Guidance for
Transport Planning and Policymaking in the Face of an Uncertain Future

Professor Glenn Lyons, UWE Bristol
Glenn.Lyons@uwe.ac.uk
Making sense of supply and demand
Decision making support

Forecasting
Options
Modelling
Appraisal
Guidance
Givens of automobility?

Car traffic keeps on growing

You can’t have economic growth without traffic growth
‘Peak car’ and ‘decoupling’

Cars and Taxis – change in total distance driven in Great Britain per year over time

Source: National Road Traffic Survey, Department for Transport – Chart TRA0201a
In New Zealand the traffic intensity of economic activity has been reducing.
The motor age and the digital age collide and merge
Driver-less

Futures

Drive-less
Mobility in transition
“Uncertainty is an uncomfortable position. But certainty is an absurd one.”

Voltaire, 1694-1778
Outlooks

Predictable
Probable
Plausible
Possible
Presumed
Preferable
Practical
Forecasting

Traffic growth by scenario (billion miles, all vehicles)

Source: Department for Transport 2015 Road Traffic Forecasts for England
“Uncertainty in the model can result from three key sources:
• Forecasts of key inputs, such as the forecasts of GDP, fuel prices and population
• The relationship between these key drivers and traffic demand.
• The emergence of new factors which affect travel behaviour”

“Clearly forecasts of the inputs are very uncertain”

“there is still much uncertainty around travel behaviour”

“when controlling for errors in the economic and demographic inputs, the model was able to predict reasonably well the period of flat growth”
Scenario Planning

Accessibility preference

Relative cost of energy

high

low

virtual

physical

Global Locals

Co-operative and Close

3%

53%

25%

35%

Percentage change in total distance travelled by car from 2014 to 2042

Travellers’ Paradise

Digital Decadence

Percentage change in total distance travelled by car from 2014 to 2042
Relative plausibility

Accessibility preference
- Co-operative and Close
  - high: 27%
  - low: 20%
- Global Locals
  - high: 29%
  - low: 23%

Relative cost of energy
- Virtual
  - high: 35%
  - low: 25%
- Physical
  - high: 3%
  - low: 53%

Percentage change in total distance travelled by car from 2014 to 2042
Beware biases

Cognitive fluency

Confirmation bias
Change - Flexibility - Accessibility - Responsibility - Technology - People
Spatial Proximity

Accessibility

Transport System

Physical Mobility

Digital Connectivity

Telecommunications System

Land Use System

Triple Access
Which path-way are we on?
Which path-way is desirable and achievable?
“Regime-Compliant”

“Regime-Testing”
Dominant preconceptions of actors
predicted, presumed and practical
outlooks

Dominant preconceptions of actors
plausible and preferred
outlooks
Transport-economy coupling
transport as a principal enabler and consequence of economic prosperity

Access-economy coupling
multiple enablers of economic, social and environmental prosperity

Sustainability

Society

Environment

Economy
Weak planning
emphasis on extrapolated future with limited appetite to deviate

Strong planning
emphasis on better future with willingness to entertain and be an agent of potential change
Concealed uncertainty
misplaced confidence in and reliance on historic cause-effect relations and forward assumptions

Exposed uncertainty
lack of confidence in historic cause-effect relations with an acknowledged need to accommodate unknowns into decision making
Justified decisions
information sought to legitimise decisions

Guided decisions
information sought to explore different decisions and policy paths

“TAK E IT  LEAVE IT”

“I‘M S ORRY. WHAT OTHER OPTIONS ARE THERE?”

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http://www.shirleykauffmantherapy.com/userfiles/7761/image/cartoon_on_change2.jpg
Cost-Benefit Analysis
predicted assessment of a one-shot long-term decision

Real Options Analysis
assessment of plausible policy pathways
Predict and provide reactive policymaking vulnerable to policy failure due to unanticipated change

Decide and provide proactive policymaking that helps guard against policy failure through adaptability to unanticipated change

Everyone here has the sense that right now is one of those moments when we are influencing the future.

~ Steve Jobs
Regime compliance dominates
Accountability versus responsibility
Concerns over professional impotence
Strong appetite for regime-testing
Insights from the transport profession - uncertainty

• A collective voice of rather deep uncertainty about the future

• Giving a voice to different generations helps to guard against decision bias (cognitive fluency and confirmation bias)

• A sense of professional impotence arises from being on the back foot, lacking a national transport strategy and a lack of skills within the profession to confront the uncertainty faced

Professional Comfort Formula

\[ C_{psdf} \propto \frac{1}{C_{pfdj}} \]

- \( C_{psdf} \): plausibility of significantly different futures
- \( C_{pfdj} \): processes followed in the day job
• Election imperatives, fashionable ideas and reactive funding stand in the way of a professional approach to long-term planning and a strategy to deliver outcomes

• The transport sector is subject to vested interests, risk aversion and a ‘rearview mirror’ mentality that results in inertia to change
Insights from the transport profession - which policy and investment pathway?

- A strong call from transport professionals for change from our current approach of regime compliance

- Familiarity with tried and tested approaches, existing skillsets and resource constraints contribute to its continued prevalence

- We have seen responsibility eroded in place of a growing culture of accountability

- In terms of pragmatism and fitness for purpose, some combination of regime-compliance and regime-testing is called for

We are accountable to the dogma and procedures of regime compliance instead of responsible for stewardship of the future through regime testing
Insights from the transport profession - engagement

• A need for further events that can foster collaborative exchange of thinking and help individuals to learn and develop – across professions and including decision makers

• Silent support is overshadowed by vocal opposition – more creative approaches to public engagement are called for

A need for public engagement to replace the vocal minority of usual suspects in consultation
I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail.

Abraham Maslow, 1966

Wicked problems call for interdisciplinary, collaborative approaches amongst analysts.
Summary

• Transport analysis concerns the transport system and the behaviour of its users
• Yet the behaviour of analysts themselves and the system of decision making in which they operate are key
• Faced with deep uncertainty, attitudes and behaviours of analysts and the pathway of policymaking need to change
• Analysis must focus upon accessibility not (only) mobility
• Embracing uncertainty is an opportunity to take greater responsibility over shaping the future
• To do so requires our own limitations to be acknowledged and overcome through interdisciplinary collaboration
Further reading

