Mobility: present trends and practices and future solutions

PRESENTER

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PRESENTATION STRUCTURE

1. Mobility Issues
2. International and National Policy Perspective
3. Role of education and schools
4. Present Trends in the 8 selected states of India
5. Possible steps towards future solutions
6. Create a Safe Access to School Plan
MOBILITY ISSUES
India ranks **155th out of 178 countries** in its efforts to address environmental challenges, according to the 2014 Environmental Performance Index (EPI).

**India performs the worst** among other emerging economies.
Liveability Index

Four pillars of comprehensive development

1. INSTITUTIONAL
   - Governance index

2. SOCIAL
   - Identity and Culture Index
   - Education Index
   - Health Index
   - Safety and Security Index

3. ECONOMIC
   - Economic Index
   - Housing and Inclusiveness Index
   - Open Space Index
   - Mixed Use and Compactness Index

4. PHYSICAL
   - Energy Index
   - Mobility Index
   - Water Index
   - Waste Water Index
   - Solid Waste Index
   - Pollution Index

CITY LIVEABILITY INDEX

Liveability Standards
Performance along set benchmarks
Impacts of Mobility Choice on Liveability

- Housing and Inclusiveness Index
- Open Space Index
- Mixed Use and Compactness Index
- Energy Index
- Mobility Index
- Water Index
- Waste Water Index
- Solid Waste Index
Future of our children, if we do not take actions now

Source: Air Pollution and Child Health: Prescribing Clean Air, 2018
Health Impacts of Air Pollution

- Adverse Birth Outcomes
- Infant mortality
- Neurodevelopment
- Childhood obesity
- Lung function
- ALRI, including pneumonia
- Asthma
- Otitis media
- Childhood cancers

“Lifting lifelong burdens: Exposure to air pollution can alter children’s trajectory through life, pushing them onto a path of suffering, illness and challenge. But this is preventable.”

Source: Air Pollution and Child Health: Prescribing Clean Air, 2018
INTERNATIONAL AND NATIONAL POLICY PERSPECTIVE
International shift towards sustainable city planning

SUSTAINABLE DEVELOPMENT GOALS

1. No Poverty
2. Zero Hunger
3. Good Health and Well-being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
10. Reduced Inequalities
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace, Justice and Strong Institutions
17. Partnerships for the Goals
International shift towards sustainable city planning

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National Policy perspective

Ministry of Housing and Urban Affairs

- Sustainable Urban Planning
- Waste Management
- Housing
- Employment
- Urban Renewal
- Urban Management
- Heritage
- Transport

Swachh Bharat Mission (Urban)
Pradhan Mantri Awas Yojana (Urban)
Deendayal Antyodaya Yojana - National Urban Livelihoods Mission
Atal Mission for Rejuvenation and Urban Transformation
Smart Cities Mission
Heritage City Development and Augmentation Yojana
Urban Transport
Principles for Transport in Urban Life: Better Together

Successful sustainable cities in the twenty-first century will prioritize people by integrating transport and urban development. Making this happen means putting the OurCities Ourselves principles into practice to create vibrant, low-carbon cities where people want to live and work.

The Our Cities Ourselves principles show how the future of transport in urban life lies in reinforcing the complementary nature of sustainable urban transport and urban development. In the face of rapid urbanization and climate change, the future of transport in urban life will depend not only on these principles, but how they work together.

- Compact: In a compact city, activities are located closer to one another, requiring less time and energy to connect. When all the principles are applied collectively, a thriving compact city is created.
- Density: By building up instead of out, cities absorb urban growth in a more compact way. Density supports a lively mix of activities and better transport services, but also requires that the transport systems can handle the increase in people.
- Transit: Public transit connects and integrates more distant parts of the city. Transit corridors are the natural places where densification should begin. High-quality transit is critical to create a prosperous and equitable city that is easily accessible by all.
- Connect: A city needs an efficient network of streets and paths for pedestrians and cyclists as well as public transit. Creating highly permeable places allows for a variety of mobility options that make trips more direct.
- Mix: A connected city becomes more animated when there is a mix of activities along the streets and paths. Different uses encourage shorter trips and more lively neighborhoods.
- Cycle: Like mixed uses, cycling activates streets and provides people with an efficient and convenient way to travel for medium distances. Cycling increases a person’s access to a larger area, as well as increases the coverage of transit.
- Shift: When these principles are in place, getting people out of their cars becomes easier but is not enough. Pricing and traffic reduction tools encourage people to shift away from cars.
- Walk: When all the principles come together, the results are most likely to be the pedestrian. Vibrant, active streets where people feel safe are fundamental to the successful twenty-first century city.

Source: ITDP
Approach to Sustainable Mobility

Source: Singapore Land Transport Master Plan
**Provisions for Sustainable Mobility**

**walk**

High quality, unobstructed pedestrian footpaths provide basic mobility for all. Furniture, landscaping elements, and active building edges transform walkways into vibrant public spaces.

- Leave at least 2 m of clear space to ensure that footpaths are accessible to all.
- Provide street trees and covered walkways to make walking pleasant even during hot months. Ensure that lighting is present to increase safety at night.

**cycle**

Street design ensures safety for cyclists by reducing carriageway speeds or creating separate cycle tracks. A complete network, adequate shading elements, smooth surfaces, and secure cycle parking are essential.

