TECHNICAL SESSION FOR MUNICIPAL COUNCILLORS
TRENDS AND IMPERATIVES FOR INCLUSIVE PEDESTRIANISATION

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Dimensions of Overall Inclusive Mobility

**MOBILITY**
- Ability to access remote destinations at least time and cost

**SAFETY**
- Assurance against loss of life, limb, and property within the transport system

**PRODUCTIVITY**
- Opportunity and conditions for higher quality and quantity of goods and services

**CIVILITY**
- Order, dignity, respect, cooperation, and encouraging social environment

Source: Metro Manila Inclusive Mobility Initiatives Mapping Workshop 17 October 2013
Principles of Inclusive Mobility

- A transport system that works for the poor and the vulnerable
- A walkable, bike able and accessible city
- Moving people, not vehicles
- Mobility with safe and civility
- Planning and communicating better and travel less
- Sharing information to increase connectivity and accessibility
- Making our neighbourhood more accessible
- Changing mind-sets and behaviours
- Mobility of all, for all, by all

Source: The Inclusive Mobility Network, MMDA (Metro Manila Development Authority) / 9th Urban Mobility India Conference & Expo 2016
Current Scenario of Pedestrianisation in India Cities

- Significant number of trips in Indian cities is made by foot (16% - 58%),
- pedestrian infrastructure, amenities and services are neglected and not given adequate focus.

<table>
<thead>
<tr>
<th>City size Category</th>
<th>% share of Walk Trips</th>
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<tbody>
<tr>
<td>&lt; 5 lakhs with plain Terrain</td>
<td>34</td>
</tr>
<tr>
<td>&lt; 5 lakhs with Hilly Terrain</td>
<td>57</td>
</tr>
<tr>
<td>5-10 lakhs</td>
<td>32</td>
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<tr>
<td>10-20 lakhs</td>
<td>24</td>
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<td>20-40 lakhs</td>
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<tr>
<td>40-80 lakhs</td>
<td>25</td>
</tr>
<tr>
<td>&gt;80 lakhs</td>
<td>22</td>
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</tbody>
</table>

Walk trip share

Walkability Index

Challenges of Pedestrian Movement in Indian Cities

CROWDED FOOTWAYS
In too narrow streets footways crowding conditions appear and deteriorate the walking experience substantially and exclude certain user groups.

PARKING ON FOOTWAYS
Footways are frequently used for parking often forcing pedestrians onto the road.

POORLY MAINTAINED FOOTWAYS
Lack of maintenance results in broken pavements, lack of street lights etc.

DIFFICULT CROSSINGS
To increase capacity for the congested vehicular traffic compromises have been made in the pedestrian landscapes.

UNCLEAR PEDESTRIAN NETWORK
few significant walking routes and the connections between them are poor.

LACK OF PUBLIC SEATING
Absence of essential that ample opportunities to sit and rest.

Source: Istanbul Public Space & Public Life, EMBARQ Turkey
Typical examples of Pedestrian Neglect in Design

**Weak and limited marking**
- Weak and limited marking of pedestrian crossing.

**High middle kerb**
- High middle kerb creates an uneasy pedestrian crossing.

**Inconsistent crossing design**
- Slip lanes accommodating the vehicular traffic constitute difficult conditions for pedestrians.

**Lack of pedestrian prioritisation**
- Narrow drop kerb limit access at crossings for the vulnerable user groups.

**Difficult crossing**
- Design of the refuge form an unnecessary obstacle making people change course.

Source: Istanbul Public Space & Public Life, EMBARQ Turkey
Typical examples of restrictive and good walking environment

**Restrictive**
- No clear walkway = Confusion Zone
- Tree branches on walkway
- Walls and stairs compose barriers and restrict accessibility.

**Good**
- Smooth surfaces on footways.
- Clear pedestrian Zones.
- Active areas
- Segregated Pedestrian and Planting Zones

Source: Istanbul Public Space & Public Life, EMBARQ Turkey
Key Design Standards: Footpaths

Clear Walking Zone
No utility ducts, utility poles, electric, water or telecom boxes, trees, signage or any kind of obstruction should be placed within the “Walking Zone” in future.

Walking Zone Width
- Residential Areas: 2.00 M
- Commercial/ Mixed Use Areas: 2.50 M
- Commercial Nodes: 4.00 M

Dead Width
For sidewalks, an extra 0.5 - 1M should be added to the stipulated 4.00 M width. This extra width is called “Dead Width”.

