



Environmentally Sustainable Transport (EST) as the Basis for NAMAs

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Urban transport — are current trends sustainable?

Trends

- Rapid motorization and exponential growth of personal transport
- Declining share of public transport and NMT
- Lack of integrated land use and transport planning
- Increasing dependence on fossil fuels



Impacts

- Inequity
- Congestion
- Pollution
- Accidents
- Energy security
- GHG emissions

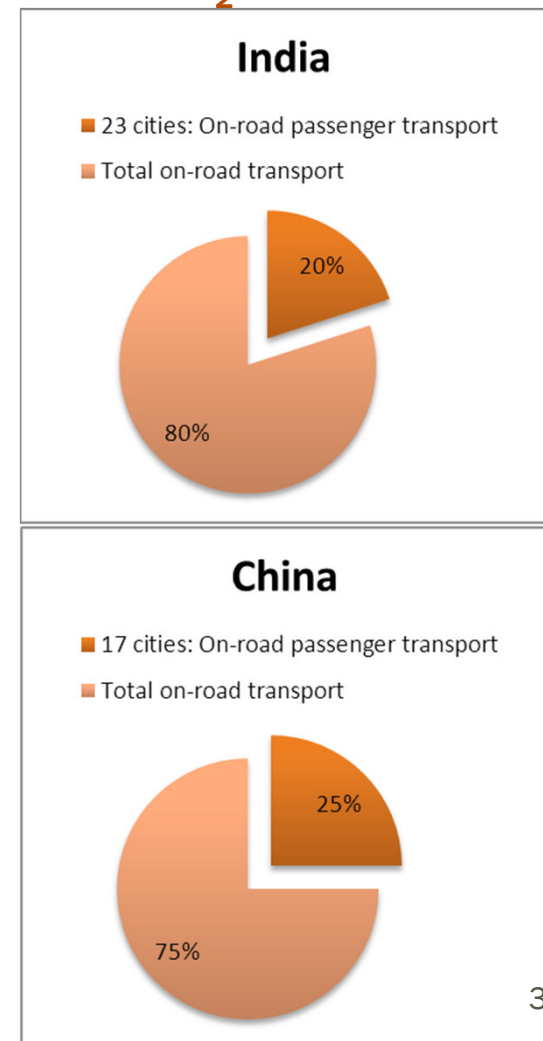
Urban transport and GHGs

GHGs concentration in larger urban centers...

- ❑ 23 million-plus cities in India have a significant share in energy consumption (about 40%) and CO₂ emissions (about 20%) from road transport
- ❑ Passenger mobility in 17 largest cities in China accounts for about 25% of the CO₂ emissions from road transport sector
- ❑ China and India expected to account for 45% of the total world increase in oil use through 2025

GHGs growing at the fastest pace in cities...

CO₂ emissions



Abandon BAU...

Reduce GHGs from urban transport

How ?

Reduce vehicle kms (Avoid)

Promote less carbon intensive transport modes (Shift)

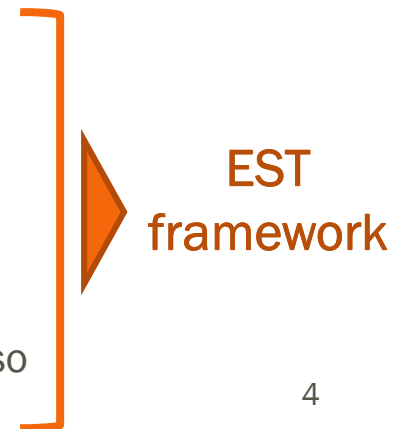
Promote clean and alternative fuels (Improve)

Ensure efficiency of motorized fleet and transport operations (Improve)



