Commercial transport in the municipal planning in Germany

Presentation at the 12th BESTUFS Workshop:
“Urban freight strategies: laissez-faire or following a comprehensive strategy?“

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Agenda

• Project background

• Results of a survey of municipalities
  – Are there any problems?
  – Who has these problems?
  – Which kind of problems?
  – Which kind of solutions?
  – Which kind of implementation strategy?

• Conclusions
Title of the research project

Integrated commercial traffic in conurbations: status quo in theory and praxis

Federal Ministry of Transport, Building and Housing of Germany

September 2001 - February 2003
Purpose of investigation

Identification of qualified measures especially of integrated approaches which are able to meet the requirements of commercial transport and simultaneously contribute to sustainable and town-friendly transport development.
Definition of commercial transport

• All transport for economic purposes, which is generated through
  – the travel of people (personal commercial traffic) as well as
  – the carriage of goods or commodities (freight traffic).

• This includes
  – personal commercial traffic and
  – the transport of goods or commodities between companies as well as
  – the service trips to companies or households or
  – the transport of goods to the (end)consumer.
**Working Hypothesis**

- Individual measures and concepts for reduction and for more environmentally and socially compatible conduction of commercial transport in conurbations are known.

- There is a lack of (wide-spread and integrated) implementation of measures and concepts.

- Wide-spread implementation fails because of miscellaneous problems in the process.

- There is only rudimentary knowledge about the transfer-conditions of integrated commercial transport concepts.
Policy analysis: object and methodology

Analysis of measures:
Survey of the contents (Outputs).

Analysis of effects:
Analysis of the consequences (Impacts/Outcomes).

Analysis of actions:
Reproduction of the conditions for formulating policies and measures.

Analysis of processes:
Reproduction of the transfer-conditions of concrete measures.

v. Prittwitz 1994, S. 292
Research questions

• Which strategies, approaches, concepts and measures have been found in theory and praxis (inventory of solutions)?

• How can innovative and successful solutions in conurbations be characterised and structured? Can good practice experiences in win-win-situations be named?

• Which solutions were planned and which have actually been implemented (analysis of implementation outputs)?

• How should these approaches be evaluated concerning their economic and ecological effect (analysis of implementation outcomes)?

• How can innovative, integrated solutions in commercial transport in conurbations be implemented (process and action analysis: spatial, temporal and technical barriers to realisation and factors of success)?

• Which recommendations follow for the municipalities, businesses, state, etc. (recommendations for action)?
Research approach

Component A: Inventory of solutions and categorisation – commercial transport: good practice in conurbations

Component B: Policy analysis – successfully putting integrated solutions into practice

Component C: Synthesis – formulation of recommendations for action
Survey of planning for commercial transport in municipalities - Questionnaire (abbreviated version)

General questions
• Is commercial transport a problem in your municipality?
• Have you tried to implement measures?
• Have you been developing an entire concept?

Specific questions about planning for commercial transport
• Which role does the securing of traffic access play?
• Which requirements are formulated in planning permissions?
• Were they linked to concepts for construction traffic and commercial transport?

Specific questions about the implementation process
• Do you know any commercial transport–related projects?
• Which (positive or negative) experiences were gathered during the implementation?
• Could you name people, which have been playing an important role in this process?
Metropolitan Regions in Germany

- 82 Mio. Inhabitants.
- Half of the German population lives in agglomerations which are the areas with the highest economic activity levels.
- Sample covers one third of all inhabitants in Germany.

**Twelve largest cities in Germany:**

<table>
<thead>
<tr>
<th>City</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berlin</td>
<td>3,425,759</td>
</tr>
<tr>
<td>Dortmund</td>
<td>594,866</td>
</tr>
<tr>
<td>Hamburg</td>
<td>1,704,731</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>585,274</td>
</tr>
<tr>
<td>München</td>
<td>1,205,923</td>
</tr>
<tr>
<td>Düsseldorf</td>
<td>570,969</td>
</tr>
<tr>
<td>Köln</td>
<td>964,311</td>
</tr>
<tr>
<td>Bremen</td>
<td>546,968</td>
</tr>
<tr>
<td>Frankfurt a.M.</td>
<td>643,469</td>
</tr>
<tr>
<td>Duisburg</td>
<td>529,062</td>
</tr>
<tr>
<td>Essen</td>
<td>608,732</td>
</tr>
<tr>
<td>Hannover</td>
<td>520,670</td>
</tr>
</tbody>
</table>

http://www.bbr.bund.de/infosite/rob_karten_abb/karte28.htm, 15.03.02

ECIL
European Centre for Transportation and Logistics
Is commercial transport a problem in your municipality?

