

**ITF/OECD Roundtable on Long-run Trends in Travel Demand,
Paris, 29-30 November 2012**

(a) Peak Travel UK

and

(b) Broad Policy Implications

Phil Goodwin

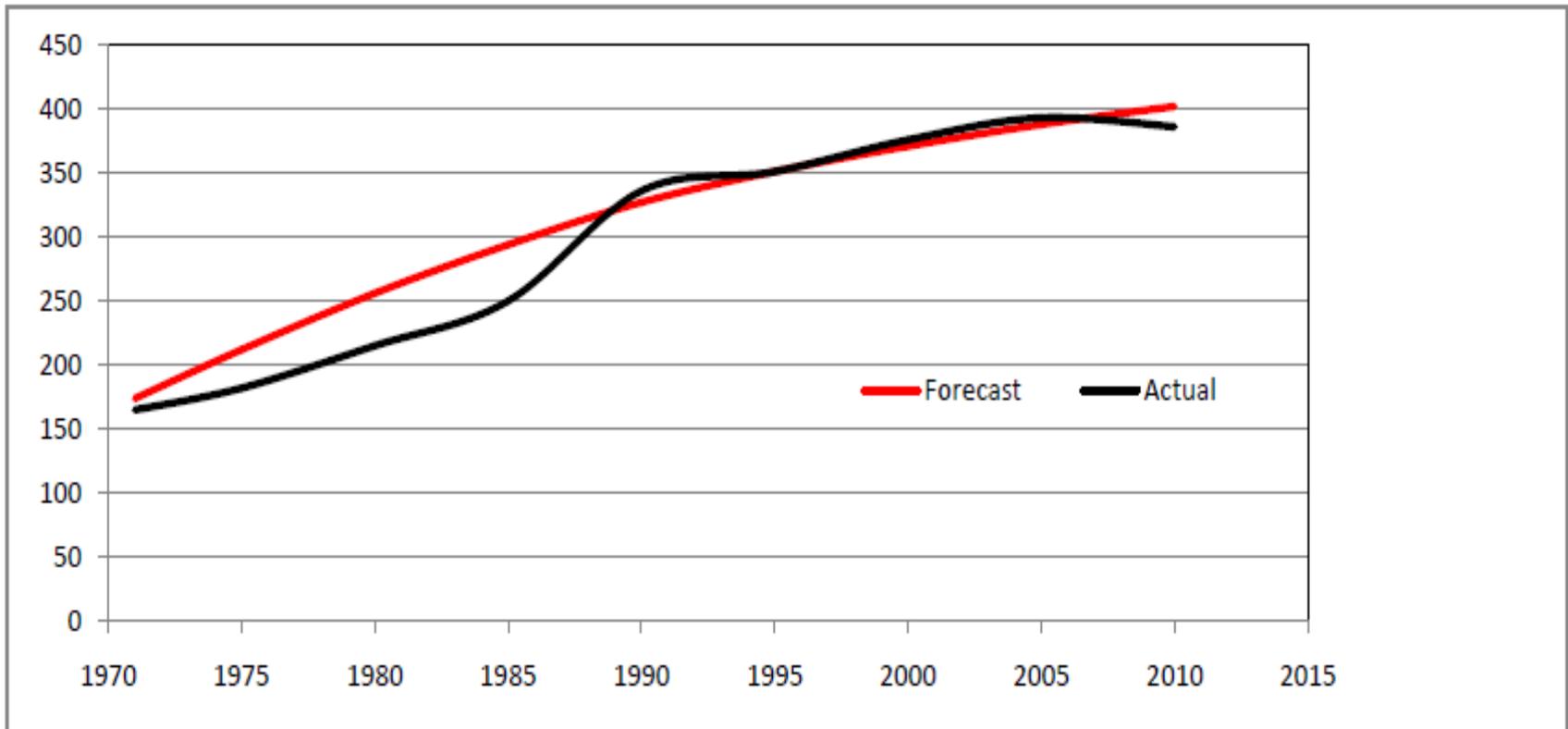
Emeritus Professor of Transport Policy, UCL and UWE