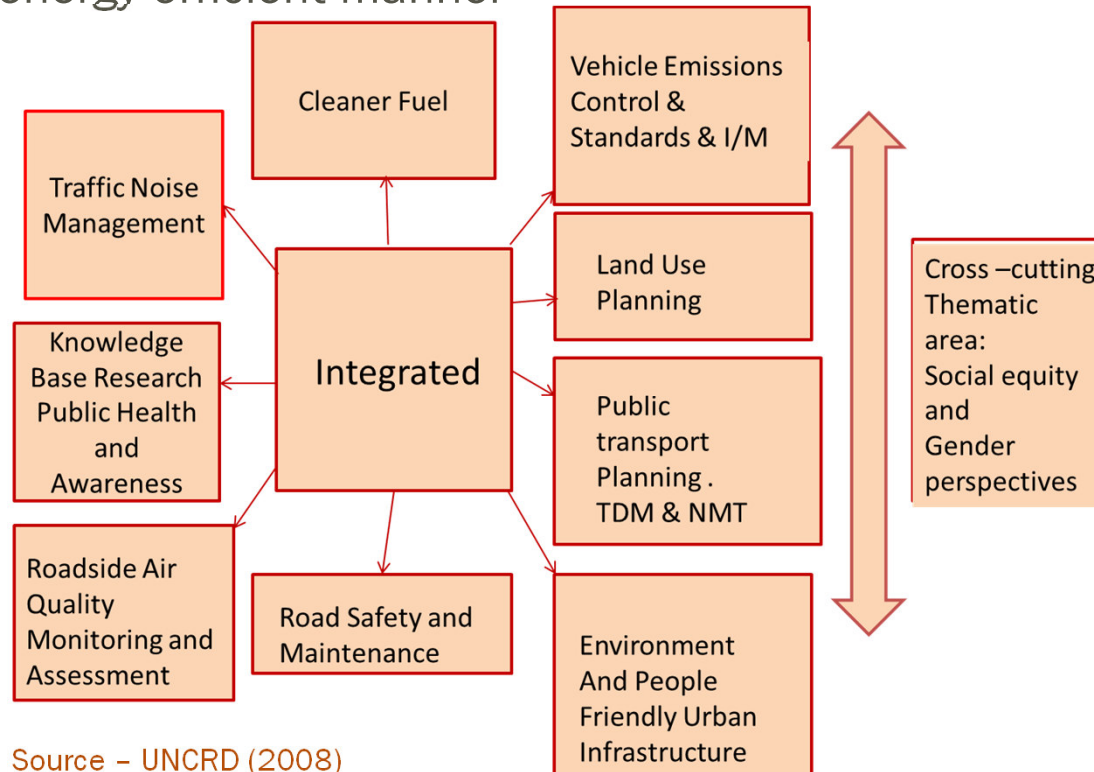
This would require an integrated approach

- ❑ **National level actions** – vision/policies/programmes/approvals/funding/ monitoring/capacity building
- ❑ **City level actions** – vision/plans/projects/bundled projects/implementation
 - Larger aim at the city level should be sustainable mobility, which will also help in achieving the objective of low carbon growth



EST promotes low carbon growth and goes beyond...

- ❑ Proposes measures that help reduce GHG emissions...*also the focus of Bangkok Declaration*
- ❑ EST focuses also on addressing mobility needs in an equitable, environment-friendly and energy efficient manner



Source - UNCRD (2008)

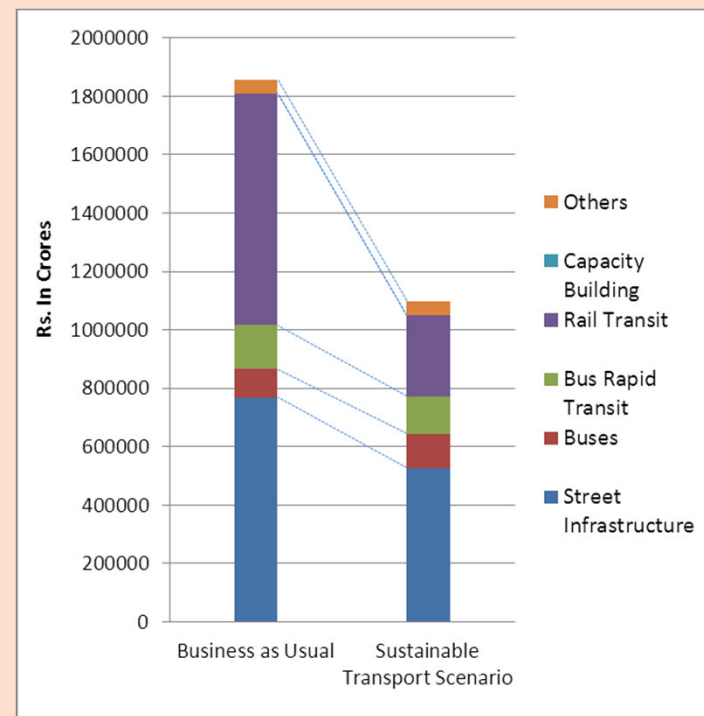
- ❑ Promoting EST in cities will lead to reducing GHGs

Implementing EST

- ❑ Implementation will require:
 - National/state level policies and support
 - City level- actions
 - Mobility plans
 - Sustainable transport projects
 - Capacity building
 - Institutional and regulatory frameworks
 - Massive investments
 - Monitoring mechanisms

*Investment requirement high
BUT... lower than the BAU*

Urban transport investment requirement by 2030, India



Source – NTPC Working Group on UT (2011)

