THE LICENSING AND SAFETY OF OLDER DRIVERS IN BRITAIN

Christopher G B (Kit) Mitchell
The reason for looking at British experience is that the casualty rate for older drivers in USA is more than twice that in Britain.
ALL DRIVERS FATALITY RATE PER LICENSE

Deaths per 100,000 licences.

Age group
- US 55 to 64
- GB 60 to 69
- US 65 to 74
- GB 70 to 79
- GB 70+
- US 75+
- GB 80+

Britain has an older population than USA. The British age distribution now is where USA will be in 2020 - 2025
PER CENT POPULATION GREAT BRITAIN

Per cent of total population

- 0 to 15
- 65+
- 80+
- 90+
- USA 65+


Graph showing the percentage of the population for different age groups in Great Britain and the USA.
Car use dominates travel, but reduces with increasing age. Men drive more, women travel more as passengers. Female drivers reduce the amount they drive at a younger age than men.
Trips per year for men and women in Great Britain 2006-08

Men

- Car driver
- Other
- Walk

Women

- Car passenger
- Bus

Journeys per year

Age group

- 50-54
- 55-59
- 60-64
- 65-69
- 70-74
- 75-79
- 80-84
- 85+

- 200
- 400
- 600
- 800
- 1,000
- 1,200
- 50-
- 54
- 55-
- 59
- 60-
- 64
- 65-
- 69
- 70-
- 74
- 75-
- 79
- 80-
- 84
- 85+
After passing a test, car driving licenses are issued to age 70.

After age 70, licenses are issued for three year periods on the basis of a self-declaration of freedom from health conditions that would prevent driving.
License Surrender - Britain

- Women: percent of licence holders who surrender in previous decade
- Men: percent of licence holders who surrender in previous decade

The graph shows the percentage of women and men who surrendered their licences by age. The percentage for women increases significantly from age 80 onwards, while men's percentage increases more gradually throughout the age range.
LICENSE SURRENDER USA - FHWA statistics

- Women - percent of licence holders who surrender in previous decade
- Men - percent of licence holders who surrender in previous decade
Of women who hold a driving license at age 70, 8 per cent will surrender it before they are 80 and another 35 per cent before they are 90.

For men, the figures are 5 and 20 per cent.
FORECAST LICENSE HOLDING - MEN

Age group
- 17-20
- 21-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70+
- 80+

Percent holding licences

Years:
- 1970
- 1980
- 1990
- 2000
- 2010
- 2020
- 2030

Percent holding licences by age group over time.
With the increase in the number of older drivers, the safety of older people has become an issue.
CAR DRIVER FATALITY RATES BY AGE

Deaths per 100,000 licenses

Age group

- 16 to 19
- 20 to 29
- 30 to 39
- 40 to 49
- 60 to 69
- 70 to 79
- 80+
- 70+
Older people become more fragile as they age. They are under-involved in accidents, but over-represented in deaths.
PERCENT CASUALTIES AGED 70+, 2009

Percentage of all casualties

Pedestrians
Car drivers
Car passengers

Road user type

Percentage of population aged 70+

Killed
KSI
All

Percentages for different road user types:
- Pedestrians: Approximately 30%
- Car drivers: Approximately 10%
- Car passengers: Approximately 10%

The chart shows a comparison between different road user types for percentage of all casualties.
Casualty rates for car drivers
CASUALTY RATES PER MILE FOR CAR DRIVERS - 2009

- Deaths per 100 billion miles
- Serious injuries per 10 billion miles
- All casualties per billion miles
- Slight injuries per billion miles

Casualty rates per distance driven

Driver age
CASUALTY RATES FOR CAR DRIVERS - 1996

- Deaths per 10 million drivers
- Slight injuries per 100,000 drivers

Casualty rates per driver vs. Driver age
CASUALTY RATES FOR CAR DRIVERS - 2000

- Deaths per 10 million drivers
- Slight injuries per 100,000 drivers

Driver age vs. Casualty rates per driver
Casualty rates for car drivers - 2004

- Deaths per 10 million drivers
- Slight injuries per 100,000 drivers

Casualty rates per driver

Driver age
CASUALTY RATES FOR CAR DRIVERS - 2008

- Deaths per 10 million drivers
- Slight injuries per 100,000 drivers

Driver age

Casualty rates per driver

Driver age

Casualty rates per driver
CASUALTY RATES FOR CAR DRIVERS - 2009

- Deaths per 10 million drivers
- Slight injuries per 100,000 drivers
CASUALTY RATES FOR CAR DRIVERS - 2010

- Deaths per 10 million drivers
- Slight injuries per 100,000 drivers

Casualty rates per driver vs. Driver age.
CASUALTY RATES FOR CAR DRIVERS - 2009

- Deaths per 10 million drivers
- Deaths corrected for fragility
- Slight injuries per 100,000 drivers
CASUALTY RATE PER MILE FOR CAR DRIVERS - 2009

Deaths per 100 billion miles
Deaths corrected for fragility
Slight injuries per billion miles
KSI CASUALTY RATE FOR CAR DRIVERS PER DISTANCE DRIVEN - 2008

Casualty rates per billion miles

Driver age

Casualty rates per billion miles

Males
Females
KSI CASUALTY RATE FOR CAR DRIVERS PER DISTANCE DRIVEN CORRECTED FOR FRAGILITY

2008

Corrected casualty rates

Per billion miles

Males

Females

Driver age

Corrected casualty rates

Per billion miles

10 20 30 40 50 60 70 80 90

100 200 300 400

0 50 100 150 200 250 300 350 400
Risk to other road users
RISK OF KILLING A PEDESTRIAN 2005

Age of car driver vs. Risk per billion car miles.

