



Research and development of guidance

The Department has a programme of research work on modelling, appraisal and evaluation. The aim of this work is to support the continuing development of the New Approach To Appraisal by improving our advice on transport modelling and economic appraisal.

GB Freight Model - Upgrade report and user guide report

The GB Freight Model (GBFM) is a freight transport demand model developed by MDS-Transmodal and used by the DfT within the National Transport Model (NTM) framework.

Forecasting Travel Time Variability in Urban Areas

Recent years have seen a growing interest in monitoring travel time variability (TTV) on the highway network and developing methods to forecast TTV. These reports describe work being undertaken for the UK Department for Transport to develop methods for calculating and forecasting TTV using data collected from Global Positioning System (GPS) tracker-equipped vehicles.

Long Distance Modelling

Find out more on Long Distance Modelling.

Archived research documents - Integrated transport economics and appraisal

Reports and documents produced between the 1960s and 1990s which informed the production of the NATA guidance and continue to be referenced in the guidance today.

Valuing transport's impact on the natural landscape

The landscape impacts of transport schemes are assessed under the Department's New Approach to Appraisal (NATA) using a qualitative system known as the Environmental Capital Approach. This research project aims to estimate transferable monetary values for the impacts individual transport schemes have on the natural landscape in England using economic valuation techniques. The Phase 1 report and its annexes present the findings of the first of three phases of work.

The demand for cars and their attributes

Two studies looking at how the demand for new cars changes in response to the fixed and variable costs of motoring.

The impact of transport on business locations

The aim of this research was to gain a quantified understanding of business location, particularly the role of transport within this, and implement that understanding within a model that can be used for forecasting the number of jobs in each area of the country. A substantial part of the project was devoted to assembling time series data for the two case study areas, Milton Keynes and South and West Yorkshire.

Option Values, Non-Use Values and Transport Appraisal

This study looks at existing option values literature, considering the measurement issues and relates the literature to a particular transport case study.

Thames Gateway

The Government's policy in the Thames Gateway is to seek to create the conditions to achieve high levels of sustainable development of housing and employment within a framework of regenerated communities and broad-based urban renaissance.

Review of freight modelling

In September 2001, the Department commissioned a short research study to review the options for modelling and forecasting freight including those used in other countries in order to assess which techniques would be most suited in Great Britain.

Journey time variability

DfT define journey time variability (JTV) as unpredictable variation in journey times. Hence JTV is confined to random effects. It excludes predictable variation relating to varying levels of demand by time of day, day of week, and seasonal effects.

Variable demand modelling consultation advice background papers

Research has been undertaken to examine how the Guidance on Induced Traffic in DMRB 12.2.2 could be clarified and expanded.

Valuation of transport-related noise in Birmingham

This study uses economic valuation techniques to generate empirical estimates of the amount that households in Birmingham would be willing to pay to reduce their exposure to transport-related noise.

The costs and benefits of traffic policies which reduce noise exposure

Executive summary. This study evaluates the costs and benefits of traffic management policies which may reduce noise levels.

Integrated and local transport research

Roads and Road Traffic and Integrated and Local Transport.

Departure time choice

Departure time choice modelling is an important, and in practice too often ignored, element in the demand model process.

Strategic Environmental Assessment guidance: LTP pilot studies

The DfT has now published its SEA guidance for transport plans and programmes on the transport analysis guidance website www.webtag.org.uk. The pilot studies were used show how the guidance could be used for different aspects of the SEA process.

Wider economic benefits in transport appraisal

Wider economic benefits of transport derive from the indirect impacts transport can have on transport using markets which are not perfectly competitive. The possibility of including these impacts in appraisal was first considering in SACTRA (1999) and subsequently the Eddington Study (2006). This part of the website contains several discussion papers and research papers written either by the department or by academics and experts in this area of appraisal.

LASER 3.1 Update

LASER3.1 Update Report is about a study that the Department commissioned to Mott MacDonald (Motts) in 2005, to update the London and the South East Region (LASER 3.0) land use/ transport interaction model base year to Census 2001 and to carry out a number of model tests. The purpose of this project was to produce a present day model validation. Any model re-calibration was outside the scope of this work. The new model is referred to as LASER 3.1.

LASER report version 3.0 - Wider South East regional research study

Report on Workshop for Freight Modelling Research

Research project commissioned by English Heritage, Heritage Lottery Fund, Department of Culture, Media and Sports and Department for Transport to review the existing valuation studies concerned with the historic environment.

Use of Elasticity Models to Model Variable Demand: Review of TRL Work

This report is a review of TRL's Unpublished Project Report UPR/T/019/05 'Report of additional tests on VADMA advice'. That report covered two main areas of work: the impact of convergence on the calculation of economics benefits and various tests relating to fuel cost elasticities.

About multi-modal studies

The programme of Multi-Modal Studies arose from the Government's A New Deal for Trunk Roads in England (1998). This proposed studies to develop sustainable long-term solutions to problems identified on the road network.

Household location modelling

This research is about the development of a new model of individual and household changes and choices within a land-use/ transport interaction modelling structure. The overall structure is that of the DELTA modelling package developed by David Simmonds Consultancy from the mid-1990s onwards. The project was commissioned by the Department as part of longer-term research into the factors underlying the demand for transport and the consequences of transport change.

