

# **THE TRANSPORT ECONOMIST**

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# Regional Transport Strategy for South East England

Martin Tugwell

Head of Regional Transport Planning, South East Regional Assembly

Talk given to the Transport Economists' Group  
at University College  
23<sup>rd</sup> October 2002

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Martin Tugwell explained that the Regional Assembly is now the regional planning body for South East England, which with 8m people is the largest in England. It has the fastest growth outside London and contributes more to the exchequer than any other region.

The Assembly has 111 members, two-thirds from local authorities at the highest level and one-third from social, economic and environmental organisations. All have voting rights. The Regional Planning Committee has 20 members, reflecting the 2/3:1/3 split. Funding is by subscription from local authorities though moving towards direct funding from central government (ODPM). To maintain a co-ordinated view for the whole of the South-East, there are regular meetings with GLA and East of England.

The Vision Statement for the Regional Transport Strategy (RTS) is:

*"... a high quality transport system to act as a catalyst for continued economic growth and provide for an improved quality of life for all in a sustainable and socially inclusive manner; a regional transport system which by 2021 matches the standards of the best in North West Europe."*

## Key Themes

The draft RTS has a number of key themes:

- ***Invest and Manage*** identifies transport hubs, selective investment in transport spokes, including a regional frame of strategic corridors.
- ***Mobility Management*** to provide an integrated approach to managing the demand for movement that aims to adjust people's travel behaviour.
- ***Sub-regional priorities for investment*** - e.g. Thames Gateway as the largest regeneration area in Europe.

- **The Gateway function** – linkage with other regions, within Britain and Europe.

The regional framework of hubs and spokes is shown in figure 6.1 of the draft RTS (reproduced below).



The spokes are not mode-specific they simply indicate corridors of movement. Whilst the SE Region cannot ignore London as the main attraction, it does act as a blockage to linking with other regions in Britain.

Pressures exist for a crossing east of London (esp. for freight) and an alternative northern corridor. Also corridors looked at in a sweep north south to the west of London and the south coast corridor.

These are all designed to deliver spatial priorities, recognising the existence of London.

Mobility Management is an integrated approach that seeks to balance:

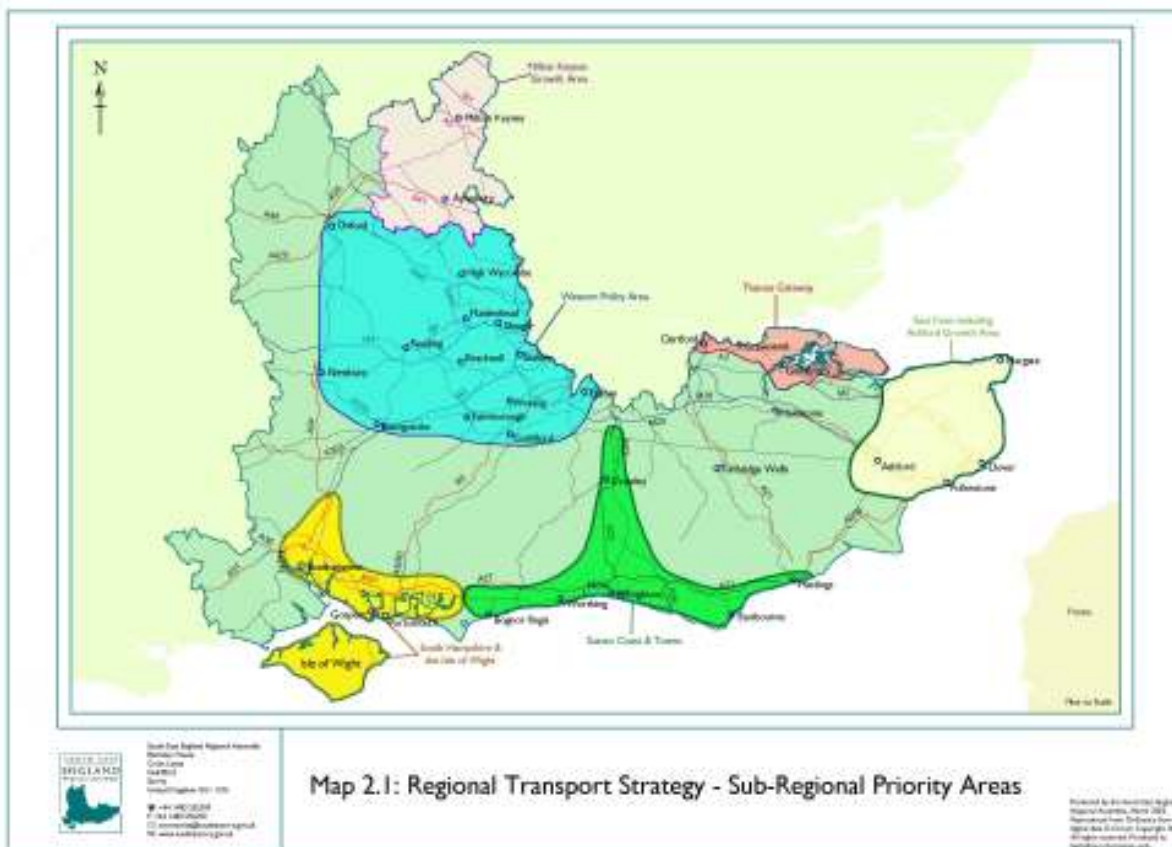
- allocation and management of highway space
- provision and management of car parking, on and off-street

- availability and management of public transport services
- availability and quality of pedestrian and cycling routes
- contribution of charging initiatives

Mobility management is an important part of the strategy and the main tools at present are tight parking standards, high parking charges, workplace parking charges, cordon charging.

Rail schemes generally only give a 1:1 cost-benefit ratio but if part of a package then higher benefits can be shown.

Figure 2.1 from the draft RTS shows the major areas of growth in the region



Implementation of the regional strategy is to be through three main ways:

- Financial resources are crucial to address past problems and then invest for the future.
- New and innovative delivery mechanisms that engage all players to make an integrated investment.

- Most of the investment will be located in sub-regional priority areas.

### **Consultation on the Strategy**

Overall there is a broad level of endorsement and support for the approach outlined; although there are issues of clarification and detail. The key themes of consultation were:

- **Hubs and Spokes** – greater clarity of their role and implication for development plans;
- **Regional Frame** – greater clarity of its function/objective;
- **Sustainable distribution** – more detail required;
- **Mobility Management** – clarify overall approach; specific issues associated with charging;
- **Delivery and Implementation** - possible greater emphasis on impact of local schemes, clearer prioritisation for major schemes, emphasise importance of delivery

MORI Research produced the following headline results:

- **Transport** was the second highest issue (after ?) most in need of improvement;
- **Tackling congestion** was the highest rated priority (28%);
- **Support for** better integration of rail and bus services, more frequent and reliable bus services; higher levels of funding; transfer freight from road to rail;
- **Focus of investment** should be on links within the South East (63%); balance between local (50%) and regional (42%) problems;
- **Balance of investment** – majority (%) believe improving public transport should take priority over improving conditions for motorist;
- **Making better use of roads** – majority (88%) support use of management systems;
- **Access to public transport** – majority (79%) support increased parking provision at stations;
- **Pricing signals** – 36% supported introduction of congestion charges.

