airport,
Daman & Diu**

**Jabalpur Airport,
Madhya Pradesh**
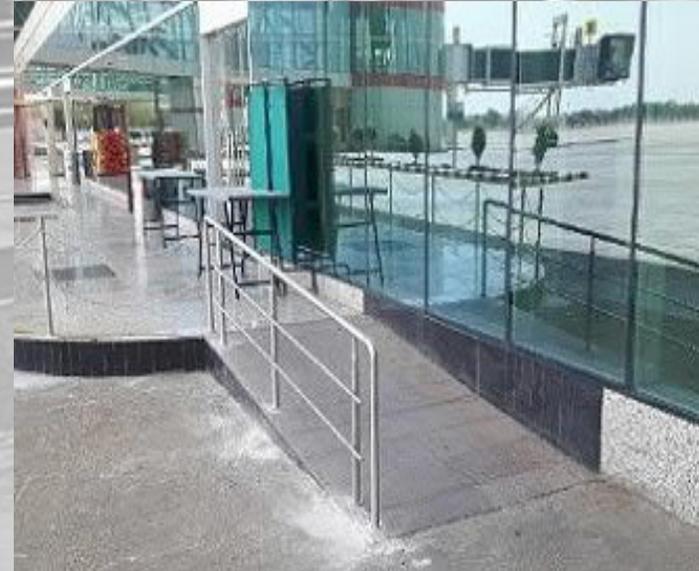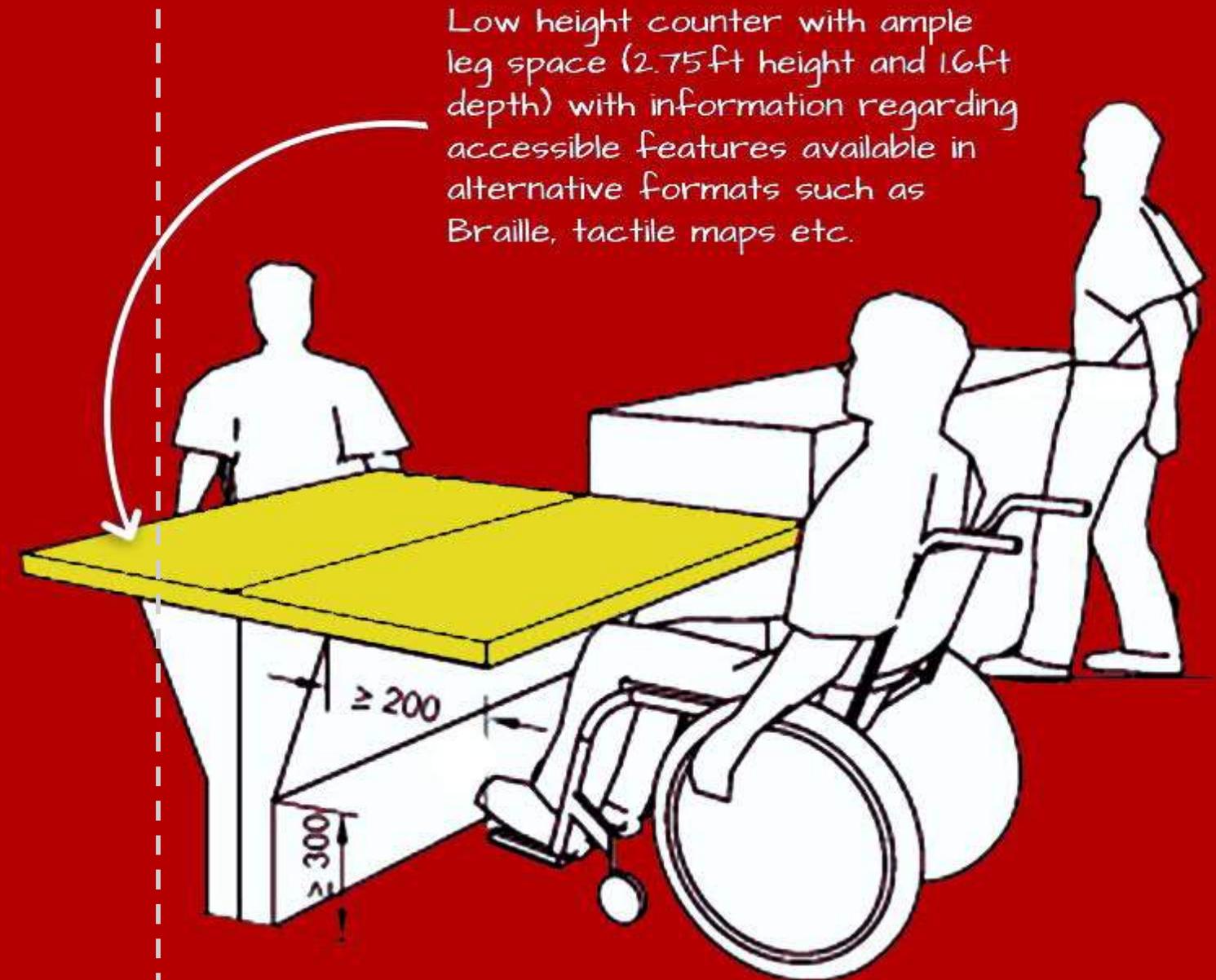

**Civil Aerodrome, Vadodara
Gujarat**

**Aurangabad Airport,
Maharashtra**

4

Clause 5.11, Harmonised Guidelines
Clause B 10, Chapter 13, Part 3, NBC Vol.1

ACCESSIBLE RECEPTION

Low height counter with ample leg space (2.75ft height and 1.6ft depth) with information regarding accessible features available in alternative formats such as Braille, tactile maps etc.

≥ 200

≥ 300

Accessible Reception ✓

Low height counter with some leg space, for easy access by wheelchair users

- **Reception or information desks made accessible by providing low (counter top at 800mm (2.75ft) or double height counter with prominent signage.** Minimum unobstructed space of 900mmX1200mm (3ftX4ft) before counter, leg space of 800mm (2.75ft) height below counter and maximum counter depth upto 480mm(1.6ft).
- **Alternative media for communication** - induction loop, braille, audio etc.
- Information of accessible facilities in building to be made available.
- Staff to be sensitized.

56

Accessible Reception ✗

Narrow counter provided without leg space for wheelchair users, signage not prominent and not in easily recognizable format

- **No accessible reception/ counter** provided or created inside small room.
- **Leg space not provided below** the counter or counter top too deep.
- Information on accessible features not available or limited information available.
- **Information not available in alternative formats.**
- **Ssignage not displayed prominently.**

57

Netaji Subhash Chandra Bose International Airport, Kolkata, West Bengal

- An accessible help desk created by providing low height counter, easily accessible by wheelchair users.

- The desk has also been marked prominently with an universal accessibility signage making it easy to be spotted from afar.

- A guiding path with a warning patch has been created by use of stainless steel tactile buttons leading up to the help desk.

Mangaluru International Airport, Mangalore, Karnataka

- One of the counters of the series of boarding desks has been made accessible for catering to wheelchair users by providing a low height counter alongside the standard desk.

- Providing leg space below the low height counter and prominent signage would, however, enhance accessibility.

- A row of tactile tiles also guides persons with visual impairment to the counter to avail necessary help/service.

Veer Savarkar International Airport, Port Blair, Andaman & Nicobar Islands

- Portable accessible 'May I Help You' counters have been developed for catering to requirements of PwDs

- Such counters offer flexibility of layout.

- These can be placed at the end of tactile paths to guide persons with visual impairment to the counters. Here, the counters need to be placed appropriately before the tactile tiles.

- A comfortable leg space beneath the counter top for wheelchair users to obtain full accessibility to the horizontal surface would make such counters more accessible.
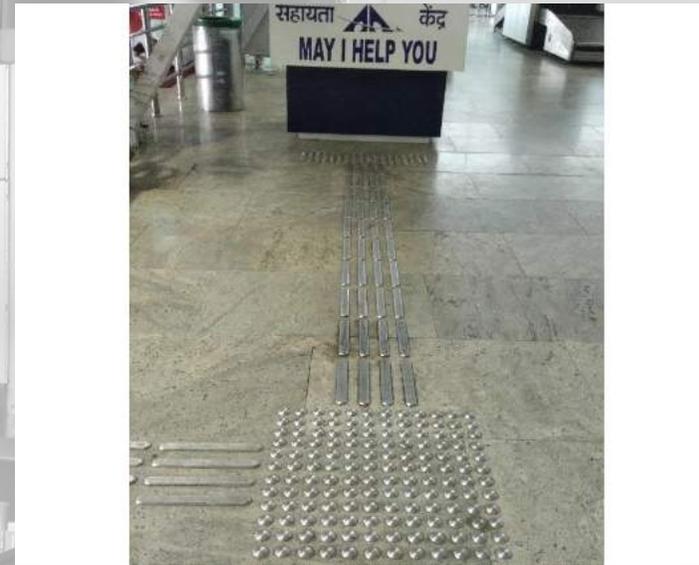
Vijayawada International Airport, Andhra Pradesh
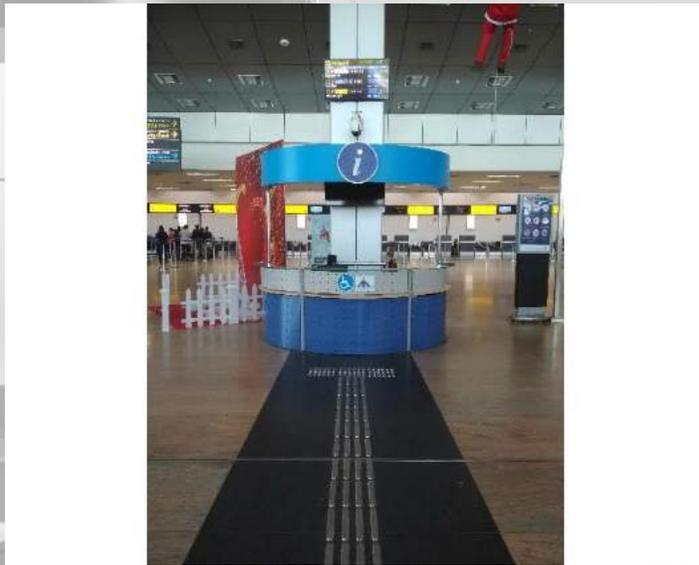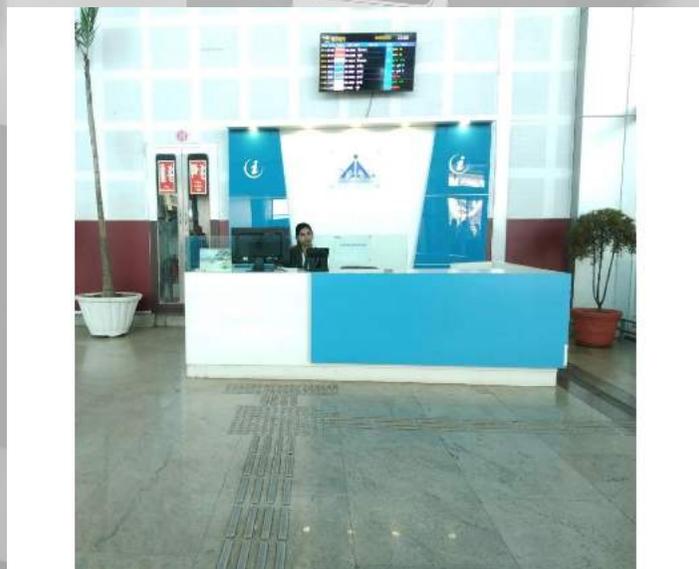

