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Sustainable Urban Mobility Planning in Germany – State of the Art

Conference
Sustainable Urban Mobility Plans – Current Approaches to Mobility Planning

THE PRAGUE INSTITUTE OF PLANNING AND DEVELOPMENT

Prague, June 26, 2014
Muddling through?!
Fulfilment of demand?!

or

On the basis of analysis
Using methods
Using time
Following intentions
Achieving goals
A learning process, gaining experiences and insights
Solving conflicts
Searching for consensus, finding compromises
Weighing pros and cons
Using scientific methods
Making value oriented political decisions
Technical guidelines: from the „General Traffic Plan“ to the „Mobility Master Plan“

(Merkblatt Generalverkehrsplanung der Gemeinden (MGVP) 1969)

2. Goal oriented planning process (1979)  
(Rahmenrichtlinien für die Generalverkehrsplanung (Ra Ri GVP) 1979)

3. Integrated Mobility Planning (1985/2001)  
(Leitfaden für Verkehrsplanungen 1985/2001)

(Hinweise zur Verkehrsentwicklungsplanung 2013)

On European level:  
„Sustainable Urban Mobility Plans (SUMP) = Stadtmobilitätspläne“

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New threats and requirements for mobility planning

- Population of 10 Billion worldwide
- Demographic change, losses and gains of population
- Urbanisation
- Climatic change
- Energy supply
- Environmental awareness, change of values
- Increasing multi modality
- Noise and clean air acts
- Electric vehicles
- Communication technologies
- Increasing commercial traffic worldwide
- Participation and cooperation
- Social aspects, inclusion/exclusion
- Maintainance and replacement of old infrastructure
- Financial requirements will grow
- Public manpower and resources in public administration decrease
- Legal control of demand and effects of public infrastructure

→ Dynamic system requires integrated coordination and planning
Demand oriented planning versus influencing approaches

**Demand oriented planning**

- Transport demand (only car traffic)
- Measures
- Traffic performance (level of service)
- Desired quality
- Network to be constructed

**Influencing planning**

- Transport supply (car traffic, public transport, bicycles, pedestrians)
- Transport behaviour
- Transport demand
- Traffic performance of all modes, effects of traffic
- Objectives achieved
- Networks to be constructed plus additional influencing management measures
Increase of car use – what do we get?

- Decrease of walking, a health issue!?
- Taxi Mama and weight of children!
- 60 l • Costs (investments, operation, maintenance and replacements after 50 years)

Source: TU Dresden/vip: Survey ‘Mobility in German towns – SrV 1972 - 2008’ (www.tu-dresden.de/srv)
Modal Split in selected German and CMB-towns

Source: TU Dresden/vip: Survey ‘Mobility in German towns – SrV 2008’ (www.tu-dresden.de/srv) and survey implemented in the course of Central MeetBike
European Union requires Sustainable Urban Mobility Plans (SUMP)

Goal oriented integrated planning process

1. Pre-orientation
   Initial point: deficiencies and suggestions of concepts, legal requirements

2. Problem Analysis
   Status quo analysis
   Development of guidelines / goals and objectives
   Detecting deficiencies and chances

3. Development of Measures
   Development of concepts with measures
   Impact assessment
   Evaluation

4. Balancing and Decision

5. Implementation and Ex-post Evaluation
   Step by step realisation of the concept
   Ex post evaluation

Source: FGSV: Leitfaden für Verkehrsplanung, Köln, 2001

Legend:
- decision or acceptance by policy maker
- exchange effects
- feed back loop
Characteristics of SUMP and integrated transport planning:

- Continuous process
- Cooperation and participation
- Clear goals and strategies
- Goal oriented control of demand
- Use of scenario techniques
- Integrated hard and soft measures
- Quality management: Evaluation and control of success

Source: Rupprecht Consult on www.mobilityplans.eu, Guidelines
The role of transport master planning before and today

Federal and state plans

Regional plans, land-use plans

**Before**

Transport Master Plan (TMP)

coordination and frame for

different traffic and transport plans and other municipal sector plans

**Today**

TMP
CAP
NAP
PTP

coordinates and frame only for

leftover traffic plans

Formal implementation plans

CAP – Clean Air Plan,
NAP – Noise Action Plan,
PTP – Required Public Transport Plan
Federal and state plans

