Transportation Demand Management –
International Overview

Armin Wagner
Transport Engineer, GTZ, Germany
(Armin.Wagner@gtz.de)
Global Challenges
- What are the greatest worries?

Climate Change
- 62% in 2008
- 50% in 2009

Recession
- 24% in 2008
- 52% in 2009

How can we sell sustainable transport in these times?
Infrastructure related factors are named among the most important ones when citizens are asked for key criteria that determine the quality of living in a city. The quality of transport and other infrastructure directly influences the quality of the environment. Well developed and inexpensive public transport systems can also reduce cost of living. In highly liveable cities people rather use buses, trains or their bike to get around since it is fast and saves them money. Source: Veolia, 2008
## Global Challenges - Quality of Living

<table>
<thead>
<tr>
<th>City</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geneva</td>
<td>3rd Mercer Quality of Living Survey</td>
</tr>
<tr>
<td>Singapore</td>
<td>1st Infrastructure Ranking</td>
</tr>
<tr>
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<td>1st Economist Liveability Ranking</td>
</tr>
<tr>
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</tr>
<tr>
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</tr>
<tr>
<td>Your City?</td>
<td>?</td>
</tr>
</tbody>
</table>
How successful is Zurich?

- Private car use is smaller than 30% whereas public transport covers nearly 40% of all trips.
Why is Zurich so successful?

**Reasons for the success of today’s transport system**

**Visible predominance in the streets**
- Frequent bus and tram circulation

**High quality of services**
- Comprehensive network
- High frequency
- Clear timetables at each stop

**Telematics system**
- Priority for buses and trams at intersections

**Integrated Networks and Timetables**
- Complete integration of the suburban railway lines into the city’s network
- Integrated fare system, coordinated timetables

**Context**

Two major projects for underground transportation systems were rejected by voters in referendums in 1962 and 1973.

The town council saw this as a mandate to continue working with the existing transport system based on trams and buses and to develop these into a modern, efficient and attractive transport system.
Singapore’s comprehensive approach to TDM

- Vehicle taxation to influence travel demand.
- Vehicle taxes are imposed at various points, including import, sale, and annual registration.
- Plus: strong pull measures with attractive public transport
- Land use and transport integration
Same vehicle - huge price differences
2008 Honda Civic sedan VTi-S AT (1.8L AT)

USA: US$15,010 suggested starting price = S$ 21,300

Australia: AUD$23,790 = S$ 30,645

Thailand: THB768,000 = S$ 34,612

UK: £14,880 = S$ 41,945

Mumbai, India: INR1,218,700 = S$ 43,910

Malaysia: RM113,800 = S$ 49,908

Singapore: S$ 77,800 (including $8,000 COE)

Source: Time Out Magazine Singapore, March 2008
Results

Fairness
- pricing structure that is time and congestion sensitive
- charge on a per-trip basis; shift: ownership toward use-based charges

Convenience for users, regulators
- automation, electronic payment, information provision

Reliability and effectiveness
- automation, traffic control & optimization
- Quota system limits number of cars

Strong impact/goals reached
- modal split: public transport share rose from 46% in 1974 to over 60% today
- rising revenues, progressive extension to congested roads
- Total reduction of traffic during charging period by 13% and a rise of traffic speed by 22%

Lessons learned

Only a policy mix is successful
- EI combined with strong improvement of public transport service quality
- A range of EI, land use and mobility management measures

Win-win solutions achievable
- environmental objectives and revenue goals are compatible
- improvement of urban living conditions goes parallel with satisfying demand for mobility.
- However, doubtful that Singapore solutions will be directly transferable to other places
Defining Transportation Demand Management

Transport Demand Management shall

• reduce the total volume of traffic
• promote shifts towards more sustainable modes of transport

with the objectives to

• reduce traffic congestion
• reduce adverse effects on the environment or public health
• generate additional revenue to improve public transport and NMT by pricing mechanisms
Successful Transport Demand Management comprises of:
• Improved mobility options
• Economic Measures
• Land use policies

