

Issues and Challenges of Persons with Disabilities in the Suburban Rail Mobility Context of Mumbai

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Mumbai Suburban Railways is one of the world's most intricate, densely populated, and heavily utilized public transportation networks.

2.6 percent of the population of **Maharashtra** lives with some form of a disability.

8 million (diverse) people use the Mumbai Railways daily.

As of 2020, there are **30,388** persons with disabilities (PwDs) in Mumbai.



What?

To understand the **issues and challenges** faced by **persons with disabilities** in the mobility experience of Mumbai suburban railway through a study conducted across **forty (40) railway stations** over a period of **six (06) months**.

Why?

Need for a **holistic approach** supported by a multi-pronged action plan to create an inclusive mobility system that promotes **universal accessibility and inclusivity** for the people of Mumbai.

2. Inclusive Rail Mobility Systems : A State-of-the-Art Perspective



Step-free access routes



Integrating accessibility information



Environmental assistive features like
braille button panels in elevators



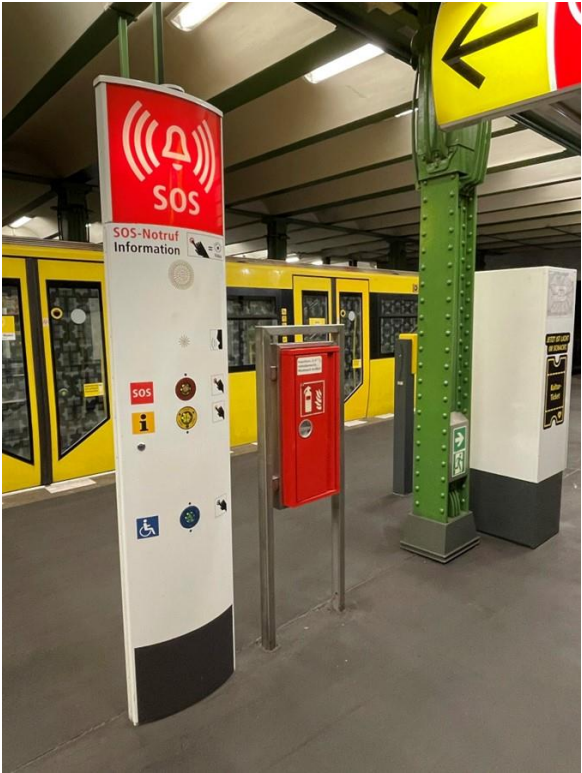
Tactile features to aid mobility



Minimising platform and rail coach gap



Allocation of priority seats



Emergency systems with trained staff

“Persons with disabilities include those who have long-term **physical, mental, intellectual or sensory impairments** which in **interaction** with various barriers may **hinder** their full and effective participation in **society** on an **equal basis** with others.”



CONVENTION
ON THE RIGHTS
OF PERSONS
WITH DISABILITIES

Article 9 Accessibility

Ensure to persons with disabilities **access**, on an equal basis with others...to **transportation...**

Article 20 Personal Mobility

Need to take **effective measures** to ensure **personal mobility** with the greatest possible **independence** for persons with disabilities.



असाधारण
EXTRAORDINARY
भाग II — खण्ड 1
PART II — Section 1
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

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No. 59] NEW DELHI, WEDNESDAY, DECEMBER 28, 2016/PAUSHA 07, 1938 (SAKA)

इस भाग में भिन्न पृष्ठ संख्या दी जाती है जिससे कि यह अलग संकलन के रूप में रखा जा सके।
Separate paging is given to this Part in order that it may be filed as a separate compilation.

MINISTRY OF LAW AND JUSTICE
(Legislative Department)

New Delhi, the 28th December, 2016/Pausha 17, 1938 (Saka)

The following Act of Parliament received the assent of the President on the 27th December, 2016, and is hereby published for general information:—

THE RIGHTS OF PERSONS WITH DISABILITIES ACT, 2016
(No. 49 of 2016)

[27th December, 2016]

An Act to give effect to the United Nations Convention on the Rights of Persons with Disabilities and for matters connected therewith or incidental thereto.

