

# GAUGING SCOPE FOR SUSTAINABLE TRAVEL

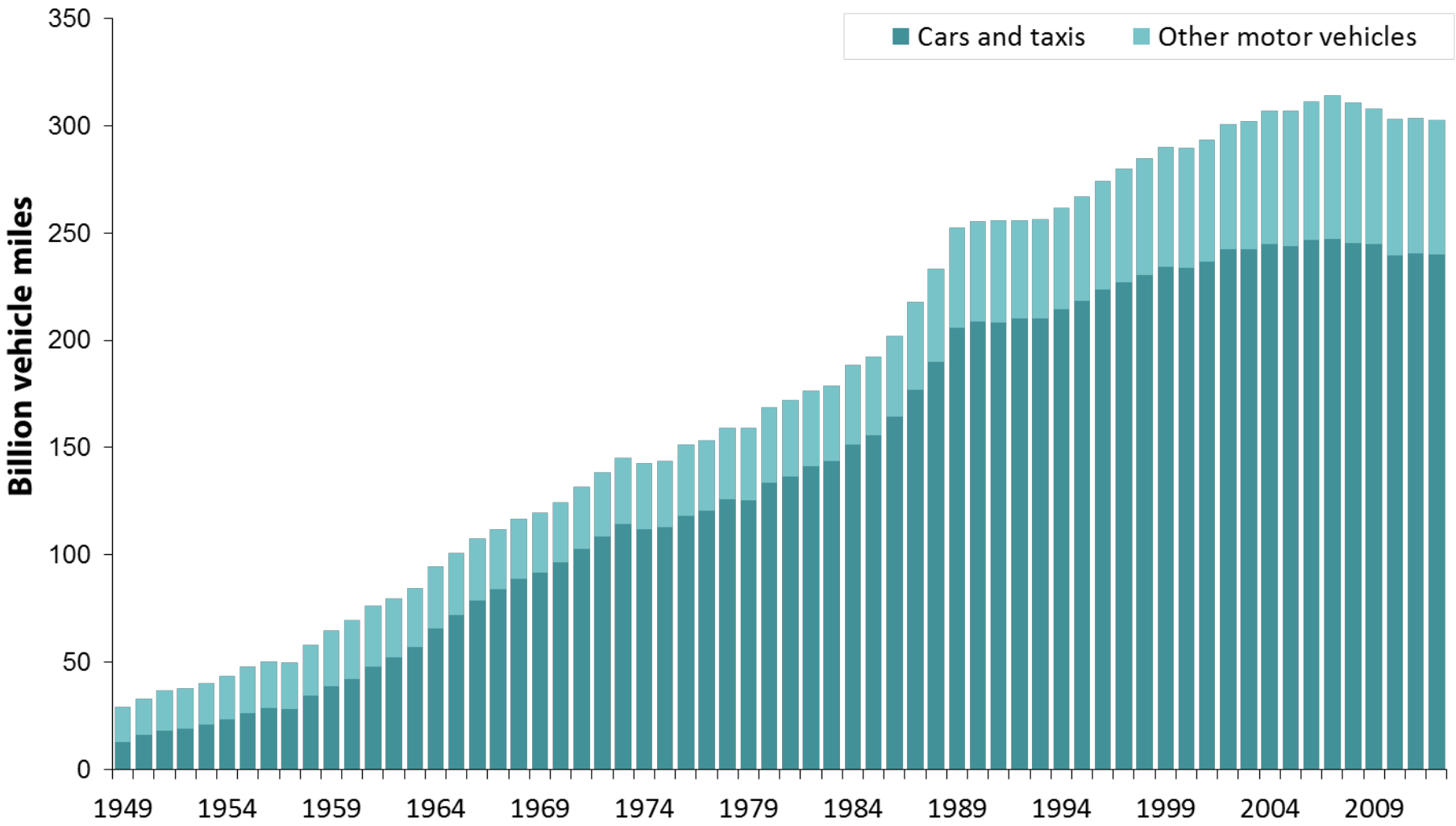
A comparative study of travel attitudes in Berlin and London



