„Mobility in Germany 2017“ - German NTS
Mobilität in Deutschland (MiD)

UNECE Working Party 6
Preliminary Remarks

- Limit of nationwide organized mobility surveys
  - can’t consider local aspects of urban planning (e.g. attractiveness of routes, accessibility, places of fear)
  - can’t offer an in-depth analysis of walking and cycling
  - so far no decision for GPS-tracking (e.g. by smartphones)
  - focus is not on the decimal places in certain years, but on change and structural information

- Concept of longitudinal and cross-sectional survey
  - temporal change in modal split: annual panel on mobility (German Mobility Panel)
  - comparisons of regions, city, spatial typologies, groups of persons, etc.: repeated cross-sectional survey (Mobility in Germany e.g. 2002, 2008, 2017)
MiD 2017 – Sample and Interview Modes

- Household: 156,420
- Persons: 316,361
- Reported Trips: 960,619
- Interviews by Phone: 189,042
- Online Interviews: 199,671
- Paper Interviews: 169,223
MiD 2017 – Key terms of Sample and Methods

- Rough Concept launched by the Federal Ministry of Transport and Digital Infrastructure (BMVI)

- Net nationwide sample
  - 35,000 households by order of BMVI
  - 125,000 by order of 60 regional partners

- Triple frame sample
  - Register: + same chance for selection, - spatial cluster effects
  - Dual frame telephone (landline and cellular RDD telephone numbers)

- Core and additional topics

- Consultants/Contractors: infas, DLR, IVT Research, infas360
MiD – facing the challenges of collecting data on cycling and walking

- trip: as clear as possible a definition of what is meant
  - MiD: all routes on foot or by mode of transport on public ways; outward and return are one trip

- mode effects
  - different readiness of participation, different possibilities for plausibility checks
  - decision: CATI, CAWI and PAPI on all levels (households, persons, trips, cars)

- stratification and weighting concept
  - using regional types and small scaled spatial data (e.g. core city versus outskirts)

- subsample: stage concept
  - not analysed yet

- Matching of different and detailed spatial informations
  - to be able to explain different cycling and walking patterns (e.g. relief, density, local weather, …)

- sophisticated survey concept >> analysis are ongoing, lab for future surveys
Modal Split in Germany 2017
main transport mode by residence of persons - percentage of trips

- **Germany**:
  - Walking: 22%
  - Cycling: 11%
  - Car as driver: 43%
  - Car as passenger: 14%
  - Public transport: 10%

**Territorial Typology RegioStaR**

- **Metropolis**:
  - Walking: 27%
  - Cycling: 15%
  - Car as driver: 28%
  - Car as passenger: 10%
  - Public transport: 20%

- **Regiopolis and big city**:
  - Walking: 24%
  - Cycling: 14%
  - Car as driver: 37%
  - Car as passenger: 13%
  - Public transport: 12%

- **Medium-sized city, urbanized area**:
  - Walking: 21%
  - Cycling: 10%
  - Car as driver: 46%
  - Car as passenger: 15%
  - Public transport: 8%

- **Small-sized city, rural area**:
  - Walking: 18%
  - Cycling: 8%
  - Car as driver: 51%
  - Car as passenger: 15%
  - Public transport: 7%

**Rural Region**

- **Central city**:
  - Walking: 24%
  - Cycling: 13%
  - Car as driver: 41%
  - Car as passenger: 15%
  - Public transport: 7%

- **Medium-sized city, urbanized area**:
  - Walking: 20%
  - Cycling: 9%
  - Car as driver: 49%
  - Car as passenger: 16%
  - Public transport: 6%

- **Small-sized city, rural area**:
  - Walking: 17%
  - Cycling: 7%
  - Car as driver: 55%
  - Car as passenger: 15%
  - Public transport: 5%
Modal Split in Metropolitan Urban Regions 2017
main transport mode by residence of persons - percentage of trips

Berlin

Hamburg

Munich

Cologne

Frankfurt

Stuttgart

modal split diagram

walking

cycling

government transport

car as driver

car as passenger

metropolitan urban region

metropolis (inner circle)

surrounding area

total (outer circle)
# Public Transport – Different Modes

<table>
<thead>
<tr>
<th>percentage of trips</th>
<th>Total</th>
<th><strong>Urban Regions</strong></th>
<th><strong>Rural Regions</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Metropolis</td>
<td>Regiopolis and Big Cities</td>
</tr>
<tr>
<td>Public Transport total</td>
<td>10%</td>
<td>21%</td>
<td>13%</td>
</tr>
<tr>
<td>therof</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>long distance travel</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>local transport</td>
<td>9%</td>
<td>19%</td>
<td>11%</td>
</tr>
<tr>
<td>therof</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>local / regional bus</td>
<td>3%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>tram</td>
<td>1%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>light rail / metro</td>
<td>2%</td>
<td>8%</td>
<td>1%</td>
</tr>
<tr>
<td>local train</td>
<td>2%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>others</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
# Model Split (main transport mode) in German Metropolises by different Spatial Structures

