Sustainable Urban Mobility Principles and Planning
GIZ: Transformative Urban Mobility Initiative (TUMI) and Mobilize Your City (MYC)

Holger Dalkmann
Abuja, Nigeria SSATP – 02.07.2018
Introduction Sustainable Urban Transport: Current Challenges and Internationally Acknowledged Examples (Holger Dalkmann (on behalf of GIZ))

Initiatives on Urban Mobility:

• Transport Technology Research Innovation for International Development (T-TRIID), Bernard Obika (IMC)

• Presentation on Mobilize Your City (MYC) and Transformative Urban Mobility Initiative (TUMI)

• Questions and Answers

• National Urban Mobility Planning and Policy (Holger Dalkmann)

• Plenary Discussion
How to scale urban mobility in African countries through national mobility policy?

How to spread innovative solutions for urban mobility in African cities?

What new collaborations and partnerships are needed to scale up sustainable urban mobility in Africa?
Urban Transport: Current Challenges and Internationally Acknowledged Examples
The adverse impacts of growth in motorization - in economic, environmental and social terms - are ruining the quality of life in our cities and our global climate.
In most cities, mobility is still dominated by personal motorized transport. Many people choose cars to move around...
Challenges in developing cities

Road transport is a major contributor to air pollution and climate change. Transport contributes to approx. 25% of energy-related CO₂ emissions and is still growing!
Challenges in cities around the world

Worldwide, 1.3 Million road deaths and up to 50 Million people injured per year
Challenges around the world

...where is the space for people? the silent pedestrian, the invisible cyclist must be seen
Failures in Urban and Transport Planning

Trends in cities

- Rapidly increasing car ownership and use
- Declining mode share of public transport, walking, and cycling
- Declining city centres; rapid decentralisation into car-oriented suburban sprawl

Focus was given to road design:

- More infrastructure for cars
- More space for motorized vehicles, which let to less density and often to sprawl
- Unsustainable focus
Possible approaches...

**Alternative 1:**

Traditional Approach

Known as

Automobile centered Approach

**Alternative 2:**

Sustainable Approach

Known as

Contemporary Approach, planning to improve access, planning for people, *moving people not cars*
How does this translate into revised planning approaches and policies leading to more livable cities?
Solution: What are the options for making cities more liveable?

Paradigm shift

Achieving greater sustainability in transport means...

... investing in schemes and initiatives that improve accessibility and developing more liveable cities based on non-motorized transport and public transport (and its integration).

Transmilenio, 2005
AVOID/Reduce
Reducing the need to travel

SHIFT
Changing mode choice or at least keep the mode share of NMT

IMPROVE
Increasing the energy efficiency of vehicles, fuels and transport operations
9 Principles for Sustainable Urban Mobility

1. Strong political will and longer term goals
2. Create strong and powerful Metropolitan Planning Authorities (covering the greater Metropolitan Area)
3. Urban development and integrated urban transport and urban land use plans
4. Public (Service) Transport Reform
5. Enhance and maintain safe Non Motorized Transport Infrastructure
6. Integrate all means of Public Transport (incl. Informal Transport) with NMT and shared Mobility Offers
7. Transport Demand Management
8. Financing Sustainable Urban Transport
9. Sustainable Urban Mobility Plans
Principle 2

Create strong and powerful Metropolitain Planning Authorities (covering the greater Metropolitan Area)
Overall Challenges in Dev. Cities

Lack of a single lead Authority

- 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. In many cities between 15 and 40 different institutions involved in UT planning and management.

- 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 and public participation.
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
- Other European Cities
- Curitiba
- Nairobi
Nairobi

• Establishment of the Nairobi Metropolitan Area Transport Authority, (NaMATA), was recommended by the integrated transport policy in 2012, to address the transport challenges in the Nairobi Metropolitan Area, (NMA).

• The establishment is an Institutional and regulatory reform, aimed at the establishment of an integrated, effective, safe and sustainable public transport system within the NMA.
Nairobi

(1) Timing

• The establishment was timely because the economic loss was increasing due to the increased congestion as a result of the growth of the City.

• The establishment was supported by both the Kenya Government and development partners who realized the need of an institution mandated to address the transport matters that were being dealt with by different government institutions.
(2) Framing the Issues

- The establishment was done through a Consultative process cutting across both levels of government, i.e. the National Government and the five Counties that constitute the NMA, namely: Machakos, Kajiado, Kiambu, Muranga, and the Nairobi City County.

