

Sustainability in transport - Update (2006-2008)



**CURRENT TOPICS IN TRANSPORT
NO. 81.4**

**SUSTAINABILITY IN TRANSPORT - UPDATE
(2006-2008)**

This issue of Current Topics includes over 75 abstracts of reports, conference papers, books and journal articles which focus on *sustainable, environmentally friendly transport policy, especially in urban areas of the world. Amongst the specific topics dealt with are measures to restrain car transport, to reduce harmful vehicle emissions, and to control the demand for road space. Knowledge dissemination, external transport costs, freight transport modes, land use policy and promoting the use of public transport are also included.* These items have been selected from the material added to the Transport Research Laboratory's Library Database between 2006 and 2008. Much of the relevant English language published literature from the UK, USA, Australia and Europe is included; some of the non-UK literature is included courtesy of the OECD International Transport Research Documentation (ITRD) database.

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SUSTAINABILITY IN TRANSPORT - UPDATE (2006-2008)

Design to delivery - eco-towns transport worksheet

Department for Communities and Local Government
2008 / 21p / 33 refs

Creating a new community in the UK provides a unique opportunity to plan and implement transport systems in a radically different way. Conventional approaches will need to be turned on their head in order to create lifetime places that prioritise people over vehicles. It is considered that outcomes and benchmarks should be framed using exemplars for different modes from across Europe. They should be based around hierarchies of mode (walking, cycling, public transport, and then other vehicles) and accessibility (pedestrian and cycling accessible streets, public transport accessible streets, shared spaces, and full vehicle access streets). Overarching design and implementation principles should be defined in order to achieve the desired outcomes. Benchmarks should reflect the characteristics, opportunities and needs of the specific eco-town, within the context of its sub-region. The principles of travel planning should be applied to the eco-town as a whole. This is an iterative process, with the starting point being to carry out a transport assessment. A travel plan pyramid can be a useful way of thinking about measures and actions needed to deliver the principles and outcomes. This covers: location; physical measures; co-ordination; services and facilities; and marketing, promotion, monitoring and review. A set of evaluation criteria should be drawn up to measure progress and guide any changes in approach. Funding mechanisms should be developed from the start. These may be drawn from wider approaches or may be transport specific. They should be capable of funding capital and revenue expenditure and long-term management. The eco-towns transport worksheet design to delivery is described. This report may be found at: http://www.tcpa.org.uk/ecotowns/20080325_et_ws_transport.pdf

Attitudes to climate change and the impact of transport (2006 and 2007)

Department for Transport (DfT)
2008 / 24p / 0 refs

This report summarises people's attitudes in the UK towards climate change in relation to transport, and to what extent attitudes have changed over time. It also examines how attitudes towards climate change vary

across socio-demographic groups and according to travel behaviour. Three surveys were undertaken in August 2006 and April and August 2007. In all three surveys around 80% of adults were very or fairly concerned about climate change. Climate change had increased it ranking among the top three public policy issues. The vast majority of adults believed that the global and UK climate was being affected. Groups with low levels of knowledge included young people between 16 and 24, people without educational qualifications, those on low incomes and those living in the most deprived areas. About 60% of adults considered that climate change would have little or no effect on them personally but 90% thought future generations would be affected. The majority of the public believe that transport emissions contribute to climate change, particularly air transport. The public were most likely to trust independent scientists to provide accurate information about climate change. Three-quarters of respondents were likely to consider changing their behaviour in some way to help limit climate change such as reducing their car use. However only around 5% of car users said that they had reduced their car use in the preceding year. Support was far higher for improved public transport than for measures that would increase the cost of car travel. Around 45% of adults in each survey believed that air travel should be limited for the sake of the environment although this was true of only a third of people who travelled by aeroplane more than twice a year. About one in ten people intended to reduce the number of flights they took. Around a quarter of adults supported increasing the cost of air travel to help reduce transport emissions.

Public experiences of car sharing

Department for Transport (DfT)
2008 / 9p / 0 refs

This report examines the extent of car sharing in Great Britain, and how this varies across different socio-economic groups. It also examines the reason why people car share and the nature of car sharing trips. The vast majority of car sharing is informal. Sixty-five percent of respondents had travelled as a car passenger in the preceding month, although just 6% has done so every day. A further 39% of respondents had been a car passenger at least once a week in the past month. Thirty-nine percent of adults said they had received a lift from someone who lived outside their household, while 42% of adults had given a lift to someone outside their household. Just 1% said that

they were a member of a formal lift sharing scheme run by their employer or another organisation. Of those who had received lifts, 42% said that the last occasion had been for a one-off journey that would occur less than once a month. In 28% of cases the lift took place at least once per week. 63% of the car share journeys were less than 20 minutes long. Twenty-five per cent of journeys were to or from work, usually back home. The most common reason given for sharing a lift was because it was more convenient. Eight per cent had done so because they wished to reduce road congestion and 7% for environmental reasons. Sixty-eight per cent of those who received lifts either returned the favour or contributed to the cost.

This publication may be found at: <http://www.dft.gov.uk/162259/162469/221412/221513/322485/carshare2007.pdf>

Are biofuels sustainable? - first report of session 2007-08 - volume 1

House of Commons Environmental Audit Committee
House of Commons Paper
2008 / 76-I / 45p / 0 refs

Most first generation biofuels are considered to have a detrimental impact on the environment overall, are often not an effective use of bioenergy resources, and do not provide value for money. The UK Government and EU's neglect of biomass and other more effective policies to reduce emissions in favour of biofuels is considered misguided. In general biofuels produced from conventional crops should no longer receive support from the Government. Instead the Government should concentrate on the development of more efficient biofuel technologies that might have a sustainable role in the future. The EU Environment Commissioner, Stavros Dimas, recently admitted that the Commission did not foresee all the problems that EU biofuels policy would cause. He indicated that certification would be used to address the negative impacts of biofuels. The Government should seek to ensure that EU policy changes to reflect the concerns raised in this report. This means implementing a moratorium on current biofuel targets until technology improves, robust mechanisms to prevent damaging land use change are developed, and international sustainability standards are agreed. In the meantime, other more effective ways of cutting emissions from road transport should be pursued. The policy realignments that are required for biofuels will be a test of the Government's commitment to moving the UK towards a sustainable low carbon economy. This report may be found on the internet at: <http://www.publications.parliament.uk/pa/cm200708/cmselect/cmenvaud/76/76.pdf>.

Air madness - road's mistakes repeated

Pulford, C

Woodford Halse, Northants, UK: Ituri Publications
2008 / 212p / 0 refs
ISBN: 0953643085

This book describes the consequences of continuing expansion in air transport capacity in the UK. It begins with a description of the increasing traffic congestion resulting from private car use and predicts the same end result for air traffic. It outlines the environmental costs of air transport, including climate change, noise, pollution and land take and questions whether more should be done to curb demand for air travel. It is suggested that the UK's forecast aviation demand may be over optimistic considering the likelihood of rises in fuel prices in the future. More sustainable planning of air transport is advocated, including the ending of the tax exemptions enjoyed by aviation, a tax on flights, an emissions charge on aircraft, a dedicated carbon trading scheme for aviation, a moratorium on airport expansion particularly in the South East, personal carbon allowances, restrictions on private aircraft, and a more responsible attitude to air transport among the travelling public.

Guidance for workplace travel planning for development

Transport for London
2008 / 128p / 0 refs

This guidance is intended to assist the London Boroughs in the preparation of travel plans for new developments in London and supports the achievement of transport objectives in the London Plan and the Mayor's Transport strategy. The guidance offer the most appropriate advice in preparing and implementing development-related travel plans in the planning process in London covering workplace and leisure. The clear identification of a recognisable standard and format for travel plans is intended to benefit organisations and streamline the planning and implementation process for developers and planning authorities. The intention is to deliver sustainable development in London by reducing the use of private vehicles and by reducing congestion on the public transport network at peak times. A Travel Plan Protocol for London is described, including the guidance for workplace travel planning, the TRAVL trip forecasting database and the iTRACE project and data management tool for travel plan sites across London.

The sustainable mobility paradigm

Banister, D

Transport Policy
2008-03 / v15(n2)p73-80 / 34

This paper has two main parts. The first questions two of the underlying principles of conventional transport planning on travel as a derived demand and on travel cost minimisation. It suggests that the existing paradigm ought to be more flexible, particularly if the sustainable mobility agenda is to become a reality. The second part argues that policy measures are available to improve urban sustainability in transport terms but that the main challenges relate to the necessary conditions for change. These conditions are dependent upon high-quality implementation of innovative schemes, and the need to gain public confidence and acceptability to support these measures through active involvement and action. Seven key elements of sustainable mobility are outlined, so that public acceptability can be more effectively promoted. (A) Reprinted with permission from Elsevier.

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Planning for sustainable accessibility: The implementation challenge

Curtis, C

Transport Policy
2008-03 / v15(n2)p104-112 / 61

The 'Network City' planning strategy espouses sustainable accessibility. The aim is to re-orient the existing urban structure by focussing development at places with high accessibility in order to support an effective public and private transport system. The implementation phase calls for changes to planning practices: the need for public transport planning and development change to be mutually supportive; the need for road network planning and road design to place land use-transport integration as the core objective rather than traffic efficiency and for the need to stage development according to planned population and employment targets. This must take place within a new participatory approach. All this requires planners to gain new skills. To achieve this the system of planning must remain strong. (A) Reprinted with permission from Elsevier.

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Could EU push to reform transport costs pave the way for road pricing?

Forster, A

Local Transport Today
Local Transport Today Ltd
(Quadrant House, 250 Kennington Lane, SE11 5RD, United Kingdom)
2008-01-25/2008-02-07 / (n486) p10-11 / 0refs
ISSN: 0962-6220

This feature acts as a prelude to a high level stakeholders' conference organised by the European Commission to discuss policy options for ensuring transport users pay the external costs of their journeys such as congestions and pollution. The author explains how the EU is seeking to ensure transport users repay their costs pro rata, in a way which is fair to user and society alike. Effective strategies need to be established to identify egalitarian ways of imposing additional taxes and charges per journey, taking into account transport users' circumstances from personal, national and EU perspectives. Electronic road pricing is seen by the EU as the key mechanism for internalising the external costs across all road transport modes. The author also looks at the handbook on external cost estimation released by the EU at the beginning of 2008, explaining the methodology of the cost estimation processes, based on congestion, air pollution and noise, accident costs and CO2 emissions. He also outlines other uses for the unit costs presented in the handbook. Additional to the feature are two panel reports explaining the role of electronic road tolls and the handbook's calculations on cutting CO2 emissions.

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Smarter thinking needed on 'smarter choices'

Goodwin, P

Local Transport Today
Local Transport Today Ltd
(Quadrant House, 250 Kennington Lane, SE11 5RD, United Kingdom)
2008-01-25/2008-02-07 / (n486) pp19 / 0refs
ISSN: 0962-6220

In this comment piece, the author highlights the importance of smarter choices, formerly known as "soft measures", in transport policy and planning. He looks at statistical methods involved in appraising smarter choices within comparisons, and emphasises the need to include them appropriately within research projects. Because the results of some research carried out in 2003 was quite controversial, the DfT commissioned several experts including the author to review the evidence, which resulted in the DfT undertaking a programme of

mainstreaming smarter choices which is still be running well for the most part. The author maintains appraisal tools must permit formal comparison of infrastructure projects and smarter choices, and explains appropriate statistical techniques and protocols. By adhering to these methods, the correct weight of smarter choices is then ascribed to these comparisons, resulting in more valid interpretation and outcomes, which usually include a greater uptake of smarter choices.

