
Financing Needs for Sustainable Transport Systems for the 21st Century

Plenary Session 8

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7th Regional EST Forum in Asia

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WORLD RESOURCES INSTITUTE



Financing Needs for Sustainable Transport

0 CONGESTION

0 AIR POLLUTION

0 ROAD FATALITIES

➤ \$ 5 TRILLION INVESTMENT?

CONGESTION



Road congestion already costs Asian economies 2-5% of GDP every year

Asia accounts for 60% of the world's 1.2 million traffic fatalities per year

ROAD SAFETY



CLIMATE CHANGE



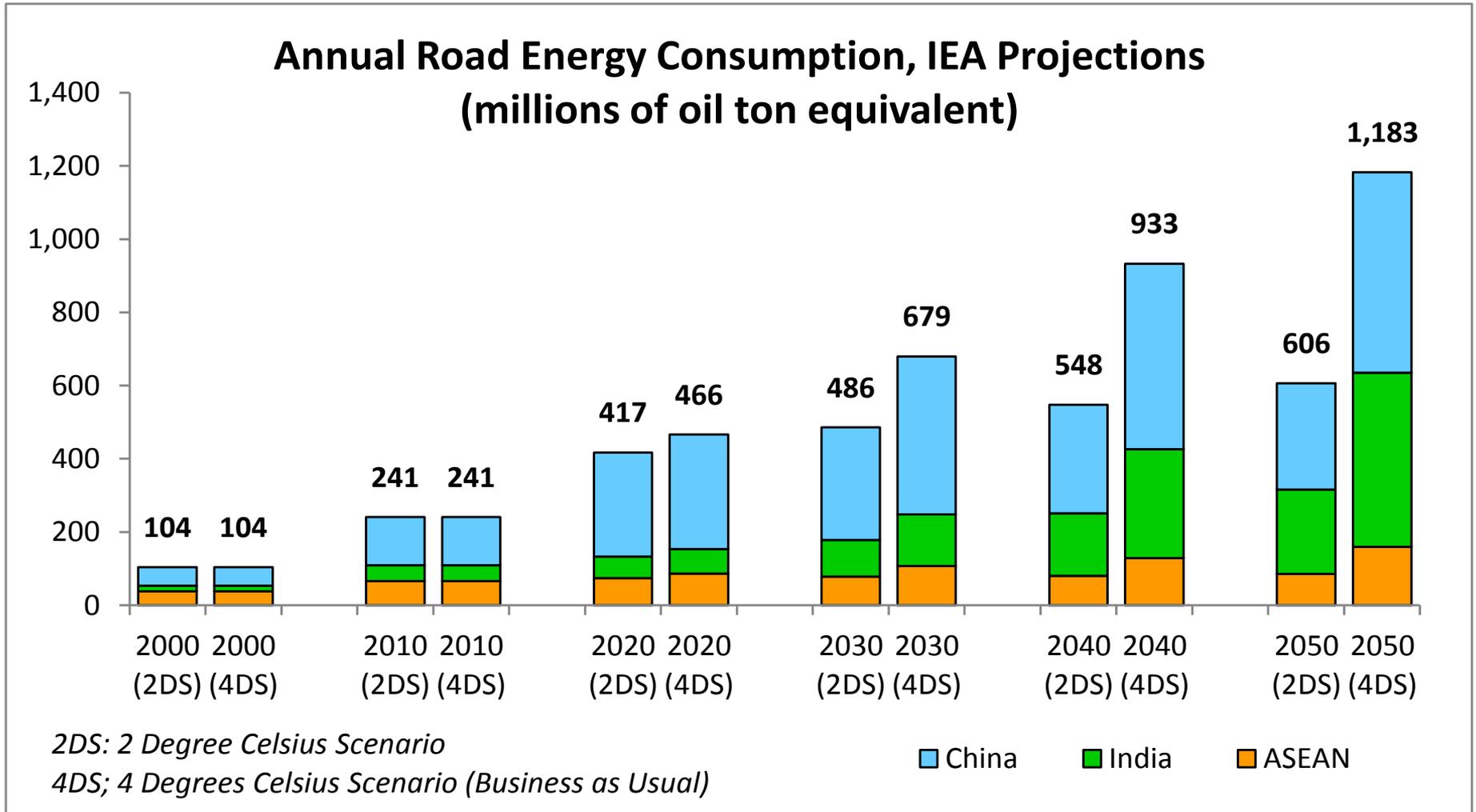
Asia is home to 60% of the globe's at-risk Megacities

