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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

Planning

- **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“

1. General Traffic Plans (1969)
(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)

4. Sustainable Mobility Development Plans (2013)
(Hinweise zur Verkehrsentwicklungsplanung 2013)

On European level:

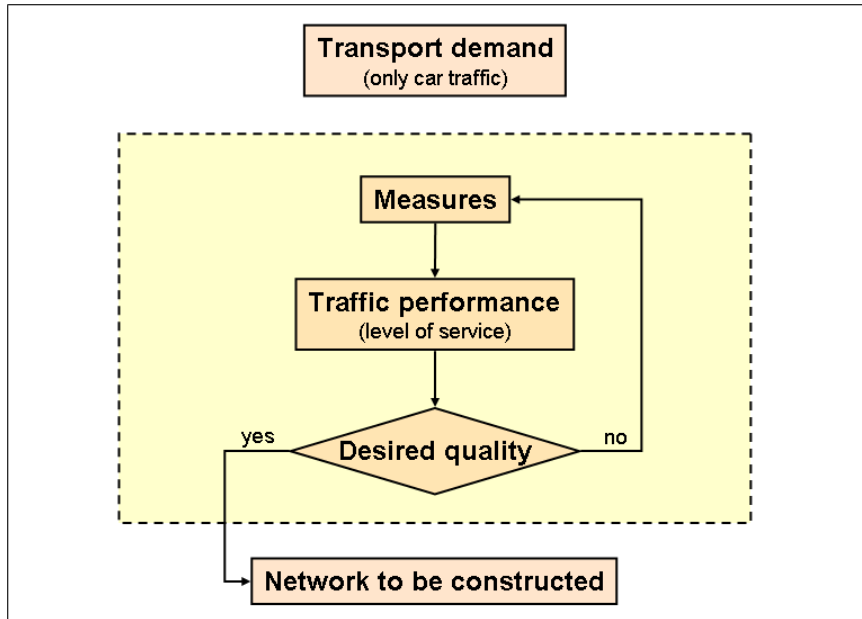
„Sustainable Urban Mobility Plans (SUMP) = Stadtmobilitätspläne“

New threats and requirements for mobility planning

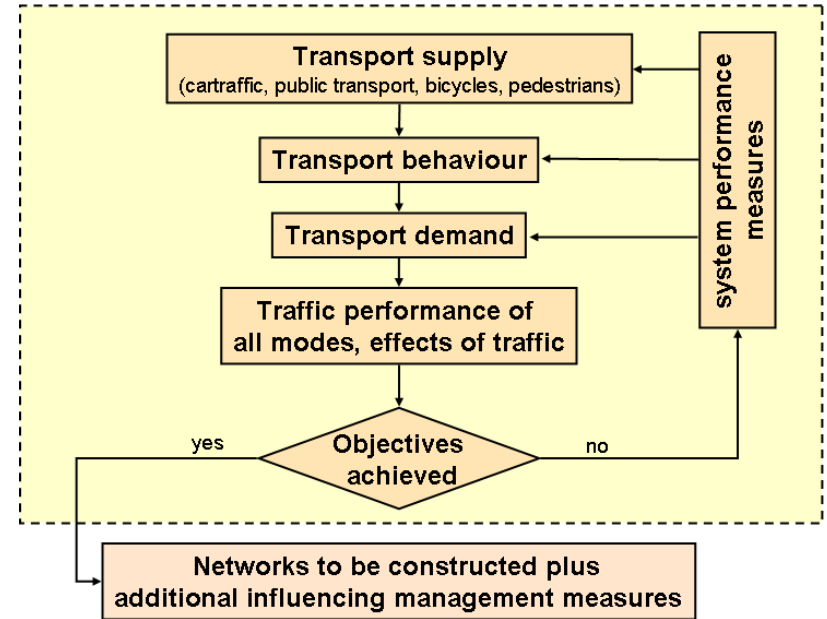
- **Population of 10 Billion world wide**
 - **Demographic change, losses and gains of population**
 - **Urbanisation**
 - **Climatic change**
 - **Energy supply**
 - **Environmental awareness, change of values**
 - **Increasing multi modality**
 - **Noise and clean air acts**
 - **Electric vehicles**
 - **Communication technologies**
 - **Increasing commercial traffic world wide**
 - **Participation and cooperation**
 - **Social aspects, inclusion/exclusion**
 - **Maintenance and replacement of old infrastructure**
 - **Financial requirements will grow**
 - **Public man power and ressources 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