Rapid developments

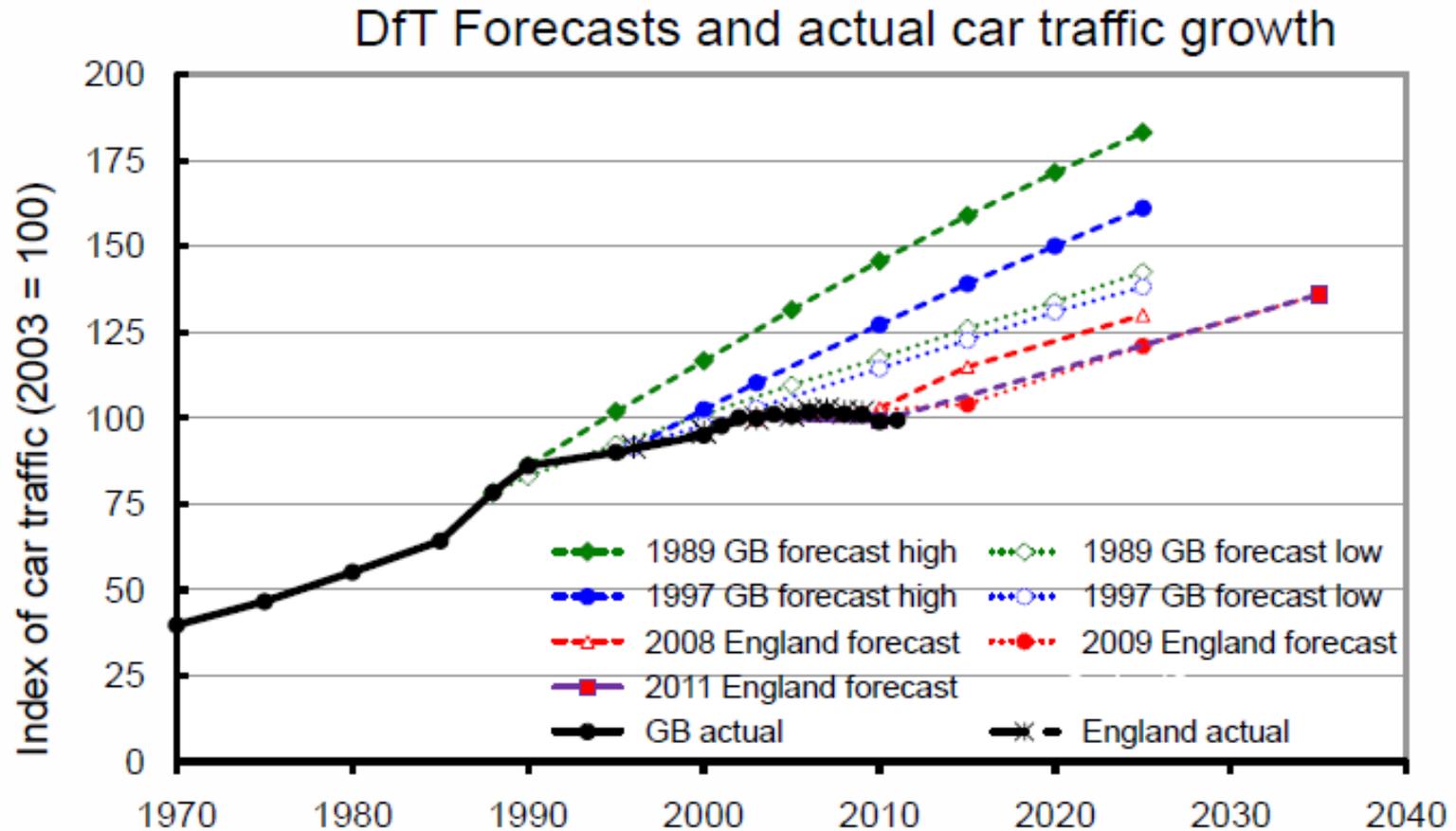
- The idea of peak travel – but mostly peak car - has risen from a small minority interest to international research within 5 years, and mostly within the last 2 years.
- There has been overview analysis for at least 25 countries, and detailed work in more than six.
- In the UK, there was active interest over 40 years ago, then the topic disappeared...

The old tradition: in 1973 official forecasts expected saturation in car ownership by about 2010 – traffic forecast very accurate (for the wrong reasons?)

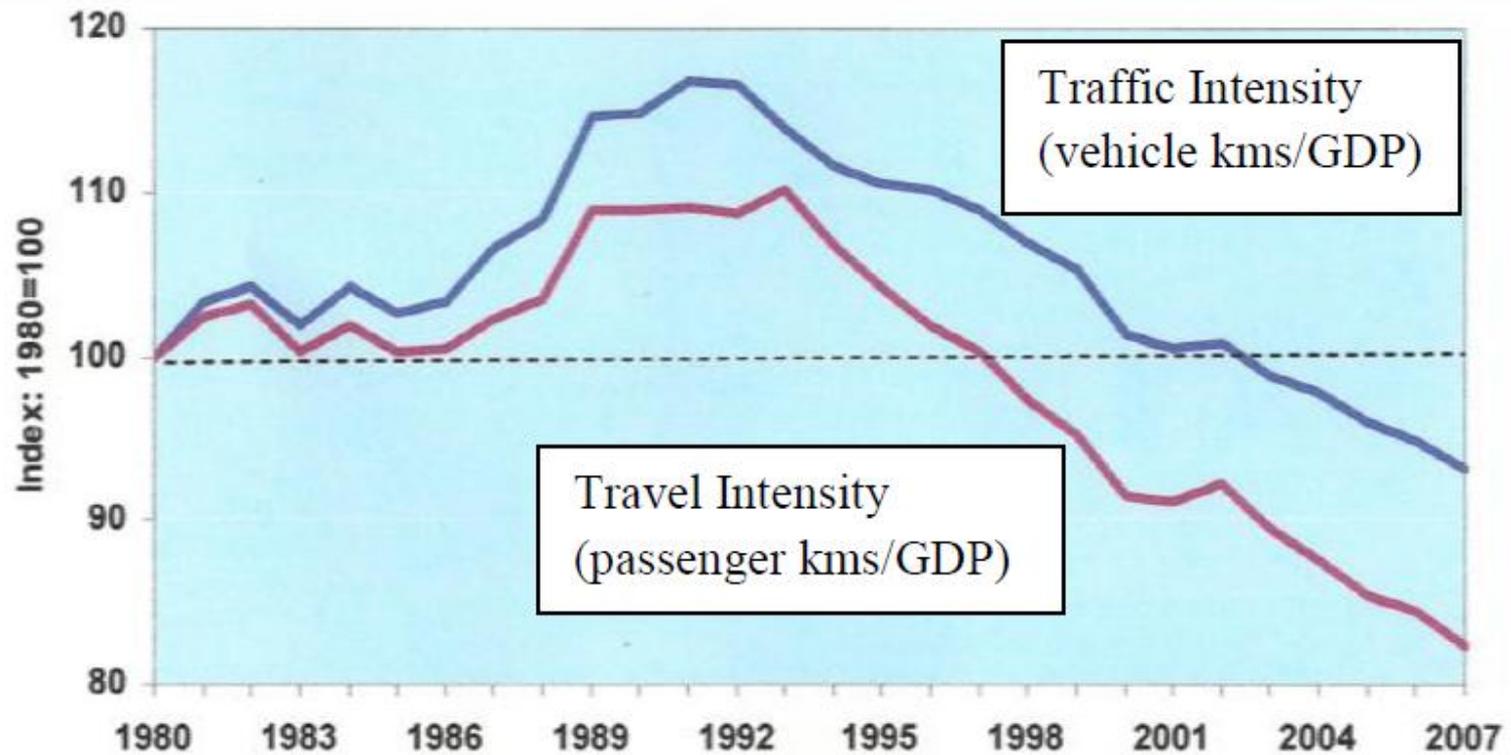
1973 DfT/TRL Car traffic forecast to 2010