Asia has the highest air pollution levels in the world; up to 80% from transport

PUBLIC HEALTH

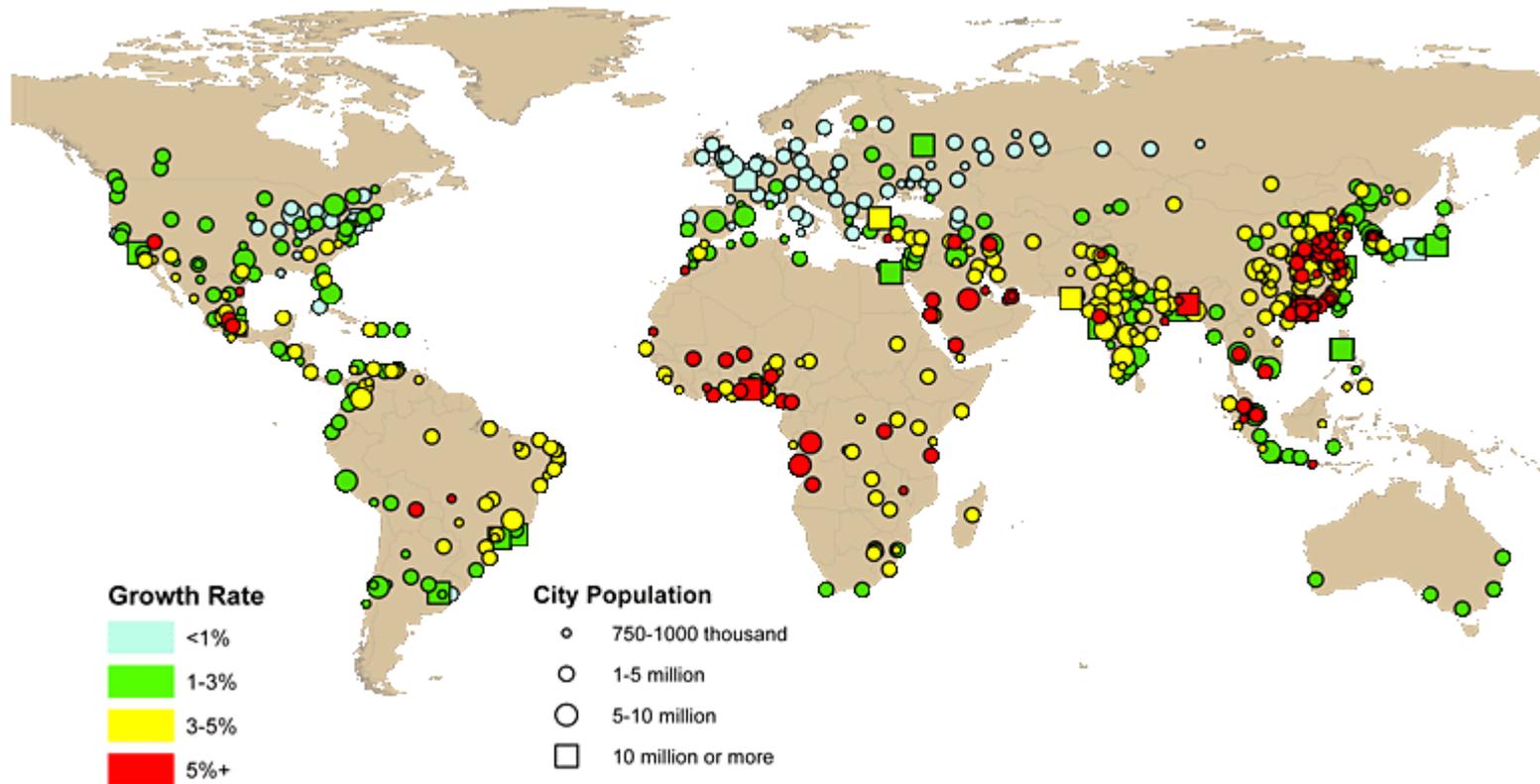


Asian Road Energy Use Doubles with Business as Usual



Source: International Energy Agency, Energy Technology Perspectives 2012

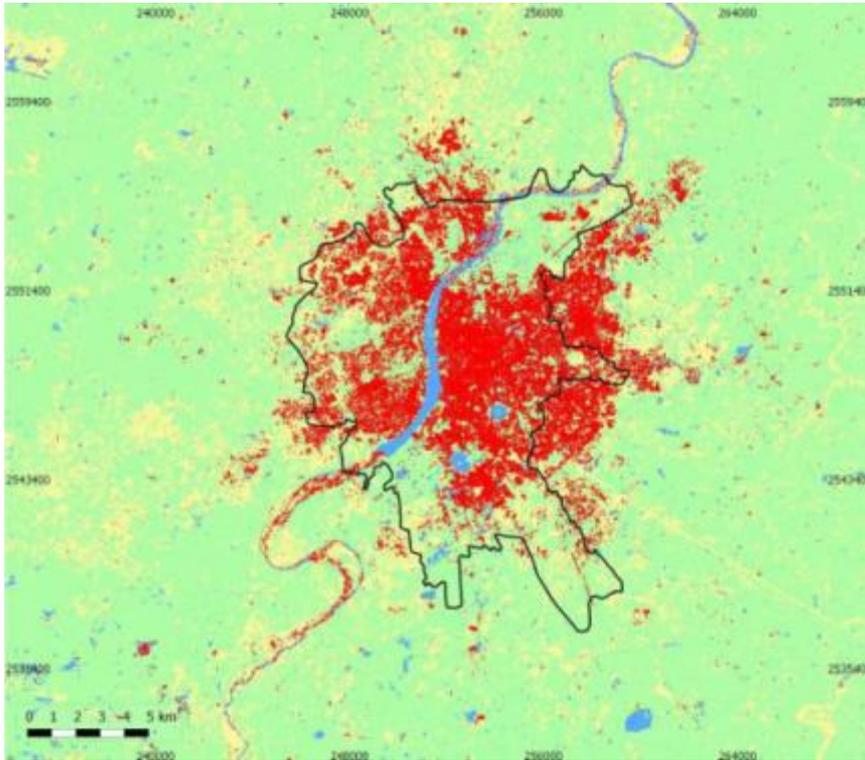
