Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
Chapter 1

Progress in Transport and Tourism Research: Reformulating the Transport-Tourism Interface and Future Research Agendas

Les Lumsdon and Stephen J. Page

Introduction

The significance of transport as an integral component of the tourism system has been the subject of discussion in the tourism literature since the 1970s (Chew 1987; Lundgren 1973). The functional element of travel, and especially the transitory stage or flows between generating and receiving destinations has been modelled in a similar manner to gravity models in transport, although in reality these tend to simplify the complexity of trip making for tourism purposes (Hobson & Uysal 1992; Travis 1989). The nature of tourism flows is illustrated in Figure 1.1 This implies that although transport is clearly an essential element in the operation of tourism, the conceptualisation of the interface between transport and tourism requires further investigation (Laws 1991).

In a wider context, the development of a theoretical framework of analysis has focused on a systems approach. The tourism system is defined by McIntosh et al. (1995: 21) as a “set of inter-related groups co-ordinated to form a unified whole and organized to accomplish a set of goals.” Mill & Morrison (1992), in explaining the tourism system highlight the exchange process between consumers and suppliers by way of four integrating components, the market, the travel element, the destination and the marketing mechanism. These elements are linked, in the first instance, by flows of information followed by visitors travelling between originating and receiving destinations. The processes, which enable this to happen, through for example, travel intermediaries and transport providers facilitate the tourism experience. A number of authors expand our knowledge about the nature of the tourism system, including Getz (1986), and Gunn (1994); they conclude that it comprises a mesh of interrelated, functional relationships which are interdependent, dynamic and embrace both supply and demand. The first section of this chapter seeks to explain the interface between transport and tourism with reference to the tourism and transport systems. In the second part the authors address some of the major challenges constraining tourism transport and how this might shape the agenda for future research.
Whilst most authors analyse the tourism system in a holistic manner, it has also been readily divided into sub systems. For example, Leiper (1990) analysed the tourist attraction system and in relation to the transport element, Page (1999a) discussed the tourism transport system. Both authors reveal structures and processes which characterise these sub-systems and provide an explanation of how they fit within the wider tourism system. Page (1999a) defines the tourism transport system as a group of factors, which affect the entire tourism experience, from pre-travel planning to the last stage of the return journey. The approach is cognisant of a behavioural approach which explains why people travel and why they choose different forms of holiday, destination and transport (Oppermann 1997; Pizam & Mansfield 1999). For example, a number of studies have undertaken preliminary investigations into choice behaviour in relation to car-based tourism (Lew 1991). In Chapter 2, the nature of motivation and choice is extended by Pearce and Moscardo. In this contribution the authors draw a conceptual map to develop the connections between life cycle, tourist motivation and experiential consequences of transport using a case study of travellers in Northern Australia.

