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New Technologies: Research needs

KW Axhausen

IVT
ETH
Zürich

January 2005
GPS traces

- Fast and robust map matching (embedded in commercial software)
- Imputation of gaps in routes
- Understanding the quality impacts of different network resolutions on distance and travel time estimates
- Matching different networks to each other
Locations

- Identification of locations (in particular for car-based only traces) (Schönfelder and Axhausen, 2004)

- Imputation of trip purposes (using all available data sources) and other attributes (group size, expenditure)
Integrating GPS based information

- Control of “no-trip” days
- Imputation of missing journeys
- Imputation of missing trips
- Adjustment of trip durations
- Adjustment of trip timings
Classifying environments using GIS datasets

Current state of knowledge:

- Local networks/environments impact usage of local (slow) modes
- Otherwise no further impacts have been classified

New approaches:

- Areawide measures of speed
- Areawide classification of network constitution/configuration (Marchall, 2005)
- Variance of activity locations
Understanding the participants

- Differential self-selection
- Impact of incentives on participation and self-selection
Other technology issues:

Archiving the data (and results):

- Standards for travel data
- (Transfer of) standards for network data

Quality control:

- Monitoring the interviewers (by clients)
- Tracing editing and imputation of values in survey data sets
2003 Thurgau: Interviewer effect by week of year
Sources


See http://www.ivt.ethz.ch/vpl/publications/reports/ab258.pdf