EMPIRICAL INSIGHTS ON RESIDENTIAL LOCATION AND MODE CHOICES OF COMMUTERS DEPENDING ON HOUSEHOLD TYPE AND TELEWORKING OPTIONS

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DLR

Introduction

- **Project goal:** Understanding current and future relationship between residential location, commuting and working location choices
- **Partners:**

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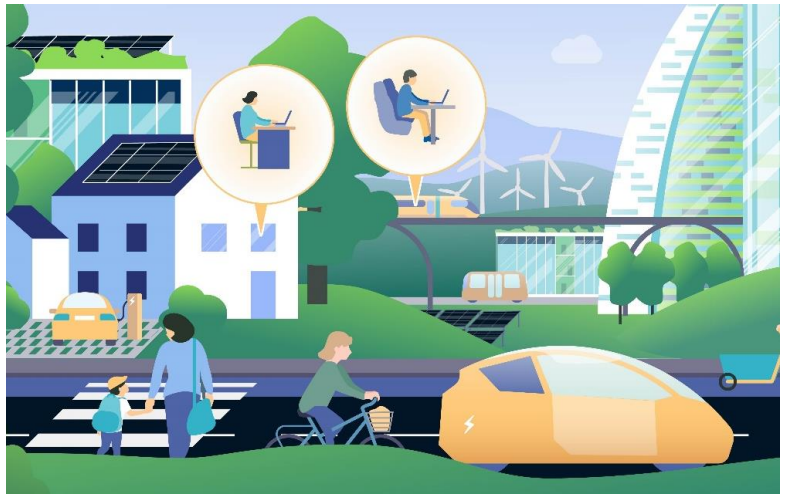
MOBITAT 2050



- **Study aim:** To analyze current preferences for residential location choices and commuting across various household types

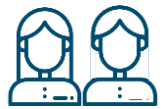
Methodology

Study design and sample

- **Online survey** in Germany
- **Sample:** 1,169 respondents (25-60 years old; representative for the working population)
- **Questionnaire**:
  - Two choice experiments, one further experiment
  - Questions on residential preferences, travel behavior, (tele)working patterns, and demographics

Household Types

- Derived from the national household survey "Mobility in Germany"


16%


38%


46%

Young household	Family household	Adults-only household
All household members under 35 years old	At least 1 person under 18 years old	At least one adult (35-64 years old)

Experiment 1: Residential choice and commuting

Two scenarios

Consider commuting to work **2 days / 5 days** a week

Attributes

	Alternative 1	Alternative 2
Cost	1.440 Euro	1.760 Euro
Location	rural	city
Size	124 sqm	82 sqm
Commuting durations	45 Min	25 Min
Choice	○	○

Cost and size pivoted around current values

Experiment 2: Mode choice for commuting

Two scenarios

Consider commuting to work **2 days / 5 days** a week

Attributes

	Waking	Bike	Car	Public transport
Travel time	35 Min	17 Min	10 Min	15 Min
Access/ egress time				7 Min
Waiting time				5 Min
Cost			0,80 Euro	1,20 Euro
Choice	○	○	○	○

Travel time values pivoted around current values

Results from experiment 1
Residential location and commuting

Key findings Experiment 1: Residential choice
Preference of living in the city

Living in	Preference for	ß (t-value)	ß (t-value)	ß (t-value)
		0.516 *(-2.88)*	0.151 *(-1.14)*	0.183 *(1.61)*
		0.306 *(1.26)*	-0.269 *(-1.57)*	-0.325 *(-2.32)*
		-1.513 *(-4.54)*	-1.250 *(-6.00)*	-1.070 *(-6.05)*

- Young households currently living in the **city do not want to relocate**, unlike other household types.

Key findings Experiment 1: Residential choice
Commuting time

Regular commuting

ß (t-value)	ß (t-value)	ß (t-value)
-3.393 *(-33.08)*	-3.288 *(-35.72)*	-3.327 *(-43.39)*

Teleworking

ß (t-value)	ß (t-value)	ß (t-value)
-2.849 *(-20.71)*	-3.041 *(-30.81)*	-3.032 *(-34.50)*

- The travel time values for teleworking are **significantly lower than for non-teleworking**

Results from experiment 2
Mode choices for commuting trips

Key findings Experiment 2: Mode choice
Travel time - walk

Regular commuting

ß (t-value)	ß (t-value)	ß (t-value)
-0.432 *(-2.83)*	**-**0.558 *(-3.82)*	-0.438 *(-4.05)*

- Walking is perceived **more negatively** by family households

Teleworking

ß (t-value)	ß (t-value)	ß (t-value)
-0.371 *(-2.67)*	-0.312 *(-3.17)*	-0.288 *(-3.48)*

- No differences in time perception

Key findings Experiment 2: Mode choice
Travel time - car

Regular commuting

	ß (t-value)	ß (t-value)	ß (t-value)
	-0.154 *(-7.99)*	-0.110 *(-9.29)*	-0.116 *(-10.33)*

Teleworking

	ß (t-value)	ß (t-value)	ß (t-value)
	-0.059 *(-2.29)*	-0.082 *(-5.10)*	-0.082 *(-5.19)*

- Young households are most sensitive to travel time by car.

Key findings Experiment 2: Mode choice
Travel time – public transport

Regular commuting

ß (t-value)	ß (t-value)	ß (t-value)
-0.137 *(-8.21)*	-0.096 *(-9.66)*	-0.123 *(-11.13)*

- Traveling by public transport seems **less attractive** for people from younger households

Teleworking

ß (t-value)	ß (t-value)	ß (t-value)
-0.077 *(-3.51)*	-0.084 *(-6.04)*	-0.098 *(-7.07)*

- Traveling by public transport seems **less attractive** for adults-only households
- Elements of using public transport currently perceived as a burden (esp. waiting time) become **less important**

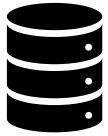
Conclusions and outlook

Conclusions and outlook

Main results

- This study provides a glimpse into the relationship between residential location, commuting, and mode choices
- Teleworking opportunities will potentially reduce the value of travel time savings on commuting trips
- Individuals from different household types differ in their residential location, commute, and mode preferences

Data use



- Results from the experiments were used as an input for a travel demand model

Outlook

- The full paper will:
  - Include further analyses of the sources of differences between the preferences of commuters from various household types
  - provide a more in-depth-discussion on the implications of the results for the planning of sustainable future commuting

Thank you for your attention!