Asia is Rapidly Urbanizing



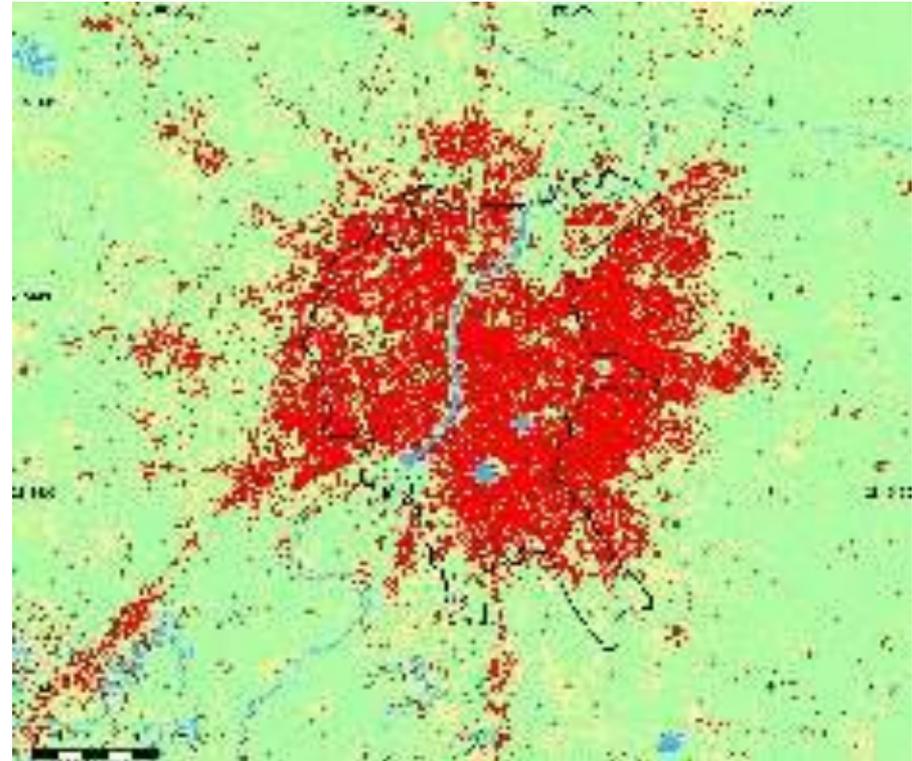
Source: Growth rates of urban agglomerations 1970-2011 (UNDESA, 2011)

Ahmedabad, India

3.3 million 1992



6.4 million 2011



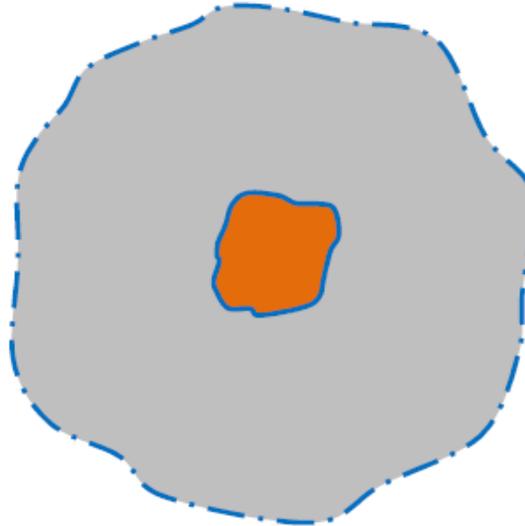
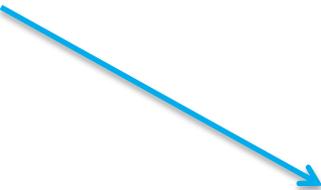
Two Options: Sustainable or Unsustainable?