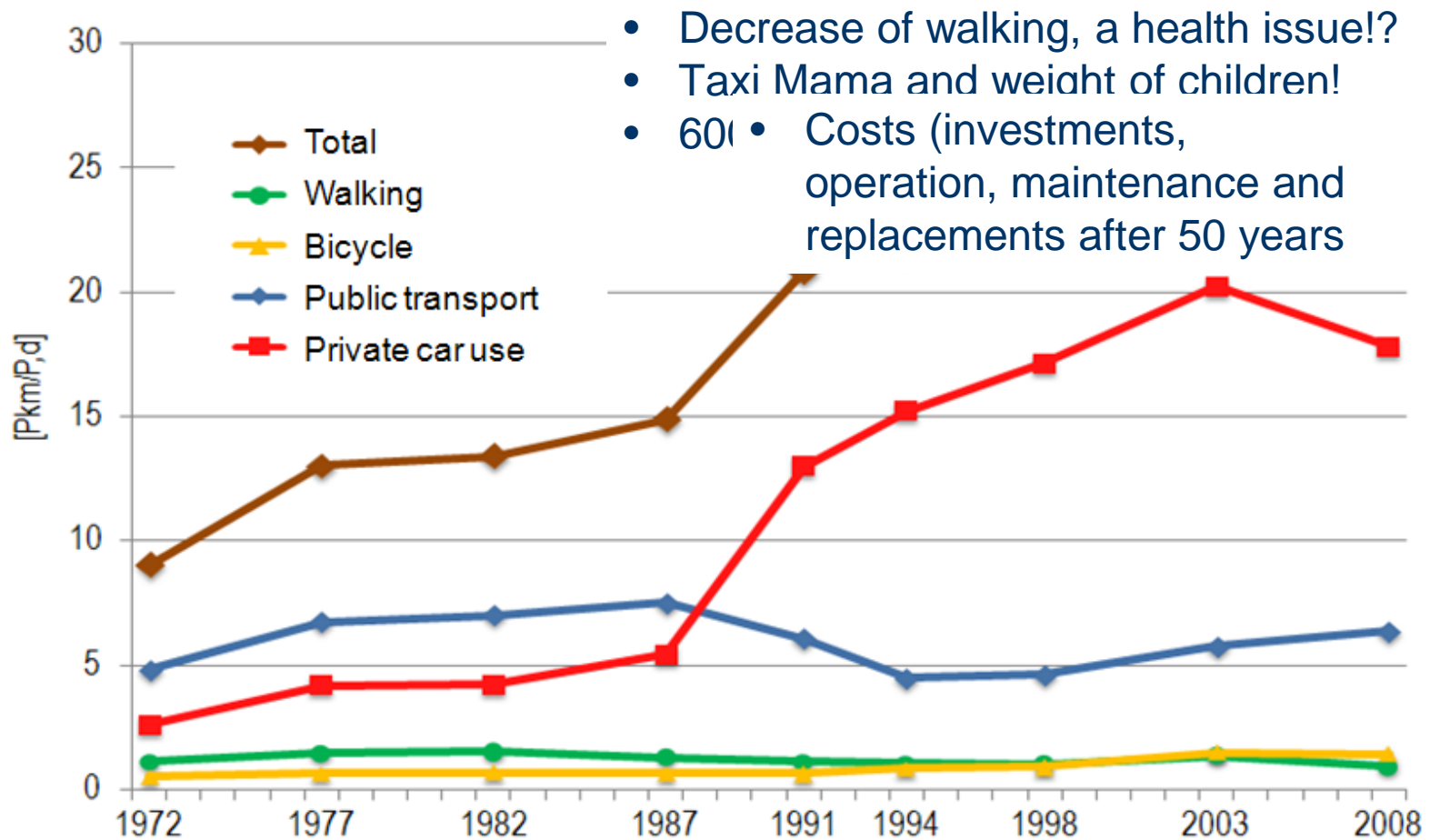
Demand oriented planning



Influencing planning



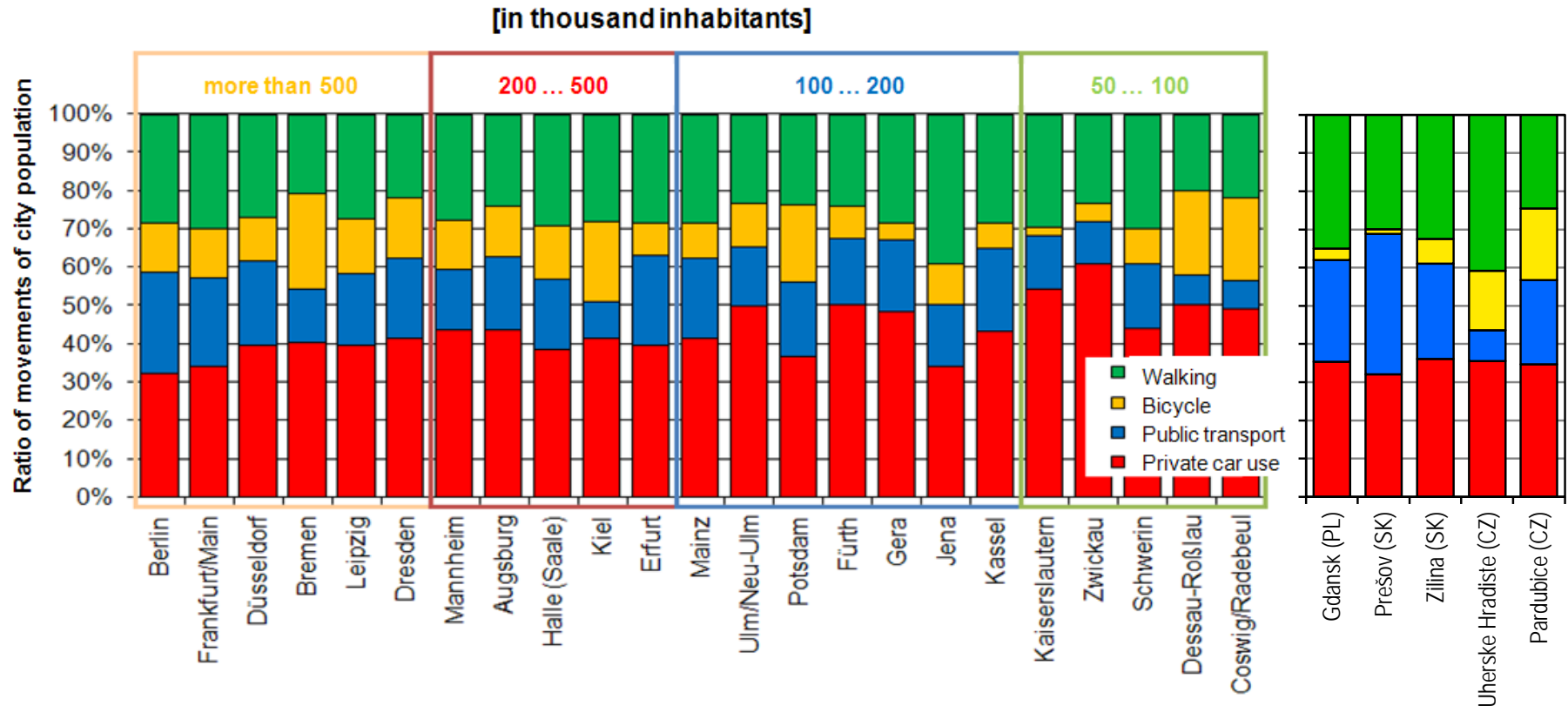
Increase of car use – what do we get?



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

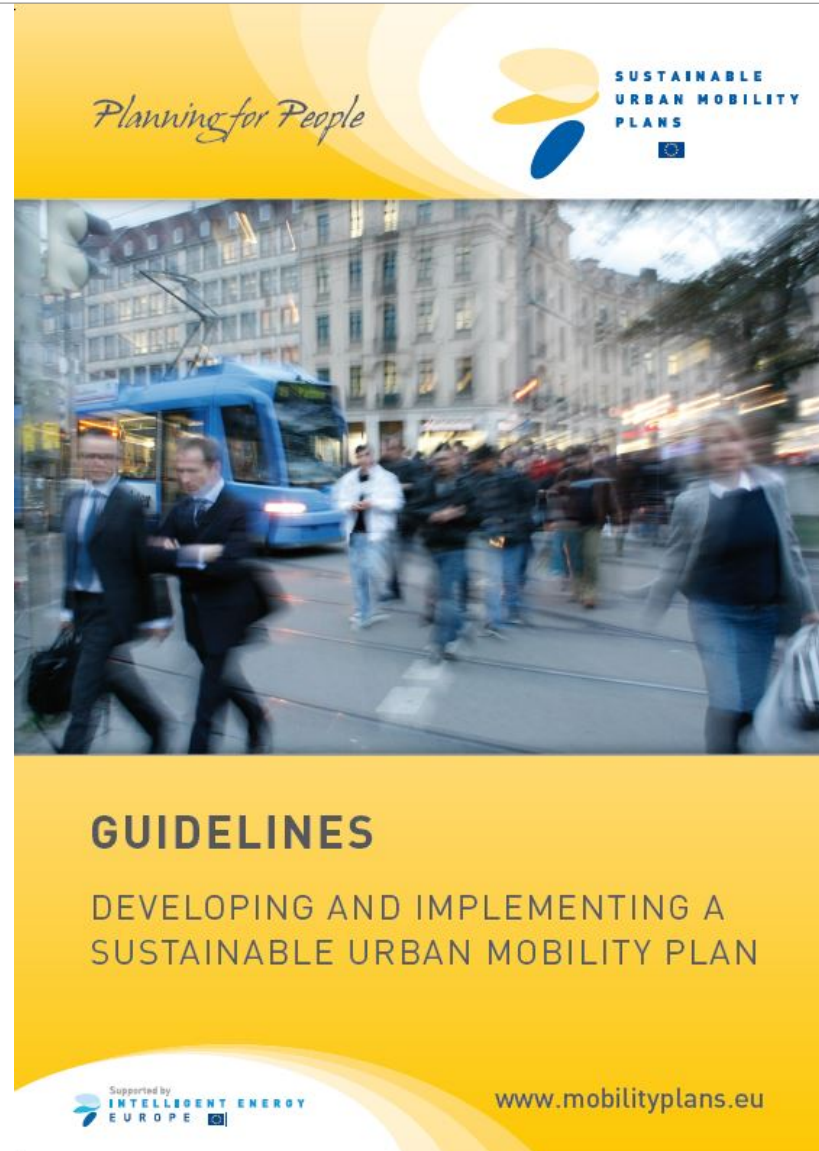
Source: TU Dresden/vip: Survey 'Mobility in German towns – SrV 1972 - 2008' (www.tu-dresden.de/srv)

