Integrated Planning, Institutional Issues and Policy Coordination

Manfred Breithaupt
GIZ – Water, Energy, Transport
Unattractive public transport systems

• Insufficient physical integration of various public transport modes and between public transport, walking, cycling and private car
• No integrated and transparent time schedules
• Signage, customer information on timetables, connecting services and fares not appropriate

→ discouraging the use of public transport
Unattractive public transport systems

- Insufficient cooperation between public transport operators
- Each change of mode normally requires the purchase of another ticket
- No uniform service level standards among modes and operators
What do citizens want?

- Convenience
- Easy Access
- Comfort
- Frequent Service
- Rapid journey
- Safety & Security
- Customer Service
- Affordability
- Have a network

Public Transport should be designed around the customer and not around a technology.
Conventional Public Transport Planning Approach

Step 1. Choose technology

Technology chosen due to manufacturer lobbying efforts
Design chosen to please existing operators
Technology chosen to help property developer

Step 2. Fit city to the technology

Reduce size of network due to financing limitations
Charge higher fares in attempt to pay for expensive system
Operate infrequent services to reduce operating losses
Require large subsidies for lifetime of system’s operation

Step 3. Force customer to adapt to technology

Extensive marketing campaign to convince customers that system is in their interest
The innovative and successful approach

Step 1. Design a system from customer’s perspective
- Rapid travel time
- Few transfers
- Frequent service
- Short walk to station from home / office
- Full network of destinations
- Low fare cost
- Safe vehicle operation
- Secure environment
- Comfortable and clean system
- Friendly and helpful staff

Step 2. Evaluate customer-driven options from municipality perspective
- Low infrastructure costs
- Traffic reduction benefits
- Environmental benefits
- Economic / employment benefits
- Social equity benefits
- City image

Step 3. Decision
- Technology decision based on customer needs and municipality requirements
Main Components of integrated Urban Transport

- Public Transport with priority over all other modes on the road
- Non-motorised transport
- Creating/conserving public space
- PT Integration
- TDM measures
- Vehicles and fuels (Technol. may support)

Do you see these factors here?
Improving mobility through the A-S-I approach

<table>
<thead>
<tr>
<th>AVOID</th>
<th>SHIFT</th>
<th>IMPROVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREI</td>
<td>PREI</td>
<td>REIT</td>
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</tbody>
</table>

- **AVOID**
  - **Travel does not take place**
  - Need / desire to travel has been reduced

- **SHIFT**
  - **Non-motorised transport**
  - Walking and cycling
  - **Public motorised transport**
  - Public Transport - Bus, rail
  - **Individual motorised transport**
  - Car, motorcycles, taxi

**Decision to travel or not to travel and by which mode affects fuel consumption, and therefore carbon emissions, congestion, accidents, etc.**

- Number of vehicles, level of congestion, driver behaviour, vehicle condition, fuel type.

**NEGATIVE EXTERNALITIES**

**Available Instruments**

- **(P) Planning instruments**
  - Land use planning, planning/providing for public transport and non-motorised modes.

- **(R) Regulatory instruments**
  - Physical norms and standards, traffic organization, production processes.

- **(E) Economic instruments**
  - Fuel taxes, road pricing, subsidies, purchase taxes, fees and levies, emissions trading.

- **(I) Information instruments**
  - Public awareness campaigns, marketing schemes, co-operative agreements, etc.

- **(T) Technological instruments**
  - Fuel improvement, cleaner technologies, end-of-pipe control devices, cleaner production.

**Source:** Adapted from Dalkmann and Brannigan (2007)
Under-resourced institutions, lacking in overall capacity to plan, execute, maintain and deliver affordable sustainable urban transport.

Fragmented policy formulation and implementation with lack of cooperation among multiple ministries and transport agencies.

Lack of finances for transport infrastructure and public transport services resulting in extensive institutional and governmental support, concessions and subsidies.

Insufficient financial procedures and accounting/audit systems.

Procedural constraints that impede the delivery of urban transport infrastructure and services.

Inadequate legal and enforcement frameworks and capacities needed for urban transport and land-use developments.

