GAUGING SCOPE FOR SUSTAINABLE TRAVEL
A comparative study of travel attitudes in Berlin and London

Jens Kandt · LSE Cities, London School of Economics and Political Science
with Phlipp Rode, LSE Cities · Christian Hoffman, InnoZ · Andreas Graff, InnoZ · Duncan Smith, UCL
MOTOR VEHICLE TRAFFIC IN GREAT BRITAIN

Source: National Road Traffic Survey, Dept for Transport
NEW URBAN MOBILITY

accessibility

cycling

sharing

electro-mobility

multi-modality
NEW URBAN MOBILITY

**study objective**
- better understand mobility behaviours and attitudes
- gauge scope for promoting sustainable travel
- develop policy options

**accessibility**

- cycling
- sharing
- electro-mobility
- multi-modality
STUDY DESIGN

ATTIDUDINAL DATA

GERMAN 4
n = 2400

samples

BERLIN
n = 987

LONDON
n = 1184

6-point Likert-type scale
modes automobile, cycling, transit, trains
mobility services
innovativeness
technology smartphones, apps, devices
environment
residential preferences

Scales

standardisation
average · z score

factor analysis
reliability

cluster analysis
Ward · k means

TYPES

GERMAN 4
BERLIN
LONDON
THE TYPOLOGIES
TYPE 1: TRADITIONAL, PRO AUTOMOBILE

BERLIN

- prf_country
- prf_outskirts
- rf_residential
- prf_centre
- auto
- cycling
- transit
- trains
- services
- innov
- technology
- eco
- auto_fun

LONDON

- prf_country
- prf_outskirts
- rf_residential
- prf_centre
- auto
- cycling
- transit
- trains
- services
- innov
- technology
- eco
- auto_fun

n = 16%

n = 11%

medium age | medium-higher income | larger households
highest car ownership | main mode: car
**TYPE 1: TRADITIONAL, PRO AUTOMOBILE**

**Typology Berlin - (1) traditional, pro auto**
- VMT: 24,000 km
- Car dependency: 53%

**Typology London - (1) traditional, pro auto**
- VMT: 28,000 km
- Car dependency: 65%
TYPE 3: ENVIRONMENT-ORIENTED, PRO TRANSIT

**BERLIN**
- prf_country
- prf_outskirts
- rf_residential
- prf_centre
  - auto
  - cycling
  - transit
  - trains
- services
- innov
- technology
- eco
- auto_fun

**LONDON**
- prf_country
- prf_outskirts
- rf_residential
- prf_centre
  - auto
  - cycling
  - transit
  - trains
- services
- innov
- technology
- eco
- auto_fun

medium age | medium-lower income
low car ownership | main mode: transit
TYPE 3: ENVIRONMENT-ORIENTED, PRO TRANSIT

**Typology Berlin - (3) environment, pro transit**
- VMT: 14,000 km
- Car dependency: 4%

**Typology London - (3) environment, pro transit**
- VMT: 10,000 km
- Car dependency: 39%
TYPE 5: TECHNOLOGY, PRO PRIVATE TRAVEL

BERLIN

- youngest (Berlin)
- highest incomes
- larger households
- with children
- high car ownership
- main mode: car

LONDON

- n = 28%
- technology
- eco
- auto
- transit
- trains
- services
- innov
- rf_residential
- prf_centre
- prf_outskirts
- prf_country

n = 22%
TYPE 6: INNOVATIVE, FLEXIBLE

BERLIN

LONDON

youngest (London) | medium-higher income | larger households | children (London) || lower car ownership | main mode: transit
**TYPE 6: INNOVATIVE, FLEXIBLE**

Typology Berlin - (6) innovative, flexible

- VMT: **8,000 km**
- Car dependency: **26%**

Typology London - (6) innovative, flexible

- VMT: **12,000 km**
- Car dependency: **21%**
PROMOTING SUSTAINABLE TRAVEL
## AMENABILITY TO NEW FORMS OF TRAVEL

<table>
<thead>
<tr>
<th>amenability</th>
<th>BERLIN</th>
<th>LONDON</th>
</tr>
</thead>
<tbody>
<tr>
<td>low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>high</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Social Norm Scale