Report on workshop for Variable Demand Modelling: A new direction

This report documents the proceedings of the workshop held on 28th September 2006.

Published:

24 May 2007

Use of elasticity models to model variable demand (2 Mb)

Conclusions of work commissioned to establish how good elasticity models are in ranking competing/alternative scheme options in order of scheme benefits.

Published:

17 May 2007

Speed / Flow Relationships in Traffic Models (581 kb)

This report, prepared by The Denvil Coombe Practice, investigates the capabilities of transport modelling packages available in the UK to model speed/flow relationships specified separately by vehicle type.

Published:

15 March 2007

Transport and land use interaction in the context of road pricing: a discussion paper (302 kb)

This literature review by DfT summarises the relevant literature on the issue of transport and land use, in particular with regard to road pricing. Published in response to an FOI request.

Published:
15 March 2007

TEMPRO Planning Data Guidance Note

This report describes the processes and methodology involved in producing the TEMPRO policy-based planning data forecasts for version 5.

Published:
22 January 2007
Last update:
04 July 2008

Report on Workshop - Travel Time Use: Developing a Research Agenda

The report by Professor Glenn Lyons of a 1-day workshop held on 22 September 2005 to examine the current understanding of travel time use and its valuation.

Published:
05 December 2006

The EUNET 2.0 Freight and Logistics Model Final Report

This report presents the results from the EUNET2.0, which is an integrated regional economic and freight logistic model for the Trans-Pennine Corridor in the north of England.

Published:
25 November 2005

Audit of the LASER 3.0 Model Report

An audit of the LASER 3.0 Model Report to acquire a better understanding of the assumptions, structure and operation of the London And South East land use Regional transportation model, and a better understanding of its outputs and applications.

Published:

13 September 2005

Audit of the Great Britain Freight Model (GBFM) (992 kb)

This is an independent audit of the Great Britain Freight Model (GBFM) in order to provide the Department with an assessment of the strengths and weaknesses of GBFM for their uses.

Published:

25 November 2005

Integrated Transport Economics and Appraisal: overview of available publications

Published:

25 January 2006

An Introduction to Transport Analysis

A summary of the government's appraisal methodology, the four parts to appraisal and the the government's transport objectives.

Published:

25 January 2006

Evaluation of traffic modelling and appraisal research

Published:

25 January 2006

Response of traffic to increased capacity (215 kb)

A review of seven before-and-after studies.

Published:

25 November 2005

The treatment of taxation in the cost-benefit appraisal of transport appraisal

Published:

25 November 2005

Multi-modal transport appraisal investment

Developing a consistent cost-benefit framework for multi-modal transport appraisal investment.

Published:

28 March 2002

Aggregated Transport Forecasting Model

This paper reports on the feasibility of aggregate models (primarily The Aggregate Transport Forecasting Model which complements more detailed existing models) and develops econometric models of demand for surface transport modes. Updated: 11 May 2004.

Published:

25 January 2006

Employment and Rail Access: An Evaluation of Transport Improvement Benefits

This report considers possible employment consequences of improving rail access in London and the South East. The study finds positive employment effects of decreasing the distance to nearest rail station.

Published:

25 January 2006

Review of Income and Price Elasticities in the Demand for Road Traffic

This review provides the Department with evidence from a range of recent studies on appropriate elasticity values for use in forecasting, and assesses some of the uncertainties about their future values.

Published:
25 January 2006

Appraisal of Land-Use/Transport Interaction: Design

This report examines the estimation of user benefits arising from transport strategies that are expected to have impacts on the distribution of land uses.

Published:
25 January 2006

Appraisal in Land-Use/Transport Interaction: Development Stage 1

This report presents the findings from a project to implement a method of appraisal appropriate to forecasts of land use/transport interaction.

Published:
25 January 2006

Rail Access and House Prices: An Evaluation of Transport Improvement Benefits

This report uses a hedonic valuation model to consider the impacts on house prices of improving rail access in London and the South East.

Published:
25 January 2006

Review of Income and Price Elasticity: Measuring their value

Price and Income Elasticities play a fundamental role in the analysis of transport policy options and in forecasting car and goods vehicle traffic. This review defines different ways of measuring their values.

Published:
25 January 2006

SCGE Models: Relevance and Accessibility for Use in the UK

Information and advice about an emerging branch of economic theory and a new tool to improve understanding of the contribution of transport to the general economy, the Spatially Computable General Equilibrium Model (SCGE).

Published:
25 January 2006

Guidance on preparing an Economic Impact Report

Report on the research project to provide guidance on the Economic Impact Report.

Published:
25 July 2003

Guidance on Preparing an Economic Impact Report (2 Mb)

Final report produced by Steer Davies Gleave on the research project to provide guidance on the Economic Impact Report.

Published:
25 November 2005

Workshop on the modelling of household and employment location (867 kb)

Final report on an ITEA workshop that took place on 20 January 2003 on housing and employment location, facilitated by the WSP Policy and Research Unit.

Published:
25 November 2005

Value of travel time savings in the UK: summary report

Summary report on the equations used to model the cost-benefit analysis of time saved versus cost of building new transport developments.

Published:

25 January 2006

Laser Enhancement Project

This report presents the LASER Model Version 3.0.

Published:

25 January 2006

For related documents, pages and internet links, see the column on the right.