Modal Split in selected German and CMB-towns



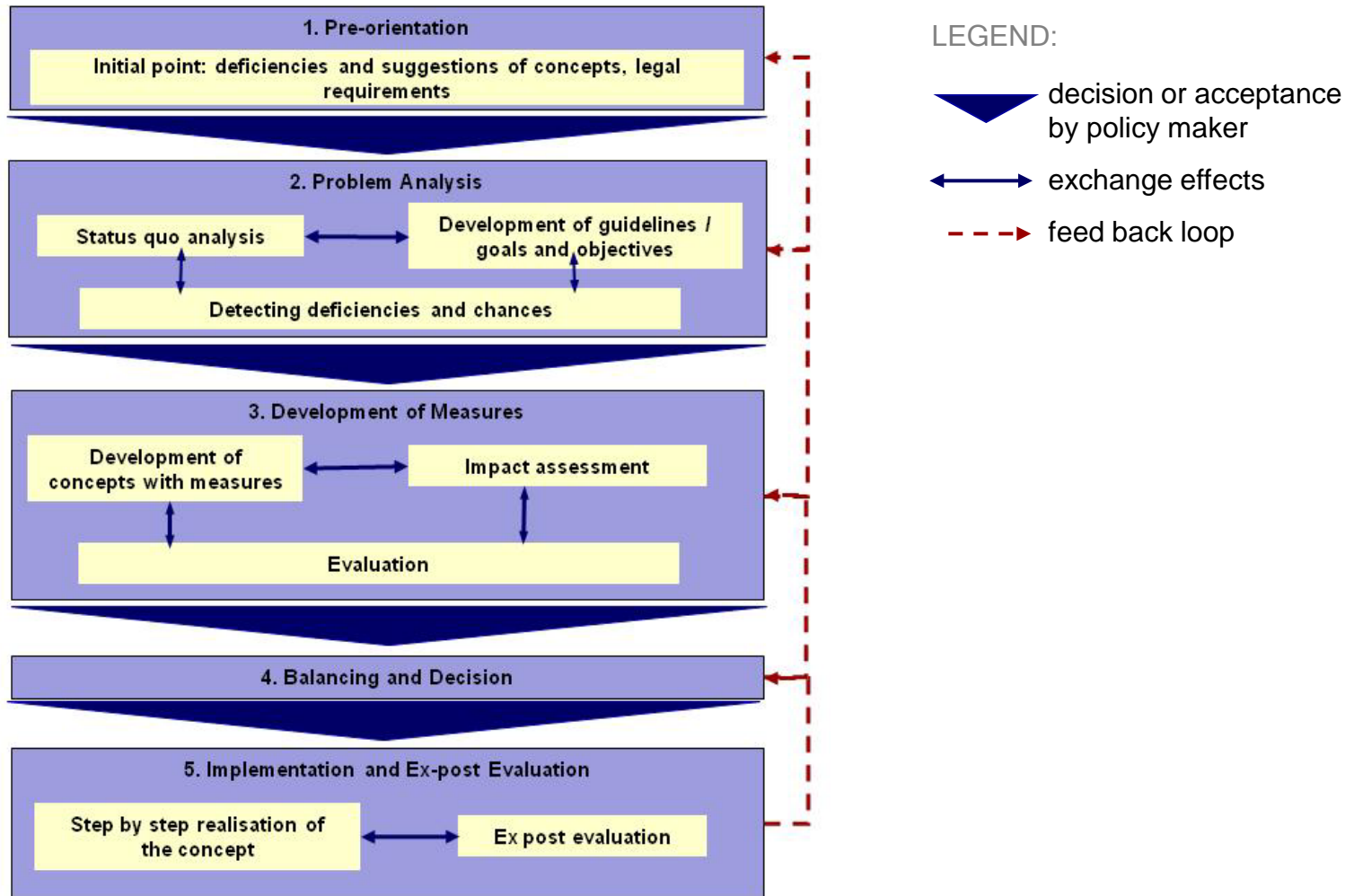
Source: TU Dresden/vip: Survey 'Mobility in German towns – SrV 2008' (www.tu-dresden.de/srv) and survey implemented in the course of Central MeetBike

European Union requires Sustainable Urban Mobility Plans (SUMP)



Source:
http://www.mobilityplans.eu/docs/SUMP_guidelines_web.pdf

Goal oriented integrated planning process



Source: FGSV: Leitfaden für Verkehrsplanung, Köln, 2001

SUMP – Process with the same messages

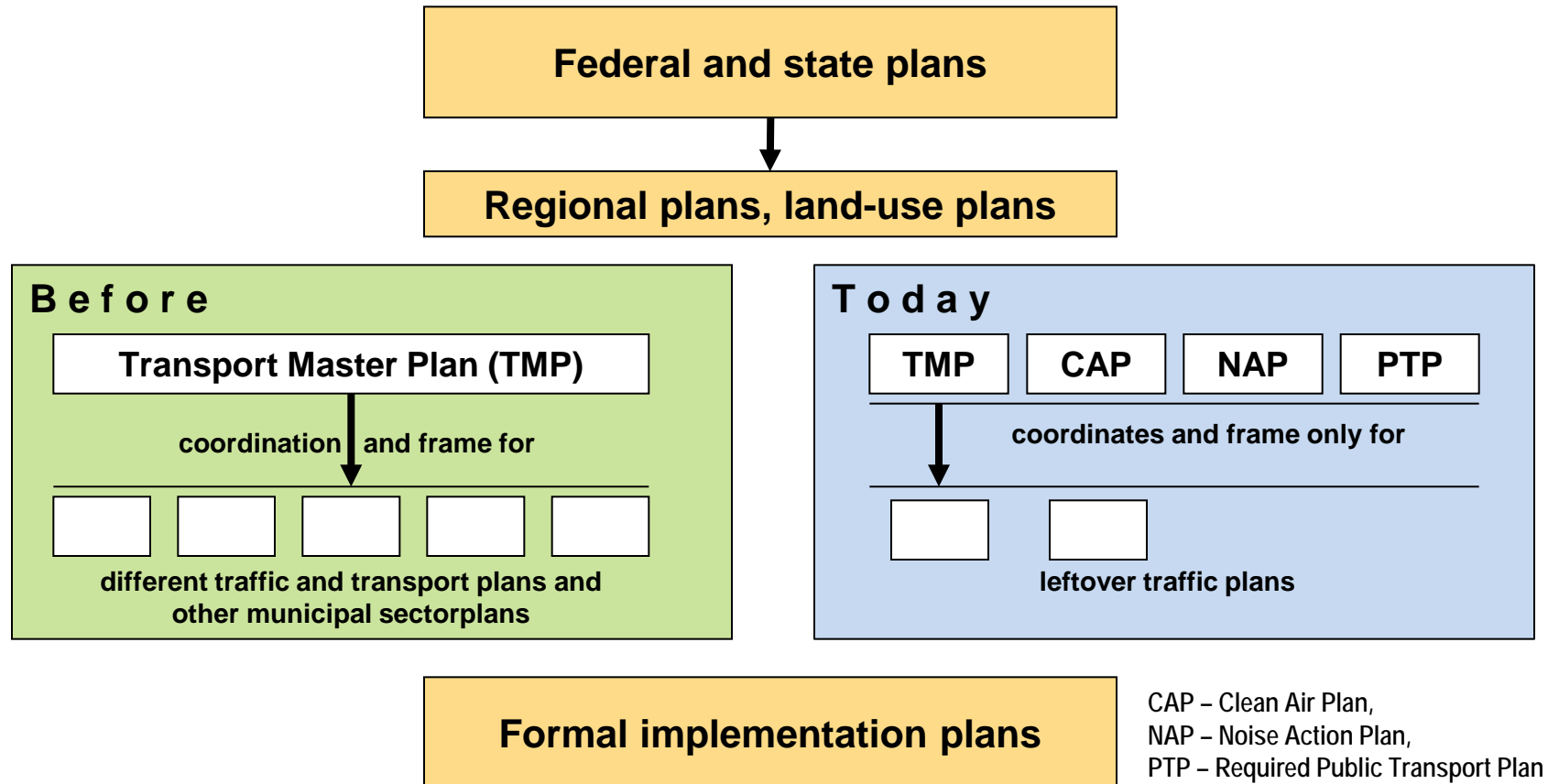


Characteristics of SUMP and integrated transport planning:

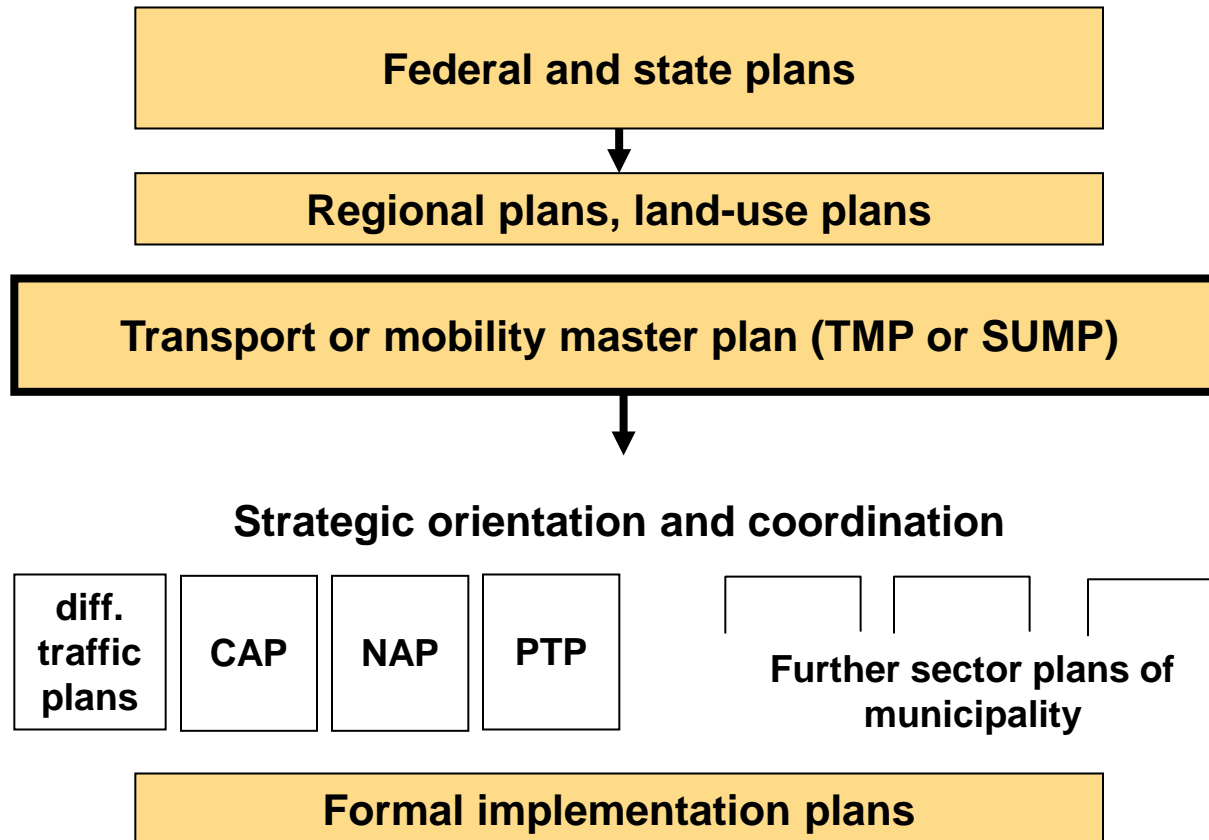
- Continuous process
- Cooperation and participation
- Clear goals and strategies
- Goal oriented control of demand
- Use of scenario techniques
- Integrated hard and soft measures
- Quality management: Evaluation and control of success