This approach was abandoned in late 1980s, since then forecasts consistently overestimated (for different right reasons?)

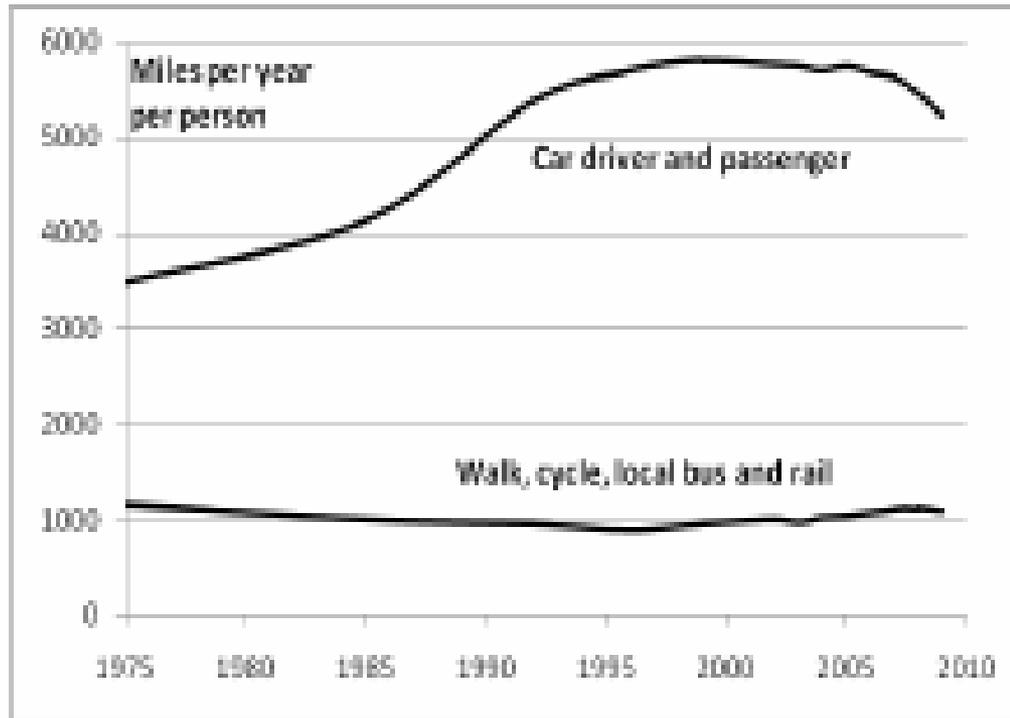


Revival of interest - discovery by 2007 of change in relationship between mobility and income around 1992-4, little noticed



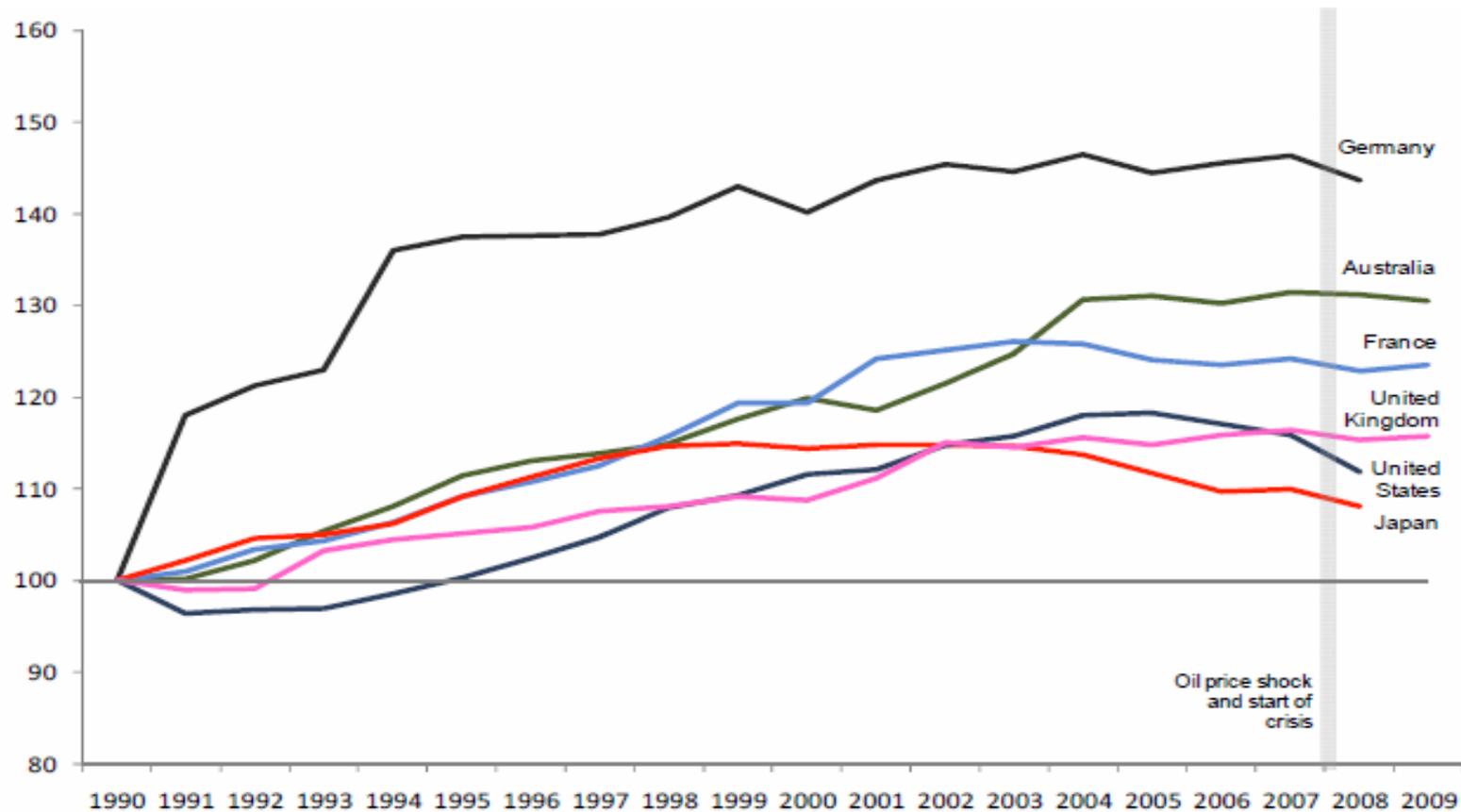
By 2010 clear that something important was happening