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Policy integration: What will it take to achieve more sustainable transport solutions in cities

Hull, A

Transport Policy
2008-03 / v15(N2)P94-103 / 39

There has been a rhetorical shift in paradigm from predict and provide for road transport to one which addresses sustainable mobilities. This paper explores the organizational and institutional issues of policy integration and the implementation mechanisms which could bring about a sustainable transport system predicated on the reduction of CO2 emissions and non-renewable resource use and which produces more socially equitable outcomes. The paper first outlines the English policy context in terms of responsibilities, powers and resources available to local transport planners, and identifies the tools of government that can be more efficiently applied to effect a more sustainable transport system which specifically reduces CO2 emissions. A snapshot of transport decision-making in five local transport authorities in England is presented, using a case study methodology, which explores the joint working practices of practitioners in five public policy sectors that influence accessibility patterns. The case study highlights the norms and values of the local public administrators who affect local transport mobility and how they in turn are hindered both by the rigidity of central government direction and an insufficiency of implementation tools. (A) Reprinted with permission from Elsevier.

The impact of public transport policy on the viability and sustainability of mass railway transit – The Hong Kong experience

Tang, S
Lo, HK

Transportation Research A
2008-05 / v42(n4)p563-576 / 39

Mass transit railway projects are often a top contender to meet the rapidly increasing travel demand, especially in many Asian cities. The experience of Hong Kong, with a system of highly reputable public transport services, reveals that the viability and sustainability of mass transit railways depend very much on accompanying transport policies and land development strategies. The priority given to public transport and control on the growth of private cars, among others, have laid the foundation for success in Hong Kong over the past quarter of century. However, the recent shift in transport policy, from emphasizing an integrated public transport system to relaxing the regulations on modal competition, has resulted in an indiscriminate expansion or oversupply of bus and rail services, especially along congested or profitable corridors. Other than creating a difficult operating environment for the operators, road congestion and the burden to expand the roadway infrastructure in order to keep up with congestion are other negative externalities. It is, therefore, imperative that mass transit railway projects are planned with accompanying long-term transport policies to ensure their viability and sustainability. (A) Reprinted with permission from Elsevier.

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Local transport services - the crucial role of the new local performance framework

London, UK: Department for Communities and Local Government
2007 / 14p / 0 refs

This document describes a new approach to transport planning that involves the participation of local people and their local authority in deciding how to improve transport in their area of the UK. Local strategic Partnerships will be set up to tackle problems such as congestion, accessibility, pollution and safety. A sustainable community strategy is to be developed based on a set of 198 national priorities. A comprehensive area assessment will be undertaken which will be comparable with assessments from other areas of the UK. All local transport authorities will seek opportunities to integrate their priorities, services and programmes with those of other local agencies, and to contribute to the wider aims and ambitions of the locality. Where local transport planning is already

in place, local authorities are likely to continue to work together, and may want to ensure that separate local area agreements are aligned with respect to shared transport priorities. A timeline diagram of the procedure is provided.

Transport and climate change - advice to the Government from the Commission for Integrated Transport

London, UK: Commission for Integrated Transport
2007 / 108p / + refs

Cutting transport emissions can play a significant role in helping to reduce the effects of climate change. Areas for consideration are the demand for movement, the choice of transport mode, the technical efficiency of vehicles, the carbon content of the fuels used to power them and the efficiency of vehicle use. Transport is now the largest end-use category of emissions in the UK, and within this, road transport is the main component, of which cars are the most significant element. The study looks at the cost-effectiveness of individual options and packages of measures, relative to other transport and non-transport policies, with a view to identifying the optimum response across the economy to cutting emissions. Five key packages are identified: the stimulation of a demand for lower emission vehicles; incentive and reward approach to promoting efficient use of cars through fuel pricing and eco-driving; more intensive promotion of smarter choices to encourage take-up of alternatives to car travel, supported by improvements to the carbon performance of public transport; carbon reduction in van and lorry fleets; reduction of emissions in the aviation industry. Related issues also include future technological change, road pricing, land-use policy and emissions trading.

Travel socialisation: a social theory of travel mode behaviour

Baslington, H

Proceedings of the European Transport Conference (ETC) 2007 Held 17-19 October 2007, Leiden, the Netherlands
2007 / 9p / 0refs

Reducing car use has health and environmental imperatives. The negative effects of over reliance on car transportation may be local national and international. They may be direct or indirect and follow the lifecycle of vehicles: at production, usage and disposal. A central theme of this paper is childhood

determinants of future travel behaviour. The aim is to present the author's 'travel socialisation' social theory of travel mode behaviour and discuss the findings from empirical research which led to formulation. It is based on a PhD project which investigated the cultural determinants of childrens' travel. The research design was 'mixed methods' involving a combination of questionnaires, focus groups and interviews and included samples of 9 to 11 year old children and parents. Key questions and themes were harmonised across research instruments. Travel socialisation theory is concerned with the effects of social institutions. It states that children learn about travel modes in the same way as other aspects of culture through the agents of socialisation: the family, school, the media and peer groups. The role of each agent is discussed. The new perspective challenges the traditional orthodoxy in transport studies which conceptualises people as independents in thought and action. A theoretical implication of 'travel socialisation' is that our thinking and attitudes towards transport modes are embedded in childhood. Because the definition of a problem has important implications for tackling it an objective is to discuss the benefits of a different approach in terms of policy implications for achieving sustainable transport. This raises issues which provide a forum for debate. A conclusion of the author is that 'car dependency' should be viewed as a social problem because there are social causes as well as social costs to consider which impact on everyone. Therefore it should be tackled from a social policy rather than just a 'travel demand' management approach.

Does individualised travel marketing really work?

Bonsall, P

Proceedings of the European Transport Conference (ETC) 2007 Held 17-19 October 2007, Leiden, the Netherlands
2007 / 25

Individualised travel marketing (ITM) involves the preparation of tailored information and advice about alternative travel options which should prove attractive to the recipients and simultaneously increase their use of sustainable modes such as public transport, walking and cycling, while reducing their dependence on the private car. The exact method of identifying the recipients needs varies, as does the range and nature of the information and advice provided. A number of applications of ITM have reported very impressive results in terms of changes in behaviour but there remains some scepticism about the reliability of the data used to produce estimates of changes in behaviour. The authors were asked to audit the results

of two ITM campaigns in two large towns in the UK and have had unprecedented access to before-and after surveys of the populations who were offered ITM and to a control population to whom it was not offered. One particularly useful aspect of the data is that it allows us to distinguish, within the population who were offered ITM, between those who accepted the offer and those who rejected it. Another is that data was collected on the willingness of people in the control group (i.e. those who were not offered ITM) to consider changes in behaviour and on their interest in receiving information about public transport, walk and cycle options. The results thus allow us to identify whether the changes in behaviour associated with the ITM are in the expected direction and are statistically significant. They also allow us to explore alternative explanations for the apparent impact of ITM in other studies. For example we can test whether behavioural can be attributed simply to the fact that information and advice were offered (even if it was accepted), or whether a change in behaviour is associated with a willingness to consider change and an interest in receiving information (irrespective of whether it was actually offered).

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Kickstarting growth in bus patronage: experience with targeted grants in England and Scotland

Bristow, AL
 Enoch, MP
 Xhang, L
 Greensmith, C
 James, N
 Potter, S

Proceedings of the European Transport Conference (ETC) 2007 Held 17-19 October 2007, Leiden, the Netherlands
 2007 / 23p / 34refs

Government support to the bus industry in Britain has risen in recent years and has now reached pre-deregulation levels in real terms. Over the past ten years in England (outside London) both bus patronage and bus kilometres have fallen and continue to fall. The decline in bus kilometres is largely driven by the withdrawal of commercial services, which is not wholly offset by increases in supported services. The Kickstart Scheme introduced in England in 2003 and the Bus Route Development Grant (BRDG) Scheme introduced in Scotland in 2005 attempted to address this problem through aiming to improve patronage and viability of services. The programmes award grants, through a competitive bidding process, of a maximum duration of three years to support the provision of new or enhanced bus services often in marginal operating territory. Supported services are expected to achieve financial

sustainability and ideally to become commercially viable through patronage growth by the end of the funding period. This paper is based on an assessment of the performance of the Kickstart and BRDG schemes undertaken for the Department for Transport and the Scottish Executive in 2006. The performance analysis is limited by data availability and the short time periods of operation. However, where evidence is available the majority of schemes are achieving impressive levels of patronage growth on marginal or new services. There is also some, albeit limited, evidence of modal shift from car. Benefits to users have been delivered largely through frequency enhancements, new bus links and newer and more accessible vehicles. Levels of revenue support compare well with standard supported schemes and will fall over the lifetime of the schemes. The programmes have stimulated genuine partnership working between operators and local authorities leading to greater understanding. In many cases the schemes have delivered added value over and above the original aims in a variety of ways including: the delivery of further service enhancements beyond that specified in bids as patronage has risen, leveraging additional support from operators and other organisations, releasing support for other purposes and encouraging the development of Kickstart style schemes by Local Authorities in co-operation with operators. Finally the programmes are likely to leave a positive legacy and offer a better return than subsidy that supports the status quo. There is clearly scope for reform of the existing subsidy mechanisms to place more emphasis on growing the market.

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Sustainability and Highways Technology Schemes

Conquest, J
 Holt, A
 Patley, I

Smart Moving Conference 2007
 2007 / 9p / 7refs

The effective management of the UK's strategic road network will be a major contributor in the achievement of the CO2 reduction targets. In parallel to this is the need to reduce the emission of other pollutants from road vehicles. This study considers how technology in the form of Intelligent Transport Systems (ITS) can be harnessed to reduce harmful emissions and therefore enhance air quality and reduce the effect on climate change from CO2. It does so from two angles; firstly it considers the benefits that can be achieved by managing and reducing congestion through the use of technology based systems, and secondly, it considers the balance in carbon use between the building and operating of traffic congestion management schemes and the resultant reduction in emissions from traffic. The CO2 produced when constructing, operating

and decommissioning technology schemes is often overlooked. To determine the true impact that an ITS scheme has on CO2 emissions it is essential to quantify both the benefits and dis-benefits over the life of the scheme. Essentially this paper assesses the carbon balance.

Travel minimisation and the ‘Neighbourhood’

Curtis, C
Olaru, D

Proceedings of the European Transport Conference (ETC) 2007 Held 17-19 October 2007, Leiden, the Netherlands
2007 / 23p / 35refs

Since the 1940s planners have pursued the notion of the neighbourhood and of self-containment, both aimed at achieving local trip making. It is arguable that transit oriented development is a reincarnation of these ideas. Both concepts appear strongly relevant today in the context of sustainability and travel minimisation. But to what extent do residents actually minimise travel, and what type of resident? Our research investigates the population groups living within three station precincts along a new suburban railway through southern Perth suburbs to Mandurah (Western Australia). We examine the place of travel minimisation (in terms of car-based travel) in the residents decision to locate to the precinct and in the subsequent travel patterns of residents. Using travel diaries we report on the differences by household type, exploring also how the household negotiates travel reduction, and on the differences between work and non-work travel. The paper evaluates the travel impact of different accessibility opportunities ranging from congenial configurations of railway station precincts, containing a variety of shops, services, and other attractions to station precincts acting primarily as origin stations or transit interchanges. We explore the relationship between travel patterns and access to different activity opportunities. Rich factual data about travel, physical activity, relocation, and valuation of neighbourhood features is complemented by a stated choice experiment on location decision at accessibility features affect the willingness to use non-motorised travel and conduct more physical activity, and this relation is stronger for residents who appreciate the physical characteristics of their neighbourhood. There are also linkages between residential choice, trip chaining, and the household type. We expect our conclusions to show that where local opportunities are provided people do reduce travel, but that this is tempered by socio-demographic characteristics. This research will provide much needed empirical evidence to support future city planning decisions through the integration of land use and sustainable

transport modes.