Source: Rupprecht Consult on www.mobilityplans.eu, Guidelines

The role of transport master planning before and today



SUMP – strategic and coordination tool



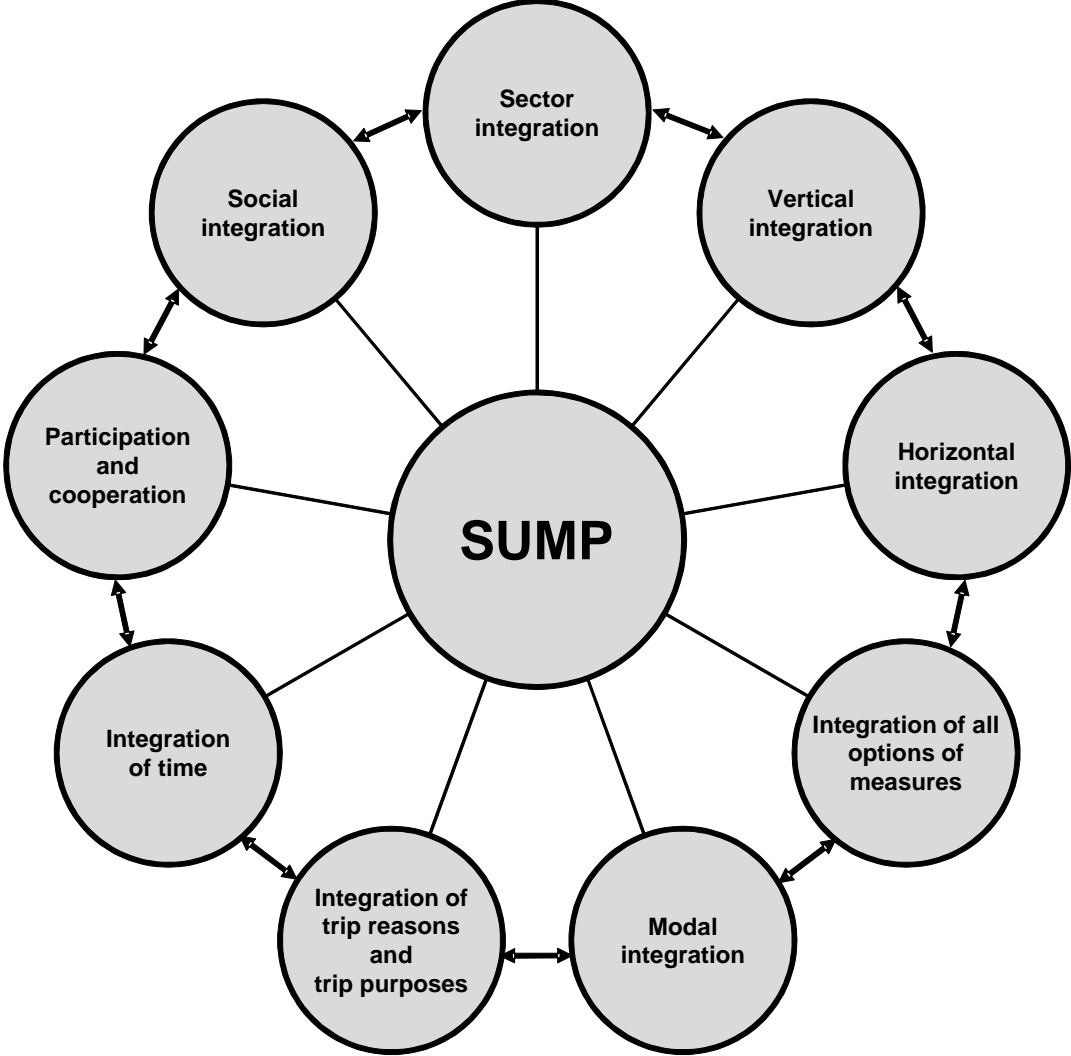
TMP – Transport Master Plan

CAP – Clean Air Plan

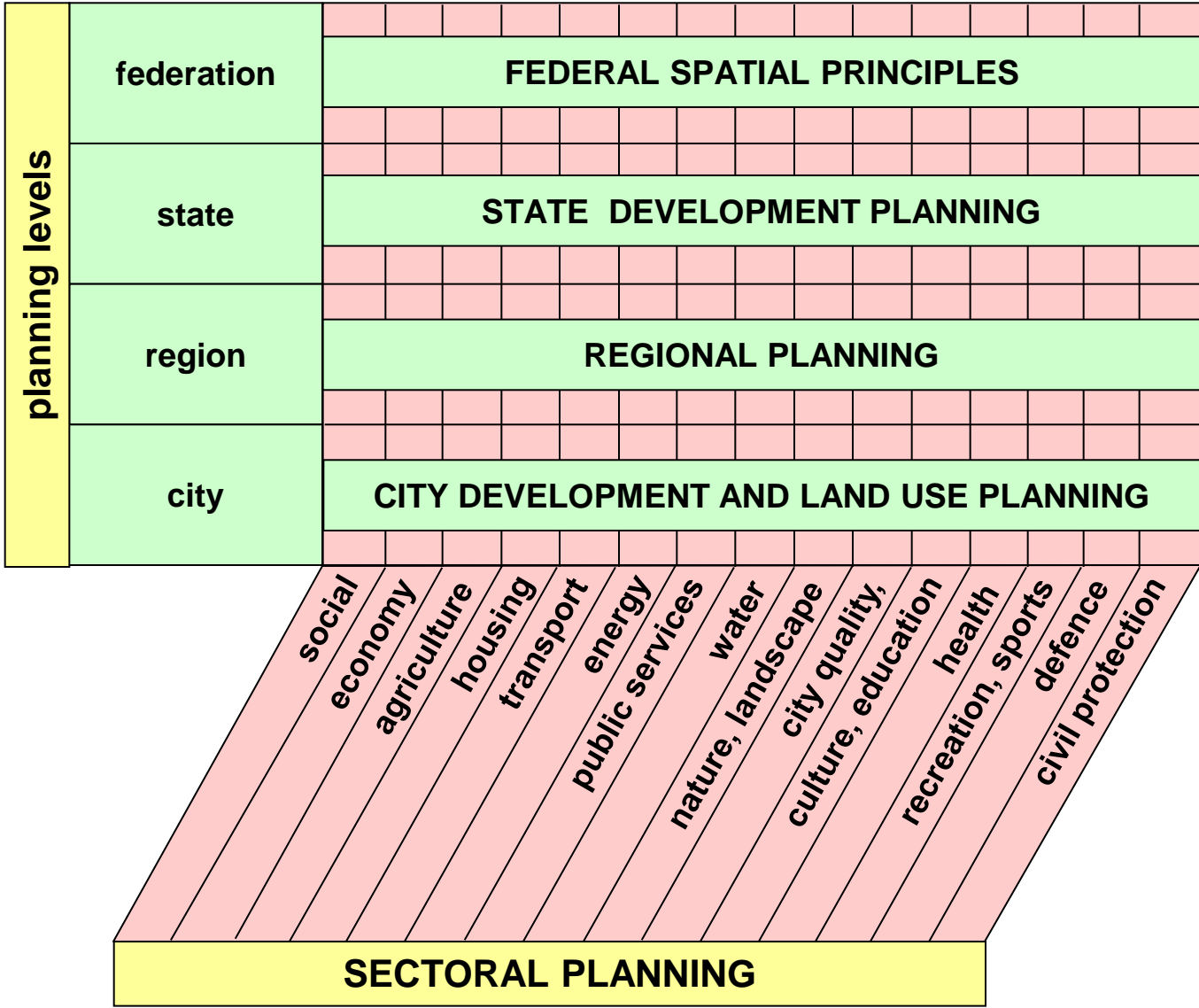
NAP – Noise Action Plan

PTP – Required Public Transport Plan

Consideration of aspects of integration as a quality indicator



Vertical and sector integration