After decades of growth, car use levelled off and declined



The influence of a familiar diagram: 'it's not only us – maybe it's real'

Private Car Use 1990-2009 for six, similar in 24



Modelling Saturation in car use is OLD and continuing tradition

- Tanner, Tulpule etc in the 1970s – establishing the saturation level was the first step in calculating a trajectory towards it. Peak car taken as axiomatic
- Zahavi (1974), then later Schaeffer and Victor (2000) and Metz (2010) – a stable travel time budget implies peaking of car use
- The idea of a saturation level in the distant future is easier to accept than the idea that it is here already

Explanations – do ‘travel time budgets’ help?

- **Metz:** Destinations increase with speed², but the more distance has diminishing marginal utility. Total *travel time is stable*, income becomes redundant. So total distance (and car distance) saturates.

(we have reached peak now, but *decline* is due to economy)

Schaeffer and Victor:

Strong elasticity of distance wrt income, but *travel time is stable*. So higher income drives to faster modes – total distance goes on increasing, but slow modes (inc. car) replaced by air.

(predicted maximum US car use by 2010, and absolute decline in OECD countries)

Explanations – do ‘Structural Change in Relationships’ help?

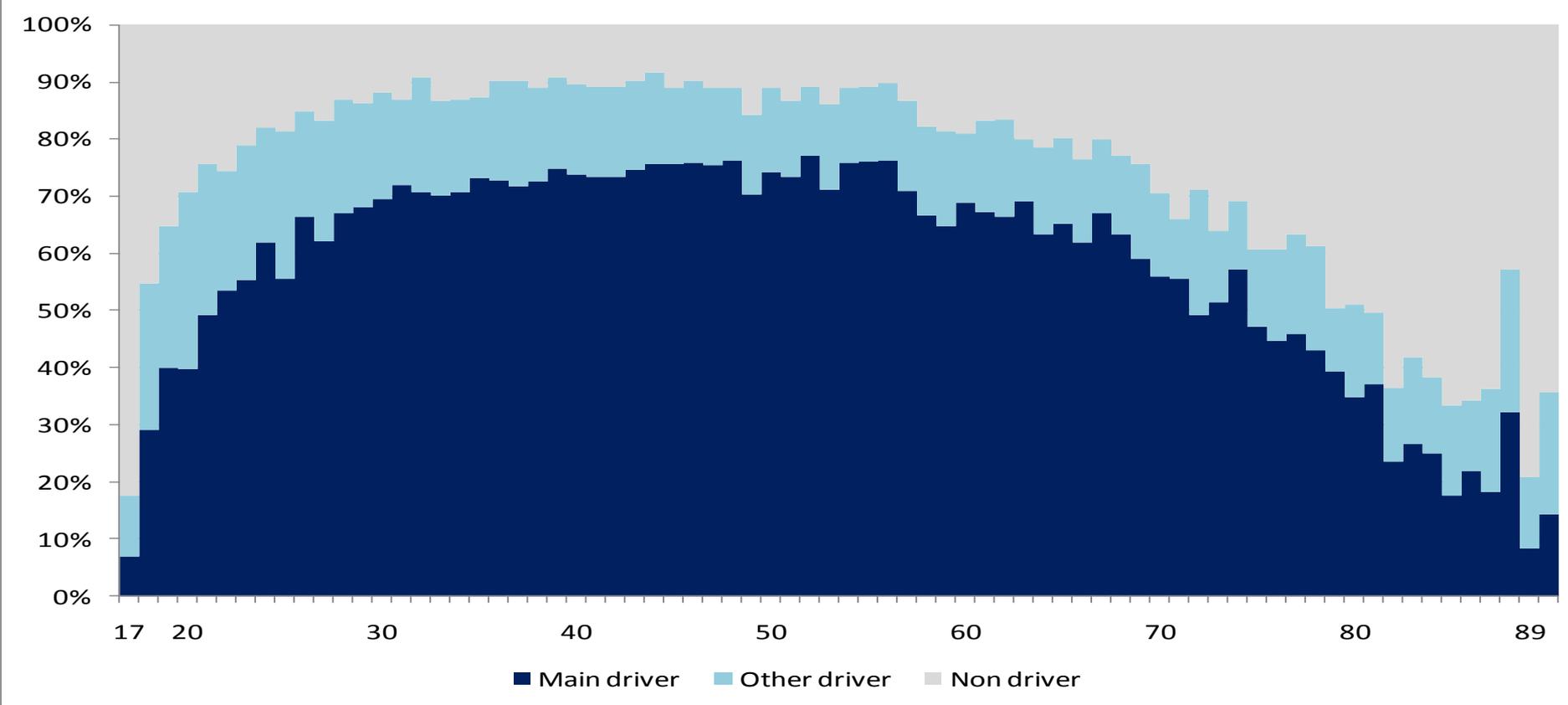
Axiom: if there is an important *structural change* in form and content of demand relationships, forecasting models need to reflect that directly in their variables and functional forms.

