

# Ecomobility Readiness Assessment

Are India's cities ready for sustainable transportation?  
A focus on non-motorized transport

## PROJECT OUTCOMES AND DOCUMENTATION REPORT



An initiative supported by



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**Ecomobility Readiness Assessment – Are India's cities ready for sustainable transportation?**

**A focus on non-motorized transport**

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July 2013

<http://ecomobility-sa.org/>

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**About Shakti Sustainable Energy Foundation**

Shakti Sustainable Energy Foundation works to strengthen the energy security of India by aiding the design and implementation of policies that support energy efficiency and renewable energy.

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## FOREWORD



भारत सरकार  
शहरी विकास मंत्रालय  
निर्माण भवन

GOVERNMENT OF INDIA  
MINISTRY OF URBAN DEVELOPMENT  
NIRMAN BHAWAN

नई दिल्ली – 110 011

New Delhi – 110 011

I am happy to write the foreword for this report as having been involved in promoting urban transport improvement in Indian cities since last 7 years very actively I realise that, non-motorized transport (NMT) is of significant importance to Indian cities, especially since these modes can be used as an effective form of mobility for short trips (majority of trips in cities) and for last mile connectivity to large scale mass transportation systems such as bus rapid transit systems and metro rails. There is clear evidence that NMT provides efficient mobility with substantially low investment, improves access, creates livelihoods and is low carbon. In present times with several Indian cities undertaking or planning to undertake large mass transit systems implementation, NMT is a key intervention to close the sustainable urban mobility loop.

We at the MOUD through our various initiatives have been encouraging NMT initiatives in cities in the recent past though not with a lot of success. In line with the same it has been proposed that the next cycle of JNNURM will encourage NMT projects, and the report of the working group on urban transport for the 12th Five Year Plan also outlines specific earmarked funds for improvement of pedestrian facilities. The UT department of the MOUD is also working towards the development of an urban mobility law. The Urban Transport division will soon announce a scheme for promoting Public Bike Share in selected cities by supporting pilot initiatives under its UNDP supported GEF SUTP project.

In this recent initiative by ICLEI-SA, I-Trans, IHCN-F and funded by the Shakti Foundation, an assessment covering 28 cities from around the country was conducted to ascertain their 'readiness' for implementing non-motorized transport projects. This assessment, also supported by the Ministry of Urban Development and the Institute of Urban Transport, identified the gaps and strengths of the relevant city authorities in terms of their capacity, resources and awareness towards ecomobility, and additionally also assessed the presence or lack of supporting policies at the central and state level, as well as at the city level.

The assessment has brought to light the fact that even though traditionally our cities were primarily designed for non-motorized transport, many Indian cities even today have a majority of NMT users though not always visible. I was reminded during the project discussions that in most cities during festivals, cultural events and religious ceremonies parts of the city (market places and other public spaces) are blocked off to motorised transport and get converted into NMT zones for 5-10 days. These converted places in most cases witness better access, less crime, improved income through local sales during the period of this transformation. I feel that there is need is to acknowledge these phenomena and provide for preserving and promoting this unique urban transport aspect of our Indian cities even before we look externally to international examples where increasingly cycling and walking is being discovered and is being promoted as a sustainable way of life.

I congratulate the project team members and thank the city officials who participated in the assessment and subsequent discussions for supporting the preparation of this study report. I feel this report is only a step in the right direction, I hope that all actors and stakeholders will use the report and findings to support and promote NMT initiatives in our cities.

Sanjeev Kumar Lohia  
Officer on Special Duty (UT) & Ex-officio Joint Secretary  
Ministry of Urban Development,  
Government of India

# ACKNOWLEDGEMENT



The project team would like to express their sincere gratitude and appreciation to the people and organizations without whom this large-scale, nation wide assessment would not have been possible.

- First and foremost, to **S K Lohia** and **R K Singh** at the Ministry of Urban Development, Government of India; their encouragement and wholehearted support to the project enabled us to reach out to more cities than we thought possible within such a short time frame,
- To **B I Singal** at the Institute of Urban Transport; whose regular support, feedback and encouragement greatly helped us define and improve the scope of the project and to add value to the deliberations at the national level,
- To **Himani Jain** at the Shakti Foundation, for her untiring support and encouragement for the project from initiation to completion, and pushing us to aim higher,
- To our team of enthusiastic and keen advisors: **Ashok Bhattacharjee, Geetam Tiwari, Anumita Roychowdury, Parthaa Bosu, Pradeep Sachdeva, Santhosh Kodukula.**
- **Konrad Otto Zimmermann**, ICLEI Urban Agendas, for his encouragement and support to get the project started
- To the city agencies in each of the 28 cities that showed such interest and encouragement in the study: the municipal corporations, development authorities, traffic police, state government departments. This study would not have been possible without their support and cooperation.
- We would also like to thank **Sonia Arora**, IUT, **Roeloff Witink**, Dutch Cycling Embassy, **Aakriti Choudhary**, Shakti Foundation, and **Studio Eksaat.**
- We thank and acknowledge voluntary support from **Bankim Kalra**, Urban Networks - Pondicherry to help the project team complete the assessment for the city of Pondicherry.

## FROM THE PROJECT TEAM

### ICLEI South Asia

Ashish Rao Ghorpade  
Emani Kumar  
Laasya Bhagavatula  
Ranjith Parvathapuram

### iTrans

Anvita Arora  
Parvesh Sherawat  
Ravi Gadepalli

### Indian Heritage Cities Network Foundation

Rathi Jha  
Shalini Mahajan

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# PREFACE (THE GENESIS)



The figures everywhere say it all: India is urbanizing at an unprecedented and astonishing rate. Our cities will hold over 800 million citizens by 2051. These 800 million people will be constantly moving from point A to B to C, getting from home to work, trying to make ends meet. A large proportion of this population will be dependent on public modes and affordable means of transportation.

The strain on resources and immense pressure caused by this growing population has resulted in congested, polluted, crowded cities with increasing motorization. Understanding what cities and city governments can do, and how they are positioned to address the issue of sustainable mobility or ecomobility is the core of this assessment.

In October 2011, participants from around the world gathered at the Ecomobility Changwon 2011: the first world congress on mobility for the future of sustainable cities. Organized by ICLEI - Local Governments for Sustainability, in partnership with the host city of Changwon, Republic of Korea, the congress provided a platform for city representatives, mobility experts and

urban practitioners from the world to have dialogue on mobility concerns in the world's cities.

Deliberations for developing an assessment project for Indian cities began at this stimulating venue, and took shape over the coming months. Ultimately, ICLEI South Asia, the South Asian wing of ICLEI Global, in partnership with Innovative Transportation Solutions (iTrans) Pvt. Ltd., and the Indian Heritage Cities Network Foundation (IHCN-F), launched this project in May 2012 with the funding support of the Shakti Sustainable Energy Foundation, and the institutional support of the Institute of Urban Transport and the encouragement of the Ministry of Urban Development, Government of India.

### WHAT DOES THE ASSESSMENT AIM TO DO?

This project seeks to review the strengths and gaps of local governments in terms of their policy, capacity, resources and awareness towards non-motorized transport projects, as well as their willingness to implement non-motorized initiatives in their cities.

## BACKGROUND



In India the definition of non-motorized transport (NMT) gains several dimensions – the passenger cycle rickshaws and the goods rickshaws and the various handcarts modifications by the street vendors add to the variety of the non-motorized vehicles (NMVs); and their use for delivery and ferrying people and goods add to their purpose as modes of livelihood, last mile connectivity and as public transport systems.

A number of national and sub-national policies including NMT either as a critical component or key focus, exist and continue to be developed. Ultimately, the responsibility of implementing these policies rests with the local governments. These policies, while holistic and forward-thinking, do not necessarily take into account the existing conditions in city level decision-makers, and thus are not always suitable to the cities. Some of these policies/programmes are:

- The National Urban Transport Policy, which ultimately needs to be implemented in cities by local levels of government, clearly lists out the role of NMT as a last mile connector for the urban transport systems and as an independent mode for short distances.
- The National Mission for Sustainable Habitat, under the Prime Minister's National Action Plan on Climate Change, has constituted a sub-committee specifically focusing on urban transport. The sub-committee listed out eight principles of sustainable urban transportation, of which the first two are 'walk' and 'cycle'
- The Ministry of Urban Development has developed Service Level Benchmarks for urban transport to be undertaken by all Indian cities. These service level benchmarks specifically address aspects of NMT
- The Jawaharlal Nehru National Urban Renewal Mission (JNNURM), launched in 2005, gave power to cities to undertake large scale infrastructure projects, including urban transport. City Mobility Plans prepared under the JNNURM were critiqued as lacking focus, and being rushed.
- A working group to provide recommendations on urban transport was set up for the formulation of the country's 12th Five Year Plan. This working group very clearly outlines the key role of NMT, and has recommended earmarking of funds within a city's roads development budget for walking and cycling facilities.





## EXPLANATION

There are several initiatives and studies being conducted to ascertain the facilities available for non-motorized transport in Indian cities, and corresponding policies are being put in place to improve the quality of NMT in our cities, however, there has been no study undertaken to determine the existing capacities in city agencies to tackle the issue of non-motorized transport.

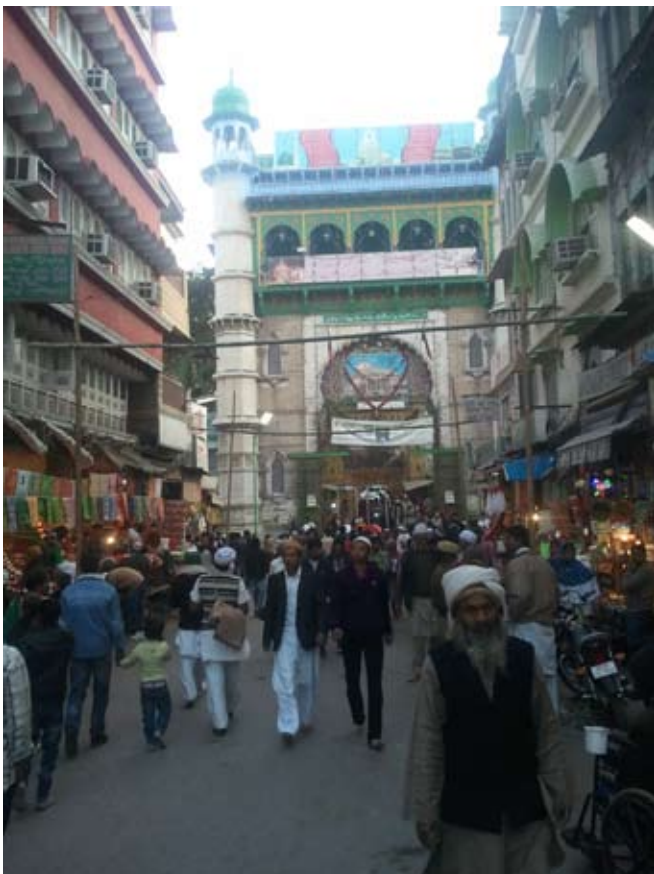
This study of over 20 cities provides just this information, with the aim of enabling decision-makers to put in place policies, programmes and projects that not only respond to the capacities and conditions at the local level, but also serve to improve them.

### READINESS

- The willingness to do something
- The state of being fully prepared for something

### NON-MOTORIZED TRANSPORT

- Transportation powered without motorization
- Walking, bicycling, and variants such as skates, skateboard, push scooters, rickshaws, wheelchairs



## ECOMOBILITY

EcoMobility is an environmentally friendly and socially inclusive way of transportation, including cycling, wheeling, walking and the use of public transportation, with special focus on intermodality.

### 5 Es CONCEPT

To ensure that all aspects of ecomobility are captured in a comprehensive and structured manner, the readiness assessment tool developed under the project covers a series of questions divided into 5 'E's: engineering, education, encouragement, enforcement and evaluation. Each 'E' in turn has questions pertaining to planning, policy, institutions, financials and implementation

## PROJECT INTRODUCTION NEED, METHODOLOGY AND APPROACH

As listed above, there are several ambitious large scale developments taking place at the national level to focus on NMT as a key mode in Indian cities, however, these initiatives do not take into account the ground level realities in Indian city governments.

The Ecomobility Readiness Assessment project aimed to bridge this gap, by assessing the actual levels of policy, resource and capacity development required at the local level in order to effectively implement NMT projects.