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

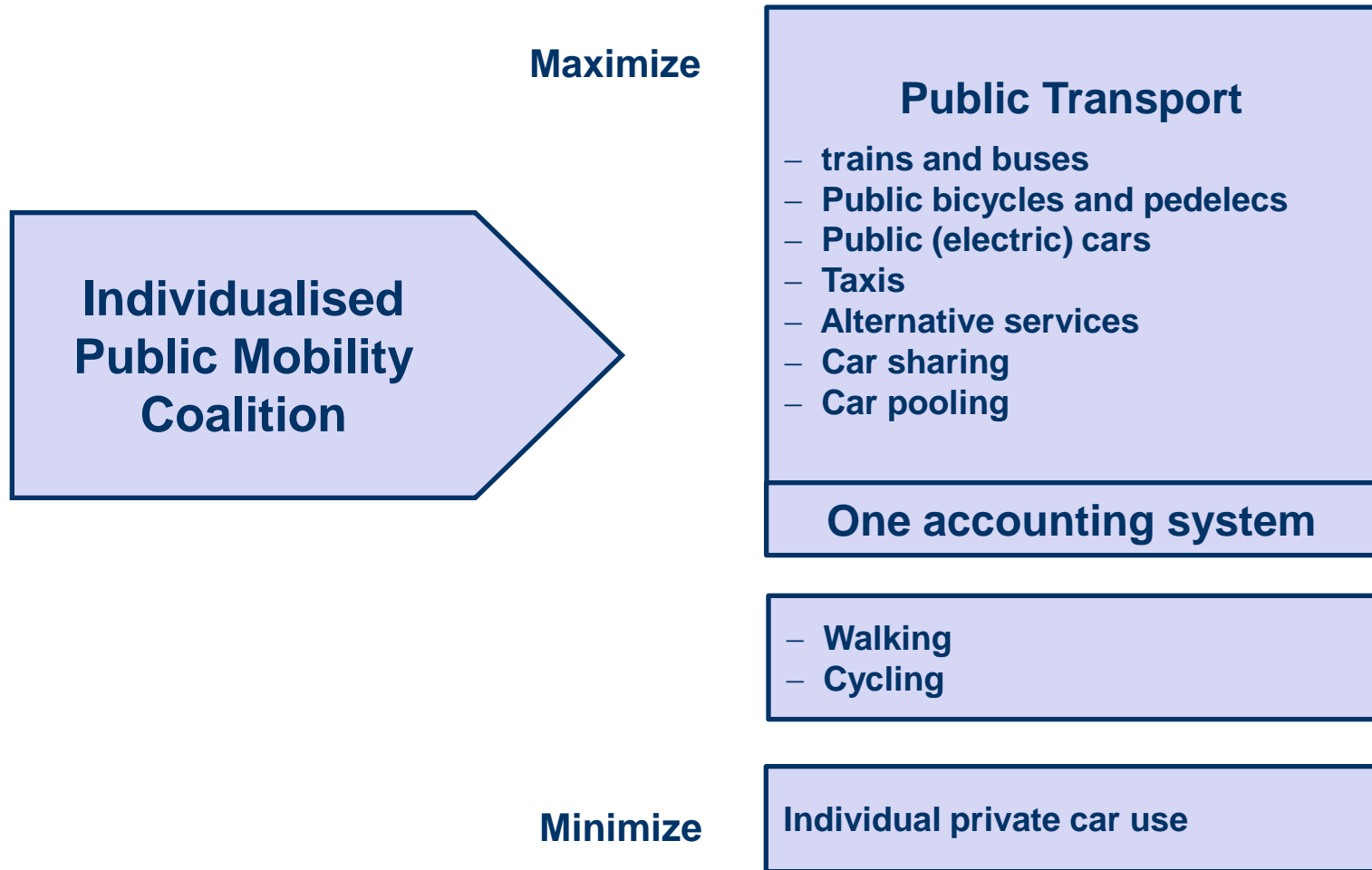
4. Education, Information

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

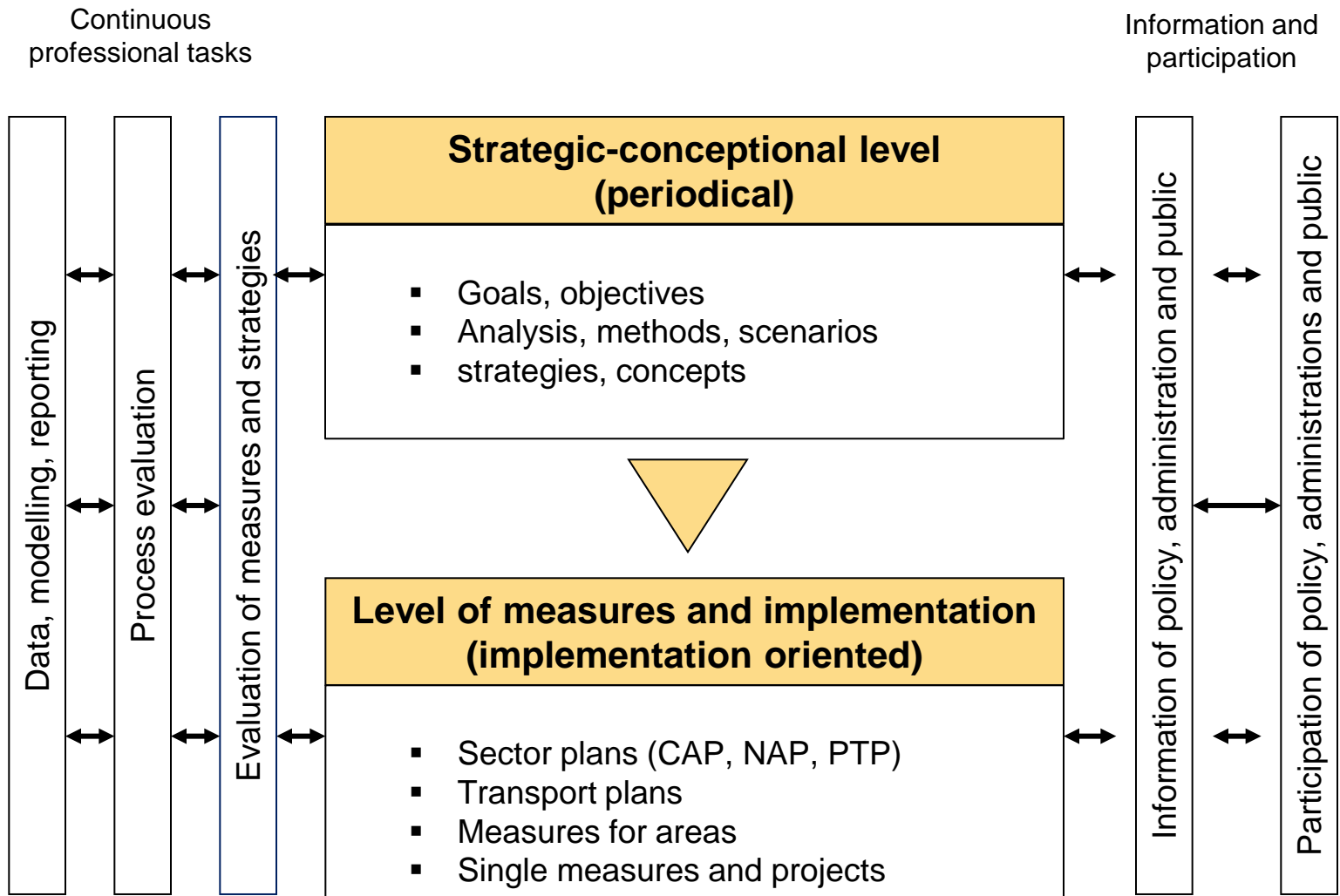
5. Organisational and logistic measures

- 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



Two levels of mobility master planning

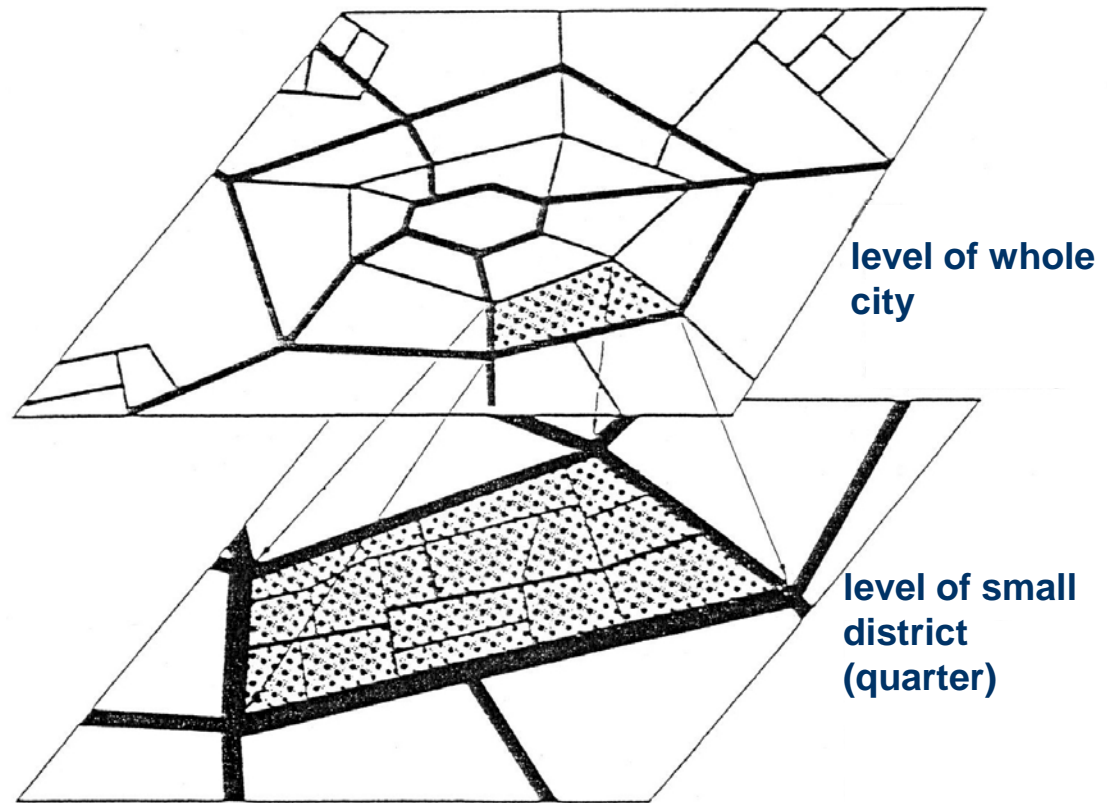


Hierarchy of network planning

Minimize arterials with
sufficient capacities
(channel principle)

