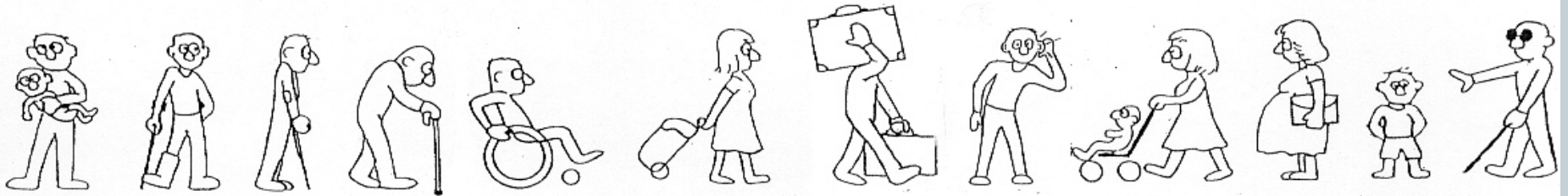


ROAD TO AN EQUITABLE, SUSTAINABLE AND INCLUSIVE URBAN FUTURE

Ensuring Equity and Accessibility in Urban Transport
9th Urban Mobility India, 2016

Anjlee Agarwal & Nidhi Madan

Mobility Vision : Mobility Without Barriers



- on foot,
- by bicycle, or
- by public transport

With

dignity, equity, safe mobility, sustainability

Q: Why Equity & Inclusion?

- Disability is universal; most people will experience some form of disability, either permanent or temporary, over the course of their lives.
- Given this reality, if disability were more commonly recognized and expected in the way that we design our environments or our systems with ‘universal provisions and not special provisions’.

For whom?



For persons with disabilities



For girls and women



For the old and poor



For children



For families



Challenges

- Disabled face Barriers to Access
- Seniors challenged by Timing, Stamina
- Women have Safety Concerns
- Poor face Access, Literacy, Intimidation
- Children lack Understanding, Ability
- Families and Society face all of the above

Where are they on the road?



A: Why Not!

- Universal Accessible Infrastructure benefits everyone irrespective of age, gender and disability
- Inclusive Urban Future:
 - will enhance quality of life,
 - increase independence & mobility of trans-generation population,
 - transit systems are more user friendly
- Equitable and Adequate Space Allocation

