

Transport Planning: Turning the Process on its Head

From 'Predict and Provide' to Vision and Validate'

Peter Jones

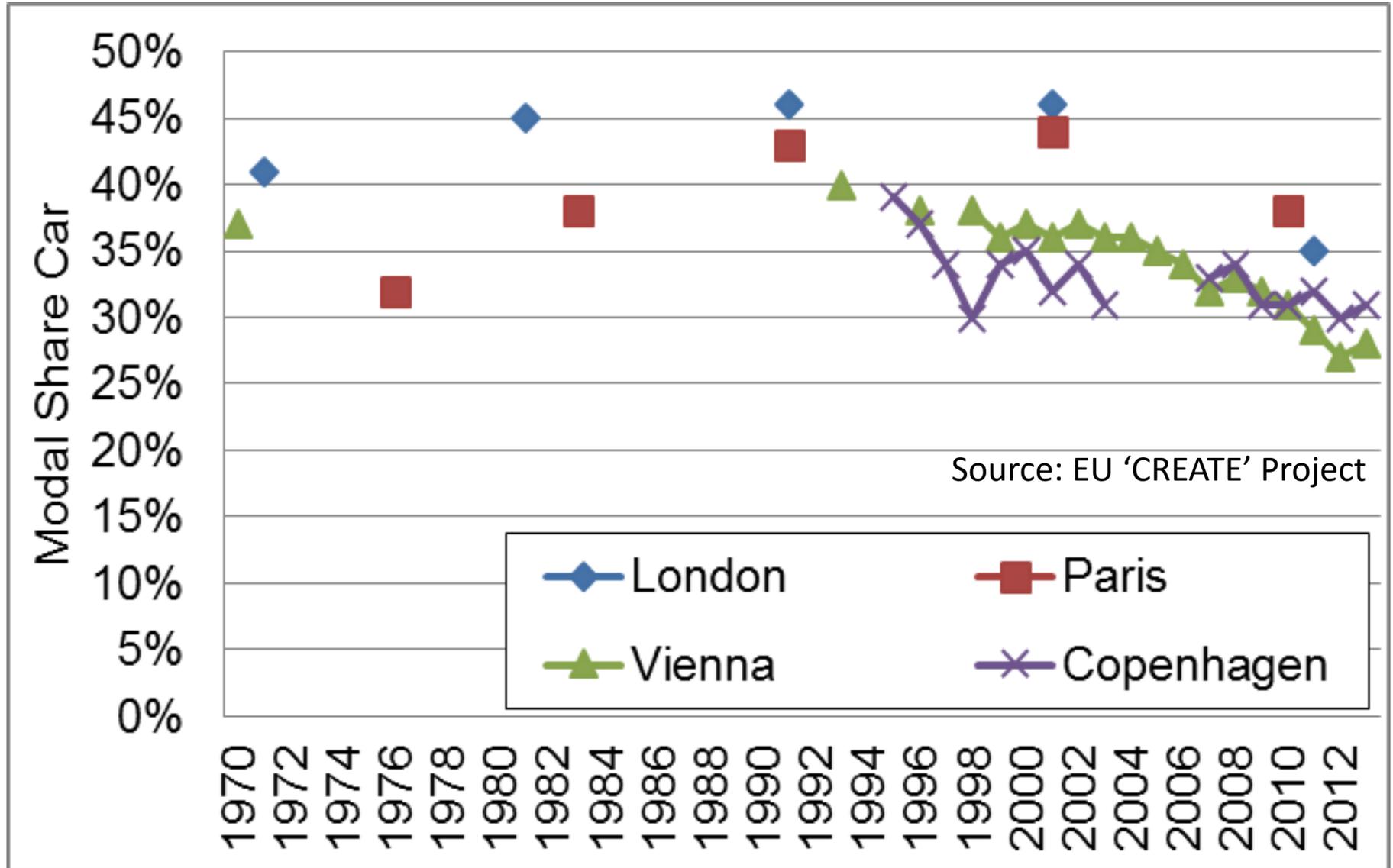
Centre for Transport Studies, UCL

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Overview

- Historically have attempted to predict future conditions and then provide transport measures and infrastructure to meet anticipated demand – ‘predict and provide’
- Increasingly this is questioned, due to seemingly greater uncertainty, BUT at same time a growing awareness that cities can INFLUENCE future
- UK city regions developing comprehensive visions – paper proposes that we should start with these outcomes and then see what types of investments can be justified to support them – ‘vision and validate’