NMT is a key component of Indian cities already, whether as a last mile connector, to provide access to mass transit systems, or in heritage cities where it is a historically embedded into the cities' fabric.



# MAIN ACTIVITIES UNDER THE PROJECT



## Step 1: Desktop review

This review provides a baseline of the status and information available at national level, and begins to give indication of the segregated actions that have been undertaken at the local level to address NMT till now.

## Step 2: Inviting cities to participate in the assessment

Cities in the country were invited to take part in this assessment by providing a snapshot of information about the status of their city's NMT and through a signed commitment to carry out the assessment. Of 87 cities invited, 34 cities responded positively.

## Step 3: Development of assessment tool

In order to most effectively capture the breadth of information required for accurately assessing the status of cities' NMT, a simple, yet comprehensive excel-based tool was developed. This tool was intended to inform the project by not just assessing the situation, but allowing the project team to pin point areas of improvement required in cities.

## Step 4: Assessment in cities

The assessment was undertaken on ground in the participant cities. The tool was primarily designed to be a self-assessment tool by the cities. The tool consisted of questions by category, with a list of options in the answers column, where cities could pick the most accurate option. Each answer was graded from 1-5 and points added up to give each cities total score. The assessment was undertaken through interviews with the relevant city teams,

## Step 5: Assessment matrix and recommendations basket

The completed assessment scores were compiled to show how cities stack up against each other, what areas of improvement are required, and what are the key interventions that need to be put in place to further the agenda of NMT at local level.



## HOW TO READ THIS REPORT

This NMT readiness assessment project is summed up in two reports. The **first report** (this one) deals with the readiness assessment results of the 28 cities studied. It highlights the process followed in selecting the cities, developing the assessment tool, carrying out the assessment in the cities, the results and recommendations that followed from an analysis of the assessment results.

The **second report** details the profile and assessment results of each city that participated in the assessment.

## CITIES' SELECTION PROCESS

The objective behind assessing a large number of cities was to obtain a range of studies that would enable analysis for a variety of factors. Keeping this in mind, a target of including at least 15-20 cities was set at the assessment stage.

ICLEI typically involves cities through an Expression of Interest (EOI) procedure, as this indicates the first step of establishing a city's interest and commitment to participate in the assessment.

The EOI format requested information from the cities ranging from basic city level information, to the commitments cities were willing to make for this assessment and the subject of NMT.

## HIGHLIGHTS OF EOI RESPONSES

- 87 cities were invited to join the assessment: these cities included ICLEI and IHCN-F member cities, cities known to be proactive in the field of transportation, and all JNNURM cities.
- 34 cities responded to the EOI. These cities are spread across 19 states.
- 6 cities clearly declined to be a part of the assessment for various reasons (such as upcoming elections), and the rest did not respond to the EOI.

## LIST OF CITIES THAT SUBMITTED Eois

Below is a list of cities that have shown a commitment to participate in the Ecomobility Readiness Assessment project. While 34 cities submitted Eois, the cities assessed in detail during the project period numbered 28. These 28 assessed cities are described more in the next report.

### ANDHRA PRADESH

- Visakhapatnam
- Hyderabad
- Tenali
- Rajahmundry
- Guntur
- Vijayawada
- Tirupati

### GOA

- Panaji

### GUJARAT

- Rajkot

### HARYANA

- Gurgaon
- Faridabad

### HIMACHAL PRADESH

- Shimla (assessment not completed within project period)

### JAMMU AND KASHMIR

- Srinagar

### KARNATAKA

- Mysore

### KERALA

- Kochi

### MADHYA PRADESH

- Indore (assessment not completed within project period)

### MAHARASHTRA

- Pimpri Chinchwad
- Kalyan Dombivli

### MANIPUR

- Imphal (assessment not completed within project period)

### MIZORAM

- Aizawl

### ORISSA

- Bhubaneswar

### PUDUCHERRY

- Puducherry

### RAJASTHAN

- Ajmer

### TAMIL NADU

- Tiruchirapalli
- Salem
- Coimbatore
- Madurai
- Tiruppur (assessment not completed within project period)
- Tirunelveli (assessment not completed within project period)

### UTTAR PRADESH

- Agra
- Lucknow

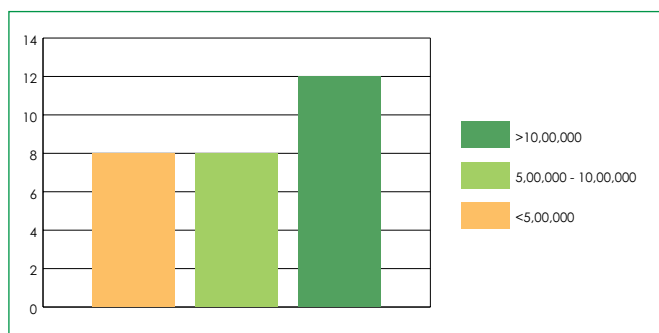
### UTTARAKHAND

- Haridwar
- Nainital

### WEST BENGAL

- Howrah

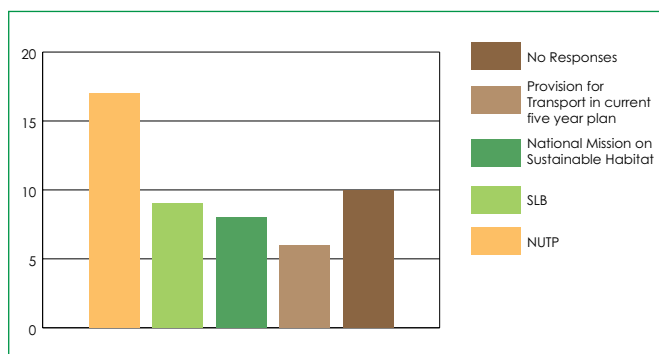
### POPULATION DISTRIBUTION OF INTERESTED CITIES



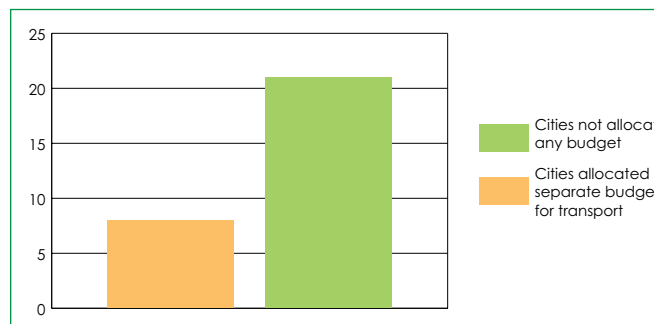
## CITY RESPONSES TO KEY QUESTIONS IN THE EOI FORMAT

The EOI format required the city governments to provide answers to certain questions that were asked within the format. These answers provided an insight into the type of activities that were already taking place or being planned at the city level with regards to mobility, the city's knowledge of transport and NMT related aspects, and the city's perception of the main needs to advance NMT and sustainable mobility. Some of the responses to the key questions are shown below and serve as an informative starting point before setting out into the details of the assessment.

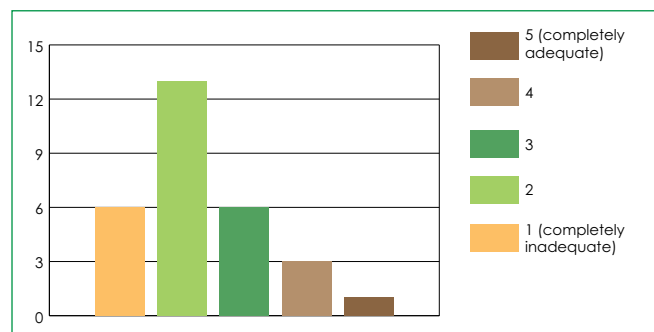
### NUMBER OF CITIES AWARE OF NATIONAL POLICY AND LEGISLATION ON TRANSPORT



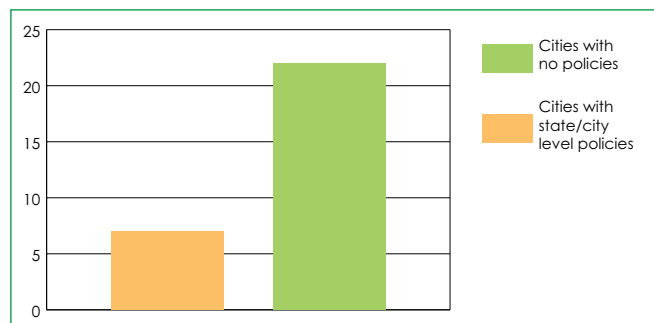
### CITIES WITH SEPARATE BUDGETARY ALLOCATION FOR TRANSPORT



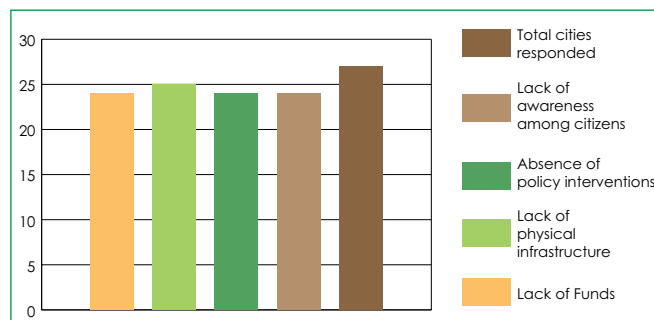
### CITIES' SELF-RATING OF THEIR NMT INFRASTRUCTURE



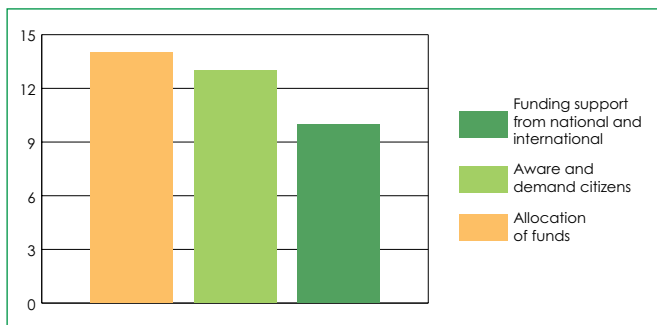
### CITIES WITH STATE OR LOCAL LEVEL POLICIES ON URBAN DEVELOPMENT/TRANSPORT



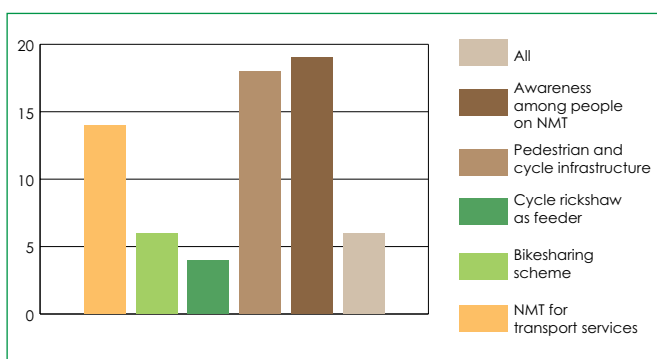
### MAIN OBSTACLES IDENTIFIED BY CITIES TO IMPLEMENT NMT



## MAIN OPPORTUNITIES OBSERVED IN CITIES TO PROMOTE NMT



## MAIN AREAS OF INTEREST FOR CITIES IN NMT



## KEY FINDINGS FROM THE EOI RESPONSES

- City level capacity-building and awareness about NMT aspects is required
- Cities recognize the main obstacles to implementing NMT: which include access to funding and also other factors. Cities require robust, all round systems.
- Prior to setting in place projects for implementation of NMT, cities would like to focus on providing basic infrastructure and increasing awareness in their local communities about the role of NMT

## THE READINESS ASSESSMENT TOOL

An assessment tool was developed for the project to assess the different components of a city's readiness for implementing NMT projects. The tool is a simple, check list form of questions.

To ensure that all aspects are captured in a comprehensive and structured manner, the tool covers a series of questions divided into 5 'E's: engineering, education, encouragement, enforcement and evaluation. Each 'E' in turn has questions pertaining to planning, policy,

institutions, financials and implementation. This creates a 5x5 matrix of assessment. A brief explanation of the 5Es approach is given below.