Developing the Transport-Tourism Interface: Key Conceptual Challenges

Despite the overlapping worlds of tourism and transport, there has only been limited progress evidenced in the literature. Page (1999a) points to the lack of coverage in the major transport text books and little can be sourced from the transport journal literature; this is despite the growing level of tourism trip generation within and between many regions of the world. Whilst analysis tends to be multi-disciplinary in transport as in tourism studies, the emphasis and direction of research has focused on the random utility theory which models choice of travel although this has been influenced more by human activity approach in recent years (Fox 1995). Thus, travel demand is modelled using a set of behavioural characteristics and assuming that the individual or household makes a rational choice based on the saving of time, for example. Despite its critics this approach still shapes conceptual frameworks, definitions and measurement of travel behaviour research (Hensher 2001). Thus, in transport studies, there is no conceptual difference in the approach to modelling trips for utility or leisure purposes.
There are a number of barriers which make comparisons between transport and tourism trips difficult or inoperable. For example, there is little co-ordination of data collection; transport and tourism data are inconsistent and definitional problems as to what is being measured are problematic. Indeed, some transport operators would argue that they do not actually carry tourists but only a homogenous group they label passengers. This dated perspective is losing ground with many larger operators applying marketing techniques to differentiate between market segments such as tourist and leisure travel. Thus, the definitions, which have been almost universally applied in transport studies, are not formulated similarly in tourism. In transport, for example, a trip involves a movement of a person between two places in order for activities to be undertaken. Places are usually referred to as originating and destination zones. In transport studies, a trip can be undertaken by using one mode of transport only or several modes. Furthermore, the trip can be divided into trip legs, each leg being a section of the overall trip made by one mode. The duration of the trip is the time between the start and finish of a journey. A tour refers to more than one trip from an originating zone to other places, but finally returning to the base destination zone. Tourism studies draw on a parallel framework but the conceptual base and definitions often differ. For example, the terms “trip” and “tour” are less clearly specified in tourism than in transport studies. Journey purpose is also defined differently in that transport trips can be made for work, leisure, and educational purposes whereas tourism trips include business, pleasure, visiting friends and relatives, health and religion. There are currently attempts to harmonise conceptual frameworks and data collection, mainly in relation to long distance travel, but they are still in gestation. For example, in the European Union the Methods for European Surveys of Travel Behaviour (MEST) and the DATELINE studies are seeking to co-ordinate survey design, procedures and sampling across EU member states. Within the tourism sector, there have also been several recent developments to align research and monitoring approaches which includes data on transport (Eurostat 1998; World Tourist Organization 2000).

In reality, the relationship between transport and tourism is asymmetrical. Transport is the facilitator without which tourism could not exist whereas the reverse is clearly not true. This being the case and given that the study of transport focuses on utility, such as journeys to work, school and other everyday personal business, tourism and recreational trips tend to be subsumed in a generalised modelling of transport systems. In a recent call for a widened research agenda in transport so as to integrate transport and wider socio-economic activity implicit references to were made to include leisure (Preston 2001). However, the current position is that transport analysis is based on core concepts such as derived demand in relation to trips which are made for any purpose. This begs the question as to whether tourism trips are sufficiently different to utility trips to warrant specific attention.

Are Tourism Trips Sufficiently Distinctive for Transportation Research?

The debate has focused on two key areas of discussion; the nature of trip characteristics and the volume of tourism trips. Firstly, there are several discernible differences in terms of trip characteristics. Most utility trips are made on a regular, and often habitual basis within
the locality or a wider zone within which a person resides. In contrast, the tourism trip, by
definition, involves journeys to places other than a resident’s usual environment. As many
tourism trips are not only infrequent, but are also first time or singular journeys, the visitor
is often unfamiliar with the transport systems and available options. Thus, behavioural
patterns are likely to be different; decisions as to where and how a visitor travels is partly
determined by a chosen activity but is also more likely to be a coping strategy based on
limited information. This applies not only to the transitory phase of travel but also at the
destination. Thus, the choice of mode is likely to be affected by the level of information
available, the choice of alternatives and ease of access to them.

Secondly, the volume of trips is an important factor within the pattern of overall demand.
Tourism trips tend to be far longer on average than utility trips and have been growing at a
faster rate than journeys for other purposes. Tourism has enjoyed continued growth for the
past four decades. International tourist arrivals have risen from 60 million in 1960 to 692
million in 2001 (World Tourism Organization 2002). This figure excludes domestic tourism
in each country which is estimated to inflate this aggregate figure tenfold (Cooper et al.
1998). There is, however, no overall estimation to indicate the percentage of tourism trips in
relation to all cross-border trips at a global level. Almost all countries are both generators of
tourism markets and receiving destinations. However, there is a major imbalance on an inter-
regional and intra-regional basis. In developing countries outbound tourism is relatively
small although even limited growth in an outward market can adversely affect the tourism
balance of trade. In the North, countries such as Germany with a population of 80 million
and the U.K. with a population of 58 million generate the highest proportion of outbound
tourism trips per annum per capita. In the European Union, it is estimated that tourist travel
accounts for 9% of all passenger kilometres and the average length of travel per capita
is 1,800 km per annum (European Environmental Agency 2003). In terms of cross border
country where tourism accounts for approximately 75% of all international trips and 20–30% of all
domestic trips (Artist 2000). Of the 75% of international trips these can be sub-categorised
into 61% long staying holidays and 13% short breaks (European Tourism Monitor 1998).
However, the trend is for people to take shorter holidays. For example, in France, it is
estimated that between 1975 and 1994 the number of tourism trips per person increased
from 3.1 to 4.8 per annum and that the average length of each holiday fell from 18 to 13
days (European Environmental Agency 2003). It is forecast that there will be far more short
breaks in future years; stimulated by higher rates of disposable income, cheaper travel costs,
more free time and life-style values which favour travel.