Meeting investment requirements

□ Main sources for financing urban transport

- Direct funds - Income generated from fare box collections/user charges/taxes
- Land Monetization/Revenues from non-transport commercial activities
- Government support/subsidies
- Debt and PPP
- International financing linked to GHG reduction/environmental improvement

Main sources

Additional source available but transport sector has not been able to tap it

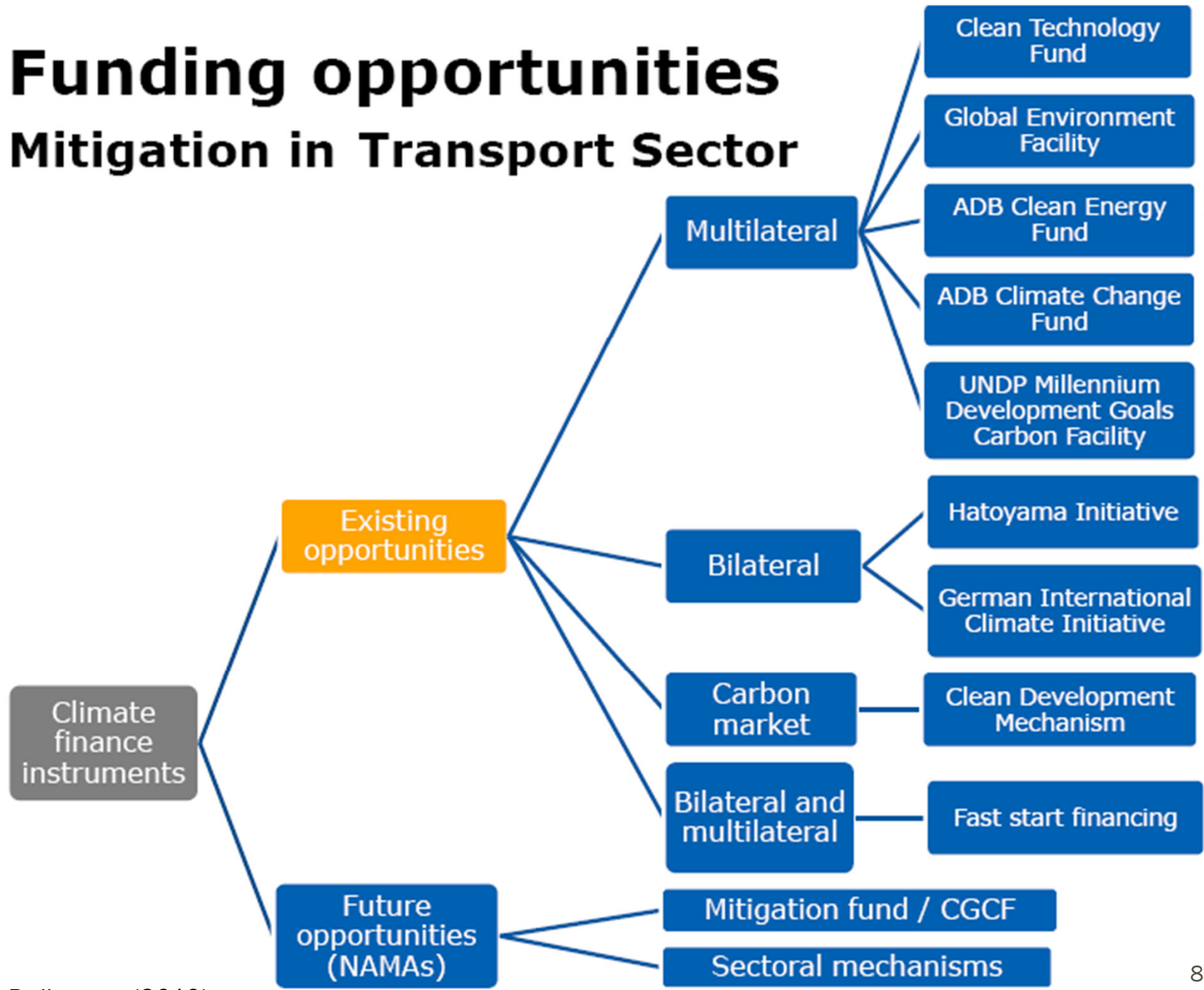
NAMAs necessary to tap these funds

New climate financing regime expected to be more liberal

CDM has not provided funding for transport sector

Funding opportunities

Mitigation in Transport Sector



NAMAs in urban transport sector

- ❑ GHG reduction measures undertaken by cities
- ❑ Can be voluntary measures reported by the national government to UNFCCC or used by government for support/credit