Following the consultation, the following changes have been made to the RTS:

- **Regional Frame** – re-ordering of policies, revised wording;
- **Mobility Management** – revised wording for main policy; new policy on charging; flexible approach to residential car parking;
- **Ports** – revised short sea shipping policy, new policy on role of gateway ports;

- **Inter-modal terminals** – new policy proposed;
- **Rural policy** – focus on social and economic characteristics of the region;
- **Delivery** – emphasis role of small scale measures;
- **Sub-regional frameworks** – being updated.

### What Next?

- Executive Committee (25 Oct)
- Plenary Session (20 Nov)
- Hand-over to Secretary of State is expected around the turn of year, who will then consult in spring 2003.

### Discussion

*Leslie Tounde (KPMG)* opened the discussion by asking how is success measured and how do you undertake scenario analysis?

Martin: The work was done in anticipation of the multi-modal studies,. For example, the M25 study, Orbit, had mechanisms for dealing with issues in detail (economic appraisal, deliverability, effects on social groups). TRL produced a strategic model for testing policy, which gives broad scenario tests of how policies fit together.

Another person asked what are the other aspects that involved institutional change.

The guidance in PPG11 states that must not predicate strategy on changes in legislation. The Planning Green paper suggests that spatial guidance is a statutory document, which is significant. Local Transport Plans will have to demonstrate compliance with the regional strategy.

The South Coast Multi-modal Study suggests that cannot cherry-pick part of the study results since it is an integrated approach.

*Hugh Wenban-Smith (Independent consultant)* suggested that Regional Spatial Strategies could be the building block for national strategies. He asked what is the relationship between plans in the South-east, since there are awkward matters that cannot be smoothed over.

Martin: The SE Regional Assembly has objected to the London Plan since it implies there is more movement between regions. Very often the Southeast and East of England have different views from London as, for example, over the function of Crossrail.

*Martin Brazil:* the map of routes divided the region into two areas.

Commission for Integrated Transport made the comment about the lack of strong regional planning bodies. Next autumn, the SE will start work on spatial planning to 2026, which will lead to a serious debate about where the pressures lie.

*Robert Barras (Independent consultant)* asked if account had been taken of environmental considerations since the Southeast is a notable area between national objectives and local environmental hotspots.

Martin exemplified Hastings, with environmental groups in the Assembly having to make difficult decisions over the multi-modal study, particularly over a new road. The need to learn that investment in more sustainable patterns could relieve pressures in other areas.

Report by Laurie Baker



# **Regulatory Options for the Bus and Coach Industry**

Professor Peter White

Transport Studies Group, University of Westminster

Presentation to the Transport Economists' Group

University College, London

27<sup>th</sup> November 2002

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Peter White has worked on bus industry matters for many years and advised the House of Commons Transport Select Committee during its recent investigation concerning the industry, culminating in a report published in September 2002. The Government and the Office of Fair Trading's responses were published on 26<sup>th</sup> November 2002. Peter wished to make clear that his talk to the TEG expressed his personal views, not those of the Select Committee.

## **Main Legislation in Britain**

Peter listed the main legislation, which applied to the bus industry in Britain.

- The Transport Act 1980, which deregulated long distance coach services.
- The Public Passenger Vehicle Act 1981, which set out a framework for licensing of bus operators.
- The Transport Act 1985, under which local bus services across the UK, with the exception of London and Northern Ireland, were deregulated.
- Under the 1985 Act, local bus services became subject to competition legislation, and hence could be subjected to investigation by the Office of Fair Trading (OFT). The OFT's powers were strengthened under the Competition Act 1998.
- The GLA Act 1999, under which Traffic Commissioner's powers for licensing were transferred to Transport *for* London, the distinct London system of bus contracts was preserved.
- The Transport Act 2000, and the Scottish Act, under which:
  - (1) operators were required to submit timetable changes 56 days before they were implemented - an increase from the previous 42 days;
  - (2) Quality Partnerships - agreements between operators and authorities for service improvements - were given a statutory basis, and
  - (3) under certain conditions Quality Contracts were permitted, where local authorities contract services as is current practice in London.

In contrast to the bus industry, taxi services have not been subject to any recent consolidating legislation.

### **Transport Act 1980 and Express Deregulation**

This Act removed price and quantity controls on bus services, which travelled more than 30 miles and tours. The quantity controls had been imposed to protect rail services from coach competition, and the removal of these restrictions resulted in strong competition between these two modes.

Deregulation brought real passenger benefits; in particular as a result of lower fares, but also as a result of network and service innovations. Some rail passengers also benefited because off-peak rail fares were reduced in response to the heightened competition from coach services. Hence, deregulation saw a reversal of the previous decline in coach travel with passengers on National Express services increasing from around 10 million in 1980 to around 15million in 1985.

However, by 1993 patronage for National Express had fallen back to 10 million. The fall was primarily considered to be a response to significant fare increases, because coach passengers were sensitive to price (the elasticity of demand for coach services with respect to fares was estimated to be around -1.0). Fares have subsequently been cut and patronage has increased: now National Express has around 12 to 13 million passengers a year.

Although coach/rail competition was strong, competition between different coach operators has been limited. Contrary to some expectations, National Express, the incumbent operator, had major advantages over potential competitors, for example a developed network of services, co-ordinated service connections and savings with respect to marketing and retail outlets. No other operator has built and maintained a significant network of long distance, daily, year round coach services. Even when National Express raised fares significantly in the early 1990s, strong competition did not emerge.

### **Transport Act 1985 and Local Bus Deregulation**

The deregulation of local bus services prompted a significant fall in unit costs, primarily due to reduced labour costs. In addition, the previous decline in bus km run was reversed (though this was at least in part due to the introduction of minibuses, which may well have occurred in any case).

However, in contrast to express coach deregulation, deregulation of local bus services did not appear to result in benefits for passengers. In particular, bus fares did not fall. Demand for local bus services is inelastic in the short run (the

elasticity of demand with respect to price is estimated to be -0.4; the elasticity of demand with respect to bus km is estimated to be +0.4;) which means that a monopoly operator may increase profits by increasing fares. Bus fares could be reduced through price competition, but as passengers tend to board the first bus that arrives, price competition tends not to be effective. Research (see Evans and van der Veer) suggests that incumbent operators respond to this characteristic by offering high frequency service, and it is unlikely that a high frequency/high fare combination is socially optimal.