Trivandrum International Airport, Kerala

Visakhapatnam Airport Andhra Pradesh

Birsa Munda Airport, Ranchi Jharkhand

Lokpriya Gopinath Bordoloi International Airport, Guwahati, Assam
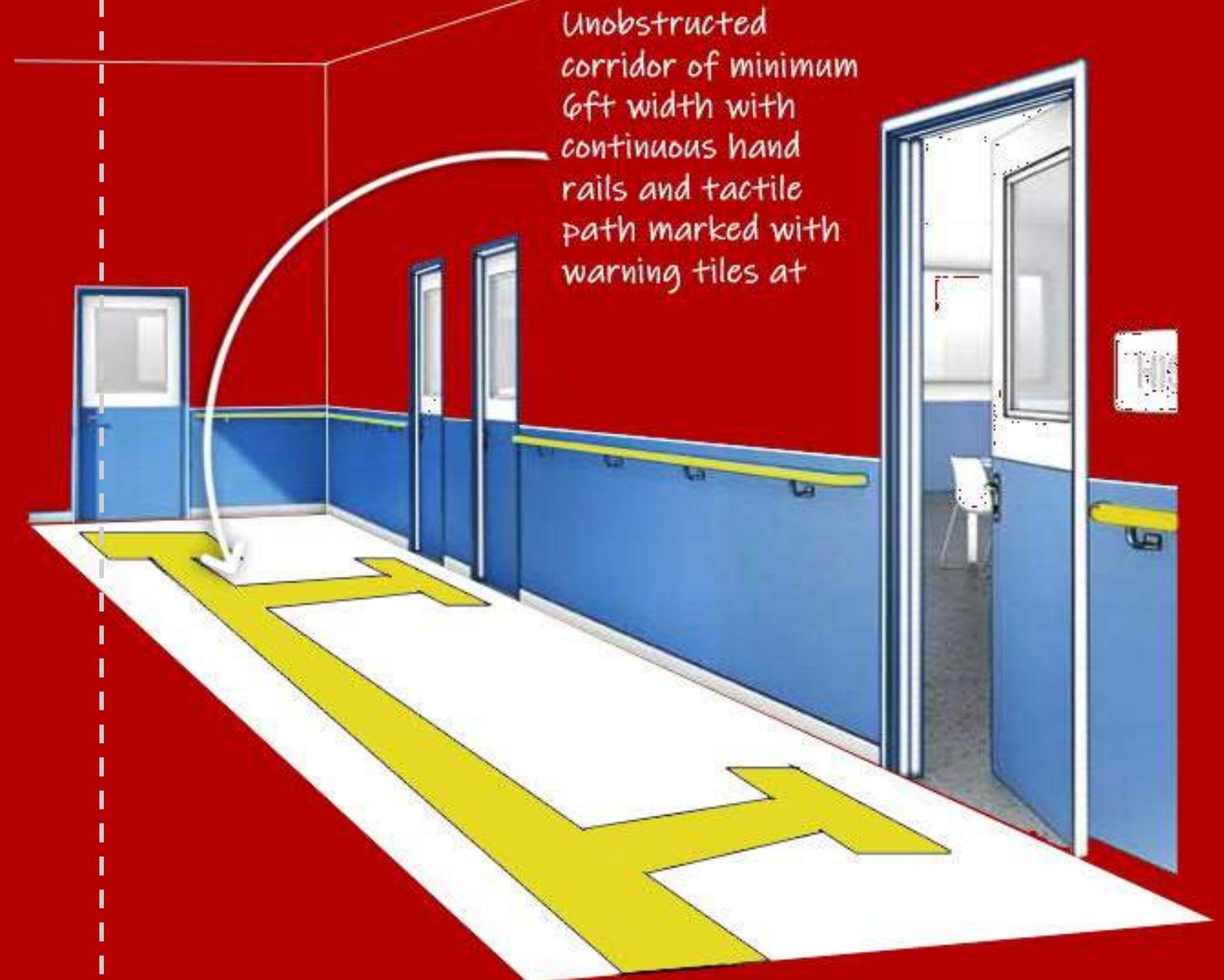

Goa Airport, Goa

Civil Aerodrome, Vadodara Gujarat

Visakhapatnam Airport, Andhra Pradesh

Unobstructed corridor of minimum 6ft width with continuous hand rails and tactile path marked with warning tiles at

5

Clause 5.5, Harmonised Guidelines
Clause B 5.2, Chapter 13, Part 3, NBC Vol.1

ACCESSIBLE CORRIDORS

Accessible Corridors ✔

Continuous tactile path as well as double height railings

- **Clear width of 1500mm to 1800mm (5ft to 6ft) to be maintained throughout with anti skid flooring and well contrasted tactile path.**
- Illumination level should be maintained at 150 lux; no glare but well lit.
- Should be supported by directional and informational signage.
- **Double height rounded handrail** to be kept continuous as much as possible.
- **Room doors should not open outside on to the corridors.**

Accessible Corridors ✕
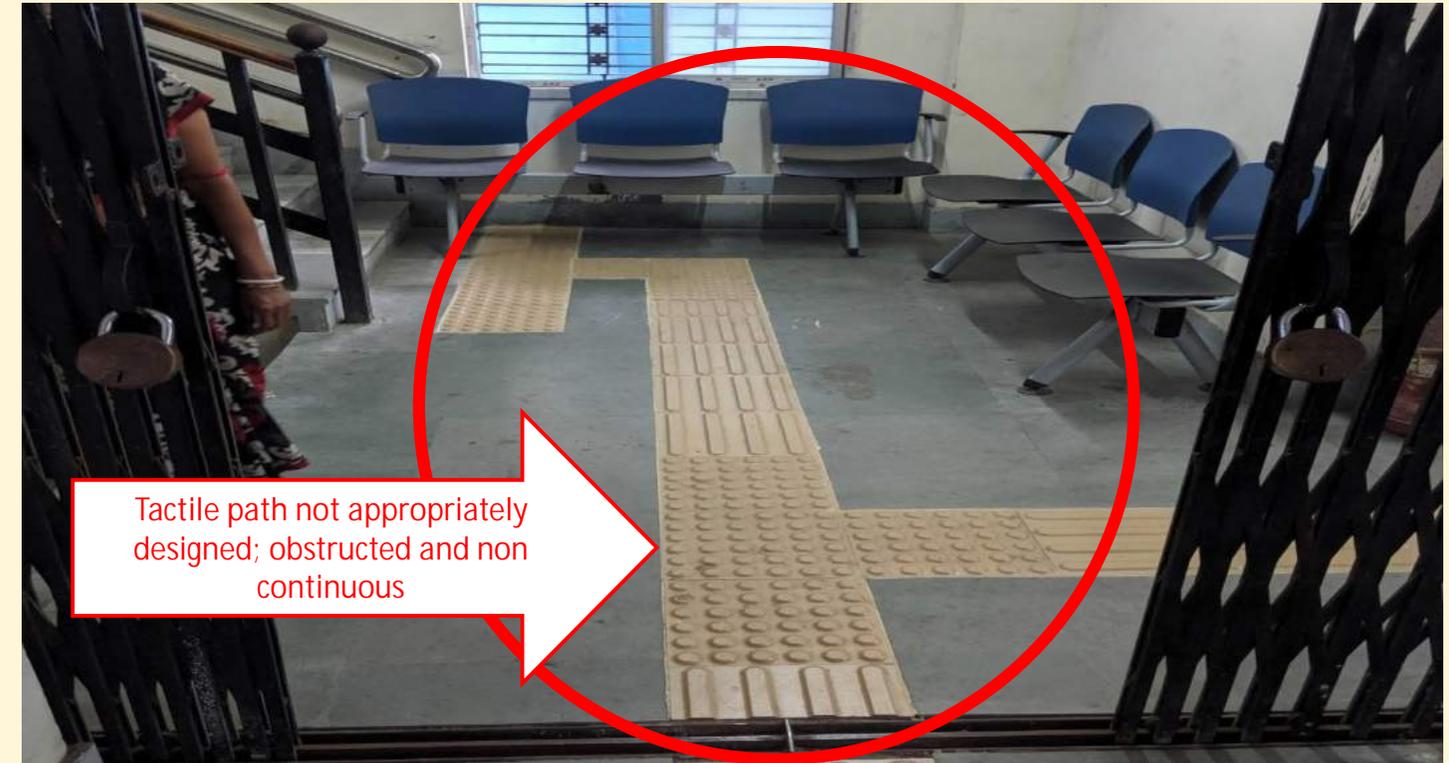
Tactile path not appropriately designed; obstructed and non continuous

- **Clear unobstructed width of 1500mm to 1800mm (5ft to 6ft) not maintained.**
- Anti skid flooring or tactile path not provided. Flooring not well contrasted.
- **Not kept free of obstacles like - plantation, seating arrangements** etc.
- Dimly lit and or dark corridor/spaces.
- Tactile guiding tiles not fixed in the direction of movement.

Mysuru Airport, Mysore, Karnataka

- In an open corridor setup as in the case of airports, the interior has been provided with distinctly marked tactile paths to demarcate accessible paths for persons with disabilities. Additional use of colour contrasted tapes helps in enhancing visibility for persons with low vision.

- The path is kept obstruction free.

- To reduce damage to the existing flooring, ccircular and oblong stainless steel buttons have been used. These are also considered for buildings with heavy footfall since they are durable, low on maintenance and easy to install.
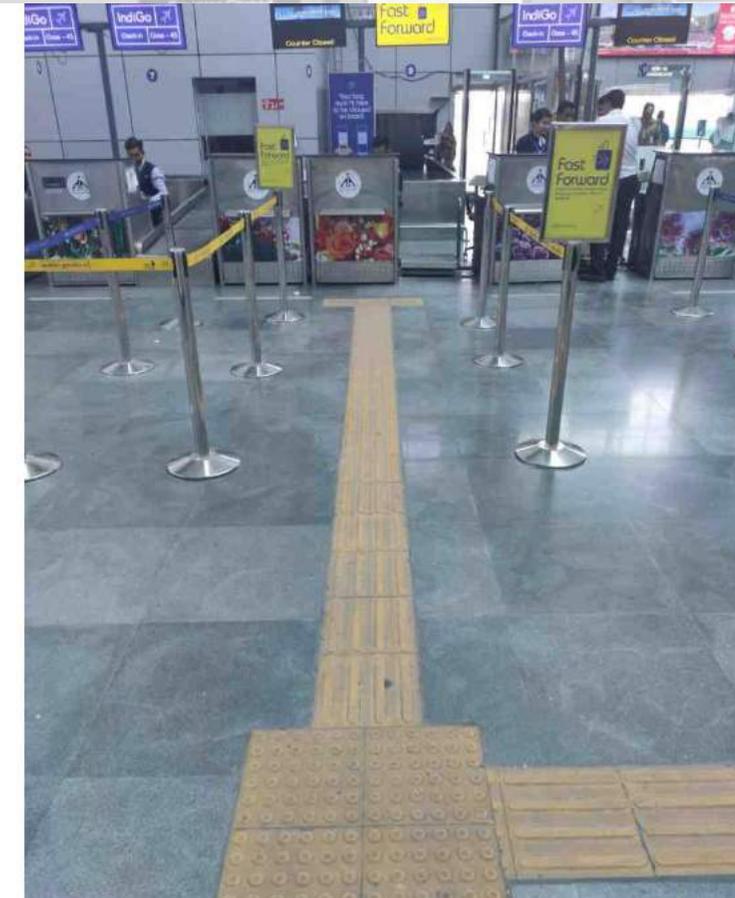

Jolly Grant Airport, Dehradun, Uttarakhand

- Well contrasted tactile path leads persons with disabilities to the boarding desk. It is essential that tactile paths are provided to guide persons with disabilities to all prominent utilities or activity areas in a premise.

- Holistic accessibility can be ensured along the tactile path by providing prominent signage guiding persons with disabilities to the low-height counter.

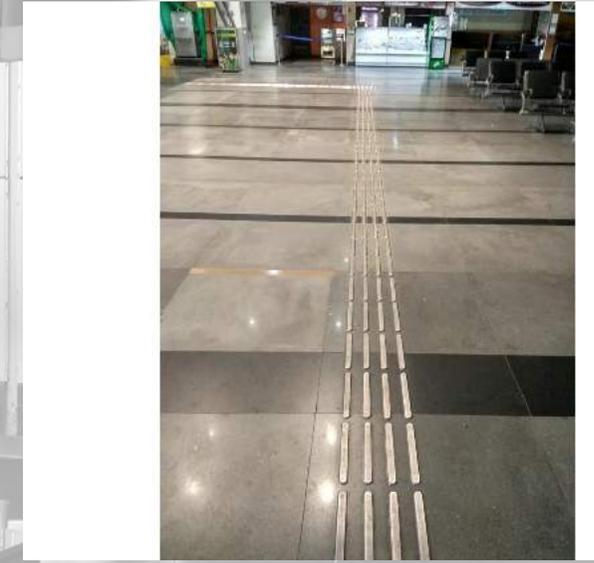- Nodes and turnings distinctly marked using warning tactile tiles.