...And can include:
- Land use and transport development
- Public transport integration (fares, timeTables, …)
- Parking controls and management
- Regulatory controls
- Physical measures such as bus and pedestrian priority
- Pricing & charges through fuels, annual taxes
- Congestion charging
<table>
<thead>
<tr>
<th>Planning Instruments</th>
<th>Integration of Land Use and Transport Planning</th>
<th>e.g. Transit-oriented development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Transport Promotion</td>
<td>e.g. Priority at Intersections</td>
<td></td>
</tr>
<tr>
<td>Strategies for Non-Motorised Modes</td>
<td>e.g. Cycling Policy</td>
<td></td>
</tr>
<tr>
<td>Regulatory Instruments</td>
<td>Physical Restraint Measures</td>
<td>e.g. Pedestrian zones</td>
</tr>
<tr>
<td>Traffic Management Measures</td>
<td>ITS</td>
<td></td>
</tr>
<tr>
<td>Regulation of Parking Supply</td>
<td>Maximum parking limits</td>
<td></td>
</tr>
<tr>
<td>Low Emission Zone</td>
<td>In City Center</td>
<td></td>
</tr>
<tr>
<td>Speed Restrictions (30 km/h)</td>
<td>In built up areas</td>
<td></td>
</tr>
<tr>
<td>Economic Instruments</td>
<td>Road Pricing</td>
<td>e.g. during peak hours</td>
</tr>
<tr>
<td>Tax Incentives</td>
<td>e.g. for cleaner vehicles</td>
<td></td>
</tr>
<tr>
<td>Parking Pricing</td>
<td>Off- and on-street parking</td>
<td></td>
</tr>
<tr>
<td>Information Instruments</td>
<td>Public Awareness Campaigns</td>
<td>E.g. participation in Mobility Weeks</td>
</tr>
<tr>
<td>Stakeholder Conferences</td>
<td>On transport policy documents</td>
<td></td>
</tr>
<tr>
<td>Driver Training / Eco Driving</td>
<td>e.g. for City drivers</td>
<td></td>
</tr>
<tr>
<td>Promotion of Mobility Management in Companies</td>
<td>e.g. Employer Passes, flexible work hours</td>
<td></td>
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<tr>
<td>Technology</td>
<td>Promotion of Cleaner Technology</td>
<td>e.g. Green Procurement</td>
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</tbody>
</table>

Good examples score more than 10 out of the 16 criteria
Contents

Road Pricing and Congestion Charging
Parking measures
Physical restraint measures
Fuel pricing, vehicle taxation, environmentally oriented taxation
Land use
Public transport
Case studies of TDM measures

Free download at www.sutp.org
Projects

- Indonesia: Emission Reductions in Urban Transport
- Timor Leste: Maritime Sector
- Bangladesh: Rural Infrastructure Improvement Project
- South Africa: BRT Planning Johannesburg
- ASEAN: Clean Air for Smaller Cities in the ASEAN Region
- ASEAN: Sustainable Port Management
- Liberia: Capacity Development in Transport
- Africa: Capacity Development REC
- Burkina Faso: Roads Rehabilitation
- Namibia: Strengthening of Institutional and Management Capacity in the Road Sector
- South Africa: BRT Planning Johannesburg
- Ukraine: Climate-Oriented Concept for Sustainable Mobility
- India: Cochin, Shimla, Raipur - Urban Transport
- Afghanistan: Air traffic control
- China: E-Mobility
- DR Congo: Roads Rehabilitation
- Bangladesh: Rural Infrastructure Improvement Project
- Vietnam: Public Transport Improvement Danang
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The Sustainable Urban Transport webpage (www.sutp.org) is an internationally recognized source for information and networking on sustainable transport.

Monthly, over 15,000 users are visiting the page, to retrieve information and to stay updated with international trends in sustainable development.

A bi-monthly newsletter shares updates on past and upcoming events, new publications, latest research and background information.
For more information and documents

www.gtz.de/transport
www.gtz.de/fuelprices
www.gtz.de/climateandtransport
www.gtz.de/roadssafety
www.sutp.org
## Global Challenges - Quality of Living

<table>
<thead>
<tr>
<th>City</th>
<th>City excellence</th>
<th>Public transport passengers 2008 (mio.)</th>
<th>Integrated public transport system</th>
<th>Airport express / train connection</th>
<th>Employer pass</th>
<th>Cycling policy</th>
<th>Real time internet journey planner</th>
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<td>3rd Mercer Quality of Living Survey</td>
<td>155 (’07)</td>
<td>✓</td>
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<td>746</td>
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<td>304</td>
<td>✓</td>
<td>✓ (’09)</td>
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Efficient public transport system

- improved air quality
  - low noise levels
  - lower space usage
  - convenient travel

- short and reliable journey times
  - minimized time losses
  - higher productivity
  - cost savings

High quality of living

Economic competitiveness

Sustainable economic success and prosperity as well as ecological sustainability