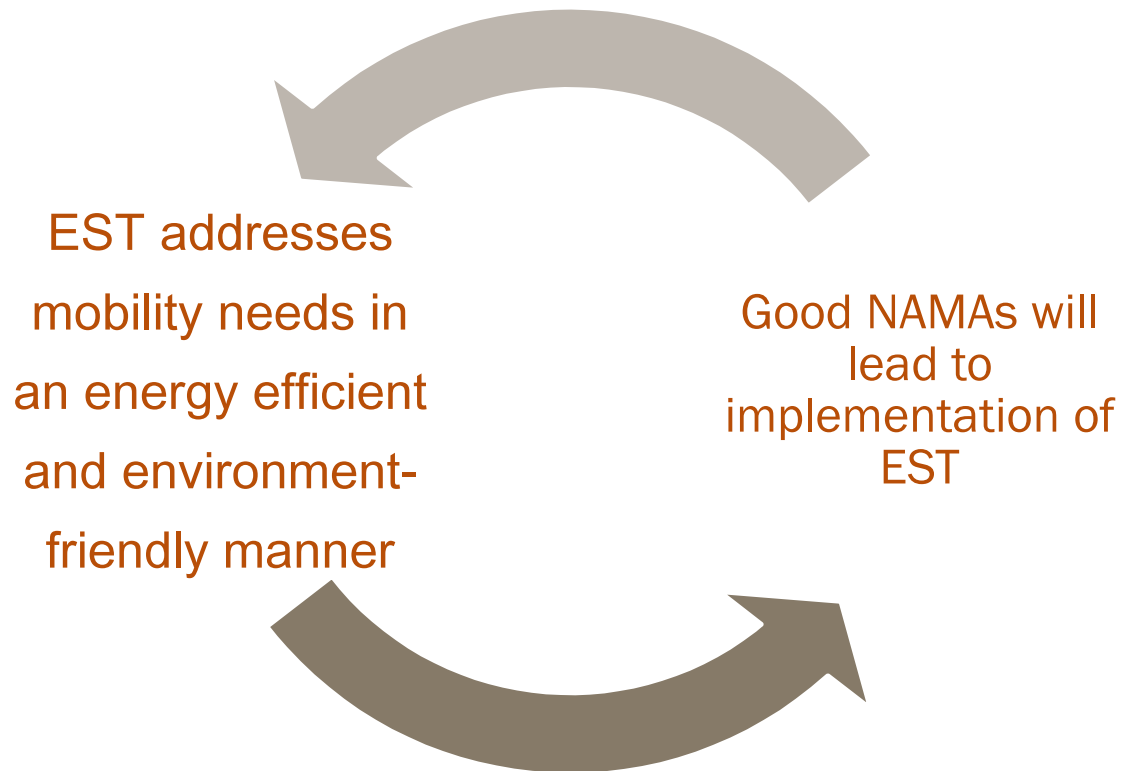
Programmes/policies/standards– sustainable urban transport policy, vehicle efficiency norms, etc.

City sustainable mobility plans

Projects like BRT, cycle paths, metro rail, etc.

Are typically NAMAs but need to address CO₂ reduction

EST Mutually reinforcing NAMAs



Policies/plans/projects promoting EST can be converted into NAMAs to help access international funding

City Mobility Plans...