Following deregulation, bus ridership fell sharply, by more than would be expected from price changes alone, probably as a result of service instability.

### **Price Competition on Bus Services**

Peter demonstrated that price competition was less effective for bus services than for many other goods and services. He showed, using the evaluation value of time, that on average customers would only be prepared to wait an average of around 4 minutes (i.e. a frequent bus service running every 8 minutes or less) if they were able to save 15 pence on the fare (around 25 per cent of the average bus fare).

This is a high hurdle for new entrant bus operators. It means that price competition is only likely to be effective where there is very high demand and therefore high frequencies can be justified, such as the Wilmslow Road in Manchester. The other situation where people would choose between operators is where there are large fare differentials; there have been some examples of this along the boundary of London and Surrey.

Competition can also be ineffective at delivering user benefits: new entrants are tempted to schedule services just in front of incumbents', so that they pick up more passengers, even though passengers' benefits are maximised by evenly spaced services.

### **Examples of Bus Competition from Lincolnshire**

There was a phase of fairly intensive competition on bus services on busy routes across the country in the late 1980s. Little such competition remains. However, there are still sporadic outbreaks of competition. Some have had positive and others negative effects on passengers' benefits.

The first example Peter gave was "tit-for-tat" competition between operators Appleby and Road Car in 2001. Appleby ran a Wednesday-only service between Louth and Market Rasen. When Appleby experienced financial difficulties, it decided to compete with operator Road Car on several routes.

Road Car responded by exactly duplicating Appleby's Louth-to-Rasen service. As the competing services ran at the same time, the arrival of competition resulted in no benefits to passengers. Road Car's tactics were repeated on several of Appleby's routes, and Appleby ultimately went into receivership.

In the second example, Lincolnshire County Council provided new demand-responsive 8-seater service to feed into an existing bus service between Spalding and Kings Lynn (the 505) provided by operator Fowler. Operator Norfolk Green then introduced a competing service, the X17, which was around 20 to 25 minutes faster than the Fowler service because it stayed on the main road instead of diverting through villages. As the operators competed they extended the hours and length of route served. Following a period of intensive competition the incumbent operator, Fowler, withdrew from 2 November. Currently, Norfolk Green and another local operator run the X17 and 505, and they are scheduled to arrive at regular intervals (which is better for passengers). In this second example, a mixture of public funding and commercial innovation resulted in passengers' benefit.

### **Contrast with Rail**

In the rail sector, services are mainly determined through the franchise agreements - there is little competition as a result of open access. Where franchises overlap, some competition can occur.

For example, the operators Anglia and First Great Eastern each run half hourly services (together providing a 15 minute service) between London, Colchester and Ipswich. They appear in a common published national timetable and full-rate inter-available fares. The operators do compete with special fare deals, e.g. 1<sup>st</sup> class fares. Impartial retailing is a requirement of all rail sales and is found to be quite well observed.

Government policy towards rail competition is different to that of bus competition. For rail, common timetables and fares are permitted, or are a requirement in most cases. In the bus industry, joint ticketing and timetabling are seen as exceptions to current policy and are not encouraged on the basis that they may be anti-competitive.

The Strategic Rail Authority is now intending to franchise larger parts of the network, so that the extent of rail-on-rail competition will be reduced.

### **Some Current Issues**

Peter argued that competition between bus operators per se would not necessarily deliver passenger benefits, as had been demonstrated by the

Lincolnshire case study, and so competition per se should not be the focus of the OFT's investigations of bus services. Instead, the success of competition should be measured by the extent to which it delivers innovation and net economic benefits.

The Office of Fair Trading has argued that competition for tendered bus services may not be sustainable if on-road competition is absent. However such a position is refuted by the current situation. Competition for tendered services is far more extensive than "on the road" competition - on average there are three bids per bus contract. Competitive tendering of services (services in London, school services and non-commercial services are contracted through competitive tender, as are rail franchises) is very important for delivering better value for money.

Though the law on bus competition has not changed, since May the Office of Fair Trading has signalled a change in emphasis with respect to bus services. Travelcards and some other co-ordinated tickets now have block exemptions from competition law. However, operators of competing services are still required to have distinct fares, which Peter did not support. Such a policy can be confusing for passengers without delivering clear benefits.

He argued that as a result of current competition policy, it was easier for bus operators to merge than to co-ordinate services. This had the perverse effect of preventing smaller operators from working together to provide effective competition against a dominant larger operator.

Peter said that a quality contract should be implemented somewhere outside London (where a form of quality contract exists, but the market conditions are considered to be exceptional), so that the long standing debate on the merits of contracted services can be properly tested.

## **Discussion**

*Peter Gordon (AEA Technology)* asked what social exclusion legislation affected the bus industry.

Peter White answered that the Disability Act contains accessibility requirements for public service vehicles, though the implementation period is around 15 years. Concessionary fares are also important, and are discussed in the Select Committee report.

*Hugh Ashton (Steer Davies Gleave)* asked how a quality contract would be implemented over an area with existing bus services.

Peter: quality contracts can only be implemented after a long period of consultation. There are compensation issues. Quality contracts could take many possible forms, for example the local authority would not necessarily have to specify routes; they may or may not specify fare levels.

*Robert Cochrane (Independent Consultant)* asked how regulation could ensure that bus services are efficient.

Peter: there was a significant fall in unit costs following deregulation, though until recently there was a similar fall in London, where bus services are contracted out. Recent increases in wage levels have changed that a little.

*Dick Dunmore (Steer Davies Gleave)* argued that, as in most areas there was a dominant local operator, to encourage competition the OFT should be concerned with competition *for* the market, not competition *in* the market.

Peter: it is true that the vast majority of users do not have a choice of operator. In contrast, competition for tendered services works reasonably well.

Another person said that bus competition in Merseyside had caused disruption to passengers. Now that the local operator, Arriva, had a monopoly, services are more stable. He asked whether quality contracts were needed now that services were more stable.

Peter thought that quality contracts did offer some advantages.

*Ian Souter (Independent Consultant)* said that the 1930 Act required an adequate level of bus service provision, which implied cross subsidy. Subsequent Acts have effectively prohibited cross subsidy. He wondered how the size of the profits made in the commercial industry compared with the size of the subsidy for tendered bus services.

Peter: the previous requirement to cross subsidise services did not work well. For example, it could result in high-density council estates, which supported profitable bus services, subsidising affluent suburban routes, which did not. Concessionary fares are the largest payment for bus services at around £500 million a year. However, these are subsidies to passengers, not operators. Subsidy for tendered services outside London amount to around £200 million. The former Fuel Duty Rebate subsidy amounts to around £300 million. Operators need some operating profit to finance investors' returns and the purchase of new vehicles.