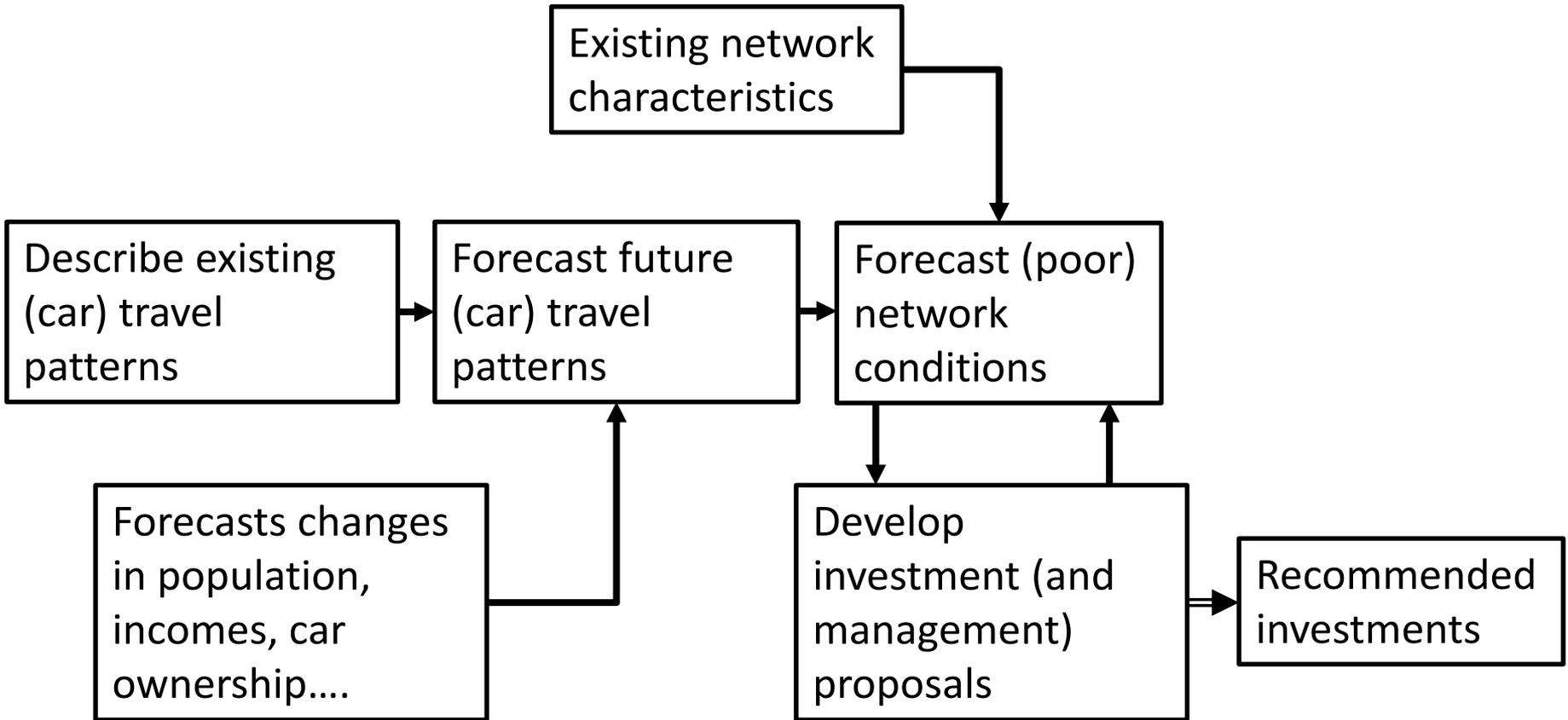
'Peak car' in Western European Cities



'Predict and Provide'

- Can be traced back to 1960s Urban Land Use/ Transportation Studies:
 - Forecast likely growth in car ownership and use
 - Demonstrate inability of existing road networks to cope with this increased demand
 - Propose major road building to avoid extreme congestion and gridlock (maybe with demand management)
 - Iterate until major problems addressed (or budget/political limits reached)