Motoring Towards 2050: The Virtual Mobility and Environmental Impact of Online Shopping

Dainton, E

Smart Moving Conference 2007
2007 / 10p / 38refs

This study aims to establish whether online shopping is a virtual mobility solution for reducing travel and encouraging environmental sustainability. The paper discusses attitudes and experiences of shopping, the current uptake of online shopping, Perceptions and experiences of online shopping, the impact of online shopping on travel and the environment and the future of shopping and the role of online shopping. The research in this paper is based on the RAC Foundation GfK/NOP survey of 1000 drivers completed in June 2006. The results show that online shopping incidence and experiences differ, which creates a mixed environmental and ‘virtual mobility’ effect. E-shopping is rising rapidly due to the convenience and choice it provides and the desire for shopping to be more flexible, whilst involving more than the mere purchasing of goods, puts online shopping in a good position for future development. There are differing views as to how this trend will affect shoppers’ transport choices. E-shopping does and will continue to affect our carbon footprint, but it is clear that there will be limits to the extent that ‘virtual mobility’ can substitute for physical shopping mobility.

Guidance on transport assessment

Department for Transport (DfT)
Department for Transport (DfT)
(Great Minster House, 76 Marsham Street, SW1P 4DR, United Kingdom)
2007 / 59p / 0 refs

This publication provides guidance on the preparation of transport assessments (TA) for new developments in England, UK taking into account new policies on sustainability. These are used by decision makers in the planning process. The measures to be used to deal with the anticipated transport impacts of the scheme, and to improve accessibility and safety for all modes of travel. A simplified Transport Statement may be suitable for some developments. The completion of a TA does not guarantee the granting of planning consent. Specific guidance for the London area has been issued separately by Transport for London.

Towards a sustainable transport system - supporting economic growth in a low carbon world

Department for Transport (DfT)
2007 / Cm 7226 / 89p / 0 refs
ISBN: 0101722621

This document considers the recommendations made in the Eddington study and Stern Review of the Economics of Climate Change and considers the role of transport in delivering the overall level of reductions in carbon emissions. The UK Department for Transport's ambitious policy and investment plans for the period 2013-14 are outlined. A new approach to longer-term transport strategy is proposed. Explicit transport goals for carbon dioxide emission reduction and economic growth are proposed. The broad goals include: maximising the competitiveness and productivity of the economy; addressing climate change by establishing a carbon price; developing and using a wide range of low carbon technologies; to improve transport safety, security and health; and to provide equality of opportunity via the transport system. Initially the most congested routes will be considered and more emphasis given to public transport. Cities, inter urban and international gateways will be prioritised. Local schemes to improve traffic flow, promote sustainable transport modes, improve road maintenance and enhance traffic networks are supported. The introduction of new national off-peak concessionary bus travel arrangements for older and disabled people are intended to reduce inequality and increase accessibility. Planned investment in railways is outlined. Funding for demand management and road pricing in urban areas will be made available. Aviation policy is discussed. Better use of existing road capacity is desired. A policy of listening to the people is proposed.

Transport and the environment - on the way to a new common transport policy - TERM 2006 - indicators tracking transport and the environment in the European Union

European Environment Agency
EEA Report 1/2007
European Environment Agency
(Kongens Nytorv 6, 1050, Denmark)
2007 / 38p / + refs
ISBN: 978-92-9167-916-4

The TERM 2006 report examines the environmental performance of the transport sector and considers it unsatisfactory, particularly in relation to the sector's contribution to climate change. The Commission's mid-term review of the 2001 Transport White Paper

proposes changes that can bring both improvements and negative effects depending on how they are applied at European, national and regional level. Concerning the environment, the mid-term review changes the focus from managing transport demand to addressing negative side effects. This change in focus means that transport demand growth is no longer explicitly identified as one of the main environmental issues within the transport sector. However, as the extent of important environmental impacts such as climate change, noise and landscape fragmentation are closely linked to transport volumes, addressing them still requires the management of transport demand. The overall success of the new policy therefore still hinges on reducing transport volumes. Targets for biofuels are discussed in relation to their production without decreasing biodiversity. It is suggested that reducing transport subsidies would aid in internalising the external costs of transport. This report may be found on the internet at: http://reports.eea.europa.eu/eea_report_2007_1/en/eea_report_1_2007.pdf

The effectiveness of national transport strategies as a means to promote the development of more sustainable transport systems

Gudmundsson, H
Tight, M
Kimble, M

Proceedings of the European Transport Conference (ETC) 2007 Held 17-19 October 2007, Leiden, the Netherlands
2007 / 33

High level integrated policies, plans and programmes are a common feature of transport strategy development in many countries and provide a framework for the detailed implementation of transport infrastructure and facilities. Examples can be found in Europe in the UK, the Netherlands; Sweden, Norway and Denmark as well as further afield in North America and other regions of the world. A key feature of many of these plans, particularly those produced most recently, is a focus on environmental targets and the promotion of more sustainable transport systems. Such strategy documents also promote the need for ongoing monitoring and assessment of various indicators in order to judge how well the plan is developing according to the specified aims, objectives and targets. There is limited research available which looks at the success of such high level strategies, particularly in terms of promoting the achievement and delivery of sustainability improvements. Deficiencies in this respect might be due to changes in economic or political circumstances, but potentially also to inadequacies in the way the high level plans and

programmes themselves are conceived or managed. Other studies have looked in more detail at the role of specific elements like performance objectives, which are widely held to be key components in successfully delivering results. This work focuses particularly on role of such strategy statements to promote transport sustainability. The paper reports on research emerging from the IMPACT (IMplementation Paths for ACTion towards sustainable mobility) project which is part of the Swedish TransportMistra programme, which is funding research with a focus on the promotion of more sustainable transport systems. The specific research questions addressed by the paper are how high level plans and programmes contribute to shape subsequent (or already ongoing) implementation processes, in particular the development of more sustainable transport systems; how the plans and programmes have been supported through use of decision support tools, and how successfully such mechanisms are applied. Decision support tools may include, for example, assessment procedures and models, targets and monitoring programs, management-by-objectives schemes and incentive structures, performance plans, evaluation studies, independent reviews, and several other elements. The paper contains a number of sections, specifically a review of existing high level plans and programmes in the UK; a typology of implementation support mechanisms typically employed by them and a proposed methodology for how to research and assess their role in the actual implementation processes. The research reported is specifically focussed on the development of high level transport strategy in the UK starting with the 1998 White Paper on Transport and following through the 2000 10 Year Plan and subsequent documents. The principal research methods employed and reported on in the paper are document analysis and will investigate the use of implementation support mechanisms in the UK's push for integrated transport.

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Transport and energy consumption: does co-location of housing and workplaces occur over time?

Hickman, R
Banister, D

Proceedings of the European Transport Conference (ETC) 2007 Held 17-19 October 2007, Leiden, the Netherlands
2007 / 26p / 23refs

Transport and energy consumption is an increasingly important topic in the light of global warming, sustainability and (even) energy security issues. The role of urban planning in helping to reduce transport energy consumption continues to be underplayed in

research, policy and practice. Current urban planning practice, particularly in suburban areas, tends to increase traffic volumes by dispersing activities and hence facilitates private car travel rather than that by public transport, walking or cycling. This paper examines the urban form and travel relationship, and temporal changes in particular, and assesses whether housing and workplaces naturally co-locate over time, based on research carried out in Surrey, UK. The argument being that workplaces are following residences to the suburbs, hence travel distance reduces over time. This has proved difficult to prove (or disprove) in previous research. Matched pair household survey analysis is used to overcome problems of attrition, a typical problem found in temporal analysis. The central strategic argument tested is that travel distance in the commute to work reduces over time; however car mode share is likely to increase, hence aggregate energy consumption also increases. A further important, detailed issue is that although aggregate distance co-location might occur, focusing on the aggregate trend also hides several kurtosis effects: households located at higher densities, closer to major strategic centres, in areas with good public transport accessibility and strong jobs-housing balance are all likely to reduce their commuting travel distance. Other groups are likely to increase their composite transport energy consumption, for example, the higher income cohorts. Urban planning therefore becomes a critical tool in efforts to reduce energy consumption in the transport sector. A smart growth strategy is most likely to help enable a reduction in transport energy reduction, but the success of this requires more than a simple focus on density. A differentiated policy approach is required including action on a wide range of fronts - if transport sustainability is to be achieved in the location of major new development.

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Bridging the gap - the use of methods from research results for implementation of sustainable urban transport plans - with the example from Lund, Sweden

Ljungberg, C

Proceedings of the European Transport Conference (ETC) 2007 Held 17-19 October 2007, Leiden, the Netherlands
2007 / 0

In Europe the discussion about sustainability has been ongoing since beginning of the nineties. In Lund, a medieval university town in Sweden, there is a long tradition of dealing with traffic in innovative ways. Since mid nineties the city has been working with an extensive plan to create a sustainable transport system, LundaMaTs. One very important part of the

outlay of the work with the LundaMaTs plan was a discussion of how the implementation of the measures could be secured, through a support process based on scientific research results. Following a model suggested by Bent Flyvbjerg this formed a substantial part of the plan. The suggested measures consisted of 83 subprojects, organized in 5 main reforms. The City of Lund selected four main projects to focus on over a starting three-year period (1999-2001) and began the implementation process. In 2002-2004 they continued. During 1998-2004 app. 31 million were invested in different measures within LundaMaTs. Larger evaluations have been carried out 2002 and 2004, through a questionnaire to 4000 inhabitants. This investigation 2004 showed that in total 20% of the inhabitants have been influenced to change their behaviour. They have reduced their car travelling with about 10 million kilometres or about 2,5-3 % during 2004 compared with a situation without LundaMaTs. The use of research results in making the plan, making the plan accepted and when implementing the measures seems to have had an important impacts on the results, due to among others a thesis done by Carsten Jahn Hansen.

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Sustainable freight transport: A transport time and logistical organization approach

Lopez-Ruiz, HG
Crozet, Y

Proceedings of the European Transport Conference
2007 Held 17-19 October 2007, Leiden, the
Netherlands
2007 / 12

Today, numerous works conclude that freight transport seems to be completely coupled to economic and export/import growth. Therefore, as a direct consequence of economic development freight transport sits today as one of the major final energy consumers and one of the most important sources of carbon dioxide emissions. Furthermore, in the absence of major technological change, this unsustainable situation will most undoubtedly get worse in the future. Consequently, this situation of continuous increase in freight transport clearly poses an environmental problem in a world that is actually trying to attain sustainability. In this paper we propose to address this problem from a two pronged view: rising energy prices and the environmental problem posed by carbon dioxide emissions. Based on our recent progress concerning passenger and freight transport in prospective planning we intend to implement a transport time/logistical reorganization approach based on the TILT model (Transport Issues in the Long Term which will be reviewed in extension in the communication). The TILT model takes into

account the existing links between demography, economic growth, logistical organization, freight transport and CO2 emissions. By combining two methodologies: a back-casting approach and a re-foundation of the energy-environment modeling structures, TILT is a very long time-frame model that properly assess very long term modifications of social and cultural preferences as well as technology evolution dynamics in relation to them. Starting out from this basis, the originality of our approach lies in the fact that we believe that using a speed/GDP elasticity implies different forms of freight transport saturation based on a growing need for speed as GDP and freight value grow. Moreover, the different forms in freight transport saturation are directly linked to the idea that modal shares are determined by modal speed, transport times and logistical organization. In this manner, transport modal saturation rhythms can be varied through the speed/GDP elasticity and through logistical reorganization. Starting out from this basis, a number of sustainable freight scenarios can be envisioned. These scenarios will enable us to test the influence of a certain number of public policies ranging from inciting technological progress, to tolls, rationing (tradable emission permits) and intermodality development. We will show that these policies can be mixed and used to attain significant carbon reductions both in a high technological and a low technological future.