Empirical focus on:

- *Age/Cohort* effects
- Decoupling or reversal of *income* effect
- *Urban* policy impacts moderated by *density* and *life cycle* transitions
- Mobile internet and *e-activities*

Access to a car by age – Men 1988-95 1995-01 2002-08

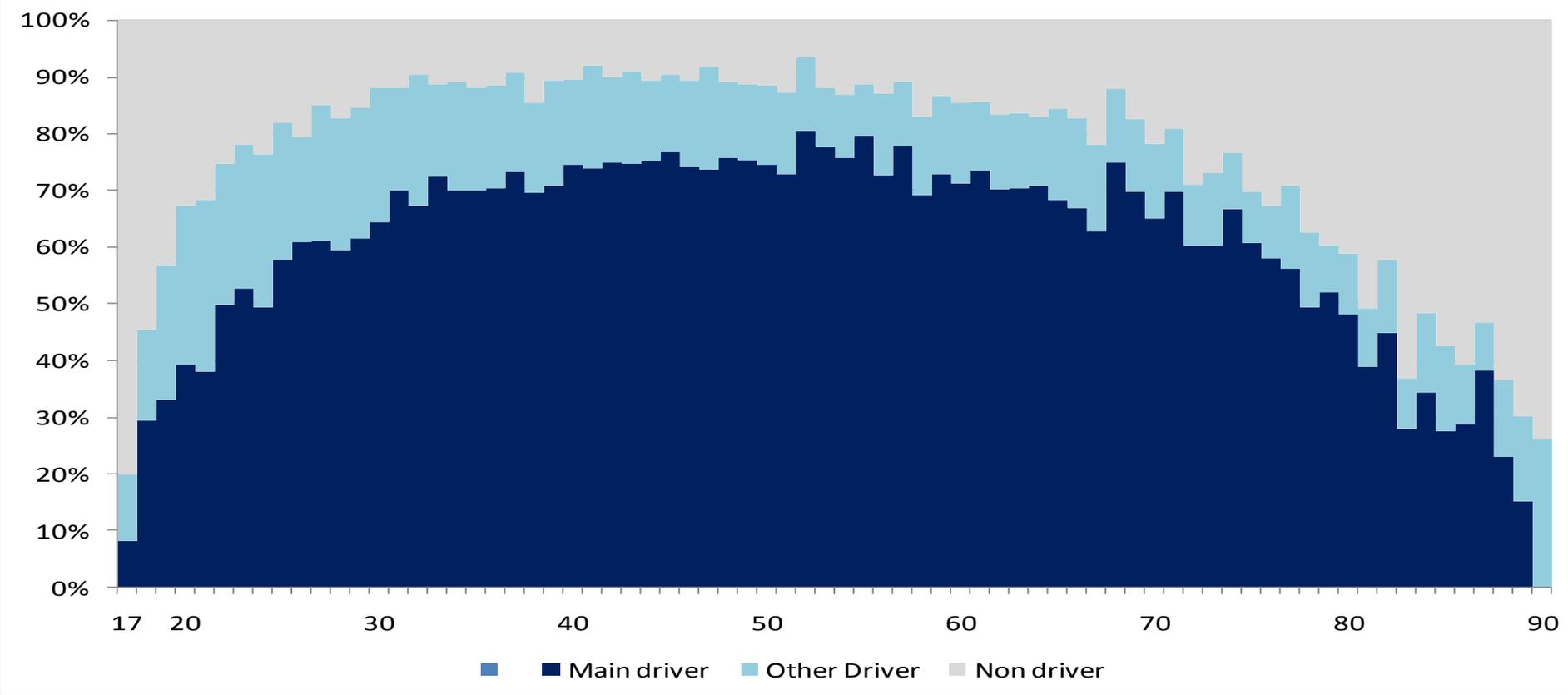
Access to a car from 17 to 90 - Males (1988-1995)



