Financing Mitigation Strategies in Road Transport

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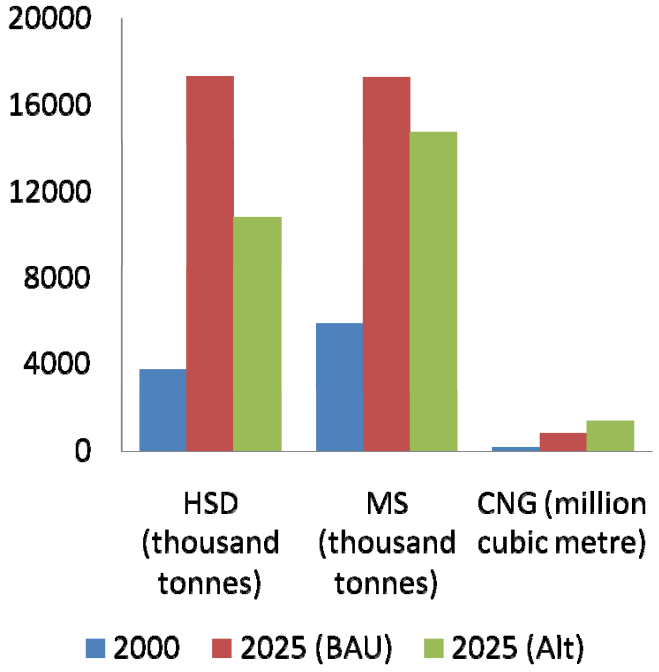
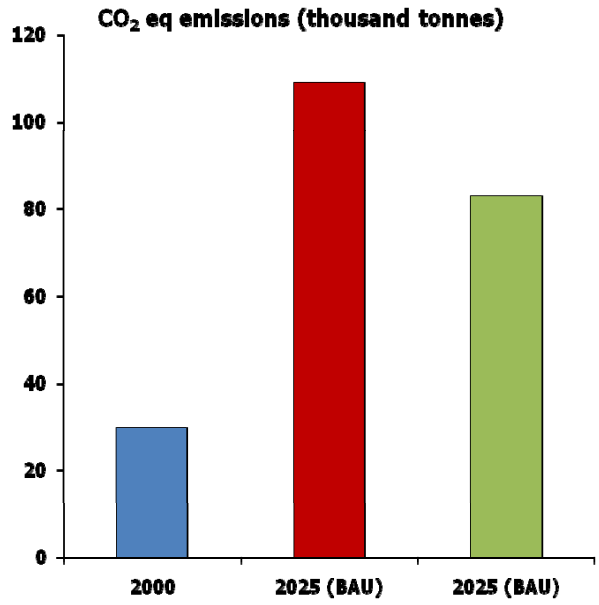
Synergizing Objectives

- National
  - Positive impacts on local air quality, health & safety
  - High priority for urban centers
  - Revenue from carbon credits
- Global
  - Significant potential for GHG mitigation in transport

Significant GHG Emissions Reduction Potential in Urban India





Based on Sundar & Deb (2003)

Barriers

- Baselines
  - data availability
  - uncertain sectoral forecasts
- Leakages
- Monitoring and verification costs
  - dispersed and large number of mobile sources
- Additionality
  - Mandated use of alternative fuels, stringent emission norms
  - Comprehensive I&C regime proposed

Case Study: Mitigation Opportunities in Urban India

- Augment share of public transport
  - Share of public transport falling in urban India, esp new urban India
  - At least 75% of travel demand met by buses
- Improved maintenance of bus fleet
  - Existing maintenance regime inadequate and primitive for commercial vehicles
  - GHG savings from better maintenance. Result: 5-10% improvement in fuel efficiency
- Introduction of BOV three wheelers
  - Gradual increase of BOV fleet to 9% of total

Emission savings: Methodology

- GHG emissions

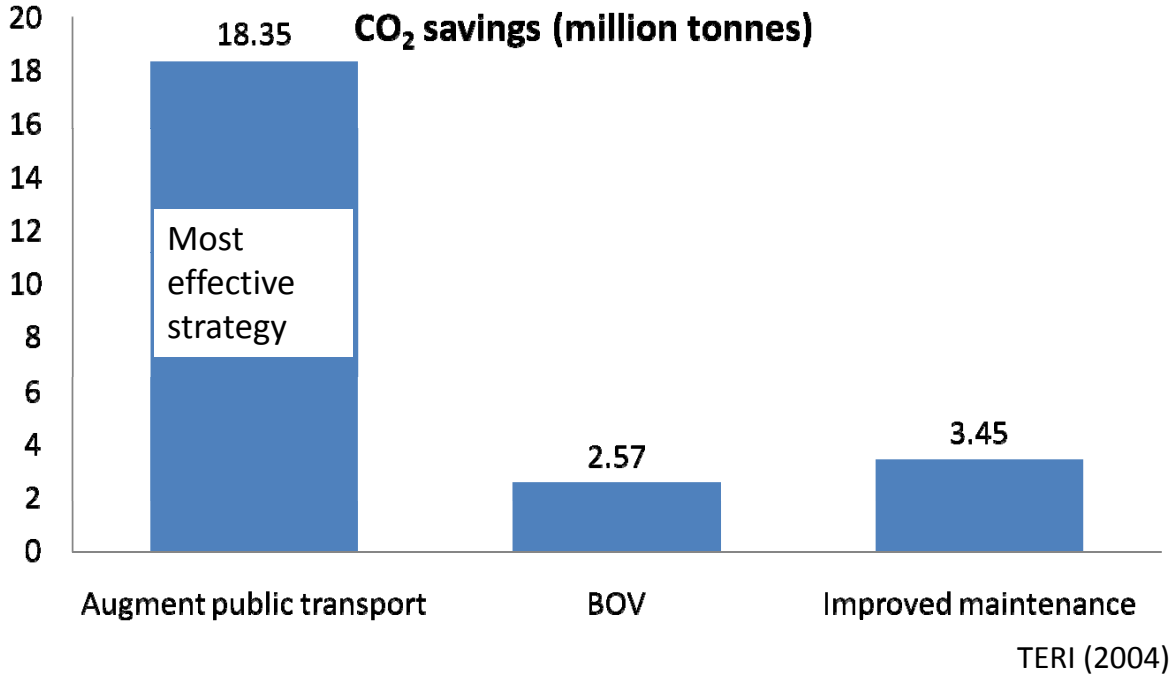
$$(Vehicle\_kms) \times \left(Emissions/_{km} \right)$$