- Communication was key in order to get the Counties support.

- The benefits and goals of NaMATA were presented to different groups in the same way.

- Their views were then captured and incorporated in the bill establishing NaMATA.

- The economic, organizational, environmental, healthy, and social impacts were all explained to the groups.
Principle 3

Urban development and integrated urban transport and urban land use plans
The principles of the sustainable approach

- High density, compact development
- Mixed land uses
- Transit oriented development
- Pedestrian / NMT scale of development
TOD Case: Curitiba, Brazil
The case of Curitiba: land use and transport
TOD effects mode shift …

• 28% of Curitiba’s BRT riders previously travelled by car.

• Curitiba’s BRT has caused a reduction of about 27 million auto trips per year, saving about 27 million litres of fuel annually.

• Compared to eight other Brazilian cities of its size, Curitiba uses about 30% less fuel per capita, resulting in one of the lowest rates of ambient air pollution levels in Brazil.

• Today about 1,100 buses make 12,500 trips every day, serving more than 1.3 million passengers—50 times the number from 20 years ago.

Source: http://www.urbanhabitat.org/node/344
Principle 4

Public (Service) Transport Reform
Status Quo in most Developing Cities

• Insufficient physical integration of various modes (Rail, Metro, Bus, informal PT) and between PT and NMT
• No integrated and transparent time schedules
• Insufficient cooperation between PT operators
• Signage, customer information systems on PT options, arrival times, connecting services, and fares not appropriate, and therefore discouraging PT use
• Each change of mode normally requires the purchase of another ticket
• No uniform service level standards among modes and operators
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 (Metro Rio), connecting services and fares not appropriate

→ Discouraging the use of public transport
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.
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
- Safe vehicle operation
- Secure environment
- Comfortable and clean system
- Friendly and helpful staff
- Low fare cost

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
### Why Public transport Priority? Corridor Capacity

(people per hour on 3.5 m wide lane in the city – PPHPD [PAX/hour/direction])

<table>
<thead>
<tr>
<th>Type</th>
<th>Range</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed Traffic</td>
<td>1500-2000</td>
<td>5000</td>
</tr>
<tr>
<td>Regular Bus</td>
<td>2000</td>
<td>14000</td>
</tr>
<tr>
<td>Cyclists</td>
<td>8000</td>
<td>14000</td>
</tr>
<tr>
<td>BRT single lane</td>
<td>9000</td>
<td>16000, Curitiba</td>
</tr>
<tr>
<td>Pedestrians</td>
<td>19000</td>
<td>19000</td>
</tr>
<tr>
<td>Light Rail</td>
<td>18000-20000</td>
<td>18000 – 20000</td>
</tr>
<tr>
<td>(BRT double lane)</td>
<td></td>
<td>(BRT double lane)</td>
</tr>
<tr>
<td>Heavy Rail/Metro</td>
<td>40000 – 60000, HKK</td>
<td>43000, Bogota</td>
</tr>
<tr>
<td>Suburban Rail (e.g. Mumbai)</td>
<td>60000 – 90000</td>
<td>&gt;100000, Mumbai</td>
</tr>
</tbody>
</table>

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**Equivalency road width:** In order to carry 20,000 automobile commuters PHPD, a highway must be at least 18 lanes wide.

(assumption 1.2 passengers per automobile)

**Source:** Botma & Papendrecht, TU Delft 1991 and own figures
Comparing the costs

<table>
<thead>
<tr>
<th>Mode</th>
<th>Cost Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRT</td>
<td>US$ 0.5 – 15 millon / km</td>
</tr>
<tr>
<td>Tram</td>
<td>US$ 10 – 25 millon / km</td>
</tr>
<tr>
<td>Light Rail Transit (LRT)</td>
<td>US$ 15 – 40 millon / km</td>
</tr>
<tr>
<td>Urban commuter rail</td>
<td>US$ 25 – 60 millon / km</td>
</tr>
<tr>
<td>Elevated rail</td>
<td>US$ 50 - 125 millon / km</td>
</tr>
<tr>
<td>Metro</td>
<td>US$ 60 millon – 320 millon / km</td>
</tr>
</tbody>
</table>

Image source: Manfred Breithaupt
Vue d’ensemble

- Croissance démographique et contraintes de la mobilité
  1. Dakar : 550 km², 0.3% du territoire national 3,5 M d’hbts en 2017 – 5 M en 2030 ;
  2. 7,2M de déplacements par jour, congestion automobile avec 72% du parc national (croissance de +10% par an), part des TC dominante dans les déplacements motorisés (80%).