*Don Box* said that it seemed clear that competition was not effective in any transport industry. This has been understood with respect to the rail industry,

and at long last it was beginning to be recognised for the busy industry also. Part of the problem had been the fragmentation of the industry. He argued that there should be a regional body licensing and franchising operations.

Peter: the effects of competition had been uneven. The fragmentation of the industry is not necessarily a problem, provided that different operators are allowed to co-operate to deliver network benefits.

*John Cartledge (London Transport Users Committee)* said that apologists for bus service deregulation cite Brighton and Oxford as examples of its success, though there do not appear to be other such examples. He asked why deregulation had worked in these cities but not elsewhere.

Peter: both places have high-density populations, a restrictive car parking policy, and the sea/a river reducing accessibility. In both cases, operators have adopted a positive approach. Oxford has "intelligent competition" where innovations including low emissions vehicles have been introduced. In Brighton there is a single operator, Go Ahead, but again the operator has been innovative. In both cases, the operators have a strong local image.

*Dick Dunmore (Steer Davies Gleave)* said that the success of local bus services seemed to depend very much on the characteristics of the local operator(s). He asked whether it was therefore sensible simply to leave bus operators to the market.

Peter: currently an area can have a dominant incumbent operator who provides a poor standard of bus services. In theory, such a situation should prompt a new entrant to provide competing services, but in practice that has tended not to occur. There can be an enormous range of fare/frequency combinations, which are all feasible and profitable (though delivering different levels of user benefits): the combination that the operator chooses is open to chance.

*Robert Cochrane (Independent Consultant)* noted that in Hong Kong there are two types of bus services with two distinct fare levels.

Peter: the situation in Hong Kong has been possible because of the high population density there, and hence the high demand for bus services.

Another person asked if the current situation was so bad, why local authorities were not looking to implement quality contracts. The installation of a new light rail service seemed to be a particularly good opportunity, because bus services would need to change at that point in any case.

Peter: a quality contract is being considered in Coventry. A lot of work is required to implement a quality contract, including a major consultation, so it is a lot of work for local authorities. However, in some situations in particular, a quality contract may be preferable to the current situation. For example, in Surrey the local authorities have been forced to tender services at very short notice after commercial operators have withdrawn, and it has been difficult to gain good value for tenders in such circumstances.

Report by Emily Bulman, NERA



# **The Future Development of Air Transport in the UK:** **The South East**

Reg Evans  
Halcrow

Presentation to the Transport Economists' Group  
at University College, London  
11 December 2002

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Reg Evans began by outlining the structure of his talk, which would cover the following five areas:

- National Airports Policy
- The South East: SERAS<sup>1</sup> background
- Appraisal of impacts
- Economic appraisal
- Financial appraisal

## **National Airports Policy**

In the 1998 Transport White Paper<sup>2</sup>, Government undertook to produce a 30-year airports policy and bring forward new policies on civil aviation. The government is now consulting on airport development nationally and a White Paper was to be published in 2003.

## **Recent headlines**

- Councils back plan for airport in Kent (*The Independent*, 18 Nov 2002)
- Heathrow finds short answer to third runway row (*The Times*, 11 Nov 2002)
- Protesters concede need for two more South East runways (*The Times*, 14 Nov 2002)
- Tourism chiefs back Heathrow or Cliffe (*The Times*, 18 Nov 2002)

## **Current position**

The Government consulted on aviation policies in 2001 on, e.g., safety and security, consumer issues, economic and environmental effects. It is now consulting on national airport development proposals, in the Southeast and all

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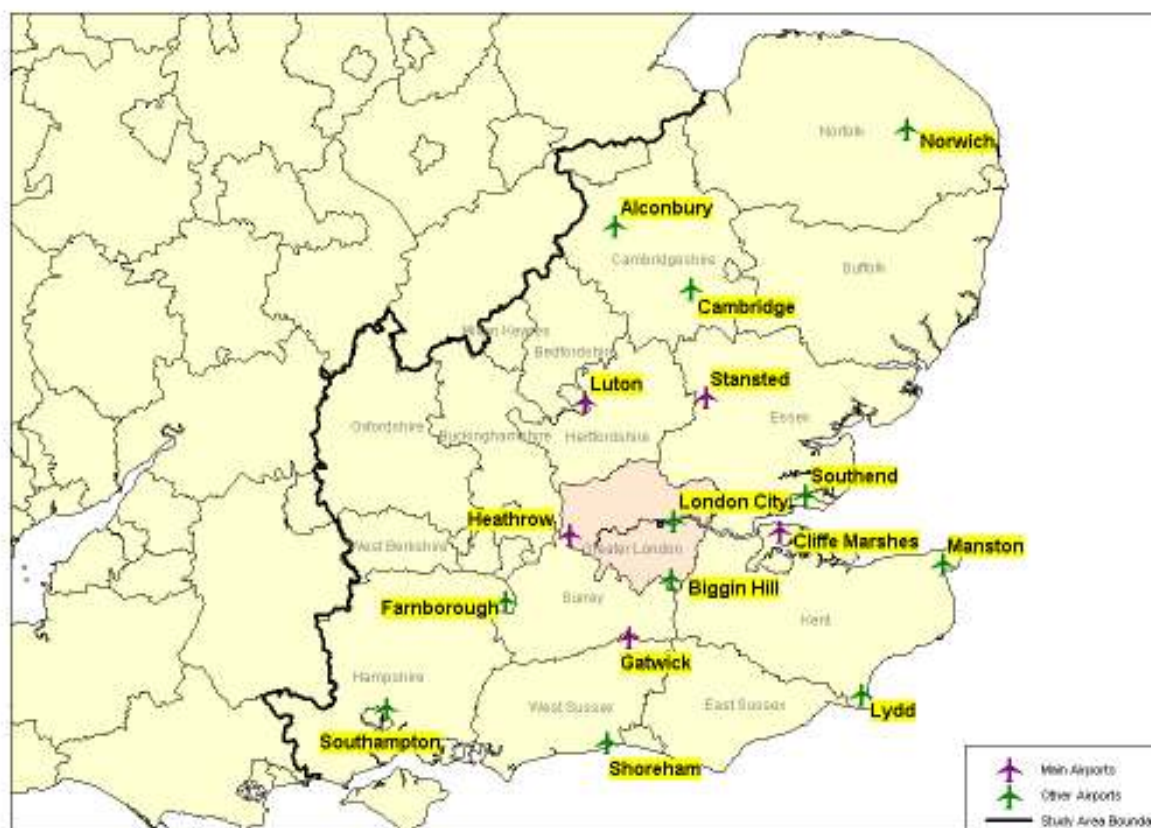
<sup>1</sup> South East and East of England Regional Air Services Study

<sup>2</sup> A New Deal for Transport: Better for Everyone

other regions. However, there has been a legal challenge by Kent County Council, Medway District and Essex on the exclusion of Gatwick, where there was an agreement between the government and West Sussex that there would be no airport expansion before 2024.