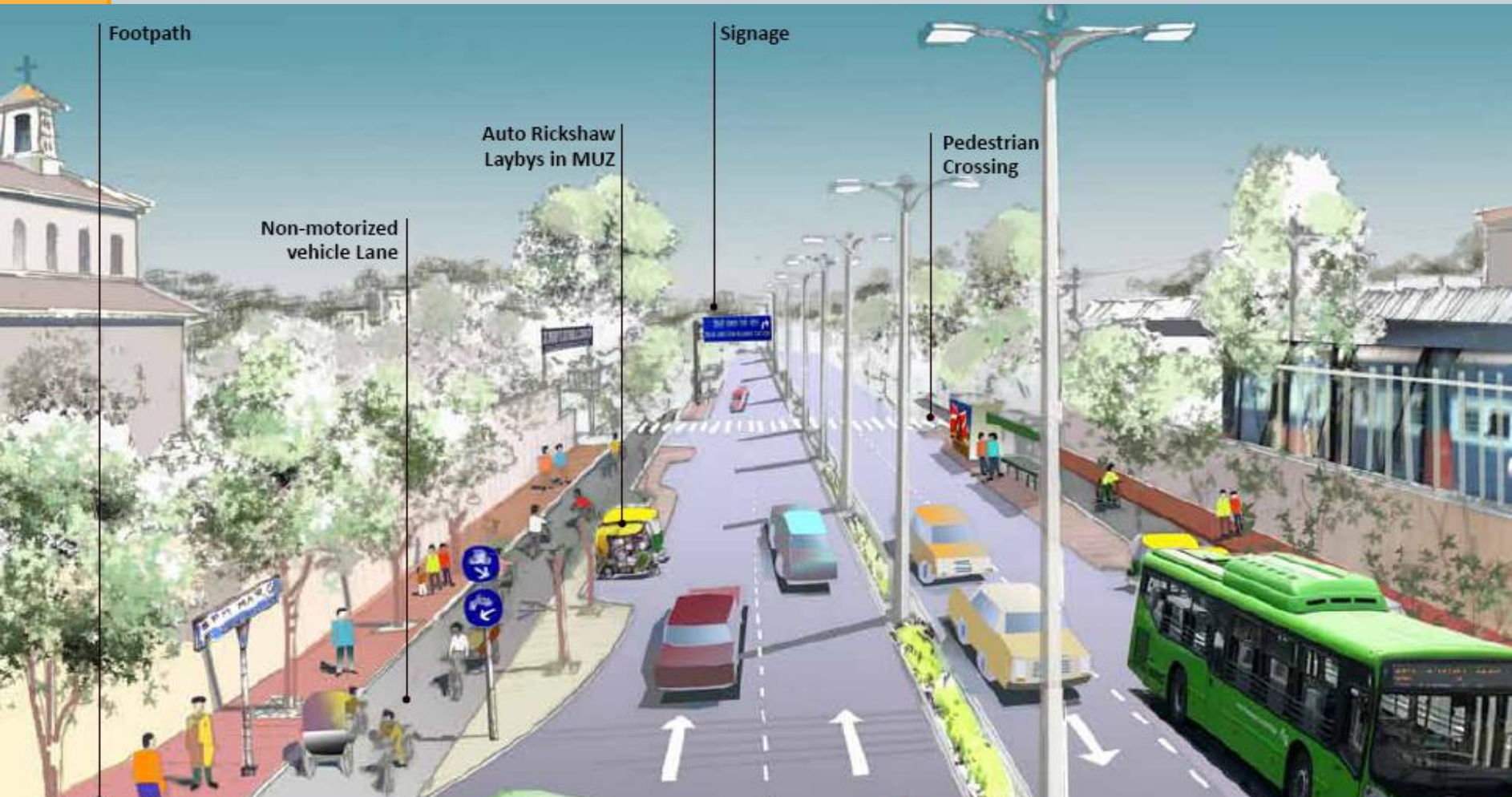
Safe, Accessible, Reliable, Affordable



Equitable and Adequate Space Allocation

- Carriageway Design with Separate MV and NMV Lanes where required
- Provide for Public Transport: bus stops and bus bays
- Provide for Para-transport: Stands for Cycle-rickshaws, Auto-Rickshaws and Taxis
- Streamline parking and loading-unloading activities
- Provide designated spaces for hawkers
- Provide for well-lit, visible spaces with clarity of way finding

I M Possible



Immediate Action

- User and transport service provider consultation - towards making “trip-chain” accessible and seamless at all stages:
 - planning, design, implementation, audit, retrofitting
- Connectivity with pedestrian infrastructure public transport
- Linkages between paratransit, public transport, and Mass Rapid Transit Systems

Future Action

- Plan for life-cycle maintenance
- Conduct periodic post-occupancy surveys
- Capacity building for implementing agencies and users groups
- Monitoring and oversight required

Safety

- Road Markings, Signage and Way-finding Systems
- Intersection Design to minimize conflict between users
- Traffic Calming
- Efficient Street-lighting
- Provide for Police and Emergency Vehicles



Signage, Road Markings & Signaling

- Road Marking
- Signage to identify NMV lanes, NMV Crossings and Pedestrian Crossings
- Auditory Signals at Intersections for the persons with visual impairments



Accessibility

- Access ramps and kerb cuts
- At-grade Pedestrian Crossings
- Level Surfaces for Easy Navigation
- Tactile pavers
- Colour contrast



Obstruction Free Zone



FOOTPATH

NMV
LANE

MULTI UTILITY ZONE
(MUZ)

Reliability

- Relates to consistency across all the elements of a journey.
- Requires attention to be paid to the whole trip chain.



*Poorly maintained
footpath*



Mandatory

- Providing Amenities for users such as Public Toilets, Benches, Dustbins and Other Street Furniture
- Dustbins and Composting Facilities for Solid Waste
- Restoring Historic Streetscapes & Opening-up Vistas to Landmarks
- Landscaping and Public Art



Utilities Planned Considering Future Needs

- Storm-water Drainage and Rainwater Harvesting
- Water Supply and Sewerage
- Electricity Distribution
- Telephone and Gas Lines



Affordability

- Cost is negligible if inclusive and accessible design incorporated in planning stage. Refurbishment- 1-2% of total project cost.
- Time, effort and convenience are as important as financial affordability.
- Many people from low-income groups cannot afford public transport systems; they prefer to walk, cycle and use tri-cycles, etc.



Bicycle Rental and Bike-Sharing Schemes

Street Vendors

- Need to be Organised by Providing Designated Street Vending Zones and Kiosks
- Serve as Eyes-on-the-street and MAKE STREETS SAFE



Benefits

- Integrated mainstream transport service and mobility options.
- Same access for non-disabled, disabled, and senior citizens.
- Generate more revenue
- Environmental benefits



Conclusions

Equity – a democratic goal

- Road accidents – unacceptable!
- Economic recession – we don't have the money!
- Fuel prices – up and up
- Carbon emissions – a real threat
- Air pollution – passive smoking
- Congestion – the plague of our cities

The solution: Planning for Equity + Accessibility + Sustainability

AND THE TIME TO ACT IS NOW!

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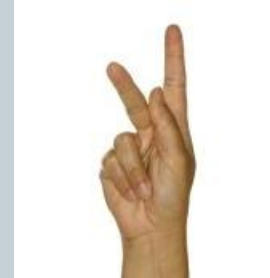
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