	Planning	Policy	Institutions	Financial	Implementation
Engineering					
Education					
Encouragement					
Enforcement					
Evaluation					

## ENGINEERING

### Policy

- State transport policy
- City transport policy
- Low carbon policy
- Heritage preservation policy
- Road safety policy

### Planning

- Master plan
- City Development Plan (CDP)
- City Mobility Plan (CMP)
- Street design guidelines
- Recreational/greenway routes
- Pedestrian zones
- Barrier free environment.
- Institutions
- NMT planner in ULBs,
- NMT cell/department in ULB

### Financials

Separate budget for

- Walking and cycling infrastructure
- Cycle parking infrastructure
- Public spaces and heritage areas.
- Funds from state for promoting institutes in transport engineering and development of guidelines

### Implementation

- Gap between sanctioned drawings and actual implementation of projects
- NMT crossings in the city
- Major roads covered by cycle tracks and footpaths
- Quality and maintenance frequency of cycle tracks and walkways

## EDUCATION

### Policy

- Campaign for promoting cycling/walking and road safety.
- Revision of environment science curriculum to include value of walking and cycling in environment protection

### Planning

- Awareness programs on importance of walking/ cycling
- Road safety education programs
- Development of carbon calculators for school and university students

### Institutions

- Transport engineering /planning courses offered
- Short courses on planning/ executive programs/QIPs
- Road safety cell
- Public outreach partners/ media partners
- Involvement of NGOs

### Financials

- Separate budget for awareness and outreach programs
- Special grants by state/centre for outreach
- Implementation
- Safe routes to school program
- Training of students to calculate their carbon and transport footprint.

## ENCOURAGEMENT

### Policy

- Bicycle training components in city programs
- Community education in schools as an education avenue for safety/riding techniques
- Formation of bike clubs and bicycle focused events
- Include the settlements and destinations of the urban poor in the planning for walking and cycling

### Planning

- Bicycle map which identifies bicycle routes along with NMT amenities.

### Institutions

- Partnership of ULBs with NGOs to encourage and support bicycling as a mode of transportation
- Bicycle ambassador program

### Financials

- ULBs providing sponsorship to NGOs and leveraging it from corporate avenues for awareness programmes such as group rides for walking and cycling at different levels

## Implementation

- Bicycle web page on city's website with necessary NMT information
- Events like car-free days and cyclothon

## ENFORCEMENT

### Policy

- Pedestrians / cyclist priority
- Penalties for encroachment of sidewalks and cycle lanes by vehicles

### Planning

- Pedestrian and cyclists priority at junctions
- Awareness campaigns and drives as part of road safety campaign

### Institutions

- Pedestrian and cyclists safety cell
- Involvement of traffic police with citizen watchdog groups for road safety

### Financials

- Separate budget for pedestrians and cyclist safety initiatives in traffic police annual budget

## Implementation

- Planned drives to reduce speed and enforcement of pedestrian and cyclists priority at junctions and pathways

## EVALUATION

### Policy

- Evaluation framework for transport projects

### Planning

- Collection of NMT data on a regular basis
- Traffic Impact Assessment (TIA)
- Social Impact Assessment (SIA)
- Environment Impact Assessment (EIA)

### Institutions

- Involvement of evaluation committees at the city level with necessary legislative backing

### Financials

- Mandatory allocation of budget in project for impact evaluation of ecomobility
- Financial status of city/state level committees for evaluation

## Implementation

- Status of mitigation measure

## THE 5 Es APPROACH

### ENGINEERING

The most successful NMT friendly cities around the world include a comprehensive network which provides a variety of facilities to address the level of comfort and abilities of various types of users. Components of a walking and cycling network system include footpaths, NMV tracks and lanes, bicycle and rickshaw parking, operation assessment, maintenance standards, and way finding.

### EDUCATION

Education is a community effort which entails a partnership between the City Municipalities, schools, neighbourhoods, community organizations and other agencies. These partners advocate for and implement programs to make walking and biking around the community fun, easy, safe and healthy for all.

### ENCOURAGEMENT

Encouragement strategies are vital components of NMT infrastructure projects. It has been shown in other cities across the globe that comprehensive promotional, educational and encouragement strategies result in an increase in bicycle trips in conjunction with the expansion of its walkway and bikeway network. The primary purposes of encouragement strategies are to reach out to 'interested but hesitant' residents as well as attend to the needs of current pedestrians and bicycle riders to help them ride safely and comfortably. Encouragement programs help residents view walking and bicycling as a reasonable transportation option and give them the opportunity to try the same in low stress and safe setting. Basic encouragement strategies incorporate service, behaviour change, awareness and incentives.

### ENFORCEMENT

Traffic enforcement efforts are integral to safety of NMT users and should encourage safe and lawful travel. This can be achieved by strategically maximizing education benefits and focusing on partnerships and communication. Balancing traffic enforcement with safety education and encouragement efforts has been shown to improve road safety for bicyclists, motorists and pedestrians.

### EVALUATION

Evaluation can help to measure the achievement of objectives, provides accountability to the public (and

those who fund projects or programs) as well as increase community support. While large infrastructure projects typically undergo Environment Impact Assessment (EIA), it is critical for NMT needs that they include Social Impact Assessment (to include the needs of the urban poor, the disable and other disadvantaged groups), Heritage Impact Assessment (to assess impact on heritage areas of the cities), and Traffic Impact Assessment (to assess impact of the changing traffic patterns on the convenience and safety of the NMT users).

## ASSESSMENT SCORECARD

The assessment scorecard is a tool that will help cities identify priority areas for:

- Improving conditions to encourage walking, biking, and other NMT usages.
- Increasing access to opportunities such as better evaluation, monitoring and education for reducing the carbon foot prints by usage of NMT activities.

The scorecard requires the experience and knowledge of members of urban local bodies, but is not limited to: Municipal bodies, Planning Boards, Elected Councils members, traffic and transportation Commissioner, preservations and conservation societies and organizations, State Transportation Departments/ Commissions and other community groups familiar with existing plans and policies for addressing NMT maintenance and development. Therefore, the assessment tool encourages a collaborative effort to ensure the scorecard is completed with the best possible accuracy.

### STEPS

The Scorecard can be completed individually or through group dialogue.

#### Step 1

- Identify how the scorecard will be completed (by which committee/government body/organization, in groups/individually, etc.)
- Read and respond to questions in each category by evaluating existing conditions
- Select the appropriate answer for each question from the drop down menu by comprehending the dialogues/discussions.

#### Step 2

- Automatic recording of total scores for each category (in the matrix format) on the scoring sheet at the end of the Scorecard

- Determine city's score area for each category (5 Es) and record as shown under

### Step 3

- Discuss the results (regrouping if necessary) of each category
- Identify priority areas which city should address first
- Record the top 3 recommended priority areas with a brief description

It is important to note that the answer to each question is chosen from a set of answers which successively lead towards an ideal situation/goal for NMT readiness, ie.,

- 0 = none
- 1 = Basic awareness
- 2 = preliminary initiation
- 3 = in progress initiatives
- 4 = realized initiatives
- 5 = ideal situation

## LEGACY OF PROJECT

The project tool that was developed is available online (<http://ecomobility-sa.org/>) to encourage more cities to assess themselves for their NMT readiness. The tool is hosted online and available for free. Learning where they stand will enable cities to prioritise and chart out a way forward to strategically advance NMT in their cities.

## KEY RESULTS OF ASSESSMENT PROCESS

While the assessment tool and its results provided the bulk of the findings, interviews with the key city officials also brought to light crucial attitudes/perceptions towards NMT and also helped to highlight innovative practices at the city level for NMT that may not have been formally recorded or documented.

The key findings of the study arose from:

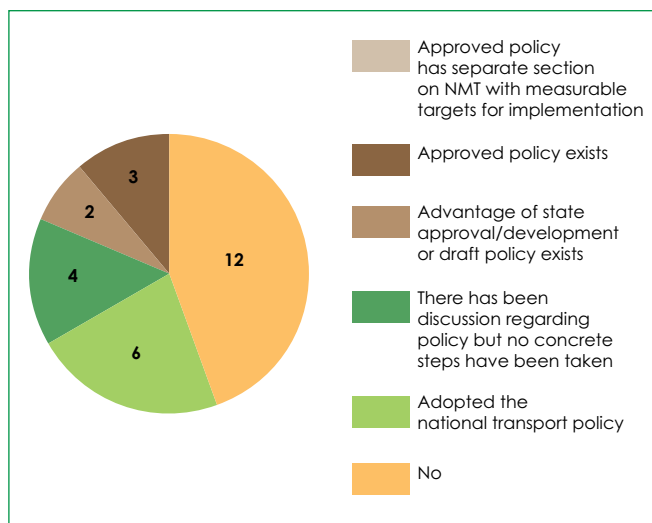
- Answers by cities to key questions
- Overall comparisons between groups of cities
- Discussions and interviews at the city level

## FINDINGS SET 1: ANSWERS TO KEY QUESTIONS

This section highlights the important issues assessed by studying the answers to some of the key questions asked. It also underlines the background of the assessment and why some questions were asked in the first place.

### CITY TRANSPORT POLICY/VISION

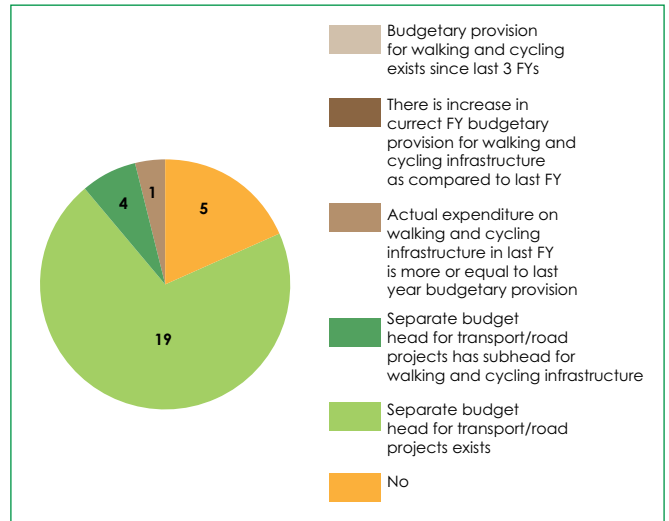
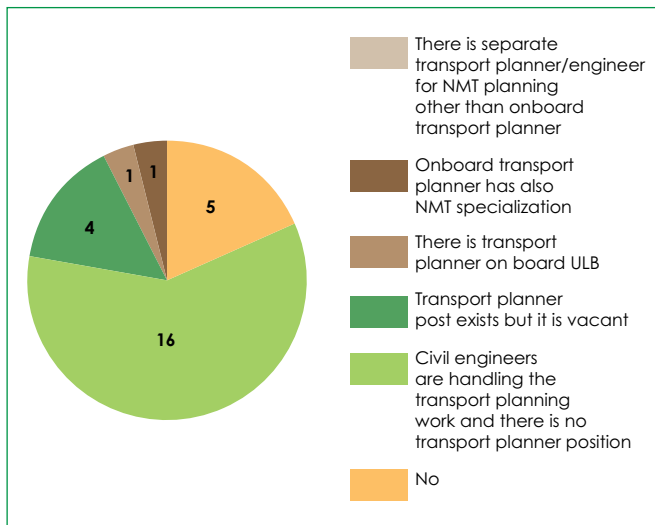
Of the 28 cities interviewed 12 do not have a policy/vision and 6 say they have adopted the NUTP. It is interesting to note that despite ongoing efforts by the MoUD in raising the awareness about the NUTP and its principles about 45 percent of the cities had no knowledge about its existence.





### CITY CAPACITIES: WHO HANDLES TRANSPORTATION AS A SUBJECT?

One of the primary obstacles in implementing initiatives and projects for walking and cycling is the lack of trained transport planners/transport engineers in the Municipal bodies and public works departments (PWDs). While the civil engineers, handling the laying of the roads as well as other infrastructure like water, sewerage etc, are trained to design blacktop and concrete roads, they do not have the training to plan and design footpaths and cycle tracks. In the 28 cities interviewed civil engineers handle all transport related activities in a majority of the cities and only 2 cities had a transport planner.

