

User's perspective on automated minibuses and their service type



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Research



objectives

Service type



Regular service
(fixed route, fixed schedule)



Flexible service
(door-to-door, on-demand)

Travellers' segments (current travel mode)



Car



Public transport



Active modes

Research



set-up

□ Online survey

833 respondents



1. Current travel behaviour



2. Stated choice experiment



3. Attitudinal indicators



4. Socio-economic characteristics of travellers



1. Travellers' segments

current travel behaviour

- Frequent trip
- Main transport mode (the longest part of the trip)
- In case of *train* – we ask additionally about access stage of the trip
- Out of **833** respondents



Car

520



Public transport

153

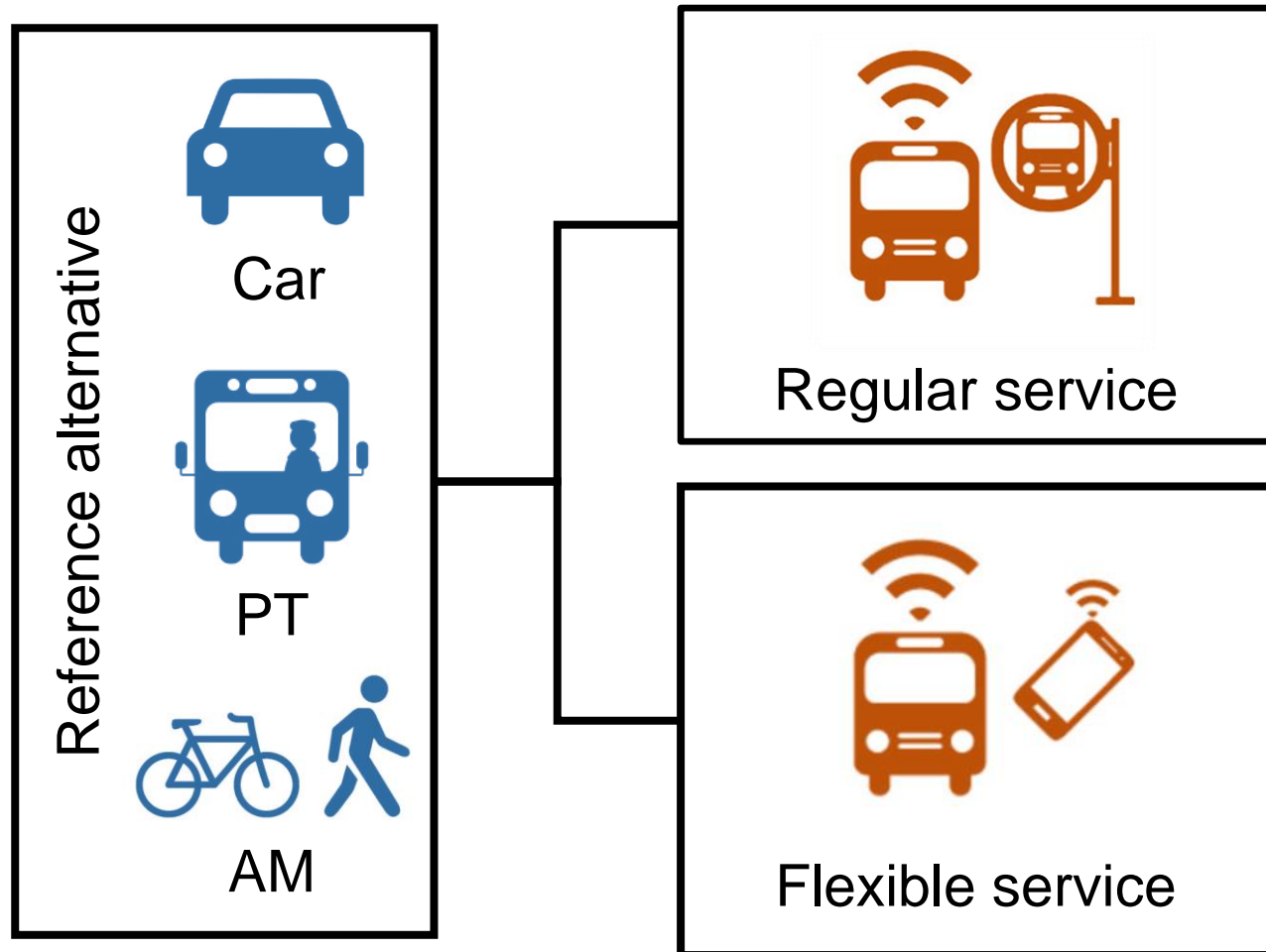


Active modes

160



2. Stated choice experiment (1)





2. Stated choice experiment (2)

- Standard trip:
 - short distance (sub)urban or first/last-mile trip
- Attributes and attribute levels are:

	Alternative 1 Current travel mode			Alternative 2 Automated minibus (regular service)	Alternative 3 Automated minibus (flexible service)
	CAR	PT	AM		
In-vehicle travel time (min)	20	20	20	10 / 20 / 30	15 / 25 / 35
Travel costs (€)	5.00	2.50	-	2.00 / 2.50 / 3.00	2.50 / 3.25 / 4.00
Waiting time (min)	-	5	-	2 / 5 / 8	2 / 5 / 8
Walking time (min)	-	8	-	4 / 8 / 12	-

- Orthogonal design
- 12 choice tasks



3. Attitudinal indicators

- **22** indicators
- Likert scale (from 1 to 7)