The lack of recognition of tourism as a major generator of trips in transport planning
at the region, country and destination level remains the subject of discussion. However,
there are issues which require further research, and at the outset there is a need for a
clarity in definition. As a starting point, the following section draws upon Page’s earlier
work on tourist transport which encompasses the entire experience of travelling on a mode
of transport. It is important, however, to distinguish between transport for tourism and
the tourism transport experience. This offers a theoretical base on which to build a sound
understanding of tourist travel behaviour. It is also important to consider the implications for
destination development, a line of investigation progressed in Chapter 6 by Prideaux when
he refers to the key transport factors which stimulate or inhibit the growth of tourism places.
Turton in Chapter 5 also addresses the subject but referring to the difficulties experienced
by developing countries, which seek to use airlines as a statement of national identity and at the same time compete in the market for long haul tourists (Raguraman 1997).

Transport for Tourism

Gunn (1994: 69) comments that “...transportation is not usually a goal; it is a necessary evil of tourist travel.” Transport in this context is utilitarian and the degree of satisfaction or utility is a function of time which is a proxy for cost; it is construed as derived demand where the mode of travel adds little or no direct intrinsic value to the tourism trip. Thus, in terms of tourism economics, travel has been traditionally modelled as a cost rather than a benefit (Prideaux 2000). The visitor is confronted with a trade off. There is a choice between the time spent and cost of resources expended on a journey in relation to a willingness to travel a given distance in order to enjoy recreation at a destination. This is sometimes referred to as the travel distance decay model (Clawson & Knetsch 1966; Loomis & Walsh 1997). It has considerable implications for destinations or attractions seeking to attract visitors from longer distances.

Modes of travel from originating to destination zones include the bicycle, horse, car, coach, train, sea and air travel and all cases involve walking. Of these the car and air travel dominate in most parts of the world but this is not always the case. In the Pacific, sea travel is more important, and between capital and principal cities train and coach travel can be the dominant mode for tourism travel. Many tourism trips involve a degree of inter-modality. The package holiday, for example, might include a taxi trip to the airport, a walk trip through the air terminal, a flight, followed by a coach transfer to the hotel at the destination. In comparison, many independent domestic holidays might involve only one form of transport such as the car.

The modal choice factor is also important, not only for the visitor, but also in terms of externalities generated in the transitory and receiving destinations. In terms of international travel, air transport accounts for 43% of trips whilst road represents 42%. Rail travel accounts for only 8% of the total and sea transport 7% (World Tourist Organization 2000). Analysis of the data indicates that there has been a gradual increase in air travel over road surface transport. There are, however, regional differences. Air travel is more important in Latin America and South East Asia in comparison to Europe. This is a reflection of distances between the generating and receiving destinations as well as the lack of alternative modes of travel. In general, air travel dominates long haul but gives way to road, rail and sea for medium length trips (Tolley & Turton 1995). The car tends to dominate in the mass market for short distance trips within and between countries in Europe and North America.

Transport as Tourism

Within the tourism transport system, it is also appropriate to differentiate transport as a means to an end and transport which is integral to the tourism experience. The discussion about transport as the facilitator of tourism has, for the most part, overshadowed research into transport as tourism, a perspective which suggests that transport can be an integrative part
of the tourism offering rather than simply providing access to the experience (Cooper et al. 1998; Page 1999a). The concept “tourism transport” explains how tourism and transport can come together as the tourism transport experience. In respect to the former element, transport still serves a purpose of moving visitors from place to place but in so doing it also provides an attraction in its own right, either by virtue of its location, heritage, degree of interest, novelty or health-related potential. This form of tourism transport is planned and designed to form an essential part of overall tourism experience. Thus, Orbaşlı and Shaw, Chapter 7, advocate the sensitive planning of transport in historic cities, not only as a circulatory mechanism to facilitate visitor access but also to enhance the public realm to conserve cities as places to enjoy a quality of life.