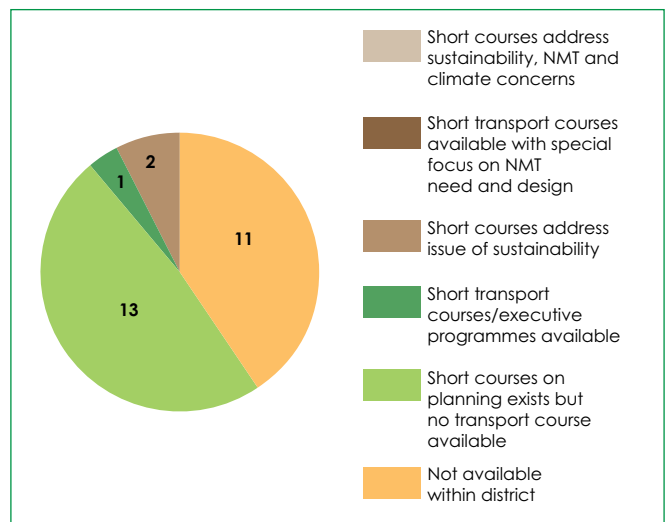


### DOES CITY STAFF HAVE ACCESS TO CAPACITY BUILDING PROGRAMMES?

Since lack of planning and engineering capacity has been highlighted as an obstacle in the earlier discussion it is necessary to assess if formats of capacity building exist in the country. Urban transport education is a relatively new phenomenon in the country and the planning for walking and cycling, low carbon transport and other such debates have not yet become a part of the educational curriculum. The interview findings show that there is a clear lack of any comprehensive NMT or even transport courses in most cities.

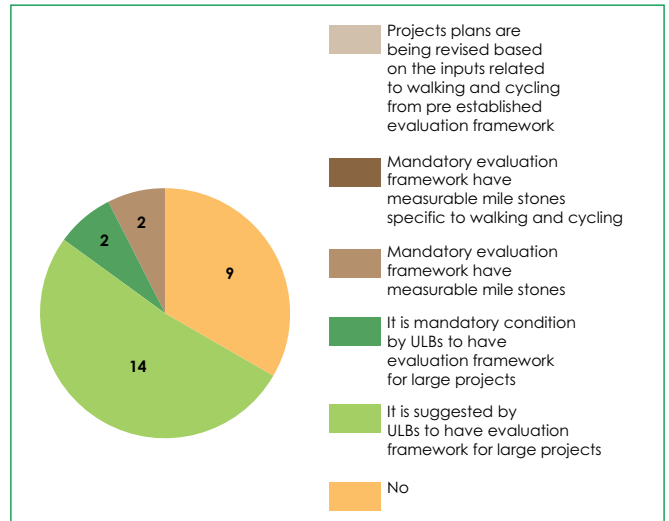
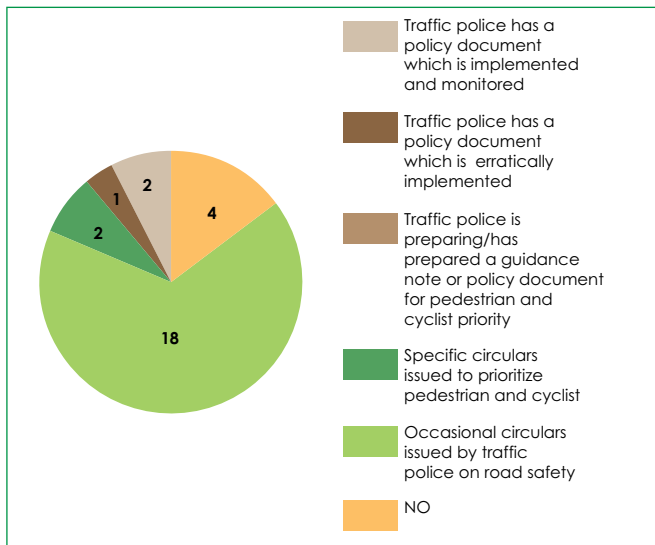
### IS THERE A SEPARATE BUDGETARY ALLOCATION FOR NMT?

A majority of the municipalities in India have a separate budget head for roads in the municipal budget. Though footpaths and cycle-tracks are considered a part of laying and maintaining roads, the budget is usually spent on the carriageway only, the footpath being too complex to lay because of its micro-detail oriented requirements, conflicting usage and low importance. The 12th five year plan is now laying emphasis on a separate budgetary outlay for NMT infrastructure; of the surveyed cities only 3 cities assessed had a separate allocation for NMT.



### IS NMT A CLEAR PRIORITY OF THE TRAFFIC POLICE?

Provision of NMT infrastructure is of no use to its users if not protected from encroachment by other users – parked cars and extended shop fronts, garbage and construction debris; and motorcycles using footpaths and cycle tracks to bypass congestion at intersection are clear issues of enforcement which require the traffic police of each city to be proactive about protecting the rights of the people walking and cycling. The interview findings show that NMT is not clearly outlined as a priority for traffic police.

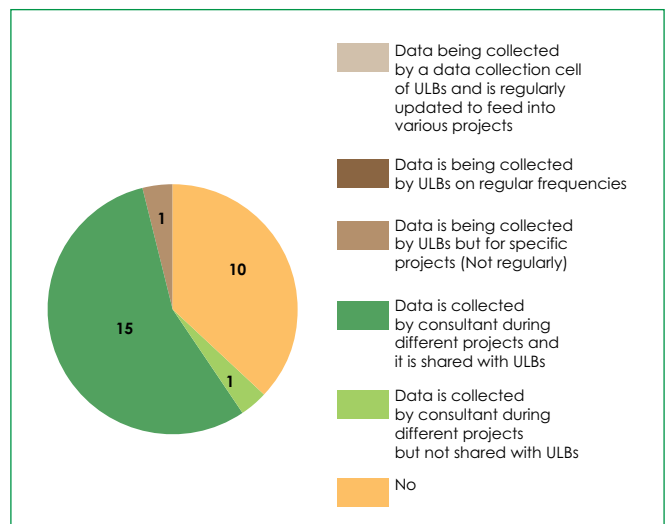


### IS NMT DATA COLLECTED IN THE CITY ON A REGULAR BASIS?

The prerequisite for planning urban transport infrastructure is the availability of updated data. This requires that transportation and land use related data be collected on a regular basis in a usable format, is maintained by the city in a repository database and is available for planning needs when required. This effort, while a common practice in most developed cities, is missing in most Indian cities and needs to be instituted at priority. The interview results show that no city collects NMT information, and has no protocol to do so.

### IS THERE AN EVALUATION FRAMEWORK IN PLACE FOR LARGE PROJECTS?

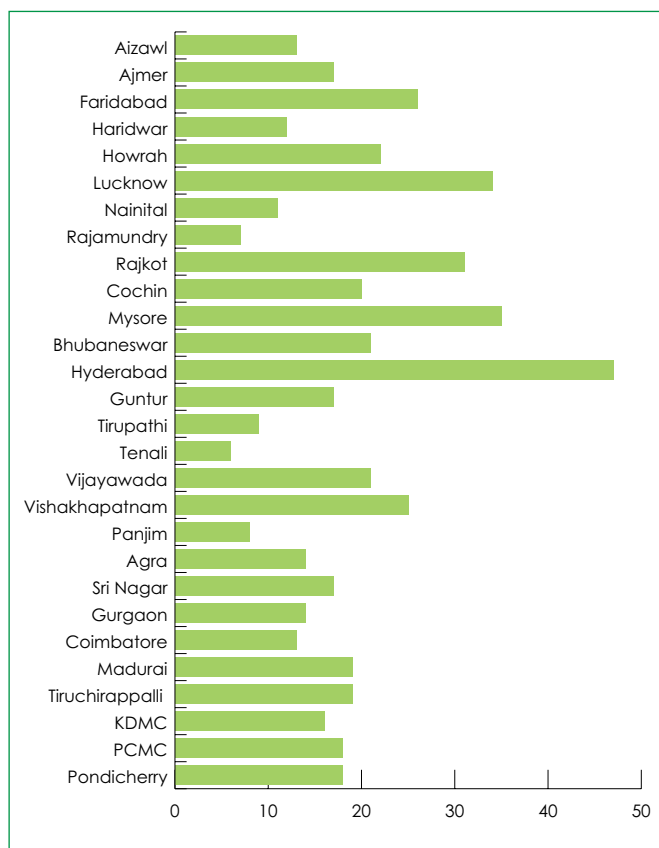
Large and medium sized infrastructure projects in the city – suburban townships, new colonies, malls, commercial districts, colleges and other institutions and even schools – impact the traffic patterns in the city. While most of the larger sized projects do have a mandatory EIA, the impact of the project on socially disadvantaged groups and heritage areas is not evaluated. Also missing is a traffic impact assessment and mitigation measures need to counteract the change in traffic flow requirements and patterns. As a result the unprecedented increase in traffic leads to road widening and flyover type of projects which have a strong negative impact on the pedestrians and cyclists (and the city as a whole). The interviews clearly showed that an overwhelming majority of the cities had no evaluation frameworks.



## FINDINGS SET 2: OVERALL COMPARISONS BETWEEN GROUPS OF CITIES

Comparisons across all 28 assessed cities enables conclusions to be drawn across the country: how do cities perform in relation to one another, are there any similarities in the results between cities with similar criteria? This analysis throws light on existing conditions in a way that enabled the framing of the recommendations and the way forward.

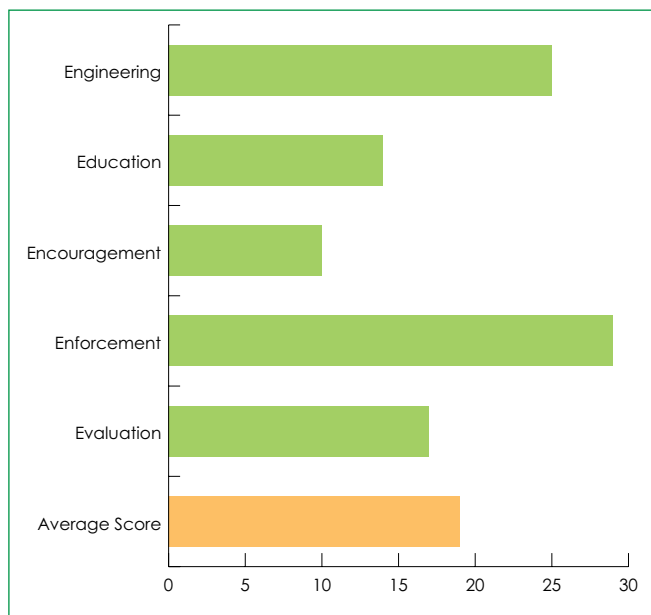
### OVERALL READINESS SCORE (%)



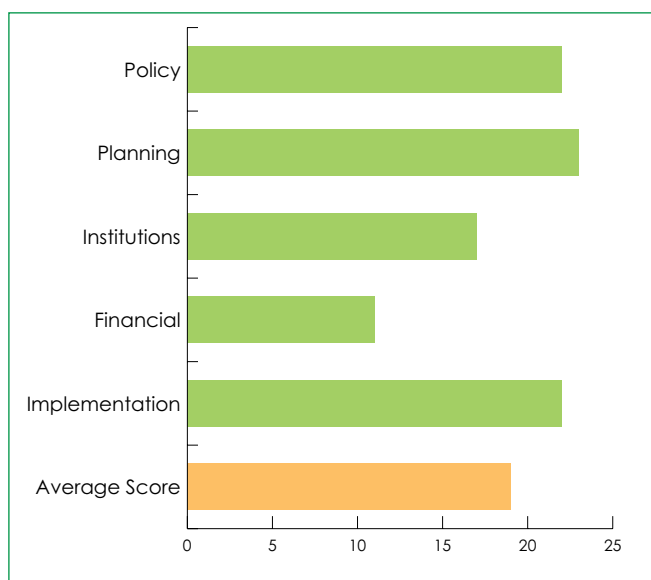
- All cities score below 50% in the overall assessment
- Best (relatively) performing cities: Hyderabad, Lucknow, Mysore and Rajkot

### AVERAGE SCORE OF READINESS ACROSS 5 Es

- Average readiness score of enforcement is high as clearer governance structures in this area are an important contributing factor: making them more prepared to enforce pro-NMT policies, even if they currently do not
- Most cities have a good execution capacity, thereby bringing up the engineering scores across cities.