Absence of comprehensive information systems, disclosures and public participation.

Source: Adapted from Jain, 2011
Administrative and Governance Issues

- Overlapping or fragmented institutional responsibilities
- Horizontal co-ordination and vertical integration between departments has always been a challenge
- **Lack of a single lead authority** to provide direction and decision-making leads to chaos and confusion among other actors involved
- Regularly changing organizational arrangements
- Countless committees and meetings with many times questionable outcomes
- City governments often do not see urban transport as a basic municipal service/responsibility (like water, sanitation) and hence do not work towards its planning and provision.
Multiple Actors (an Example)

- **Centre-level**
  Ministries (Road transport and Highways, Urban Development, Railways, Heavy Industries, Environment, Home, Housing and Urban Poverty Alleviation, Finance, Petroleum and Natural Gas) – policy making, financial assistance, standard setting

  Planning Commission- Five year plans

- **State-level**
  Transport Department- Vehicle licensing and registration; emission norms
  State Transport Undertakings- Inter and intra city Public transport (bus) provision
  State Development Authorities- carry out city and satellite town planning
  The Public Works Department- has responsibility for roads and bridges in the cities
  Pollution control board- enforces emission norms
  Labour department- enforces labour laws
  Finance Department- budgetary allocations, impose and collect different taxes

- **City-level**
  Local municipal government- provides roads, infrastructure like bus stands, regulates traffic along with Traffic Police, controls construction, etc.
  Local city development authority-discharges town planning functions
  Traffic Police-regulates traffic
  Departments or SOEs plan and manage bus operations
Transport Planning in Germany

Interlinked Planning System

Source: Institut für Stadtplanung und Städtebau der Universität Duisburg-Essen
Transport Development Planning

Transport development planning (Verkehrsentwicklungsplanung - VEP) is an integrated, forward-looking, systematic preparation and realisation of decision-making processes - with the purpose of influencing movements of people and goods within a planning area by structural, constructional, operational, regulatory, tariff and price political measures towards certain strategic aims.

**VEP = continuous duty of local and regional planning authorities**

- Various reporting tasks, data collection and evaluation processes
- Transport Development Plans required for land-use planning and as base for further strategic planning documents, such as
  - Local/regional public transport plans
  - Cycling and Walking strategies
  - Commercial transport concepts (Freight plans)
  - Road Safety programmes
  - Noise reduction plans
  - Clean-air plans
Urban mobility planning allows to overcome antiquated paradigms of transport planning

<table>
<thead>
<tr>
<th>Traditional Transport Planning</th>
<th>Sustainable Urban Mobility Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on traffic</td>
<td>Focus on people</td>
</tr>
<tr>
<td>Primary objective:</td>
<td>Primary objectives:</td>
</tr>
<tr>
<td>Traffic flow capacity and speed</td>
<td>Accessibility and quality of life</td>
</tr>
<tr>
<td>Political mandates and planning by experts</td>
<td>Important stakeholders are actively involved</td>
</tr>
<tr>
<td>Domain of traffic engineers</td>
<td>Combination of infrastructure, market, services, information, and promotion</td>
</tr>
<tr>
<td>Infrastructure as the main topic</td>
<td></td>
</tr>
<tr>
<td>Investment-guided planning</td>
<td>Cost efficient achievement of goals</td>
</tr>
<tr>
<td>Focus on large and costly projects</td>
<td>Individual efficiency increase and optimisation</td>
</tr>
<tr>
<td>Limited impact assessment</td>
<td>Extensive evaluation of impacts and shaping of a learning process</td>
</tr>
</tbody>
</table>

„If you plan for people and places, you get people and places.“

„If you plan for cars and traffic, you get cars and traffic.“

Source: Rupprecht Consult, quotations by Fred Kent, President of “Project for Public Space“:
Cities can’t improve everything at the same time!

✓ Clear priorities pay off in the short and long-term:
  ▪ Investment priority should be given to public transport, walking, cycling & integration of different transport modes (Modal integration, transit-oriented/mixed land-use development)

✓ Investment priorities derive from national urban transport policy and urban mobility planning

✓ Capacity development for planning authorities, planning processes and civic participation pay off!