in order

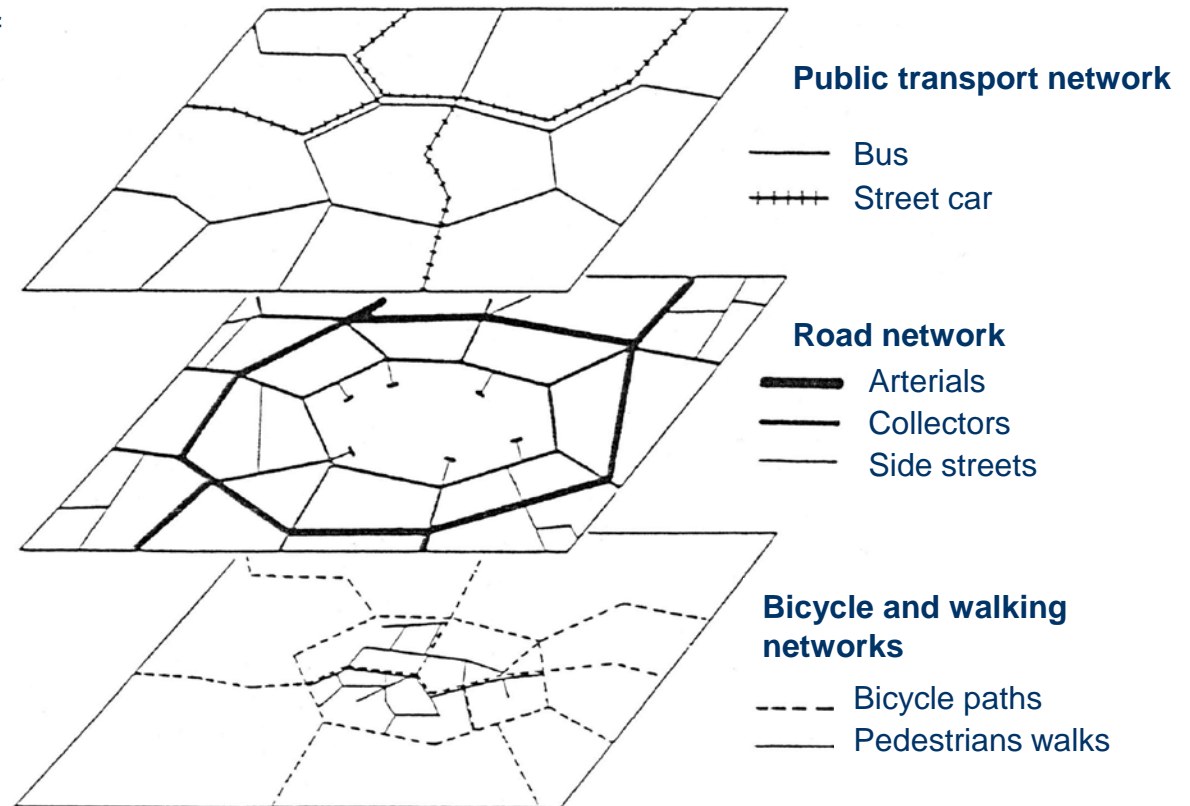
to maximize traffic
calmed zones



Congruent transport networks

- „It is useful, to develop at first the individual networks by mode, but then they should fit together and enable intermodal trip making.“¹⁾

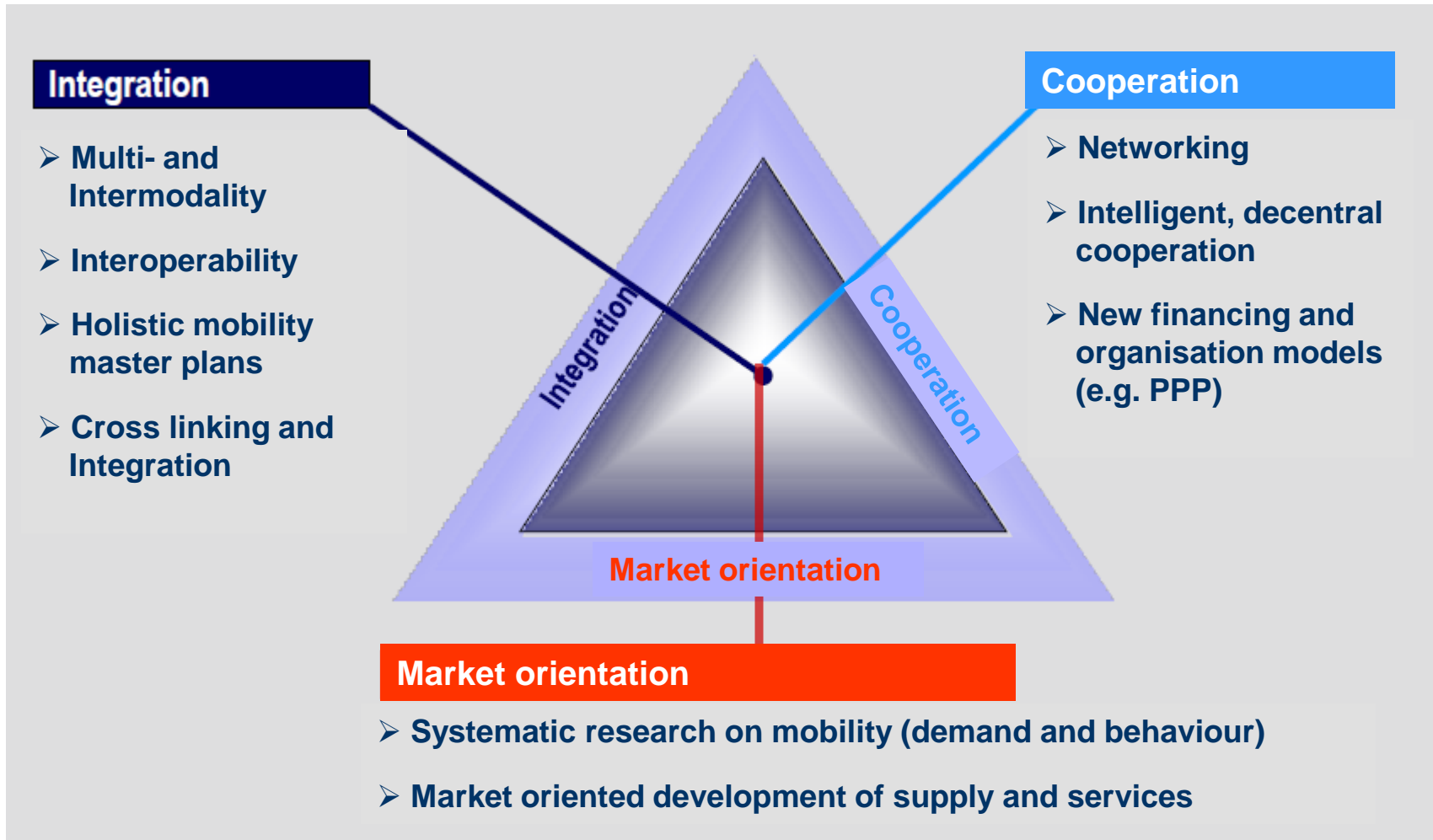
Superposition of network designs of different transport modes:²⁾