Today

Ahmedabad, India

Population: 5.4m

Trips: 5.6m/yr



Automobility

Area: 6,484 sq. km

Emissions: 12.32m tCO₂/yr

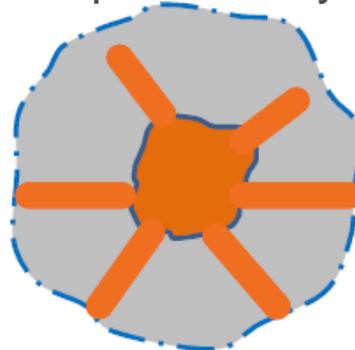
Traffic Fatalities: 5,232/yr

- Same population
- Same number of trips
- Very different outcomes

Year 2041

Population: 13.2m

Trips: 39.8m/yr



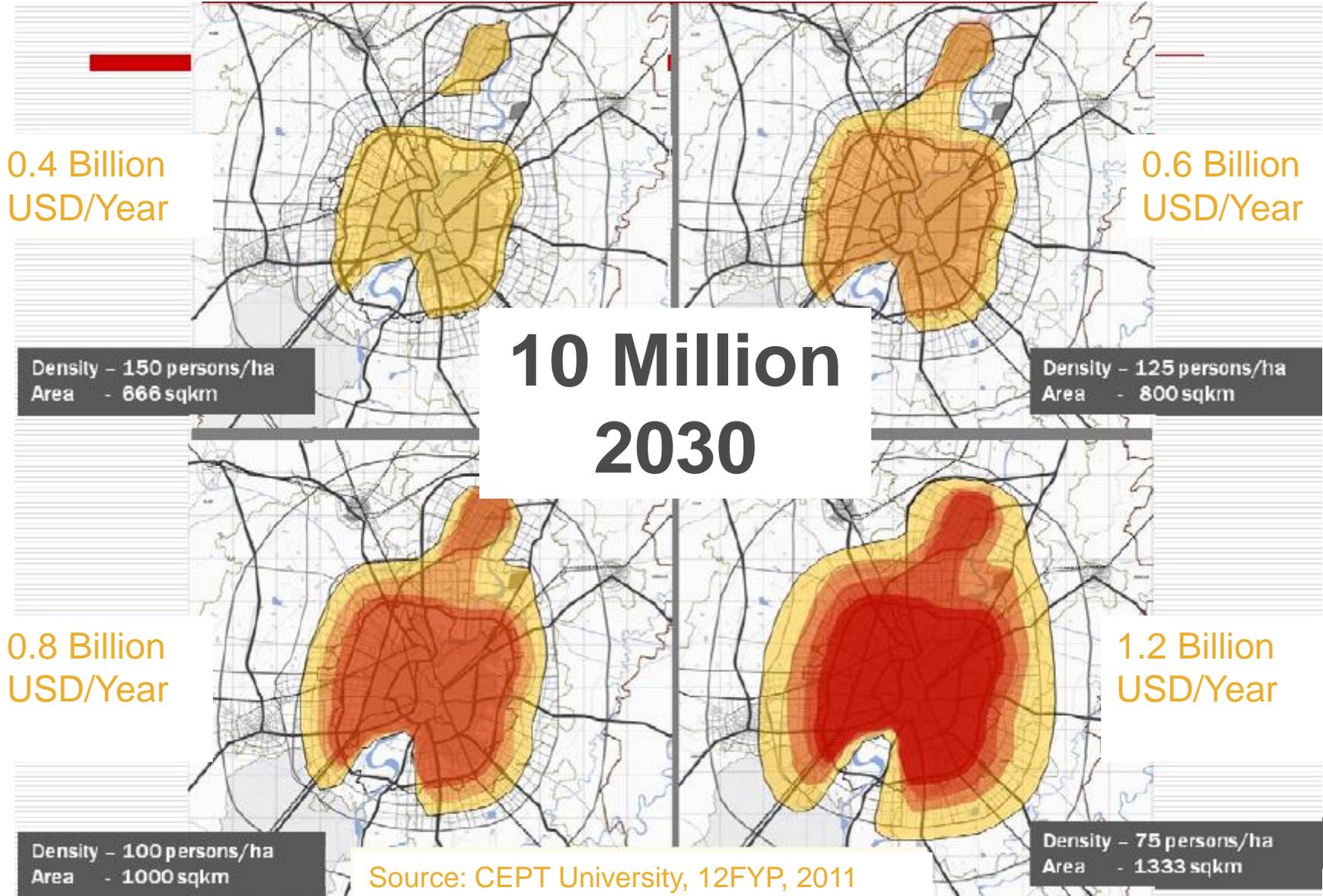
