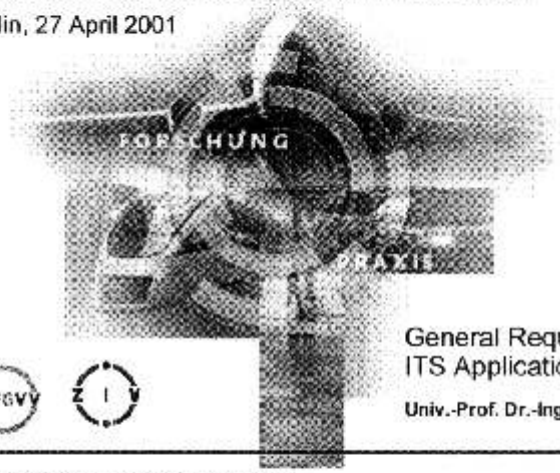
## Keynote Lectures

# General Requirements on ITS Applications in Conurbation Areas

***Prof. Dr-Ing. Manfred BOLTZE***

***Darmstadt University of Technology***

JGCB - Japanese-German Centre Berlin
Symposium „State of the Art of Research, Development, and Application of Intelligent Transport Systems (ITS) in Urban Areas"
Berlin, 27 April 2001




## General Requirements on ITS Applications in Conurbation Areas

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Darmstadt University of Technology
Transport Planning and Traffic Engineering
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## Goals for ITS Implementations

- increased safety
- increased capacity
- improved economical efficiency
- reduced environmental impacts

**Benefits for travellers:**

- better information
- reduced travel times with reliable forecasts
- reduced stress

## Further Reasons for ITS Implementations

- ITS are acknowledged as user-friendly services for citizens, and these services improve the image of administrations and transport authorities.
- Better information improves the citizens' understanding of the traffic situation and of transport policies.
- ITS may be part of a marketing concept of transport operators, city authorities or other institutions or even of a whole region (regional marketing).
- Data gathered for traffic control and traffic information may also be used to improve the general data base for transport planning.

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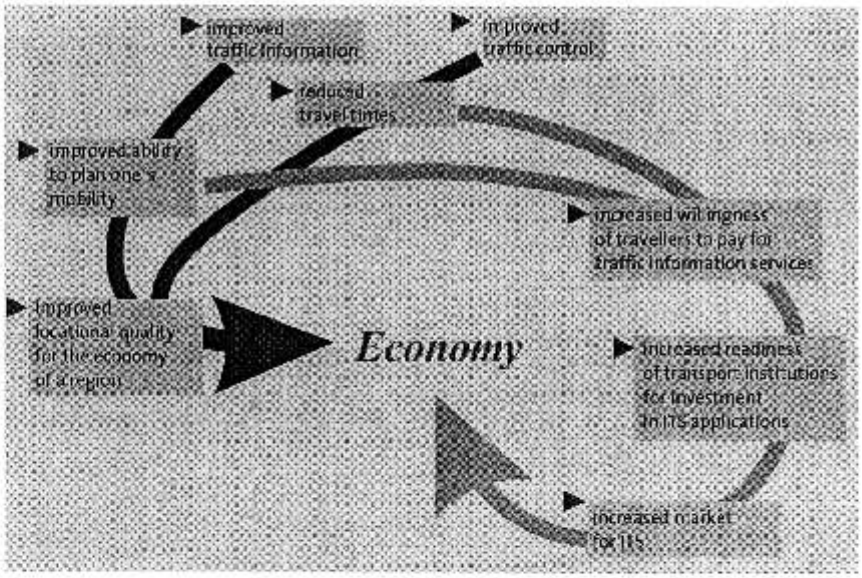
## Desired Impacts of ITS Applications on Economy

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## ITS Implementation - Sovereign Task or Free Enterprise Business?

**ITS partly has to be considered as a sovereign task, but partly it can only develop under market principles!**

Open questions:

Where do we have to apply sovereign, regulatory principles to ensure the interests of our society?

Where must and where shall we steer the market-oriented development of ITS?