- Composante 1 : Infrastructure et Equipements
  1. Plateforme BRT y/c stations, pôles d’échanges et parcs relais
  2. 2 voies centrales exclusivement réservées aux bus sur un linéaire de 19 km entre le centre et la périphérie
  3. Rétablissement des voies pour la circulation générale et le stationnement
  4. Trottoirs et aménagements paysagers de façade à façade

- Composante 2 : exploitation et systèmes
  1. Matériel roulant
  2. Systèmes d’aide à l’Exploitation (SAE)
  3. Systèmes d’information voyageurs (SIV)
Principle 5

Enhance and maintain safe Non Motorized Transport Infrastructure
Question:
Where is the footpath?
SPACE : Enjoyable

It is a footpath, not a stair case
SPACE: Comfort

Pedestrian overpasses uncomfortable and people seldom use them.
“In terms of infrastructure, what differentiates advanced cities are not highways or subways but quality sidewalks and cycleways.”

Enrique Penalosa, former Mayor of Bogota, Colombia
Overview

• In August 2015, the first pedestrian corridor was introduced in the busiest vehicular traffic road in the CBD of Kigali City. The Corridor has 450m of length and is surrounded by commercial activities such as banks and shops and City of Kigali’s office (City Hall). The corridor aims at becoming the main vibrant, diversified, social and inclusive public space of the city where people from different backgrounds come together free from car traffic.

• Innovation: Decongesting the CBD: pulling people out of their cars - people oriented city
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Introduction of the MobiliseYourCity Partnership

Provided by Markus Delfs, MobiliseYourCity Secretariat
**MobiliseYourCity: Objectives and Goals**

**MobiliseYourCity focusses on Sustainable Urban Mobility Planning.** It supports cities and national governments in emerging and developing countries to plan sustainable urban mobility.

**MobiliseYourCity is a global partnership** launched at COP21. It is one of 17 international transport initiatives under the UNSG/UNFCCC action agenda (GCAA). It assists beneficiaries in achieving their National Determined Contributions (NDCs).

**MobiliseYourCity contributes** to the New Urban Agenda and UN’s 2030 Agenda, specifically Sustainable Development Goal (SDG) 11: Make cities inclusive, safe, resilient and sustainable.

**Quantitative goals:**

- **≥ 100 cities** acknowledged MobiliseYourCity and the need to implement Sustainable Urban Mobility Plans (SUMPs) targeting >50% CO2 until 2050
- **≥ 20 national governments** acknowledged MobiliseYourCity and the need to implement National Urban Mobility Policies & Investment Programs (NUMPs)
MYC Partners

Contributing Partners
are either direct donors (providing funds or technical assistance) or implementing agencies managing delegated funds;

Beneficiary Partners
are local authorities or national government from emerging or developing countries, benefiting from funding or technical assistance under the Initiative;

Knowledge and Networking Partners
support the initiative in various ways.
MobiliseYourCity Contributing Partners

Undertaken with support from:

- European Commission

Implementing Partners:

- AFD
- giz
- Cerema
- CODATU

Endorsed by:

- Partnership on Sustainable Low Carbon Transport
- Paris2015 COP21 CNPTI

Knowledge and Network Partners:

- UN-Habitat
- UCLG
- Euromed Transport Project
NUMPs: National Urban Mobility Policies & Investment Programs

Frameworks for supporting SUMP elaboration at the local level

NUMPs:
Legislative framework
Capacity building
Funding schemes
MRV System
Interfacing with Financial Assistance

Technical Assistance

Engaging in focused Mobility Planning / Initiation of Process

National Urban Mobility Policy & Program (NUMP) Development

Sustainable Urban Mobility Plan (SUMP) Development

Financial Assistance

...for selected projects or SUMP-based program

Prefeasibility Studies

Environmental Impact Assessments

Due Diligence

Others
Beneficiary Partner Cities and Countries

Pilot Countries
- Philippines
- Peru
- Madagascar
- Indonesia
- India
- Sri Lanka
- Dominican Republic
- Tunisia
- Morocco
- Ukraine
- Jordan
- Ecuador
- Senegal
- Togo
- Cameroon
- Brazil
- Mali
- Ukraine
- Ethiopia
- Kenya
- Pakistan
- South Africa
- Rwanda
- Uganda
- Cape Verde
- Ivory Coast
- Burkina Faso