- Fast take up from age 17
- Decline after age 50

Access to a car by age – Men 1988-95 1995-01 2002-08

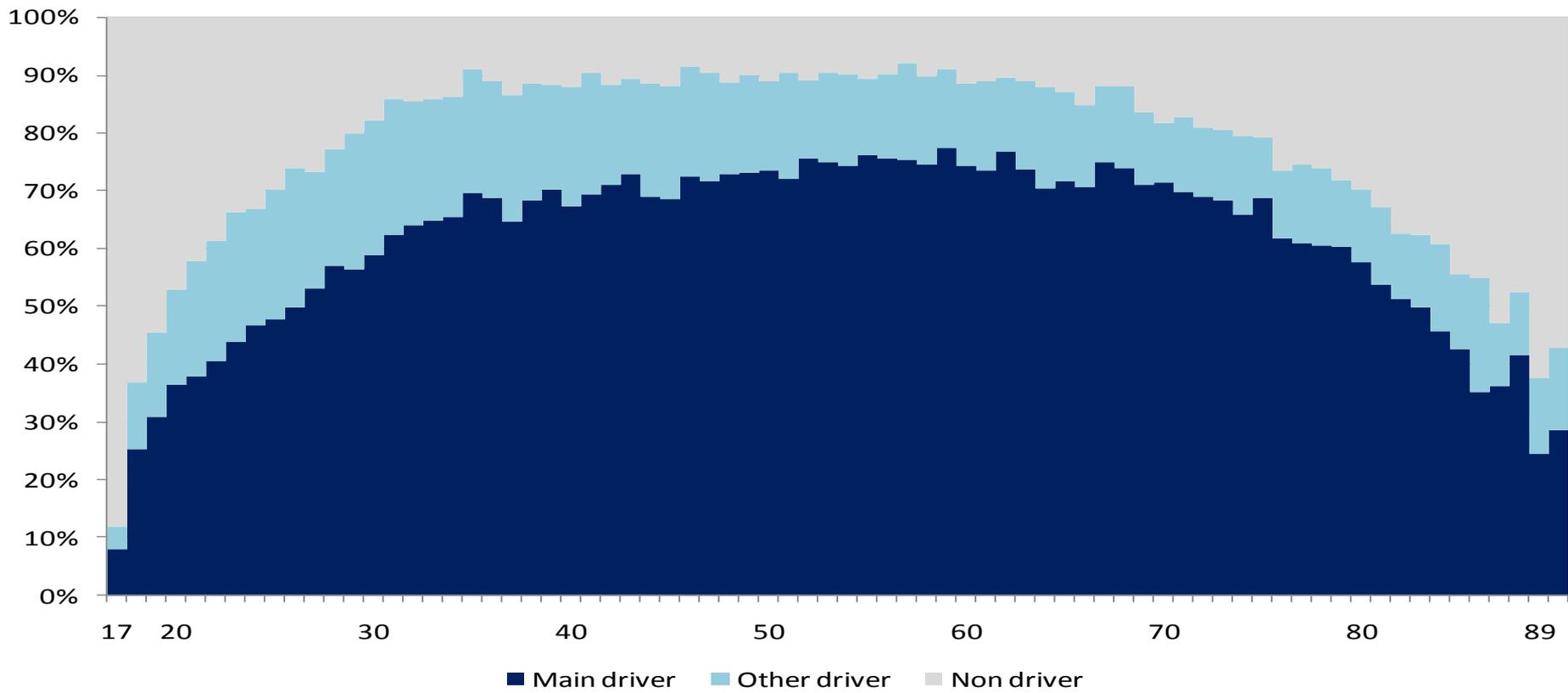
Access to a car from 17 to 90 - Males (1995-2001)



- Slightly slower rise
- 'peak' remains to late 50s

Access to a car by age – Men 1988-95 1995-01 2002-08

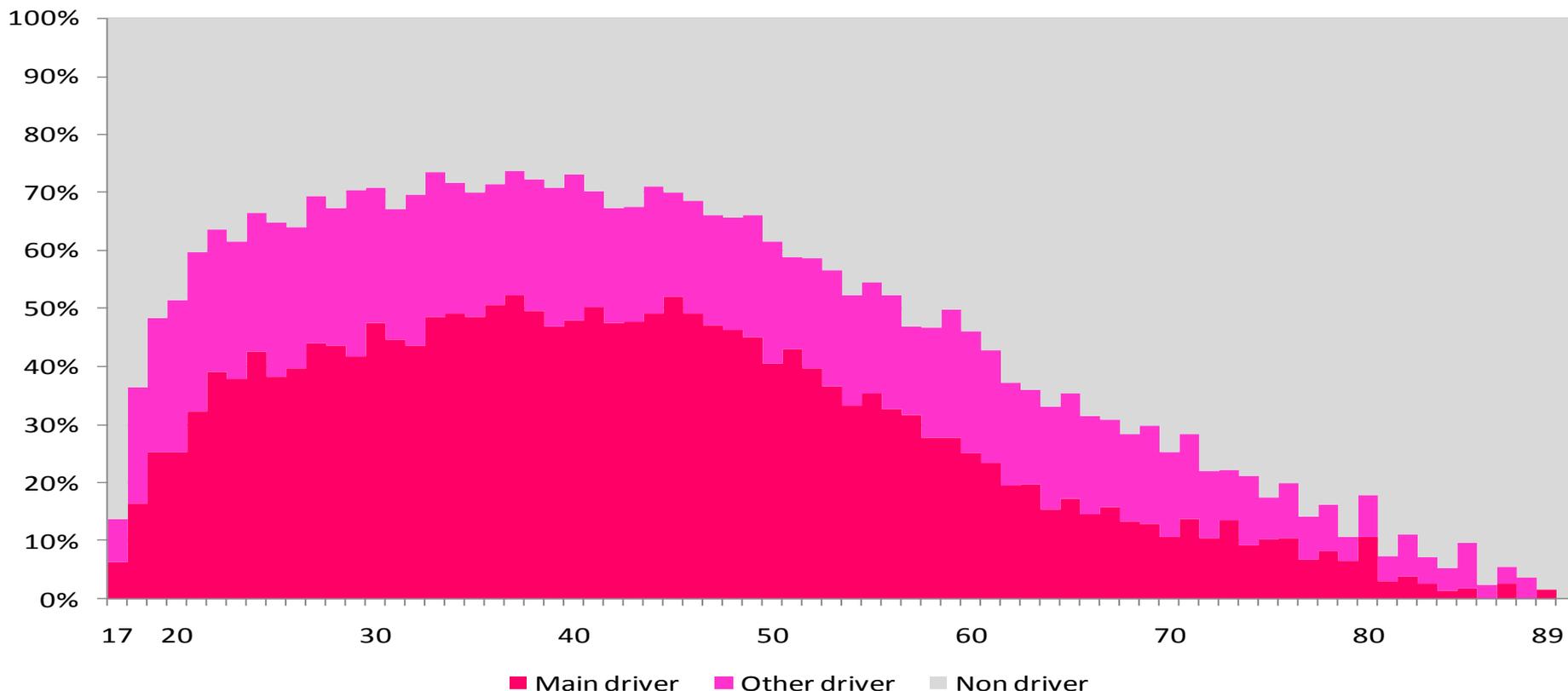
Access to a car from 17 to 90 - Males (2002-2008)