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Freight best practice - the road to freight operational efficiency

McWilliam, K
James, J

Proceedings of the European Transport Conference
2007 Held 17-19 October 2007, Leiden, the
Netherlands
2007 / 6 refs

When the Kyoto Protocol was signed, the UK agreed to reduce emissions by 5%. The Government expected all sectors to do their bit towards cutting emissions. As the haulage sector makes up 8% of all emissions, it was a critical target for improvements in environmental performance. So, how do you get commercial transport operators to comply with government aims to lower emissions? The simple answer is helping them to reduce their fuel consumption and thus improve their bottom line profitability. This is the aim of the Department for Transport's Freight Best Practice programme (FBPP). This behavioural change programme is unique across Europe and more advanced than other such programmes around the world such as the USA's Smartway programme. A free information framework has been developed,

aimed at all workers in the haulage industry. Some information is aimed at drivers, in a series of pocket guides and training materials. However the majority of information is aimed at transport managers. This material includes a series of guides to facilitate external benchmarking against others in a range of sectors (such as food, next day parcel delivery, and pallet networks) and to provide information on best-in-class performers. These publications are supported by software tools, to assist with practical internal benchmarking, within the fleet. This provides them with suggested methodology and resources to accurately monitor the performance of their fleet, as measurement and understanding are the first steps towards effective operational performance management. To take the example of external benchmarking first, a series of guides have been produced with information gathered by survey from key players in a range of industry sectors. For each, a separate guide has been produced, presenting the results of the same five key performance indicators (KPIs), these are: vehicle fill, empty running, time utilisation, deviations from schedule and fuel consumption. The FBPP also provides a mechanism for the fleet manager to allow accurate measurement of the KPIs within their own fleet, or internally benchmark. The Fleet Performance Management Tool (FPMT) is a PC based software tool (complete with manual) to allow operators to track fleet performance week on week for 22 KPIs. The haulage industry tends to be naturally suspicious of governmental policy impacts on their industry; however this programme has received much positive feedback

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Looking for a better future in 2020: application of the backcasting methodology in the north-west sensitive area of metropolitan Madrid.

Mourello, AA
Vincente, AS
Arribas, MM

Proceedings of the European Transport Conference 2007
Held 17-19 October 2007, Leiden, the Netherlands
2007 / 9 refs

There are few doubts about the current necessity of undertaking a deep analysis on what are the present transport tendencies and how planning should assist in the definition of the best strategies and actions to tackle the problems that society is now facing. Conventional planning and assessment methodologies and techniques developed to mitigate transport detrimental impacts have analysed observed and projected transport trends and have tried to improve their environmental and social effects, often by ex-post measures. Although this approach has led to an improvement in comparison to previous results, and

despite the adoption of new regulations seeking for ex-ante mitigation, it has not led us towards meeting long-term environmental objectives. New, innovative tools and approaches are needed to enhance the aim of sustainability. One of the most interesting methodological procedures to be followed is called backcasting: Starting from that “desirable” long-term future scenario, a set of actions required to make it viable is identified. The desirable future is defined through the use of criteria which can be quantified and have environmental significance. Taking into account the current trends, the actions to be undertaken will then lead us to achieve this situation. The proposed paper is focused on the application of the backcasting principles to an area of special interest due to its environmental sensitivity. Most of the north-west part of the Madrid region is an environmentally protected area under national and European regulations- and the amount of traffic that it supports is expected to rise significantly if current trends continue. The Madrid metropolitan area is a very active territory in terms of economic development, with implications such as urban sprawl, traffic increase, and environmental and social detrimental impacts. In this context, a desirable future for the year 2020 is defined through the use of a set of indicators, including emissions, energy consumption, land take and travel time, which aimed values for 2020 are defined according to the policies, strategies and protocols already in force, translated to the area under study. An estimation of traffic flows through the area is developed using the VISUM transport model. Regarding the baseline situation, the model is run with 2004 data from the Regional Transport Authority, including origin/destination and number of trips by private vehicle and public transport, modelling such trips on the existing transport infrastructure. The amount of trips for the year 2020 in the Business As Usual (BAU) 2020 scenario is calculated from the year 2004 data, expanded by the predicted increase in land take and its use (industrial, residential, commercial) and therefore potential population and origin-destinations as well as different infrastructure options. In order to know the degree of environmental effects, the indicators mentioned above are calculated for the baseline scenario using VISUM results and the COPERT emission factors for each type of vehicle technology. In addition, an estimation of the likely new vehicle technologies and their emission factors for the year 2020 is also developed, which will be applied to VISUM results for 2020 BAU scenario. Indicators for the BAU scenario will then be compared with those for the desirable scenario in order to assess how distant they are. According to the differences, a set of policy options, measures and combinations of them will be defined, including technological and demand management options. Their potential contribution to the achievement of the pursued target values will be assessed, aiming at identifying the best combination.

Making personal travel planning work - research report

Parker, J
2007 / 164 / + refs

Personal Travel Planning (PTP) is an approach to delivering targeted information directly to travellers, to help them make sustainable travel choices. It seeks to overcome habitual use of the car, enabling more journeys to be made on foot, bike, bus, train or in shared cars. This report is structured around the six objectives established by the Department for Transport for the project. A seventh objective was to produce a best practice guide for local authority practitioners on the effective implementation of large-scale personal travel planning (built around case studies). This is due to be published in early 2008.

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Making personal travel planning work - case studies

Parker, J
2007 / 232p / 0 refs

This document contains case studies relating to personal travel plans. The chapters are as follows: Worcester - Sustainable Travel Town; Peterborough - Sustainable Travel Town; Darlington - Sustainable Travel Town; Lancashire PTP project; Bristol PTP scheme; Brighton and Hove PTP scheme; Transport for London PTP; London field visit; Nottingham PTP pilot; Nottingham Number 30 pilot, Nottingham Citycard, Perth (Western Australia) PTP; Brisbane (Queensland) PTP; and Melbourne (Victoria, Australia) PTP.

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Sustainable communities - a tool kit - papers from the conference held in London, 11 May 2007

Royal Town Planning Institute
2007 / unpaginated / 0 refs

This publication lists six contributions presented at this event. Computer slide presentations on enhancing social inclusion through more effective public transport and leveraging stakeholder involvement for sustainable communities are included. The legal pitfalls in delivering sustainable development via planning agreements are described.

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TRIAS - sustainability impact assessment of strategies integrating transport, technology and energy scenarios

Schade, W
Wietschel, M;
Helfrich, N
Krail, M
Kraft, M
Scholz, A
Martino, A
Fiorello, D
Fermi, F
Christidis, P

Proceedings of the European Transport Conference (ETC) 2007 Held 17-19 October 2007, Leiden, the Netherlands
2007 / 19p / 6refs

The use of hydrogen as energy carrier for the transport system has been discussed and tested in research niches since many years. High oil prices and the growing awareness that this will not be a temporary but a permanent situation fosters the search for alternative fuels and new technologies to propel the transport system, which, so far, in Europe depends to more than 97% on fossil fuels. Two of these alternatives would be hydrogen and biofuels that both can be generated from a number of different sources including a number of non-fossil and renewable sources. Hence, large research net-works like the European Hydrogen and Fuel Cell Technology Platform or the US California Fuel Cell Partnership have been set up to overcome the barriers that currently hinder the widespread use of hydrogen for transport, which are especially the fuel cell itself and the hydrogen storage system. However, shifting transport towards hydrogen and biofuels is not at all only a technical issue. Instead, it would induce structural economic changes developing a large-scale industry producing hydrogen, trade flow changes reducing trade of fossil fuels and increasing trade of feedstock for hydrogen and biofuels production, offer new employment opportunities and reduce environmental impacts of transport e.g. in the case of hydrogen produced from renewable energy sources. This paper draws on work currently undertaken in the European TRIAS project. In this project a number of scenarios is developed for Europe describing the diffusion of biofuels into the transport markets as well as a shift of the transport system to-wards hydrogen until 2030 and 2050. The TRIAS project integrates four models POLES, ASTRA, VACLAV and Regio-SUSTAIN that together cover the multi-faceted impacts of such a large scale change of the transport and energy system. The paper will describe the base scenario and a number of alternative scenarios on how to foster and manage a shift towards the new fuels in Europe: a carbon tax funded shift, a shift subsidised

by funds from general budget and an accelerated shift where Europe would be the first world region to introduce hydrogen for transport on a large scale. For these scenarios an integrated sustainability impact assessment will be carried out providing results for the transport system in terms of changing demand, cost changes, structural change of the vehicle fleets and environmental impacts, for the energy system in terms of energy prices and demand for different energy carriers, for the economic system in terms of growth implications, sectoral shifts and changes of trade flows and for employment.

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London transport vision for a growing world city

Seagriff, E

Proceedings of the European Transport Conference (ETC) 2007 Held 17-19 October 2007, Leiden, the Netherlands
2007 / 0p / 0refs

TfL recently launched Transport T2025 - Transport Vision for a growing world city, which was a major TfL initiative to produce a long-term integrated vision for London's walking, cycling, public and private transport system. The need for T2025 is driven by the scale and complexity of the growth challenges facing London - around 900,000 more jobs and 800,000 people will be in London by 2025 - and by the need to meet the Mayors demanding targets for carbon reduction. There is a clear need for a comprehensive strategy to be in a position to support this growth effectively and sustainably. The Vision for transport in London is supported by extensive modelling, analysis and appraisal, and reflects inputs from key stakeholders. It recommends the transport policies and investments needed to support the growth and development of London as envisaged in the Mayors London Plan to support its economic, social and environmental objectives. TfL will be using T2025 to support discussions with Government and other stakeholders regarding funding and to influence future transport policy development in London.”

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Corporate social responsibility and the road sector: the background

Southern, A
Walcher, A
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Routes/Roads
World Road Association
(La Grande Arche, Paroi Nord, Niveau 8, F-92055, France)
2007 / (n333) p32-41 / 0refs
ISSN: 0004-556X

Corporate Social Responsibility (CSR) has been defined as the continuing commitment by business to contribute to sustainable economic development. CSR is related to sustainable development and the model of the triple (economic, environmental and social) bottom line. The evolution of CSR since the 1970s is discussed. The relevance of CSR for the road sector is considered. There are generally more private organisations reporting on CSR than public sector ones. According to the 2005 KPMG International Survey of Corporate Responsibility Reporting, the countries where CSR reporting is most common are Japan, followed by the UK. Various technical consultants, civil engineering and construction firms have implemented environmental or CSR policies. The environmental policies of the UK Highways Agency, Hong Kong Highways Department, South African National Roads Agency and the Department of Infrastructure, State of Victoria, Australia are discussed. The future for CSR in the road sector is considered.