Male drivers

Female drivers
Assessment programmes are needed to identify drivers who need to improve their driving, restrict driving or stop driving.
Older driver assessment schemes

Forum of Mobility Centres
  17 Centres, mainly for drivers with disabilities

Local Authority Road Safety Units
  Mainly for older drivers
Driving Assessment

There are two types of driving assessment offered by each centre:

If a person has a condition which affects thought processing, a driving ability assessment will be offered.
If the person has only a physical limitation, then a vehicle control trial or car adaptation assessment is usually appropriate.

This includes an assessment for vehicle modifications which assist with the control of the car.
Cost varies between centres, but is typically £50 to £130 ($75 to $200).

Assessment in Scotland is free if referred by a family doctor.
Local Authority Road Safety Units offer older driver assessments

Older Driver Campaign: Keeping older drivers safe on our roads

The Older Driver Campaign will encourage drivers over 60 to take a free driver assessment course via all six North Wales local authorities.
A confidential 90 minute appraisal of driving skills for older motorists. It is conducted in the drivers own car by Approved Driving Instructors who have a good understanding of the needs of older drivers.

The appraisal is subsidised, costs £30 ($45) and takes 90 minutes.
Understanding older driver safety in Devon

Objectives of training
1. Older drivers needs and perspectives
2. Characteristics that may influence safety
3. Training interventions for older driver safety
4. Why older driver safety is important
5. Practical issues of implementing training
6. Best practice for older driver safety
7. The role that partners can play in improving safety
Forecasting car driver fatalities
From forecasts of population and driver licence holding, we can forecast driver deaths for different age groups.
Conclusions

• The number of older drivers will continue to increase;

• The safety of older drivers is improving faster than that of younger age groups;

• Older drivers are at risk themselves because of their fragility;

• Older drivers do not cause greater danger to other road users than do middle-age drivers;

• The number of older car driver deaths will continue to reduce.
Trips per year for men and women in USA 2001

Men
- Car driver
- Car passenger
- Other
- Bicycle

Women
- Car driver
- Car passenger
- Other
- Bicycle

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Trips per year for men and women in Great Britain 1995-97

Men
- Car driver
- Other
- Walk
- Car passenger
- Bus

Women

Journeys per year vs. Age group
Trips per year for men and women in Great Britain 2006-08

Men

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CAR OCCUPANT FATALITY RATE PER POPULATION

Deaths per million population.

- France
- Australia
- Germany
- USA
- Netherlands
- Poland
- Spain
- Britain
ALL DRIVERS FATALITY RATE PER LICENCE

Deaths per 100,000 licences

Age group

- US 55 to 64
- US 65 to 74
- US 75+
- GB 60 to 69
- GB 70 to 79
- GB 80+
- GB 70+
DRIVER FATALITY RATE PER LICENCE

Deaths per 100,000 licences.

Age group

- 60 to 69 all
- 60 to 69 car
- 70 to 79 all
- 70 to 79 car
- 80+ all
- 80+ car

Years:
- 1985
- 1990
- 1995
- 2000
- 2005
- 2010
ALL DRIVERS FATALITY RATE PER LICENCE

Deaths per 100,000 licences

- US 16 to 20
- US 21 to 24
- US 25 to 34
- GB 16 to 19
- GB 20 to 29
- GB 30 to 39

Age group
SPEEDING IN URBAN AREAS - BRITAIN

Number of offences, millions

Percent cars exceeding speed limit

- Speeding offences
- 30 limit - % over limit
SPEEDING AND SAFETY - BRITAIN

Number of offences, millions

Fatality rate per million population

1995 2000 2005 2010

Number of offences, millions

Fatality rate all road users

30 limit - % over limit

Fatality rate car occupants

Fatality rate pedestrians

Percent cars exceeding speed limit
SPEED LIMIT EXCEEDANCE AND PEDESTRIAN FATALITY RATE

$R^2 = 0.8476$

1998 to 2010

Fatality rate
pedestrians per million

Percent over speed limit, 30mph limit roads

$R^2 = 0.8476$
SPEED LIMIT EXCEEDANCE AND CAR OCCUPANT FATALITY RATE

\[ R^2 = 0.7897 \]

Fatality rate car occupants per million population

Percent 10mph over speed limit, non built-up duals