The Government did not intend to take action to overturn the 1979 agreement so that there would not be unnecessary blight and anxiety created by a 2024 runway proposal. However, the court held that the Government was wrong not to include Gatwick options. Therefore, Gatwick will now be included in a new consultation, which will, inevitably, delay publication of a White Paper.

**Figure 1: South East Airports**



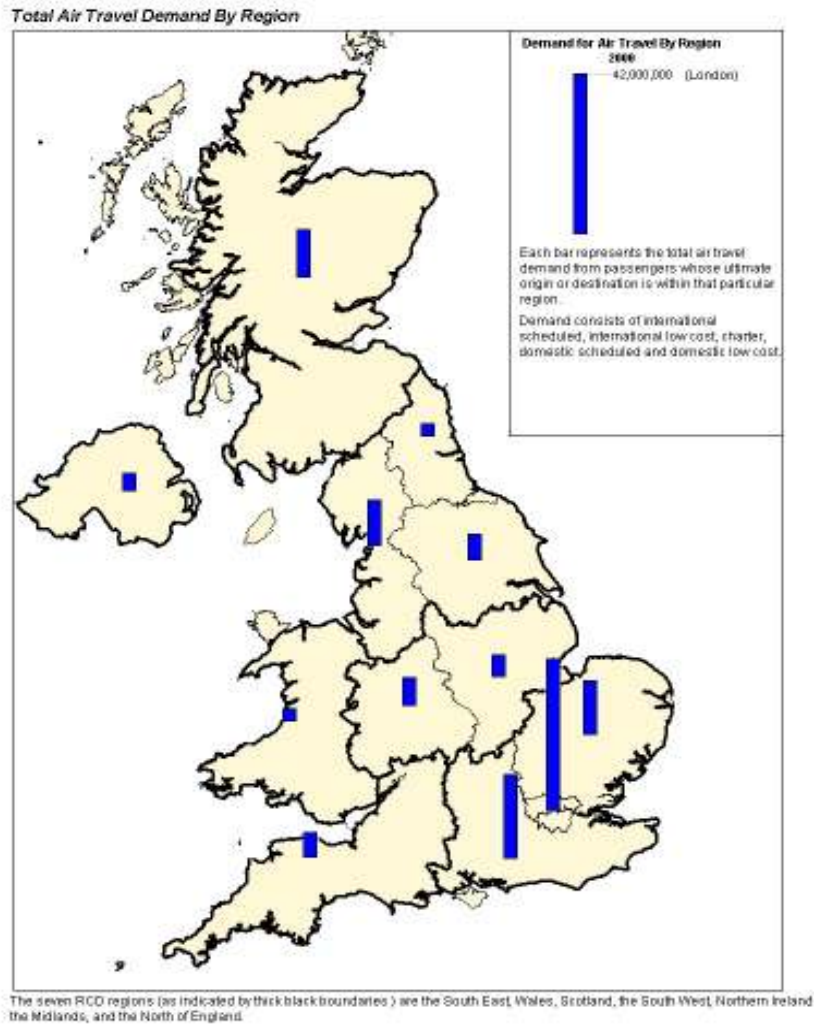
*Location of Airports in South-East and Eastern England*

Reg Evans set out the use of major airports in 2000 (see table 1). This showed that Heathrow air traffic movements are at capacity, with Gatwick only having a small extra capacity. Both Stansted and Manchester have considerable growth potential.

<b>Table 1: Airport Use in 2000</b>				
Airport	Runways	PATMS	mppa	ATM capacity
Heathrow	2	460	64	460
Gatwick	1	250	32	260
Stansted	1	179	18	440
Manchester	1	133	12	260
National total			180	

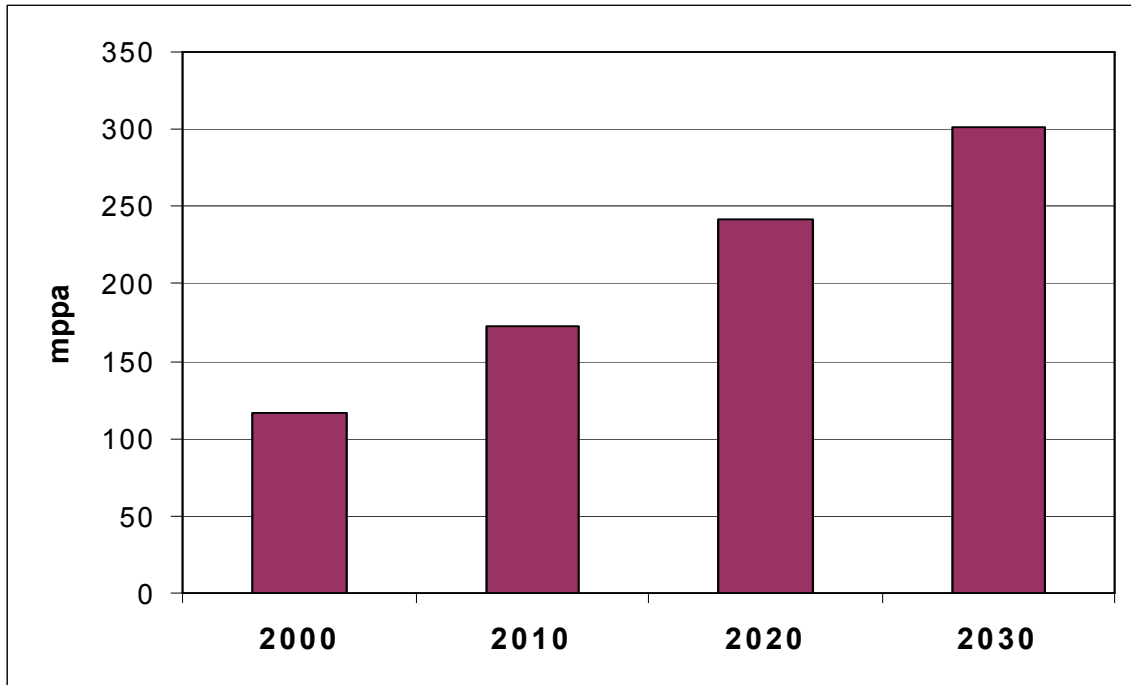
PATMS - passenger air traffic movements  
 mppa - millions passengers per annum  
 ATM = air traffic movement

**Figure 2: Demand for Air Travel in UK regions**



**SE demand growth**

If there were unconstrained growth in demand at SE airports there would be a 257% increase in passengers over the 30-year period.



**Figure 3: Unconstrained growth in demand**

With current planning permissions, this compares to a capacity at SE airports of 154 mppa, which will be reached around 2007. Maximum use of existing runways will allow 202 mppa, reached around 2015.