… allows for the more efficient use of scarce public funds
A country’s sustainable development, climate & energy goals

The country’s transport policy & strategy – including the national urban transport policy

Institutions and a legal framework supporting these goals

Transport taxation and charging policies (Where the money comes from?)

Appropriate spending - based on standardized evaluation criteria, urban mobility plans (Where the money goes?)

Counter-productive counter measures, such as funding for private transport through cheap loans for buying vehicles, too low fuel taxes or even fuel subsidies, etc. should be avoided!
GERMANY – Transport Development Plans

- “non-obligatory” process - but required for receiving national funds for large-scale projects and as input for sectoral (obligatory) plans

- Transport Development Plans required for land-use planning and as base for further strategic planning documents, such as
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  - Cycling and Walking strategies
  - Commercial transport concepts (Freight plans)
  - Road Safety programmes
  - Noise reduction plans
  - Clean-air plans
Structure and Contents

- Results and experiences of previous strategy
- Long-term overarching objectives, e.g.
  - Energy
  - Climate Protection
  - Safeguarding Mobility
- Guidelines of related policy field
  - Urban Development
  - Environment
  - Economy
- Framework Conditions
  - Population
  - Spatial Structure
  - Finances

Complex Structure:
Approaching different aspects individually
Combining measures in integrated strategic packages
Integrated impact assessment to identify missing topics

Analyses and Forecasts
- Guiding Vision (integrated)
- Aims (12 quality aims, 4 dimensions)
- Strategy (7 partial strategies)
- Impact Assessment / Evaluation
- Measures (5 different categories)
- Infrastructure Long-term options

Example: Integrated Mobility Planning in Berlin
Target-Orientation, Interconnection of Strategy and measures – the example *Transport Development Plan Berlin*

**Mission Statement 2040 (integrated)**

- Ecologic
- Economic
- Social
- Institutional

**Strategies**

- Promotion of Public Transport, walking, cycling
- Quality of Life and Environment
- Supporting commercial transport
- Mobility and traffic management
- Inner City Concept
- Regional Concept (Brandenburg)
- Intermodality

**Measures**

- Land Use
- Regulatory and price measures
- Organisational
- Communication
- Infrastructure

Source: „Planwerk StEP Verkehr“ (Overview)
Responsibility & Practice - examples

- **Berlin: City Transport Development Plan (Stadtentwicklungsplan Verkehr)**

  - Administrational project group
  - Advisory Council
  - Fractions (pol. Parties in City Council)
  - Construction departments of city districts
  - Economic Associations
  - Public Transport authorities (transit alliance, operators)
  - Citizen Groups / NGOs and special interest groups

- Berlins TDP are coordinated with the responsible planning authorities of the state Brandenburg

EU - Sustainable Urban Mobility Plans (SUMP)

“… strategic plan designed to satisfy the mobility needs of people and businesses in cities and their surroundings for a better quality of life. It builds on existing planning practices and takes due consideration of integration, participation, and evaluation principles.”

A guideline for Urban Mobility Planning in EU

www.mobilityplans.eu
Sustainable Urban Mobility Planning

1. Determine your potential for a successful SUMP
   1.1 Commit to overall sustainable mobility principles
   1.2 Assess impact of regional/national framework
   1.3 Conduct self-assessment
   1.4 Review availability of resources
   1.5 Define basic timeline
   1.6 Identify key actors and stakeholders

2. Define the development process and scope of plan
   2.1 Look beyond your own boundaries and responsibilities
   2.2 Strive for policy coordination and an integrated planning approach
   2.3 Plan stakeholder and citizen involvement
   2.4 Agree on workplan and management arrangements

3. Analyse the mobility situation and develop scenarios
   3.1 Prepare an analysis of problems and opportunities
   3.2 Develop scenarios

4. Develop a common vision
   4.1 Develop a common vision of mobility and beyond
   4.2 Actively inform the public

5. Set priorities and measurable targets
   5.1 Identify the priorities for mobility
   5.2 Develop SMART targets

6. Develop effective packages of measures
   6.1 Identify the most effective measures
   6.2 Learn from others’ experience
   6.3 Consider best value for money
   6.4 Use synergies and create integrated packages of measures

