Sustainable Transport: A Sourcebook for Policy-makers in Developing Cities

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Priority Areas of GTZ Transport

- Sustainable Urban Transport
  - SUTP Asia
  - SUTP LAC
  - SUTECA - Project Implementation / Capacity Development / Dissemination

- Transport Policy and Infrastructure Management
  - International Fuel Prices
  - Performance-based contracting
  - Transport Policies and Strategies

- Poverty and Transport
  - Why Transport Matters
  - Gender und Transport
  - Road Safety

- Climate and Transport
  - Transport and Climate Change
  - Bridging the Gap Initiative

- Energy Efficiency in the Transport Sector
  - Navigator Energy Efficiency
  - E-Mobility


→ GTZ Transport News / SUTP News / SUTECA-newsgroup

→ Sustainable Transport: A Sourcebook for Policy-makers in Developing Cities
  → International Fuel Prices
Our approach

Implementing Projects
- Bus Rapid Transit System, Johannesburg, World cup 2010
- Climate oriented concept for sustainable mobility, Ukraine
- Emission Reduction in urban transport, Indonesia
- ASEAN Clean Air in Cities

Sharing Experiences and Best Practices

Developing and Disseminating Resources

- Facilitating changes
- Changes in transport policy
- Increase capacity of staff
Why do we need a Sourcebook?
The transport paradox

“Transport is unique as the only development sector that worsens as incomes rise. While sanitation, health, education and employment tend to improve through economic development, traffic congestion tends to worsen.”
Traffic jams

- limited road space blocked by cars
- inefficient use of urban roads space
Polluted air

- Urban dwellers are exposed to emissions
- Contributor to climate change
Dangerous roads

- Excessive car dependence
- Disadvantages vulnerable road users
Funding Crisis

- Funds required for public transport is spent elsewhere
- Resources for operation and maintenance is not available
Absence of parks, walkways and public space

- Available urban space is occupied by road usage
- Urban planning is road user oriented
Disregard of non-motorized transport

- Absence of bicycle lanes
- Lack of regulatory framework and enforcement
Poor quality of public transport

• Poorly maintained infrastructure
• Inefficient organisation of public transport services
Road traffic accidents

• Vulnerable road users mostly affected
• Rapidly increasing rate of traffic accidents victims
Ever-greater burdens on the poor

- Road infrastructure demands land settled by the poor
- Health impacts through road traffic in settled areas
Less liveable cities

• Cars and associated infrastructure often dominates the urban fabric
• Cars provide the solution to the problems that thy itself generate
Major causes for the current situation

- Lack of appropriate tools with decision makers to evaluate the transport projects
- Lack of appropriate capacity in municipal staff
- Lack of access to international/national best practices
- Improper skills in formulating a coherent urban transport policy

Policy makers’ view of urban transport

(as presented by Lloyd Wright, Viva Foundation)
Innovative approaches ...

by some governments

- National level support (financial) to cities to improve the urban infrastructure including transport
- Unified Transport Authority as an umbrella organisation
- Promotion of Public and Non-motorised Transport

Some still lack the knowledge on

- What kind of transport modes to promote? How to use the available funding in a sustainable way?
- How can such an authority be organised? What will be the role of the states and cities? What should be the operating framework?
- How to prioritize and incentivize this? What are the practices elsewhere? What kind of regulatory frameworks should be introduced?
Why do we need a Sourcebook?

- Lack of Information and capacity among decision makers and planners.
- Need for policy tools appropriate for application in a range of developing cities.
- The Sourcebook on Sustainable Urban Transport addresses the key areas of a sustainable transport policy framework for a developing city.
- The academic sector (e.g. universities) has also benefited from this material.
What is the Sourcebook?

- The Sourcebook consists of more than 27 modules.
- GTZ has and is still further elaborating training packages for selected modules, all available from http://www.sutp.org.
- Comments or suggestions, on any aspect of the Sourcebook, are welcomed by e-mail to sutp@sutp.org and transport@gtz.de.
Who is the Sourcebook for?

- The Sourcebook is intended for policy-makers in developing cities, and their advisors as a source of information.
- It could be easily adopted to fit a formal short course training or to serve as a guide for developing a curriculum or other training program.
What are some key features?

- A practical orientation, focusing on best practices in planning an regulation and, where possible, successful experience in developing cities.
- Contributors are leading experts in their fields.
- An attractive and easy-to-read, colour layout.
- Non-technical language (to the extent possible) with technical terms explained.
- Updates via internet.
Institutional and policy orientation

1a. The Role of Transport in Urban Development Policy (Enrique Peñalosa)
1b. Urban Transport Institutions (Richard Meakin)
1c. Private Sector Participation in Urban Transport Infrastructure Provision (Christopher Zegras, MIT)
1d. Economic Instruments (Manfred Breithaupt, GTZ)
1e. Raising Public Awareness about Sustainable Urban Transport (Karl Fjellstrom, Carlos F. Pardo, GTZ)
1f. Financing Sustainable Urban Transport (Ko Sakamoto, TRL)
Land use planning and demand management

2a. Land Use Planning and Urban Transport (Rudolf Petersen, Wuppertal Institute)
2b. Mobility Management (Todd Litman, VTPI)
Transit, walking and cycling