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



transit plus x



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

transit plus x



cycling



sharing

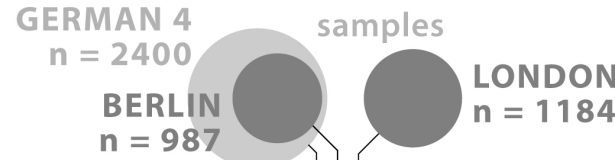


electro-mobility



multi-modality

# STUDY DESIGN



**ATTIDUDINAL DATA**

factor analysis  
reliability

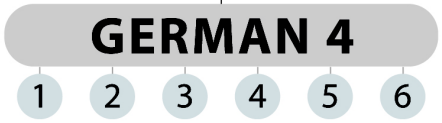
standardisation  
average · z score

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

**SCALES**

cluster analysis  
Ward · k means

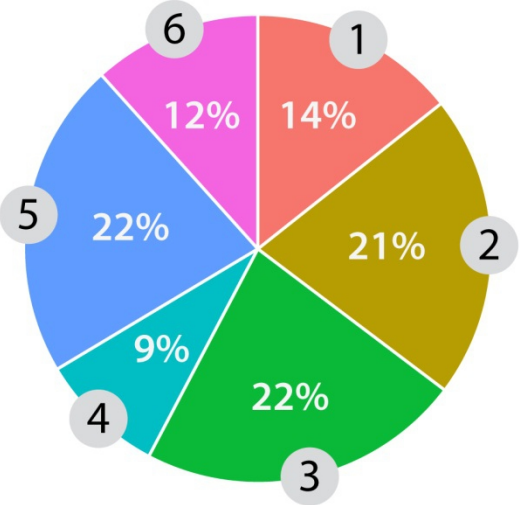
**TYPES**



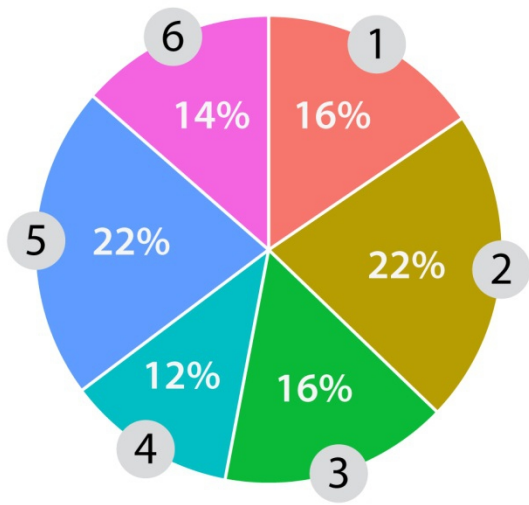
# THE TYPOLOGIES

# TYPES

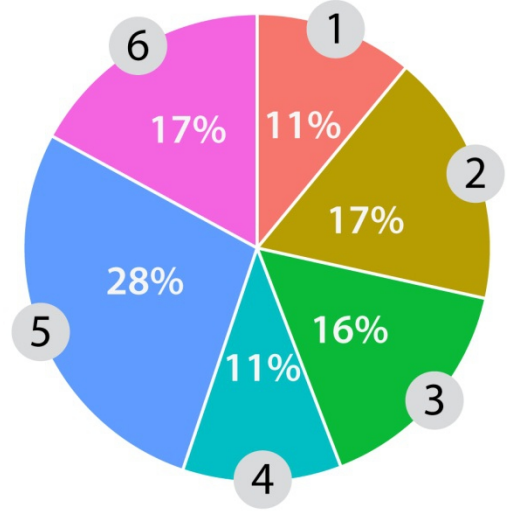
## GERMAN 4



## BERLIN

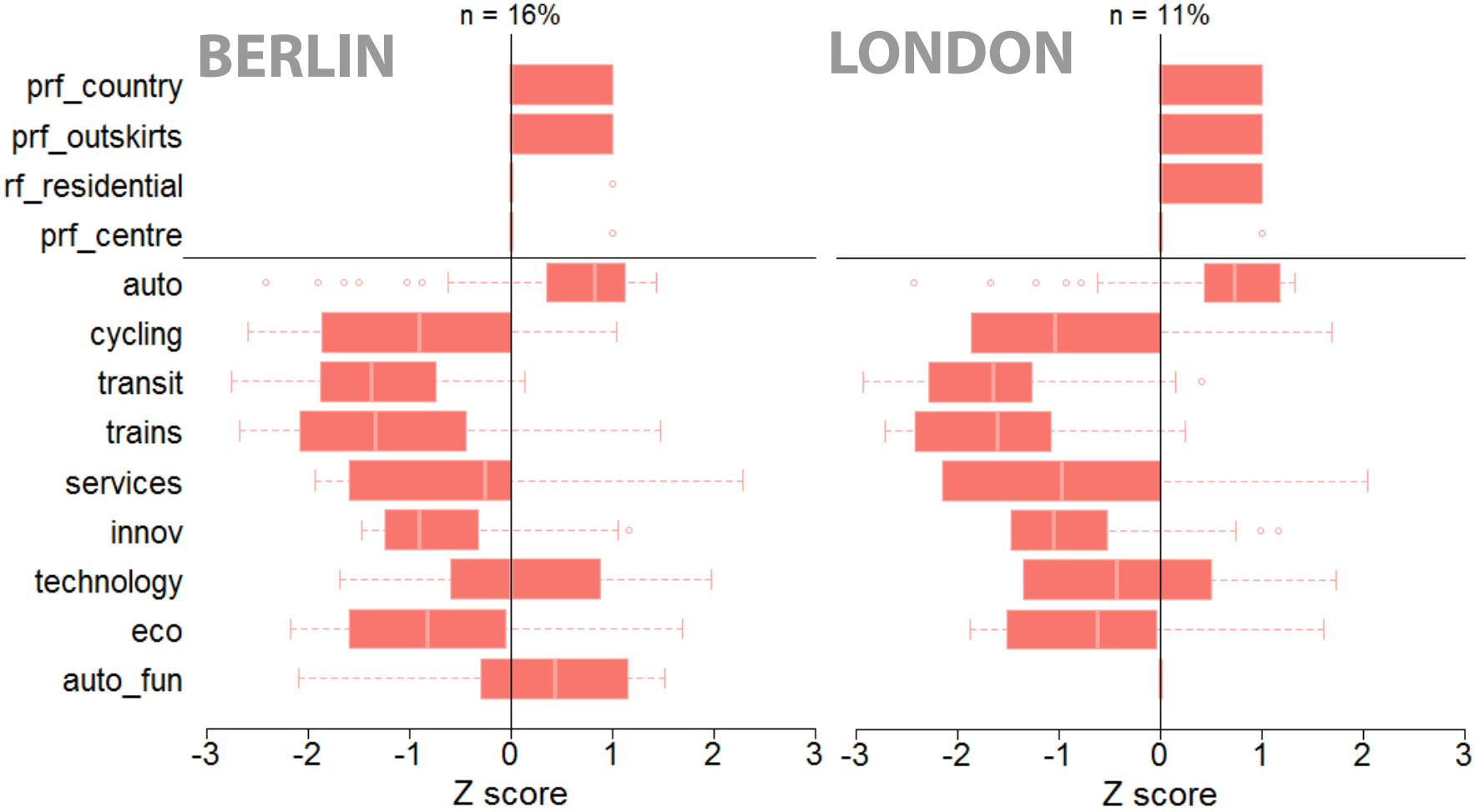


## LONDON



- 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

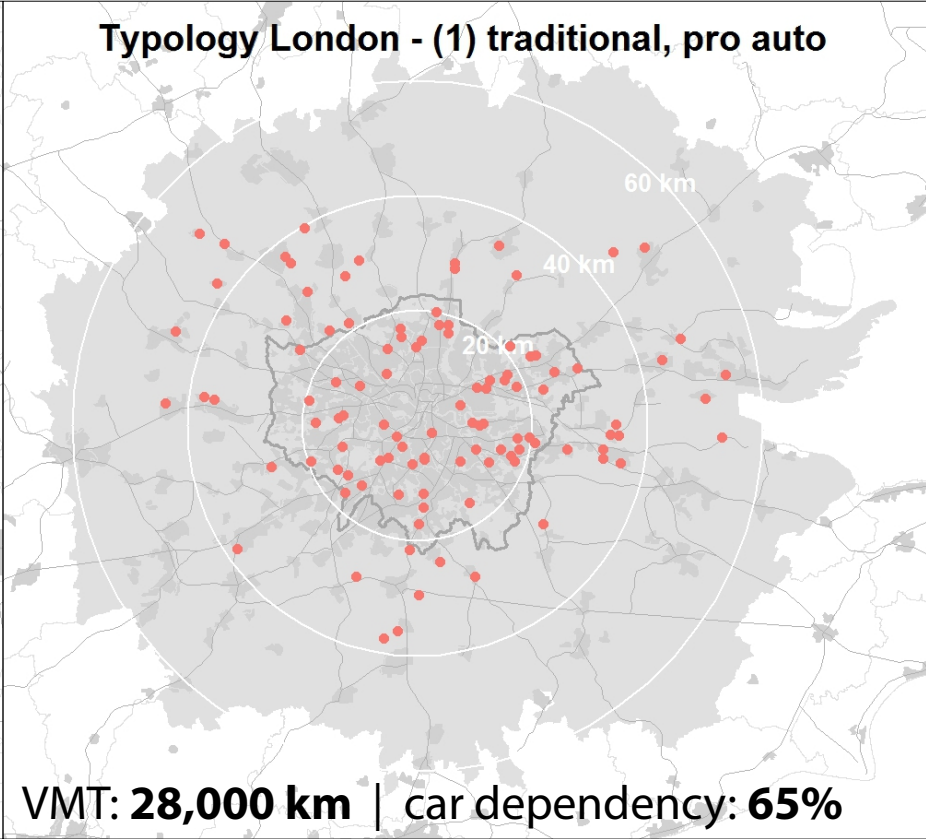
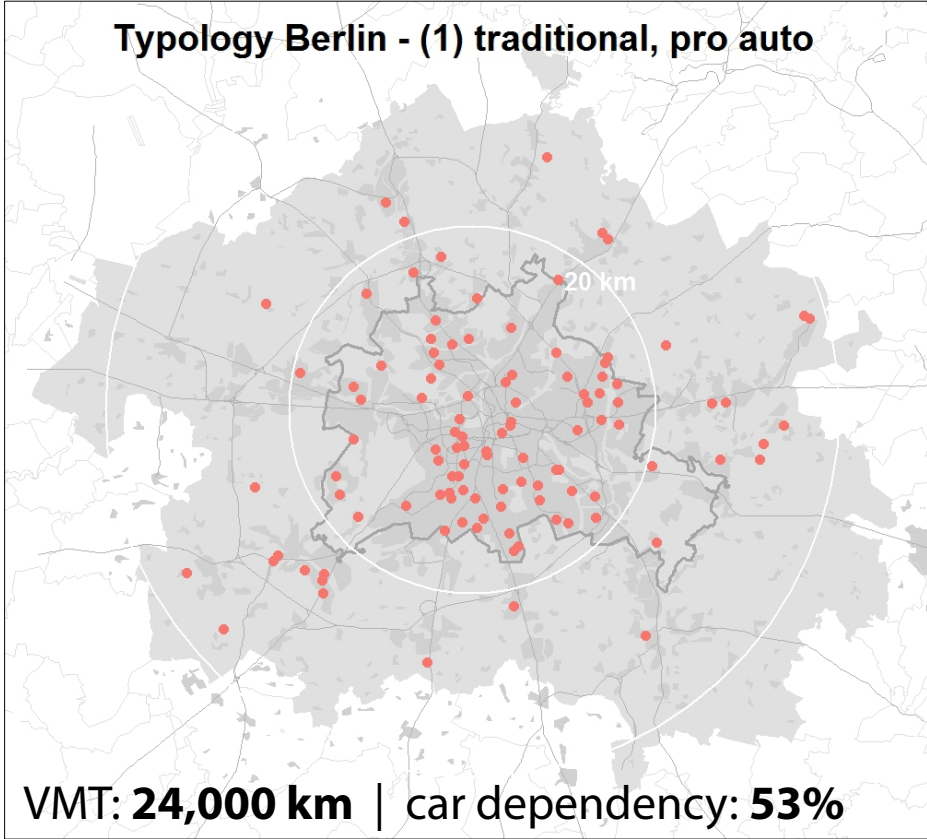
# TYPE 1: TRADITIONAL, PRO AUTOMOBILE