Sustainable Transport

Area: 50% reduction

Emissions: 84% reduction

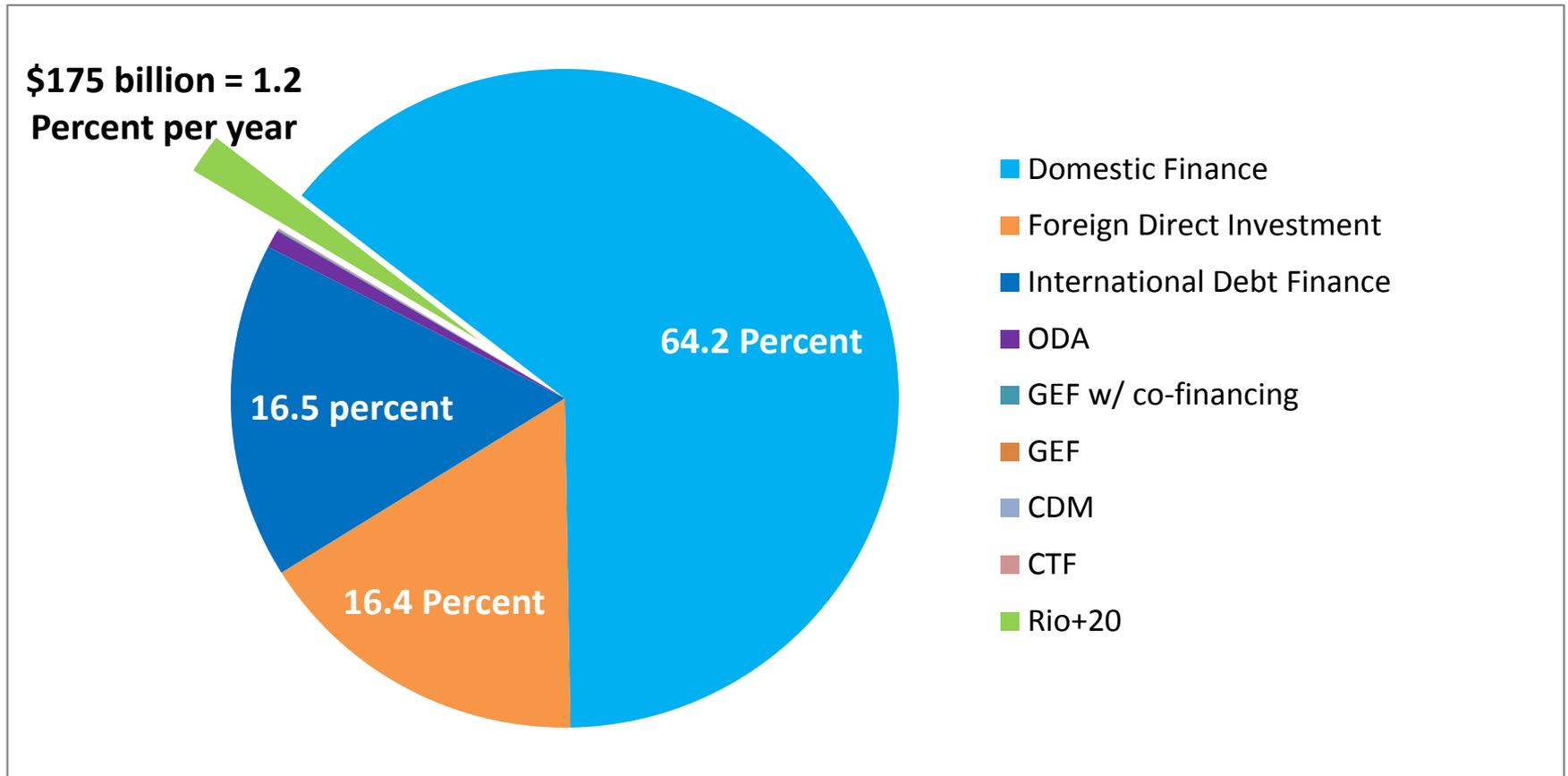
Traffic Fatalities: 74% reduction

Transport Infrastructure Investment Estimates



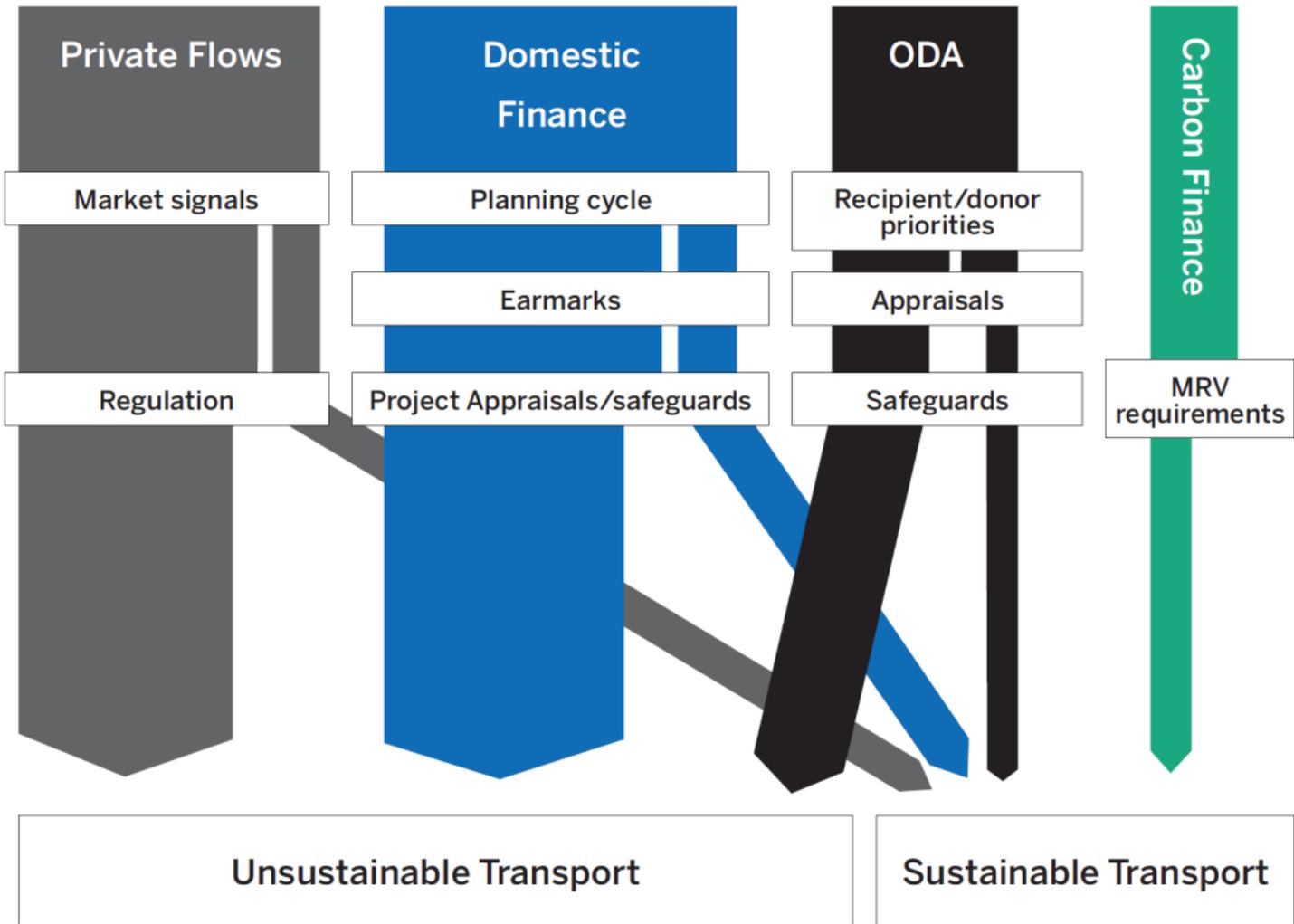
Source: CEPT University, 12FYP, 2011

Unleveraged, \$175 billion is only 1.2 percent of global transport investment (\$1 trillion)