➡ Appropriate share of tasks between public and private institutions.

➡ Development should be supported and not be hindered.

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## Areas of Application for Static and Dynamic ITS

**Dynamic traffic control and information systems are particularly useful if negative traffic situations occur on an unregular basis.**

Bildquelle: Stadt Frankfurt am Main 1996

**If disturbances or overloads occur**

**➡ never,**

**➡ rarely, or**

**➡ on a regular basis**

**it should be investigated, if less expensive static systems could be sufficient.**

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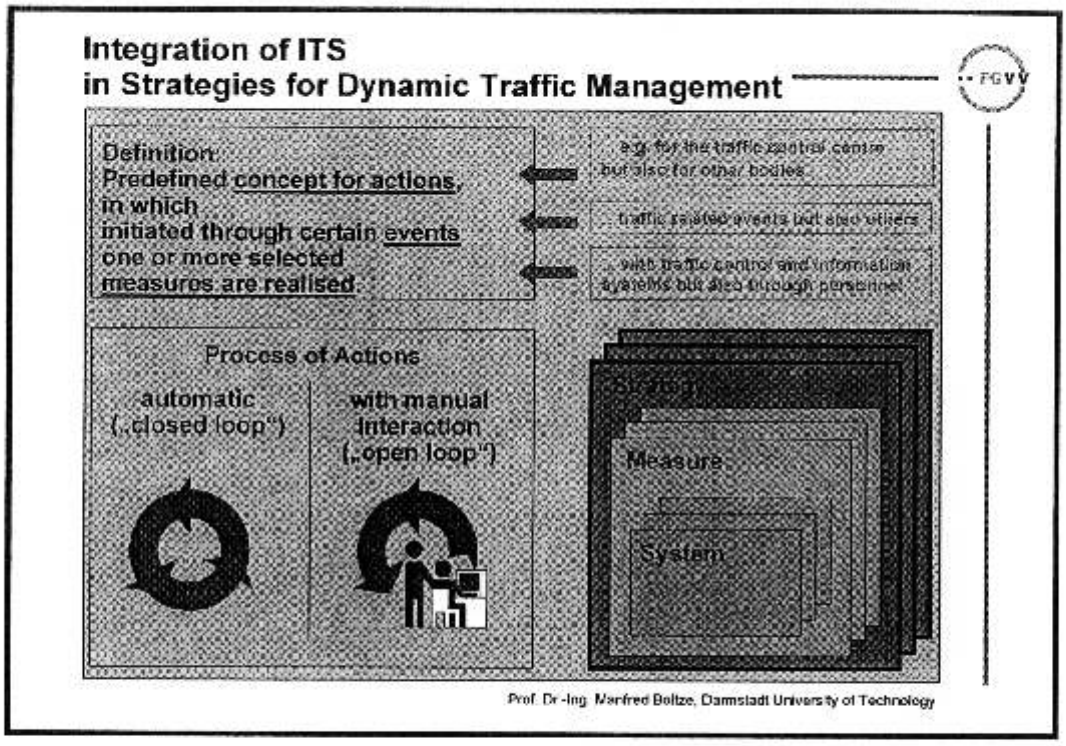
Integration of ITS
in Strategies for Dynamic Traffic Management
FGVV
Definition:
Predefined concept for actions,
in which
initiated through certain events