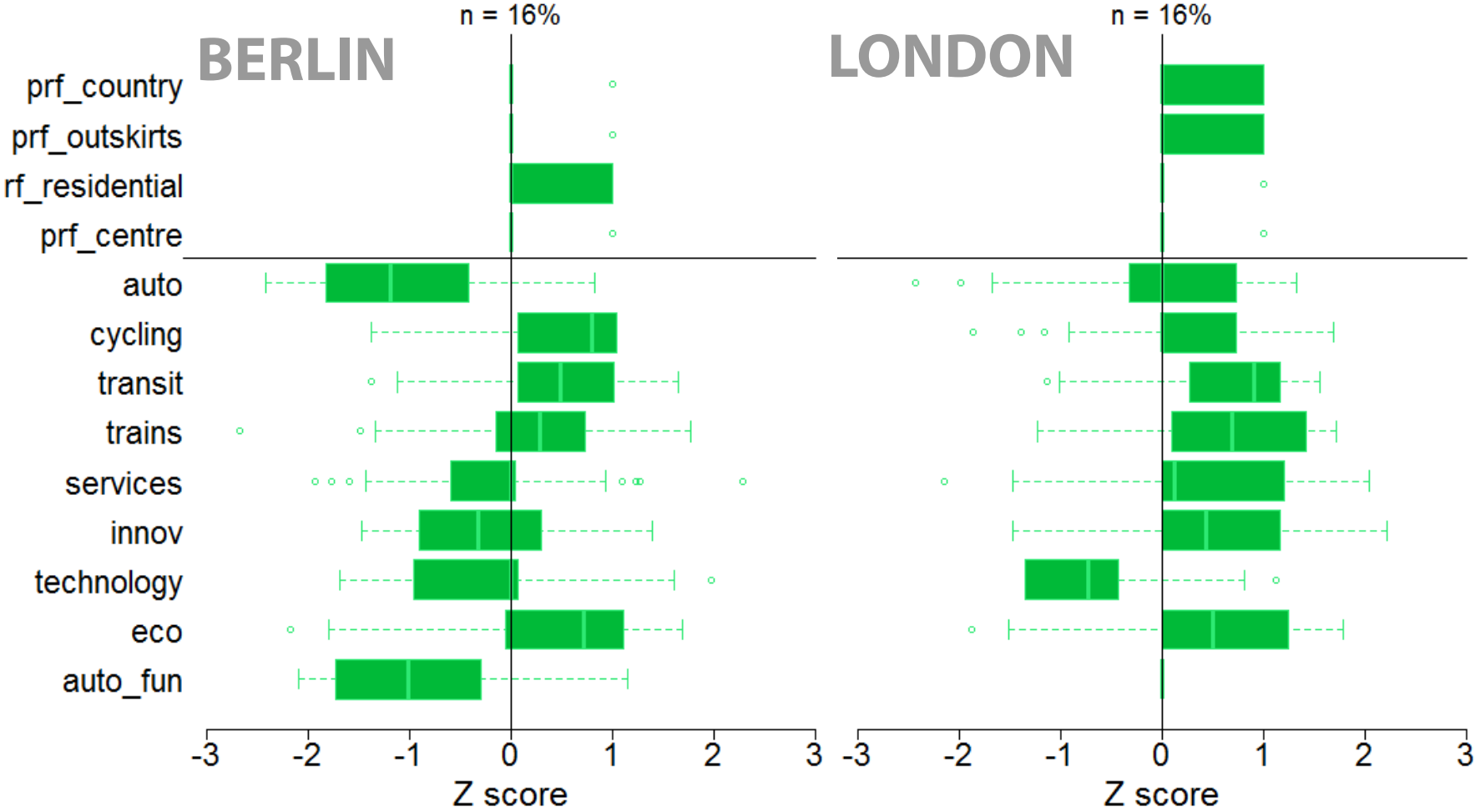
medium age | medium-higher income | larger households  
 highest car ownership | main mode: car