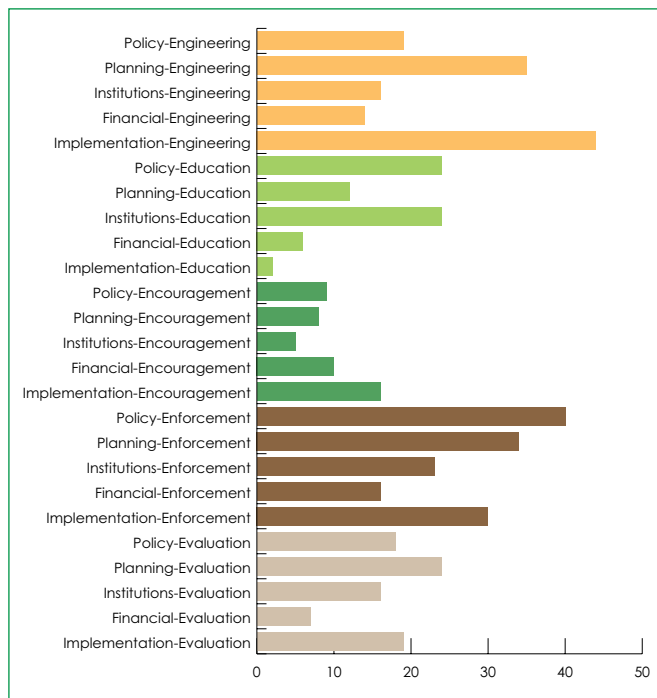


### AVERAGE SCORE OF READINESS ACROSS 5 VERTICALS



- Financial readiness is the primary pulling down factor
- Implementation readiness is high even with the low financial as implementation is done even with non-city funds.
- NMT or even transport does not typically figure in city budgets, but development authorities some times have a head for transportation.
- Almost no city has a transport planner/NMT planner on board: which is a key factor to improve readiness from a capacity level.

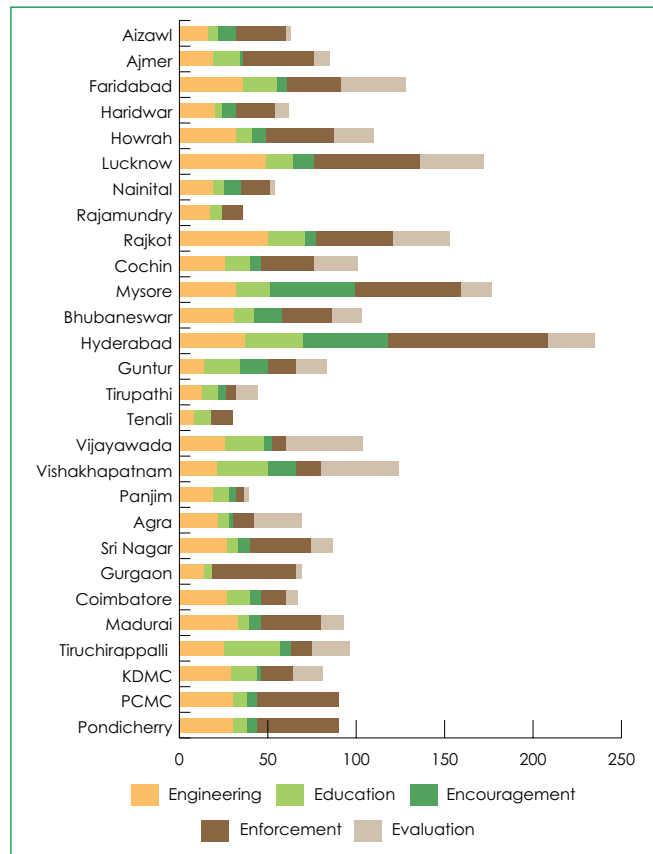
## AVERAGE PERFORMANCE ACROSS ALL CITIES OF EACH E AND VERTICAL



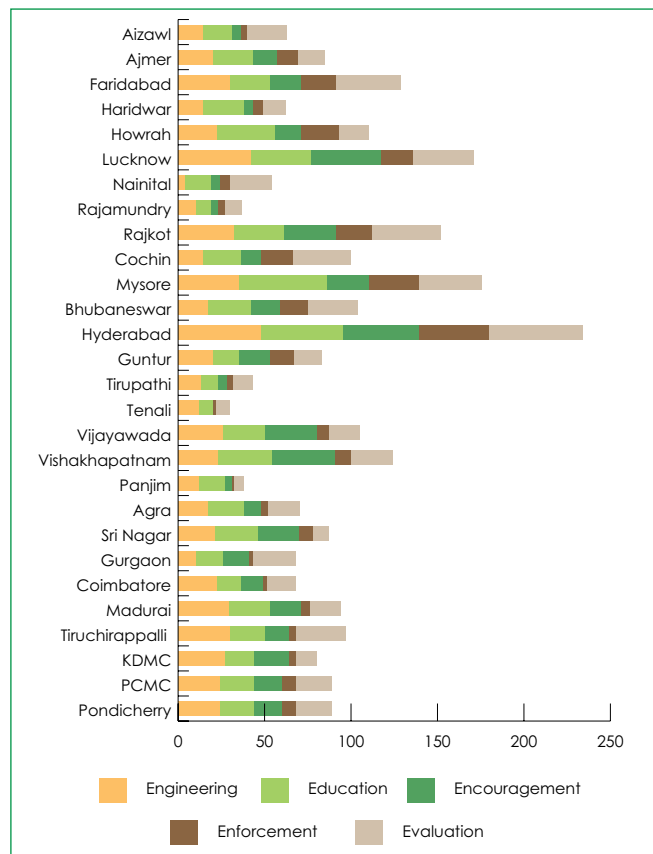
- **Engineering and enforcement readiness is relatively higher** as the cities have development plans and strong willingness of traffic police towards road safety.
- **Encouragement appears least** as promotion of NMT specifically is not common across cities (even when road safety is an addressed concern)
- Implementation- Education has lowest score among all.
- **Financial readiness** across all Es is a pulling down factor as the city budget typically doesn't specify importance to NMT

### CITY READINESS IN EACH OF THE 5 Es

- Encouragement activities in Hyderabad and Mysore place them above others.
- Enforcement readiness is high in general across all cities.
- Education readiness is low across cities as there is lack of short courses, training programs and a pro-NMT orientation for all sectors of the community.

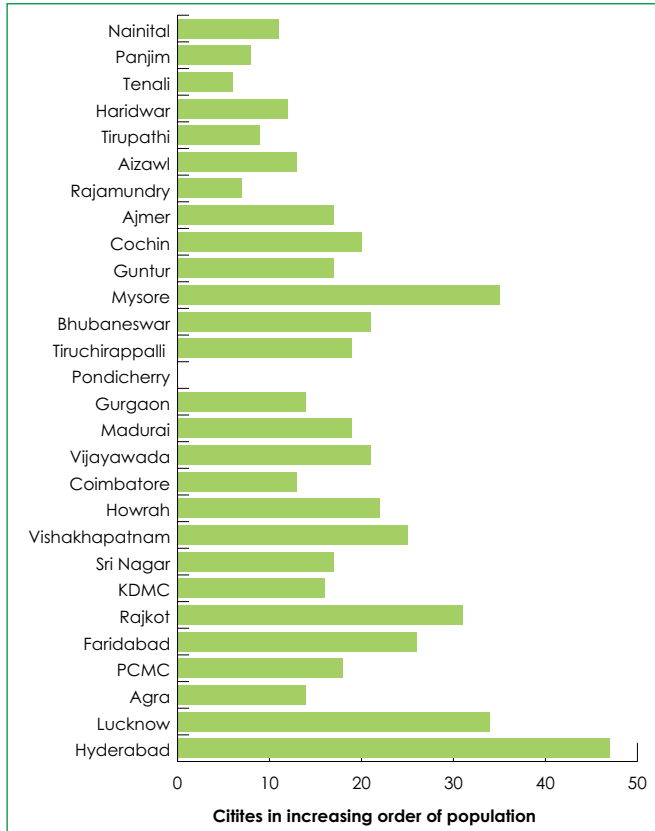


### CITY READINESS ACROSS THE 5 VERTICALS



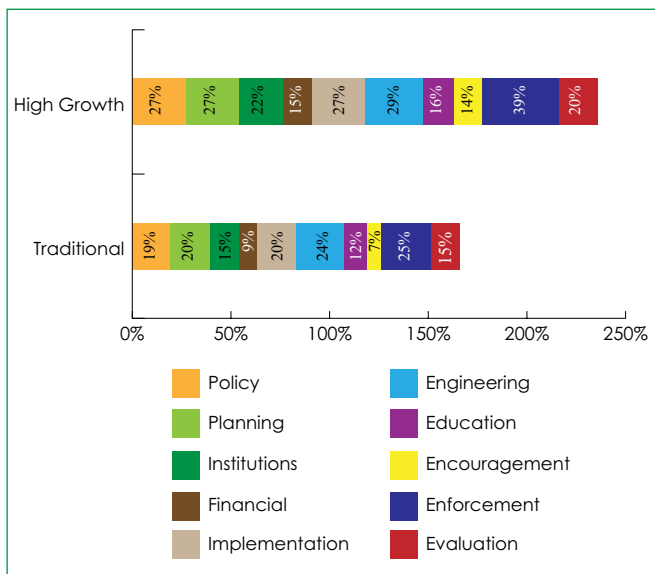
- Hyderabad, Mysore and Lucknow have high scores in policy readiness as they have already interventions such as heritage plans which boosted them.
- Financial readiness is low across all cities

### NMT READINESS WITH GROWING POPULATION



- With some exceptions, the general trend indicates an increase in overall readiness with an increase in city population

### TRADITIONAL CITIES VS HIGH GROWTH CITIES

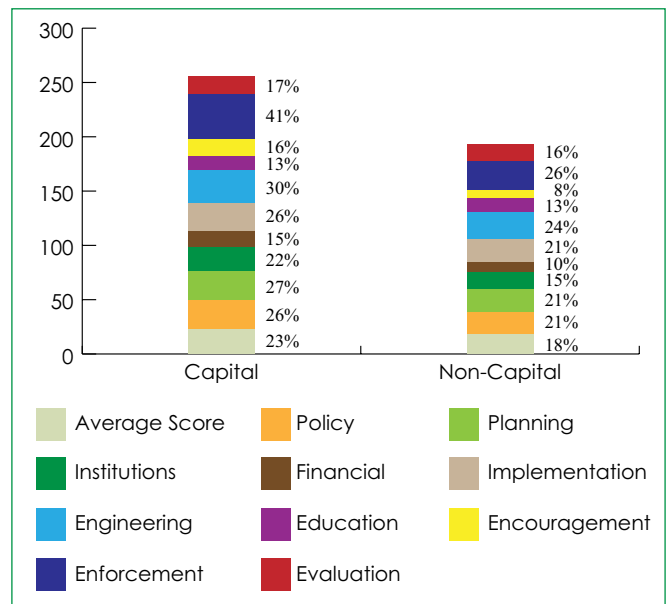


### HIGH GROWTH CITIES FARED BETTER THAN TRADITIONAL CITIES

**High Growth:** Faridabad, Howrah, Mysore, Hyderabad, Vijayawada, Gurgaon, Coimbatore, KDMC, PCMC

**Traditional:** Aizawl, Ajmer, Haridwar, Lucknow, Nainital, Rajamundry, Rajkot, Cochin, Bhubaneswar, Guntur, Tirupathi, Tenali, Vishakhapatnam, Panjim, Agra, Srinagar, Madurai, Tiruchirappalli

### STATE CAPITALS VS NON-CAPITALS



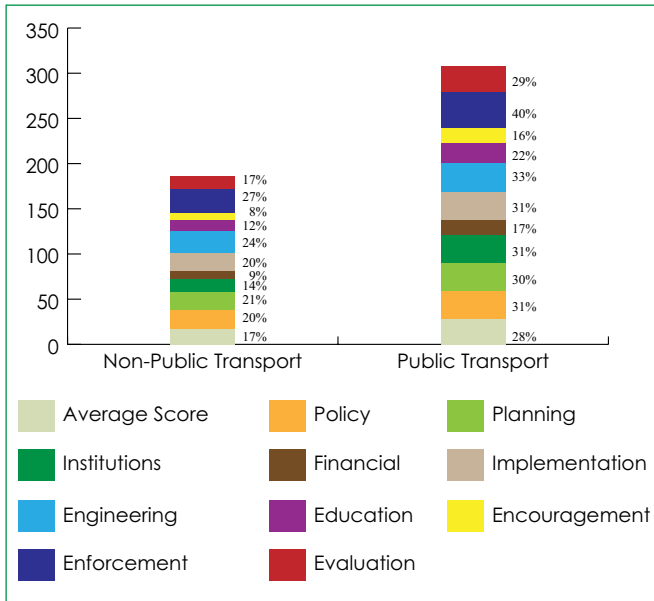
Capital Cities are better ready in general and significantly high on enforcement and encouragement readiness