Implementing the plan

8. Build monitoring and assessment into the plan
   8.1 Arrange for monitoring and evaluation

9. Adopt Sustainable Urban Mobility Plan
   9.1 Check the quality of the plan
   9.2 Adopt the plan
   9.3 Create ownership of the plan

7. Agree on clear responsibilities and allocate funding
   7.1 Assign responsibilities and resources
   7.2 Prepare an action and budget plan

10. Ensure proper management and communication
    10.1 Manage plan implementation
    10.2 Inform and engage the citizens
    10.3 Check progress towards achieving the objectives

11. Learn the lessons
    11.1 Update current plan regularly
    11.2 Review achievements – understand success and failure
    11.3 Identify new challenges for next SUMP generation

Milestone: SUMP document adopted

Milestone: Final impact assessment concluded

Starting Point: "We want to improve mobility and quality of life for our citizens!"
### Various financing options for different ranges of application

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Amount typically involved</th>
<th>Main components supported</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Infrastructure</td>
</tr>
<tr>
<td>Parking charges</td>
<td>$</td>
<td>x</td>
</tr>
<tr>
<td>Road Pricing/congestion charge</td>
<td>$$</td>
<td>x</td>
</tr>
<tr>
<td>Employer contributions</td>
<td>$$</td>
<td>x</td>
</tr>
<tr>
<td>Fare box revenues</td>
<td>$$</td>
<td>x</td>
</tr>
<tr>
<td>Public transport subsidies</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>Land development/land value taxes</td>
<td>$$$</td>
<td>x</td>
</tr>
<tr>
<td>Public private partnerships</td>
<td>$$</td>
<td>x</td>
</tr>
<tr>
<td>Advertising</td>
<td>$</td>
<td>x</td>
</tr>
<tr>
<td>Fuel taxes/surcharges</td>
<td>$$$</td>
<td>x</td>
</tr>
<tr>
<td>Vehicle related taxes and charges, including auctioning of quotas</td>
<td>$$$</td>
<td>x</td>
</tr>
<tr>
<td>Loans and grants</td>
<td>$$</td>
<td>x</td>
</tr>
<tr>
<td>CDM</td>
<td>$</td>
<td>x</td>
</tr>
<tr>
<td>GEF</td>
<td>$</td>
<td>x</td>
</tr>
<tr>
<td>Multilateral/bilateral climate funds</td>
<td>$</td>
<td>x</td>
</tr>
</tbody>
</table>
Potential Building Blocks

... of sustainable urban transport financing

Funding Programs

Guidance for cities

Mobilise local funding options

Urban Mobility Plans

Explore role of provinces

Coordinate responsibilities

1 Allocation of grants/subsidies

2

3
There is an urgent requirement for all metropolitan areas to develop integrated urban transport planning authorities (such as UMTAs), with the target to overcome fragmented and often unfocused planning by the previous multilevel horizontal and vertical Authorities.

Examples:
- LTA, Singapore
- TfL, London
- Many European Cities
- Curitiba
When developing a viable public transport industry following factors are important:

- Necessity of *customer orientation* and evaluation of the quality of the public transport system
- Formulation of quality standards
- Instruments for quality control
- Sanctions and incentives
- Good image of public transport resulting from communication with customers
Single public monopoly

Mixed system (competitive market with public oversight)

Thousands of informal operators

Source: Meakin, 2003
Singapore

1. Urban Redevelopment Authority (URA): Spacial and Urban Dev Planning
2. LTA: providing basic transport infrastructure
3. Regulator (Public Transport Council PTC)

- PTC is an independent body to safeguard the interests of passengers by ensuring adequate public transport, reasonable fares and at the same time ensuring the financial viability of operators
- PTC has 16 members from a wide cross-section of society and

Public Transport Operators (PTOs) operate buses and trains
Key Functions of PTC

- Licensing of Bus Services
- Regulation of Bus Service Standards
- Regulation of Bus/Train Fares
- Feedback & Communications
- Policy Review & Development
- Corporate Management & Services
- Licensing of Bus Service Operators
- Regulation of Ticket Payment Services
- Regulation of Penalty Fee
PT Passenger Satisfaction (%) in 2010

- Security & safety: 91
- Accessibility: 90
- Comfort: 80
- Travel time: 85
- Waiting time: 68

In terms of percentage of overall satisfaction, 96% were satisfied with MRT services compared to 92.5% for bus services.
The central challenge is to ensure that system benefits are distributed among system users and operators.