WHEREAS the United Nations General Assembly adopted its Convention on the Rights of Persons with Disabilities on the 13th day of December, 2006;

AND WHEREAS the aforesaid Convention lays down the following principles for empowerment of persons with disabilities,—

























- (a) respect for inherent dignity, individual autonomy including the freedom to make one's own choices, and independence of persons;
- (b) non-discrimination;
- (c) full and effective participation and inclusion in society;
- (d) respect for difference and acceptance of persons with disabilities as part of human diversity and humanity;

Section 40 of the
Rights of Persons with Disabilities Act, 2016 mentions that the Government shall provide

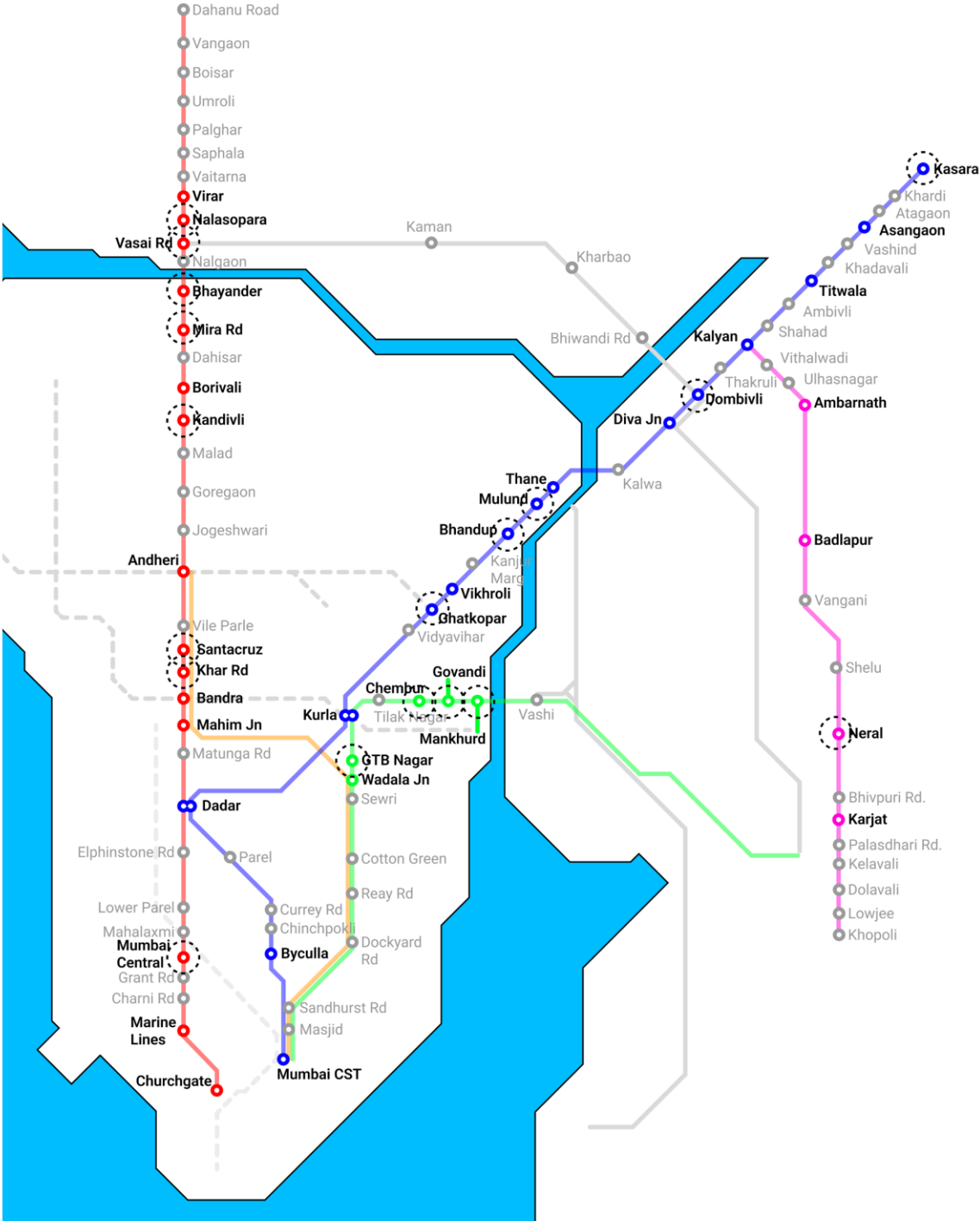
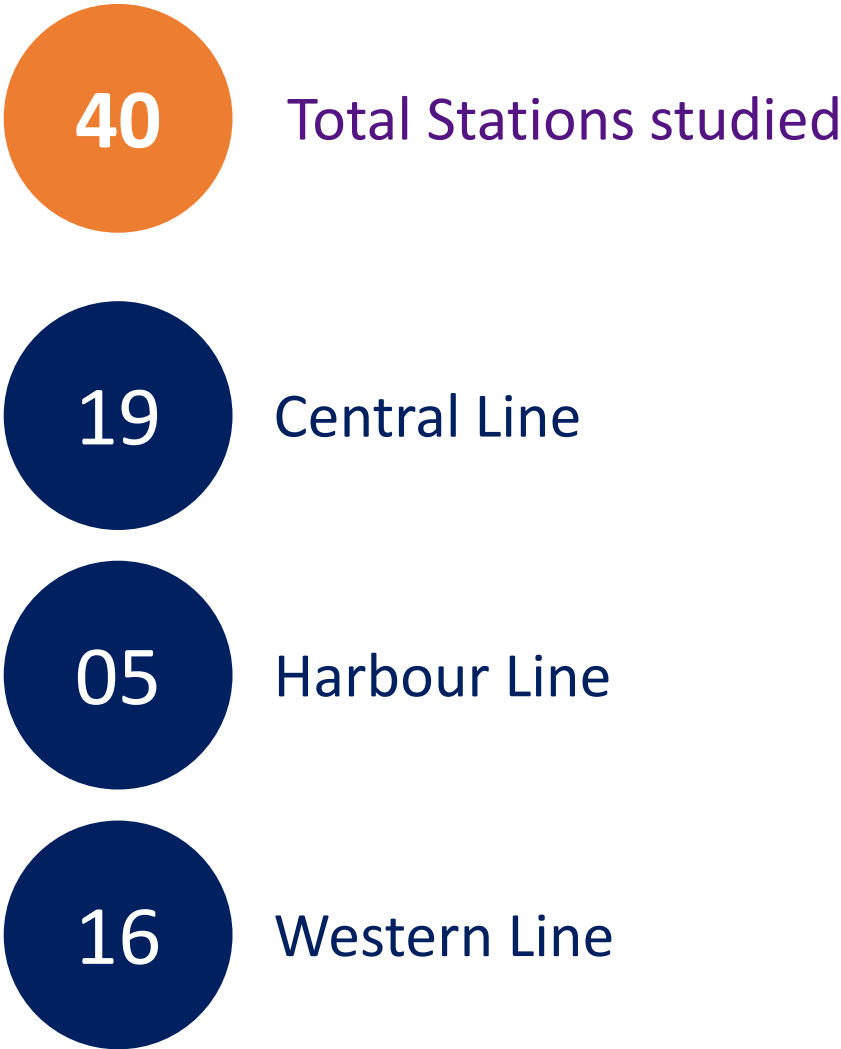
“formulate rules for persons with disabilities laying down the standards of accessibility for ...**transportation...**”