**Capital:** Aizawl, Lucknow, Bhubaneswar, Hyderabad, Panjim, Srinagar

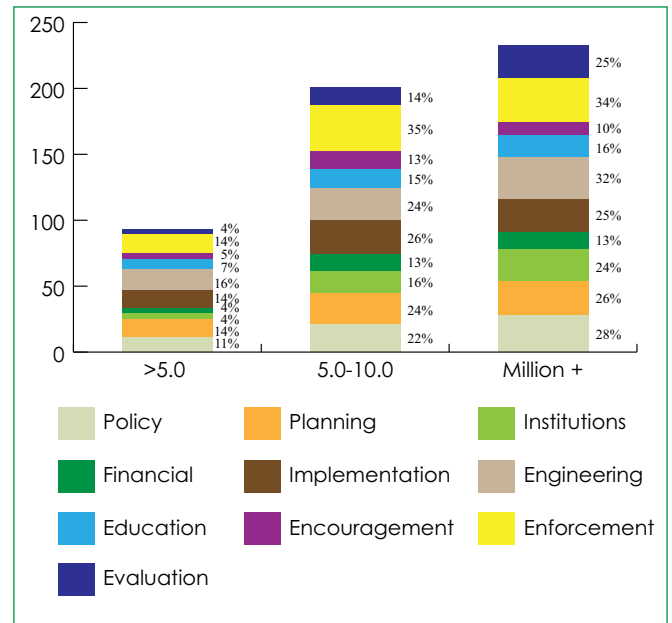
**Non-Capital:** Ajmer, Faridabad, Haridwar, Howrah, Nainital, Rajamundry, Rajkot, Cochin, Mysore, Guntur, Tirupathi, Tenali, Vijayawada, Vishakhapatnam, Agra, Gurgaon, Coimbatore, Madurai, Tiruchirappalli, KDMC, PCMC

### PUBLIC TRANSPORT VS NON-PUBLIC TRANSPORT CITIES

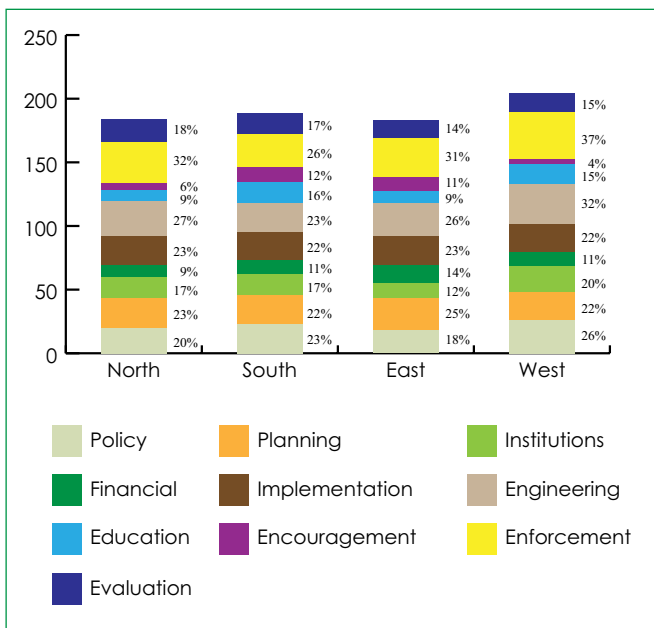
- Cities with public transport are more ready on all counts but significantly higher in education, enforcement and institutional support
- Public Transport (BRT or Metro): Rajkot, Hyderabad, Vijayawada, Vishakhapatnam, PCMC,
- Non-Public Transport: Aizawl, Ajmer, Faridabad, Haridwar, Howrah, Lucknow, Nainital, Rajamundry, Cochin, Mysore, Bhubaneswar, Guntur, Tirupathi, Tenali, Panjim, Agra, Srinagar, Gurgaon, Coimbatore, Madurai, Tiruchirappalli, KDMC



### SMALLER CITIES VS LARGER CITIES



### NORTH, SOUTH, EAST AND WEST CITIES



- Score across the parameter increases with population except for implementation and encouragement aspects (5-10 lakhs population towns/cities has scored higher as compared to million plus cities). Enforcement score is equal in case of cities above 5 lakhs population.
- <5 lakhs:** Nainital, Panjim, Tenali, Haridwar, Tirupathi, Aizawl
- 5-10 lakhs:** Rajamundry, Ajmer, Cochin, Guntur, Mysore, Bhubaneswar, Tiruchirappalli, Gurgaon
- 1 Million plus:** Madurai, Vijayawada, Coimbatore, Howrah, Vishakhapatnam, Srinagar, KDMC, Rajkot, Faridabad, Agra, Lucknow, Hyderabad, Pimpri Chinchwad

- Western cities a small percentage more ready
- North Cities:** Srinagar, Gurgaon, Faridabad, Ajmer, Lucknow, Agra
- South Cities:** Hyderabad, Vishakapatnam, Vijayawada, Guntur, Tenali, Rajamundry, Tirupathi, Mysore, Coimbatore, Cochin, Madurai, Trichy, Pondicherry
- East Cities:** Bhubaneswar, Howrah, Aizawl, Nainital, Haridwar
- West Cities:** KDMC, PCMC, Rajkot, Panaji

### FINDINGS SET 3: CITY LEVEL INTERACTIONS/INTERVIEWS/DISCUSSIONS

- During festivals - markets/ temples/dargahs and surrounding areas in some cities turn **non-motorized for certain periods**
- City officials are **wary of taking away car space** on already congested roads
- Better speed for cars** in the city is the primary concern.
- Motorbikes a rising number – **social aspirations and safety concerns** taking away from NMT

- **Financial support** sought by cities with capacity building support. Most cities can give institutional support on condition of technical support
- Cities prefer **simple solutions** (low cost, low tech; time and effort intensive)
- Umbrella issue of **public transport needs to be addressed** for NMT to succeed—improved para-transit, etc with support on route rationalization.
- NMT routes being provided in newer areas such as BRT corridors or in recreation areas but **enforcement is an issue**, encroachment, parked vehicles discourage usage

## CONCLUSIONS

- Majority of cities do not have a city transport policy or vision
- Civil engineers typically handle aspects of transport in the city governments
- Most cities do not have a separate budget allocation for NMT. It is within the roads budget
- There is a lack of NMT, and even transport, courses accessible to city government teams
- NMT is not a clear priority of the traffic police
- A majority of cities have no evaluation framework
- Cities do not regularly and comprehensively collect NMT data
- All cities have scored below 50%
- Average readiness score of enforcement is higher due to clearer governance structures
- Financial readiness is the pulling down factor across cities
- Almost no city has a transport/NMT planner on board
- Promotion of NMT specifically is not common in any of the cities
- Education readiness is low across cities as there is a shortage of short courses, QIPs, etc
- The general trend is that readiness increases with city population
- High growth cities performed better than traditional cities
- State capitals are more ready than non-capitals
- Cities with more developed public transport systems are more ready
- Cities with populations less than 5 lakhs are significantly less ready



## RECOMMENDATIONS

The study has been designed to understand the readiness assessment of the Indian cities to implement policy and planning measures to include and promote walking and cycling in the mainstream of urban transport intervention. The assessment of the status of the cities vis-à-vis the goals of sustainable urban transport, through this study brings us to the next step of recommending what needs to be done. Since urban transport is a State subject, implemented at the City level but often the policy and funds flow from the National level, it is important that we look at the recommendations in a disaggregated manner at several levels. The multiplicity of authorities and agencies dealing with urban transport at different levels makes the task even more complex in its execution. The following table gives a snapshot of these recommendations which are elaborated further on. These recommendations have been to the Ministry of Urban Development, Government of India for their consideration and further action.

	Policy	Planning	Financial	Institutional	Implementation
<b>Central government level recommendations</b>	NUTP revision	Creation of more COEs in UT with explicit funds for research in NMT	Budgetary provision for NMT promotion programme	Masters programme in urban transport	M&E team to monitor all urban transport projects being implemented with Central Funding for NUTP compliance
	Revised NUTP dissemination	IUT conducts continuous executed courses on NMT planning and design at each state level	Fund allocation under GEF SUTP, JnNURM and other programs for pilot projects on NMT in many cities		
	Environment science curriculum revised				
	Motor Vehicles Act revision				
<b>State government level recommendations</b>	SUTP to be developed	Master plan aligned with CMP	Clear guidelines of revenue and utilization in urban transport eg the UTF, using parking revenues to fund footpaths	Setting up of State level UMTAs to support medium and small cities in UT projects	Road design and safety cell to monitor design and implementation of highways passing urban areas for provision of safe and convenient infrastructure for pedestrians and cyclists
	The traffic parks programme to be revised	Road safety programme to be revised	Penalty revision for infringement of rights of NMT users	State level experts panel for designing and implementing SUTP projects	
		Traffic police included in evaluation committee			
		Awareness programmes for respect to NMT			



	Policy	Planning	Financial	Institutional	Implementation
<b>Local government level recommendation</b>	The traffic parks programme to be revised	Comprehensive street design guidelines for state and city	Separate allocation for NMT	Urban transport cell or department	Comprehensive NMT mapping and documentation
	NMT promotion campaigns	City level NMT maps	Financial support to NMT NGOs	Support to NMT NGOs	Implementation to be monitored for compliance with street design guidelines
	Enforcement of penalties for encroachment	NMT data collection on regular basis	Budgetary provision for NMT promotion programme	Safe routes to school programmes	NMT in city government website
	Comprehensive evaluation framework for large projects		Mandatory budget allocation for NMT impact evaluation		Car-free days, etc
					Short executive programmes
					Formal PR/media partner for NMT

## RECOMMENDATIONS AT THE CENTRAL GOVERNMENT LEVEL

### POLICY RECOMMENDATIONS

The NUTP revision should include a strong focus on not just NMT, but also low carbon mobility, heritage and road safety.

**Description:** While the importance of NMT in Indian cities is known, the close relationship between public transport, heritage and road safety with NMT has become apparent through this study (cities that displayed greater readiness across these metrics displayed a greater readiness overall), and needs to be explicitly acknowledged. The NUTP needs to include description about the linkages between public transport, heritage and road safety and recommend that all new city level public transport and heritage improvement project funding include provision to retain and promote NMT

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>■ The NUTP revision team should commission some background research papers on the impact of increasing motorization on heritage buildings and traditional spaces and how most heritage areas have an inherent character which is NMT friendly and promotes sustainability with its mixed land use and narrow streets.</li> <li>■ The ongoing research on the impact of road widening, increased speeds and motorization on accidents and safety of women needs to be adequately reflected in the revised NUTP</li> </ul>

**The central government should develop a strategic plan to disseminate the revised NUTP principles**

**Description:** Dissemination of the NUTP provisions to state and city government officials is crucial to enable percolation of the principles of sustainable mobility as listed in the NUTP to the ground. Dissemination for basic awareness, complemented with comprehensive capacity building programmes are required in order to embed sustainable mobility principles from the planning and design stage all the way to the execution stage.

<b>Cost scale</b>	Medium
<b>Impact scale</b>	Medium
<b>How to</b>	<ul style="list-style-type: none"> <li>■ Involve IUT, COEs and state urban institutes to run awareness workshops elaborating what the NUTP allows and the technical and financial support that is available</li> <li>■ The policy is a national guiding document to improve the urban transport sector however at the state and city level the officials (bureaucrats and technocrats ) need to be made aware how this can be really executed</li> </ul>

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>■ Developing a bill that is a comprehensive road users bill and encourages inclusivity that can be passed as an act in the parliament</li> <li>■ Specific fines for all infringements on NMT spaces need to be stipulated which are high,</li> <li>■ Parallel programs with the traffic police to ensure awareness of revised MV act and its enforcement</li> </ul>

**Environment science curriculum in schools should be revised to include benefits of NMT**

**Description:** The environment science curriculum should be revised to have an inclusion on the benefits of walking and cycling and sustainable and low carbon lifestyles, not just from a recreational and health point of view, but from a larger climate change point of view. A majority of students in cities still walk or cycle to school; also this is a very good low carbon activity. They should be acknowledged and encouraged as such. This step will also go a long way in bringing behaviour change in the future youth and citizens.