Simplified Description of 'P&P' Process



Emerging Issues - 1

- In larger cities found that could not build enough roads to avoid heavy congestion if cars freely used
- New emphasis on modal shift and improving public transport ('carrot and stick')
- But still based on forecasting the future and providing for this – so very difficult to predict trend breaks
- Better at forecasting negative externalities than positives (e.g. improved health)

Emerging Issues - 2

- Increasingly transport seem as contributing major benefits to other sectors
- Over time, unreliability of forecasts have become apparent – both road and rail
- Growing awareness of ‘uncertainty’ issues, due to global volatility (e.g. oil prices) and technological advances (e.g. automated vehicles)

Government forecasts vs actual road traffic

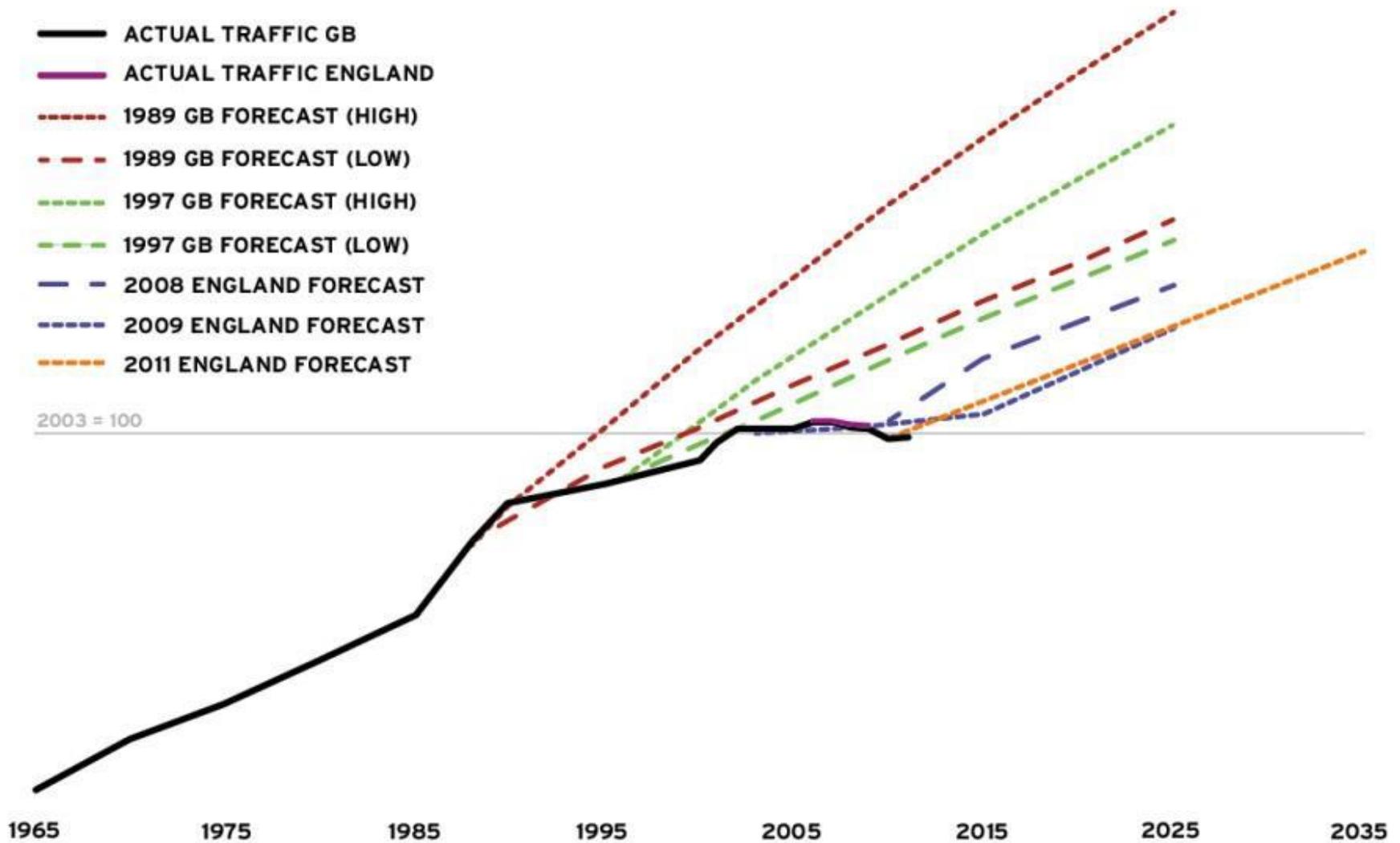
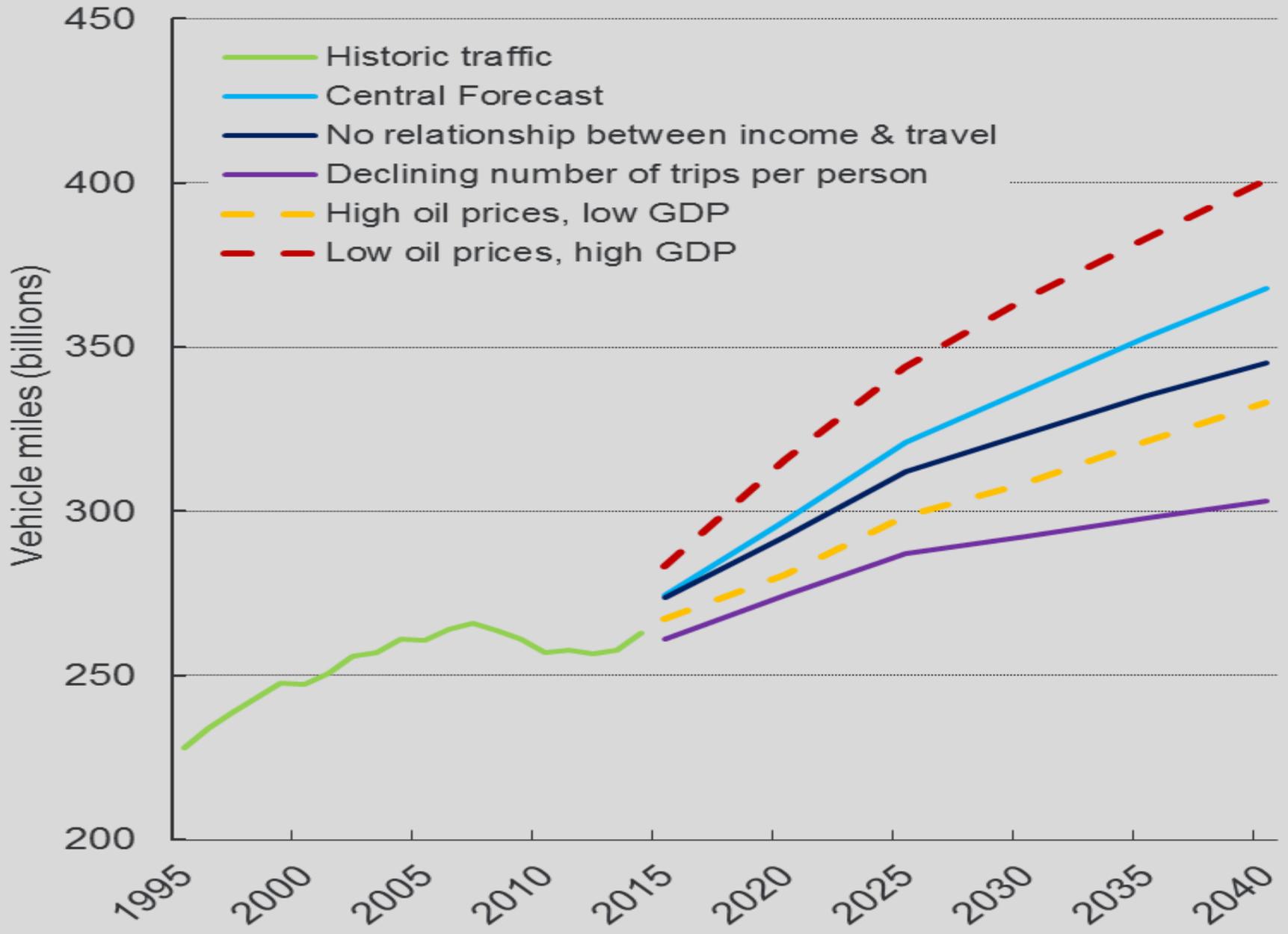


Chart first published in 'Due Diligence, Traffic Forecasts, and the Pension Infrastructure Programme' by Phil Goodwin, Local Transport Today, 13.4.2012
Source data calculated by Mitchell, Stokes, Goodwin, IAM Motoring Facts, from DfT original sources.