The extent to which a form of transport is purely utilitarian on the one hand or a moving visitor attraction on the other can be represented as a continuum. It is important to recognise that almost all forms of transport contribute to the overall tourism experience. However, transport for tourism tends to be characterised by its multi-purpose and market, functionality, directness, and speed. Clearly, tour operators and destinations seek to make transitory arrangements convenient but they also design to add value to an overall holiday by using the travel time to sell goods and services, interpretation and educational guidance to the visitor. Nevertheless, the design form concentrates on processing people as speedily as possible between generating and receiving zones. Alternatively, the tourism transport experience tends to be designed or in use mainly for the visitor market only, is often indirect as it seeks to offer a different perspective of a destination, and is rarely fast. The travel cost model does not apply in this context. The expenditure of time or duration of travel is the prime purpose of the trip and is the main benefit and therefore seemingly cannot be modelled as a cost. In this respect, it is important to determine the key factors and processes, which constitute the tourism transport experience. The nature of the tourism transport experience is defined either by a single mode or a combination of transport modes, it still involves movement from one location to another, and a degree of attraction or more precisely a satisfaction of wants associated with the actual process of travelling. The key distinction in transport for tourism tends to offer low intrinsic value within the overall experience and the tourism transport experience a higher intrinsic value. The continuum is represented in Figure 1.2 which shows that some forms of transport, such as the taxi or metro are designed to move people at speed between two points whereas at the other end of the scale, cruising or cycle tourism tend to be designed as the tourism experience.

Recent papers illustrate the concept of transport as tourism, including those featuring train travel (Dann 1994; Halsall 2001), cruises (Morrison et al. 1996; Travel & Tourism Analyst 1998), scenic car tours (Lew 1991) and thematic routes (Murray & Graham 1997). The continuum simplifies the reality. For example, one writer refers to a day trip excursion as “more properly a form of attraction than transport” (Bull 1991: 32). It would depend, of course, on the nature of travel used on a day excursion, and the degree to which it enhances (or detracts) from the tourism experience. This is an underlying principle of the tourism transport system, i.e. that all or some of the transport components have at least the potential to add directly to the value of the tourism experience. This theoretical proposition is in juxtaposition to utilitarian transport, which is purely functional and adds little or no intrinsic value to the tourism experience at a destination. As Page concludes:
The mode of transport tourists choose can often form an integral part of their journeys and experience, a feature often neglected in the existing research on tourism (Page 1999b: 8).

In summary, tourism transport is a generic term which covers all trips within the tourism transport system. However, there is increasing recognition that transport is an attraction in its own right and therefore should be planned and marketed differently to transport for tourism. Thus, Wood provides a detailed debate of the cruise line sector as a classic form of the tourism transport experience and points to the driving forces which have seen this sector increase in size on a global scale during the past two decades. The issue is also discussed in another context by Lumsdon & Tolley (Chapter 11) in their appraisal of non-motorized transport. The authors draw on several case studies to illustrate the importance of walking and cycling as modes of transport at a destination but also in terms of the tourism transport experience.

Within the widening debate on transport as a crucial element of tourism, there are numerous issues that currently occupy a prominent position in the transport-tourism interface, to which our attention now turns.