could be a good beginning

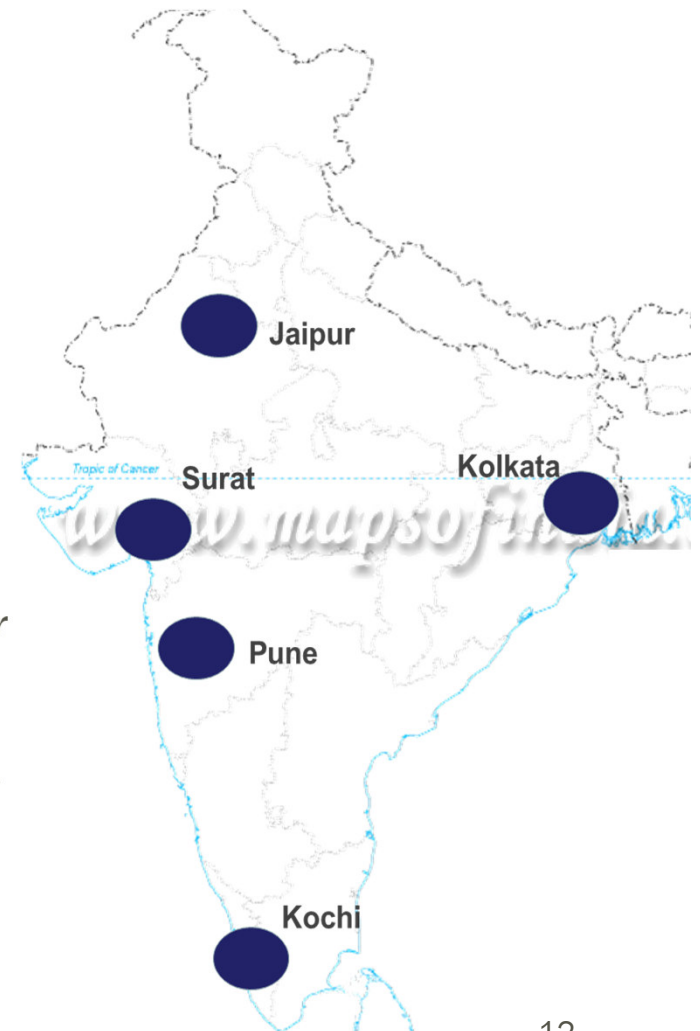
- ❑ Government should encourage cities to formulate city mobility plans (CMPs)
- ❑ Good CMPs should be based on EST strategies and should target GHG reduction ~ NAMAs
 - Should quantify GHG savings in order to be pitched as NAMA
 - CMPs in India provide a good beginning but need to be aligned with EST strategies ([CMP review example](#))
- ❑ Investments would be needed to implement these CMPs/NAMAs
 - Domestic funds
 - International funds for transport sector needed
 - ODAs – where GHG will be a co-benefit
 - Climate finance

CMPs need to be aligned with EST framework

Key findings of TERI study on review of 5 CMPs in India

□ Planning process/Plan

- Inadequate stakeholder engagement in plan preparation process
- Gaps in translation of plan recommendations into appropriate projects
- Land use transport integration – no strategy for implementation
- Lack clarity on formal linkages of CMP with other city plans



CMPs need to be aligned with EST framework

(contd.)

Key findings of TERI study on review of 5 CMPs in India

❑ Sustainable mobility elements

- Access, Security, NMT, Public transport , Environment, Traffic demand management

Not addressed comprehensively and effectively

❑ Implementation strategy lacks:

- well defined framework of targets and performance indicators
- identification of capacity building requirements
- recommendations to establish a mechanism for periodic revision and updating Plan
- communication strategy to build public support for projects to be implemented
- Arrangements for funding

CMPs need to be modified to promote EST and identify/prioritize appropriate transport projects

Preparing transport NAMAs...

key requirements

- ❑ Need to quantify GHG reductions expected – should be measureable, reportable and verifiable
 - Challenges in GHG estimation
 - Data availability, consistency, authenticity ([Mumbai example](#))
 - Capacity of city-level agencies to estimate mitigation potential of proposed measures
 - Cost of data collection
- ❑ Need to create institutional mechanisms at city/state/central level to facilitate NAMA preparation, submission, implementation, monitoring, etc.
 - Challenges
 - Fragmented responsibilities between and within governments
 - Lack of awareness, capacity
 - Linking the proposed mechanisms to existing institutional structure for urban transport planning and management

Estimating GHGs from urban transport – data challenges encountered in Mumbai

- ❑ Estimating on-road fleet
 - Inconsistency in motor vehicle statistics in reporting:
 - Vehicles that go off the roads due to age factor/vehicles that may be scrapped
 - Vehicles that are registered in the city but are plying in other cities and vice versa
- ❑ Estimating utilization of vehicles
 - Actual utilization of vehicles can not be captured by motor vehicle statistics; primary surveys are needed
 - Data on age of fleets, technology/models not available
 - Mileage and occupancy data requires primary surveys - inconsistency in surveys conducted by different agencies
- ❑ Estimating fuel consumption
 - Fuel efficiency numbers from secondary sources do not capture city-specific conditions
 - Fuel sales data does not disaggregate sales for transport sector

Addressing data challenges for GHG estimation

- ❑ Data issues need to be resolved at city-level
- ❑ Design of GHG estimation methodology should take into account the difficulties in collating good quality data
- ❑ While data generation and analysis should be improved, data requirements should not require extensive and expensive surveys
- ❑ Potential for creating a central database in each city should be explored
- ❑ Project-specific data should be monitored to assess actual impact of the interventions

Way forward

- ❑ Preparing NAMAs is in city/nation's interest
- ❑ Should be taken up voluntarily by cities – would require awareness generation, capacity building
- ❑ National government should facilitate the process of NAMA preparation by cities
- ❑ NAMAs should be supported to meet the global objective of reducing GHGs



Thank You