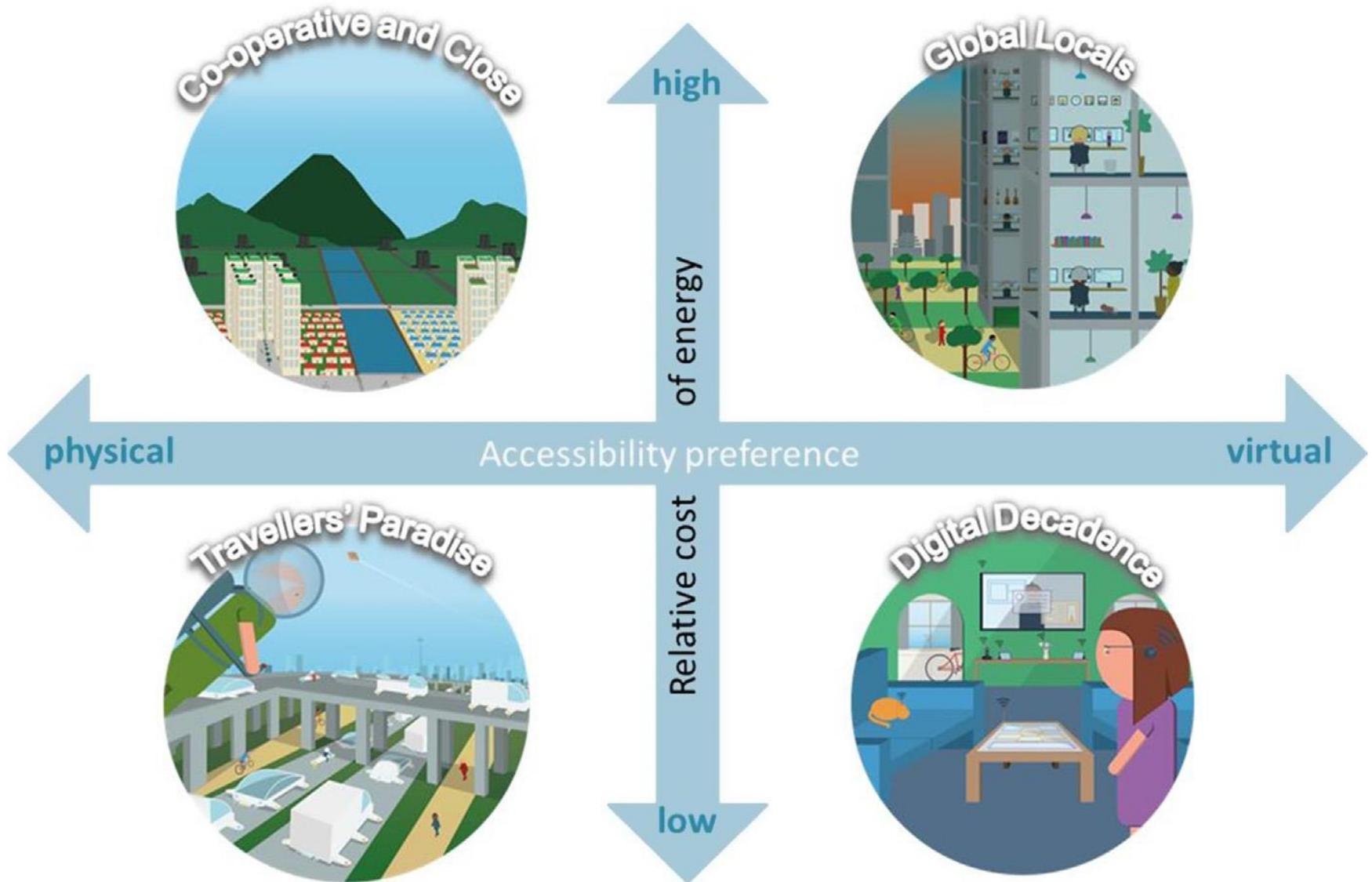
Responses to this Problem

- Development of '**scenarios**', based on varying assumptions about changes in 'drivers of demand' (incomes, fuel prices, etc.)
- Emergence of '**backcasting**' techniques: given a goal or target (e.g. X% CO₂ reduction), how do we get from 'there' back to 'here', through measures to achieve desired behaviour change?

