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

Examples of visualisation, data analytics and data dissemination

6th ITF Transport Statistics Meeting 18./19. April 2019

Top: Lightning talks on visualisation methods and data analytics

www.bmvi.de
Modal Split in Germany 2017
percentage of trips

<table>
<thead>
<tr>
<th>Urban Region</th>
<th>Walking</th>
<th>Cycling</th>
<th>Car as driver</th>
<th>Car as passenger</th>
<th>Public transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>22</td>
<td>11</td>
<td>43</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>Territorial Typology RegioStaR</td>
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<tr>
<td>Metropolis</td>
<td>27</td>
<td>15</td>
<td>28</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Regiopolis and big city</td>
<td>24</td>
<td>14</td>
<td>37</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Medium-sized city, urbanized area</td>
<td>21</td>
<td>10</td>
<td>46</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>Small-sized city, rural area</td>
<td>18</td>
<td>8</td>
<td>51</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>Central city</td>
<td>24</td>
<td>13</td>
<td>41</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>Rural Region</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Medium-sized city, urbanized area</td>
<td>20</td>
<td>9</td>
<td>49</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>Small-sized city, rural area</td>
<td>17</td>
<td>7</td>
<td>55</td>
<td>15</td>
<td>5</td>
</tr>
</tbody>
</table>
Characteristic Values for Mobility per Person in Germany 2017 by Territorial Types

### Urban Region
- **Metropolis**
  - Time travelled: 3.2 minutes
  - Distance: 37 km
  - Number trips: 82
  - Share of mobile people: 90
- **Regiopolis and big city**
  - Time travelled: 3.2 minutes
  - Distance: 35 km
  - Number trips: 82
  - Share of mobile people: 86
- **Medium-sized city, urbanized area**
  - Time travelled: 3.1 minutes
  - Distance: 40 km
  - Number trips: 78
  - Share of mobile people: 85
- **Small-sized city, rural area**
  - Time travelled: 3.1 minutes
  - Distance: 44 km
  - Number trips: 79
  - Share of mobile people: 85

### Rural Region
- **Central city**
  - Time travelled: 3.1 minutes
  - Distance: 36 km
  - Number trips: 79
  - Share of mobile people: 86
- **Medium-sized city, urbanized area**
  - Time travelled: 3.1 minutes
  - Distance: 37 km
  - Number trips: 73
  - Share of mobile people: 85
- **Small-sized city, rural area**
  - Time travelled: 3.0 minutes
  - Distance: 43 km
  - Number trips: 73
  - Share of mobile people: 84
Multimodality
(usually used within a week, persons >= 16 years)

- Car: 45%
- Car and PT: 7%
- Car, PT and Bicycle: 4%
- Bicycle and PT: 5%
- Bicycle: 21%
- Car and Bicycle: 5%
- No use of car, no cycle or PT: 6%
Daily Usage Pattern of Cars

Percentage of cars [%]

- parking, at home
- parking, other location
- parking, purchase
- parking, at work
- trip

in %; based on trips as a car driver

⇒ at once max. 10% of all cars are used
⇒ Average parameter
   - mileage 30 km
   - time used 00:46 h
   - parking at home 20:15 h
   - parking elsewhere 2:59 h
Trips - Regional Share of Public Transport
(Small Area Estimation)

- 5,0 bis unter 7,5%
- 7,5 bis unter 10,0%
- 10,0 bis unter 12,5%
- 12,5 bis unter 15,0%
- >15,0%
Trips - Regional Share of Cycling (Small Area Estimation)

- < 5.0%
- 5.0 bis unter 7.5%
- 7.5 bis unter 10.0%
- 10.0 bis unter 12.5%
- 12.5 bis unter 15.0%
- >15.0%
Daily Travelled Distance
(Small Area Estimation)

- < 38 km
- 38 to under 41 km
- 41 to under 44 km
- > 44 km
Data Dissemination with innovative Components (present only in German)

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

- Classic:
  - 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
### Differentiated 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>
</table>
| **A** Public Use File  
(completely anonymised) | Territorial typologies  
(≥200,000 inh) | Aggregated sozio-demographic and economic data  
(e.g. age groups, vehicle segments) | Public |

**B** Scientific Use Files / Factually Anonymised

| B3 Local Data  
grid  
(≥500 m x 500 m and ≥ 500 inh) | Highly aggregated socio-demographic data, no sensitive data | Scientist, authority with a small scaled data request - high standards of data protection * |

| B2 Regional Data  
of official territorial units  
e.g. NUTS3, LAU (≥5,000 inh) | Sozio-demographic and economic data  
(e.g. income classes, vehicle segments) | Scientist, authority * |

| B1 Data by Territorial Typologies  
Territorial typologies  
(≥200,000 inh) | Differentiated socio-demographic and economic data  
(e.g. year of age, income, detailed vehicle information) | Scientist, authority, economy * |

* who signed a data distribution contract
Annex

basic information on
- sample size
- sampling frame
- the survey programme
- modes of transport
MiD 2017 – Sample and Interview Modes

- Number of interviews:
  - Household: 156,420
  - Persons: 316,361
  - Reported trips: 960,619

- Interview modes:
  - By phone: 199,671
  - Online: 189,042
  - Paper: 169,223
MiD 2017 – Overview on the Sample and Methods

- Rough Concept and commissioned by the Federal Ministry of Transport and Digital Infrastructure (BMVI)
- Net nationwide sample
  - 35,000 households on behalf the BMVI
  - 125,000 on behalf 60 regional partners
- All modes CATI, CAWI and PAPI on all levels (households, persons, trips, cars)
- Triple frame sample
  - Register: + same chance for selection, - spatial cluster effects
  - Dual frame telephone (landline and cellular RDD telephone numbers)
- Stratification, weighting, results: new regional types and small scaled spatial data
- Core and additional topics
- Contractors: infas, DLR, IVT Research, infas360
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)
- 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

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

**car module**
- engine power
- car holder
- usual parking space

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

**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)

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

**module (digital) infrastructure**
use of digital devices to support mobility, modes of transport for shopping, online shopping

**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

**record day**
- mobility
- surrounding
- car availability

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

**core themes**
- 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

**additional modules for certain subsamples**
- producer and model
- annual mileage
- type of drive
- year of producing
- initial registration

**car module**
- engine power
- car holder
- usual parking space

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

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

**interviews on all stage for a subsample**
Thank you for your attention!

Markus Sigismund (markus.sigismund@bmvi.bund.de)
Division G 13  Forecast, Statistics and special surveys
Federal Ministry of Transport
and Digital Infrastructure