**Principal stages of SERAS** consisted of:

- Site Search Study: to identify possible new sites
- Stage One: development and appraisal of options at individual sites
- Stage Two: appraisal of selected options as packages across SE

Reg Evans then proceeded to describe a number of packages that had been developed for consultation that are set out in the following table:

<b>Table 2: Consultation packages</b>		
<b>Package</b>	<b>Capacity mppa</b>	<b>2003 Forecast mppa</b>
<b>(a) 0 or 1 new runway</b>		
Current planning	154	159
Maximum use of existing runways	202	185
Heathrow +1 runway	229	217
Stansted +1 runway	249	225
<b>(b) 2 or 3 new runways</b>		
Stansted +2 runways	269	243
Heathrow +1 runway, Stansted +1 runway	276	249
Heathrow +1 runway, Stansted +2 runways	296	266
Stansted +3 runways	293	258
<b>(c) 4 new runways</b>		
Cliffe with 4 runways	312	272

Given the court decision there is, obviously to be a new version with options for Gatwick<sup>3</sup>.

**The appraisal** looked at the local and system-wide impacts using the NATA appraisal methodology.

The local impacts analysed option layouts, capacities and costs, demand forecasts, the surface access requirements and impacts, land and property take (including contaminated land, ecology, heritage, landscape and visual, community issues), employment, land use and urbanisation.

Other environmental impacts investigated were effects on surface water, groundwater, flooding and water resources, daytime and night-time noise and local air quality (particularly NO<sub>2</sub>, PM<sub>10</sub>).

The system-wide impacts assessed demand forecasts, economic and financial impacts and carbon dioxide emissions.

**Demand modelling** used a new model developed for DfT to allocate passenger demand to existing and new airports on an annual basis from 2000 to 2030.

Passenger types included international scheduled (UK/foreign, business/leisure), inter-lining passengers, the impact of low cost airlines in both the domestic and international market, charter and domestic scheduled flights. The modelling included route growth and new route algorithms.

<sup>3</sup> This was issued as *The Future Development of Air transport in the United Kingdom: South East*. Second Edition, February 2003

**Allocation of demand to airports** was based on current demand from CAA surveys of departing passengers to UK Districts and 48 world zones. The demand growth used central forecasts of 'Air Traffic Forecasts for the UK' (DTLR, May 2000). Final allocation of demand to airports was based on surface access costs, service frequencies and shadow costs generated in the model. In the SE modelling it was assumed that runway capacity would always be available in other regions.

**Shadow costs** were based on market clearing prices, which limits demand at an airport where demand exceeds capacity. In practice, a surplus charge is applied at preferred airports.

There were two capacity measures: runway capacity (air traffic movements) and terminal capacity (mppa). Prices are higher when capacity constraint is greater (up to £135 per return journey at Heathrow), which pushes passengers away from airports, and out of the UK airport system.

Air traffic movement shadow costs were converted to cost per passenger; the larger cost per passenger on smaller aircraft and those with a lower load factor.

**Economic benefits from extra capacity** were measured as:

- Benefits to generated users - calculated at all airports, based on reduction in shadow cost
- Benefits to existing users - calculated at all airports for the small proportion of passengers benefiting from higher frequency
- Benefits to producers - additional surplus to airports from additional passengers
- Benefits to government - additional Air Passenger Duty

**Benefit:cost ratio calculations** were calculated in line with the current (2002) Treasury 'Green Book'. Examples of B:C ratios were:

- 3.7:1 (maximum use of existing runways)
- 3.4:1 (3 new runways)

Larger packages tend to give higher B:C ratios because of the lower unit cost of additional capacity and continuing benefit from more capacity. No allowance was made for reduced costs of delay.

**Value of environmental impacts** assessed were:

- Noise impact valued on the basis of reduction in house price (40p per passenger at Heathrow, <5p elsewhere)

- Local air quality impact valued on basis of hospital admissions due to standards being exceeded (small)
- CO<sub>2</sub> valued at £70 per tonne of carbon plus an allowance for other contributors to global warming
- Economic results recalculated on basis of 10% lower air fares and 10% reduction in passengers

**The wider economic benefits** were focussed on direct impacts - most tangible, certain and measurable. The wider impacts of aviation were:

- increase in productivity across economy as a whole
- increase in foreign direct investment
- impacts on individual industries, e.g. tourism

**Airport revenues** included:

- aeronautical - e.g., aircraft landing fees, parking fees
- non-aeronautical - e.g., retail, catering, parking

At major, regulated airports, CAA controls aeronautical charges. CAA are now proposing price caps consistent with a single till approach.

**Financial appraisal** was done on a single till basis with additional costs and revenues of development options. An additional levy per passenger or  $x$  in RPI -  $x$  charge formula was used to achieve a target IRR of 12.5% nominal.

## **Discussion**

*Stephen Burke (Bexley London Borough)* asked how would the environmental costs compare with the NATA approach on roads.

Reg Evans: They are roughly comparable in terms of measures, agreed by DfT and DEFRA.

Are we facing up to the complete value of the airport system?

Reg Evans had not worked back on shadow costs, but the DfT commissioned studies on the wider economic importance of aviation.

*Kate Sumbery (Citigate Public Affairs)* asked about fundability. Would the private sector fund Cliffe on the assumption there would have to be a considerable transfer of passengers to Cliffe?

Reg Evans: There is a division between planning and the White paper. It would be up to the private sector to bring forward proposals. On Cliffe, there will be pressure to meet unmet demand.

*Dick Dunmore (Steer Davies Gleave)* was sceptical that capacity will lead to increased demand.

Reg Evans pointed to unconstrained demand being 300 million by 2030.

*An independent consultant* thought that there was no hope of financing Cliffe since the practicalities to make it viable were too large.

Reg Evans commented that the regulation regime would be expected to help ensure that airlines staying at Heathrow would have to pay their full cost. Some modelling of air movements by NATS did not find any reason to rule out any of the options, i.e. there were no "show-stoppers".

*Emily Bulman (NERA)* asked if the study considered the costs of surface access?

Reg Evans: Yes, for each airport with different capacities. The passenger allocation model gives a distribution, assigning to car and public transport networks with background traffic to give the number of trips on the network. Increased volumes were shown to create problems.

*Dick Dunmore* opined that since there is uncertainty over fuel prices and other prices and asked what range of prices had been looked at.

Reg Evans: A key driver is the NAT forecasts, which are sensitive to fuel prices, air fares, GDP, etc. Modelling used the central forecasts with sensitivity tests to fares and environmental costs (assuming they are reflected in fares!).

Report by Laurie Baker



## BOOK REVIEW

The Transport Economists' Group does not necessarily agree with the statements contained in book reviews, and neither does it accept responsibility for reviewers' assessments of the books that they evaluate.