# TYPE 1: TRADITIONAL, PRO AUTOMOBILE

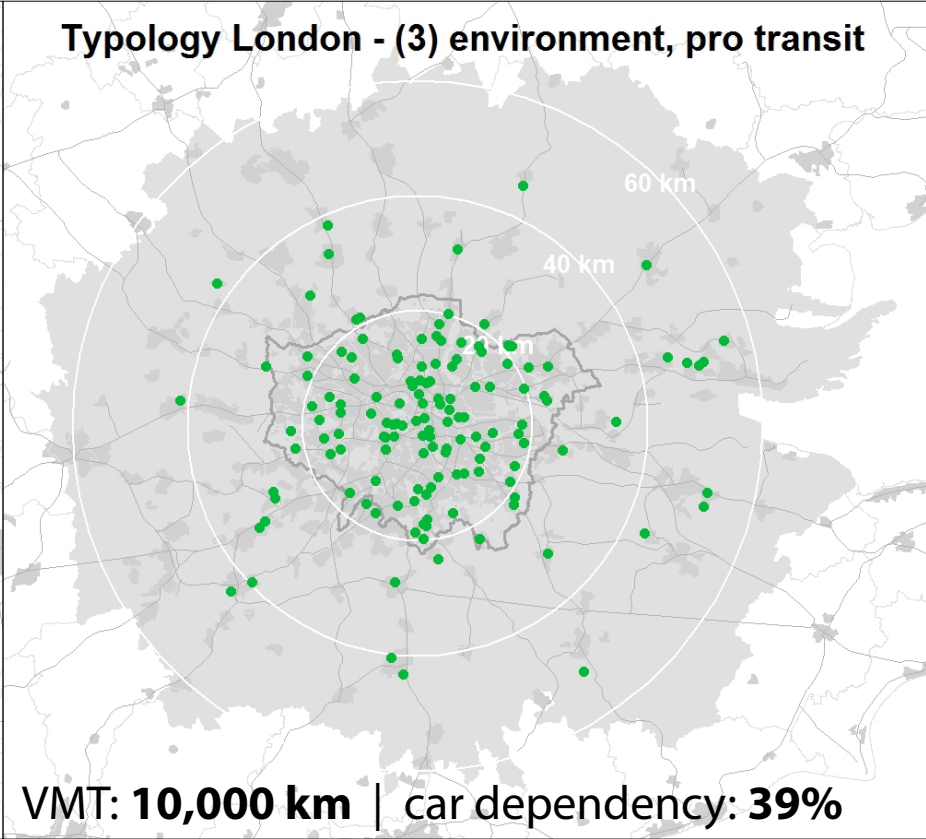
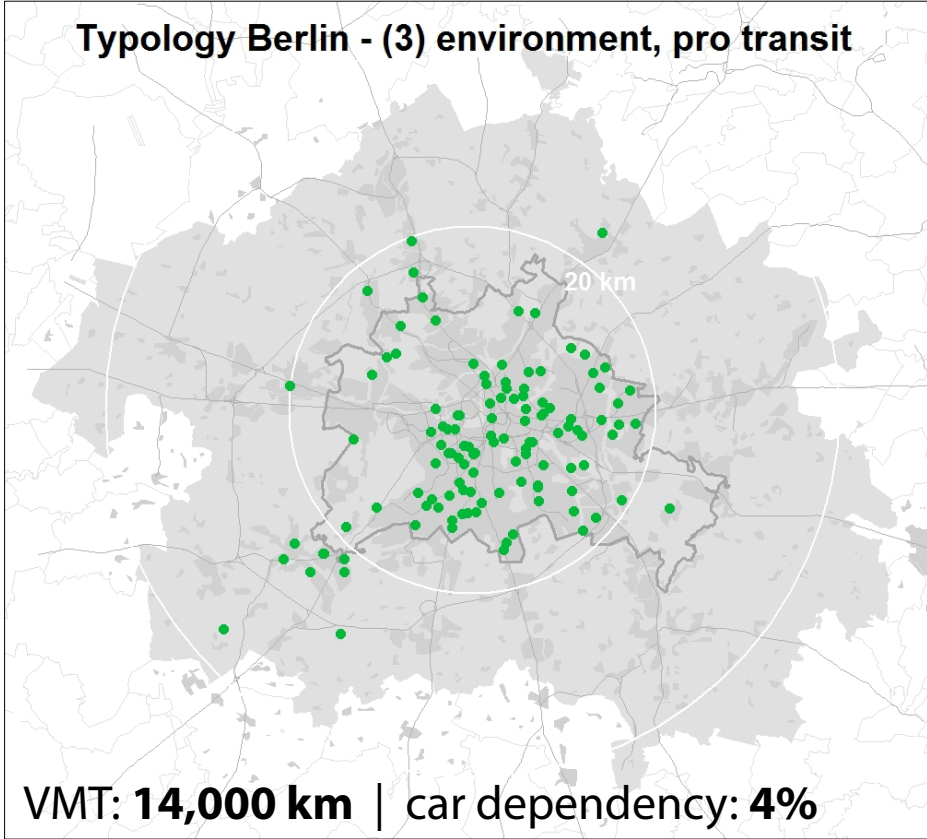