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SUSTAINABLE TRANSPORTATION – A Psychological Perspective –

Steg, L

IATSS Research
2007 / v31(n2)p58-66 / 45

This paper discusses possible contributions of psychologists to sustainable transportation. It is argued that in order to reach sustainable transportation, among others, behaviour changes of individual car users are needed. As transport policies will be more effective if they target important antecedents of travel behaviour, first, factors influencing such behaviour are discussed. It is argued that car use is very attractive and sometimes even necessary for many different reasons. This implies that a combination of policies is called for, each targeting different factors that support car use and hinder the use of more sustainable modes of transport. Next, the paper elaborates on policy strategies that may be employed to achieve sustainable transportation

by changing car use. Increasing the attractiveness of sustainable transport modes by means of pull measures seems not sufficient to reduce the level of car use. Besides, car use should be made less attractive by means of push measures to force drivers to reconsider their travel behaviour. The acceptability of such policies may be increased by clearly communicating the aim of these policies, and the expected positive consequences (e.g., less congestion, improved environmental quality). Moreover, possible negative effects for individual freedom may be compensated by implementing additional policies aimed at facilitating the use of sustainable transport modes. (A)

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Mobility management through communication for new residents

Taniguchi, A
Fujii, S
Shimada, K

Proceedings of the European Transport Conference 2007
Held 17-19 October 2007, Leiden, the Netherlands
2007 / 11 refs

For development of sustainable transport system, it is essential to modify people's attitude and behavior from overuse of car into use of other sustainable modes. Communicative transportation measures have collected attentions from transportation policy makers and researchers as soft transportation measure to change people's attitudes and car use behavior in EU countries, Australia, USA, and Japan. There are three major locations to implement such communicative measures, i.e., residential area, school, and workplace. Although communicative measures in residential area have been implemented through residential association and by sending materials by mail, the method is likely to be expensive. Two experiments to test effectiveness of communicative mobility management measures targeting new residents were conducted. An experiment in this study was conducted at Ryugasaki city (population is approximately 80,000), and the other was conducted at Takasaki city (population is approximately 300,000). A questionnaire was handed off to new residents who visit the city hall to submit their moving-in notification and they were asked to fill in a questionnaire. Immediately after the questionnaire from the new resident was received, they were given an information pack that includes information kit about the public transport system in the area. The kit included a bus route map, bus timetable, an information sheet about a way to use the local bus system and bus craft postcard as a small gift. Note that some new residents, who were randomly selected, received a bag which did not include an information kit on PT. Six month after the initial questionnaire, a further questionnaire was

distributed to new residents in both the experimental and control group. Comparison of the travel behavior between the two groups indicated that frequency of car use with the group given public transport information was significantly less (22.6%) than that of the control group. It was also indicated that frequency of bus use of experimental group was much higher (818.7%) than that of control group, and frequency of train use was much higher (231.8%) than that of control group. In the experiment of Takasaki city, comparison of the travel behavior in the experimental and control groups indicated that there was no significant difference between journey frequencies in control and experimental groups, but the frequency of bus use of experimental group was approximately triple of that of control group, and the frequency of railway use of experimental group was approximately double of that of control group.

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Achieving low carbon city transport systems: a case study based on London

Tight, M
Watters, H
Bristow, A

Proceedings of the European Transport Conference
2007 Held 17-19 October 2007, Leiden, the
Netherlands
2007 / 45 refs

Transport is currently responsible for around a quarter of UK total anthropogenic CO₂ emissions and this proportion is projected to increase. The transport sector will undoubtedly need to play a significant role in achieving carbon reductions if the Government is to meet its ambitious long term goal of a 60% reduction by 2050. This paper reports on a research project which aims to examine the effects of personal transport activity in a major city on emissions of carbon. One of the key challenges facing policy makers is how to translate national policy towards carbon reduction to a more local level, in particular how best can such policy be implemented at a city level in order to bring about real reductions. Urban areas are often both concentrations of climate vulnerability as well as major consumers of carbon, while the concentration of activity in such relatively small areas gives a high potential for the development of innovative solutions, perhaps more so than elsewhere. The focus of this study is on personal travel in London and it provides a unique insight into the role that cities play in generating carbon emissions from transport and the kinds of policy instruments which could be used to effectively promote change in the ways that households choose to use the transport options available to them. The issues involved in defining the scope of travel associated with

London and how carbon emissions were allocated are discussed. The difficulties of allocation when considering a finite geographical area such as a city are considerable, in particular how to identify and allocate emissions from the large number of work, shopping and leisure trips into the city from outside and those which are made by people from within the city outside of the boundaries. Consideration is also given to the issue, crucial for cities such as London, of how best to include the emissions from the large number of tourist related trips made by those from outside of the city. The key tool used in this research was a computer based carbon calculator developed to investigate household carbon emissions from their personal transport activity using travel diary information. In this research the calculator was adapted so that household travel diary information obtained from the UK National Travel Survey (NTS) could be used, giving access to large sample sizes, even where a sub-region of the country is considered. The use of diary data in this manner is novel and that collected through the NTS is highly detailed and sufficient to supply a good enough overview of transport activity to permit the modelling of carbon emissions. Building up a picture of carbon emissions from travel associated with London has been done in two key stages. Firstly, the emissions patterns of households living within the greater London area have been estimated from their travel data. This includes carbon emitted from travel wholly within the London area and also from travel to destinations outside London. For the latter travel an estimate of the carbon emissions for only the element of travel within the London area has been made. In this stage the spatial disaggregation of the data means it has also been possible to explore differences in emissions characteristics between households living in inner and outer London. The second stage of analysis considered the emissions of carbon within the London area caused by travel from households who live outside of London, but who travel into the area. As before, only the element of travel within the London area is used to estimate carbon emissions. Between them these two elements give an overall estimate, for the sample, of carbon emissions associated with personal travel occurring in London. The range of policy levers which could be used to reduce carbon emissions from transport associated with London are examined and the carbon calculator software models are used to investigate how effective they could be in terms of moving London towards a more sustainable transport system. Consideration is given to the effectiveness of both national and London based policy levers and also their relative effectiveness in promoting more sustainable travel amongst different groups of households.

EDUCATIONAL METHODS TO CHANGE THE ATTITUDES OF TRANSPORT PLANNERS TOWARDS ENVIRONMENTALLY SUSTAINABLE TRANSPORTATION SYSTEMS IN DEVELOPING COUNTRIES

Van, HT
Fujii, S
Nakamura, F
Emori, H

IATSS Research
2007 / v31(n2)p74-83 / 21

This paper describes a pilot project aimed at increasing the exposure of transport planners in Bangkok and Colombo to Bus Rapid Transit (BRT). The objective of the project was to examine the efficiencies of three educational methods used to increase the understanding of local transport officials about BRT as well as changing their attitudes toward the implementation of BRT in their cities. Two methods were found to increase the planners' inclination to implement BRT: 1) providing the planners with information on public attitudes and perceptions of BRT, and 2) asking them to make their intentions more concrete by specifying possible BRT routes on a city map. A method that provided detailed information on using and operating a model BRT system appeared to increase the feeling of "obligation" of the planners to develop a BRT system for their countries. The combination of these methods would possibly be effective in strategies to change transport planners' attitudes toward BRT. (A)

The role of transport systems in enhancing the sustainability and competitiveness of European tourism

Vougioukas, M

Proceedings of the European Transport Conference
2007 Held 17-19 October 2007, Leiden, the
Netherlands
2007 / 0

The integration of travel and tourism planning and management in a systematic way is a field, which has not been researched extensively yet, although current and future policy formulation, implementation and evaluation requires innovative thinking and new research results. Tourism depends on travel services and transport systems in a major way at international, regional and local levels. Conversely travel flows are increasingly for tourism purposes, as tourism becomes the No 1 economic sector of activity in many countries and European regions. Whole communities within regions of the EU, including the new member

states depend on tourism activities and their future is linked to tourism development. Transport congestion is frequently caused by tourism flows and in return congestion hinders the further development of tourism as it restricts the carrying capacity. Many initiatives, including by the EU, promote the sustainable development of tourism and promote sustainable transport, but the two sectors, travel and tourism, although inter-related have not been the subject of extensive research into their integrated and systematic planning and management, including economics, logistics and cybernetics. Competitiveness of European tourism depends largely on the competitiveness of the transport systems and travel services. This paper will propose a methodology for integrated and systematic travel and tourism planning and management. In particular, the paper addresses the EU 7th RTD Framework issues that: there is a need to improve the competitiveness of the European tourism in the various modes of transport for tourism and leisure, such as low-cost airlines, charter flights, high-speed trains, cruise ferries and short sea shipping, and that: there is also a need to address the emerging needs from a new typology of travellers (age, gender and cultures), congestion problems in airports and surface transport networks. The critical mass exists in Europe through its diversity of the tourism products and services, including all forms of tourism (mass tourism, urban tourism, cultural tourism, ecotourism, etc). The Integrated approach is expected to enhance European excellence in terms of advances in combining technology and policy for the planning and management of travel and tourism services.

Integrating land use and transport planning

Ward, M
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Land Transport New Zealand Research Report
Land Transport New Zealand
(Po Box 2840, New Zealand)
2007 / (n333) / 116P / +refs
ISBN: 0478287461
ISSN: 1177-0600

Over the last decade, the integration of land use and transport has gained increasing international attention. This trend has been necessitated by the growing environmental and social impacts of road networks and motor vehicle use. These impacts are widely seen as being exacerbated by a lack of integration between land use and transport planning. This report examines potential legal and institutional barriers to the integration of land use and transport planning in

New Zealand. It provides an analysis of key planning instruments and practices in relation to the Resource Management Act 1991, Land Transport Act 1998, Land Transport Management Act 2003 and Local Government Act 2002. It also reviews overseas experience to identify key characteristics of effective integration that support sustainable transport outcomes. Drawing on international experience, recommendations are presented for improving New Zealand's land use and transport planning arrangements to facilitate integration. The research undertaken for the report was carried out between July 2006 and August 2007, as part of Land Transport New Zealand's 2006/2007 Research Programme. (a)

Making residential travel plans work

London, UK: Department for Transport (DfT)
2007-06 / 20p / 0 refs

The good design and location of new housing developments will include travel plans to help reduce car use, encouraging walking and cycling, and address the need to achieve better access to employment, health and leisure facilities. Measures known as 'smarter choices', which include travel planning, car sharing and car clubs, have been found to reduce traffic and improve accessibility in residential areas. Climate change and the need to cut carbon emissions are a priority, and a residential travel plan will aid in producing accessible, sustainable communities with benefits for all. The residential travel plan (RTP) recipe is tailored to a particular site and includes hard and soft measures e.g. cycle ways and season ticket discounts, respectively.

As well as introducing RTP basics, this document explains the key benefits of RTPs, how to make them work, getting the most from RTPs, and details of how to find out more.

Understanding behaviour through smartcard data analysis

Bryan, H
Blythe, P

Transport (Proceedings of the ICE)
2007-11 / v160(nTR4)p173-77 / 14

A feature of public transport smartcard systems that could greatly improve the business case for smartcard investment and deployment is the efficient utilisation of the vast amount of data gathered during operation. Each time the card is used a transaction is recorded. The transaction is essentially a snapshot of the card holder's

behaviour, such as their boarding location and time. If this information were collected and analysed, there would be potential to generate a dynamic passenger profile, which could continuously update itself as the data are produced. This provides the possibility for a much more coherent and in-depth understanding of user demand. The purpose of this paper is to question the possibility of creating a service that is responsive and relevant to user needs using additional knowledge, captured through smartcard data analysis, of public transport passenger use. Creating a service based upon meeting user demands could enhance the appeal of public transport and if this results in increased ridership, it would create a more robust and sustainable business case for smartcards. It could also encourage and facilitate the modal shift that is required for the sustainable development of the transport industry. (A)

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National project on transport policies to address climate change - phase one - perspectives

Buchan, K

London, UK: MTRU
2007-05 / 66p / 76

The project aims to help progress the development of a low carbon pathway for transport policy in the future. The project is divided into two parts; the impact of climate change on transport and the provision of a draft set of detailed policies to reduce the carbon footprint of Britain's transport system. This paper reports on the first phase which looked at issues such as target setting, timing, technology, behaviour, legislation, fuels, resources, emissions, and the involvement of individuals who are affected by the future policies. The report suggests the need for a rapid start. The policies to combat climate change should be rational, transparent and equitable; resulting financial benefits to the economy should be reinvested in transport initiatives; the policies should be comprehensive and integrated across all modes of transport. Key findings are outlined and the integrated approach is summarised, covering efficiency targets, sales tax, fuel duty, vehicle excise duty, and income issues. The project's fundamental principles are based on the need to reduce emissions, the interplay between land use and transport, the consistency of policy areas and the need for a partnership between policymakers and the public.

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What should councils do about climate change?