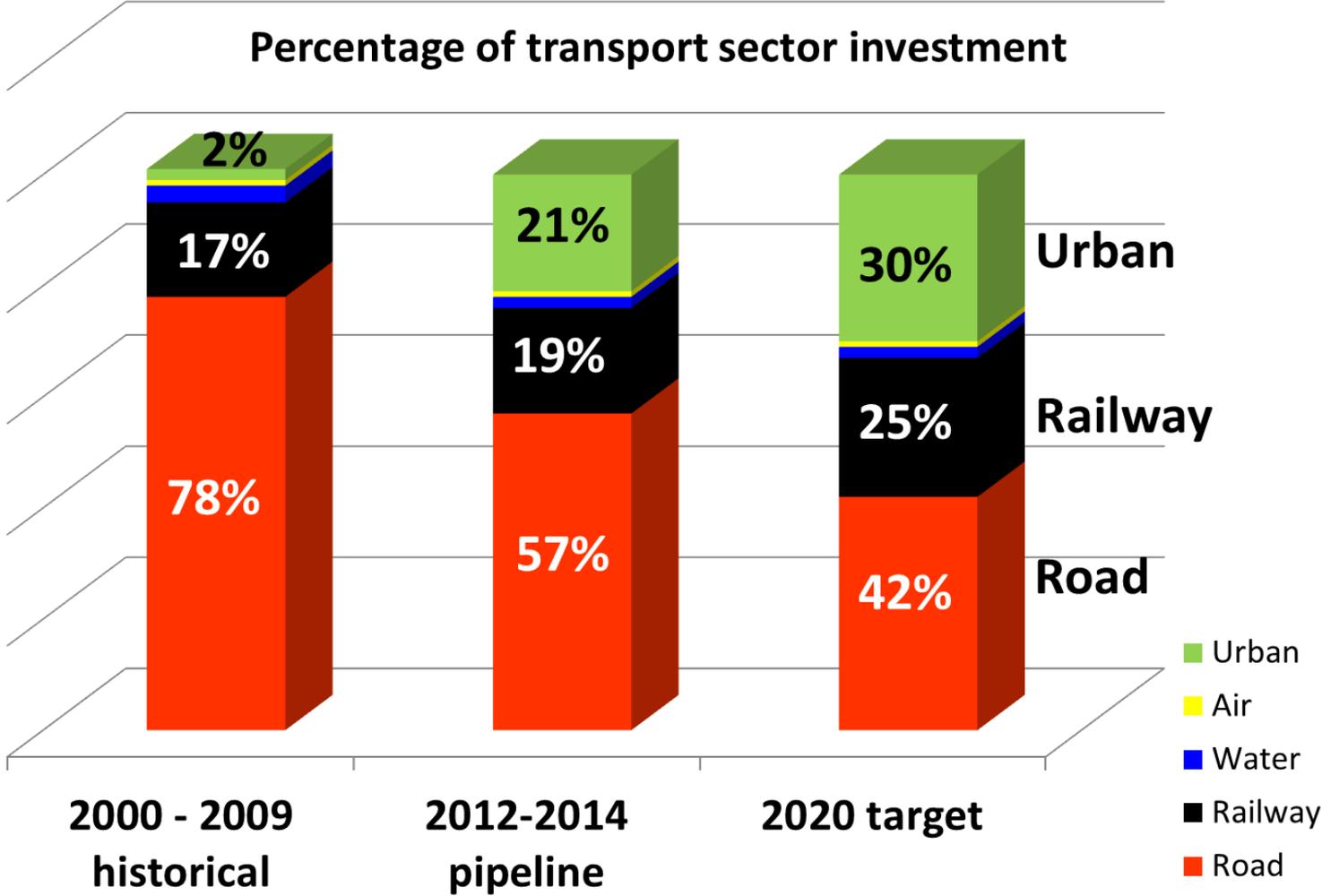
Source: based on Sakamoto/Dalkmann (2010)

Shifting Finance to Sustainable Transport is the Solution



Source: Sakamoto et al. (2010)

Asian Development Bank: Funding Urban Transport



Source: Asian Development Bank (2013)

National Governments are Central to Shifting Finance



National Governments can Maximize Shift through Two Key Areas that Improve Sustainable Transport Finance

Increasing the Effectiveness of Sustainable Transport Financing



National Governments

Leveraging Sustainable Transport Financing for Greatest Impact

Six National Government Actions to Improve Sustainable Transport Financing

Leveraging Sustainable Transport Financing for Greatest Impact

National policy programs that implement domestic, international and climate finance

Engage private sector and create supportive conditions for investment

Use local funding and innovative sustained financing

Increasing the Effectiveness of Sustainable Transport Financing

Institutional changes to streamline funding to local level

Impact-based monitoring and evaluation

Capacity building and policy guidance

National policy programs that implement domestic, international and climate finance

