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

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LICENCE

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“Things behaving badly: How ergonomics puts people in control”



# ‘Doing it for themselves’

- Making things work for transport users

# The Role of Transport

- **Reduced accessibility**
- **Social exclusion**
- **Quality of life**



# Inclusive design

- **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



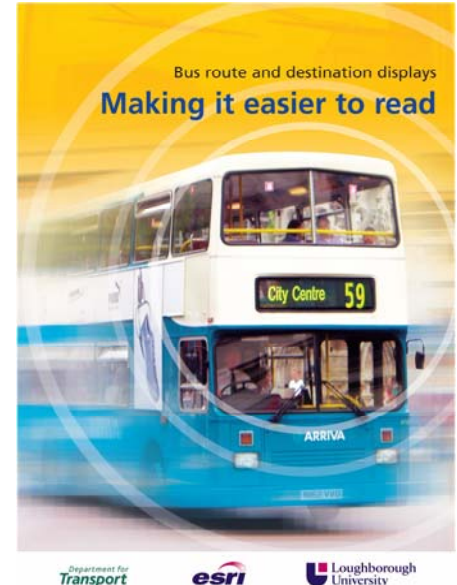
Laboratory trials

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





# Disabled motorists - 1

- **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**

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Transport users in control

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