# TYPE 3: ENVIRONMENT-ORIENTED, PRO TRANSIT

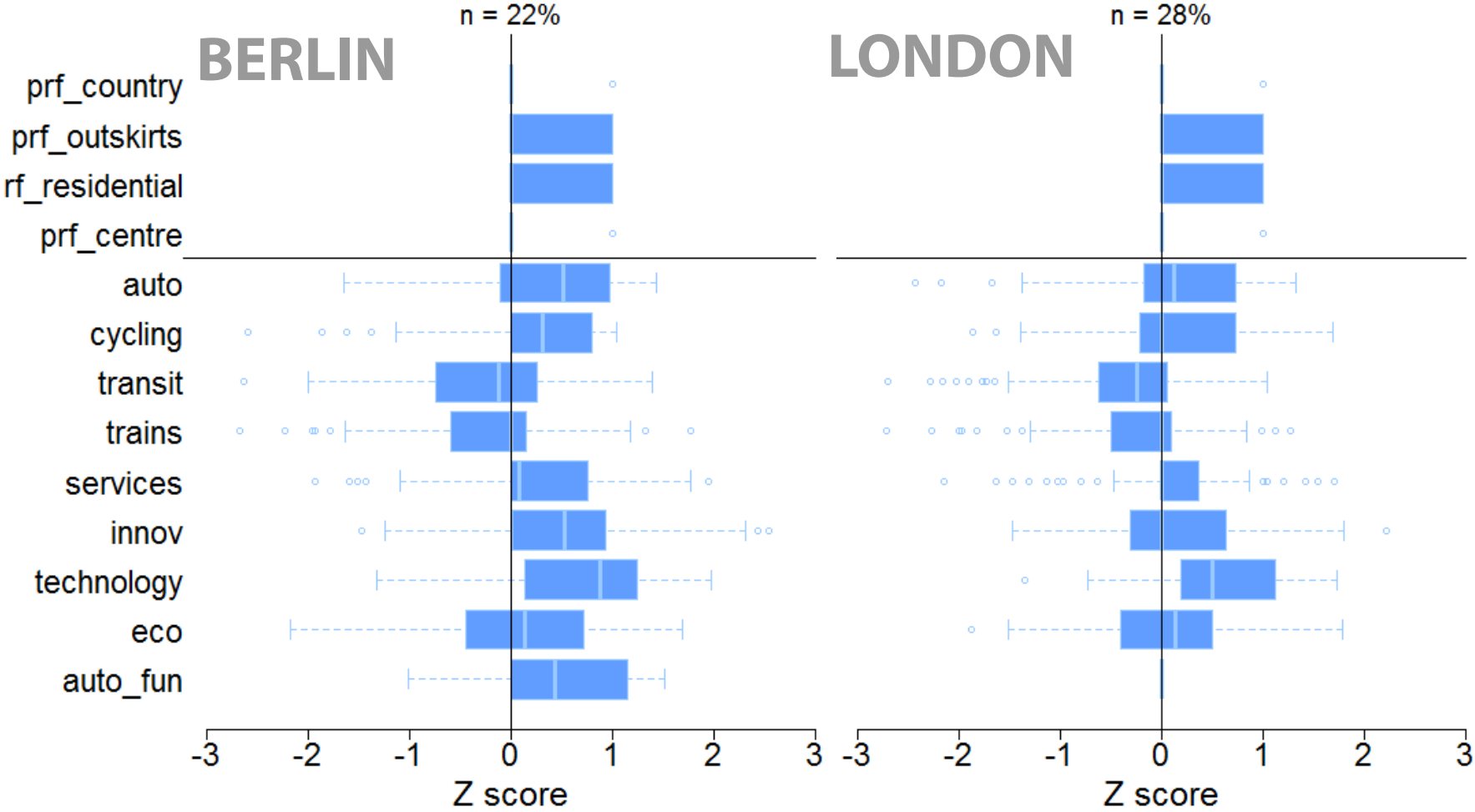


medium age | medium-lower income  
 low car ownership | main mode: transit

# TYPE 3: ENVIRONMENT-ORIENTED, PRO TRANSIT

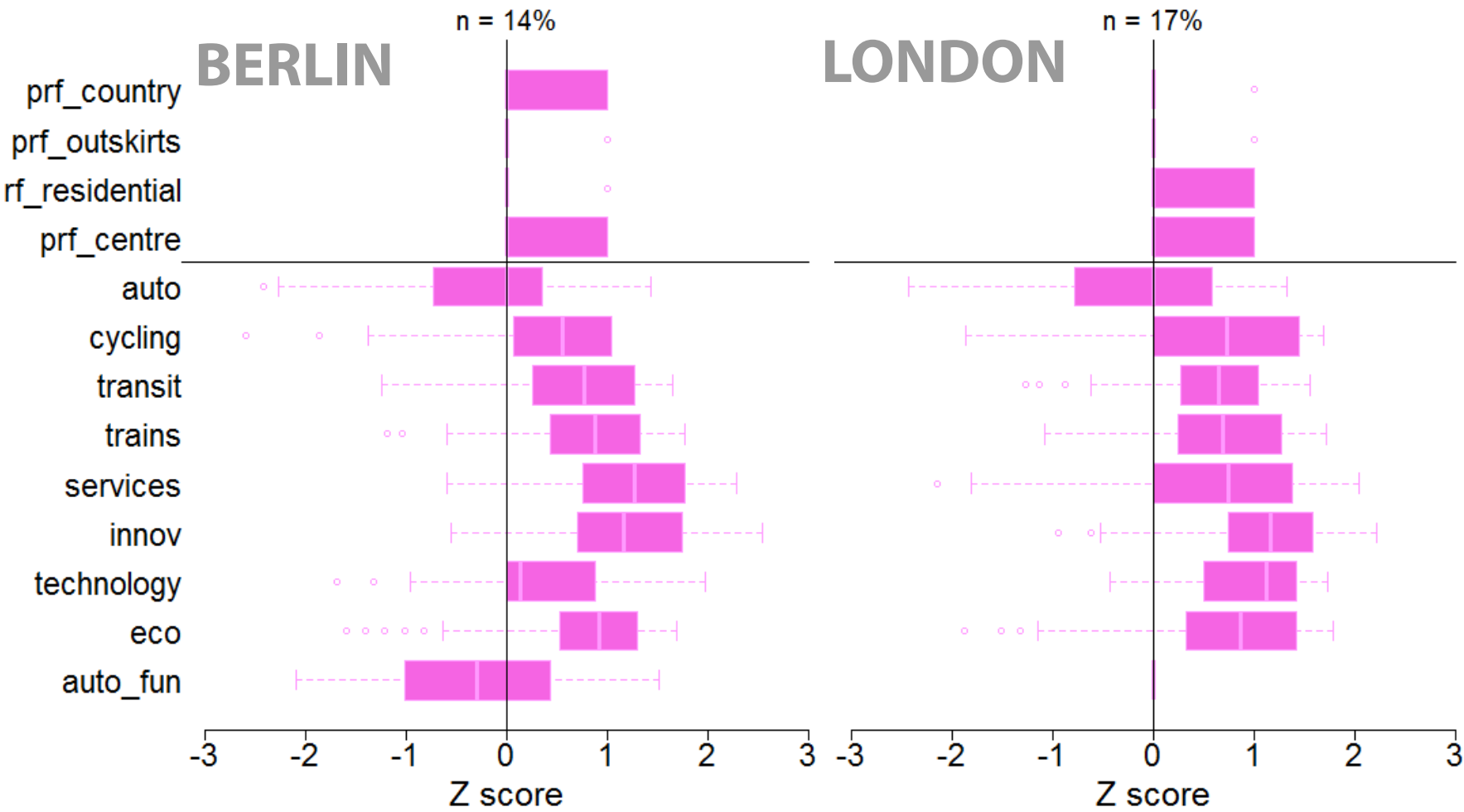