- Strong policy frameworks (urban transport finance program, link to Mobility Plans, enabling framework condition for raising local revenue, etc.)
- Backed with domestic planning and finance (national & local)
- Aligned with
 - multi-lateral development bank safeguards
 - climate finance (e.g. GCF)
 - supported by private finance

Thailand in Focus

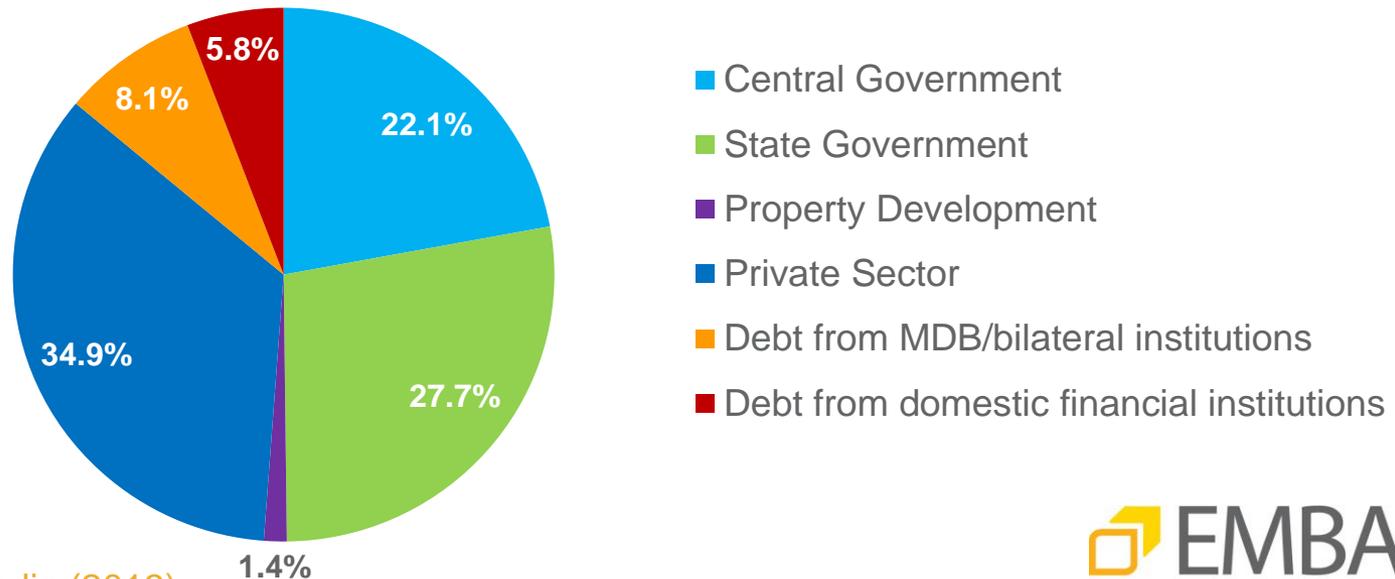
- National transport planning recognizes sustainability through ASI
- CTF provided \$70 million to co-finance BRT system as part of \$300 million in CTF financing nationally
- NAMAs to be developed as tool for GHG reduction



Engage private sector and create supportive conditions for investment

- Viable regulatory and legal environment
- Reduce risk of investment, especially political
- Transparent procurement framework
- Expand PPPs and private finance to urban transport from airports and ports

Total Investment in Urban Transport India's 12th Five Year Plan (2012-2017); 35% from Private Sector



Source: EMBARQ India (2013)

Opportunity for PPPs and Private Finance of Transport in India

The share of public and private capital in infrastructure development varies significantly across countries and assets

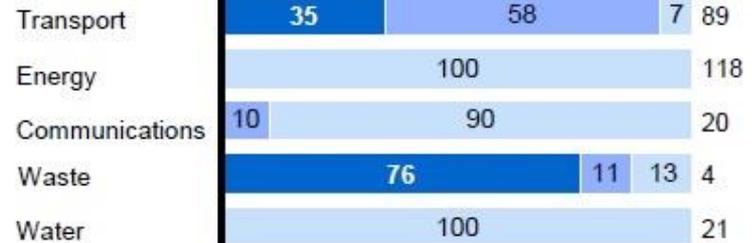
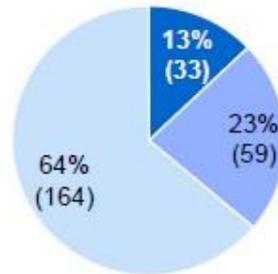
%; \$ billion



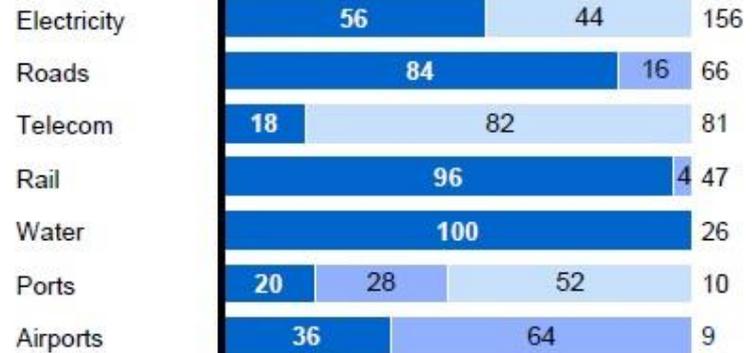
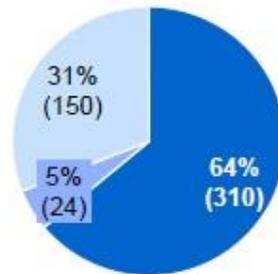
Planned public, PPP, and private investment in core infrastructure