**Lilabari Airport,
Assam**
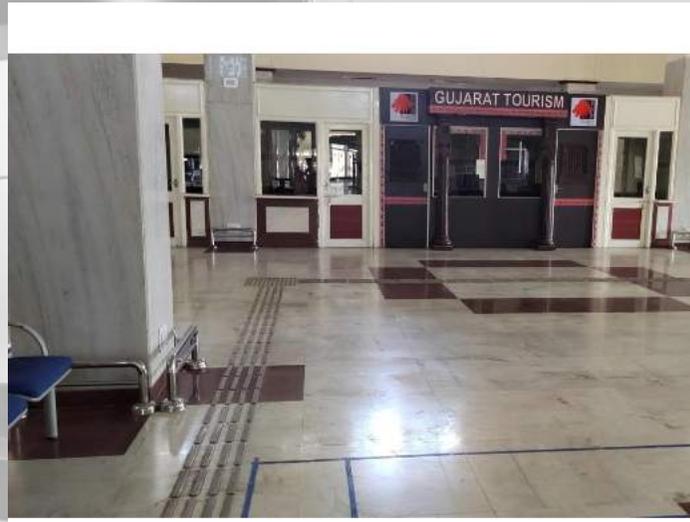
**Bhuj Airport,
Gujarat**
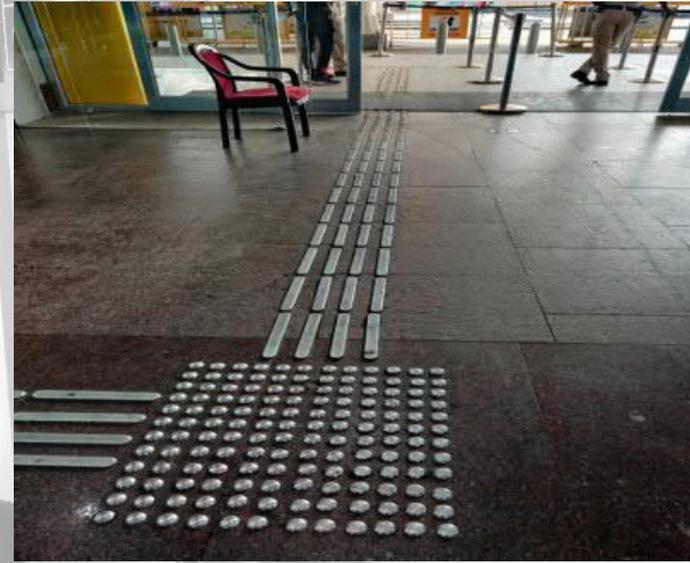
**Pune Airport
Maharashtra**

**Coimbatore International Airport,
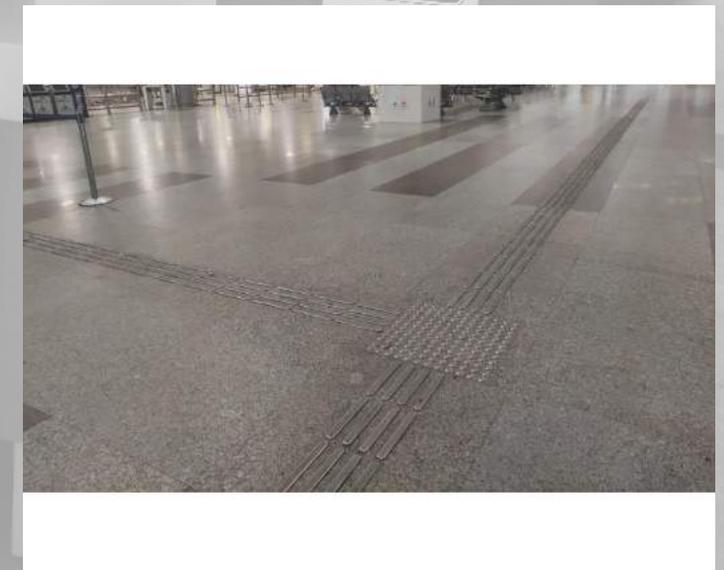Tamil Nadu**

**Mysuru Airport, Mysore
Karnataka**

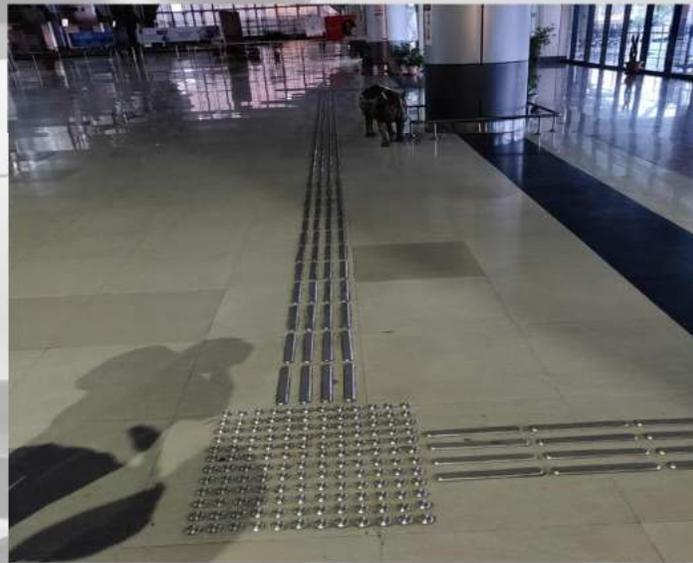**Jalgaon Airport,
Maharashtra**

**Bagdogra Airport,
West Bengal**

**Biju Patnaik International Airport,
Bhubaneswar, Odisha**

**Rajahmundry Airport,
Andhra Pradesh**

**Visakhapatnam Airport,
Andhra Pradesh**

**Goa International Airport
Goa**

**Bhavnagar Airport
Gujurat**

**Lokpriya Gopinath Bordoloi International
Airport, Guwahati, Assam**

**Gaya Airport,
Bihar**

**Veer Savarkar International Airport, Port
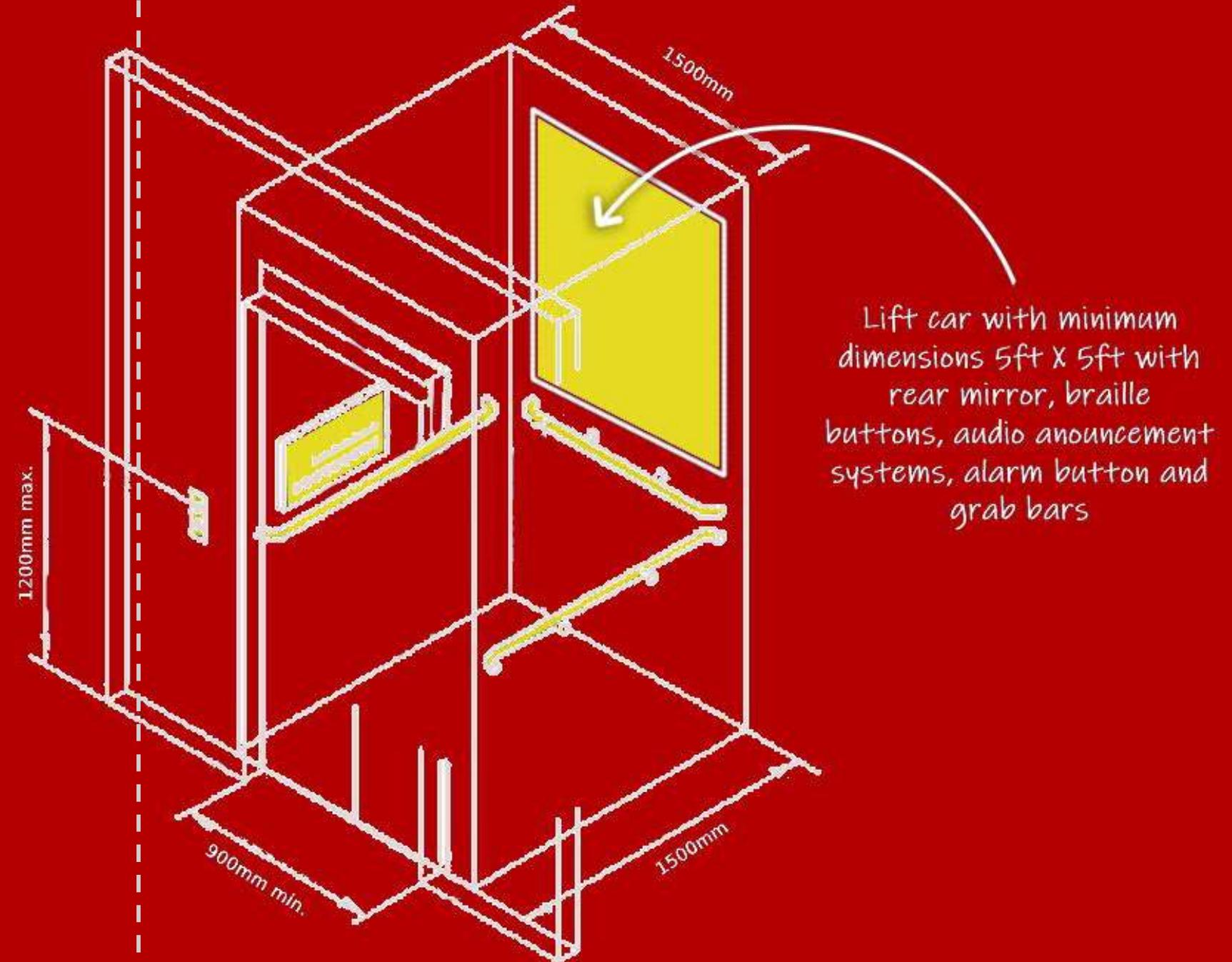Blair, Andaman and Nicobar Islands**

**Jamnagar Airport
Gujurat**

6

Clause 7.4, Harmonised Guidelines
Clause B 6.4, Chapter 13, Part 3, NBC Vol.1

ACCESSIBLE ELEVATORS

Lift car with minimum dimensions 5ft X 5ft with rear mirror, braille buttons, audio anouncement systems, alarm button and grab bars

1500mm

1500mm

1200mm max.

900mm min.

Accessible Elevators ✓
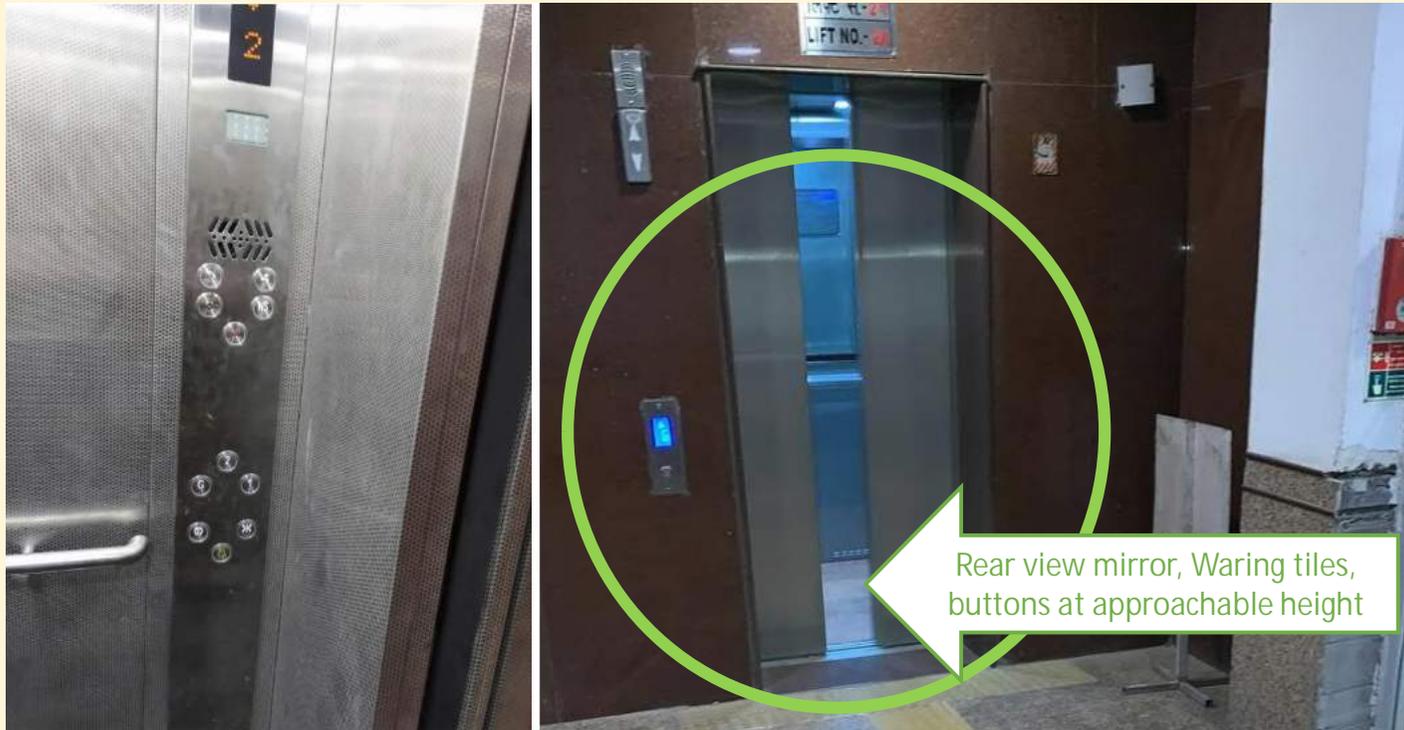
Rear view mirror, Waring tiles, buttons at approachable height

