

Prolonging safe driving for older people

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Faculty of the
Built Environment



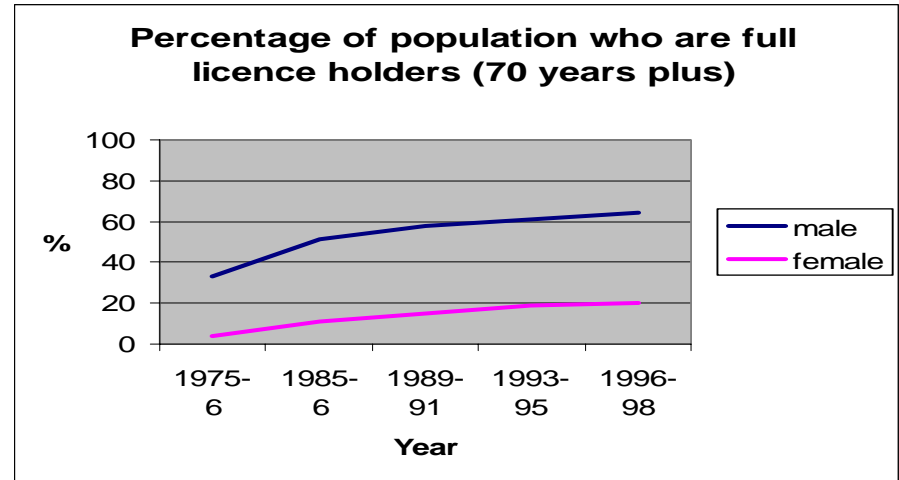
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Overview

- Background
 - Statistics
 - Why prolong driving?
- Current project
 - Methodology
- Wave one findings
- Next steps
 - Wave two
- Conclusions

Background: Older Driver Statistics

- 300,000 drivers over 70 in the UK
- 30,000 drivers over 90 in the UK
- 200% increase in male drivers over 65; 600% increase in female drivers over 65 in past 30 years
- More drivers over retirement age than under 30 age group



Age	Current		Estimated rise in 15 years	
	Male	Female	Male	Female
% of 80-89 year olds	44%	11%	65%	35%

Background: Why Prolong Driving?

- Increasing level of services moving out of town centres and residential zones
- Sense of control over environment
- Driving increases self-confidence, mastery and self-esteem and feelings of autonomy, protection and prestige (Ellaway et al, 2003)
- Giving up driving is associated with an increase in depressive symptoms (Ra et al, 1997)

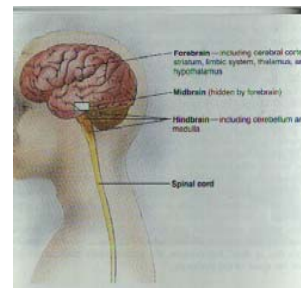
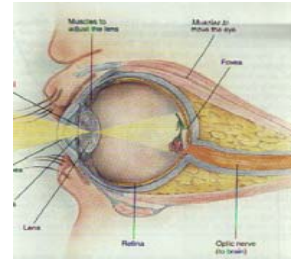
Background: How Safe are Older Drivers?

- Taking into account miles driven, there is a slight increase for over 60s age group, which increases for 70+ age group and again for over 80s age group
- Distractions
- Junctions



Reasons for Increase in Accidents

- **Physiological** - eye-sight and hearing problems, restricted physical mobility
- **Cognitive** - working memory problems, decrease in information processing capacity decision making under pressure
- **Psychological** - Lack of confidence, anxiety, social norms, stereotypes, labelling



Is Technology the Answer?

- Can technology help prolong safe driving behaviour amongst older adults?
- Previous research tends to treat drivers as a homogenous group
- Older driver needs and attitudes ignored



Current Project

■ Aims - Prolonging Safe Driving Project

To critically examine whether new technology advances in Advanced Control and Safety Systems have the capacity to aid driver safety and prolong driving for older drivers in the United Kingdom

■ Benefits -

- Anchor underpinning future studies
- Develop and prototype technologies
- Participatory manner

Phase 1 – 24 “still driving” participants in 3 groups

Wave 1 focus group (3 groups)

Understanding older people’s driving needs

Wave 1: Interviews

Re-visiting driving needs and assessing barriers to technology

Driver Diary

Reflecting on driving needs in practice

Wave 2 focus group (3 groups)

Understanding how driving needs might be met with modern technology

Wave 2: Interviews

Identifying most salient technologies

Phase 2 –
10 “no longer driving” participants

Interviews

Why people give up driving and assessing the feasibility of technologies

Phase 3 – 30 experts

E-Delphi Technique

To examine the generalisability and feasibility of developing the new technologies

Wave One Findings (1)

- Background
- Importance and symbolism of the car and driving
 - Functional verses symbolic driving/car
 - Control and driving (life verses car)
- Giving up driving
 - Reducing the amount of driving causes a reduction in confidence
- Identification with in-group – out-group
 - Stereotypes of older drivers
 - Younger drivers

Wave One Findings (2)

- Driver needs
- Compensatory behaviour
- Distraction
- Reaction times
- Tiredness
- Physical mobility



Wave One Findings (3)

- Dashboard/interior needs and ergonomics

- Speed

- Looking at speedometer
- Speedometer colour
- Speed limit reminders



- Steering wheel baulk hiding dashboard display

- Stalk switches preferred

- Looking down at gear/automatic gear shift

- But, is there too many distractions



INFRASTRUCTURE BASED

- Intelligent Road Signs
- Variable Message Systems

CAR AND INFRASTRUCTURE BASED

- Navigational aids
- Dynamic Head-Up Display
- Intelligent Speed Adaptation
- Automated Highway System

•CAR BASED LOW TECH

- Head Up Displays
- Parking Displays
- Night Vision
- Collision Warning System
- Adaptive Cruise Control



SPINNERS

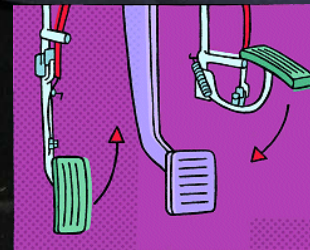


EASIFUEL

**INDICATOR
STALK
ADAPTATIONS**

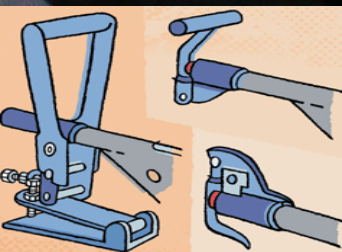


**PEDAL
ADJUSTMENTS**



AUTOMATIC GEARS




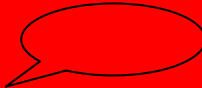


**CLUTCH
LESS
GEAR
CHANGE**



**HANDBRAKE
ATTACHMENTS**

**SEAT
ADJUSTMENTS**

Wave Two Focus Groups – Board Game!

Need Space 	Technology	Chance ?	Free Parking 
Need Space 			Issue 
Issue			Need Space 
Service Station 	Technology	Chance ?	Technology

Conclusions

- Older drivers view car as important to their lives
 - Functional – Day to day activities, services, A to B.
 - Psychological – personality, prestige, self-esteem, mastery.

- Driving and identity

- They are making adaptations themselves
 - Choosing times of day, days of the weeks, roads.
 - Altering driving behaviour.
 - Altering car design.

- They do not want adaptations that make their car look like an old persons car

- Distraction is a key problem and they want technology that will help reduce distraction



Thanks for Listening

Further information

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