<b>Cost scale</b>	Low
<b>Impact scale</b>	Medium
<b>How to</b>	<ul style="list-style-type: none"> <li>■ The National Council of Education Research and Training (NCERT) is the primary agency who could influence this change.</li> <li>■ The municipal schools can also include such chapters in their environment curriculum</li> <li>■ Organizations like CSE, CEE can add to the curriculum delivery with workshops and other engagement platforms with schools</li> </ul>

**The Motor Vehicles act should be revised to be a comprehensive road users' act**

**Description:** A comprehensive road users' act would enable stricter enforcement against infringement/encroachment on footpaths and cycle tracks. While the MV act currently stipulates fines/penalties for motor vehicles driving or parking on footpaths, it does not make sufficient mention of cycle tracks and priority for NMT users.

**PLANNING RECOMMENDATIONS**

**Creation of more Centres of Excellence in Urban Transport with explicit funds for research on NMT**

**Description:** In order to support the required research on NMT and related capacity building more COEs in UT will be required. The spread should be high regionally if not in all states.

<b>Cost scale</b>	High
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>■ Allocate funds and invite applications from research and capacity building institutes on Urban Transport to select one each regionally.</li> <li>■ Ensure existing COEs mentor the formation of new COEs</li> <li>■ Foster cross fertilization of ideas amongst COEs with regular seminar and shared research</li> </ul>

**IUT conducts continuous executive education courses on NMT planning and design at the state level**

**Description:** At present IUT is the only national institute that is offering executive education courses on urban transport and very few on NMT currently.



<b>Cost scale</b>	Medium
<b>Impact scale</b>	Medium
<b>How to</b>	<ul style="list-style-type: none"> <li>■ IUT should partner with local institutes and share its existing course materials, using TOT build capacity of the institute staff to deliver the same.</li> <li>■ The toolkits being developed by IUT on NMT, accessibility and road safety etc should be widely distributed and made available for reference through the short course program</li> </ul>

<b>Cost scale</b>	High
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>■ Allocate funds under current funding programs for the same by recommendation from national government.</li> <li>■ Cities should be supported to access and utilize the funds in the best possible way</li> <li>■ These projects should be submitted for contention in the UMI awards</li> </ul>

## FINANCIAL RECOMMENDATIONS

### A budgetary provision for a comprehensive walking and cycling promotion programme should be made

**Description:** In order to aid the capacity building of local governments and authorities for NMT, a budgetary provision at the central level is required, either through direct programmes undertaken by the centre (through the Institute of Urban Transport) or through grants to state and local level agencies/institutions.

<b>Cost scale</b>	Medium
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>■ Allocate funds for the same from state governments low carbon development funds or utilise the same from city improvement/beautification funds.</li> <li>■ Instituting awards and recognition for initiatives taken under this budget at the state level will encourage utilization of funds and improve visibility and transparency</li> </ul>

### Fund allocation under GEF SUTP, JNNURM and other similar programs for NMT pilots and demonstration in selected Indian cities

**Description:** While there is much talk of NMT promotion and improving NMT situation in cities, very few recent and successful examples of comprehensively implemented NMT projects exist. The current funding support programs for urban transport should ensure that they help implementation of some such projects that become pilot demonstration projects for cities.

## INSTITUTIONAL RECOMMENDATIONS

### A masters' programme in urban transport with a focus on NMT and safety should be instituted

**Description:** There is a need to ensure that all the existing masters in transport engineering and planning courses should include a subject component on NMT and road safety. Separate specializations may be instituted if possible

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>■ The UT department of the MOUD works with the HRD and education ministry to ensure that such a subject component is introduced.</li> <li>■ Well qualified professionals should be source to run these courses</li> </ul>

## IMPLEMENTATION RECOMMENDATIONS

### Monitoring and Evaluation teams to monitor all urban transport projects being implemented with central government funding for NUTP compliance

**Description:** Monitoring and Evaluation teams currently only review progress and completion of projects to report it to the MOUD. It will be useful to look at the city with the macro perspective and see how the project implementation is assisting NUTP implementation as well and that it complies with its overall recommendations.



<b>Cost scale</b>	Medium
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>■ The M and E team of the MOUD-UT develops relevant evaluation criteria format and shares the same with cities applying for central government funding in future.</li> <li>■ The Independent Review and Monitoring Agency (IRMA) teams constituted at the state level should be given evaluations protocols to monitor the projects and as with other projects their clearance be made mandatory for disbursement of funds.</li> </ul>

## RECOMMENDATIONS AT THE STATE GOVERNMENT LEVEL

### POLICY RECOMMENDATIONS

**SUTPs must be developed and should include a strong focus on not just NMT, but also low carbon mobility, heritage and road safety**

**Description:** While the importance of NMT in Indian cities is known, the close relationship between public transport, heritage and road safety with NMT has become apparent through this study (cities that displayed greater readiness across these metrics displayed a greater readiness overall), and needs to be explicitly stated. SUTPs are required in order to tailor the provisions of the NMT to the particular requirements of each state, prioritizing the pressing needs of that state's cities.

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>■ Work with the various line ministries and departments at the state involved with urban transport such as Urban Development, Municipal administration, transport, PWD, TCPO and Traffic police to introduce an SUTP in line with the NUTP 2006 that defines a clear vision and roles and responsibilities for each department.</li> </ul>

**The traffic parks operated by the Regional Transport Offices must have bicycle usage and training institutes incorporated, along with a school level programme undertaken with the traffic police department to promote walking and cycling.**

**Description:** Interviews with key city officials in the cities (especially the smaller cities) revealed that large numbers of local citizens still regularly walk and cycle. In cities like Mysore, children still use bicycles as a predominant mode of commuting to school. Some cities, such as Hyderabad and Mysore, are already addressing this component through summer programmes for school students.

<b>Cost scale</b>	Low
<b>Impact scale</b>	Medium
<b>How to</b>	<ul style="list-style-type: none"> <li>■ Recommendation letter from the state transport department and traffic police to initiate training activities and summer programs through PPP/CSR support or with some seed funding to support the same from the state.</li> </ul>

### PLANNING RECOMMENDATIONS

**A city's master planning process should be aligned with its CMP in order to have a city NMT master plan (refer to the SUTP), that takes into account recreational routes, heritage, barrier free environment and pedestrian zones to have a comprehensive plan for urban transport in city.**

**Description:** At present the CMP remains a standalone document that looks at the urban transport situation in a city and based on a vision proposes future actions (mainly projects), funded through the national government (JNNURM). For the CMP to have a lasting impact it is important that the CMP is based on the current/proposed master plan of the city and feeds into the same having a legal planning impact.

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>■ The TOR for preparing the CMP should include a brief mention that it has to be based on the current or proposed master plan and that the final document should be submitted to the state (TCPO) for inclusion into the master plan. This will ensure that future spending on urban transport by the ULB or the state in the city will help the realisation of the CMP recommendations. This is of course only useful when the CMPs include NMT infrastructure vision and projects in it.</li> </ul>

The formal road safety programmes conducted must be revised to include components on respect of cyclists and pedestrians.

**Description:** The study revealed that large numbers of local populations (especially in smaller cities) still walk and cycle regularly, even for commuting to school and work. With increasing motorization, it is crucial that motorists learn to cultivate sensitivity to their fellow road users.

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>Drivers license tests should also include mandatory components on respect of cyclists and pedestrians. This should include information like who has the first right on the road.</li> </ul>

The traffic police should be a part of the committee that audits designs for road safety (part of evaluation committee)

**Description:** The committees that audit and recommend projects at the city level consist of the PWD, ULB and development authority primarily and the Traffic police are involved after the decision has been taken to enforce and manage the changes. It is important that the Traffic police is also consulted before such decisions are taken.

<b>Cost scale</b>	Low
<b>Impact scale</b>	Medium
<b>How to</b>	<ul style="list-style-type: none"> <li>The state government should inform (through GO or a circular) city officials to include traffic police in such committees.</li> </ul>

The traffic police should have a continuous/regular program on awareness towards safety for pedestrians and cyclists – undertaken in collaboration with the city corporation, if relevant

**Description:** Most traffic police programs on safety are held during the annual safety week in January or during summer vacations in schools.

<b>Cost scale</b>	Medium
<b>Impact scale</b>	Medium
<b>How to</b>	<ul style="list-style-type: none"> <li>There needs to be a regular program based on an annual program and could also be provided online as a certificate program on the city traffic police website developed by the state government.</li> </ul>

## FINANCIAL RECOMMENDATIONS

Clear guidelines of revenue generation and utilisation in urban transport

**Description:** for example the Urban Transport Fund (UTF as is being proposed) using the parking revenue and ensuring that this revenue is utilised for foot path improvements.

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>State government can clearly provide for this while setting up the STF or mention the same in the SUTP.</li> </ul>

Penalty revision for infringement of rights of NMT users

**Description:** At present the fines/penalties for such infringement is so low that it hardly acts as a deterrent also it does not get any revenue to the city.

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>State government can clearly provide for this while setting up the STF and mention the same in the SUTP.</li> </ul>

## INSTITUTIONAL RECOMMENDATIONS

State level UMTAs need to be set up to support small and medium cities for urban transport projects

**Description:** At present the small and medium cities have a major dearth in capacities to handle urban transport and plan for long term improvements

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>The state government should ensure that the state level UMTAs are set up for small and medium cities with immediate effect. The UMTAs being set up presently focus on large city areas.</li> </ul>

Setting up of the state level experts panel and working group for designing and implementing SUTP projects

**Description:** even if the State urban transport policy is developed and passed there is little possibility of it effecting change unless someone is overseeing its implementation. A state level experts' panel and working panel with a mandate to ensure SUTP implementation would help the same.

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>Include the same as key requirements under the SUTP and set up the committee and working group.</li> </ul>

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>The city should conduct regular campaigns to promote walking and cycling and road safety in the city, revise the encroachment penalty with public consultation and enforce it actively.</li> </ul>

## IMPLEMENTATION RECOMMENDATIONS

**Road design and safety cell to monitor and design and implementation of all highways passing urban areas for the provision of safe and convenient infrastructure for pedestrians and cyclists as priority.**

**Description:** most small and medium cities have large number of highways passing the the city and as the highways department follows a high speed and safety for motorists mandate the safty and convenience of local road users gets sidelined

**For all large projects being planned and implemented in the city, the city corporation (or state government) must have an evaluation framework including traffic, social and environmental impact assessments, heritage impact assessment and NMT impact assessment.**

**Description:** at present large projects are mainly evaluated for environment impact assessment at the national level and local governments are hardly involved. It would ne useful if city government locally require new large projects to evaluated for traffic, social, environmental and heritage impacts

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>Mention this requirement in the SUTP and ensure that cell has appropriate technical capacity to monitor.</li> </ul>

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>The city government can develop a common framework for evaluation and allow a mandatory report by third party non profit organisation – institute, NGO or local CSO</li> </ul>

## RECOMMENDATIONS AT THE LOCAL GOVERNMENT LEVEL

### POLICY RECOMMENDATIONS

**The traffic parks operated by the Regional Transport Offices must have bicycle usage and training institutes incorporated, along with a school level programme undertaken with the traffic police department to promote walking and cycling** (refer state recommendations).

**The city government should revise and enforce penalties for encroachment of ROW**

**Description:** there are existing penalties for encroachment of footpaths and roads, which are low and hardly enforced. These penalties should be revised and enforced with rigor. In addition to the traffic police, the city corporation can also jointly work to enforce penalties for encroachments.

### PLANNING RECOMMENDATIONS

**The city, if of a sufficiently large size and with sufficient capacity, or state government, in the case of smaller cities, must work to develop comprehensive street design guidelines for the state and city.**

**Description:** At present no cities maintain a standard local guideline on street and urban road design and so the construction on site is based on site conditions broadly following PWD norms

<b>Cost scale</b>	Low
<b>Impact scale</b>	Medium
<b>How to</b>	<ul style="list-style-type: none"> <li>The State government should develop a state level street design guideline that can be localised for each city based on their local conditions broadly laying down minimum standards that need to be followed.</li> </ul>

**An established NMT cell/department in the city corporation must regularly collect NMT data and update and feed into relevant projects**

**Description:** The urban transport data in cities is only collected when a project report is being prepared. This data usually does not include NMT numbers and not regularly update as well. It is important that a designated person be made responsible for maintaining this database annually and compiles all relevant information from local sources.