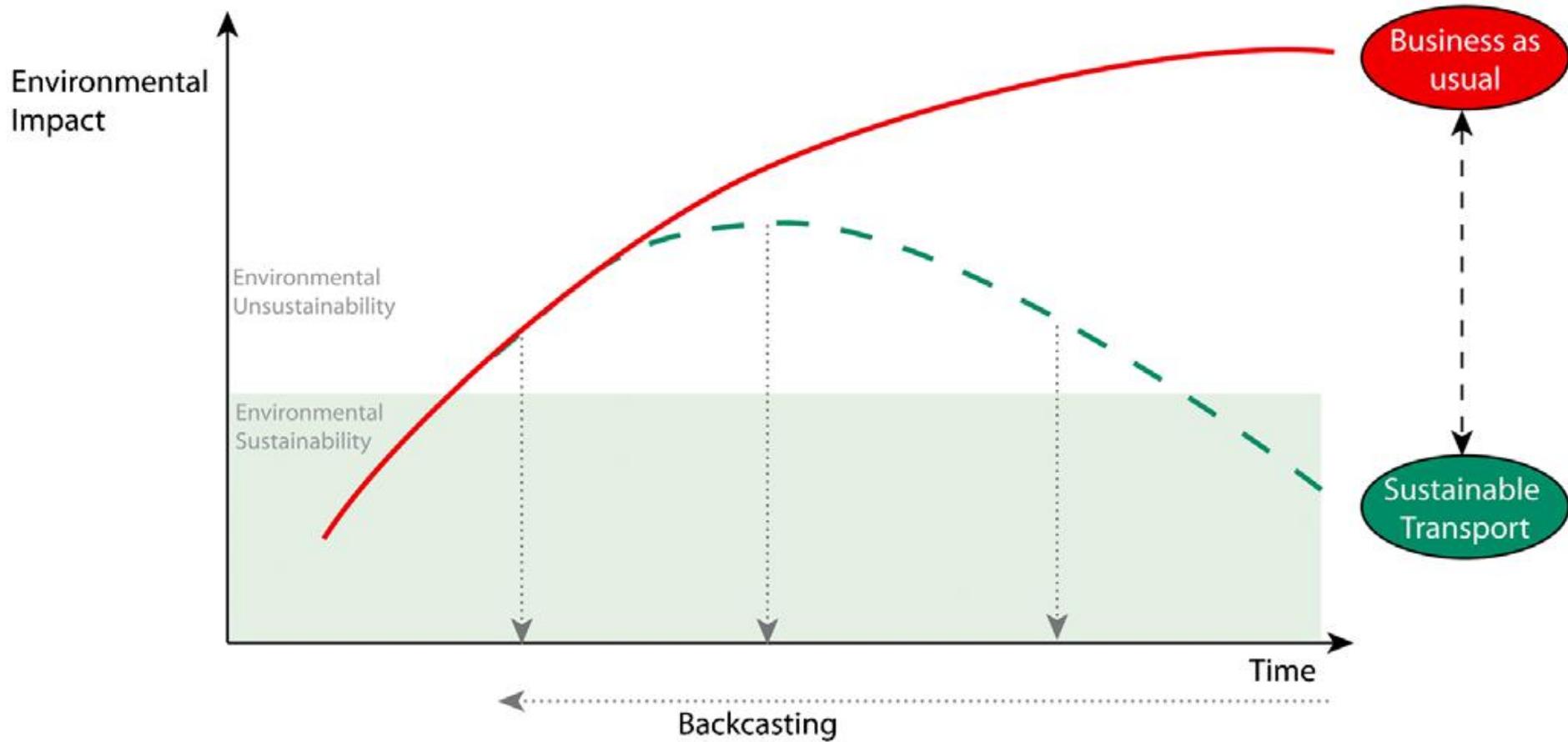
Road Traffic Forecast Scenarios 2015



Variant: NZ scenario set 2042 (Lyons and Davidson, 2016)