Expressed interest
- Cameroon
- Burkina Faso
- Ethiopia
- Cape Verde
- Rwanda
- Kenya
- Uganda
- Pakistan
- South Africa
- Indonesia
- Madagascar
www.MobiliseYourCity.net

Contact: Contact@MobiliseYourCity.net

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Visit us along the COP23 in Bonn!

Follow us on Twitter:
• @mobiliseCity
• #mobiliseyourcity
Transformative Urban Mobility Initiative (TUMI)

Launch at Habitat III in Quito together with 11 Partners
A 3D Approach to Urban Mobility

Pilot Projects
- Supporting innovative pilot projects with measurable impacts
- Scalable and replicable solutions for sustainable urban mobility

1500 Urban Leaders
- Ambitious training initiative
- Supporting leaders in transformation processes
- Learning, networking, reflecting
- Promoting partnerships

Financing
- Mobilization of a total of EUR 1 billion by KfW in cooperation with other donors

All 3 pillars are closely linked and support each other.

4. TUMI – A 3D Approach To Urban Mobility
Work Programme
Phase II till 05/2019

Thriving Cities supporting through finance, capacity building and fast-scaling pilot projects in line with the SDGs and the Paris Agreement.

Matching Project Ideas with Financing Opportunities

Conception / Communication
(Website, Social Media, Direct Marketing)
(INUA – Policy Papers: Influencing High Level Urban Decision Makers)
Executive Summary

Capacity Building

- Germany ITF +80 Leaders
- Austria – Academy of Urban Mobility +30 Leaders
- Egypt +60 Leaders
- Senegal +50 Leaders
- Brazil EMDS ~180 Leaders
- Ecuador Habitat III ~30 Leaders
- Taiwan ~30 Leaders
- Thailand ~70 Leaders
- Chile ~50 Leaders
- Tanzania ~10 Leaders
- Phillipines ~60 Leaders

Financing

- S Train; Tunis, Tunisia (KfW)
- Metro Line; Quito Ecuador (CAF)
- BRT; Niteroi, Brazil (CAF)
- IST, Huaiinan, China (KfW)
- Urban Transport Kochi, India (KfW)
- MRT; Coimbatore, India (KfW)
- Light Rail: Buenos Aires, Argentina (CAF)

+940 Urban Leaders trained (until 2017)

Up to €1.3Bn Committed (KfW)
Architectured to Scale

<table>
<thead>
<tr>
<th>Commitment</th>
<th>to support developing countries and emerging economies to develop sustainable mobility solutions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alliance Building</td>
<td>to cover the whole range of urban mobility topics and capabilities.</td>
</tr>
<tr>
<td>Implementation</td>
<td>of practical work on the ground with tangible results in cities.</td>
</tr>
<tr>
<td>Global reach</td>
<td>to change urban mobility for the better, through the work of eleven institutions.</td>
</tr>
<tr>
<td>Continuous feedback</td>
<td>to document and evaluate the initiatives’ activities in an iterative process.</td>
</tr>
</tbody>
</table>
Global Urban Mobility Challenge 2018
Overview
Global Urban Mobility Challenge

Scaleable, highly visible annual programme supporting cities and their low-carbon, people-centered pilot projects

• TUMI core element closely linked to substantial Capacity Building and Finance activities
• Supporting innovative pilot projects with measurable impacts
• Scalable and replicable solutions for sustainable urban mobility

Awards
up to €200k per pilot project

Annual Awards collaboration
With TUMI Partners

5. Overview TUMI Global Urban Mobility Challenge
Executive Summary: Global Urban Mobility Challenge

- Awarded projects: 10
- Avg project size: €360,717
- Total volume requested: €3,9M
Implementing the 10 Pilot Projects

The Implementation of the 10 Pilot Projects will be accompanied by an extensive **Monitoring-Path**

The Monitoring-Path includes and aims to:

- Capacity Development for stakeholders involved
- Scaling & Dissemination of Knowledge
- Making Cities fit-for-finance
## The 10 Winning Candidates