- **Minimum internal car size should be 1500mmX1500mm** (5ftX5ft), possibly 13 passenger capacity lift with grab bars at 900mm(3ft) height.
- Minimum door width to be maintained as 900 mm (3ft).
- **Mandatory accessible accessories** such as Braille buttons, auditory announcement systems and digital display, alarm button, emergency brake, rear mirror and other operating mechanisms (control panels) to be provided at an accessible height of 650mm (2.15ft) to 800mm (2.3ft).
- **Signage and warning tactile tiles** must be provided outside the lifts.

Accessible Elevators ✕

Spacious but collapsible gate door makes it inaccessible, no mirror or grab bars
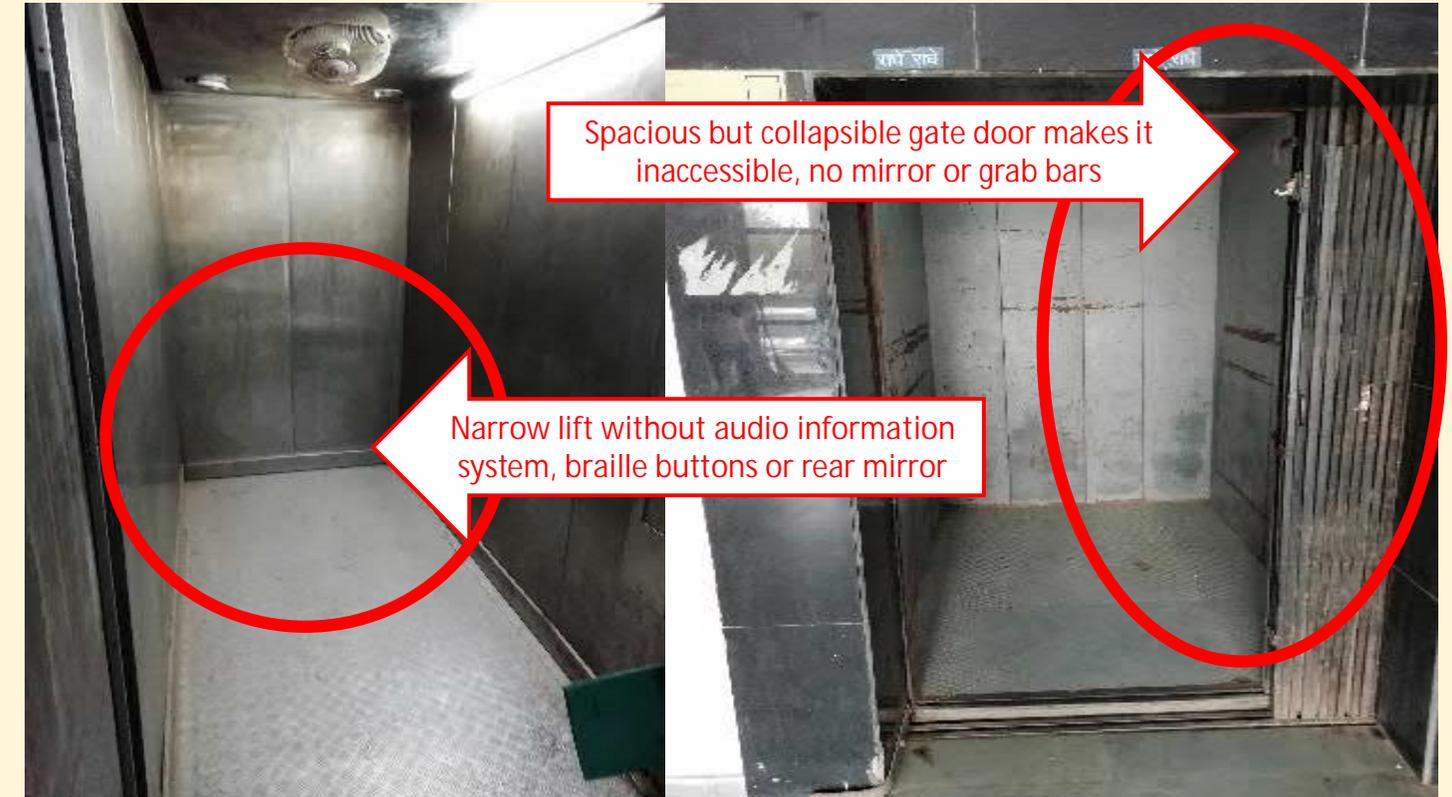
Narrow lift without audio information system, braille buttons or rear mirror

- **Lift size is not adequate** (even for single wheelchair) or **door is not wide enough.**
- **Accessible accessories**, grab bars, braille buttons, auditory systems, mirror, alarm button **not provided or placed at inaccessible reach or vision range.**
- **Warning tactile tiles not (or wrongly) provided** in front of the lift door opening.

Trivandrum International Airport, Thiruvananthapuram, Kerala

- Accessibility of the lift has been maintained by providing a wide automatic sliding door. Provision of warning tiles would enhance safety of boarding or deboarding the lift by PwDs.

- The outdoor accessories, include well lit and clear signages displaying the information through text and graphics located at multiple heights for ease of viewing and braille buttons to call for the lift.
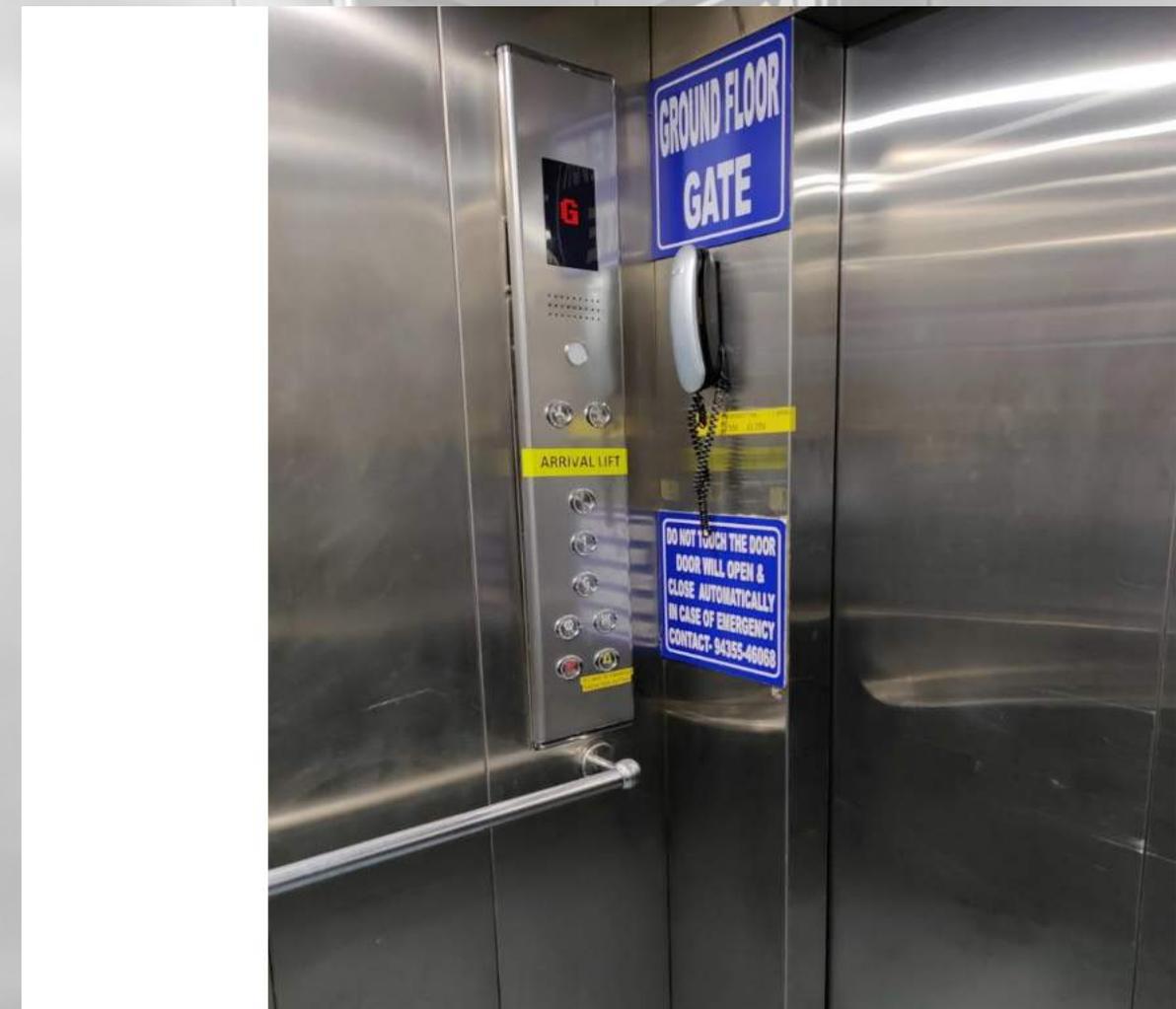
Lokpriya Gopinath Bordoloi International Airport, Guwahati, Assam

- The interior accessories of the lift has been provided as per accessibility standards with all braille buttons within reachable height, handrails (on three walls) and audio announcement systems.

- Apart from an alarm button, intercom set up has also been installed as feature of emergency response.

**Goa International Airport
Goa**

**Visakhapatnam Airport
Andhra Pradesh**

**Aurangabad Airport,
Maharashtra**

**Jolly Grant Airport, Dehradun
Uttarakhand**

**Mysuru Airport, Mysore
Karnataka**

**Jolly Grant Airport, Dehradun
Uttarakhand**

Staircase with regular steps of 9 in. tread and 4.5 in risers, with colour contrasting strips and double height handrails. Warning tiles must be provided at begining and end of the staircase

7

Clause 7.3, Harmonised Guidelines
Clause B 6.3, Chapter 13, Part 3, NBC Vol.1

ACCESSIBLE STAIRCASES

Accessible Staircases ✓

Colour contrasting strips and double height rounded handrails provided on both sides

- **Staircase with regular steps of tread (width) 250mm (9ft) and rise (height) 150mm (4.5ft)** with colour contrasting strips (glow in the dark, retroreflective kinds) on the flat edge.
- The stair lobby must be well lit.
- Warning tiles or **Braille indicators on handrails to** mark start and end.
- **The staircase has to be provided with continuous rounded double height handrails** (760mm (2.5ft) & 900mm (3ft)) on both sides. The diameter of handrail to be 38-45mm and a gap of 50mm to be kept from the wall.