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Local Transport Today
Local Transport Today Ltd
(Quadrant House, 250 Kennington Lane, SE11 5RD, United Kingdom)
2007-10-11/24 / (n479) pp19 / 0refs
ISSN: 0962-6220

The author comments on how many local authorities have still not embraced the agenda highlighted in the Department for Transport's Smarter Choices report published in 2004. With transport being the only major sector where CO2 emissions are still rising, this is a significant part of the climate change debate. While current thinking suggests major reductions will only be achievable after about 2020, the author refers to the Commission for Integrated Transport's report on Transport & Climate Change and points out how local authorities could make significant progress in the short to medium term. While many local authorities have stalled on this issue, those that are implementing smarter choices packages have already found significant reduction in vehicle use. The author believes funding implications contribute to local authorities' reluctance to implement these initiatives; however he feels these softer initiatives actually offer good value for money compared to the more expensive and less immediate harder initiatives such as infrastructure and engineering solutions.

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Delivering effective public transport outcomes in Australian cities: everyone has a role

Fleming, D
Moore, P

Australian Institute of Traffic Planning and Management (AITPM) National Conference, 2007, Canberra, Act, Australia
Australian Institute of Traffic Planning and Management (AITPM)
(Po Box 6684, Halifax Street, Adelaide, South Australia, 5000, Australia)
2007-10 / 96-106 / 2refs
ISBN: 0957884095

One of the most potent messages to come out of the recent period of high petrol costs was that the impact was most severe on those who can least afford to pay. There's growing unanimity that there is a problem and that action is required but where is the leadership coming from? Whose role is it to show the way? The real question is not whether, but how do we adjust to a more sustainable future? Clearly there is little hope

from promoting policies that encourage car ownership and more dispersed societies. This paper focuses on the issues facing transport in Australia and argues that the responsibility lies across all tiers of government and with the professionals that plan, design, manage and operate our land use and transport systems. For example, the federal government has a vital role to play in leading the nation on environmental, taxation and pricing policy that supports the actions of the local leaders of our nation. On the other hand local government has a key role to play in ensuring that integrated land use/transport solutions are planned and delivered. (a)

Towards a sustainable future: encouraging corporate responsibility

Giblin, S
Ampt, E
Smith, R

Australian Institute of Traffic Planning and Management (AITPM) National Conference, 2007, Canberra, Act, Australia
Australian Institute of Traffic Planning and Management (AITPM)
(Po Box 6684, Halifax Street, Adelaide, South Australia, 5000, Australia)
2007-10 / 263-70 / 15refs
ISBN: 0957884095

In the current mood with regard to climate change, the motor vehicle is seen as a negative contributor to greenhouse gas emissions. On the other hand, it is a vital component of day to day life in our current cities particularly in relation to businesses of all types. This conundrum is one that forms the background of any initiatives to create a sustainable future in the corporate sector as well as elsewhere. This paper takes a look at one approach to reducing car use associated with the workplace the travel plan. In simple terms, this is a way of reducing car use associated with the workplace. The paper examines the way these plans have been used their strengths and weaknesses in Australia and elsewhere. It then looks at their potential role with benefits to government, the organisations themselves and to employees. The paper goes on to examine the key components of travel plans that have made them successful and those elements that have led them to become simply another plan on the shelf. It concludes with a discussion about the merits of a mandatory vs. voluntary system of travel plans to achieve the goals of reducing car use and at the same time greenhouse gas emissions. (a)

Climate change, enhanced greenhouse gas emissions and passenger transport: what can we do to make a difference?

Hensher, DA

Institute of Transport and Logistics Studies Working Paper
University of Sydney. Institute of Transport and Logistics Studies
(University of Sydney, Sydney, New South Wales, 2006, Australia)
2007-05 / (nITLS- WP-07-08) / 25P / 22refs
ISSN: 1832-570X

Climate change, global warming and enhanced greenhouse gas emissions (GGEs) are hot topics for many reasons, including scientific and speculative. The transportation sector, led by the automobile, has been cited constantly as a major contributor through human intervention to climate change. The media and lobby groups have, for many years escalated the case for finding ways to reduce the impact that people movement has on enhanced GGEs. Governments have ramped up the rhetoric to gain political support. Short of banning car use, the challenge remains one of understanding better what mix of actions might contribute in non-marginal ways to reducing the growth of GGEs (primarily CO₂) and even reduce the absolute amount of CO₂ produced by automobility. This paper evaluates potentially effective instruments that are aimed at a number of policy objectives linked to the triple bottom line efficiency, sustainability and equity focusing on social surplus gains in addition to cost effectiveness; but in particular the ability to reduce CO₂. We use TRESIS, an integrated transport, land use and environmental strategy impact simulation program, developed by the author, to assess the influence on CO₂ of a number of at source and mitigation instruments such as improvements in fuel efficiency, a carbon tax, congestion charging, variable user charges, and improvements in public transit. We apply TRESIS to the Sydney metropolitan area with instruments enacted in 2010 up to 2015. There are some instruments that can reduce CO₂ in the passenger transport sector by 5 percent over the next 8 years, with some more politically palatable, although requiring a greater amount of investment outlay by government. A mix of technological improvement linked to fuel efficiency and pricing of car use offer the most balanced way forward in terms of impacts on all stakeholders, especially in preserving government revenue sources and the opportunity to re-invest back into the transport sector through improved multi-modal infrastructure. (a)

The TravelWise-workplaces process: a programme for implementing workplace travel plans in the Auckland region

Kurucz, R-A
Bielby, C

International Conference on Sustainability Engineering and Science, 2nd, 2007, Auckland, New Zealand
New Zealand Society for Sustainability Engineering and Science (NZSSES)
(Po Box 305270, Triton Plaza, North Shore, 0757, New Zealand)
2007-02 / 10P / 4refs

Auckland Regional Transport Authority (ARTA) sets up partnerships with Auckland-based workplaces to implement travel plans. ARTA is capturing transport data through the process and ensuring that travel plans in the region meet their quality expectations and deliver results i.e. reduce solo car driving. The high value tools make travel plans more affordable to workplaces, and the process (and associated training) is closing the skills gap, making travel plans more accessible. The Auckland region sustainable transport plan sets the scene for a co-ordinated, controlled roll out of travel plans across the Auckland region. Waitakere City Council is a TravelWise organisation. The council joined the ARTA TravelWise programme in November 2005. The Waitakere central travel plan (located in Henderson) is the first workplace travel plan in Waitakere and aims to be an example for other workplaces in the Henderson area. Through the travel plan the council is now implementing high value initiatives such as public transport subsidies for staff, car pooling, car park management, cycle facilities and ongoing staff communications. This paper is about ARTA's TravelWise-workplaces programme and a case study of its implementation with Waitakere City Council. (a)

Transferability of sustainable urban mobility measures

Macario, R
Marques, CF

International Conference on Competition and Ownership in Land Passenger Transport, 10th, 2007, Hamilton Island, Queensland, Australia
University of Sydney. Institute of Transport and Logistics Studies
(University of Sydney, Sydney, New South Wales, 2006, Australia)
2007-08 / 75-105 [WORKSHOP 2A] / 9refs

This paper provides the synthesis of reports developed by the authors to the European Commission under the European Community (EC) Project METEOR (Monitoring & Evaluation of Transport & Energy Oriented Radical Strategies for Clean Urban Transport). It describes, on one hand, the guidelines to assess conditions of transferability of measures between cities, a task that was supported on past research projects undertaken on this subject and, on the other hand, on how those guidelines were adapted to the reported results of the EC CIVITAS I initiative. (a)

Promoting bike-and-ride: The Dutch experience

Martens, K

Transportation Research Part a
Elsevier Science Ltd
(The Boulevard, Langford Lane, Kidlington, Oxford, OX5 1GB, United Kingdom)
2007-05 / v41(n4) p326-338 / 45 refs
ISSN: 0965-8564

The number of policy initiatives to promote the use of bike-and-ride, or the combined use of bicycle and public transport for one trip, has grown considerably over the past decade as part of the search for more sustainable transport solutions. This paper discusses the experiences with, and impacts of, such initiatives in the Netherlands. The Dutch measures to promote bicycle use in access trips have been generally successful. A country-wide program to upgrade regular and secure bicycle parking at train stations has led to an increase in user satisfaction and a growth in bicycles parked at stations. Smaller programs to stimulate the combined use of bike-and-bus have resulted in an increase in bicycle use, bus use, and share of infrequent bus passengers. Bicycle lockers at bus stops are hardly used by bus passengers, due in part to the dominance of students among bus users as well as the relatively high price of lockers in comparison to the value of bicycles used for access trips. Measures to promote the use of the bicycle in egress trips have met with more varying results. Projects to introduce leasing bicycles for egress trips have failed to attract passengers, for both train and bus services. In contrast, the introduction of flexible rental bicycles at train stations has resulted in a small reduction in car use, growth in train trips, and growth in bicycle use for non-recurrent trips. The Dutch experiences suggest some lessons for promoting bike-and-ride in countries and cities with a less well-developed bicycle infrastructure. (A) "Reprinted with permission from Elsevier".

A tale of two cities: workplaces travel plan programs in Melbourne and Perth

Meiklejohn, D
Wake, D

Australasian Transport Research Forum (ATRF),
30th, 2007, Melbourne, Victoria, Australia, Vol 30
ETM Group
(Level 2, 521 Toorak Road, Toorak, Victoria, 3142,
Australia)
2007-09 / 10P / -refs

Workplace travel plans, also called green transport plans, are action plans an employer or site manager implements to reduce car travel generated by a workplace. Workplace travel plans have been used in parts of Europe and North America to address urban congestion, transport energy use and air pollution from car commuting. Travel plans are an important part of sustainable transport measures in the United Kingdom where central government, the Greater London Authority and local authorities have invested in supporting their development. Workplace travel plans were piloted in Australia through the Smogbusters program in the late 1990s when project officers based at conservation councils worked with employers in Brisbane, Sydney, Melbourne, Adelaide and Perth to prepare travel plans and start putting them into action. This paper considers TravelSmart workplace programs in Melbourne and Perth. In both cities, travel plans have been developed with employers to reduce solo car commuting. The evolution of these programs, the approaches used and outcomes achieved are compared. (a)

Analysis of sustainable transport by using information services

Nakazawa, K
Ueda, H
Hashitani, T
Tsurumi, H
Takoaka, M

International Conference on Sustainability
Engineering and Science, 2nd, 2007, Auckland, New
Zealand
New Zealand Society for Sustainability Engineering
and Science (NZSSES)
(Po Box 305270, Triton Plaza, North Shore, 0757,
New Zealand)
2007-02 / 10P / 6refs

In this study, we developed software for mobile phones to provide environmental information, and analyzed the importance of information services toward helping achieve of sustainable transport. To

provide information services efficiently, we conducted a web-based questionnaire to examine how people usually use mobile devices to receive information and decide a transport route. The results suggested that providing the environmental information by using the transport route guidance system via mobile phones would be more effectively in promoting sustainable transport. In addition, we analyzed the importance of environmental information by conjoint analysis, and demonstrated the possibility of improving transport sustainability by providing environmental information to transport users, especially older females. We also developed software to enable mobile phones to provide environmental information, and conducted a demonstration experiment for actual transport users between a specific terminal station and an event hall in Tokyo. The results showed that transport routes were often selected by using the images and that transport users tended to decide the transport route based on fare information. It was shown that the possibility of sustainable transport being selected based on environmental information was about ten per cent. (a)

A pathway to sustainable transport

Toleman, R
Rose, G

Australasian Transport Research Forum (ATRF),
30th, 2007, Melbourne, Victoria, Australia, Vol 30
ETM Group
(Level 2, 521 Toorak Road, Toorak, Victoria, 3142,
Australia)
2007-09 / 15P / -refs

This paper proposes an intermediate and pragmatic approach to sustainable transport policy. It is based within the broad perspectives of sustainability, while developing the Swedish Vision Zero approach to strategic goal setting and reviewing the institutional consequences. It is not the definitive answer to achieving sustainability across the whole of society, but it offers substantial potential for pragmatic progress by integrating international current best practice with high priorities for action, while seeking to deliver specific benefits to individuals and society. This paper: 1. Reviews the broad context of approaches to the concept of sustainability and its implementation; 2. Identifies an intermediate strategic approach to transport sustainability, building on the Vision Zero approach and international best practice; 3. Reviews the implications for institutional and organisational development in transport; 4. Identifies research issues that arise from this approach, including institutional structures and systems and the possible future role of government. (a)

Making in town without my car work - a good practice guide

Department for Transport (DfT)
(Great Minster House, 76 Marsham Street, SW1P4DR,
United Kingdom)
2006 / 30p / 0 refs

The 'In Town, Without My Car!' initiative was introduced in the UK in 2001. It is part of European Mobility Week, which runs between 16 and 22 September each year, giving towns and cities an opportunity to promote sustainable travel modes. This good practice guide illustrates some of the achievements of 2004 and 2005 and gives guidance to those wishing to participate in the scheme. The history of 'In Town, Without My Car!' events in Europe is outlined. The good practice examples included in the guide are from the London Boroughs of Camden, Brent and Merton, Bristol (Streets Alive festival), Colchester (Clever Commuting scheme), Darlington (Pedestrian Heart scheme), Egham, Staines, Sheffield, Newport, (Crush Your Car event), Cumnock, and Glasgow. A section on Frequently Asked Questions is included and a list is given of participating and supporting towns and cities in September 2005.