<table>
<thead>
<tr>
<th>Project Title</th>
<th>TUMI Partner</th>
<th>Country</th>
<th>City</th>
<th>Continent</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-Rickshaws as Public Transport and Emergency Health Supporting Services in Singra</td>
<td>ICLEI</td>
<td>Bangladesh</td>
<td>Singra</td>
<td>Asia</td>
</tr>
<tr>
<td>Safetipin App for Bogotá - Making Urban Public Space Safe for Girls and Women</td>
<td>CAF</td>
<td>Colombia</td>
<td>Bogotá</td>
<td>America</td>
</tr>
<tr>
<td>Connecting the Last Mile in Addis Ababa - Bicycle Sharing System Integrated with BRT and LRT</td>
<td>ITDP</td>
<td>Ethiopia</td>
<td>Addis Abeba</td>
<td>Africa</td>
</tr>
<tr>
<td>Boosting Walkability in the City of Chennai – through Inclusive Urban Street Improvement</td>
<td>C40</td>
<td>India</td>
<td>Chennai</td>
<td>Asia</td>
</tr>
<tr>
<td>Mobility Accelerator in Nairobi – Facilitating Start-Up Incubation Working on Sustainable Urban Mobility</td>
<td>UN-Habitat</td>
<td>Kenya</td>
<td>Nairobi</td>
<td>Africa</td>
</tr>
<tr>
<td>The Lagos Sidewalk Challenge – Improving Walkability, Safety, Accessibility and Attractiveness</td>
<td>SLoCaT</td>
<td>Nigeria</td>
<td>Lagos</td>
<td>Africa</td>
</tr>
<tr>
<td>Open Streets: a Catalyst for Non Motorised Transport – Creation of Temporary Networks of Car-Free Streets in Cape Town</td>
<td>UN-Habitat</td>
<td>South Africa</td>
<td>Cape Town</td>
<td>Africa</td>
</tr>
<tr>
<td>Dar City Navigator - Open Data portal for Multimodal Transport Providing Real-Time Information and Services to Commuters</td>
<td>ITDP</td>
<td>Tanzania</td>
<td>Dar Es Salaam</td>
<td>Africa</td>
</tr>
<tr>
<td>Establishing Comprehensive Bicycle Plan and Free/low-cost Bicycle Sharing Program in Hoi An City</td>
<td>WRI</td>
<td>Vietnam</td>
<td>Hoi An</td>
<td>Asia</td>
</tr>
</tbody>
</table>
The leading global implementation initiative on sustainable urban mobility supporting urban decision makers to accelerate and scale their efforts through finance, capacity building and fast-scaling pilot projects.

Contact
Daniel Ernesto Moser
Management Head of the Transformative Urban Mobility Initiative (TUMI)
Sustainable Urban Mobility Advisor/Consultant
daniel.moser@giz.de
http://transformative-mobility.org/
National Urban Mobility Programs/Policies
What are National Urban Mobility Policies & Investment Programs (NUMPs)

**Policy objective:**
Agree on **targets**, establish a **framework** and allocate **authorities and means** to national institutions and/or city administrations to regulate, plan, finance & implement sustainable transport infrastructure and management projects in a **comprehensive and integrated** manner.

**Policy components:**
- A sector vision, strategy, targets
- Institutional organization (interministerial + national versus local level)
- A comprehensive set of laws & regulations, tech. guidelines etc.
- Budgeting & financing (medium and long term)
Investment Program objective:
Agree and establish regulatory and financial framework programs, which lead to significant transformation effects in sustainable urban mobility through development of selected transport modes by the public and/or private sector.

Investment Program examples:
• National scrapping program of polluting vehicles
• Subsidy program to cities for construction of mass-rapid-transit systems
• Subsidy program to private sector to develop and maintain e-mobility infrastructure
Further NUMP examples

**Policy component examples:**

- Regulations and recommendations on urban mobility planning
- Regulations on road and street design (obligatory requirements/standards and/or facultative guidelines)
- Public transport regulations and service standards
- Parking management regulations
- General traffic rules
- Data management regulations
- Regulations on government borrowing
- Regulations on concessions and the role of the private sector
Further NUMP examples

**Investment Program examples:**
- Municipal Transport Sustainable Infrastructure Financing Programme (all modes)
- Cycling/NMT Infrastructure Investment Programme
- Road Safety Programme
- Access Enhancement Programme
- Traffic Management and ITS Programme
- Public Transport Service Subsidies
- Compensation Payments for discounted services for certain groups
- Capacity-Building Programmes
- Awareness-raising campaigns
NUMPs Building Blocks

National

Funding Programs & Regulations

Technical Guidance for cities

Allocate funding sources

Requirement to access funds

Mobilise local funding options & capacities

Urban Mobility Plans

Explore role of provinces

Coordinate responsibilities
What are National Urban Mobility Policies & Investment Programs (NUMPs)

Why a NUMP?