one or more selected
measures are realised.
e.g. for the traffic control centre
but also for other bodies
traffic related events but also others
with traffic control and information
systems but also through personnel
Process of Actions
automatic
(„closed loop")
with manual
interaction
(„open loop")
Strategy
Measure
System
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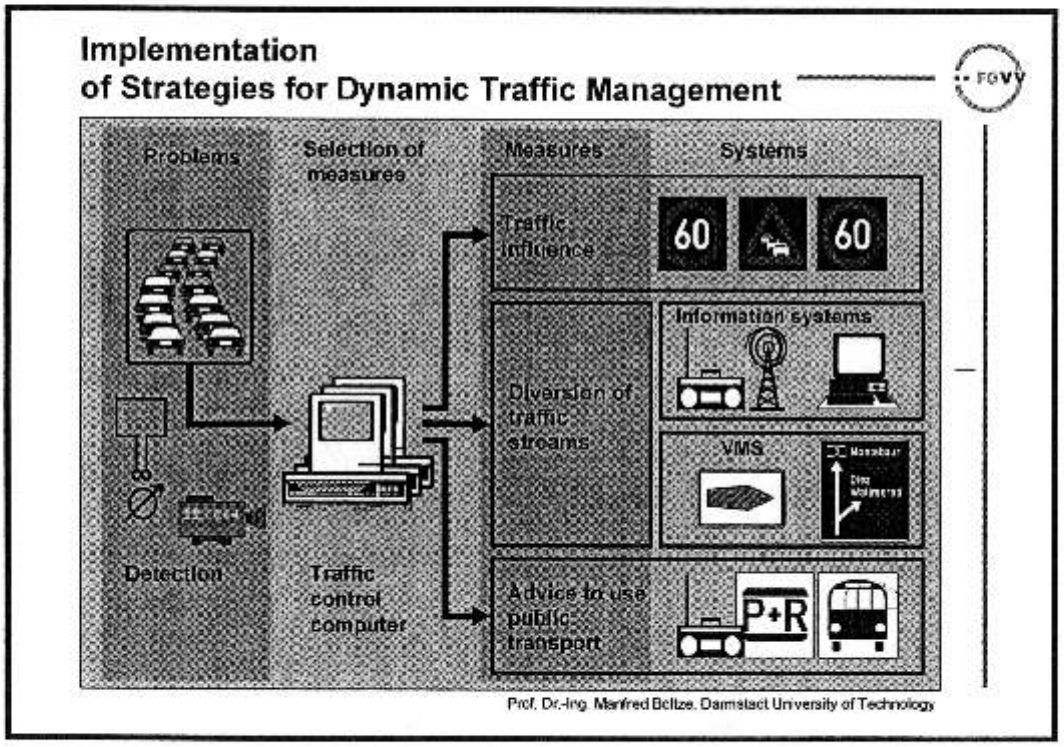
Implementation
of Strategies for Dynamic Traffic Management
FGVV
Problems
Selection of
measures
Measures
Systems
Traffic
influence
60
60
Information systems
Diversion of
traffic
streams
VMS
Advice to use
public
transport
P+R
Detection
Traffic
control
computer
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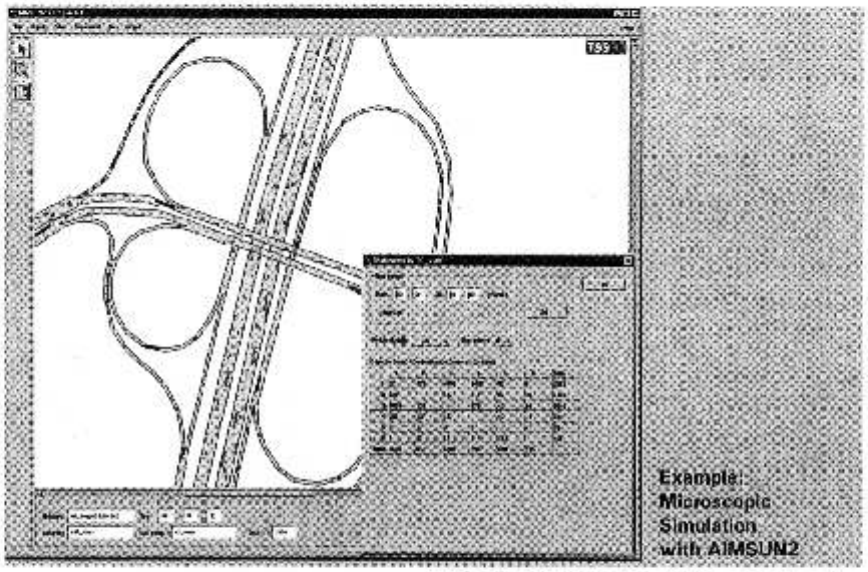
## Assessment of ITS by Assessing the Strategies for Dynamic Traffic Management