- Yes: 30%
- Partially: 26%
- No: 22%
- No answer: 22%

n = 50
Survey period: 08-12/02
Perception of problems related to commercial transport - differentiated after inhabitants

<table>
<thead>
<tr>
<th>towns (number)</th>
<th>yes</th>
<th>partially</th>
<th>no</th>
<th>no answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 100.000 inhabitants</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>100.000-200.000 inhabitants</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>200.000-300.000 inhabitants</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>&gt; 300.000 inhabitants</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
</tbody>
</table>

n = 50
survey period: 08-12/02
Problems of or with commercial transport

- capacity bottlenecks on road networks: 8 answers
- decrease of rail freight: 8 answers
- negative effects in residential areas: 8 answers
- selective competitions in locations: 7 answers
- delivery traffic in shopping streets: 7 answers
- (superproportional) emissions of noise and exhaust: 5 answers
- parked commercial vehicles: 4 answers
- other negative effects: 4 answers
- others: 6 answers

n = 21 (multiple answers possible)
survey period: 08-12/02
Planning for commercial transport

Which role does the securing of traffic access play?

- Is usually dealt during the planning process on a case-by-case basis depending on the development intentions (10)
- General consideration of traffic access during planning process (7)

Which requirements are formulated in planning permissions?

- Traffic impact studies detailing general impacts on urban environments as well as noise emissions and immissions (13)
- Analysing the capacity of the road network / major junctions and transport nodes (9)
- Taking account of internal circulation as well as access from the outside (5 each)

Were they linked to concepts for construction traffic and commercial transport?

- Measures for construction traffic (4)
- Measures for commercial transport (3)

n = 27
(multiple answers possible)
Involvement of measures in plans or concepts

n = 50
survey period: 08-12/02

- transport development plan: 12 towns
- overall transport concept: 2 towns
- freight traffic concept: 2 towns
- urban development plan for transport: 1 town
- other plans and concepts: 2 towns
- no plan or concept: 6 towns
- individual measures: 3 towns
- no answer: 22 towns

Number of answers (towns)
Measures mentioned and with which frequency

- Planning or implementation of local freight distribution centres (8)
- Lorry guidance systems (8)
- Urban or city logistics concepts (6)
- Taking account of commercial traffic in development plans (6)
- Creation of delivery or loading bays, delivery times in pedestrian zones (5)
- Round tables (3)
- Extensions of rail network / facilities (3 + 3)
- Road network extension (3)
- and others

n = 16
„large“ goods flows = „large“ facilities?
Discrepancies between theory and practice – the example of freight distribution centres

- Discrepancy between intentions and realities.
- „Small-scale“ solutions instead?
Discrepancies between theory and practice –
the example of lorry guidance systems

Main road network and commercial estates in Unna

Main road network in Bremen

Legende: Массен
Zähstelle
Аутобахн
Бундесбахн, Durchgangsstraße

European Centre for Transportation and Logistics

Heike Flämig, 10/13/03
Discrepancies between theory and practice – the example of urban/city logistics concepts

LOGISTIK HEUTE 10/95

1995: more than 80 projects

12/2002: less than 15 projects
Restrictions and user advantages - the example of loading bays

- Restriction and ensuring functionality at the same time!
Traditional intermodal transport for short distances - the example of the baulog-concept

Examples:
- Berlin-Potsdamer Platz
- Biel-EXPO.02
- Stockholm- Hammarby Sjöstad

• (temporary) intermodal terminals:
  – “exlog”: Großbeeren, Wustermark
  – “inlog”: Anhalter and Potsdamer Goods Station