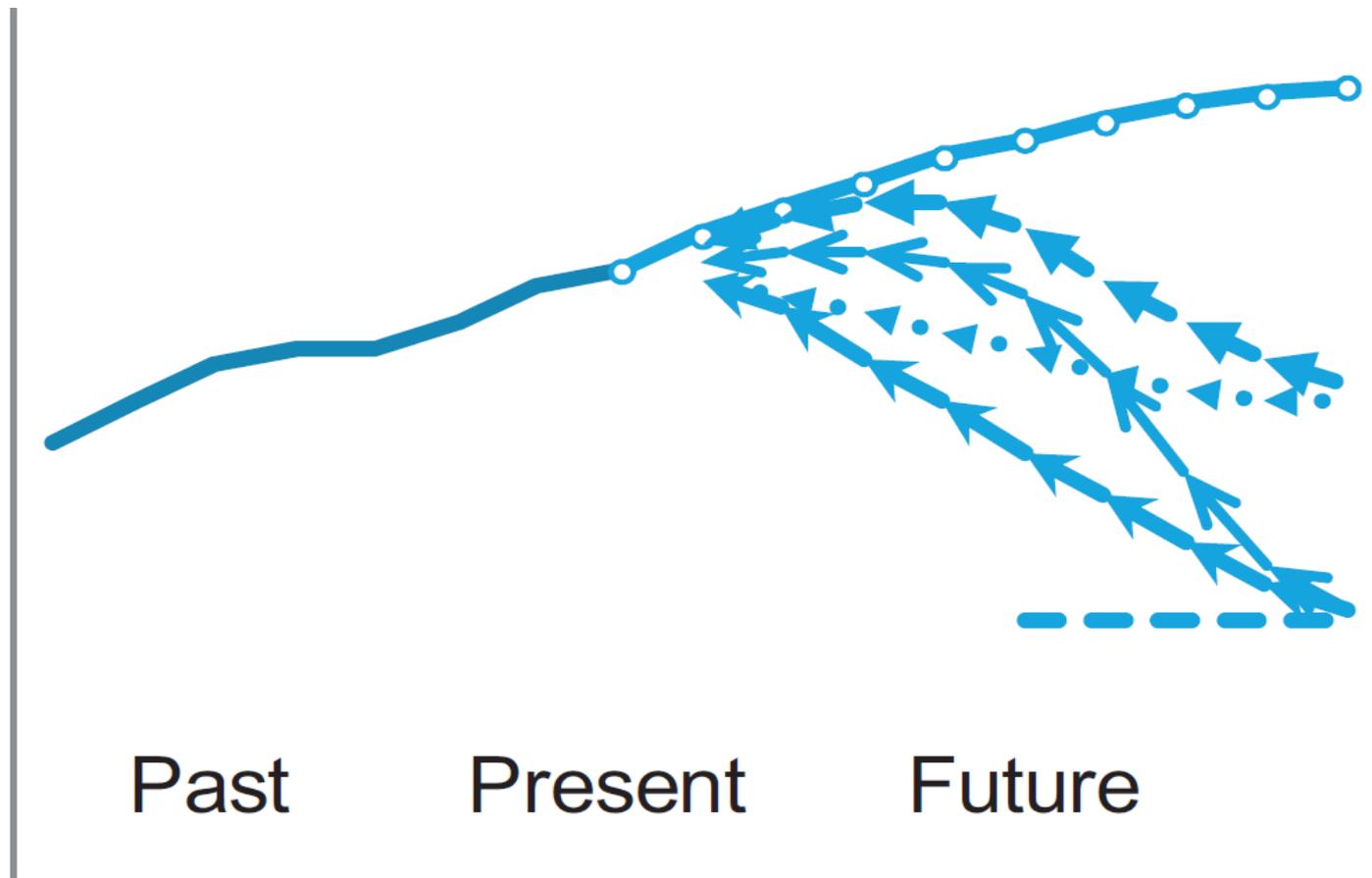


Backcasting (Banister & Hickman, 2013)