Section 41 (a) of the
Rights of Persons with Disabilities Act, 2016 mentions that the Government shall provide

“facilities for persons with disabilities at
Bus stops, **Railway stations** and Airports conforming to the accessibility standards relating to parking spaces, toilets, ticketing counters, and ticketing machines”.

Types of Mobility Challenges	Types of Disabilities						
	Persons with Locomotor Impairments	Person with Visual Impairments	Person with Speech / Hearing Impairments	Person with Cognitive Impairments	Person with Neurodiverse Conditions	Person with Chronic Illnesses	Multiple Disabilities
Poor Gait Balance / Coordination and / or Orientation	 						
Use of Movement Aids	 						
Difficulty in using Upper / Lower Limb Extremities	 						
Limitations of Stamina / Strength	 						
Difficulty in Accessing Information			 				

4. Study Context & Methodology



Methodology

Reconnaissance Survey

Covering five (05) key stations – included **informal discussions, observations** and **photography**



Developing Frameworks

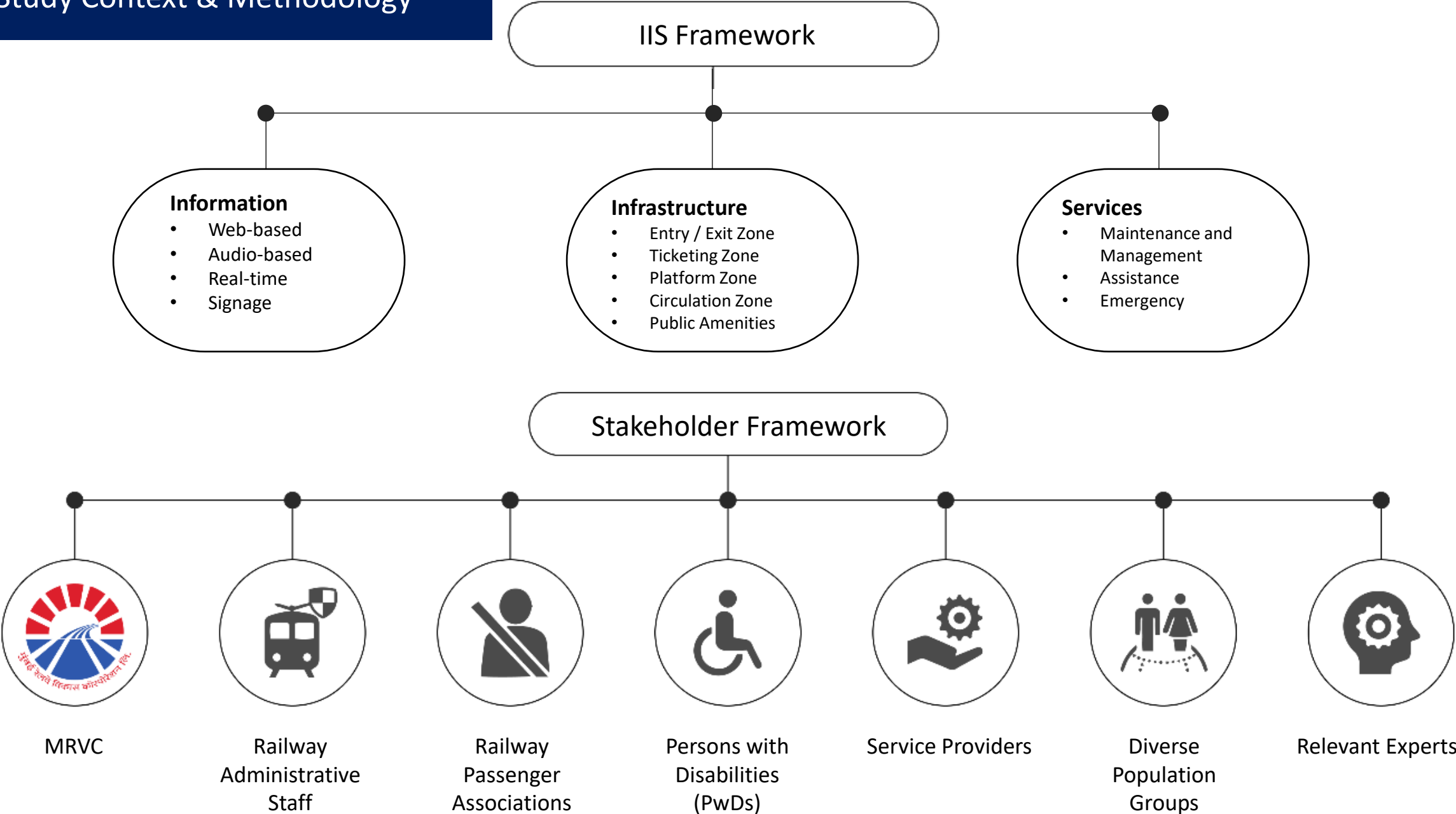
Evolving two key frameworks for further study – **Information, Infrastructure & Services (IIS)** and **Stakeholder Framework**



Detailed Field Studies

Field observations, photo-documentation of station elements and challenges, **semi-structured interviews** and two (02) **focus group discussions (FGDs)** involving thirty (30) diverse stakeholder groups.

4. Study Context & Methodology



Information Issues

Signage, Digital / Real-time, Audio-based, Web-based



Staggered
Position of
Reserved Coach

Position of
Audio Indicator



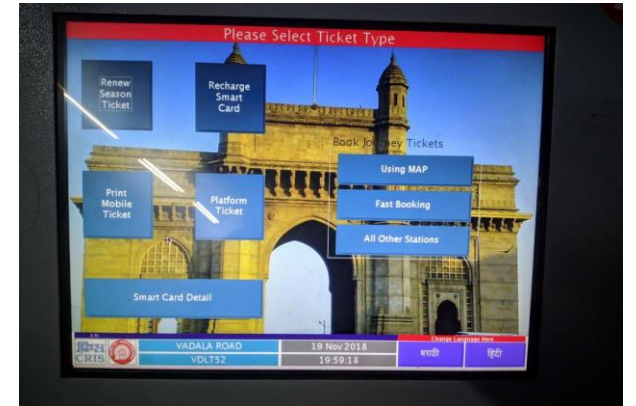
Clustering of signs causing confusion



Legibility and visibility challenges



Lack of Entry / Exit identification signs



Inaccessible digital interfaces

5. Results & Discussion

Infrastructure Issues

Entry / Exit Zone, Ticketing Zone, Platform Zone, Circulation Zone, Public Amenities