Accessible Staircases ✗

No colour contrasting strips provided, handrails not as per standards, warning tiles not provided

- **Irregular or higher or narrow steps** provided.
- **Colour contrasting strips are not provided** or placed on the vertical surface, thus not visible, or wrong design and colour and non – reflective.
- **Many a times edges are left sharp or broken.**
- **Handrails not designed as per standard** or not provided on both sides or placed too close to the wall leaving no space for proper grip.
- **Warning tiles not provided.**
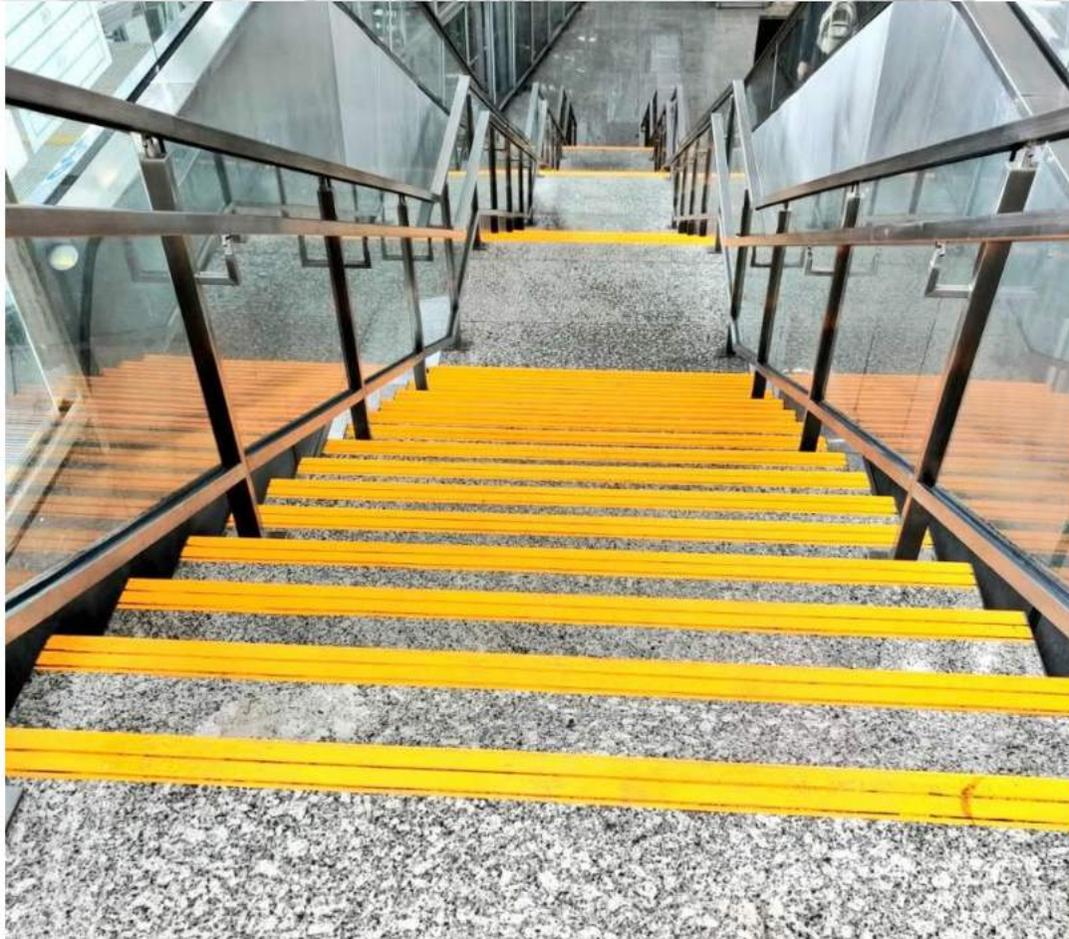
Netaji Subhash Chandra Bose International Airport, Kolkata, West Bengal

- The edges of the steps have been prominently marked using colour contrasting strips.

- Providing colour contrasting strips on both vertical (side) and horizontal (top) edges of the stairs enhances accessibility by making it visible from all sides.

- A double height handrail run along the entire length of the staircase.

- Accessibility can be increased by provision of warning and tactile tiles.

Chaudhary Charan Singh International Airport, Lucknow, Uttar Pradesh

- Escalators may not directly be beneficial for persons with disabilities but are crucial for making vertical transfer easy for elderly, infirm, pregnant women and women with children.

- Edges of the steps of the escalator have been marked with colour contrasting tape which helps persons with low vision to use it comfortably.

- Staircase should also be marked with colour contrasting strips and warning tiles at the starting and end of the staircase.

8

Chapter 8, Harmonised Guidelines
Clause B 9, Chapter 13, Part 3, NBC Vol.1

ACCESSIBLE
TOILETS

Toilet with minimum
dimensions 8.5ft X 8.5ft to
be provided with non slippery
floor, sturdy grabbars,
accessories at approachable
height and alarm buttons

1500 - 1700

450 - 480

Accessible Toilets

Foldable handrails for both right and left hand use, alarm button
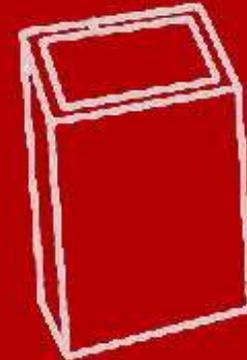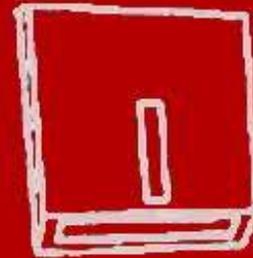
- **Minimum toilet dimension should be 2000mm X 2200mm** (6.5ft X 7.3ft), sufficient for wheelchair manoeuvrability.

- All toilets to be marked with prominent signage in different formats.

- **Floor Finish** - Toilet to be provided with well contrasted, anti skid flooring, with proper drainage and no threshold (*choukhat*).

- Toilet door must be of minimum 900mm (3ft) wide. Latches to be placed at top, middle and bottom, with an easy-use mechanism which may be operated by foot also. The door handles must be of D-type or lever type, instead of knobs.

- Accessories/Fittings -

  - **Taps to be provided with sufficiently long necks and easy to use lever type operating mechanism**

  - WC top height should be at 450mm to 480mm (approx. 1.5ft)

  - Washbasin top height must be 750mm to 800mm (approx. 2.5ft)

  - **Grab bars/ door handles/ all fittings/ accessories/ operable items placed at approachable height of 300mm to 1000mm** (1ft to 3.3ft) from the floor and be easy to operate (Long/lever handles of taps)

  - **Enough grab bars which must have adequate strength to bear weight upto 250 Kgs.**

  - **Emergency buttons at 300mm** (1ft) **from the floor (preferably on 3 walls)**

  - **Mirror may be placed at an angle** for convenience of wheelchair users.

  - The toilet must be well lit as well as kept clean and dry.

  - It is helpful to provide a bench to sit inside the washroom.

Accessible Toilets

No grab bars provided, floor kept slippery, signage is wrong

Chaukhat an obstruction
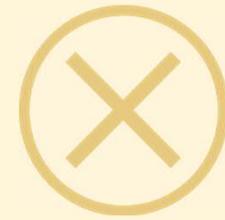
- Toilet **dimension is not sufficient for wheelchair manoeuvrability.**

- **Approach to the toilet door if provided by means of a ramp, is often kept narrow, slippery and too steep without a proper landing.**

- **Entry at door not levelled** or provided with *chaukhat.*

- **Door design makes operating the wheelchair difficult or the door opening is too narrow for a wheelchair.**

- **Grab bars not provided,** and if provided, not as per standard design/ strength.

- Latches difficult to use.

- Handles are knob types which are difficult to use.

- Lever type taps with long necks not provided.

- No emergency buttons and if provided not functional.

- The toilet is not well lit and ventilated.

- Anti-skid flooring not provided.

- Cleanliness/leakages inside toilet making it slippery and hence dangerous especially for persons with disabilities.
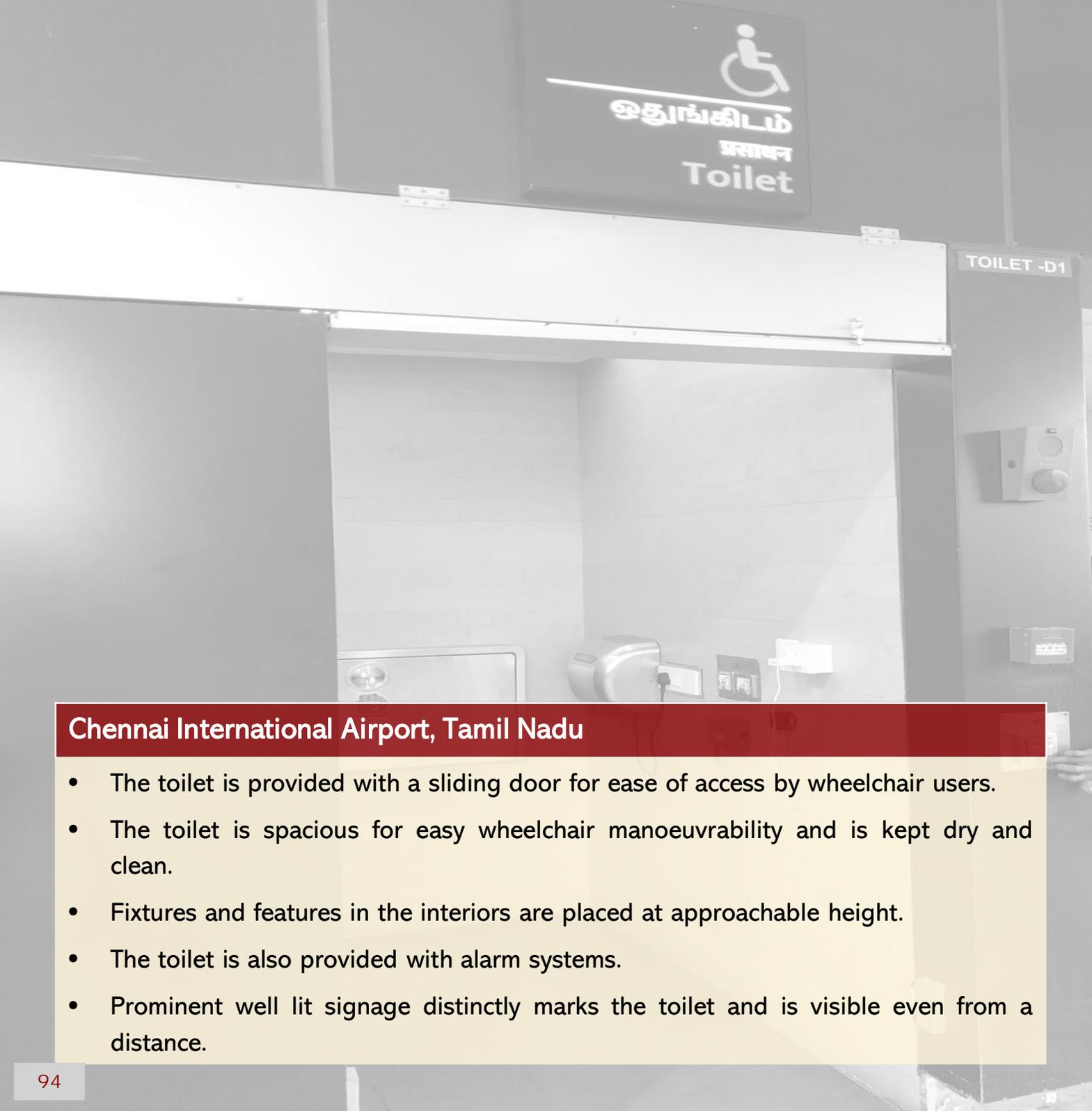
Chennai International Airport, Tamil Nadu

- The toilet is provided with a sliding door for ease of access by wheelchair users.

- The toilet is spacious for easy wheelchair manoeuvrability and is kept dry and clean.

- Fixtures and features in the interiors are placed at approachable height.

- The toilet is also provided with alarm systems.

- Prominent well lit signage distinctly marks the toilet and is visible even from a distance.

Pune Airport, Maharashtra

- A spacious toilet has been created and provided anti skid floor finish as well as grab bars around all accessories.
- The usability of the toilet could have been enhanced by use of foldable standard grab bar sets instead of customized fixed handrails.
- Accessibility could be further enhanced by placing the accessories such as hand faucet and tissue holders closer to the water closet not blocked off by the handrails as well as by providing easy to access alarm buttons.