- Use speed table crossings to reduce motor vehicle speeds.
- Create continuous, physically segregated cycle tracks when motor vehicle speeds are higher than 30 km/h.
- Encourage active and visually permeable frontage—rather than blank compound walls—to improve safety.
Provisions for Sustainable Mobility

- Create a dense network of rapid transit lines to ensure that the majority of the population has access to high quality public transport.

Frequent, fast, and reliable high capacity rapid transit reduces dependence on personal motor vehicles.
CHILDREN in the urban vision of India

(Assessing the current urban missions of India on their responsiveness to the needs of children)

Child Friendly Smart City Initiative
ROLE OF EDUCATION AND SCHOOLS
Need for educating children about impacts of air pollution

• Kids are the future
• Kids can be the ambassadors of change
• Parent’s are most concerned about kids
• Schools lay the foundation of good habits.
Schools can act as the epicenter of sensitization programs

Ways for sensitizing kids:

- Conducting exhibitions
- Conducting campaigns
- Organizing trips on public transport and cycling
PRESENT TRENDS IN PARTS OF INDIA
Case of Delhi

Public participation

- Resident communities are becoming more sensitive and responsive
- The demands for livable communities are now coming from the grass roots.
Case of Bhubaneshwar- Odisha

Bhubaneswar City Master Plan encouraged private vehicle use

Had been trying to introduce BRT for a decade.

Smart City Scheme provided opportunity to prioritize sustainable urban development
Case of Bhubaneshwar- Odisha

Planning for Transit Oriented Development

Planning for Complete streets

Urban Renewal

Bicycle Sharing Scheme
Case of Chennai - Tamil Nadu

Chennai is:

- Improving Public Transport
- Improving streets with better pedestrian facilities
Case of Kochi- Kerala

Organised Public Transport

Organised Water Transport
Case of Kochi- Kerala

Comprehensive Street improvements with priority to Non Motorised Transport

Public Bicycle Sharing Scheme
Bengaluru footpaths are being upgraded with better facilities.
STEPS TOWARDS SUSTAINABLE MOBILITY
THROUGH SCHOOLS AND EDUCATION
Schools can encourage kids to walk or cycle to School (Chittoor, A.P.)

Zilla Parishad High School, Gopalakrishna Puram, Chittoor AP (rural area): 81 per cent population of the school uses non-polluting modes of travel. Most of these people cycle to school. The school has a special parking space assigned to bicycles to promote the activity.
Schools can create Safe Access Plans (Chennai)

Jain Public School, Chennai, Tamil Nadu (urban area): The students of the school have designed an optimised commute plan. In addition to encouraging students who live nearby to walk to school or start cycling, they have also come up with a carpooling plan to reduce the level of emissions.
Schools can include cycling as sports
Schools can provide cycles to kids (Myanmar)
Schools can provide space for bicycle and bus parking
Schools can conduct awareness programs with kids & parents (Chennai)
Schools can demand traffic calming in and around (Udaipur)
Schools can demand traffic calming in and around (Udaipur)

Vidya Bhawan Society and Udaipur Municipal Corporation jointly worked to make the access roads safer for kids, pedestrians and cyclings.
Schools can demand cycling corridors (Mumbai)
Schools can join hands with local CBOs to organize street audits
WHERE DO THE PARTICIPATING SCHOOLS STAND
About **141 schools out of 365 schools**

- have more than **$\frac{2}{3}$rd** of its kids travelling by Non-polluting modes

If you thought that walking and cycling are for rural areas-

Here is a fun fact

- About 76 schools out of 141 are from Urban Areas.
Only 105 schools out of 365 schools

- have more than \( \frac{2}{3} \)rd of its kids travelling by Polluting modes

If you thought that walking and cycling are for rural areas-

Here is a fun fact

- Only 20 schools out of 105 are from Urban Areas.
CREATE A SAFE ACCESS TO SCHOOL PLAN
Methodology - Step 01 - Assess the impediments

**Task-01** - Collect data related to travel behavior of kids, parents and staff

**Task-02** - Map trips and facilities

**Task-03** - Consult kids and parents

Discuss and find-
- What would encourage kids, parents, etc. to use buses, cycling and walking
- Identify Impediments that need to be addressed.
- Involve an advisor to assist the process
Methodology - Step 02- Create Safe Access to School Plan

Task-04- Create the Safe Access to School Plan

- Identify all routes taken by kids.
- Identify availability of
  - Footpaths
  - Cycle Tracks
  - Cycles
  - Public Buses
  - Schools Buses
- Check availability of parking spaces for buses and cycles around schools
- Identify accident prone spots
Methodology - Step 03 - Work with local agencies to improve infrastructure

**Task-05** - Schools to demand for improvement of:
- Footpaths
- Cycle Tracks
- Availability of Cycles
- Public & School Buses
- Parking spaces for buses and cycles
- Fix the Accident Prone Zone

**Task-06** - Work closely with agencies and CBOs to address issues:
- Fixing pedestrian crossings
- Improving illumination along footpaths
- Fixing drinking water and toilet facilities along walking/ cycling corridors
Methodology - Step 04 - Sensitization and inclusion in school activities

**Task-06** - Create a plan to have regular workshops with kids and parents to sensitize them

**Task-07** - Integrate walking, Cycling, use of Public Transport, into school curriculum and activities
Lets leave behind a better environment for future generations.

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