- **Agree** on vision & targets
- **Enable** relevant national and local institutions with knowledge, resources and required authorities to act and progress sector transformation
- **Ensure participation**, support and self-motivated follow-up by civil society and private sector
- **Connect** with technical and financial support at national and local level
- **Link** to international policies and targets (NDCs, New Urban Agenda etc.)
What are National Urban Mobility Policies & Investment Programs (NUMPs) continued

Key MYC Advisory Modules

• Initiation
• Status Quo Analysis
• Vision & Goal Setting
• Institutional Framework
• Budgeting & Finance
• Capacity Development
• Transport Technologies
• Monitoring & Reporting Coordination & Management
Creation of NUMPs

• No single approach fits all contexts
• Different stakeholders, laws, regulations, preferences
• International organizations, consultants, academia, provide a key role in catalyzing transformations
• A local champion and capable institutions are instrumental
• Policy guidance, capacity building, financing mechanisms are core elements of NUMPs
Example of NUMP Process - México

- 2008 Interest by the Ministry of Finance for supporting mass transit using national road concessions surplus
- 2009 inclusion of mass transit as eligible destination of funding from the National Infrastructure Fund managed by Banobras (second floor national development bank)
- 2010 funding framework defined, up to 50% funding national – 50% state and local – additional funding made available for lending to states and cities and for the private operators
- Cities started applying to the funds – Pipeline 43 cities, 11 projects in operation
Example: México

- Mass transit program (PROTRAM) USD 2.4 billion
- 50% of project capital cost for Rail and BRT
- 5 Cities in operation/final construction; 34 cities identified
- Requires private participation
Example: México

- Strategic guidance: urban mobility plan and Project Evaluation
BRAZIL – Planos de Mobilidade Urbana

• New National Policy on Urban Mobility (2012), PlanMob guidelines have been recently updated

• Massive investment in urban transport (~ USD 55 billion till 2020, recently pace slowed down due to crises)

• New approaches for stakeholder involvement

• Capacity development Strategy of MoC (Min. of Cities)
Example: Brazil

- National Urban Policy
- Comprehensive Mobility Plan (1,600 cities 20,000+)
- Growth Acceleration Program (PAC) USD 9.5 billion for BRT, LRT, Metro Infrastructure – co-funding from state and local levels
- Up to 50% national grants
- Additional loans for vehicles and rolling stock BNDES
Example: Brazil

- Strategic guidance: requirement of comprehensive mobility plans to seek national funding
Example: China

- “Transit City” project 30 cities
- Requires co-finance of provincial governments
- In 2012 Beijing Metro reached 16 lines 442km - 1,050km expected by 2020
- Other 16 Chinese cities expanding Metro; 18 cities with Metro and LRT systems under construction; 22 cities with construction planned.
- 15 cities with BRT; 11 under construction or planning
Example: China

37 Pilot cities of Transit Metropolis approved by MOT
Example: China

Lessons learned and results

• From priority of public transport to Transit Metropolis
• From transport sector to multi-sector, city government
• Indicators in 5-year plan
• Motorized mode share in public transport (more than 60%)
• Coverage of public transport station in central areas
  • (100%)
• Bus operation speed in peak time (more than 18 km per h)
• Green bus percentage (more than 50%)
• Mortality rate (less than 0.04/million vehicle km)
Example of NUMP Process - India

- Amendment of the constitution, transferring responsibilities to the Urban Local Bodies (including transport)
- Jawaharlal Nehru National Urban Renewal Mission (JnNURM) massive city-modernisation scheme launched by the Government of India
- Guidance developed for reform and investment – National Urban Transport Policy NUTP
  - Cities required to advance urban mobility plans – moving people not cars
  - Co-funding up to 50% urban transport projects
  - Foster public private partnerships
  - Create Special Purpose Vehicle SPV for Project development
Example: India