Trichy Airport, Tamil Nadu

- The regular toilet has been made accessible by providing customized grab bars and placing all accessories within comfortable reach ranges.
- Special care has been given to provide an alarm button within the toilet to call for help in case of emergency or a mishap. It is recommended that the alarm buttons/strings are located at easily reachable heights and preferably on all walls.

Veer Surendra Sai Airport, Jharsuguda, Odisha

- Using toilet have been made easy by this intervention of sensor operated automatic sliding door used in the toilets of the airport.

- Information is presented through graphics or illustration making the signage easy to understand.

Gaya Airport, Bihar

- The signage design is essential for making toilets easily identifiable within airport buildings.

- Use of standard symbols and large sign boards with both text and graphics make the signage easy to understand and the toilet recognizable.

- It is essential that directional signages leading passengers to toilets are placed across the terminal building to support navigation to the nearest accessible toilet.

Bathinda Airport, Punjab

Lokpriya Gopinath Bordoloi International Airport, Guwahati, Assam
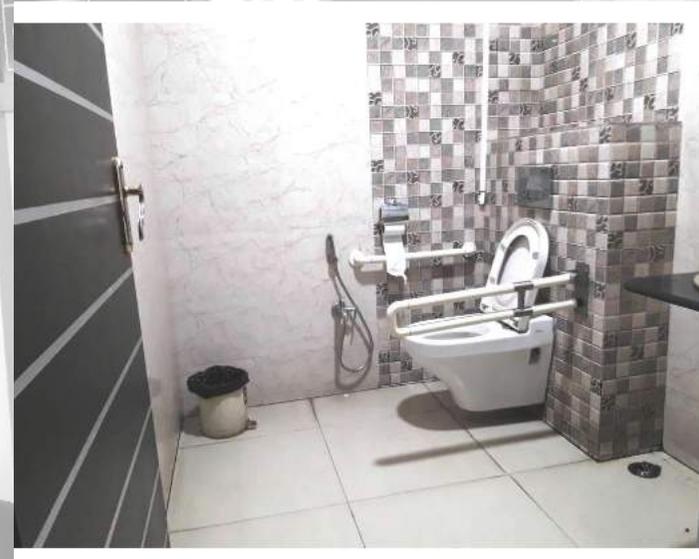
Bagdogra Airport West Bengal

Rajkot Airport Gujarat

Kullu Manali Airport, Himachal Pradesh

Mysuru Airport, Mysore Karnataka

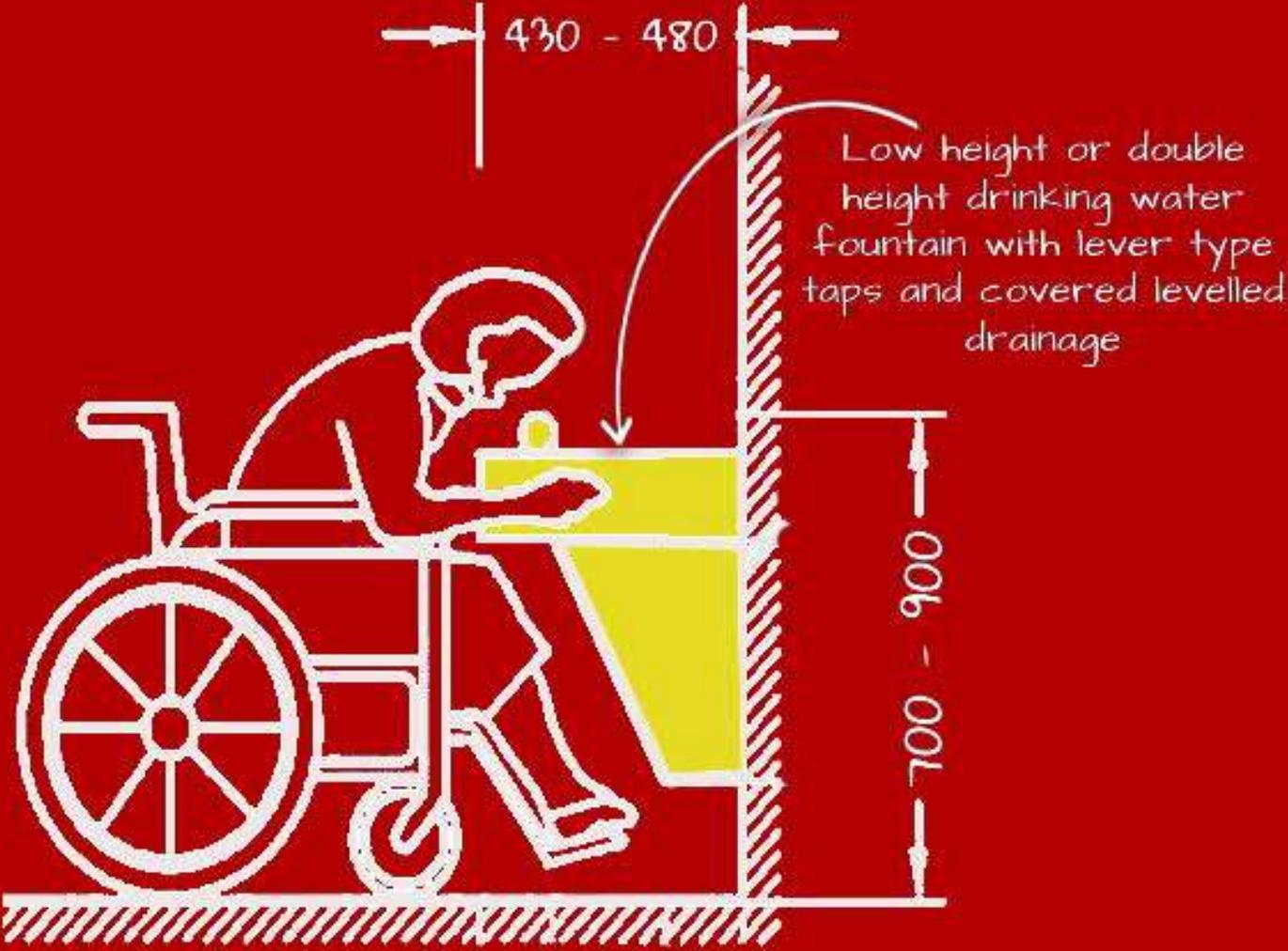**Vijayawada International Airport, Andhra Pradesh**

Mysuru Airport, Mysore, Karnataka

9

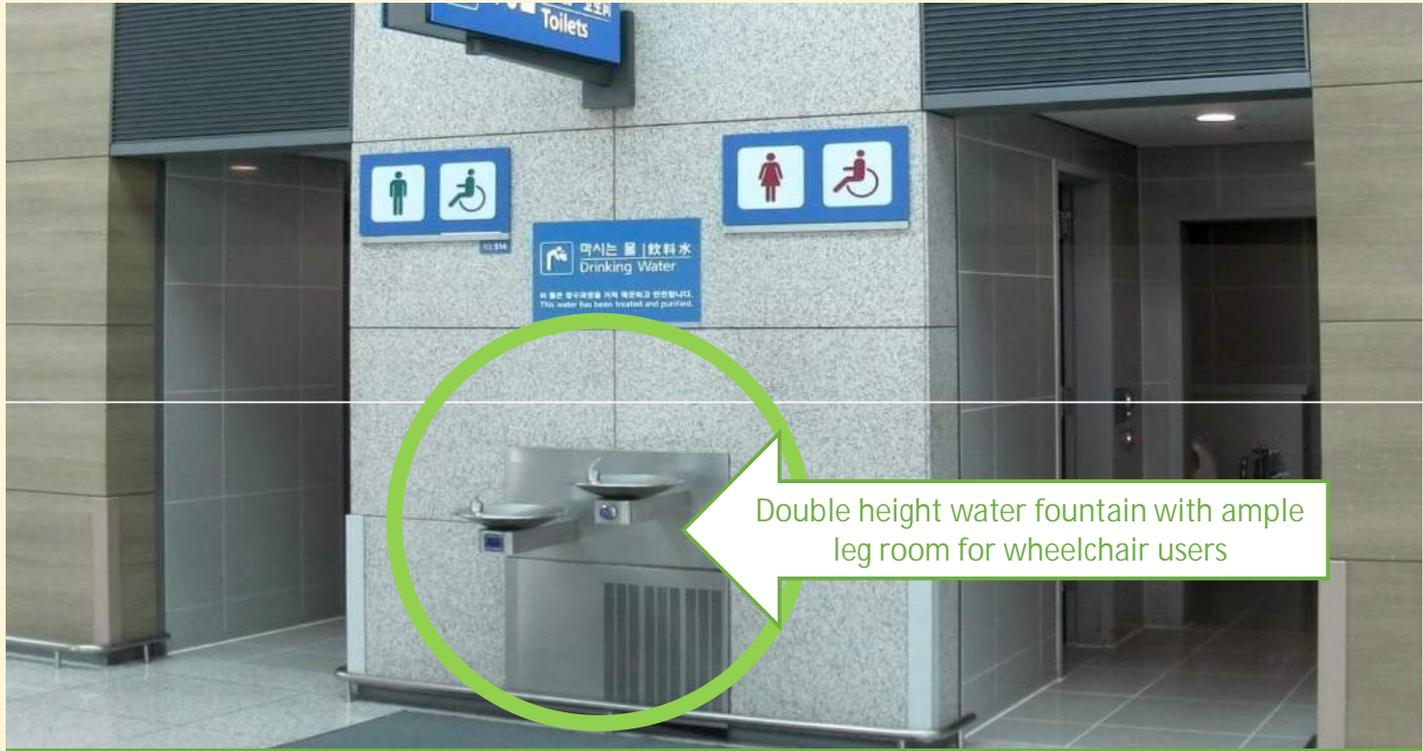Clause 5.12.1, Harmonised Guidelines
Clause B 7.11, Chapter 13, Part 3, NBC Vol.1

ACCESSIBLE DRINKING WATER FACILITIES

430 - 480

Low height or double height drinking water fountain with lever type taps and covered levelled drainage

700 - 900

Accessible Drinking Water Facility ✓

Double height water fountain with ample leg room for wheelchair users

- Drinking water facility area should have clear space of 900mm X 1200mm (3ftX4ft) in front of the fountain for a wheelchair, **kept dry, anti skid and well drained by means of covered drainage.**
- **Basin must have double heights** (700mm (2.3ft) to 900 mm(3ft)) with leg space of 300mm(1ft) to 680mm(2.1ft) below the counter.
- The **taps must be lever or fountain type with easy to use operating systems** and long neck for maximum reach to wheelchair user. Foot operability may be provided.

Accessible Drinking Water Facility ✗

Narrow passage further obstructed by mat, tap difficult to operate, no leg room

- **Conventional water coolers placed on platforms, kept inside cage or placed at end of narrow passages** without any leg room or turning space. Slippery surfaces to be avoided.
- **Taps neither provided at two levels** nor with fountain or lever type design making it difficult to be used.
- Open drains, jaali over drains or *chaukhat* not to be provided as it causes hindrance to movement of wheelchair users and persons with visual impairment with or without canes.

Guru Ram Dass Jee International Airport, Amritsar, Punjab

- A double height water fountain has been provided at the drinking water station with ample leg space below the dispensers for wheelchair users.

- The operating system provided is simple and easy to use with button type control.

- The area has been kept dry and clean by providing a rubber mat instead of grills or drain covers which cause hindrance to cane and wheelchair users.

- A prominent signage has been placed which may be spotted from a distance.

Chennai International Airport, Tamil Nadu

- Accessible double height drinking water point created for wheelchair users with leg space below the fountain type taps.

- A button helps in operating the water fountain easily.

- Soft textured mat is used to keep the area dry without creating hindrance to the wheelchair user to access the water fountain.

Netaji Subhash Chandra Bose International Airport, Kolkata, West Bengal

- The drinking water facility made accessible by provision of low height water basins, easy to operate by a button.

- Floor finish changes to keep the area dry and seamless.

- Signages provided at different locations and heights to ensure maximum visibility.