4 underlying factors:

- Trust, usefulness and enjoyment
- Positive attitude towards automated minibuses
- Experience with technology
- Risk-taking behaviour

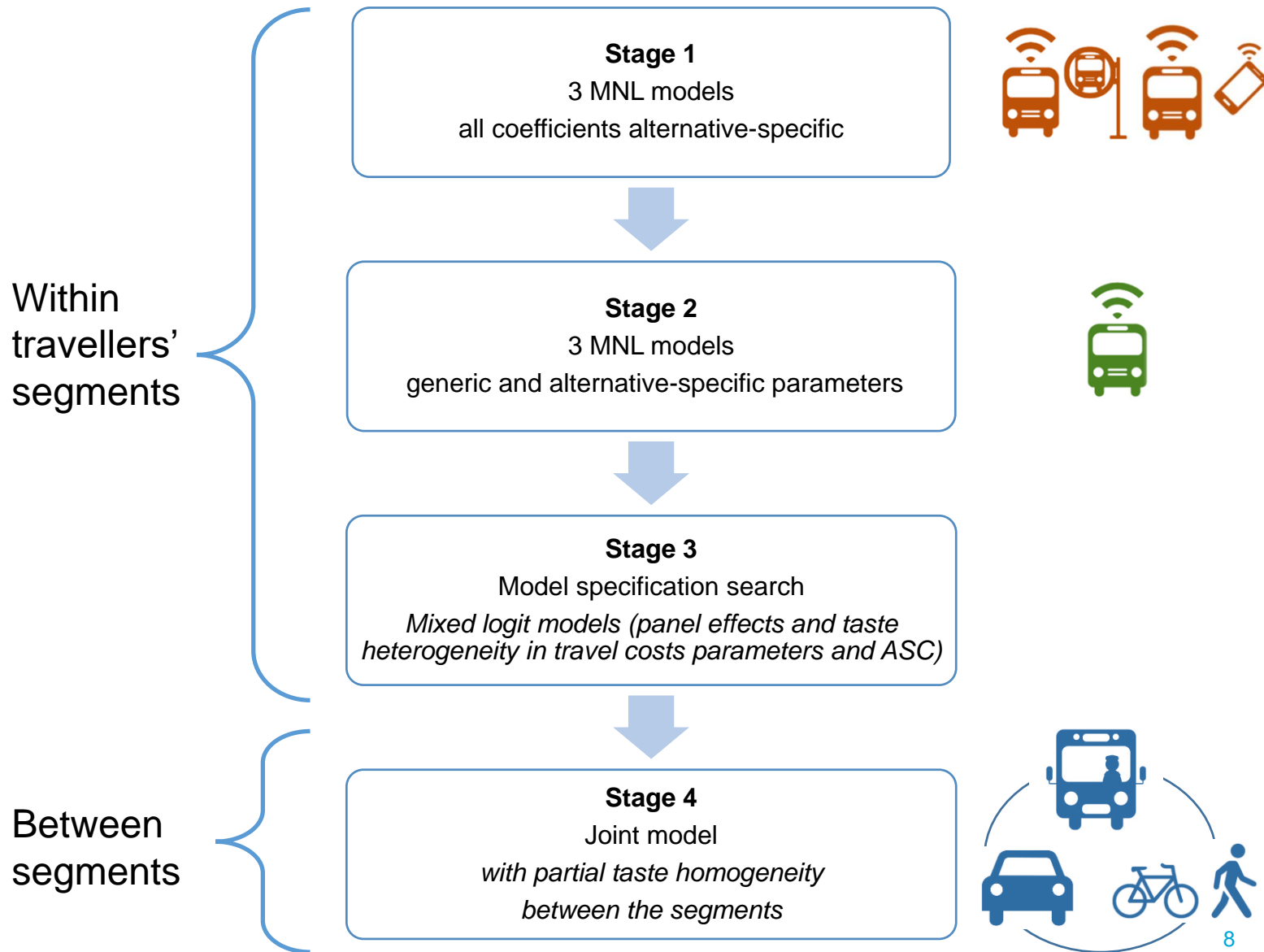


4. Socio-economic characteristics

- Gender, age, education level, income, occupation, etc.




















4-stage modelling strategy

Similarities and differences in preferences for the service type:

























Results

Service type perception within travellers' segments

	 CAR	 PT	 AM
 In-vehicle travel time			
 Travel costs			
 Waiting time			
 Walking time			





















Results

Service type perception between travellers' segments

	 CAR	 PT	 AM
 In-vehicle travel time	 -0.122	 -0.128  -0.0864	 -0.122
 Travel costs	 -0.488  -1.11	 -1.37	 -1.37
 Waiting time	 -0.115	 -0.136  -0.0414	 -0.115
 Walking time	 -0.214	 -0.214	 -0.123

Results

attitudes and socio-economic characteristics

	 CAR	 PT	 AM
Positive attitude towards automated minibuses	 0.631	 0.222	  0.466   1.14
Trust, usefulness and enjoyment	 0.431	 0.431	
Technology experience		 0.219	
Experience with driving assistance	  -0.338		  -0.338
High income		  0.66	  0.66

Conclusions

- The perception of service type differs in car, public transport and active mode users' segments
- Similarities between segments
- Accounting for the differences and similarities is important when building a strategy that targets various travellers' segments

Questions and discussion

(for both presentations)

- What scenarios do you think will be more likely?
- How to integrate the expectations of the users into scenarios?