- Would use electric car hire if offered (%)
- Would buy electric car asap (%)
- Would use combined transit and car hire card (%)
- Smart phone ownership (%)
- Using travel apps (%)
- Phone use during travel: at least daily (%)

### Stylized Groupings

1. Traditional, pro automobile
2. Traditional, pro private modes
3. Environment, pro transit
4. Traditional, pro collective modes
5. Technology, pro private modes
6. Innovative, flexible
GROUP AND CONTEXT-SENSITIVE INTERVENTIONS

1. Traditional, pro auto
   - **goal:** reduce impact
   - **target modes:** car sharing, electric cars
   - **interventions:** flexible car sharing schemes, promote convenience of car sharing, expand network of electric cars

2. Traditional, pro private modes
   - **goal:** reduce impact
   - **target modes:** car sharing, cycling (B), transit (L)
   - **interventions:** flexible car sharing schemes, stress negative impacts of driving, expand network of electric cars, promote cycling (B), special fares (L)

3. Environment, pro transit
   - **goal:** affirm & expand
   - **target modes:** walking, cycling, transit
   - **interventions:** promote mobility services, special offers to test new services
### Group and Context-Sensitive Interventions

<table>
<thead>
<tr>
<th>4</th>
<th>5</th>
<th>6</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traditional, pro collective modes</strong></td>
<td><strong>Technology, pro private modes</strong></td>
<td><strong>Innovative, flexible</strong></td>
<td></td>
</tr>
<tr>
<td><strong>goal:</strong> affirm &amp; encourage</td>
<td><strong>goal:</strong> reduce driving &amp; switch</td>
<td><strong>goal:</strong> inform &amp; encourage</td>
<td></td>
</tr>
<tr>
<td><strong>target modes</strong></td>
<td><strong>target modes</strong></td>
<td><strong>target modes</strong></td>
<td></td>
</tr>
<tr>
<td>transit, cycling P+R</td>
<td>cycling, electric cars, car sharing</td>
<td>walking, cycling, transit electric car hire</td>
<td></td>
</tr>
<tr>
<td><strong>interventions</strong></td>
<td><strong>interventions</strong></td>
<td><strong>interventions</strong></td>
<td></td>
</tr>
<tr>
<td>promote transit through traditional channels</td>
<td>promote autonomy and fun aspects of alternatives</td>
<td>promote mobility services</td>
<td></td>
</tr>
<tr>
<td>specific offers to test new services</td>
<td>highlight role of technology target through ICT</td>
<td>inform instantly about new options and services</td>
<td></td>
</tr>
<tr>
<td>stress fitness and fun in cycling campaigns</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CONCLUSIONS
CONCLUSIONS 1/2: GROUP DIFFERENTIATION

- High share of auto-affines
- Two clusters with firm habits of car use (> 35%)
- One auto-affine type with potential for change (20-30%)
- One innovative and flexible cluster (~15%)
- High correlation between attitudes, preference and behaviour
- Specific contextual needs and constraints
CONCLUSIONS 2/2: TARGET GROUPS AND POLICY

ICT as channel
enabling new connection between mobility services and advanced usability

target group specific approach
improving chances for transformative changes of travel patterns

innovation-oriented target groups
scaling new urban mobility

policy to provide 'hard' framework
parking, cost, simple permissions, networks, communication
Thank you.

Acknowledgements

Nihan Akyelken, University of Oxford • Jillian Anable, University of Aberdeen • Piotr Fryzlewicz, LSE Statistics • Robin Hickman, University College London • Alun Humphrey, National Centre for Social Research • Ben Plowden, Transport for London • Florian Lennert, InnoZ • Samantha Kennedy, Transport for London • Colin Shepherd, Transport for London • Joe Stordy, Transport for London