Absence of tactile provisions; handrail provisions not as per standards



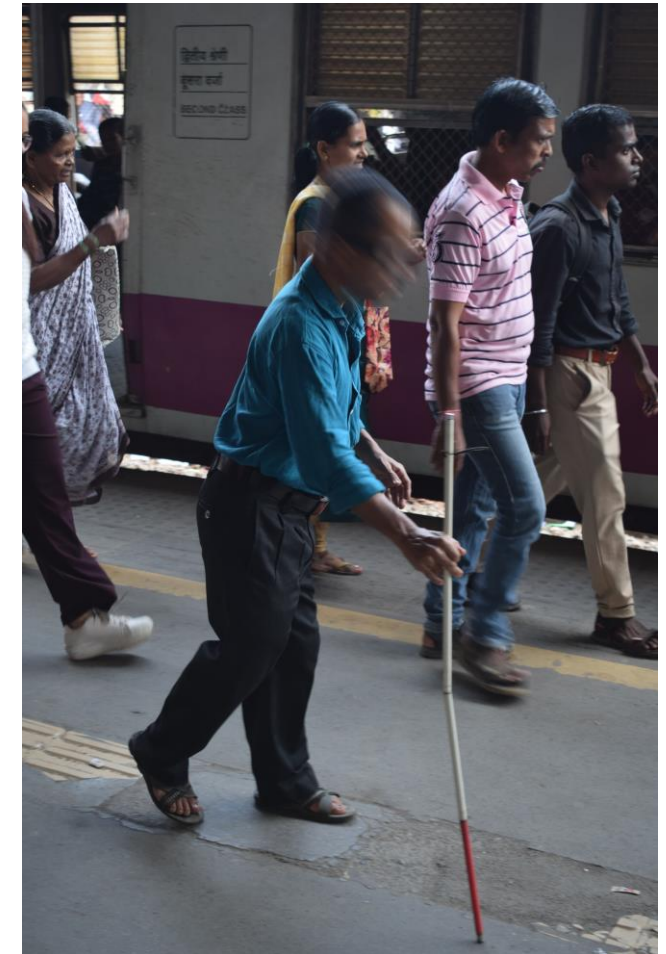
No accessible (low height) counter provision; lacking tactile guidance provisions



Non-compliant accessible toilets.



- Poor color contrast for the steps or at level changes
- Variations in riser heights of staircases.
- Inconsistency in handrail provisions and not as per recommended standards.



Discontinuity in tactile provisions.

Services Issues

Maintenance & Management Services

- Tactile tiles are discontinuous at times due to broken tiles.
- Accessible toilets are often locked)
- Hygiene issues in toilets.
- Excessive queueing in ticketing zone is a challenge as there are no queue management measures in place.
- Signage lacks maintenance in real-time and digital signage.

Assistance Services

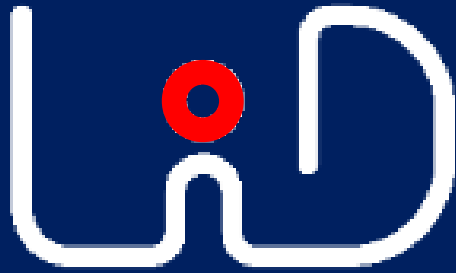
- Lack of assistance service provisions for PwDs
- Railway staff needs more sensitization and awareness of mobility needs of PwDs and other diverse groups.

Emergency Services

- Lack of awareness of health and safety provisions and amenities
- Evacuation protocol during emergency situations

6. Conclusion & Way Forward

- Highlights **accessibility challenges faced by PwDs** in Mumbai's railway system, gathered from diverse stakeholders.
- Contribute to **ongoing efforts for improved accessibility** by sharing the findings with the diverse stakeholders to enhance the overall understanding.
- Emphasizes the need for a **comprehensive, intersectional approach** encompassing age, gender, socio-economic status, and ability.
- The dataset covered **limited types of disabilities**; hence potential exists for broader studies.
- A deeper investigation, incorporating the nuanced aspects of **economics and tech solutions**, holds promise for advanced understanding.
- The station premises were the focus in this study and future research can explore the **entire passenger journey**.



**Laboratory of
Inclusive
Design**

Thank you for listening.

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