Burkhard Horn

Sustainable transport policy and noise reduction - the case of Berlin

Summary

1. Transport and mobility in Berlin: data, facts, trends
2. Urban Transport Development Plan (Stadtentwicklungsplan Verkehr): long term strategy for Berlin transport policy
3. Noise reduction in the transport system
   - overview of measures
   - examples
4. Conclusions
Transport and mobility in Berlin: data, facts, trends

Berlin is different from other large cities...

- Surface area: 892 km²
- ca. 3.56 Mio. Inhabitants
- ca. 1.8 Mio. employees
- „poor, but sexy“ (10.7 % unemployed persons)¹
- Low level of motorisation
- Low commuter numbers
- Polycentric city of short distances

Source: Amt für Statistik Berlin-Brandenburg, Angaben für 2014 and 2015¹
Demographic developments in Berlin

- Strong increase in number of inhabitants since 2010 (migration)
- Rising proportion of elderly and very elderly people

→ Changes in demand for transport
  - Concentration of demand - also because of migration into city-centre areas
  - Individualisation of demand (in terms of time and location)
  - Mobility in old age: highly mobile silver-agers vs. the impoverished and immobile elderly?

Source: 1990-2014 Einwohnermelderegister, 2015 Prognose

Today: City of ecomobility...

Looking back
2008
- Cars 33%
- Public transport 24%
- Bicycles 11%

Status quo
2013
- Cars 30%
- Public transport 27%
- Bicycles 13%

Journey undertaken every day by the inhabitants of Berlin

Figures: “Mobility in Cities – Survey (SrV) 2008” (methodologically adjusted ), “Mobility in Cities – Survey (SrV) 2013”
... and the city of car-free households

Level of Motorization
2014
Private cars per 1,000 inhabitants
- <200 (77)
- 200 - <300 (156)
- 300 - <400 (109)
- 400 - <500 (86)
- >500 (26)
Bezirksgrenzen
Private cars per 1,000 inhabitants
in Berlin-angemeldete Fahrzeuge (ohne Außerortsteilbelegungen) nach LOB-
Planungsrahmen (Stand: 31. Dezember 2014)
Quelle: Stadtentwicklungsbericht Berlin 2015
Source: own description
SenStadtUm, 2016

... but still negative consequences of car use

accidents... air pollution... noise...

...concentrated above all on the inner city, which has a low level of car use.

Source: Mobilität der Stadt - Berliner Verkehr in Zahlen Ausgabe 2010, Berlin 2011
Urban Transport Development Plan (Stadtentwicklungsplan Verkehr): Long term strategy for Berlin transport policy

- Basis for a long-term, strategic transport policy. Sets out the transport policy framework for the next 15 years
- Integration “externally” und “internally”
  - Creates link to other fields of policy
  - Takes all modes of transport into consideration
  - Formulates requirements at a national and European level
- Integration of time frames
  - Short- and medium-term measures are examined as to their future viability
  - Long-term options for action (infrastructure) are measured against realistic and current development expectations
- Adopted by the Senate in 2011, confirmed by the new government in 2013 (update started in 2016)
Structure of the Berlin urban transport development plan

Overview of the Berlin urban development transport plan – aims and contents

- Building on the Mission Statement in the first UTD Plan
  - with new innovations
- Interface to other policy/structural fields
  - own policy making role
- Ideals and Vision
  - and integrating necessities
- Instruments
  - and supporting understanding and communication
- Ambitious
  - but realistic
Berlin urban development plan for transport vision – goals – strategies – measures ...

A specific goal: choice of mode of transport

<table>
<thead>
<tr>
<th>Year</th>
<th>Cars</th>
<th>Bicycles</th>
<th>Public Transport</th>
<th>By Foot</th>
<th>Eco-mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>67%</td>
<td>33%</td>
<td>29%</td>
<td>28%</td>
<td>75%</td>
</tr>
<tr>
<td>2013</td>
<td>70%</td>
<td>30%</td>
<td>25%</td>
<td>28%</td>
<td>8%</td>
</tr>
</tbody>
</table>
Central courses of action