3a. Mass Transit Options (Lloyd Wright, ITDP; Karl Fjellstrom, GTZ)
3b. Bus Rapid Transit (Lloyd Wright, ITDP)
3c. Bus Regulation & Planning (Richard Meakin)
3d. Preserving and Expanding the Role of Nonmotorised Transport (Walter Hook, ITDP)
3e. Car-Free Development (Lloyd Wright, ITDP)
Vehicles and fuels

4a. Cleaner Fuels and Vehicle Technologies (Michael Walsh; Reinhard Kolke, Umweltbundesamt)

4b. Inspection & Maintenance and Roadworthiness (Reinhard Kolke, UBA)

4c. Two- and Three-Wheelers (Jitendra Shah, World Bank; N.V. Iyer, Bajaj Auto)

4d. Natural Gas Vehicles (MVV InnoTec)

4e. Intelligent Transport Systems (Phil Sayeg, TRA; Phil Charles, University of Queensland)

4f. EcoDriving (VTL; Manfred Breithaupt, Oliver Eberz, GTZ)
Environmental and health impacts

5a. Air Quality Management (Dietrich Schwela, WHO)
5b. Urban Road Safety (Jacqueline Lacroix, DVR; David Silcock, GRSP)
5c. Noise and its Abatement (Civic Exchange Hong Kong; GTZ; UBA)
5d. CDM in the Transport Sector (Jürg M. Grütter)
5e. Transport and Climate Change (Holger Dalkmann; Charlotte Brannigan, C4S)
5f. Adapting Urban Transport to Climate Change (Urda Eichhorst, Wuppertal Institute)
Resources

6. Resources for Policy-makers (GTZ)

Social and cross-cutting issues on urban transport

7a. Gender and Urban Transport: Smart and Affordable (Mika Kunieda; Aimée Gauthier)
Financing Sustainable Urban Transport

- The importance of finance in sustainable urban transport
- The double challenge: financing sustainable urban transport, sustainably
- Approaches towards a sustainable system
The importance of finance in sustainable urban transport

- Gap between need for an urban transport system and the financial resources
  - Infrastructure for public transport and non-motorised transport often unfunded
  - Public transport services often informal
  - Operation and maintenance falls short
- Large amounts spent on road infrastructure with negative impacts
- Various actors involved
- 15-25% of annual expenditures of developing cities spent on transport

<table>
<thead>
<tr>
<th>Income range</th>
<th>Percentage of income on travel to work</th>
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</thead>
<tbody>
<tr>
<td>Bottom quintile</td>
<td>31.6%</td>
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<tr>
<td>Forth quintile</td>
<td>24.0%</td>
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<tr>
<td>Third quintile</td>
<td>15.3%</td>
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<td>Second quintile</td>
<td>10.7%</td>
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<td>Top quintile</td>
<td>8.5%</td>
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<tr>
<td>Average</td>
<td>12.8%</td>
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</tbody>
</table>

Source: World Bank, 2005

Expenditures on travel to work in Buenos Aires, 2002
The double challenge: financing sustainable urban transport, sustainably

- What is a sustainable urban transport system?
- How can urban transport be financed in a sustainable way?
- What needs to be financed?
  - Capital investment
  - Recurrent expenditures
- What are the barriers that need to be acknowledged?
  - Trends in economic development
  - Bias towards unsustainable modes
  - External cost not reflected in prices
  - Governance and public factors
Approaches towards a sustainable system
Land use planning and urban transport

- Impact of land use on urban transport
- Urban growth patterns and growth beyond city borders
- Influence of transport on spatial development
- How to organise land use planning
- Land use planning for reduced travel demand
more car traffic

shift from pedestrian to car traffic

car traffic

land use for roads

emissions, noise, accidents

traffic increase

increased distances
- within residential areas
- to workplaces
- to leisure areas

= need for more transportation

reduced attraction of pedestrian and bicycle traffic and reduced access to public transport
Problems of city sprawl

- High average trip distance
- High dependency on private cars
- Noise and air pollution
- Traffic accidents
- Congestion
- High energy consumption
- Poor market share of public transport
- Dangerous conditions for non-motorised transport
- Long trip lengths for pedestrians
Influence of spatial development on transport

- High quality public transport with dense network and high frequency economically only feasible with enough customers per bus kilometre
- Mixed use of urban areas enable reduced trip distances and multi-directional distribution of demand
Influence of transport on spatial development

- Transport development changes accessibility which influences the location of housing and businesses
- Improvement of transport supply might lead to a shift in location preferences
Preserving and Expanding the Role of Nonmotorised Transport

- What are the benefits of non-motorized transport
- How to regulate non-motorized transport
- Non-motorised transport planning
- How to achieve implementation
Benefits of non-motorized transport

- No air pollution, no greenhouse gases, little noise pollution
- Efficient use of road space
- Efficient and sustainable means of making short trips
- Aerobic exercise
- Reducing dependence on (imported) oil
- Social inclusion of the poor
Thank you for your kind attention

For more information and documents

www.gtz.de/transport
www.gtz.de/fuelprices
www.gtz.de/climateandtransport
www.sutp.org

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