Lokpriya Gopinath Bordoloi International Airport, Guwahati, Assam
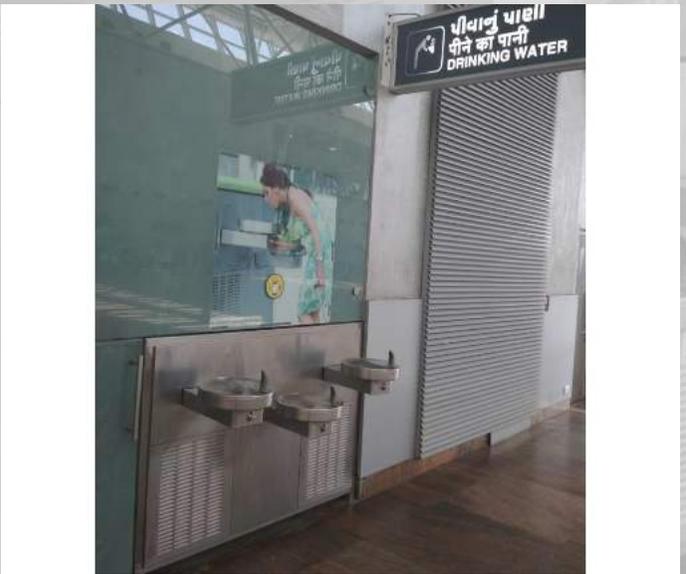

Goa International Airport, Goa

Pune Airport Maharashtra

Prayagraj Airport, Uttar Pradesh

Sardar Vallabh Bhai Patel International Airport, Ahmedabad, Gujarat

Mysuru Airport, Mysore, Karnataka

Madurai Airport, Tamil Nadu

Veer Savarkar International Airport, Port Blair, Andaman & Nicobar Islands

10

Chapter 6, Harmonised Guidelines
Clause B 24, Chapter 13, Part 3, NBC Vol.1

ACCESSIBLE SIGNAGE

A Pictogram/Graphic or video format of information is a must for easy comprehension

B Standardization in terms of well contrasted colour, font size and type, material of board etc.

WOMEN

C Information given in alternative format (braille, audio, tactile etc) also
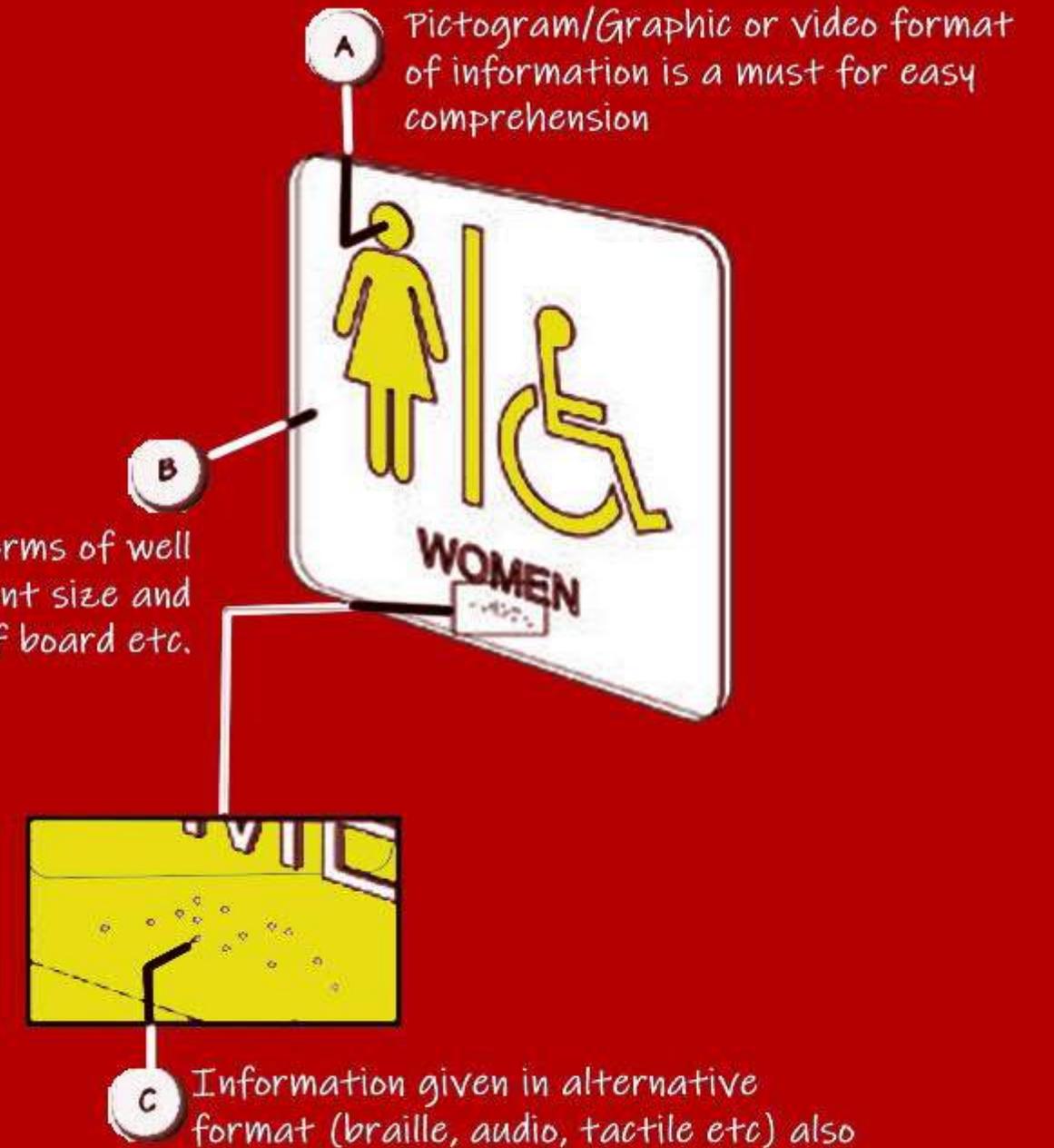
Signage

- **Signage to follow standard design, be well contrasted with background and have simple layout** while being eye-catching.
- **Positioning to be planned considering the requirements of the visually impaired. Must also be prominently located and well lit** so that it is visible even from a distance.
- **Alternative formats** – Information should be given not just in text but as pictograms, symbols, infographics and, through alternative media such as braille, audio, digital display, tactile maps and models etc.
- **Lighting, material and finish to enhance visibility** and ease of viewing.

Signage

Colour contrast not appropriate for all disability types. placement on main wall could have given better visibility.

- Signage design is not standardized and different themes are used all around a premise. Often size not maintained making it unreadable.
- Signage visibility either obstructed or affected due to distance.
- Not well lit and material used is highly reflective causing glare and difficulty in reading.
- Colour contrast is not provided as per standard, hence does not serve the purpose.

STANDARD GRAPHIC SYMBOLS

Clause 6.4.7.5, Harmonised Guidelines
Clause B 24.2.16, Chapter 13, Part 3, NBC Vol.1
American Disability Act (ADA) Guidelines

 International symbol of accessibility

 Accessible Access/ Ramp/ Entrance

Facilities for Persons with Disabilities
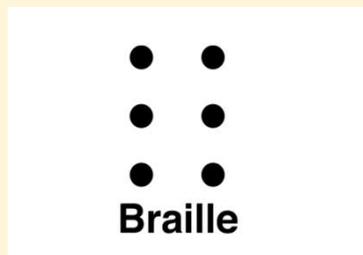

Assistive Communication Devices

 Closed Captioning

 Facility for Visual Impaired

 Assistive listening systems/ Induction Loop Available

 Braille Information Available

 Sign Language interpretation

Veer Surendra Sai Airport, Jharsuguda, Odisha

- Bright well contrasted ground markings prove very beneficial in large crowded spaces. In this case, used to prominently demarcate drop-off/pick-up area and entrance gate.

- Use of graphics with text allows to understand the instructions easily by everyone including, by persons with intellectual disability.

Mangaluru International Airport, Mangalore, Karnataka

- The signage in the premise has been created in an electronic format with lighting which enhances readability even in low light conditions.

- The signage is accessible as information has been displayed as both text and graphics. Further comprehension has been made easy as it has been provided in multiple languages including, the regional language.

Rajahmundry Airport, Andhra Pradesh

Bhavnagar Airport, Gujarat

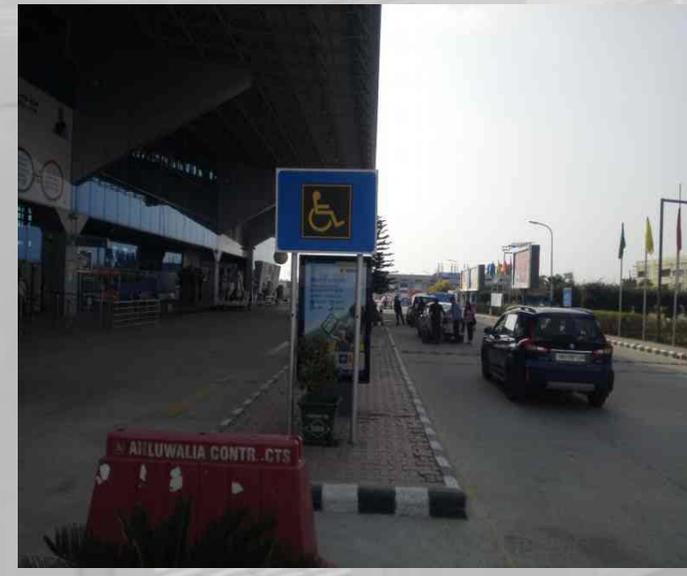**Gaya Airport Bihar**

Jorhat Airport Assam

Visakhapatnam Airport, Andhra Pradesh

Kolhapur Airport, Maharashtra

Jolly Grant Airport, Dehradun, Uttarakhand

Civil Aerodrome, Vadodara, Gujarat

ADDITIONAL SPECIAL FEATURES

SPECIAL PROVISIONS

The specific nature of activities and the large expanse of airport terminals inside the airport demands certain special provisions for persons with disabilities to independently navigate inside the airport terminal and use the services.

Boarding/deboarding being crucial tasks of the air travel experience have been given special focus to be made seamless and hassle free by provision of aerobridges, movable ramps and ambu-lifts.

Special provisions which can be observed in commercial airports across India are as follows:

- Helpdesks/ Assistance Counters

- Reserved Seating

- E-Cart or battery operated vehicle service

- Foldable ramps in buses

- Reserved space near baggage carousel

- Aerobridges

- Ambu-lifts

- Training of staff to handle persons with reduced mobility

- Training in Sign Language

ALARM SYSTEMS

Apart from these 10 basic features of accessibility, **emergency evacuation** is also an important factor of built-up spaces. It requires careful detailing and design, such that accessibility of emergency response accessories such as alarm systems, fire extinguishers, evacuation maps are maintained for prompt and independent response by all, including the Persons with Disabilities.

Of the various emergency response accessories, alarms are the most important features which need to be designed to cater to the requirements especially of persons with visual and hearing impairments. Sound alarms along with prominent flashing beacons, glow in the dark signage etc. are required to be installed in the premises. Few parameters that require special attention include:

- Toilets and accessible lifts must mandatorily be provided with alarm buttons at an approachable height from the floor.

- In toilets, it is recommended that either string type alarms are used or prominent alarm buttons are placed close to the floor preferably on all 3 walls for easy reach, since persons with disability could have a fall anywhere leaving them in inconvenient positions.

- **The emergency calling system must be maintained and manned at all times. Personnel must be trained to identify and respond promptly to any alarms raised within the premise and rush to help evacuate the people.**

- Flashing beacons must be bright enough to catch the attention of persons with hearing impairment in case of emergency.

ALARM SYSTEMS

String type alarm systems

- Alarm systems are essential for making toilets accessible. It is better if such alarm systems are provided on 3 walls to enhance reach and access.

- String type alarm systems allow ease of reach for persons with disabilities to call for help in case of emergencies.

- The alarms must be attended to and the staff adequately sensitized of its critical importance since a person with disabilities could be in a dangerous and difficult position.

Source: https://www.ecmag.com/section/ systems/ building-renovation

Source: https://tjelectricaluk.com/our-work/b03-power-lighting-fire-alarm-cheam/

Flashing beacons

- Flashing beacons are alarm systems which emit flashes of light along with a siren when activated and is an integral part of the fire fighting set up.