**A Market in Airport Slots** by Keith Boyfield, David Starkie, Tom Bass & Barry Humphreys

The Institute of Economic Affairs, 2003 (ISBN: 0 255 36505-5) £10.00 (pb)

The world's airlines make little profit. What there is comes from lower-than-average cost, higher-than-average quality, restrictive air services agreements or holding scarce slots at a congested airport. The current system of grandfather rights helps holders of these slots to charge higher fares, cross-subsidise loss making services, and in some cases, make and increase overall profits. Yet airlines do not own slots, and in most EU countries they can barely legally trade them among themselves, let alone sell them to anyone else.

The IEA's book brings together articles by four economists, Keith Boyfield, David Starkie, Tom Bass and Barry Humphreys, who agree that a formal market in slots would increase economic efficiency but differ over who should initially own them. Starkie favours recognising and legalising the incumbent airlines' de facto control. Bass and Humphreys suggest that Governments could own the slots and sell them to airlines at a premium. Boyfield suggests that the airports, as creators of the capacity, could own and sell or auction the slots.

The authors variously estimate the premium per passenger at Heathrow at 15-20% of fare, the value of slots at Heathrow as £0.7 billion and the value of BA's slots at Heathrow and Gatwick at £3 billion. The size of the problem may be unclear, but extracting the scarcity value from the airlines at congested European (and Asian) airports could remove a material proportion of the global industry's collective profits. Humphreys suggests that other taxes such as the UK's APD could be cut but, in a low-margin business in price-elastic markets, small changes in airline costs can have big effects on their profitability, in the short term, and their size, or even existence, in the not-so-short term. What proportion of global airline profits could be extracted to a few (rich country) Governments or airports, and how fast, without either retaliatory measures by other Governments or airline contractions and bankruptcies? If, as Boyfield suggests, the airport were to own the slots, it might also be difficult to explain to the public why the profits of struggling airlines should be handed to local, and sometimes privatised, monopolies. Would ring fencing of the airport income for capacity expansion be acceptable to the public, especially if either undesirable in environmental terms or unachievable in planning terms?

Assuming that these issues could be dealt with, there is still the question of what efficiency benefits would result. The authors speak of new entry, competition, allocation to the airlines who value slots most, and an end to the dominant national carriers. But they also identify many reasons why this might not happen.

One question is how much additional liquidity a market would bring. At most congested hubs, a dominant carrier already holds many slots who can trade them internally. Many of the remainder may be tied to particular activities; either by regional politics, to preserve “essential” services to the hub, or national politics, as non-EU airlines exercise bilaterally-negotiated access rights. How many would in practice be available for active trading?

Another point is that narrowly defined runway slots alone are of no use. Aircraft departing from one terminal will load surface access and fill car parks, then require check-in, security, lounge and retail facilities, and then gate, taxiway, runway and air traffic space. Aircraft arriving at another one will require air traffic, runway, taxiway and gate space, then transfer, immigration and baggage claim facilities, and then empty car parks and load surface access. All these facilities must be available, in the right sequence, and if they are not, possession of a slot alone is irrelevant. At Heathrow, how many early morning Terminal 1/2 737 departures can be replaced with Terminal 3/4 747 arrivals before stand space is exhausted? A liquid market in narrowly defined slots might merely result in a rapid lurch to the next constraint.

The next question is what new entry would occur if slots were traded. Unfortunately, only Starkie clearly distinguishes new entry from competition, or competition for slots from competition in final destination markets, but new entrants may not compete with the incumbents on regional or short haul services. Barry Humphreys’ own research shows that many new entrants may be long haul carriers, either opening new routes or exercising their bilateral rights to serve a major hub for reasons of prestige, even in competition to a more direct or frequent service by the hub carrier.

This in turn leads to the question of whether any direct competition would use limited resources efficiently. Starkie seems clear that it would not. Ansett and QANTAS once both flew every 30 minutes between Sydney and Melbourne, between them tying up 8 slots an hour at congested Sydney airport. A single operator could fly every 20 minutes with larger aircraft, provide the same capacity at higher frequency and potentially lower unit costs, and still release 2 slots for other services. Elsewhere, if dominant carriers were handed the slots of any direct competitors they could often increase frequencies and reduce costs and still free slots for new routes. Carriers entering alliances do sometimes

combine services on the route between their hubs and deliver these efficiency gains. In practice, regulators seek safeguards that slots are made available for a new entrant on the same route.

A closely related issue is who would value the slots most. This could be the dominant carrier, which need not be the most efficient airline on average in order to realise the greatest efficiency gains at the margin, because it has more scope to optimise services, prices, yields and capacity. As Starkie notes, it can internalise congestion and is best placed to reduce costs through economies to scale and density. He concludes that optimal use of congested airports may be a natural monopoly, as appears to be the case at the major US hubs. But if slot trading led that way, would politicians and public understand that dominance may be optimal?

This raises the question of whether and how passengers would benefit. However efficient the airlines are, economic theory demands that their output be allocated according to willingness-to-pay, which depends on quality and convenience but not costs. Slot trading might bring passengers higher-valued combinations of routes, timings and connections but as Starkie notes, the airlines' yield management systems may capture the increased value. It remains to be seen how much of any efficiency gain would be returned to passengers.

In summary, this book is a series of separate academic arguments for a market in slots. It lacks a clear statement of the central dilemma - that economic efficiency may preclude lower fares and requires less competition - or of how and why the authors differ from each other and others. With no consensus, and little quantitative analysis, it does not give decision-makers an idea of the size of the prize, the trade-offs and, assuming an objective is decided upon, the next steps. On the other hand it quotes widely from a range of sources, presents some illustrative data, identifies the key players and provides an interesting range of insights and quotes. As a quick read to kick-start one's thinking of a complex and important subject, it's worth £10.

*Reviewed by Dick Dunmore*



## **TEG NEWS**

### **OBITUARY**

#### **Professor Peter Hills OBE**

It is with great regret that we record the death of Prof. Peter Hills, Director of the University of Newcastle's Transport Operations Research Group and Dean of the Faculty of Engineering on 16<sup>th</sup> December 2002 after a long illness.

He had a distinguished career spanning 40 years. He was a member of Colin Buchanan's team that produced *Traffic in Towns* in 1963. He held positions at Imperial College and the University of Leeds, and was appointed professor of Transport Engineering and Director of the Transport Operations Research Group at Newcastle in 1977.

He was one of the founding members of the Transport Economists' Group formed in 1973. He was also one of the founding editors of *Transportation* in 1972, a member of SACTRA (Standing Advisory Committee on Trunk Road Assessment) from 1989-95 and President of the Institution of Highways and Transportation 1992-93. He was awarded the OBE in 1995 for services to transport planning and research.