**“Traditional” System**
- Low entrance barriers
- Over-supply
  - Inefficiency / overcosts
    - Losses
    - Incapacity to invest
    - Safety
  - Low prices
    - Bad service
    - Travel times

**Structured model**
- Competition for the market
- Regulated supply
  - Efficient operation
  - Rentability
  - Objective level of service
- Low prices

Slides developed originally by Dario Hidalgo
Bogota: Organisational structure and characteristics

Planning, management, and quality control
Public company

Infrastructure
Private sector
- Specifications developed by public sector
- Contracts awarded through competitive bidding

Fare collection
Private sector
- Concession awarded through competitive bidding
- Private operators are responsible for purchasing fare equipment and managing fare process

Busway operations
Private sector
- Concessions awarded through competitive bidding
- Private operators are responsible for purchasing vehicles and operating vehicles
Organizational structure and responsibilities

TRANSMILENIO S.A.
Planning, Management and Control

Infrastructure (Public)
• Corridors
• Stations
• Garages
• Complementary Infrastructure

Fare (Private)
• Equipments
• Smart Cards
• Trust Fund

Operation (Private)
• Multiple Companies on each trunk line.
• Buses
• Employees
## Assignment of financial responsibility between Public and Private Sectors

<table>
<thead>
<tr>
<th></th>
<th>Curitiba URBS</th>
<th>Bogota TransMilenio</th>
<th>Santiago TransSantiago</th>
<th>TransJakarta</th>
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</thead>
<tbody>
<tr>
<td><strong>Bus Procurement</strong></td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
<td>Public (Phase I)</td>
</tr>
<tr>
<td><strong>Bus Operations</strong></td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
</tr>
<tr>
<td><strong>Fare Collection</strong></td>
<td>Public</td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
</tr>
<tr>
<td><strong>Trust Fund</strong></td>
<td>Public</td>
<td>Private</td>
<td>Private</td>
<td>Public (gen. govt revenue)</td>
</tr>
<tr>
<td><strong>Control Center</strong></td>
<td>Public</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
</tr>
<tr>
<td><strong>Operational Planning</strong></td>
<td>Public</td>
<td>Public</td>
<td>Private</td>
<td>Private (?)</td>
</tr>
<tr>
<td><strong>Setting the Fare</strong></td>
<td>Public</td>
<td>Public</td>
<td>Public</td>
<td>Public</td>
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<tr>
<td><strong>System Design</strong></td>
<td>Public</td>
<td>Public</td>
<td>Public</td>
<td>Public</td>
</tr>
<tr>
<td><strong>Service Standards</strong></td>
<td>Public</td>
<td>Public</td>
<td>Public</td>
<td>(none)</td>
</tr>
</tbody>
</table>
History of public transport integration in Germany

Germany before 1970

- every transport company had its own tariff for local public transport
- no transparency in tariffs and no integrated coordination of schedules
- Tickets of different transport companies were not accepted by the others

Development since 1970

Phase 1
- **Tariff associations** (public transport companies accepting each others tickets leading to associated tariffs)

Phase 2
- **Transport operator associations** (coordination and increase of transport planning and marketing, coordinated timetables for public transport)

Phase 3
- **Transit Alliances** (contracts on tariffs, distribution of fare income and shared timetables)

Today:

*Transit Alliances all over Germany (Austria, Switzerland, Netherlands, ...)*

*Adapted from TraffiQ*
Transit Alliances in Germany
International Experiences: Munich

- Münchner Verkehrsverbund
- „1 network, 1 timetable, 1 tariff“
- Includes all public transport modes with different operators
- Bus, tram, subway, light rail, suburban trains, …
Transit Alliances in Germany

Advantages for the customer

- Free choice of PT mode (e.g. bus, tram, regional rail)
- Comprehensible strategy „one fare - one ticket“
- Coordinated timetables (best connections)
- Improvement of quality

Advantages for the association

- Synergy effects for marketing, customer information etc.
- Unification of distribution (e.g. ticketing)
- Simple fare system for all public transport systems
- Consistent market presence
- Demand on PT increased considerably since creation of the transit alliances, e.g. in Munich and Hamburg 3 to 4 fold.