• (temporary) facilities and infrastructure: tracks, bridge

(ship and rail instead of trucks in short distance intermodal transport)
Innovative mode of transport - the example of a freight-tram in Dresden

- new vehicle: freight tram
- on existing infrastructure: public tramway
- new land use pattern: facilitate the change from inner to outer city locations
- tramway combined with distribution centre

ē freight-tram instead of lorries
Discussion of results

- Commercial traffic – a forgotten planning subject?
- Integration – more overstrain of complexity than solution approach?
- Discrepancies between theory and practice - Germans as concept (world) champion?
- Monitoring effects - the fear of evaluation?
Commercial traffic – a forgotten planning subject?

• Commercial traffic is only equate as freight traffic.

• Commercial traffic is only perceived in a few towns as a problem.

• Commercial traffic is classified as not planable and controllable.

• Existing problems normally are solved through infrastructure development.

• Exceptions: Municipalities with experience in city and urban logistics!!!
Monitoring effects - the fear of evaluation

- mainly quantitative and qualitative ex-ante prediction of effects in conceptual studies and classical traffic planning
- very little quantitative ex-post evaluation of effects
- there is no framework for evaluating commercial transport with regard to sustainability and urban sensitivity
Germans as concept (world) champion?

- Many innovative solutions for a sustainable urban transport system have been developed:
  - economy, ecology and efficiency can be combined in last-mile solutions
  - it is possible to solve temporarily problems through temporarily solutions
  - most solutions are answers to local problematic situations and are applying concepts developed by practitioners through trial-and-error
Do any recommendations exist for implementation activities?

In principle ...
    Yes!
    but
    2.

If we know how it works at the physical and process levels:
• Why are some concepts and measures implemented while others are not?
• Why are not all measures implemented?
• Why are the recommendations for action not followed?
• Why are “good-practice” fail?
process level: „soft“ conditions of implementation

- the results of scientific research are too often not taking real conditions into consideration
- successful implementation is not only a technical question
- attention should be paid to local conditions
- missing feedback between planning decisions and the commercial practice reduces effectiveness
- compromise approaches sometimes go too far and lead to counter-productive solutions
- contradictory interests in the region (economy, transport, urban development, environment) and the commercial sector prevent unified action
- the actual location, at which action is required and the place of logistical decision making are different
process level: „hard“ conditions of implementation

• missing links between levels of decision making and execution (strategic, tactical, operative)

• missing communication strategies for outlining the complex interactions between outputs and effects

• public funding acts as seed capital

• but: implementation strategies are missing!
Conclusions - What to do?

• Could the various decision and realisation level be better combined? Solution: Is the synchronisation of strategic, tactical and operative steps necessary? Solution: Is a stronger differentiation of recommendations necessary?

• Could the distance between the location of problems and the location of action be bridged? Problem: “External” controlling of logistics!

• Could the following action approach of the most planning instruments be overcome? Problem: “End-of-pipe-solutions” instead of measures related to the traffic generation in companies!

• Could the counter-rotation of interests in the region be overcome (economy, transport function, urban building, the environment)? Problem: no joint action!

• Could the high complexity of integrative approach be overcome? Solution: Can trans- and inter-disciplinarity learn on job?

• Could the structure of personality be changed? Problem: Copy of model/good practices, promotion ability and skills.
Recommendations for the conurbation level

short-term measures
• conducting freight traffic round-tables
• preparing a „strengths & weaknesses profile“ of the conurbation

medium-term measures
• securing development areas for logistical nodes close to customers
• implementation and support of constraints and benefit to the user
• promotion of commercial and municipal mobility management including measures for commercial transport

long-term measures
• preparing integrated freight traffic plans
Recommendations for the supra-regional level

- transport prices and taxes depending on levels of use
- creation of standardized limits
- consolidation of the object „commercial transport“ with the help of a linked-up knowledge platform
- monitoring of outcomes and compatibility which takes account of traffic implications
- revision of the spatial planning framework concerning the role of the traffic impact assessment in the planning approval process
Urban freight strategies: laissez-faire or following a comprehensive strategy?“

- Today, municipalities acts laissez-faire

- But: for tomorrow we need a comprehensive strategy!
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