
(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?)
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 speed$^2$, but the more distance has diminishing marginal utility. Total *travel time is stable*, income becomes redundant. So total distance (and car distance) saturates.

- **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.

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

(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 \textit{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:
- \textit{Age/Cohort} effects
- Decoupling or reversal of \textit{income} effect
- \textit{Urban} policy impacts moderated by \textit{density} and \textit{life cycle} transitions
- Mobile internet and \textit{e-activities}
Access to a car by age – Men 1988-95 1995-01 2002-08

- Fast take up from age 17
- Decline after age 50
Access to a car by age – Men 1988-95 1995-01 2002-08

- Slightly slower rise
- ‘peak’ remains to late 50s
Access to a car by age – Men 1988-95 1995-01 2002-08

- Markedly slower rise
- ‘peak’ to mid 60s
- Bigger % with car at 90 than at 18
• Much lower than for men
• Tail off from about 45
Access to a car by age – Women 1988-95 1995-01 2002-08

- Similar profile bit to higher peak level
Access to a car by age – Women 1988-95 1995-01 2002-08

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

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