He last presented a paper to the TEG on 26<sup>th</sup> April 2000, entitled "*The Analysis of Congested Road Networks*". This was reported in *The Transport Economist* of Autumn 2000, Volume 27(3)

### **TEG WEBSITE**

The Group is currently developing a website for members but requires assistance before it can go live. If there is a member who would be willing to help with further development please contact the Editor on 020 7974 5962 or at [laurie.baker@camden.gov.uk](mailto:laurie.baker@camden.gov.uk)

## **ANNUAL GENERAL MEETING, MARCH 2003**

The Annual General Meeting of the Group took place on the 26<sup>th</sup> March 2003 with eight people in attendance.

### ***CHAIRMAN'S REPORT FOR 2002***

The TEG continued its series of meetings on topical subjects in the field of transport economics. The programme for 2002 was as follows:

- |          |   |
|----------|---|
| January  | The proposed Congestion Charging Scheme in London – integrating theory into practice (Michèle Dix, Transport for London) (joint meeting with ICE, London Association) |
| February | Rail privatisation (Michael Schabas, GB Rail)   |
| March    | Transport in Shanghai (Roland Niblett, Colin Buchanan and Partners)   |
| April    | PPP for the Underground – tackling the right problem with the wrong solution (Tony Travers, Greater London Group, London School of Economics)                         |
| May      | The modern trolleybus – the economist's tram? Role, economics and regulation (Robert Cochrane, Independent Consultant and Visiting Professor, Imperial College).      |
| June     | Slot allocation and airport charging (Robin Pratt, Steer Davies Gleave)   |
| October  | Regional transport strategy for South East England (Martin Tugwell, South East Regional Assembly)   |
| November | Regulatory options for the bus and coach industry (Peter White, Transport Studies Group, University of Westminster)   |
| December | SERAS (South East and East of England Regional Air Services) study (Reg Evans, Halcrow)   |

All the meetings were well attended. The joint meeting with the ICE attracted an audience of 73, and the meetings addressed by Michael Schabas and Tony Travers attracted audiences of over 40, which seems very satisfactory for an organisation with a membership of about 135. The policy of sending out e-mail reminders a few days ahead of each meeting has been continued. The meetings have been held in the Centre for Transport Studies at UCL, which seems to meet the needs of the Group.

I would like to express my thanks to the other members of the Committee for their help and support over the year. I would particularly like to thank Don Box and Peter Collins who are retiring from their roles as Membership Secretary and Treasurer, and Vice Chair and Secretary, respectively, after many years of service. I would also like to express my appreciation of the excellent administrative assistance that the TEG has received from Joanna Hase for a number of years, and wish her well in her new home in New Zealand.

Roger Mackett  
26 March 2003

### ***TREASURER'S REPORT AND ACCOUNTS***

The Treasurer, Don Box, introduced his report and the accounts for 2002:

1. The result for the year 2002 is a loss of £83, which, although not completely satisfactory in view of the actions taken to increase income and reduce expenditure that year, is a considerable improvement on 2001. Income rose by over £100 compared with 2001 as a result of the increases in subscription rates, offset by a halving of interest on the bank balance.
2. The breakdown of expenditure between the main items of administration, publications and meetings, compared with the two previous years, is:

	<b>2002</b>	<b>2001</b>	<b>2000</b>
	<b>£</b>	<b>£</b>	<b>£</b>
Administration	1,030	897	882
Publications	1,013	953	933
Meetings	844	1,136	1,210

3. The full benefit of transferring the meeting venue to University College was felt in 2002, but a further doubling of the cost of public liability insurance substantially offset this. Administration is up principally due to the costs of setting-up and running the website. The increasing use of e-mail continues to have a downward effect on administration costs, and members are asked to ensure that the e-mail addresses we hold are correct. Publications showed a small increase in cost mainly due to postal charges. More detail of the items of expenditure and provisions for expenditure incurred, but not charged for by the end of the year, can be found in the audited accounts.

4. Membership has now stabilised around 135, which is a small fall on the 2001 figure. The Committee continues its efforts to increase membership and thanks those who responded to the appeal in last year's Membership Report to forward names of prospective members. As members will have noticed when they received their subscription renewal notice it has been necessary to increase subscription rates yet again. It is expected that this should provide a small

surplus in 2003 provided that membership is kept at the present level, and there are no further significant rises in costs. Members are asked to continue with their efforts to encourage friends and colleagues to join the Group.

Don Box  
 Treasurer & Membership Secretary  
 24 March 2003

**INCOME AND EXPENDITURE ACCOUNT FOR 2002**

	£	£
<b>Income</b>		
Subscriptions	2001	18
	2002	2,744
		2,762
Interest		32
Other (see note 2)		17
		<b>2,811</b>
<b>Expenditure</b>		
Administration	Secretary	825
	Other	205
		1,030
Publications		1,013
Meetings	Room hire	240
	Entertainment & expenses	79
	Insurance	525
		844
Corporation tax		7
Other (see note 3)		0
		<b>2,894</b>
<b><u>Excess expenditure over income for the year</u></b>		<b><u>83</u></b>



## BALANCE SHEET

<b>Accumulated funds at 31.12.01</b>	2,520	
Less: loss for 2002	83	2,437
Creditors (see note 1)		1,203
		<b>3,640</b>
 <b>Represented by:</b>		
Deposit Account	2,567	
Current Account	1,123	3,690
Less: uncleared cheques		50
		<b>3,640</b>

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Note 1: Creditors comprise:

(a) Hire of meeting room	170
(b) Secretary's remuneration	413
(c) Treasurer's expenses	14
(d) Secretary's expenses	36
(e) Printing and distribution of journal etc.	470
(f) Development of 'website'	100

Note 2: Refund of Corporation tax (Other income - £7) set-off against payment of tax (Other expenditure - £14)

Note 3: Payment to David Starkie (Other expenditure - £10) set-off against sales of JTEP (Other income - £24)

## **REPORT OF THE AUDITOR**

*To members of the Transport Economists Group:* I have examined the books and records of the Transport Economists Group and have received explanations from your Treasurer as necessary. In my opinion the Balance Sheet gives a true and fair view of affairs as at 31 December 2002, and the Income & Expenditure Account properly reflects the excess of expenditure over income for the year then ended.

G.R. Carson, Transport Consultant  
12 February 2003

***TEG COMMITTEE FOR 2003/4***

CHAIR

**Roger Mackett**

VICE CHAIR

**Don Box**

SECRETARY and DEPUTY EDITOR

**Dick Dunmore**

DEPUTY SECRETARY

**Robert Cochrane**

TREASURER AND MEMBERSHIP SECRETARY

**Gregory Marchant**

PUBLICATIONS EDITOR

**Laurie Baker**

PROGRAMME CO-ORDINATOR & WEBMASTER

**Peter Gordon**

COMMITTEE MEMBERS:

**Emily Bulman**

**Martin Lawrence**

**Peter White**