CATAPULT

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

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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
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
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
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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