Experience of German associations over nearly 40 years (since 1965)

- Increasing demand and increasing fare income
Regional Alliance (RMV) - Structure

Members of the RMV
(The Rhine Main Transit Alliance-Hesse, Germany)

27 partners constitute the RMV Supervisory Board, thereof:

- 15 rural districts
- 4 large cities (e.g. Frankfurt)
- 7 medium-sized towns
- The federal state of Hessen
  - 368 Local authority districts within the RMV area
  - 153 Transport companies
  - 112 fare systems harmonised and integrated
3-level-organisation of local and regional public transport

- **Political level**: City of Frankfurt (CoF) / municipality
- **Executive level**: Local PTO* traffiQ (non profit organisation formally privatized but 100% owned by CoF)
- **Regional level**: Regional Transit Alliance (RMV)

**TENDERING and CONTRACTS** (competition)

- **Operational level**:
  - Private operators
  - Public operator (VGF) [owned by CoF]
  - German Rail (DB)
  - Regional operators

* PTO = Public Transport Organisation
Local Public Transport System in Frankfurt - Corporate Design
The Tendered Bus System in Frankfurt

Key data

► 5 lots/bundle of bus lines
► approx. 2-3 million km per year on each lot
► Economic bundling
► Bundling of profitable and less-profitable lines
► Bundling in order to reach smaller and medium-sized business companies as target group
► Level of service has been increasing
Cost savings and quality gains through tendering of bus operations

Example – Bus services in Frankfurt/Main
Responsible entity - Public Transport Regulatory Authority of the city of Frankfurt (traffiQ)

- Service contracts for 5 lots of bus lines
- Annually 2-3 Mio. VKT per lot
- Bundling of profitable and less profitable lines
- Private and municipal operators
- Still one unified “brand”
- Increase in cost efficiency, per vkm costs reduced by approx 25 %
- Increased service quality

Source: TraffiQ, 2013
Instruments for quality management

- Agreement on common quality and environmental standards between transport operators (via the Alliances)
- Quality standards being part of the service contracts; controlled by the responsible authorities (assessing punctuality etc.)
- Measuring passenger satisfaction (e.g. “railway passenger barometer” of the German NGO Verkehrsclub Deutschland (VCD))
- Complaints management
The example of Copenhagen -
Customer satisfaction as a basis for bonus scheme

- Clean exterior, condition of bus
- Cleanliness inside the bus
- Condition of interior furnishings of bus
- Temperature
- Air conditioning
- Limiting noise and vibration
- Adherence to schedules, punctuality
- Style of driving
- Driver’s conduct towards passengers
- General appearance and behaviour of driver
1. We leave on schedule.
2. We will not leave early.
3. You will be informed of an approaching stop.
4. You will always know where we are going.
5. Information will be available before you board.
6. Information will be available on board.
7. We will answer your questions.
8. You will be informed when things go wrong.
9. Carriers will be clean, making your journey pleasant.
10. We will reply when you write to us.

We will listen to you.

We pay if you arrive late.
New Publication:

Transit Alliances – Towards Fully Integrated Public Transport

www.sutp.org
SUTP Website (Engl., CN, Span.)

- Active since 2002
- GIZ SUTP Publications
- Multimedia (gallery, videos)
- 30,000 visitors (per month)
- Almost 50,000 registered users
- Approx. 10,000 downloads (per month)

New updated website since March 2012

www.sutp.org
Write to us for any assistance on making Sustainable Urban Transport a reality in your city

GIZ SUTP project

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