Ratio per sector

United Kingdom
2011–15
100% = \$257 billion



India
2007–11
100% = \$485 billion



SOURCE: HM Treasury, United Kingdom; Planning Commission, India; McKinsey Global Institute analysis

Innovation in Hong Kong: Rail + Property Model

Recognizing that easy access to metro is valuable, Mass Transit Railway (MTR) finances part of construction costs for new subway lines with profits from new housing, commercial, and retail, allowing MTR to expand and operate without government subsidies.



Institutional changes to streamline funding to local level

- Clear roles for national, sub-national, and local gov'ts
- Link funding from national government to local projects that meet specific conditions and criteria
- Coordinate funding, planning, operations, and private actors
- Consistent guidelines for budgeting, classifying transport projects, and conducting evaluations
- Legislative mandates and changes where necessary

JnNURM II in India

- Expands JnNURM I with \$40 billion over five years
- Emphasis on local projects through collaboration with local and state officials from first stage of project identification
- Builds capacity and knowledge sharing at local level



BEFORE



AFTER

Janmarg (BRT)
Ahmedabad, India

Source: Suzuki et al. (2013) "Transforming Cities with Transit: Transit and Land-Use Integration for Sustainable Urban Development," World Bank

Impact-based Monitoring and Evaluation

- Performance outcomes keep projects on track and align international, national, and local objectives
- Incorporate indicators of health, safety, equity, access, environment, quality, and economic productivity for comprehensive sustainable transport
- National governments should implement needs assessment, policy planning, monitoring, and ex-post impact evaluation
- Organize outcomes and track progress with a scorecard

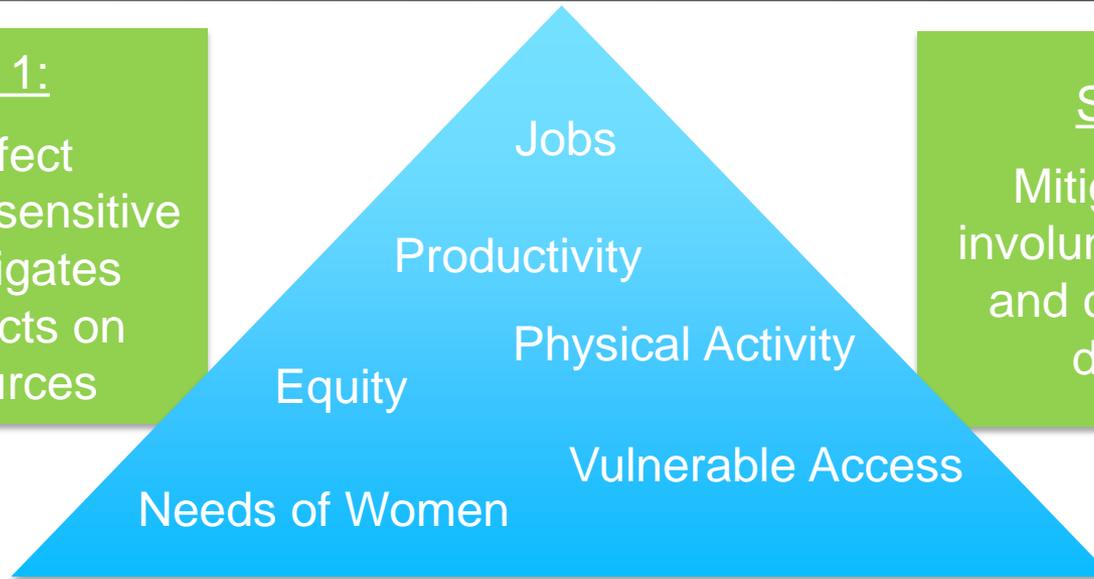
Illustrative Scorecard to Evaluate Funding

Safeguard 1:

Does not affect environmentally sensitive areas and mitigates negative impacts on natural resources

Safeguard 2:

Mitigates effects of involuntary resettlement and compensates for displacement



Recommended Outcomes

Reduces traffic deaths compared to business as usual

Reduces GHG emissions compared to business as usual

Increases non-motorized and public transport

Mandatory Outcomes

Capacity building and policy guidance

- Build capacity at local level for developing and implementing sustainable transport plans
- Encourage peer-to-peer knowledge exchanges between local and national governments, and MDBs
- Provide technical guidance for evaluation of project alternatives and outcomes

 BusKaroPlus



Importance of Regional Forum

- Highlight the importance of national governments and facilitate knowledge sharing between governments, peer-to-peer capacity building initiative
- Coordinate regional capacity building on finance
- Forums like EST Asia enable international cooperation that advances the sustainable transport agenda
- Develop monitoring framework (based on Bangkok Declaration)
- Offer guidance on scorecards
- Next EST: Session with Ministry of Finance?

Six National Government Actions to Improve Sustainable Transport Financing

Leveraging Sustainable Transport Financing for Greatest Impact

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Thank you

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Background Paper:

**“Financing Needs for Sustainable
Transport Systems for the 21st Century”**