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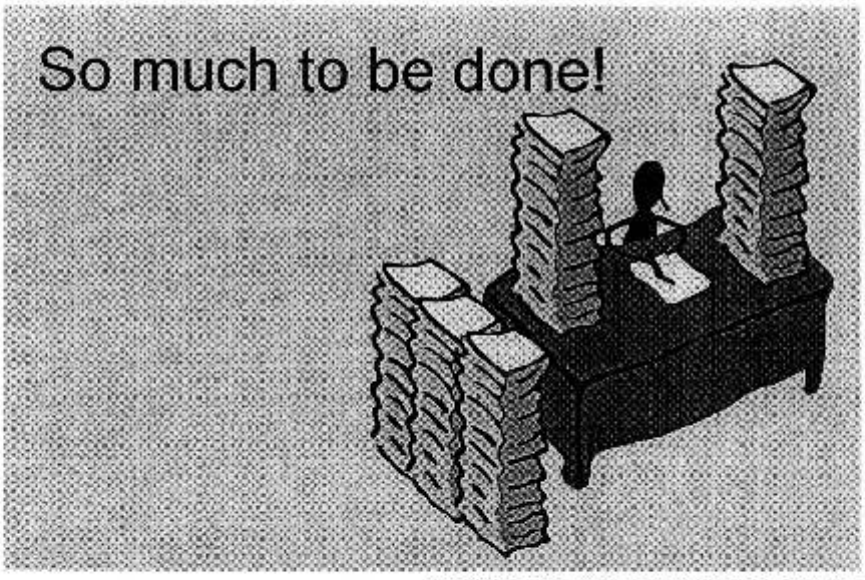
## 1st Conclusion

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## 2nd Conclusion

**For ITS applications the general rules of planning apply as well. For example:**

- goal-oriented application (definition and assessment of strategies for traffic management)
- considering groups of measures instead of single measures only
- integrated design of transport infrastructure and its operation (infrastructure planning must consider traffic control measures)
- considering the regional, intermodal and interinstitutional aspects (improving networks for data exchange)
- considering cost effectiveness
- appropriate share of tasks between public and private institutions

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## 3rd Conclusion

**There are many critical factors of success for ITS Applications, e.g.:**

- user acceptance, quality of services
- technical solutions in line with market requirements, business case for the operation, economical success
- intention of partners to co-operate, working PPP´s
- reasonable impacts

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Some slides presented by Prof. Boltze during the further discussion:

## ITS in Urban Areas - State of Development: Results of an ADAC Survey

Questionnaire sent out to 326 cities, answered by 261 cities.

44% of the cities own traffic control centres
43% of the cities control road traffic by network control systems
31% of the cities control road traffic by line control systems
63% of the cities own electronic priority systems

37% of the cities own a dynamic parking guidance system

45% of the cities collect traffic data dynamically
34% of the cities offer traffic information
68% of the cities offer online services for citizens
26% of the cities use ITS within their administration
55% of the cities use electronic cash systems

Source:
Allgemeiner Deutscher Automobil-Club e.V. (ADAC):
Verkehrstelematik in Städten - Zwischenbericht.
Munich, March 2001

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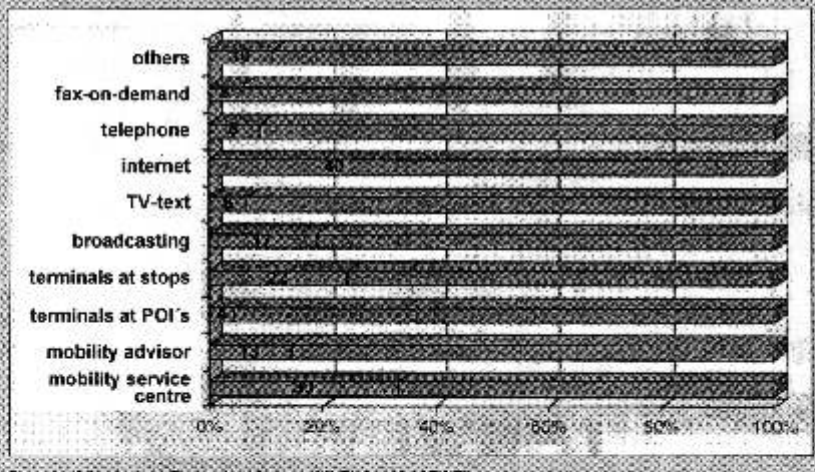
## ITS in Urban Areas - State of Development: Results of an ADAC Survey