Matt-finish/ anti-skid Foot path and bus stop surfaces

Source: Pedestrian Design Guidelines, UTTIPEC, Delhi Development Authority, New Delhi, November 2009
Key Design Standards - Multifunctional zones

Source: Pedestrian Design Guidelines, UTTIPEC, Delhi Development Authority, New Delhi, November 2009
Key Design Standards: Medians and Refuge Islands

- Kerb Ramp at Raised Median
- 1200 MM clear waiting area
- Raised Median more than 4 M Wide

Source: Pedestrian Design Guidelines, UTTIPEC, Delhi Development Authority, New Delhi, November 2009
Traffic Calming Measures for Pedestrianisation

Kerb Radius and Slip Road Treatment

Larger radius results in faster turns and less visibility of pedestrians waiting to cross.

Smaller radius results in need for vehicles to slow to enter traffic, as well as improved visibility of pedestrians and oncoming traffic.

Source: San Francisco Better Streets Plan

Pedestrian Dominated: Kerb-less Streets

Chicanes

Mid-block curb extensions or islands that reduces vehicular speeds and increasing safety for pedestrians and NMVs

Source: Pedestrian Design Guidelines, UTTIPEC, Delhi Development Authority, New Delhi, November 2009

Raised Table-Top Crossings & Driveways

Only Anti-Skid, uniform materials to be used

Chicane: Vancouver, Canada

(Credit: Richard Drdul)

Paving Variations

Provides visual continuity to Pedestrians and also makes crossings clearly visible to drivers from a distance.
INDIAN CASE STUDIES
Shimla

- A unique pedestrian only-shopping-street known as the Mall Road
- Total length of walk paths under SMC is 73.128 km.
- The Mall road and the Ridge are restricted to pedestrian movement.

Assessment of Facilities on the Mall Road

Source: Sonia Khan, Walking the Walk: an evaluation of Pedestrian tourism on the ‘mall road’, Shimla
Gangtok

- 20% (8.5 Km) of road has footpath on one side.
- Walk trips higher than the motorized trips 42.57%
- Segregated pedestrian facilities
Charminar Pedestrianization Project

- Revitalization and Conservation of Charminar Historical Core

Proposals:
- Full Pedestrianization of the Historical Precinct.
- A vehicle-free buffer zone
- Planned road widening, parking lots, street design, infrastructure & lighting,
- Street furniture, utilities and signage scheme.
- Roads widening to accommodate diverted traffic
Coimbatore

Ukkadam Lake Project

- innovative concept of developing Greenway to preserve and create an integrated mobility corridor adopted.
- In the first phase, 1.2 km of the total stretch was strengthened and 5.5 metre pathway was built along the lake with landscaping, solar street lights and fencing.
- stretch was made vehicle free road for residents to enjoy walking, cycling and fitness activities every morning from 5 am to 8 am.

Results

- Over 500 residents use the stretch to walk/cycle every morning
- A fitness regime for many residents especially women
- Reduction in pollution/congestion/saving fuel – easy accessibility
- Attracts people regardless of age, ability, race, and income
- Immense public support to expand this facility at all lakes
- A catalyst to promote sustainable transport

The public response has enabled CCMC to propose a 30 km NMT corridor for seamless mobility under Smart city Proposals.
Aizwal

Chanmari to Dawrpuri Pedestrian Street

- Pedestrianizing the spinal commercial street of the city proposed as signatory project.

Intersection for safe NMT Crossing

Proposed Cross Section 10 m.

Network of Escalators connecting different level of the city

Proposed Pedestrian Street in Aizawl
Aizwal

Chanmari to Dawrpuri Pedestrian Street

Principles of NMT Planning

Proposed Pedestrian Street Section

Proposed Cross Section 6 m.

Proposed Vision for Pedestrian Street

Proposed Cross Section 8 m.
SELECTED INTERNATIONAL BEST PRACTICES
Istanbul

- Istanbul has pedestrianized 295 streets, benefiting 2.5 million people - including residents, public and private workers and tourists

- Repaved the newly pedestrianised streets with granite pavestones, updated signalisation and reorganised waste management services.

- Hydraulic vehicle stopping barriers were installed, and streets lights and waste containers were renewed.

- New car parks were also built for tourist buses (each with 150-160 capacity)

Results:

- 56% expect sales to increase,
- 39% expect customer volumes to increase,
- 25% expect annual income levels to increase,
- 39% expects property values to increase.

Source: The pedestrianization of Istanbul's historic Peninsula perspectives from local businesses, Embarq Turkiye
New York- Times Square

Street Type: Public Space
Project Extent: 25,000 Sq.M
Project Cost: $55 Million
Reconstruction For The Permanent Re-design.

Key Project Works:
- The closure of Broadway along five blocks.
- Multiple temporary installations, and then a permanent redesign, consisting of a level surface, new paving, and basic amenities such as benches.