- These prove useful for persons with hearing impairment.

HELPDESK/ ASSISTANCE COUNTERS

Trivandrum Airport, Thiruvanathapuram, Kerala

- Special assistance kiosks have been created for requesting for wheelchair service after reaching the airport.

- The kiosk has been prominently marked with a high, well contrasted signage post.

- Height of the telephone could be lowered to further ease out reach for wheelchair users.

RESERVED SEATING

Jamnagar Airport, Gujarat

- Special reserved seats marked out in common resting space for persons with disabilities.

- Seating could be marked with signage and space for wheelchair users may be appropriately left.

- Special reserved resting area with benches as well as open space for wheelchair users, may be created for enhancing accessibility through out the airport.
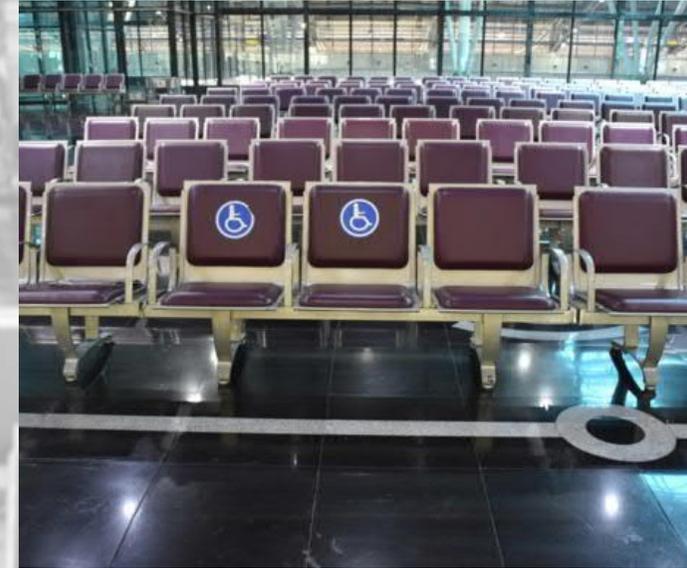
Aurangabad Airport Maharashtra

Raipur Airport, Chattisgarh

Hyderabad Airport, Telangana

Hindon Airport, Uttar Pradesh

E-CARTS

Biju Patnaik International Airport, Bhubaneswar, Odisha

- E-Cart service helps not just persons with disabilities but those injured and the elderly to travel within the airport with ease.

Devi Ahilya Bai Holekar Airport, Indore, Madhya Pradesh

- Battery operated vehicles provide ease of navigation within the airport buildings. Travelers can book the service after reaching the terminal building through special assistance kiosks.

ACCESSIBLE BUS TRANSFERS

CCSI Airport, Lucknow, Uttar Pradesh

- Foldable ramps and bent down feature in buses of service providers in airports facilitate transfer of persons with disabilities.
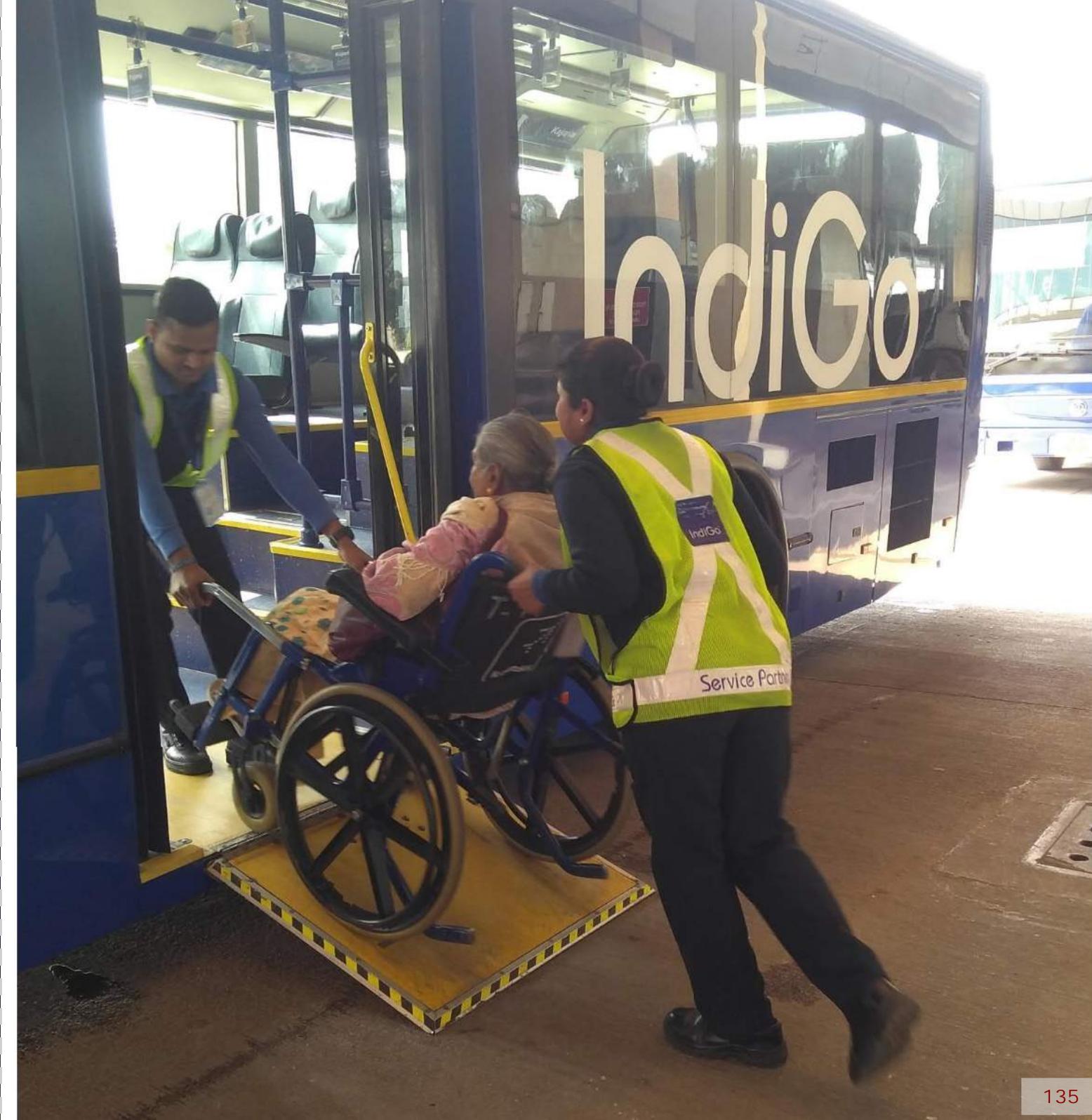
ACCESSIBLE LOW HEIGHT COUNTERS

Lokpriya Gopinath Bordoloi International Airport, Guwahati, Assam

- Prominently marked low height counters provided to create accessible boarding and baggage drop counters for persons with disabilities.
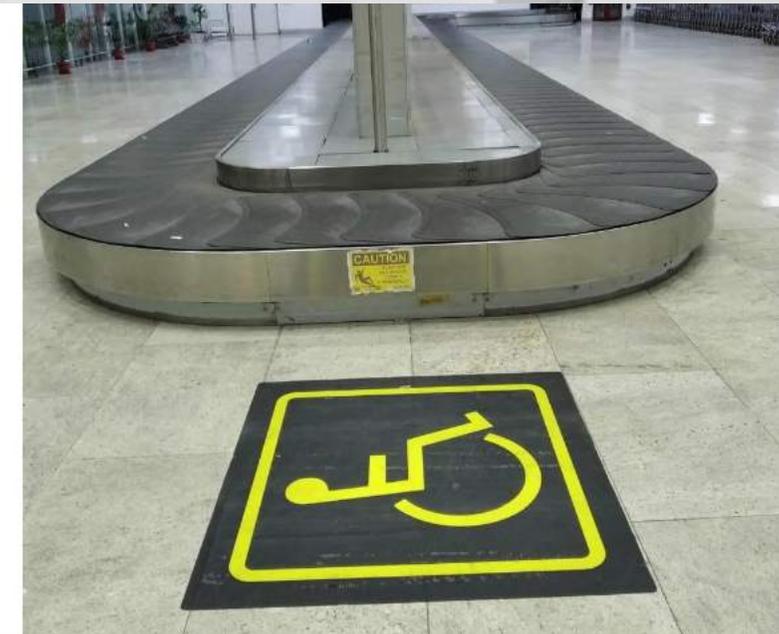
MARKINGS NEAR CAROUSELS

Hindon Airport, Uttar Pradesh

- Space reserved near baggage claim areas by providing prominent on ground signage along with an emergency button to stop the belt from moving.

Birsa Munda Airport, Ranchi, Jharkhand

Raipur Airport, Madhya Pradesh

AEROBRIDGES

Netaji Subhash Chandra Bose International Airport, Kolkata, West Bengal

Hyderabad International Airport, Telengana

Chennai International Airport, Tamil Nadu

- Aerobridges allow seamless, safe and secured boarding into the carrier not just for persons with disabilities but for public at large.

- Interiors of the aerobridges must be provided with seamless levelled gentle sloping walkways and double height handrails.

AMBU-LIFTS

Ambu-lift

- Ambu-lifts are being commissioned in many airports where provision for ramps and aerobridges are not available.

Netaji Subhash Chandra Bose International Airport, Kolkata, West Bengal

- Ambu-lifts also facilitate easy transfers into the carriers. Ambu-lift proves useful in airports where aerobridges cannot be provided or when aerobridges are busy due to heavy passenger traffic.

Ambu-lifts

Interior layout of the ambu-lift coach

Movable platform to enter ambu-lift coach

SENSITIZATION TRAININGS

Training in stimulated environments/surroundings

- Trainings for sensitization and capacity building of staff to interact with persons with reduced mobility (PRM) are regularly conducted in the India Aviation Academy.
- Training of staff is vital not only for providing quality service in a respectful manner but also to sensitize the staff with the needs of PRM. It is essential for staff to know their responsibilities and be able to perform them.
- The trainings –
  - Address the attitudinal, environmental/physical and organisational barriers that affect PRMs in respect to air transportation.
  - Prepare staff to provide assistance to PRMs as a professional service to which the person is entitled.
  - Are imparted as part of induction trainings and refresher trainings at regular intervals.
- **In addition to this, one trained sign language person is being deployed at the "May I help you desk" at the airports**

Sign Language training to personnel handling 'May I Help You' desks

SELECT A BUILDING, PREMISE OR AN AREA AND JUDGE IT… ASK THE FOLLOWING QUESTIONS?

Do you see a Ramp? Is it marked prominently by appropriate signage? Is the Ramp steep or narrow? Does it have handrails?	Were staff with special training available to assist travellers with special needs?	Are alarm buttons provided in the toilet? Are alarms prominently placed and at reachable heights?	Do the staircases have coloured strips at the edge of each step to enhance visibility?
Is there continuous tactile path, outside and inside the building? Are the warning tiles properly placed?	Is a helpdesk or assistance kiosk to call for wheelchair or special assistance services provided near the entrance?	Did you notice low height accessible counters with signage? Are tactile tiles placed appropriately before the counters?	Is an accessible parking provided near the entrance? Does it have a transfer bay and prominent signage?
Can the elevator accommodate a wheelchair? Can the control panel including alarm buttons be used by the wheelchair bound?	Is the helpdesk or assistance kiosk visible and prominently marked with signage?	Did you observe any special service for seamless security check for PwDs?	Is the toilet accessible to wheelchair users?
Does the toilet have sufficient number of appropriately fixed grab bars which are sturdy and strong?	Will an unattended person with disability be able to use the toilet independently?	Can the drinking water point be used by wheelchair users?	Are tactile maps and information in braille available at the airport?
Through what means has boarding/de-boarding the aircraft been made easy? Did you observe any aerobridges, ambu-lifts or mobile ramps?	Does the seating provided reserve places for wheelchair users or for persons with disabilities?	Are adequate seating spaces for resting provided across the airport building?	Is E-Cart service available?

BE AN ACCESSIBILITY WARRIOR

EVALUATE YOUR SURROUNDING FOR ACCESSIBILITY

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