

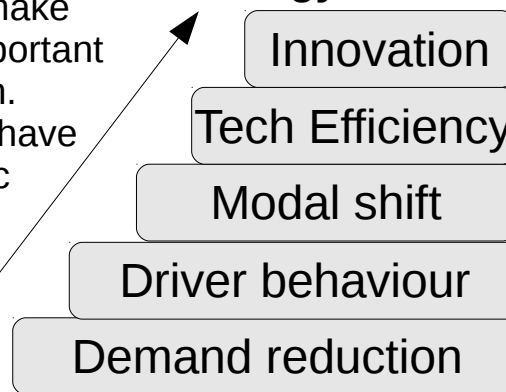
Estimating energy use in transport from travel surveys: current techniques and future prospects

Introduction

Fossil fuel depletion and environmental imperatives make **energy use** increasingly important in transport policy evaluation. However, transport surveys have tended to focus on economic measures of success.

This research **proposal** will explore the extent to which national-level travel surveys take energy into account.

Steps on the 'energy hierarchy'



Question types

- R&D plans/portfolio
- Technology intentions
- Stated preferences
- Vehicle make/model
- Planned future models
- Modal split by trip type
- Mpg/Lpkm consumed
- Frequency of travel
- Time of day of travel
- Distance of travel
- Distance to amenities

Proposed methodology

International policy met-analysis, reviewing questions asked in national travel surveys.

Historical analysis will enable analysis of shifting attitudes towards energy in travel surveys over time.

Expert interviews will be used to elucidate extent to which energy information is collected from car companies and public transport network operators.

Exploration of links between survey questions and policy discourse.

Results from the UK's NTS

The UK's National Travel survey was used as a case study to test the method and provide a benchmark against which other surveys could be compared. Energy-related questions were asked on 3 levels:

Household (n. questions):

- N. of household vehicles by type
- Accessibility
- Quality of infrastructure

Individual-level questions

- Mode, distance frequency
- Work at home

Vehicle-level questions

- Vehicle age, tax band, engine
- Mileage

Preliminary recommendation: Energy-related questions **scattered** among wide range of variables at different levels are **synthesised**. More direct questions (e.g. fuel purchases) needed. Adopting **GPS, sensor and smart-phone technology**^{2,3} could provide much more detailed energy results. Institution-level questions needed.

