



Arbeitsgemeinschaft Media-Analyse e.V.

Outdoor Media measurement

The long way to sophisticated data in Germany

by

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The long way to sophisticated data in Germany

Summary

- Short retrospective on outdoor media research by ag.ma from 2003 to 2007
- A new combined survey approach - why?
- Ma 2007 Outdoor Media - field experiences and data processing
- Contact- and coverage model
- Outlook

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A look back: 2001-2007

- ◆ **Since 2001:** ag.ma dealt with surveying outdoor media coverage
Adoption of a model developed by the outdoor media providers in cooperation with the media agencies

F2F survey of recalled pathways

- ◆ **2003 – 2004:** first survey by ag.ma
ma 2004 Outdoor Media

Problem: difficulties for the interviewees to recall different types of outdoor media sites ...

... so the market is demanding a replacement of the F2F survey by

recall-independent passive measurement via GPS

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A look back: 2001-2007

- ◆ **2003 GPS technology check** for validating the measuring instrument

- ◆ **2004 pilot study in Krefeld**

Is a representative measurement of outdoor media use possible?

Focus of questions concerning

- ◆ response rate, willingness to participate with regard to various recruitment methods, incentives, field work etc.
 - ◆ Handling of the devices
 - ◆ Validation of measured data
- ◆ **2005 field test in Hamburg / Cologne**

Verification the findings of the pilot study using a larger sample and modelling media coverage

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A look back: 2001-2007

- **2005** new idea of **combined survey approach** of **GPS** measurement and **CATI** survey
- **August 2006** start of field work

ma 2007 Outdoor Media GPS + CATI

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The new combined survey approach: GPS + CATI

market requirements



- ✓ Area- and population-representative survey of mobility and therefore media-use of outdoor media
- ✓ Ensure spatial differentiation of efficiency values for various sites and types of outdoor media

In the past: efficiency values = **average values**

New: **differentiated and more realistic efficiency values**
including site-individual location-information
and commuter traffic

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Why pursue a combined approach?

GPS Measurement

Population-representative quota approach in 24 planning-relevant cities

Exactly recorded pathways over a time period of seven days

Exactly measuring of mobility over time

CATI Survey

At random survey of yesterday's pathways outside house

Routing process to reproduce the pathways

Representativeness of Germany

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ma 2007 Outdoor Media - modell approach

ma 2007
Outdoor
Media

=



GPS

about 8,610 cases in 24 planning-relevant cities

+



CATI

about 21,000 cases representative across Germany

On the whole about 30,000 cases

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GPS Study

- About 8,610 test person
- Sample: two stage procedure



24 German cities



1. Sampling points drawn at random

2. Quota procedure in proportion to population

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GPS Study

- Field period: from August 2006 to February 2007
- 5 field institutes
- Carrying “Mobitest” GPS device over seven days
- F2F questionnaire on mobility and demographics
- Brochure on the handling of device
- Follow-up interview after carrying device



GPS Study

High demands of the field work



Special measurements

- weekly quota return control
- device logistics for weekdays/carrying days
- special training for interviewers
- hotline for participants during field work



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CATI Survey

- About 21,000 interiews
- Sample: at random, proportionately across Germany
- Field period (parallel to GPS): from August 2006 to February 2007
- 5 field institutes



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CATI Survey

- Specially developed software “Yesterday’s pathways”

Querying starting and final address of a pathway and stations along the way

Database-assisted: street directories, places of interest, etc.

- In addition: questions to mobility behaviour and demographics



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GPS - field experiences

- Fieldwork-supporting quota controls
 - ➔ quota successfully met
- Analyses of measured data
 - ➔ confirmed data quality for use in next evaluation steps



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GPS - data processing



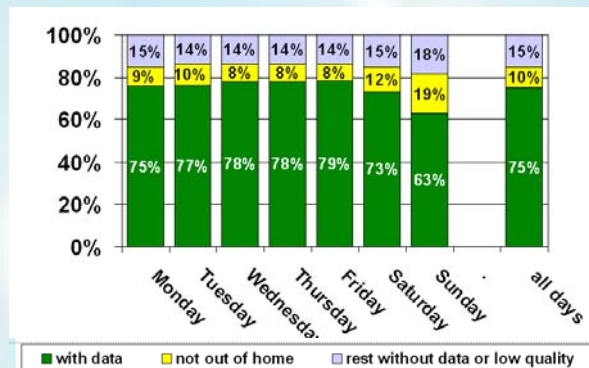
Days, the device has been switched on:
about 50,000 from 60,000 measured days

- ➔ in average: 6 of 7 days
- ➔ Recorded time on the whole:
about 800,000 hours
- ➔ average recording time per day:
15 hours