- National Renewal Mission JnNURM USD 20 billion
- Requires comprehensive mobility plan and co-funding from the state and local levels
- Resulted in implementation of Metro in 6 cities and BRT in 7 cities
- Encourages private participation

Bhopal BRTS Mybus
http://sustainablecitiescollective.com/sites/sustainablecitiescollective.com/files/Picture3.jpg
“A CMP presents a long-term vision of desirable mobility patterns (people and goods) for a city and provides strategy and policy measures to achieve this vision. It follows the guidelines set forth by National Urban transport Plan which emphasizes on NMT measures, PT systems and sustainable systems”

- National Urban Transport Policy from 2005: Comprehensive process description, funding program + national guidance
- Toolkits (Guidelines) revised in 2014
Example: India

- **Strategic Guidance**: National Urban Transport Policy NUTP
  - Urban Mobility Plan
  - Creation of Unified Metropolitan Transit Authority UMTA
  - Constitution of Special Purpose Vehicle SPV
- **Bus financing**
INDIA – Lessons learned

Lessons learned:

• Lack of local capacity and investment in operation and human resources

• Often a lack of ‘ownership’, understanding and feasibility of CMPs
  • Reason: plans were mostly developed by consultancy firms without wider stakeholder involvement
  • Consequence: A lack of political priority-setting;

• “real challenges” like e.g. the lack of pavements and cycling infrastructure not properly addressed in most CMPs;

• a lack of proper monitoring and evaluation after project implementation makes it hard to assess whether or not goals are achieved.

• Those bottlenecks have been identified and are now tried to be internalized.
Key Lessons learned from NUMP processes

- No national support = very little progress in sustainable urban mobility
- Not just money: capacity building, institutional development – need to go beyond “compliance in paper”
- Relatively easy to fund infrastructure – very difficult to advance operations reform
- Clear procedures and decision making processes: guidelines and evaluation criteria for project funding
- Co-funding mobilizes local financial effort, increases commitment and selection of more cost-effective processes
- Continuous process of adaptation, improvement, revision
Key lessons learned: Institutional strengthening

- National level authorities shape urban transport by policy/planning frameworks, funding schemes and guidance
- Planning and implementation of urban mobility interventions or plans requires sufficient local capacities and access to funding options
- Critical to evaluate and update policies and planning frameworks on a regular base → Exchange between national and local levels
Key lessons learned: Institutional strengthening

- **Establish a supportive legal and regulatory framework**, particularly for public transport, demand management, NMT, emissions and safety
- **Improve institutional coordination and cooperation**, horizontally between policies and vertically between tiers of government
- **Decentralise responsibilities where possible and centralise them where necessary**
- **Support local or regional authorities to develop capacities**
Key lessons learned: finance

- Establish a national funding program to access international funding, enable and set incentives for cities
- Link infrastructure and vehicle investment with support for local capacity
- Link finance with overarching local transport plan (and ensure quality of plans)
Institutional Set-Up

Political System

Financing

Institutional Set-Up
Sustainable Urban Mobility Plans (SUMP)
NUMPs Building Blocks

National

- Funding Programs & Regulations
- Technical Guidance for cities

Local

- Mobilise local funding options & capacities
- Urban Mobility Plans

Allocate funding sources

Requirement to access funds

Coordinate responsibilities

Explore role of provinces
Status Quo

- Master plans are more often visions and wish lists and not achievable and realistic plans
- Outdated road building norms favour ease and speed of motorized transport
- No guidance for safe and convenient walkways, cycling and public transport integration
- Mostly only infrastructure development oriented, not sufficiently dealing with institutional aspects
- Uncoordinated funding mechanisms due to incoherent national urban transport policies
- Public dialogue and consultation neglected
From Transport to Sustainable Urban Mobility Planning

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

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

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

Source: Rupprecht Consult, quotations by Fred Kent, President of „Project for Public Space”: www.pps.org
Urban Mobility Plans helps to align the development of transport systems with overarching-policy targets

→ Sustainable Development Goals

• **Economic & social development**: reliable, safe and affordable mobility services essential for sustainable development.

• **Environmental & urban development**: transport activities put stress on on the global environment and urban areas through required space, road accidents, air pollution etc.