- Vehicle kms

$$(Vehicles) \times (Utilisation)$$

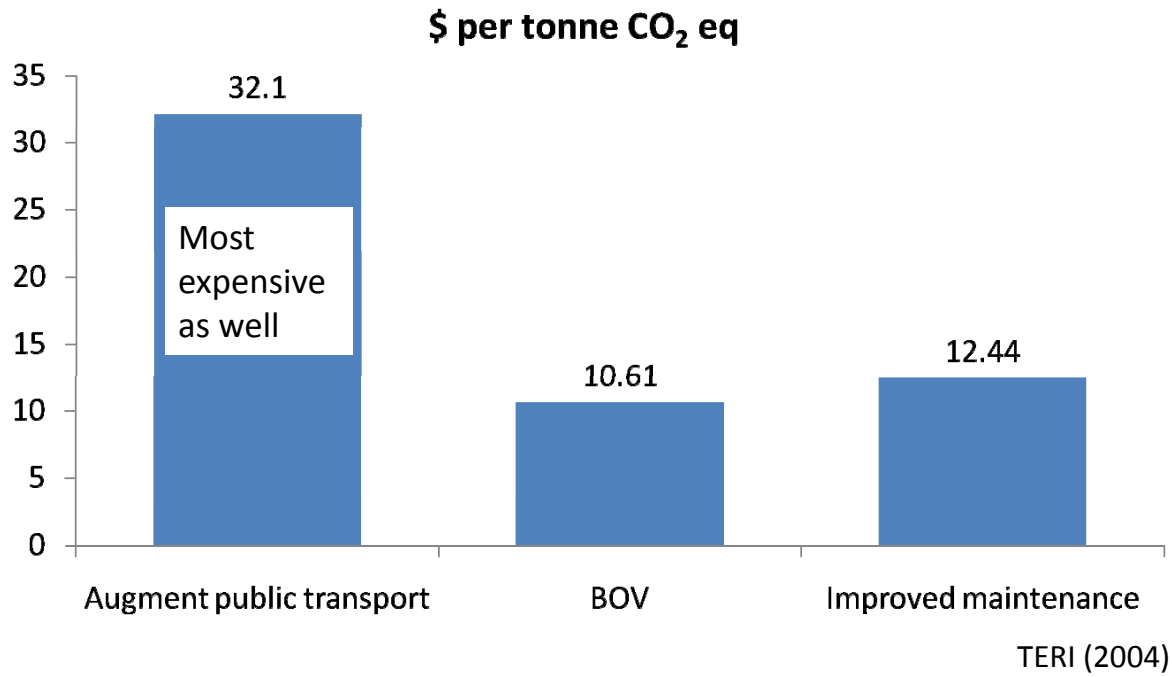
- Similar to ASIF
- Baseline projections based on
  - Existing travel trends
  - Expected changes in emission factors, fuel efficiencies
    - Increasingly stringent norms
    - Improved technology
- Reference years: 2005 & 2015

GHG savings



TERI (2004)

Cost of Carbon



TERI (2004)

Financing Transport Projects: Lessons

- Carbon credits not enough to fund project
- Need to account for co-benefits
  - Local environment improvements, savings in energy subsidy, energy security, congestion reduction, etc
  - Possible monetization of co-benefits?
- Synergize climate change goals with other national objectives
  - Identify drivers for 'good' projects, and add on climate benefits. *Avoid Carbon Centerity*? Ignore Additionality.
  - Use carbon revenues to push projects over IRR thresholds?
  - Government support necessary, even subsidies

New Funding Paradigm

- Local and global environmental priorities must be funded
  - Viability issues should NOT be a constraint
  - Use markets to screen projects, not exclude them
  - Continued role for the government
- Operationalizing
  - Effect cash transfers by monetizing co-benefits
  - Link viability gap funding for private sector to exchequer savings from lower energy consumption
  - Incentivize international financial cooperation by integrating carbon credits with development financing

Conclusions

- Motorization and GHG emissions from transport will increase sharply
- Large potential to dampen GHG increases
- Strategies to promote transport projects
  - Overcome information constraints
    - Establish credible baselines
    - Carry out pilot tests to estimate gains
  - Initiate stakeholder discussions
  - Develop detailed projects
    - Engineering, Financial, Institutional
    - Validation, registration, monitoring

Thank you