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Futures: future urban technologies - undertaking research to enhance sustainability

Beecroft, M
Mcdonald, M
Lyons, G
Bell, M

Proceedings of the ITS World Congress, London,
8-12 October 2006
ERTICO ITS - Europe
2006 / 8p / 0refs

This paper discusses work undertaken in the FUTURES programme; a multi-partner, multi-disciplinary UK-based research activity exploring the role of technology in enhancing the sustainability of urban mobility. A key future challenge will be to use technology to support mobility and access whilst managing traffic levels in a sustainable way. The FUTURES consortium brings together leading UK academics in the field of transport and transport-related technologies and applies an innovative methodological approach to develop new understandings regarding the role of technologies in supporting urban sustainability. This paper explains the FUTURES methodology and discusses some of the early findings from the research.

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Encouraging environmentally sustainable holiday travel

Boehler, S
Grischkat, S
Haustein, S
Hunecke, M

Transportation Research Part A
Elsevier Science Ltd
(The Boulevard, Langford Lane, Kidlington, Oxford,
OX5 1GB, United Kingdom)
2006 / v40(n8) p652-670 / 44 refs
ISSN: 0965-8564

Holiday travel behavior, individual characteristics of holiday travellers and strategies to change holiday travel behavior are the subjects of this article. From the environmental perspective, the journey to the destinations is the most critical aspect of travelling. Based on a 2003 survey of 1991 German inhabitants, the kilometers travelled and the choice of transportation mode for holiday purposes have been quantified. According to the number of trips and kilometers travelled, four travel groups have been identified. The groups vary according to socio-demographics, psychological factors, number of holiday trips, and travel mode choice. Persons who travelled to more distant destinations also travelled more often and used air travel for more than 60% of their trips. For the other groups, car travel was more important. Correlating the four travel groups with greenhouse gas emissions reveals that the smallest group-the long-haul travellers-was responsible for 80% of the emissions of the whole sample. Income, education, and openness to change were main indicators of individual greenhouse gas emissions. Target group oriented strategies to reduce the environmental impact of holiday mobility are discussed against the background of 84 in-depth interviews conducted with selected representatives of the first survey. (A) "Reprinted with permission from Elsevier".

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Transport management and car-parking - environment and sustainability

Department of Health - Estates and Facilities
Division

Health Technical Memorandum 07-03
2006 / 34p / + refs
ISBN: 0113227299

This health technical memorandum identifies best practice in developing travel plans and providing adequate transport and car parking for NHS trusts in England. It considers the background to the current

concerns surrounding transport by studying the strategic and policy issues leading to the present situation in transport and car parking and by looking at the national context within the healthcare economy. A matrix to estimate a base level of car parking provision (in the form of an accompanying CD-ROM), links to other assessment tools, ways to encourage trusts including their personnel and the public, use of external funding opportunities and environmentally-friendly transport options are outlined. The best practice NHS trusts share a number of factors that produce a robust travel plan. These include: financial incentives or disincentives, car parking constraints, a range of alternative modes of transport, strong management support, progressive implementation, close partnerships with the local authority and public transport operators, and dedicated staff responsible for travel plans.

Dongtan: Transport Planning for Sustainable City

Head, P

Proceedings of the European Transport Conference (ETC) 2006, September 2006, Strasbourg, France
London Association for European Transport
2006 / 0p / 0refs

Proposed to become the first ecological city in 21st Century China, Dongtan Eco City will play a large part in defining what sustainable urban development means in China and beyond. Responsibly addressing significant challenges to the region's and Nation's long term growth - water supply, water quality, air quality, global warming, mobility and access, culture, energy costs, housing supply, land attractive to emergent economic sectors, sustainable food systems, education, environmental health and human health - Dongtan Eco City will be a liveable, complete community that makes economic, environmental and social sense locally while also contributing to national and global sustainability. Dongtan is not intended to be a demonstrator of imported technology or ideas. It will represent the Chinese understanding of sustainability within the context of China's developing economy and unique natural and cultural environment. Quality of life will be the distinctive feature of the new city, where environmental, social and economic sustainability will be the key values for development. The transport work undertaken has identified a number of preferred transport technologies that should be considered to serve the Eco-Demonstrator (Ec D) and Dongtan City as a whole. This first assessment was based on a sustainability appraisal, a financial appraisal and an economic appraisal. Economic/demographic scenarios, urban design, potential technologies, public policy, infrastructure fixes, and route options have been the

key inputs to this process. Initial work focussed on the sizing and appraisal of an "About Town" bus route for the Eco Demonstrator, comparing hydrogen fuel cell and conventional diesel buses. This approach was extended to consider other technologies and routes and appraise against different scenarios for the scale and speed of development for the Ec-D and Dongtan as a whole.

Towards better performing transport networks

Jourquin, B (ed)

Rietveld, P (ed)

Westin, K (ed)

Routledge

(4 Park Square, Milton Park, Abingdon, Oxfordshire, OX14 4RN, United Kingdom)

2006 / 373p / + refs

ISBN: 0415379717

This book is a collection of studies by researchers belonging to the Network on European Communications and Transport Activity Research. The first part considers the stimulation of better transport performances by means of regulation and various other policies. This is followed by contributions on efficiency and sustainability in transport. Some method-oriented contributions in which efficiency is measured by models and methods are also included. Specific topics include intermodal transport, the environmental impact of underground freight transport, intelligent speed adaptation, competition in transport networks, environmental impact of vehicles, decoupling economic growth and transport, workplace travel plans, public transport policy, high speed trains and the accessibility of destinations, global supply chains, short sea shipping, simulation of travel behaviour, and deployment of advanced driver assistance systems. It is noted that the environmental performance of multimodality is less good than might be expected, that the environmental impact of transport is a matter of continuous concern and that the long term impacts aiming at decoupling are hard to assess.

Integration or segregation - recommendations of the principles of urban road network design for the sustainable city

Nielsen, G

Proceedings of the European Transport Conference (ETC) 2006, September 2006, Strasbourg, France
London Association for European Transport
2006 / 15p / 2refs

The paper will deal with the current international debate about the principles of road and transport network design in urban areas, in particular the urbanist critique of the conventional approach in the tradition of the famous Buchanan report (Traffic in Towns 1963) and the influential Scandinavian traffic safety principles of SCAFT (1967). This is done through a literature-based review of the competing concepts of: Traffic integration and traffic calming with filtering of car traffic into the traditional, mixed use urban street as the main object of interest, versus Differentiation and segregation of different types of traffic, with the hierarchical road system as a main system solution, resulting in urban structures that are characteristic of the modernistic, car-based city. The merits and disadvantages of the two different planning paradigms will be discussed in relation to the goal of sustainable development, and on the base of existing empirical evidence of the effects of the various types of solutions recommended by the different schools of thought. The paper will propose a revised set of network principles that might be recommended to cities that have a sustainable transport system as a major goal of city development and transport. The paper will be based on a literature review on this topic that the author has carried out for the TRAST (Traffic for an attractive city) project of the Swedish Road Administration and other national bodies responsible for urban planning and transport in Sweden. The finally revised report (in English) is due to be completed in February/March 2006. A preliminary outline of the paper: Defining the goal of sustainable urban transport. A short history of the urban network design principles and their different ways of accommodating car traffic growth in urban areas. The urbanist critique of conventional road planning and modernistic urban design. The alternative principles proposed; traffic integration and car traffic filtering. Some important facts about the interactions between land use, car traffic, urban environment and traffic safety. A discussion of the consequences of alternative network strategies for urban sustainability. The study is one of several other analyses of different aspects of urban road transport network design that are being made as part of the revision of the Swedish design guides for urban road transport system design. The development programme called TRAST (Traffic for an attractive city) is a joint venture of the Swedish Road Administration, the Swedish Rail Administration

- Banverket, the Swedish Association of Local Authorities and Regions and the National Board of Housing, Building and Planning - Boverket.

Societal trends, mobility behaviour and sustainable transport in Europe and North America

Rudinger, G
Donaghy, K
Poppelreuter, S

European Journal of Transport & Infrastructure Research
Delft University Press
(P.O. Box 5048, NL 2600 GA, Netherlands)
2006 / v6(n1) p61-76 / 38 refs
ISSN: 1567-7133

This contribution describes the work of Focus Group three of the European Union network Sustainable Transport in Europe and Links and Liaisons to America (STELLA). It examines especially social and behavioural aspects of sustainable transport from a transatlantic perspective. Significant societal trends (e.g. the ageing of societies) are surveyed and their implications for mobility behaviour are drawn. The sustainability of this behaviour is considered along with constraints and drivers of this behaviour in Europe and North America. The contribution takes up relevant policy issues and concludes with a discussion of a transatlantic research agenda on social and behavioural aspects of sustainable transport. (A)

Personalised travel planning in Wales - the way forward for mode shift

Thompstone, L
Beale, E

Proceedings of the European Transport Conference (ETC) 2006, September 2006, Strasbourg, France
London Association for European Transport
2006 / 16p / 10refs

Many people are cynical about the potential impacts that travel planning can have in reducing travel by car and increasing mode shift to sustainable transport. Evidence shows that personalised travel planning is a method which achieves real modal shift! It encourages people to use sustainable travel modes for some or all of their journeys, and to reduce the need to travel, through direct liaison with individuals. It is well known that people react better to personal contact than general marketing initiatives. There are a growing number

of successful personalised travel planning schemes across Europe and elsewhere, which have resulted in significant levels of mode shift. Successful schemes target specific groups of people who are more likely to be responsive to making changes in their travel behaviour. Concentrating on these groups, surveys are carried out to find out their current travel behaviour and the type of journeys made, and this information is then tied in to the provision of a tailored package of information and incentives to encourage the trial of more sustainable transport modes. Usually, some kind of individual contact will be made with the intended participants in the scheme. This paper aims to focus on both the positive and negative outcomes from the comprehensive review of the regional Personalised Travel Planning pilot schemes carried out across Wales. This detailed appraisal was carried out by Halcrow in conjunction with the Welsh Assembly Government (WAG) who commissioned and funded the 5 pilot studies, each costing £50,000. The paper will also outline comparisons between the Welsh projects and other personalised travel planning schemes in the UK and abroad. As a result of the appraisal, the paper will conclude with a series of best practice examples and recommendations for conducting future schemes across Wales. It is important that the analysis and appraisal from the Wales schemes is shared, as the recommended outcomes are equally applicable to other countries and can therefore be used to encourage other successful schemes. In particular the paper will look at the following: The Welsh Pilot Studies - outlining the positive and negative aspects of each pilot scheme through assessing their suitability, methodology and evaluating their success; Comparisons With Other Personalised Travel Planning Schemes - comparing the Welsh personalised travel planning experience to that of other countries. Successful Personalised Travel Planning - outlining pre-requisites for successful personalised travel planning schemes. Recommendations: Key factors for success including value for money, methodology and monitoring methods of personalised travel planning schemes, for various land use sectors. Personalised Travel Planning: The Future - including thoughts about how personalised travel planning can hold the answer to future mode shift, in line with the emerging Welsh and European transport guidance, targets and aspirations.