Other Facts:
- Busiest tourist destination of the world, with 400,000 visitors per day.
- Once complete the transformation will add 13,000 sq m, or 53% more of new pedestrian space to times square
- Revenue from businesses have risen by 71 %, the biggest increase in history.
- 33 % reduction in traffic related injuries
- 180 % increase in shop around the square.

Source: Times Square interim Project New York City
Vienna

- The project has turned a street for cars into a great public space for people.
- The 1.6 km long street Mariahilferstrasse now consists of two shared space areas and one pedestrian area and has become a vibrant, green and livable public space for Viennese citizens.

Source: Transforming a street: Before-After images of Vienna’s Mariahilferstrasse, October 15, 2015
Göteborg and Berlin

Göteborg, Sweden

Berlin, Germany

Source: Istanbul Public Space & Public Life, EMBARQ Turkey
IMPERATIVES FOR INCLUSIVE PEDESTRIANISATION
Create Comfortable walking Environment

Free space for walking
Designated zones for walking and furnishing support the pedestrian accessibility. Aalborg, Denmark.

Walking friendly paving
Smooth tracks in the paving Århus, Denmark

Pedestrians priority
High pedestrian priority on minor street. Copenhagen, Denmark.

Well lit streets and connections
- Street lighting in human scale Vejle, Denmark
- Dedicated lighting of street corners and signs Copenhagen, Denmark.
- Combination of delicate river walk lighting and street lighting Seoul, South Korea.

Source: Istanbul Public Space & Public Life, EMBARQ Turkey
Promote Safe crossing

Designated crossing space

Clearly marked and wide pedestrian crossing at grade
*Copenhagen, Denmark.*

Dedicated signals

Lights and pedestrians crossing wait times.
*Copenhagen, Denmark*

Dropped kerbs

Dropped kerbs facilitating easy crossing
*Copenhagen, Denmark.*

Medians as stopover

Median provides a refuge while crossing streets. *Copenhagen, Denmark.*

Source: Istanbul Public Space & Public Life, EMBARQ Turkey
Promote Way finding systems

Easily read signs and guides

Simple and iconic signs guide visitors to important destinations. 
*Barcelona, Spain.*

Marking on the paving ease orientation and way finding. 
*Lyon, France.*

Communicate information

Well placed, easily read maps and directions are crucial in guiding both visitors and locals. *Sydney, Australia.*

Map with walking distances illustrates and relate time and destinations. *London, UK.*

Source: Istanbul Public Space & Public Life, EMBARQ Turkey
Create City spine

Main street and commercial link

A pedestrian oriented design with dedicated zones for walking on a single level surface.

A ‘no drive-through’ street with first priority given to pedestrians, public transport and taxis.

Generous opportunities for public seating to rest and socialise.

Art and street trees add to a distinct character and atmosphere.

Source: Istanbul Public Space & Public Life, EMBARQ Turkey
Create City boulevard

Green connector

Footways with designated zones for walking

Dedicated bicycle lanes

Widespread opportunities for public seating to rest and socialise

A green street suitable for all means of transportation; walking, public transport, cycling and vehicular traffic.

Source: Istanbul Public Space & Public Life, EMBARQ Turkey
Create City street

**Urban connector**

Footways with dedicated zones for walking are taken across minor side streets

A ‘shared space’ giving high priority to pedestrians

**Pedestrian connector**

Opportunities for public seating and staying with small scale greenery

A pedestrianized street or a street with limited vehicular access

Source: Istanbul Public Space & Public Life, EMBARQ Turkey
Create Routes and connections

Distinct surfaces and characteristic paving

Artistic marking identify an innovative laneway. 
Tokyo, Japan.

Wooden surfaces indicate a pedestrian route. 
Tokyo, Japan.

Recognisable design elements

A distinct lamp post characterise a local pedestrian link underlining a strong identity. 
Copenhagen, Denmark.

Canopy and lighting accentuate an inviting evening connection. 
Brisbane, Australian.

Source: Istanbul Public Space & Public Life, EMBARQ Turkey
Create Waterfront

Blue - green connector

A strong connector between the city and the waterfront - comfortable for walking, cycling, public transport and vehicular traffic.

Wide zones for walking and dedicated bicycle lanes support the soft road users.

Foreshore walk

A scenic water’s edge route allowing for walking and cycling along the waterline and connecting the amenities along the coast.

explore opportunities to experience the water through steps down to the water.

Source: Istanbul Public Space & Public Life, EMBARQ Turkey
Summing Up

• Pedestrianisation is vital and need orchestration of various parameters for implementation
• Identify pedestrian priority streets, identify direct links, decide minimum footpath width and plan for multi use activities……public spaces
• Initiating scheme may be easy but its sustainability is critical
• Government structure is vital for funding, implementing and managing pedestrian projects
• Stakeholder consultation necessary for its success