- Create pre-conditions for city-compatible transport
- Continue to reduce car transport: by land-use planning and urban planning and by creating attractive eco-mobility alternatives
- Strengthen eco-mobility
  - Make better use of the potential offered by each individual mode of transport
  - Improve the inter-connectedness of public transport, cyclists and pedestrians
  - Develop and implement innovations - technical and social, i.e. identify and support trends in mobility behaviour

Source: SenStadtUm

Further fields of action

- Develop ideas for reorganising roads and pavements as mobility behaviour changes
  - Focus on city centre
  - Widen pavements, create facilities for cyclists and public transport, room for loading areas etc.
- Pay out the “reduction dividend” where, by means of bundling, direct reductions in traffic can be observed
  - Measures as consequence of the completed highway A113
  - Measures that complement the planned extension of the highway A100 – as constituent part of planning process
- Parking policy
  - Management of parking areas and partial conversion of parking spaces
  - Local ideas for car sharing and e-mobility
Noise reduction in the transport system  
- Overview of measures  
- Examples

Solutions for noise reduction in inner city areas

<table>
<thead>
<tr>
<th>Possible effects</th>
<th>Possible effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory measures</td>
<td>1.5 - 3 dB (A)</td>
</tr>
<tr>
<td>Noise reducing asphalt surfaces</td>
<td>up to 4 dB (A)</td>
</tr>
<tr>
<td>Stabilization of traffic at low speed</td>
<td>1.5 - 4 dB (A)</td>
</tr>
<tr>
<td>More distance (car traffic) to buildings</td>
<td>1 - 1.5 dB (A)</td>
</tr>
<tr>
<td>Integration of design of street and building</td>
<td>up to 10 dB (A)</td>
</tr>
<tr>
<td>Traffic management (i.e. bundling on less sensitive routes)</td>
<td>up to 10 dB (A)</td>
</tr>
</tbody>
</table>

Interaction between UTP and noise-reduction-plan

Success: Between 2009 and 2012 the number of high noise-exposed people decreased around 29,200 cases.
Solutions of noise reduction in inner-city areas

• Traffic calmed areas

Source: SenStadtUm

Solutions of noise reduction in inner-city areas

• Planning of noise-reduction by redesign of streets

Reorganisation of lanes - new driving lane for bikes

Source: SenStadtUm
Solutions of noise reduction in inner-city areas

- 75 % of road network speed limit of 30 km/h
- 230 km (= 15%) of main road network (fulltime or temporary (at night, during school hours)), mostly for noise reduction

Source: SenStadtUm

Additional measures for speed reduction: „bicycle streets“ and „10 km/h-areas“

Source: SenStadtUm
Solutions of noise reduction in inner-city areas

• Noise-reduction asphalt surface combined with bike lane

Source: SenStadtUm

Conclusions
Noise reduction policy is equivalent with sustainable urban transport policy because ...

- the intended changes in mobility behaviour lead to less private car use,
- the measures to reduce the negative consequences of remaining car traffic mostly apply on several issues (noise, air pollution, traffic safety, quality of public space),
- an attractive (and growing) city like Berlin needs healthy environment conditions to remain attractive – and that largely depends on a sustainable urban transport policy
- in addition sustainable transport policy has to be an integrated part of urban development strategies - which again aim to a higher quality of life for the people living in the city.

Sustainable urban transport policy is necessary because ...

- society's expectations regarding the function of the city and of public spaces as well as quality of life in the city have changed,
- external conditions like environmental legislation (limits for noise, PM 10, NO2 and other emissions) have changed and, with these changes, the requirements for planning and regulation,
- the efficient use of resources (i.e. financing of infrastructure and transport offers) is of key importance,
- it is important to think about shaping urban living and transport in a viable way in the future – also with regard to utilities and climate protection etc.

→ ... all this leads to city-compatible mobility
City-compatible mobility is achievable if …

- planning is based on the needs of the people in the city,
- there is both local and city-wide awareness on the part of both politicians and the people of the real developments and the challenges for the future,
- there is sufficient consideration towards and collaboration with other policy areas – with the same overall aims,
- new approaches (methods and measures) are tried out and, if constructive, are implemented over the long term,
- creativity and effectiveness form the basis of our actions - given the limited resources we have.

Further noise reduction will be a big benefit of this policy.

Key to success: integrated planning
Thank you for your attention!
For further information, please visit: www.stadtentwicklung.berlin.de