# TYPE 5: TECHNOLOGY, PRO PRIVATE TRAVEL



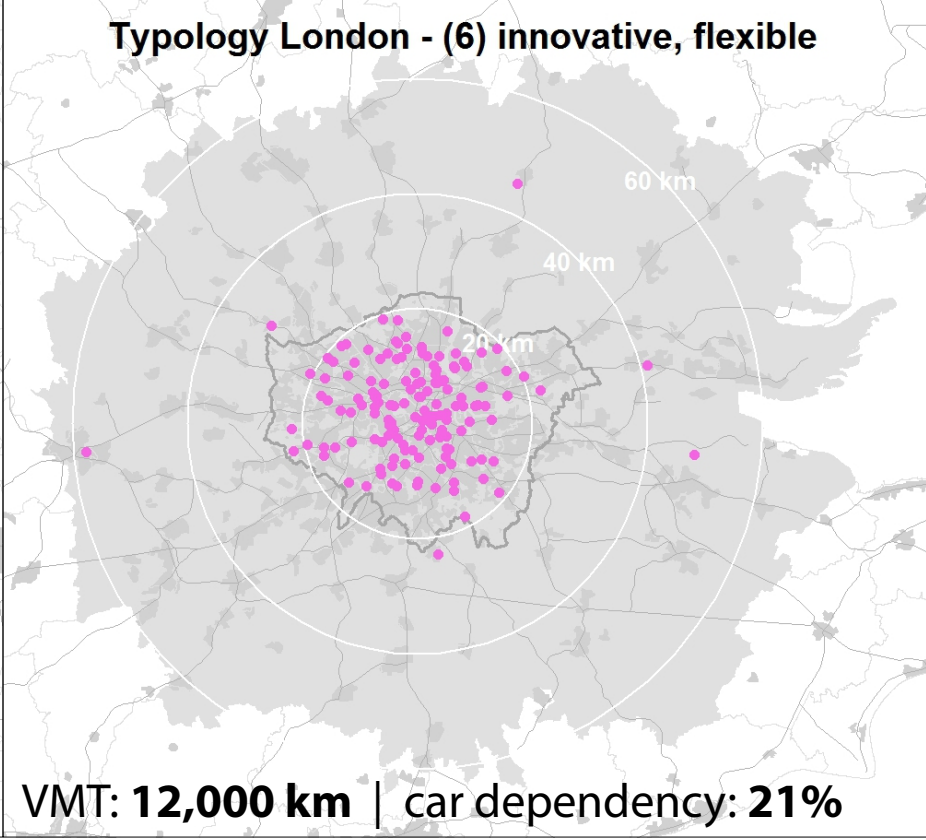
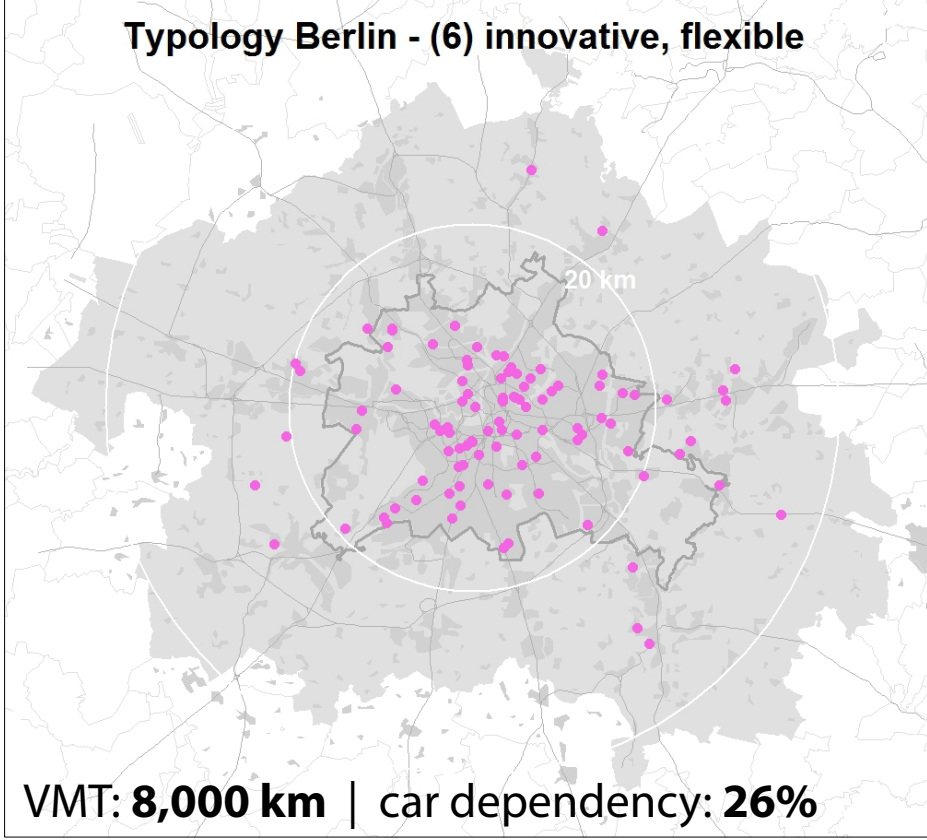
youngest (Berlin) | highest incomes | larger households | with children  
 high car ownership | main mode: car

