Things behaving badly: how ergonomics puts people in control / ‘Doing it for themselves’ - making things work for transport users

This item was submitted to Loughborough University's Institutional Repository by the/an author.

Additional Information:

- This is a presentation given at the BA Festival of Science in Norwich on 7th September 2006.

Metadata Record: [https://dspace.lboro.ac.uk/2134/2393](https://dspace.lboro.ac.uk/2134/2393)

Please cite the published version.
‘Doing it for themselves’
- Making things work for transport users
The Role of Transport

- Reduced accessibility
- Social exclusion
- Quality of life
Inclusive design

An approach to creating environments/products that are usable by people with the widest possible range of abilities, to the greatest possible extent, operating within the widest range of situations.

Legislation

DDA 1995

DDA 2005:
  Part 3: Right of access
  Part 5: Transport

Public Service Vehicle Accessibility Regulations

Motor industry

Department for Transport
Disabled passengers - 1

- **Aim**
  To investigate route and destination display design wrt visually impaired passengers

- **Variables**
  Technology, font, colour, text size

- **Participants**
  Visual impairments – Macular degeneration, glaucoma, retinitis pigmentosa and cataracts

- **Measures**
  Reading distance, reading time, reading angle
Disabled passengers - 2

Laboratory trials
Assessment of many variables independently

Field trials
Assessment of operational vehicles

Guidance brochure
Advice to industry
Older motorists - 1

- **Rationale for research** - To identify needs of future markets
- **Research** – Review of knowledge
- **Realisation** – Making the results tangible
Older motorists - 2

- **Rationale for suit**
  Empathy

- **Features**
  Joint mobility
  Tactile sensitivity
  Visual changes

- **Product success**
  Door aperture
  Seating height
  Headroom
  Handholds
**Aim**  
To investigate whether poor seating stability affects driving performance and the role of drivers’ postural supports

**Variables**  
Types of supports, driving tasks

**Participants**  
7 non-disabled, 23 disabled (20 wheelchair users)

**Measures**  
Vehicle control, drivers opinions
Disabled motorists - 2

Trials
- MIRA Proving Ground
- Successive levels of support provided

Findings
- Driving performance
- Use of support aids
- Knowledge
Conclusion

- **Ergonomics approach**
  Investigate user requirements

- **Improved design**

- **Independence**
  Transport users in control
  Do things for themselves

- **Quality of life**
Conclusion

- **Ergonomics approach**
  Investigate user requirements

- **Improved design**

- **Independence**
  Transport users in control

- **Quality of life**