<b>Cost scale</b>	Medium
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>Designate an official/UMTA/NMT Cell for the work and continue collecting this data. This data should be available in the public domain. Set up a web-based data interface</li> </ul>

**FINANCIAL RECOMMENDATIONS**

**There must be a separate allocation for NMT (infrastructure, parking, vending zones, public zones) in the city budget**

**Description:** though many cities today have budgets for beautification and road improvements these do not specifically include the NMT component

<b>Cost scale</b>	High
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>The annual budget should have a subhead on NMT under the roads improvement head to ensure that some budget is allocated to the same and so some NMT infrastructure in developed using corporation/council budget.</li> </ul>

**The city corporation should work to allocate and provide financial support to NGOs/partner working towards promotion of NMT**

**Description:** NGOs are often keen on working for road safety and NMT promotion and lack funding support and in case they source the funding on their own the involvement from the city is little as the NGO's work is considered their own mandate. The financial involvement of the corporation ensures ownership from the city and also acts as a quality check mechanism.

<b>Cost scale</b>	Medium
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>The ULBs in their annual budget for road improvements and awareness activities should keep aside part of the allocation for awareness and promotion activities and involve partners/NGOs for the same. In the absence of such provisions the corporation can also use their PPP partners to support NGO's for such activities as a part of their CSR.</li> </ul>

**A budgetary provision for walking and cycling promotion programs at the local level should be made, including grants by the state and central government.**

**Description:** what gets budgeted gets acted upon, and so it is important that NMT promotion programs get to be part of the Municipal Budget cycle. This also ensure an internal debate at the council meeting on how and what needs to be done and why.

<b>Cost scale</b>	Low
<b>Impact scale</b>	Medium
<b>How to</b>	<ul style="list-style-type: none"> <li>Grants by the state and center for urban roads improvement should include heads on NMT promotion and so would eventually become a part of the municipal budget cycle as well.</li> </ul>

**Large projects being planned or executed in the city must set aside a mandatory budget for impact evaluation with a specified focus on ecomobility**

**Description:** At present large projects in the city only undergo the mandatory Environmental Impact Assessment and if externally funded look at Social Impact assessment.

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>The State should recommend that all new large projects will keep part of their project cost aside with the district transport committee for impact evaluation – mainly ecomobility.</li> </ul>

## INSTITUTIONAL RECOMMENDATIONS

### An urban transport cell or division must be set up at the city level with an NMT specialization and focus.

**Description:** Almost no capacity exists in cities to deal with urban transport issues. Municipal civil engineers can oversee design and implementation of roads and flyovers but better understanding on urban transport is missing.

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>A division or cell on urban transport must be set up in each large city (maybe as a part of the development authority) that advises the city (ULB, DA, PWD, TP) on urban transport issues and solutions.</li> </ul>

### The city corporation should work to allocate and provide financial and other support to NGOs/partner working towards promotion of NMT

**Description:** At present hardly any NGO/CSO engagement in city for NMT promotion exists, even though they can play a very relevant role.

<b>Cost scale</b>	Medium
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>ULBs can allocate part of their road improvement budget to involve local NGO/CSOs for spreading awareness on promotion of road safety/ NMT. This budget can also be collected as CSR from local Business houses.</li> </ul>

### The city government should work to launch a 'safe routes to school' program along with the participation of all schools in the city

**Description:** Majority of school children walk and cycle to schools and it would help if the city government would identify key routes to schools that could be made motorised vehicle free or slow speed zone during school hours.

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>Work with the schools and PTA's to identify routes that are most used. And discuss with local community to mark it as safe route – putting some decided restrictions on certain kind of movement during school hours...announce the same in media.</li> </ul>

### State or city level institutes should provide short executive programs to build capacities of the engineers and planners and all relevant city agencies (corporations/ council, development authorities, traffic police) already in service.

**Description:** there is a need to make existing staff in cities aware of the need to include NMT while planning and implementation activities, also their capacities need to be built on how this can be best done.

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>Work with the IUT to provide such executive programs over the web and at regional training centres by TOT programs.</li> </ul>

## IMPLEMENTATION RECOMMENDATIONS

### The city government should work to prepare city level maps showing walking and cycling routes in the city including qualitative information about safe linkages, etc; this mapping exercise should also be linked to planned or existing heritage walks/tour routes (sometimes prepared by the tourism department) The city government must work to document and map the existing NMT situation (including waterways) and infrastructure and create projects for improvement and maintenance.

**Description:** Many traditional NMT routes exist in cities that get disrupted as there is no documentation. In any case primarily NMT roads in traditional core areas in a city need to be retained for their heritage value and low carbon character.

<b>Cost scale</b>	Medium
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>Map and document such routes on land and water and ensure that they are properly maintained and retained.</li> </ul>



**Implementation of drawings for planned projects should be monitored by the city government to ensure that footpaths and cycle tracks are not compromised and that they follow Street Design Guidelines.**

**Description:** many times the good for construction drawings follow the required foot path and NMT lane aspects but based on existing site conditions and due to the difficulty (and effort required) to implement these, the foot paths are compromised in size and quality.

<b>Cost scale</b>	Medium
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>Municipal engineers should ensure that the construction and as per the design. Large percentage of money should be paid to the contractor after the work is done and over 20% should be released only after the defect liability period is over.</li> </ul>

**The city government website must contain information on walking and cycling, describing the basic guidelines, any available policies, safe routes, etc. with an integration of the maps and documentation about the existing NMT situation and routes**

**Description:** though some cities have walking zones and primarily NMT zones these are not listed or shown on the city website as such. Often many young NMT enthusiasts want to cycle/walk in the city but are not aware about such spaces existing in the city.

<b>Cost scale</b>	Low
<b>Impact scale</b>	Medium
<b>How to</b>	<ul style="list-style-type: none"> <li>To begin by measuring and mapping the existing NMT routes and feature it on the ULB website as such.</li> </ul>

**The city government must encourage and support car-free days/cycloths, etc**

**Description:** though vehicle usage in various Indian cities on some occasions reduces considerably it is not linked to NMT promotion.

<b>Cost scale</b>	Medium
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>The city government can use innovative ways to introduce car free days and cycloths in the city – say car free day on Vishwakarma day or Christmas day and cycloths on earth day. Or organise the same to mark an important local day/event.</li> </ul>

**State or city level institutes should provide short executive programs to build capacities of the engineers and planners and all relevant city agencies (corporations/council, development authorities, traffic police) already in service.**

**Description:** Such programs do not exist though the IUT has started developing and testing the same. They need to be shared regionally/locally and training for trainers needs to be provided.

<b>Cost scale</b>	Medium
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>IUT can share course material for such trainings with COE;s and regional urban institutes and train the trainers to offer such short executive programs.</li> </ul>

**The city should have formal PR/media partners to promote NMT in a structured and consistent manner**

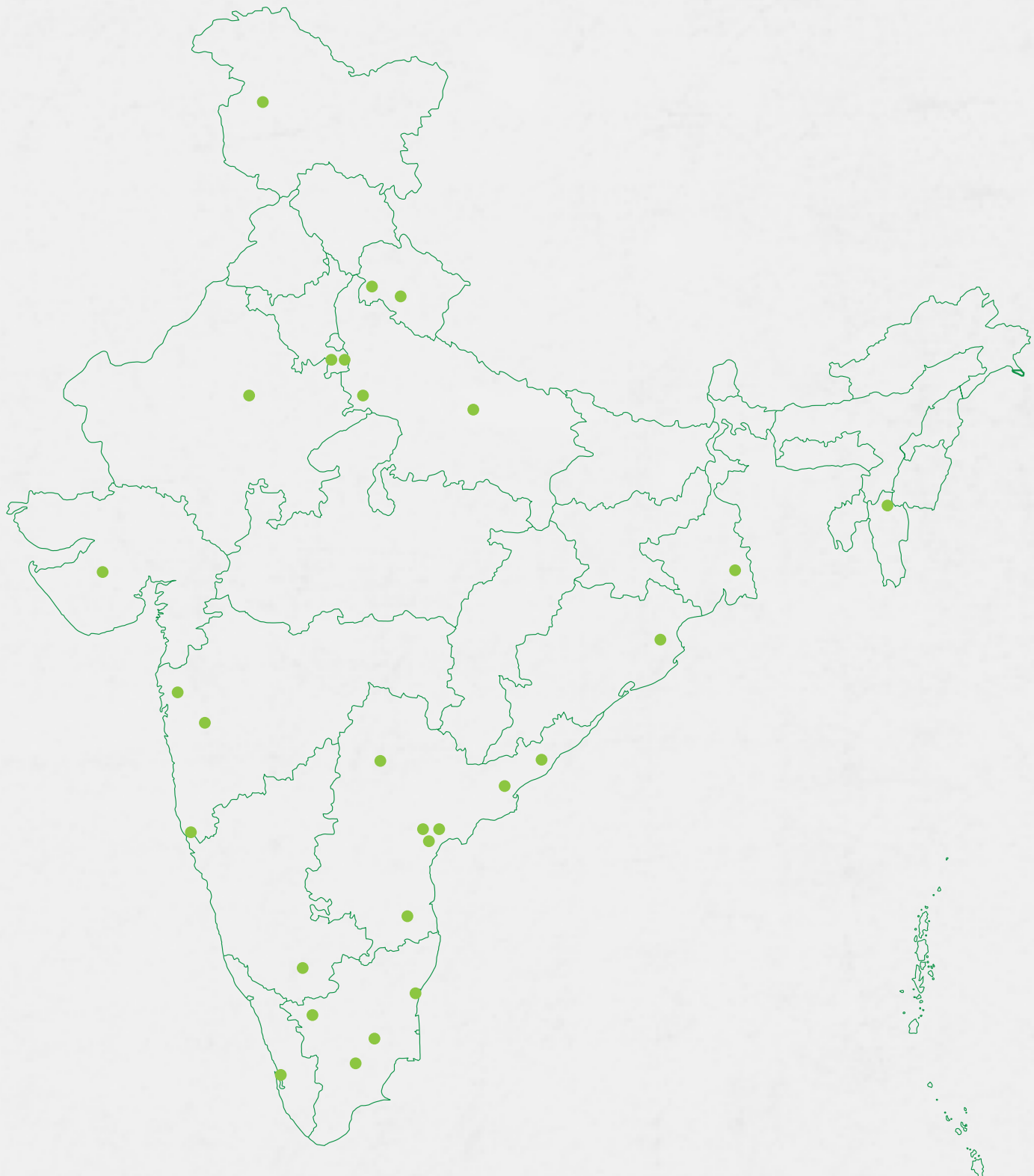
**Description:** The cities have partnership with the media in an informal way to communicate information as required. It would help to agree on a stand to promote NMT and use it to communicate with the media in future.

<b>Cost scale</b>	Low
<b>Impact scale</b>	High
<b>How to</b>	<ul style="list-style-type: none"> <li>Have a communication strategy for the city developed on mobility in general with a specific component on NMT to use for PR and media campaigns.</li> </ul>









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|-------------|-----------------|------------------|----------------|
| Agra        | Gurgaon         | Madurai          | Rajkot         |
| Aizawl      | Haridwar        | Mysore           | Srinagar       |
| Ajmer       | Howrah          | Nainital         | Tenali         |
| Bhubaneswar | Hyderabad       | Panaji           | Tiruchirapalli |
| Coimbatore  | Kalyan Dombivli | Pimpri Chinchwad | Tirupati       |
| Faridabad   | Kochi           | Puducherry       | Vijayawada     |
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**ICLEI - Local Governments for  
Sustainability - South Asia**

Web: [southasia.iclei.org](http://southasia.iclei.org)  
Email: [ecomobility-sa@iclei.org](mailto:ecomobility-sa@iclei.org)

**Innovative Transport  
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Web: [itrans.co.in](http://itrans.co.in)

**Indian Heritage Cities  
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Web: [ihcn.in](http://ihcn.in)  
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