- Markedly slower rise
- 'peak' to mid 60s
- Bigger % with car at 90 than at 18

Access to a car by age – Women 1988-95 1995-01 2002-08

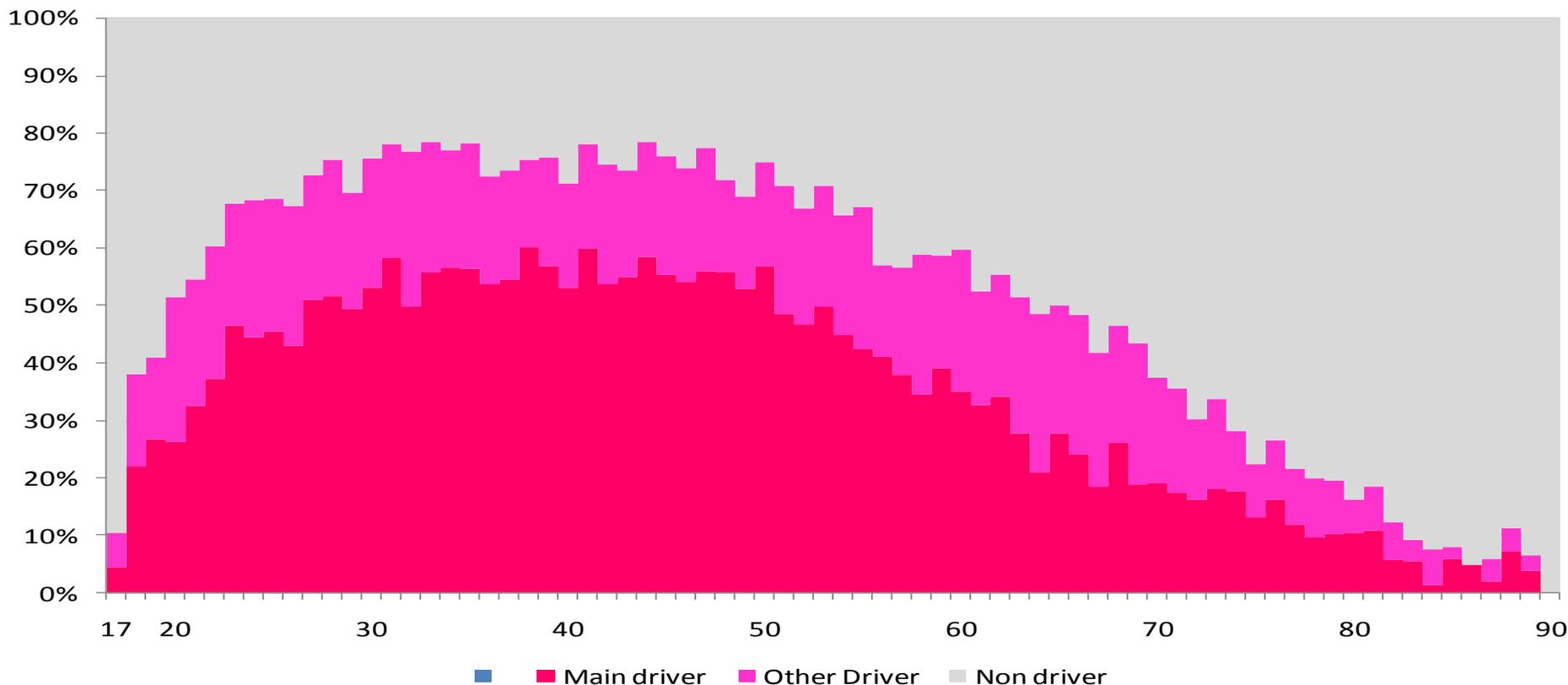
Access to a car from 17 to 90 - Females (1988-1995)



