

CATAPULT

Policies for inclusive, demand-oriented and target group-specific automated mobility solutions for cities

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Funding agencies:

URBAN  EUROPE

 Federal Ministry
Republic of Austria
Climate Action, Environment,
Energy, Mobility,
Innovation and Technology

Objectives and methodology



Objectives

Policy recommendations to ensure inclusivity of future automated mobility.

Target groups

Children, the elderly, and people with physical and cognitive impairments.

Research questions

- What are the needs and requirements of these target groups for on-demand and automated mobility solutions?
- How can / should a future automated demand-responsive mobility in cities look like to meet the requirements of these target groups?

Methods

- Co-creative approach
- Qualitative interviews and focus group interviews with participants from the target groups
 - Establishing a catalogue of needs and requirements
- Quantitative survey quantifying the significance of the stated needs and requirements and the relations between variables
- Field studies in Austria and Sweden of existing solutions with the target groups
- Use of a serious game

Workshops with Children

95 children from Austria and Belgium

Age: 6-14



Barriers of children in today's public transport

- Getting on and off the bus is perceived as difficult
- Changing vehicles is complicated
- Crowding in public transport very unpleasant
- Lack of cleanliness in public transport/stops
- Not enough possibilities to hold on to things, to sit and to park things
- Fear of other people (especially teenagers) and strangers
- Crossing streets at stops without traffic lights is difficult
- Toilets at bus stops are missing
- Missing weather protection
- Unpleasant temperatures and air in public transport



Needs and wishes of children towards future mobility

Generally:

- Information displayed in large font and in a readable Entertainment
- More colorful design

On the bus:

- Responsible person on board desired
- SOS buttons, more security personnel, or other security measures
- Electric propulsion
- Direct routes without stops



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Qualitative Interviews with elderly citizens

11 Interviews
Age: 65-84



Barriers of elderly towards public transport

- Pedestrian-unfriendly infrastructure on the way to the stops (road crossings, traffic lights, etc.)
- Stops that are not protected from weather and too few seats
- Lack of relevant information (timetable, etc.) and real-time information at bus stops
- Difficult access due to steps/stairs
- Too few seating and restraint options on buses
- Lack of elevators and escalators at bus stops
- Lack of contact persons in public transport
- Ticket purchase at ticket machines, online or on smartphones experienced as difficult



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Needs and wishes of elderly towards future mobility and autonomous vehicles

Future mobility:

- Ticket purchase and reservation must also be possible "offline"
- More space and respect for pedestrians
- Fewer cars and shared traffic areas

Autonomous buses:

- Presence of a responsible person
- Direct connection (emergency button/intercom) to human person
- Video surveillance more desirable
- More comprehensive passenger information needed
- Hardly any additional benefits expected
 - Only for on-demand service without fixed stops



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Conclusion and outlook

- Human factor must not be lost in the development of autonomous vehicles
- Increasing digitalization and depersonalization is challenging and not desirable for elderly people
- Many barriers still exist today - will not automatically disappear with the introduction of autonomous shuttles
- Requirements for vehicle too short-sighted - overall system relevant
- Field tests and quantitative survey running at the moment
- Serious game will follow next year



Thank you for your attention

<https://catapultproject.eu/>

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