Variant: Scenarios + Backcasting

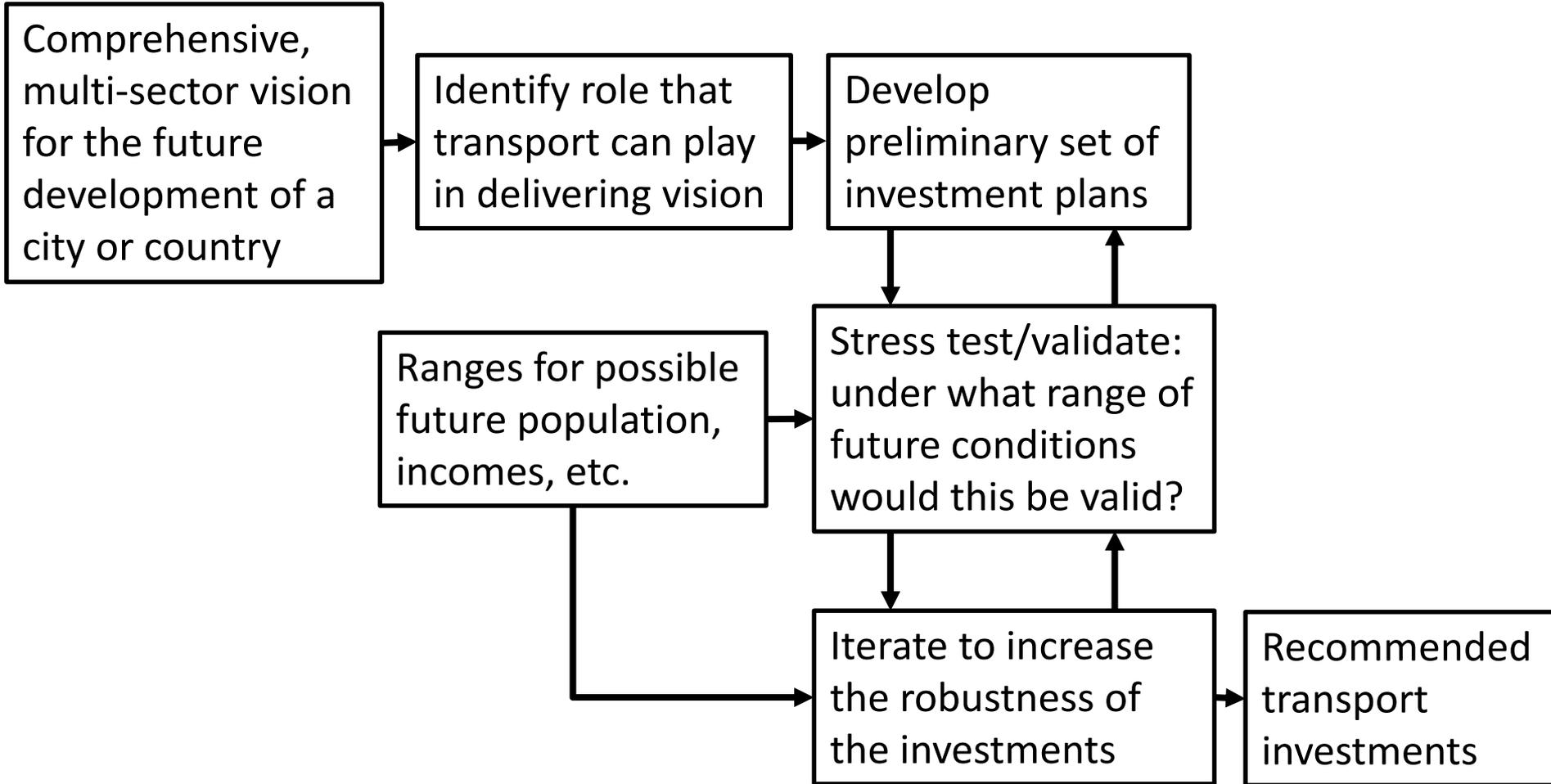
'Pluralistic backcasting (Tuominen *et al*, 2014)



Proposal: 'Vision and Validation'

- Develop comprehensive future city/country vision
- Identify what role transport should contribute to delivering the vision: major investments - plus (more flexible) pricing and regulatory measures
- Determine under what future set of conditions this major investment would have proved to have provided good value for money
- See if the programme can be tweaked to increase robustness – Real Options Analysis

Simplified Description of 'V&V' Process



But, would this work?

- Many core cities have developed multi-sector visions; also some nations - the 'Wales we want national conversation'
- Now have much better understanding of how transport contributes to meeting other sectors' objectives
- Much easier to identify ranges of possible values of drivers of demand than forecast one set
- Multi-sector approach also generally strengthens case for transport investment
- More challenging for 'siloed' central government

Redefining 'forecasting'

- Forecasting is no longer about second-guessing the future, but about assessing under what range of futures the proposed policy/investment would be valid – helping to optimise the investment package

Thank you!

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