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DEVELOPMENT

PROMOTING LOW CARBON TRANSPORT IN INDIA

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SUSTAINABILITY INDICATORS FOR TRANSPORTATION

- Definition of sustainable transportation
- Why sustainability indicators for transportation
- Selection of indicators/set of indicators
- Data ability and reliability
- Conclusions



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Meets the needs of the present without compromising the ability of future generations to meet their own needs.

World Commission on Environment and Development (WCED),
Brundtland Commission, 1978



A SUSTAINABLE TRANSPORTATION SYSTEM: DEFINITION

Allows the basic access and development needs of individuals, companies and society to be met safely and in a manner consistent with human and ecosystem health, and promotes equity within and between successive generations.

Is affordable, operates fairly and efficiently, offers a choice of transport mode and supports a competitive economy, as well as balanced regional development.

Limits emissions and waste within the planet's ability to absorb them, uses renewable resources at or below their rates of generation, and uses non-renewable resources at or below the rates of development of renewable substitutes, while minimizing the impact on the use of land and the generation of noise.

GOALS OF THE PROJECT

- ❑ Creating an enabling environment for coordinating policies at national level to achieve a sustainable transport system and building the capacities of cities in improving mobility with lower CO₂ emissions.
- ❑ Deliver co benefits besides reduced CO₂ in the form of improved choices for transport consumers, better local environment, good health, economic growth and social development.

WHY SUSTAINABILITY INDICATORS FOR TRANSPORTATION

The use of sustainability indicators for transportation allows to measure:

- ✓ progress towards objectives/goals
- ✓ long-term economic, social and environmental impacts of short-term decisions
- ✓ performance of the system and comparison between systems

By focusing on:

- social welfare outcomes, such as human health, education, etc. rather than pure economic performance
- economic, social and environmental impacts of transportation

SELECTION OF SUSTAINABILITY INDICATORS FOR TRANSPORTATION

- A system may be sustainable if evaluated by a set of indicators while unsustainable if evaluated by another set of indicators
- A system may be sustainable at the national level but not at the city level
- Indicators should be easy to understand and useful to decision-makers
- Indicators should reflect long-term impacts rather than intermediary impacts

A set of indicators should include major categories such as:

- ✓ transport cost efficiency (economic)
- ✓ equity and affordability (social)
- ✓ pollution emissions (environmental)

Example of impacts to be reflected in a set of sustainability indicators for transportation

Economic	Social	Environmental
Accessibility	Equity	Air pollution
Traffic congestion	Impacts on mobility disadvantaged	Climate change
Infrastructure cost	Affordability	Noise pollution
Consumer costs	Human health impacts	Water pollution
Mobility barriers	Community cohesion	Hydrologic impacts
Accident damages	Community livability	Habitat & ecological degradation
Depletion of non-renewable resources	Aesthetics	DNRR

Litman & Burwell, 2006

Development of indicators by institution:

IIMA: development of sustainability indicators in a long-term context at the national level

IITD: development of sustainability indicators at city level

CEPT: Development of indicators to measure inclusiveness of transport systems

- Important to select indicators for which data collection is feasible and adequate

Collected data should meet minimum requirements like:

- ✓ Accuracy
 - ✓ Transparency
 - ✓ Frequency
 - ✓ Up to date
 - ✓ Availability
- Collected data should be standardised to allow for comparisons
 - Data should allow for disaggregation when needed so it can facilitate various types of analysis

CONCLUSIONS

- ❑ A set of sustainability indicators is a useful tool for improved transportation planning, particularly for transport planning which incorporates the various dimensions and long-term impacts
- ❑ There is no predefined or standard set of indicators
- ❑ Important to spend time developing a set of indicators that best reflects local perceptions of sustainability
- ❑ Important to spend time identifying and collecting the appropriate data for the indicators



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Thank you very much

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