Regional plans, land-use plans

Transport or mobility master plan (TMP or SUMP)

Strategic orientation and coordination

Formal implementation plans

- TMP – Transport Master Plan
- CAP – Clean Air Plan
- NAP – Noise Action Plan
- PTP – Required Public Transport Plan

Further sector plans of municipality

diff. traffic plans

CAP NAP PTP
Consideration of aspects of integration as a quality indicator

- Sector integration
- Vertical integration
- Horizontal integration
- Integration of all options of measures
- Modal integration
- Integration of trip reasons and trip purposes
- Integration of time
- Participation and cooperation
- Social integration

SUMP
Vertical and sector integration

- **FEDERAL SPATIAL PRINCIPLES**
- **STATE DEVELOPMENT PLANNING**
- **REGIONAL PLANNING**
- **CITY DEVELOPMENT AND LAND USE PLANNING**

**Planning levels**:
- Federation
- State
- Region
- City
Range of integrated measures of mobility planning

0. Land use planning
   - Determination and control of land uses to reduce traffic demand
   - New developments in "integrated" zones or areas with public transport access

1. Engineering
   - Construction of routes and transport facilities for all modes, multi and inter-modal use
   - Vehicle improvements
   - Information technology, e.g. multi-modal navigation systems

2. Economy
   - Taxation (vehicles, energy, ...)
   - User-financed systems
   - Road pricing
   - Fares
   - Land value capture
   - Parking management

3. Enforcement
   - Legislation, emission and other standards
   - Access restrictions, car-free zones, emission-control zones
   - Speed limits
   - Safety control
   - Traffic guidance and control
   - Police enforcement, fixed quotas

4. Education, Information
   - Transport behaviour issues in school
   - Driver education
   - Public awareness, public relations
   - Mobility Management on all levels
   - Involvement of media
   - Public participation

5. Organisational and logistic measures
   - Improved efficiency (car-sharing, car-pooling, ...)
   - Differentiated supply also for inter and multi-modal use
   - Incentives, privileges for best practice approaches
The new mobility coalition

Maximize

Individualised Public Mobility Coalition

Public Transport
- trains and buses
- Public bicycles and pedelecs
- Public (electric) cars
- Taxis
- Alternative services
- Car sharing
- Car pooling

One accounting system
- Walking
- Cycling

Minimize

Individual private car use
Two levels of mobility master planning

**Strategic-conceptional level (periodical)**
- Goals, objectives
- Analysis, methods, scenarios
- Strategies, concepts

**Level of measures and implementation (implementation oriented)**
- Sector plans (CAP, NAP, PTP)
- Transport plans
- Measures for areas
- Single measures and projects

Continuous professional tasks:
- Data, modelling, reporting
- Process evaluation
- Evaluation of measures and strategies

Information and participation:
- Information of policy, administration and public
- Participation of policy, administrations and public
Minimize arterials with sufficient capacities (channel principle) in order to maximize traffic calmed zones.
It is useful, to develop at first the individual networks by mode, but then they should fit together and enable intermodal trip making.  

Superposition of network designs of different transport modes: 

1) Source: Beckmann, K.J.: Grundlagen der Verkehrsplanung, RWTH Aachen, Vorlesungsmanuskript WS 03/04, Kap. 4

Mobility market: Factors of success

- Systematic research on mobility (demand and behaviour)
- Market oriented development of supply and services

- Market orientation

- Integration
  - Multi- and Intermodality
  - Interoperability
  - Holistic mobility master plans
  - Cross linking and Integration

- Cooperation
  - Networking
  - Intelligent, decentral cooperation
  - New financing and organisation models (e.g. PPP)

Urban mobility – In which direction will we travel?

Innovation push

MARKET FOR MORE SUSTAINABLE INTEGRATED MOBILITY SERVICES

LOVE AND AFFECTION FOR GREEN VEHICLES

Multi modal

PROGRESS THROUGH ENFORCEMENT

BUSINESS AS USUAL

Car oriented

Constrained innovation

Compare: Glockner, H., Rodenhauser, B.: Zukunft der Mobilität. z-punkt-The Foresight Company perspektiven02. February 2009 (www.z-punkt.de)
Thank you for your attention!