Traffic Information Services (with regard to 34 % = 90 cities)




Source: Allgemeiner Deutscher Automobil-Club e.V. (ADAC):
Verkehrstelematik in Städten - Zwischenbericht. Munich, March 2001

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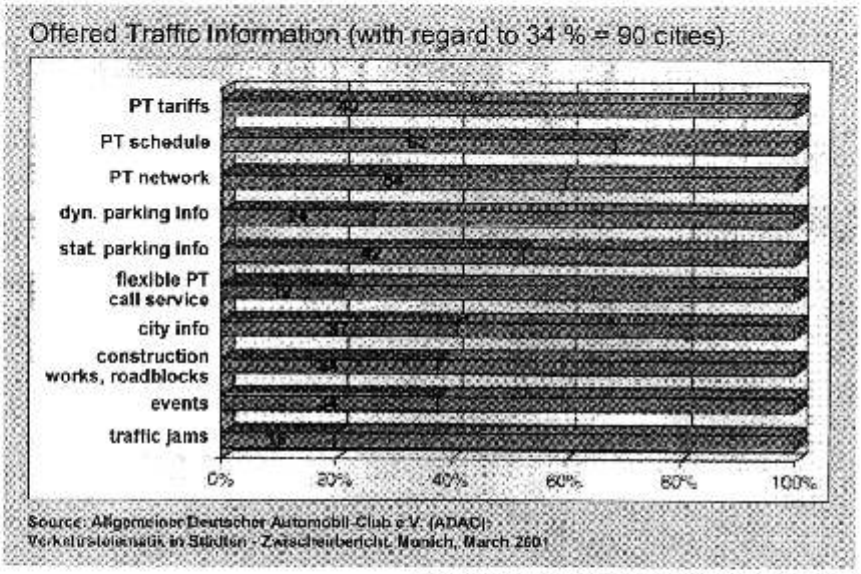


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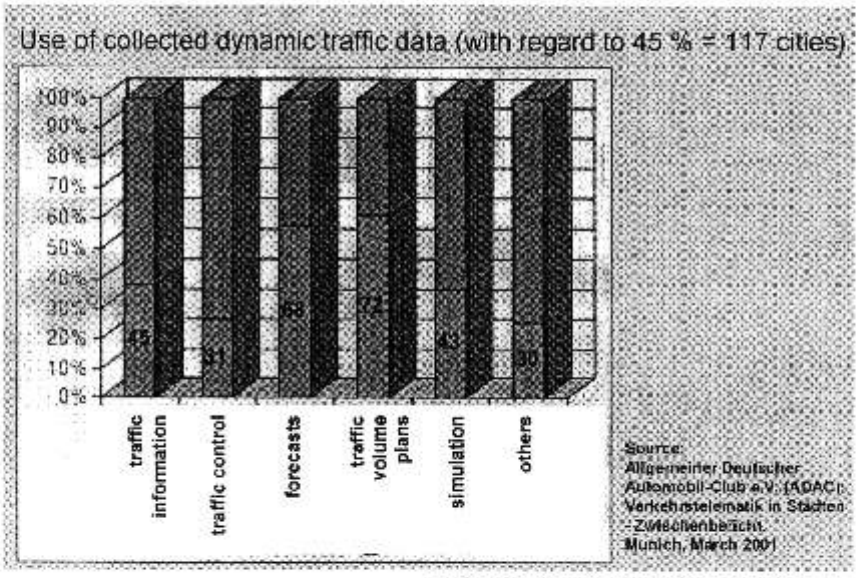


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