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

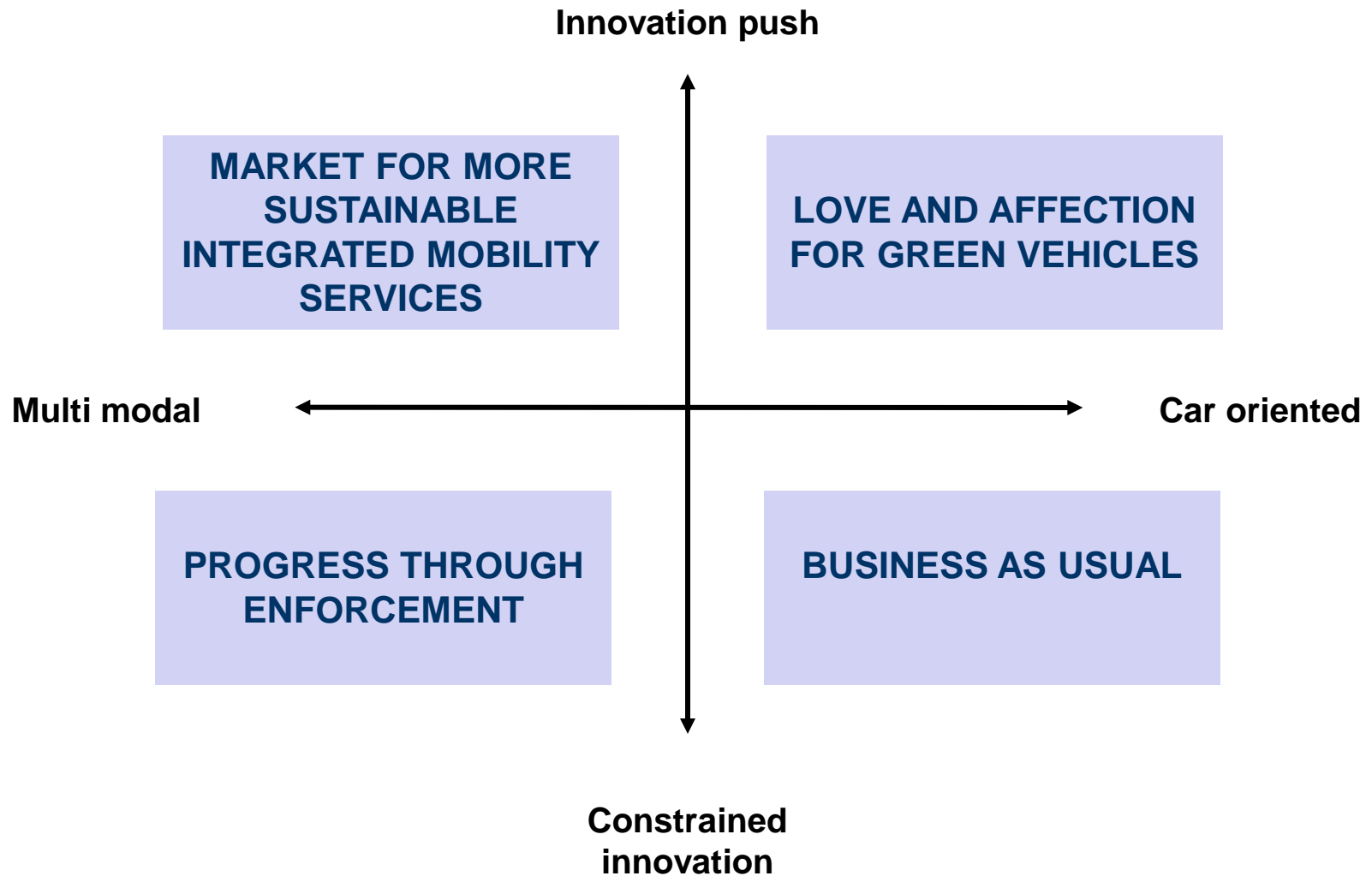
²⁾ Source: Strack, Kötter: Straßen- und Wegenetze in: Steierwald, Künne (Hrsg.): Stadtverkehrsplanung, Berlin, 1994, S. 359

Mobility market: Factors of success



Source: Ringat, K.: Zukunftslinien des ÖPNV (future of public transport). Technische Universität Dresden, Institute for Transport Planning and Road Traffic, Verkehrsplanerisches und Verkehrsökologisches Kolloquium, 20 October 2010

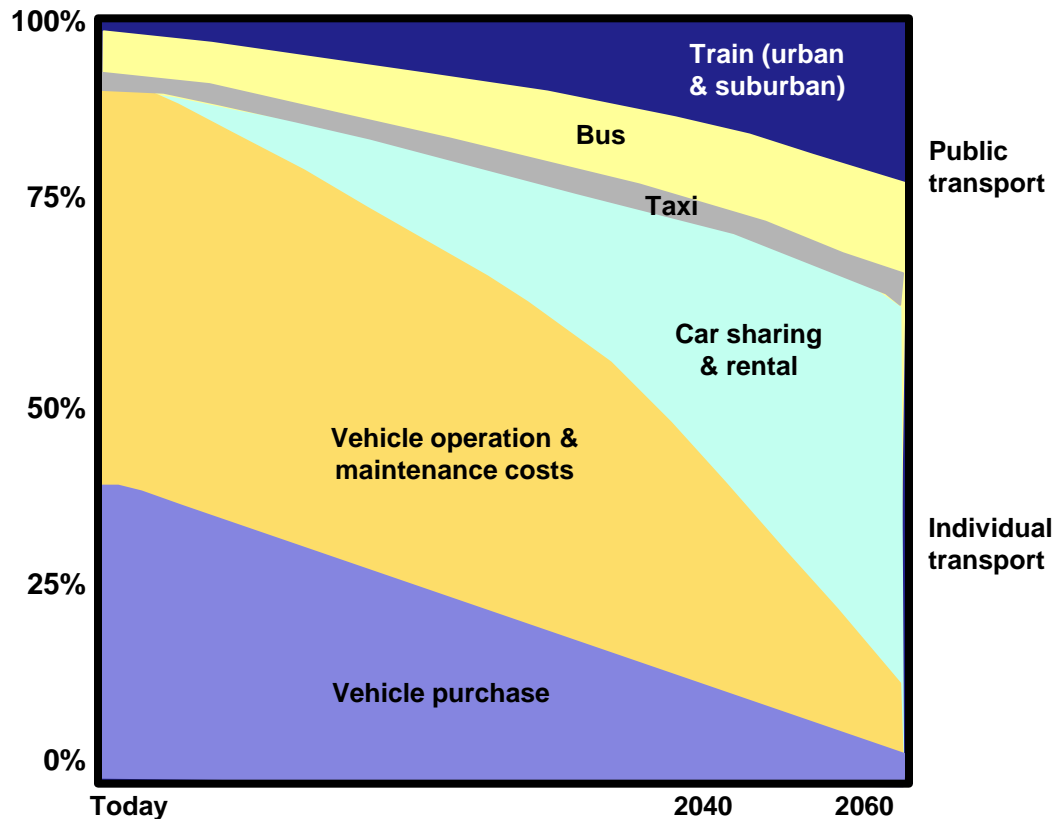
Urban mobility – In which direction will we travel?



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!

Household transportation expenditures today and in future



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Source: World Business Council for Sustainable Development, Oliver Wyman (quoted at: Prof. Johann H. Tomforde: Mobility Innovations on the way to post-oil cities. Our Common Future, Conference of the Volkswagenstiftung and Stiftung Mercator, Hannover and Essen, 2-6 November 2010)