<table>
<thead>
<tr>
<th>relief / slope in the environment</th>
<th>walking</th>
<th>cycling</th>
<th>car as driver</th>
<th>car as passenger</th>
<th>public transport</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5%</td>
<td>27%</td>
<td>16%</td>
<td>10%</td>
<td>26%</td>
<td>21%</td>
<td>100%</td>
</tr>
<tr>
<td>5% and more</td>
<td>28%</td>
<td>7%</td>
<td>12%</td>
<td>35%</td>
<td>18%</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>inhabitants per squarekilometer</th>
<th>walking</th>
<th>cycling</th>
<th>car as driver</th>
<th>car as passenger</th>
<th>public transport</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 1,000</td>
<td>16%</td>
<td>10%</td>
<td>42%</td>
<td>16%</td>
<td>17%</td>
<td>100%</td>
</tr>
<tr>
<td>1,000 to under 2,000</td>
<td>19%</td>
<td>10%</td>
<td>43%</td>
<td>14%</td>
<td>15%</td>
<td>100%</td>
</tr>
<tr>
<td>2,000 to under 5,000</td>
<td>26%</td>
<td>12%</td>
<td>33%</td>
<td>12%</td>
<td>18%</td>
<td>100%</td>
</tr>
<tr>
<td>5,000 to under 10,000</td>
<td>28%</td>
<td>16%</td>
<td>26%</td>
<td>10%</td>
<td>21%</td>
<td>100%</td>
</tr>
<tr>
<td>10,000 and more</td>
<td>31%</td>
<td>18%</td>
<td>19%</td>
<td>8%</td>
<td>24%</td>
<td>100%</td>
</tr>
</tbody>
</table>

| total                             | 27%     | 15%     | 28%           | 10%              | 20%             | 100%  |
Multimodality
(usually used within one week, persons >= 16 years)

- Car: 45%
- Bicycle: 5%
- Car and Bicycle: 21%
- Car and PT: 7%
- Bicycle and PT: 5%
- Car, PT and Bicycle: 4%
- no use of car, no cycle or PT: 6%
Data Dissemination with Innovative Components (available only in German)

- www.bmvi.de/mid or www.mobilitaet-in-deutschland.de

- Classical:
  - Reports
    - Result report
    - Method report
    - User manual
  - Volume of tables

- Innovative
  - Internet based online analysis tool: www.mobilitaet-in-tabellen.de
  - Micro data use files:
    - Scientific-use files with a cascading system of spatial resolution and aggregation level of characteristics (see next slide) Micro data use files (to order at: https://www.dlr.de/cs/) > restricted access (public interest, science)
    - Public-use files
Thank you for your attention!

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Division G 13  Forecast, Statistics and special surveys

Federal Ministry of Transport
and Digital Infrastructure
Annex

basic information on
- Survey Programme
- Usefiles - System of Data Provision
- modes of transport
Questionnaire Program

- Conflict of objectives
  - Reduce the response burden
  - Demand for more topics (carsharing, e-mobility, …)

- Division in:

  **core topics (CATI, CAWI + PAPI)**
  important for transport infrastructure planning
  > high precision of the key variables
  > reliable differentiations
  > acceptance of PAPI

  **modules: additional topics (CATI, CAWI)**
  important, but
  > sub-sample are sufficient
  > no high interests in regional data
  (e.g. wearing of helmets)
### core themes
- additional modules for certain subsamples

### household
- household size, secondary residence
- age, sex, occupational status of all of the household members
- net household income
- tenant, owner
- number of bicycles, pedelecs / e-bikes, mopeds, motorbikes and cars in the household
- number of driving licenses in the household
- car sharing membership of at least one person in the household

### persons
- age and sex
- educational attainment
- employment
- background of migration
- type of license
- carsharing membership
- usual used ticket in public transport
- availability of transport modes bicycle, pedelec/e-bike, car
- usual usage of transport mode (own car, carsharing, public transport, bicycle, train, remote bus, airplane)

### cars
- producer and model
- annual mileage
- type of drive
- year of producing
- initial registration

### record day
- mobility
- surrounding
- car availability

### trips
- source first trips
- time of starting and arrival
- purpose
- transport modes
- companion
- destination (address / geocode)
- distance
- regular professional trips

### travelling module
reporting of the last 3 journeys with at least 1 overnight stay within the last 3 months

### module short-range mobility and cycling
usage of bikesharing, only walking, helmet, parking bicycle at home

### module satisfaction and attitudes
satisfaction with public transport, car and bicycle traffic, walking, attitudes car, bicycle, public transport, walking

### module additional personal characteristics
year of receiving driving license, commuter with secondary residence, homeoffice, reduced mobility

### car module
- car ownership
- reasons for having no car

### core themes
- mobility
- surrounding
- car availability

### combined with car module
assignment of cars of the household to trips

### interviews on all stage for a subsample
### Usefiles - System of Data Provision

<table>
<thead>
<tr>
<th>data set</th>
<th>spatial resolution</th>
<th>characteristics</th>
<th>data user / requirements of data protection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A public use file</strong></td>
<td>Territorial typologies</td>
<td>Aggregated socio-demographic and economic data</td>
<td>public</td>
</tr>
<tr>
<td>(completely anonymised)</td>
<td>(≥200,000 inh)</td>
<td>(e.g. age groups, vehicle segments)</td>
<td></td>
</tr>
<tr>
<td><strong>B scientific use files / factually anonymised</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B3 local data</strong></td>
<td><strong>grid</strong></td>
<td>Highly aggregated socio-demographic data, no sensitive data</td>
<td>scientist, authority with a small scaled data request - high standards of data protection *</td>
</tr>
<tr>
<td></td>
<td>(≥500 m x 500 m and ≥ 500 inh)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B2 regional data</strong></td>
<td>official territorial units</td>
<td>Sozio-demographic and economic data</td>
<td>scientist, authority *</td>
</tr>
<tr>
<td></td>
<td>e.g. NUTS3, LAU (≥5,000 inh)</td>
<td>(e.g. income classes, vehicle segments)</td>
<td></td>
</tr>
<tr>
<td><strong>B1 data by territorial typologies</strong></td>
<td>Territorial typologies</td>
<td>Differentiated socio-demographic and economic data</td>
<td>scientist, authority, economy *</td>
</tr>
<tr>
<td></td>
<td>(≥200,000 inh)</td>
<td>(e.g. year of age, income, detailed vehicle information)</td>
<td></td>
</tr>
</tbody>
</table>

* who signed a data distribution contract