GPS - data processing



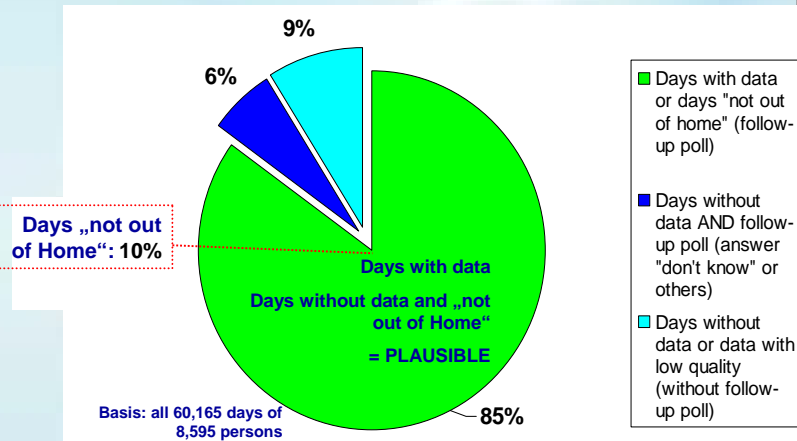
Days with data, days "not out of home", days without data



Basis: all 8,595 persons; all 60,165 days

GPS - data processing

Days with data, days "not out of home", days without data



CATI field experiences



- No problems during working of sample (balanced processing according to weeks and regions)
- Consistency and plausibility check of the "yesterday's pathways" data for an optimal application of the routing procedure



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GPS + CATI - data processing



GPS

Processing of GPS-tracks for about 8,610 GPS-Test person with about 60,000 measuring days



CATI

Processing of about 76,000 CATI-pathways and about 273,000 stations from about 21,000 man days



Linking GPS and CATI:

Transfer into joint spatial geometry based on Navteq street network and public transportation network

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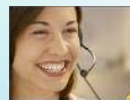
Contact and coverage model:



model components



GPS-Tracks ma 2007



Routed CATI pathways ma 2007

Germany-wide polygon system



Frequency atlas (mobility flows on a Germany-wide scale)



Individual outdoor media site parameters



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Individual outdoor media site parameters

- **Geographic coordinates** of outdoor media sites
- **Site-specific information** for the assessment of individual sites and therefore locations - separately
 - for motorized traffic
 - for pedestrians
- **Individual site parameters**
 - = viewing angle toward the street
 - = high / low environmental complexity
 - = other sites in the area
 - = high / low situational complexity
 - = lighting
 - = duration of contact opportunity

} Multiplication of the parameters to a site-individual Contact-Value (C-Value)

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Contact and coverage model - objective

Contact probabilities with outdoor media sites in passed geographic spaces / polygons

For each polygon:




Each person is assigned an individual contact probability of an outdoor media site with a individual C-Value



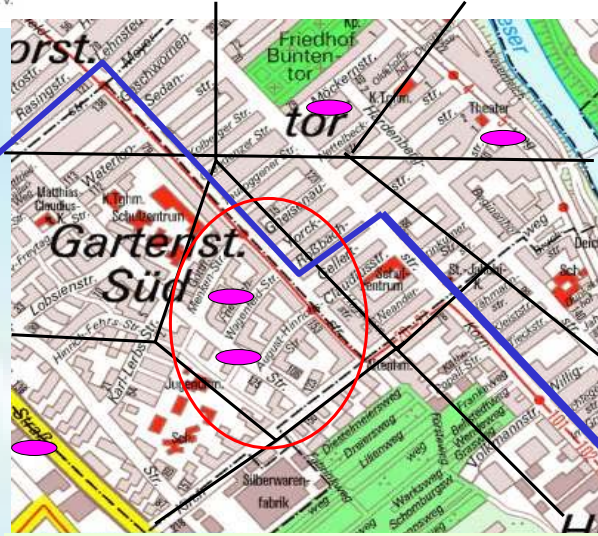
Media coverage for various types of outdoor media sites and locations



Fiktives Beispiel:

-  = Polygone
-  = media site
-  = pathway

Contact with
5 polygons
and
2 poster sites



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Outlook

In Autumn this year

publication of outdoor media media coverage
by a planning software named MDS

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GPS: 24 German Cities

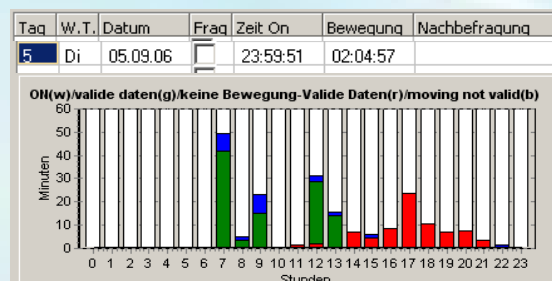
CITY	Sample size	CITY	Sample size
Berlin	1.300	Nürnberg	300
Hamburg	580	Bochum	300
München	380	Augsburg	300
Köln	350	Freiburg i. Breisgau	300
Frankfurt/Main	300	Oldenburg (Oldbg.)	300
Dortmund	300	Castrop-Rauxel	300
Essen	300	Gießen	300
Stuttgart	300	Leipzig	300
Düsseldorf	300	Dresden	300
Bremen	300	Chemnitz	300
Hannover	300	Rostock	300
Duisburg	300	Brandenburg a.d.Havel	300



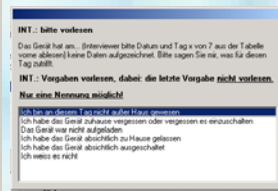
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Special software and follow-up interview on carrying behaviour:

Display for a day with GPS-Data during the seven days of carrying



Follow-up interview for days without GPS-Data:



- moving, best data quality
- moving, lower data quality
- No move, measurement of position valid
- GPS switched „on“





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**Thank you very much
for your attention!**

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