# TYPE 6: INNOVATIVE, FLEXIBLE



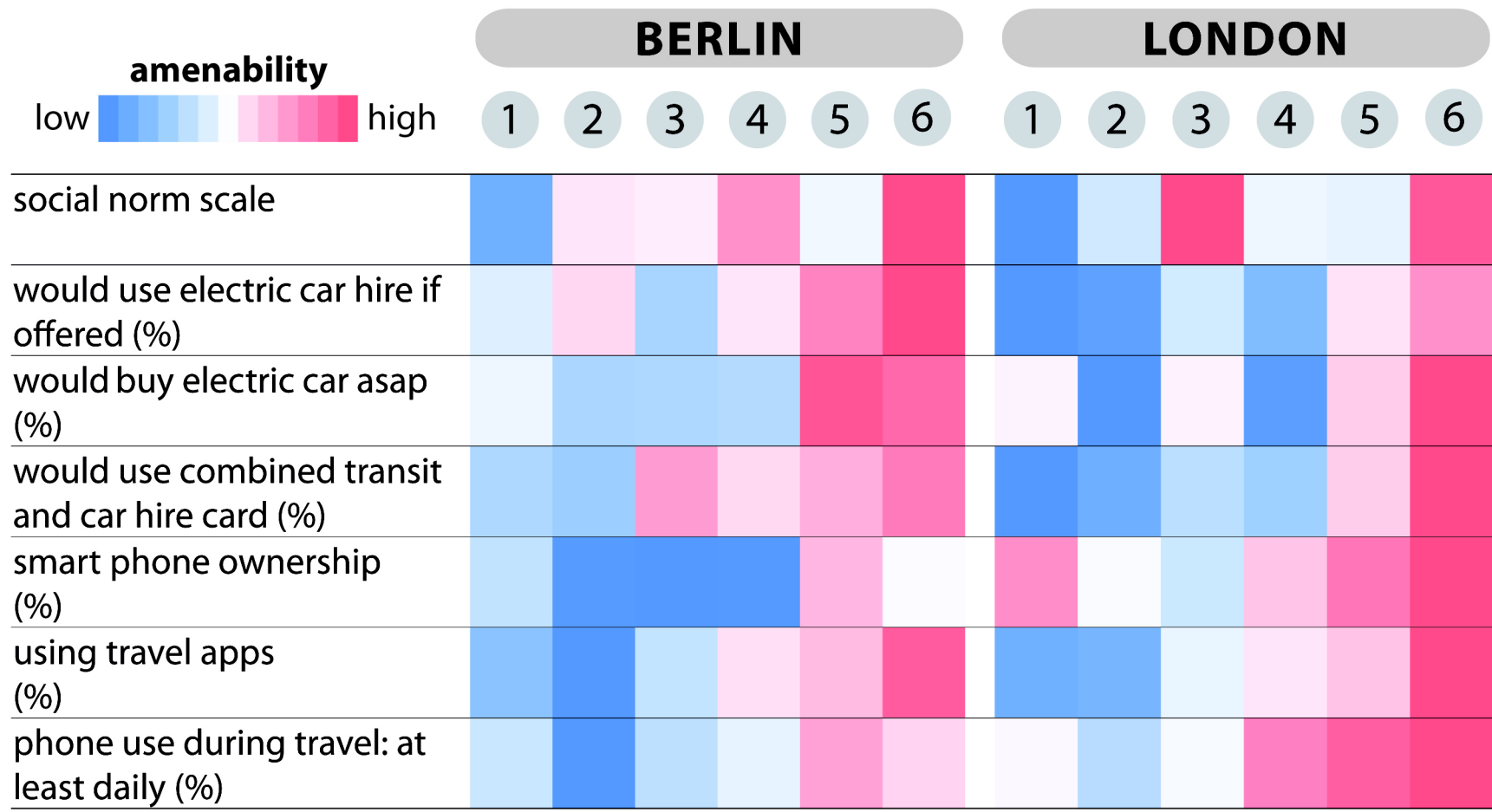
youngest (London) | medium-higher income | larger households | children (London) || lower car ownership | main mode: transit

# TYPE 6: INNOVATIVE, FLEXIBLE



**PROMOTING SUSTAINABLE TRAVEL**

# AMENABILITY TO NEW FORMS OF TRAVEL



- 1 Traditional, pro automobile
- 4 Traditional, pro collective modes
- 2 Traditional, pro private modes
- 5 Technology, pro private modes
- 3 Environment, pro transit
- 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

**4** Traditional, pro collective modes

**goal: affirm & encourage**

**target modes**  
transit, cycling P+R

**interventions**  
promote transit through traditional channels  
specific offers to test new services

**5** Technology, pro private modes

**goal: reduce driving & switch**

**target modes**  
cycling, electric cars, car sharing

**interventions**  
promote autonomy and fun aspects of alternatives  
highlight role of technology  
target through ICT  
stress fitness and fun in cycling campaigns

**6** Innovative, flexible

**goal: inform & encourage**

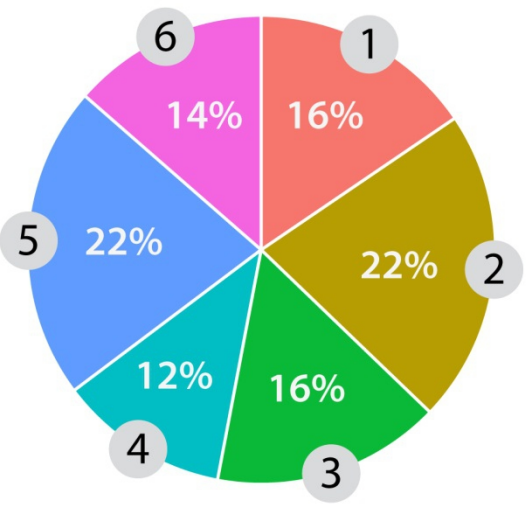
**target modes**  
walking, cycling, transit  
electric car hire

**interventions**  
promote mobility services  
inform instantly about new options and services

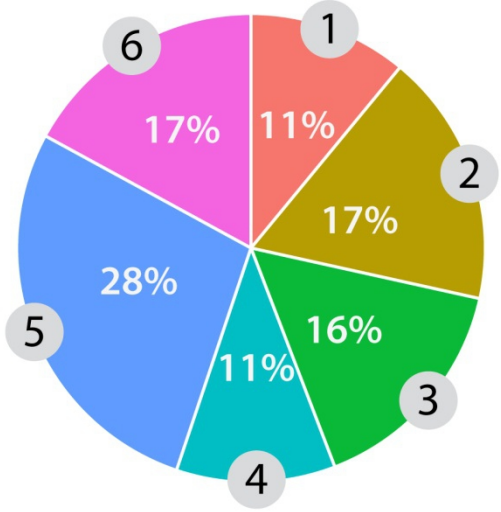
**CONCLUSIONS**

# CONCLUSIONS 1/2: GROUP DIFFERENTIATION

### BERLIN



### LONDON



- 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

- 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