• **Social equity & inclusiveness**: focussing on the mobility needs of all people (not only car-drivers) – can reduce social inequalities and allow to make full use of a country’s human potential for economic and social development.
SUMP Policy Elements in the EU

SUMP as an instrument to meet European policy targets and to solve local transport problems

**EU Recommendation** to all Member States to develop national legal framework for SUMP and support cities

**EU facilitates** Europe-wide coordination and funds **research** and **innovation activities**

**EU and national support for SUMP preparation is taking off**

Quality SUMPs are increasingly a **pre-condition** to attract (major) urban transport funding from EU (incl. Structural and Investment Funds)

**SUMP is becoming mainstream!**
The Planning Cycle for a Sustainable Urban Mobility Plan (SUMP) …

... helps structuring a complex, integrated planning process.
Example: Brazil

• Strategic guidance: requirement of comprehensive mobility plans to seek national funding
Key Challenges for Sustainable Urban Mobility Planning in Europe

- **Participation:**
  Actively involving local stakeholders and citizens in mobility planning processes

- **Institutional cooperation:**
  Improving geographic, political, administrative and interdepartmental cooperation objectives

- **Measure selection:**
  Identifying the most appropriate package of measures to meet a city’s policy objectives

- **Monitoring and evaluation**
  Assessing the impact of measures and evaluating the mobility planning process
Institutional Cooperation in SUMP development

Barriers

- Initiating authority has limited planning competences
- Unclear or overlapping responsibilities between agencies
- Lack of partnerships/silo thinking
- Complexity of policy integration
- Complexity of managing interests of large stakeholders groups

Promising Approaches

- Build focused thematic local partnerships between all relevant institutions
- Adapt institutional arrangements or build new institutions, if required
- Use tools to assign responsibilities throughout entire delivery process
- Innovative partnerships between private and public sector
Measure Selection in SUMP development

**Barriers**

- Over-reliance on preconceived ideas
- Limited knowledge of good practices and their transferability
- Focus on supply-side measures (such as infrastructure) rather than demand-side measures (such as regulation and pricing)
- Limited evidence on measures' impact to achieve intended policy goals, especially in specific city contexts

**Promising Approaches**

- Avoid temptation of "good measures" – follow a systematic analytical process; identify strategic goals and measures to meet those effectively
- No one policy measure will be sufficient alone – develop measure packages
- Ensure that each policy measure reinforces the others
- "Restrictive" measures can be "sold" to the public, if planned and communicated well
- Depoliticisation of measures selection
The Power of (Sustainable) Urban Mobility Plans

Example: Integrated Mobility Planning in Berlin
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

Complex Structure:

Approaching different aspects individually
Combining measures in integrated strategic packages
Integrated impact assessment to identify missing topics
Monitoring and Evaluation in SUMP development

**Barriers**

- **Limited experience** on how monitoring and evaluation should be managed and who should do it
- Differing definitions for the **indicators** to be monitored
- Low **availability of data** that relates to the SUMP and its objectives
- Lack of knowledge how to monitor and evaluate the SUMP **development process**

**Promising Approaches**

- Follow systematic process to set up a **local knowledge base** of impacts (with tested indicators)
- Apply innovative (cost-effective) **data collection**
- Adapt method to **city size**
- Adapt method to **measure**: small measures $\rightarrow$ qualitative; big measures $\rightarrow$ quantitative
- Develop "**process awareness**"
The Power of (Sustainable) Urban Mobility Plans

(S)UMPS are a powerful tool align urban transport systems with policy targets!

Sustainable Development Goals
- Economic & social development
- Environmental & urban development
- Social equity & inclusiveness

Complementary Plans
Harmonization with Urban development plans, air quality plans, land use plans, noise reduction plans, climate action plans, etc.
New publication from SUTP: Urban Mobility Plans: National Approaches and Local Practice

- In cooperation with

- Now available at www.sutp.org in English, Portuguese, Indonesian and Spanish language
Recommended Reading

- SUTP Sourcebook: [Land Use Planning and Urban Transport](#)
- SUTP Sourcebook: [Transportation Demand Management](#)
- The Sustainable Urban Transport Master Plan for Windhoek/Namibia: [MOVE WINDHOEK](#)
Further Sources

- SUMP Guidelines + Examples Data base:
  - www.mobilityplans.eu

- The SUMP Ch4llenge Project:
  - www.sump-challenges.eu

- EPOMM - ENDURANCE – European SUMP Network (country information, case studies, access to experts, news):