- Much lower than for men
- Tail off from about 45

Access to a car by age – Women 1988-95 1995-01 2002-08

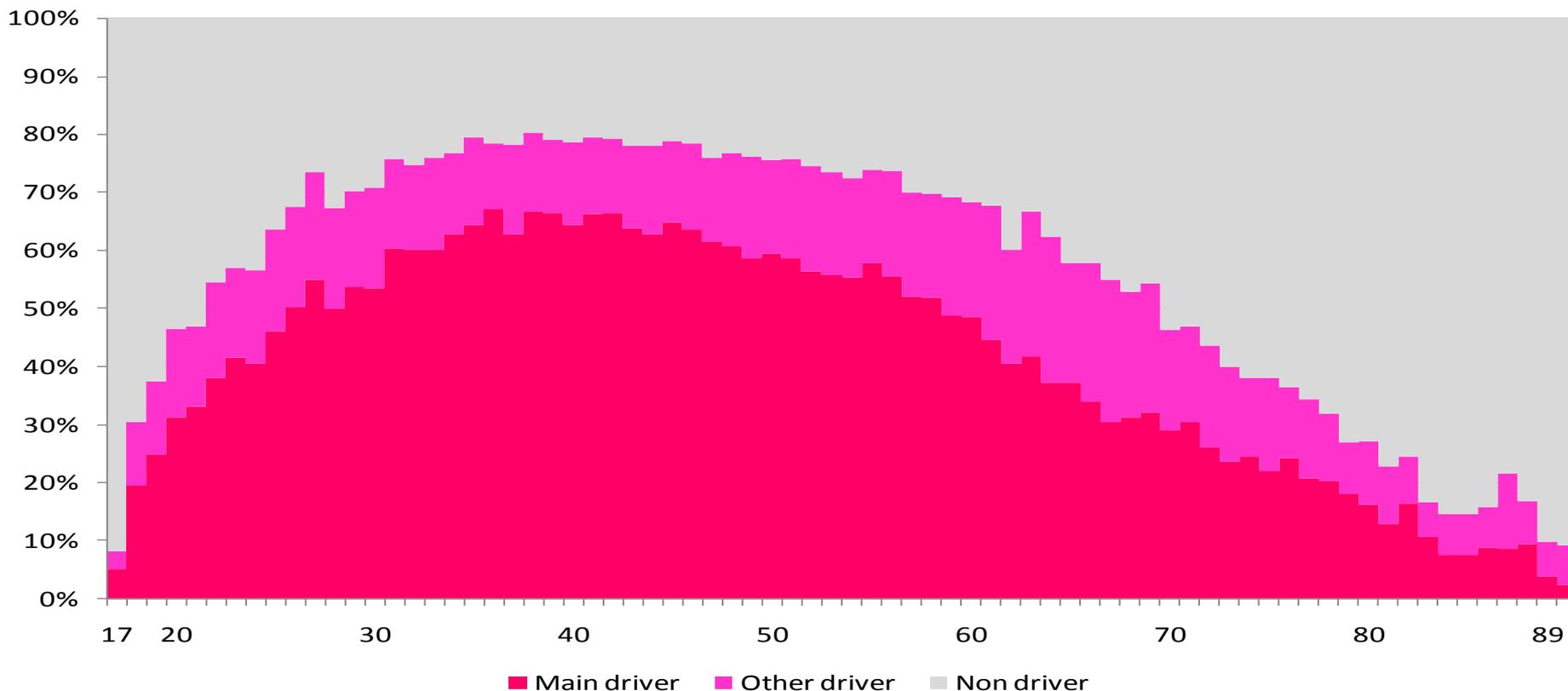
Access to a car from 17 to 90 - Females (1995-2001)



- Similar profile bit to higher peak level

Access to a car by age – Women 1988-95 1995-01 2002-08

Access to a car from 17 to 90 - Females (2002-2008)



- Peak close to that for males
- Lengthening of peak level

Non Transport Trends

- Rise of mobile computing
- Cultural and attitudinal changes
- Health, environment as motivations
- Demographic changes – aging population, more single person households, later birth age, young and also ‘empty nesters’ going back to city, richer urban ‘tourists’ taking over villages...
- Changes in **images** of contemporary life

Urban Policy/Density/Transitions

Rich, economically successful cities with high incomes and growing population – greatest reduction in car use (London – similar trends to cities like Munich, Freiburg, Paris, Strasbourg...)

Also reductions in medium size towns especially English 'sustainable travel towns' 2004-8 , and lower car use in high density new urban developments.

Behaviour change builds up over time triggered by life events – same profile as time-dependent lagged elasticities

So not *only* because of economic pressure – **Policy** effects?

~~The~~ An official UK view

The main basic drivers of growth in car use – income, prices, population - have not changed; when the economy gets right car use will grow again – at a declining rate but more or less in proportion to population throughout the forecasting period of 30 + years.

Part 2: Policy implications

- The effects of policy on trends
- Road construction and finance
- Tax revenue and the environment
- Robustness to alternative futures
- Demand management

1. Policy does have an effect

- Some evidence that the cumulative effects of policies to discourage car use and encourage walk/cycle/public transport have **bigger impacts** on car use, over several years, than conventional (non-dynamic) elasticities.
- The **empirical evidence base is now very strong** but not well enough known: better public transport, traffic restraint, parking, charging, pedestrianisation, cycling, ‘smarter choices’, low-car redevelopment in brown-field sites...

2. Road construction and finance

- Design and building of major infrastructure, especially new and expanded roads, may be too big, in the wrong time, at the wrong place...
- And where these are funded by **private finance** with **public guarantees** there is a big problem of the fair allocation of downside risk

3. Tax revenue and environment

- There is a major **problem** of the long term buoyancy of tax revenue from the transport sector. System-wide road pricing as a medium term measure but even that will not solve the long term.
- **BUT** there is a major **advantage** in terms of environmental damage, quality of life, health etc, as initiatives which 'go with the grain' of trends have less resistance and more effect

4. Robustness to alternative futures

- ‘Peak car’ is *possible but not certain*;
the propositions are *contested not consensus*;
and the arguments are *not yet resolved*.
- Therefore problem of project and policy appraisal
– what initiatives are **robust** to different futures?
(For example, expansion of **public transport** is
necessary, but for different reasons, both if car
use trend is increasing or reducing)

Demand management

- Consider demand management (by pricing or 'soft' measures): if car use growth continues, this policy is vital, for environment and economic efficiency.
- But if car use stabilises or reduces, the balance may shift: it will still be important to deliver mobility and access to activities and products. So we will still need demand policies but a different focus