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Controlling air space

Allen, D
Bradbury, A

Surveyor
Hemming Group
(32 Vauxhall Bridge Road, SW1V 2SS, United Kingdom)
2006-06-22 / v194(n5883) p18-20 / 0 refs
ISSN: 0039-6303

Projects aimed at improving air quality in London, UK are described. The West London Alliance (WLA) of local authorities commissioned TRL to determine how sustainable travel along particular transport corridors in the region could be encouraged. TRL identified key road-based corridors in west London that were experiencing significant congestion or poor air quality. The corridors were investigated using LARCS (Longitudinal Assessment of Route Characteristics) and a set of recommendations were made for each corridor. These included implementing red routes, extension of bus lane provision, greater connectivity for cycle access, and junction improvements to improve traffic flow. TRL also investigated freight activity at selected trading estates in west London. The project consolidated possible measures that could be considered by the local authorities and freight operators to address the impact of freight on air quality. TRL worked with schools in Hillingdon to examine ways in which school-related traffic contributed to air pollution. Automatic traffic count data were collected and portable pollution monitoring was undertaken. Teaching aids and worksheets were produced to improve awareness of transport and environmental issues.

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Are local authorities setting a green transport example?

Clark, R

Local Transport Today
Local Transport Today Ltd
(Quadrant House, 250 Kennington Lane, SE11 5RD, United Kingdom)
2006-05-18 / (n443) p12-3 / 0 refs
ISSN: 0962-6220

Many local authorities in the UK are trying to reduce car traffic generated by their own staff. Green Travel Plans (GTPs) involve incentives such as reduced bus and rail fares, secure parking and showers for employees who cycle to work, and car-share schemes. Gwynedd County Council has drawn up a GTP that aims to reduce annual car travel by almost a million miles. The biggest gain would be achieved through

changes to commuting and reductions in single-occupancy car journeys. The council offices are in established towns and are easily accessible by bus and on foot or by bicycle. At Nottingham, attention is paid to sustainable development when building new offices. Some observers believe that GTPs will only achieve limited success without charging for workplace parking. Suffolk is one of the few local authorities charging staff for car parking. Income is used for a shuttle bus around Ipswich town centre. There is little incentive for staff to take public transport when travelling on council business. Gwynedd Council officers believe that a third of journeys on council business could be eradicated by greater use of teleconferencing and car sharing.

Accuracy all powerful in drive for sustainability

Cole, M

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(Linden House, Linden Close, TN4 8HH, United Kingdom)
2006-05 / p12-3 / 0 refs
ISSN: 1478-4467

Perception has an important role in the drive to get car users to switch to more sustainable modes of transport. Sustrans has been involved in two projects in Bristol, UK, to explore the perceptions. In the first project, retailers in two shopping streets were asked how they thought their customers travelled to the shop and shoppers were surveyed to find the reality. The retailers overestimated the importance of the car by over 100% and underestimated walking, cycling and public transport. The results suggested that retail vitality would be best served by traffic restraint, public transport improvements and measures to improve the pedestrian environment. The second project was the introduction of the Travel Smart initiative into three parts of Bristol. This used Individualised Travel Marketing (direct contact with households to identify their individual transport needs and to provide relevant information). The initiative increased walking, cycling and use of public transport, mainly by providing people with tailored information such as timetables and accurate information on journey times using different modes. The UK government has identified Darlington, Peterborough and Worcester to become Sustainable Travel Demonstration Towns.

The development of a Sydney VKT regression model

Corpuz, G
McCabe, M
Ryszawa, K

Australasian Transport Research Forum (ATRF),
29th, 2006, Gold Coast, Queensland, Australia, Vol 29
Queensland Transport
(GPO Box 1412, Brisbane, Queensland, 4001, Australia)
2006-09 / 14P / 11refs
ISBN: 1877040568

To establish a framework for the online planning system METRIX, the Sustainability Unit of the New South Wales Department of Planning commissioned the Transport and Population Data Centre (TPDC) to develop a Sydney VKT regression model. The aim was firstly to identify the factors that impact on car usage, and secondly, to develop a quantitative model to predict the vehicle kilometres travelled (VKT) likely to be generated given a set of socio-economic, locational and urban form characteristics. The model will be used to inform land use planning by predicting VKT resulting from proposed developments enabling their assessment against the metro strategy objective of reducing growth in VKT. In addition, the model can be applied to gauge the impacts of various development scenarios at a broader sub-regional level. This paper describes the development of the Sydney VKT regression model. It begins with a brief review of literature for results and procedures of related studies. The following section presents the model and explains what it means. Section 4 describes the development process. Subsequent sections discuss the limitations, the validation procedure and scope for further work. (a)

What's the 'big idea' in the travel change agenda?

Emmerson, G

Local Transport Today
Local Transport Today Ltd
(Quadrant House, 250 Kennington Lane, SE11 5RD, United Kingdom)
2006-10-05 / (n453) p13 / 0 refs
ISSN: 0962-6220

Publication of the top 500 UK 'Superbrands' identifying the strongest, most recognisable brands lacks sustainable transport brands such as bus companies. A book called 'The Big Idea' by Robert Jones reasoned that people increasingly need something

about a company and its products that they can believe in, trust and identify with. The author of this article argues that to sell sustainable transport modes requires the identification of credible, practical and realistic benefits of buses, cycling, walking and car sharing and communicating them to key target customers through effective promotional campaigns. One reason for the lack of national brand awareness about sustainable transport choices is the inherent local identity of the products involved.

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Incorporating sustainable land transport into district plans

Hansen, C

Transit New Zealand and New Zealand Institute of Highway Technology (NZIHT) Annual Conference, 8th, 2006, Auckland, New Zealand
New Zealand Institute of Highway Technology (NZIHT)
(Po Box 4273, 4601, New Zealand)
2006-10 / 12P / 7refs

In 2004 Transfund New Zealand has commissioned Tonkin & Taylor Ltd to prepare a best practice guideline to address the sustainability of land transport systems using District Plans. This conference paper will present an overview of the New Zealand experience of sustainable land transport and the findings related to two parts of the specific project undertaken by Tonkin & Taylor for Transfund New Zealand including: 1. the process of preparing the best practice guideline including the scoping of the project, establishment of a technical working group, consultation with key stakeholders, preparation of discussion papers and final approval of the guideline; 2. the content of the best practice guideline including the defining of a sustainable land transport system, issues facing sustainable land transport systems in New Zealand, options to address these issues, model provisions that could be included in District Plans, and the outcomes expected from the implementation of the best practice guideline. (a)

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Student cycle commuting as a spur to bicycle friendly cities

Koth, BA

Road and Transport Research
2006-12 / v15 (n4) p30-42 / 26refs
ISSN: 1037-5783

The University of South Australia (UniSA) campus at Mawson Lakes offers a demonstration case for integrating the dual issues of building a cycle-friendly image and increasing societal attention to making behaviour changes that embrace sustainability. The aim of this paper is to establish a vision for Adelaide of the linkage between universities and the city as a cycle-friendly environment, and to share preliminary findings from one specific campus about student perceptions of cycle commuting opportunities and barriers to participation. First, case study evidence is provided regarding how several European and American university towns have spurred the urban transformation to bicycle-friendly destinations. Second, results of surveys and focus group research undertaken as part of a broader sustainability agenda on one UniSA campus are highlighted as they have implications for the adoption of active cycle commuting. In summation, the paper explores how the Mawson Lakes campus could set a precedent for changing travel behaviour among a university's staff and students, given an assumption that the manner in which other international locales have used student enthusiasm for broader economic development goals can be transferred to an Australian setting. (a)

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Sustainable development update (2004-2006)

Library and Information Centre
Current Topics in Transport
2006-09 / CT145.2 / 28p / 0 refs
ISSN: 1464-1380

This issue of Current Topics includes over 70 abstracts of reports, conference papers, books and journal articles which focus on the policy of sustainable development both at national and local level. Particular emphasis is placed on abstracts dealing with sustainability in engineering including the use of recycled materials in concrete, and road and structural construction. These items have been selected from the material added to the Transport Research Laboratory's Library Database between 2004 and 2006.

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Mechanisms for implementing area wide travel plans

Mills, S

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2006-07/08 / p20-21 / 2 refs
ISSN: 1478-4467

In the UK, travel plans are packages of measures aimed at promoting sustainable travel within an organisation. They are often introduced through Section 106 agreements for new developments. This paper introduces the concept of Transport Management Associations (TMAs) as the coordinating organisation for travel plans and Business Improvement Districts (BIDs) as an innovative source of funding. A model TMA is a private member-controlled, not-for-profit organisation providing transport services in a particular geographical area. TMAs can be more cost effective than lone travel plans. BID is the term given to a local authority and business community partnership to take forward projects and services that benefit the trading environment and public. The role of TMA/BID in coordinating organisations for travel plans is outlined. (A)

Sustainability at a new pace: challenges of developing a local government pedestrian strategy and promoting Cyclovias

Paez, D
Blake, G

International Conference on Walking and Liveable Communities, 7th, 2006, Melbourne, Victoria, Australia
The Access Company
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2006-10 / 21P / 21refs

This paper describes Moreland's experience with the Cyclovia, a community activity that promotes walking. Experience in Australia and elsewhere has demonstrated that developing pedestrian policies are difficult tasks. To overcome this, a particular methodology for the development of local pedestrian policies was developed. This methodology encourages the development of pedestrian policies based on existing local and regional policies (such as health plans and transport strategies). The methodology follows a three step process. The experience in Moreland suggests that for local authorities, significant involvement of the community is required in order

to facilitate political decision-making and to explain technical matters. The use of readily available spatial and technical data for analysis also appears to be feasible for other municipalities. To complement the development of the pedestrian strategy, Moreland developed the first Cyclovia experience in Australia. The Cyclovia concept takes a busy road and opens it on a Sunday morning exclusively to non-motorised modes of transport. The objective is to create a new environment that encourages people of all ages to ride their bikes, walk, rollerblade or push a pram. (a)

Sustainable transport policies under scarcity of oil supply

Shepherd, SP
Pfaffenbicher, P

Engineering Sustainability (Proceedings of the ICE)
Thomas Telford Ltd
(Thomas Telford House, 1 Heron Quay, E14 4JD, United Kingdom)
2006-06 / v159(n2) p63-70 / 14 refs
ISSN: 1478-4637

A strategic land-use–transport interaction model is used to investigate the impacts of policies in technology, infrastructure, pricing and regulation under different assumptions about energy supply. Six scenarios have been defined, analysing three policy strategies in two different contexts of energy supply—A, generally accepted energy supply forecast and B, worst-case energy supply forecast (scarcity of energy). Policies include: business as usual; investment in infrastructure and technology; and a demand regulation based approach involving changes in taxation and tolls. The paper assesses the impact and robustness of each policy against assumptions about future oil supply/demand. Our results demonstrate three key issues. First, scarcity of oil will accelerate the development and take-up of alternative fuel technologies; second, investment in alternative technologies alone will alleviate the impact of local emissions and reduce energy consumption per kilometre travelled but will only reduce yearly carbon dioxide (CO₂) emissions after a time lag of about 15 years; so that, third, some form of regulation of demand will be necessary to reduce total emissions and externalities caused by congestion. Research is required to define the necessary level of regulation in combination with technology investments. However, we suggest that a policy involving improvements in infrastructure coupled with investments in fuel technology and differentiated fuel taxes will be required in the future. (A)

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