**Constraints on Tourist Travel**

Whilst the global growth of travel has seen continued increases in volume and scale, such travel by tourists has not been unabated as different factors have also constrained its development. Among those which have been most prominent are terrorist attacks such as September 11th, 2001, conveniently labelled 9/11 which has affected tourist willingness to travel even after initial restrictions were lifted for travel to and from the USA (Goodrich 2002; Page 2002). Similarly natural disasters such as the Foot and Mouth epidemic in the U.K. led to dramatic changes in the geography of tourist travel, as rural travel was constrained by limited
access in many areas further concentrating visits in gateway cities and regions within the urban hinterland (Page 2003a). These macro issues which have affected national, domestic and international travel patterns, are notable for their negative economic consequences for the transport sector. Given the capital-intensive nature of transport provision and costs of operation, any major swings in demand induced by such crises have major effects on the sector.

What is clear is that in the USA, these events contributed further to the financial problems facing major airline carriers such as United Airlines which are operating on the fringe of bankruptcy. This is also symptomatic of the profound changes now affecting the airline sector in both the nature of the traffic it handles (Doganis 2001) and the strategies it adopts in light of international restrictions and aviation policies (Chang & Williams 2002). Many of the larger carriers are still seeking to realign themselves to the realities of the new millennium as well as the greater diversity of market segments, each having their own particular idiosyncracies and specific needs.

In fact, little academic research has sought to model the state of the airline sector in relation to conditions of constrained markets. There is a notable absence in the research literature, particularly given the rapid growth of low cost carriers in Europe and elsewhere (with the exceptions of Calder 2002; Child 2000; Doganis 2001; Donne 2001; Gillen & Morrison 2003). The highly aggressive, adaptable and responsive managerial structures of these new genre of airline organisations in Europe have contributed to their continued success despite these unfavourable operating environments reported by larger carriers during the onset of macro economic constraints. A recent study by Mason et al. (2000) identified many of the factors which explained airline economic performance according to the standardised operating costs (i.e. flying expenses, maintenance and aircraft depreciation) and indirect operating costs such as ground costs, passenger services, ticketing and sales and administration.

What is clear from the new reality of airline operation is that the low cost airlines have taken a more holistic approach to operation, using a wide range of both economic tools and business expertise in strategy and marketing. For this reason, it is useful to provide a brief discussion of this new phenomenon for tourist travel, given the impact on both the U.S. market on European markets and potential effects in Asia-Pacific, since it poses many significant policy issues for many countries (Page 1999a; Papatheodorou 2002).

The continued growth generated by low cost carriers has also been the subject of critical debate with regard to environmental impact. Forecasts of air travel highlight a sustained rate of growth across the world, albeit at a slower pace than in previous decades in some regions (Patterson & Perl 1999). In the U.K., low cost carriers have placed increased pressure on South East airports (Humphreys & Francis 2002), creating rapid growth at airports such as Stansted and Luton. Such growth also raises wider issues over airport policy and the wasteful duplication of resources with regional airports competing for business, thereby fragmenting the potential market and reducing the services which can be provided at a local level. Graham & Guyer’s (2000) analysis of regional airports, and air services, in the U.K. highlighted three issues which create a conundrum for airport policy: the relationship of air transport to sustainable development; the integration of air transport with surface transport modes and the role of airport growth in relation to regional economic development. The low cost airline growth issue has certainly added a new set of policy implications in the U.K.
where the recent government consultation on airport policy (www.dft.gov.uk) in June 2002 saw many of the current debates on airport development extensively documented through industry and non-industry submissions.

Even so, such policy debates focus on the internal contradictions in government policy towards the transport sector, where the airport consultation highlighted the need for more airport capacity. At the same time, there are conflicting interpretations from other research such as the Royal Commission on Environmental Pollution (2002) report on *The Environmental Effects of Civil Aircraft*. This recommended replacing short-distance flights with rail travel for environmental reasons. As Page (2003a) indicated, this report highlighted some of the implications of hidden subsidies such as aviation fuel, which is exempt from tax under international agreements. As a result, the full costs of pollution are not charged to the users and suppliers. It is estimated that this may subsidise the U.K. aviation industry by £7 billion a year and give it unfair advantages over and above other forms of tourist transport. Page (2003b) indicated that substituting air travel for rail is only successful where journey times are up to three hours in length. Yet despite these issues, low cost carriers are seemingly popular on short haul routes. Research on the new patterns of tourist travel in Eastern Europe indicate that some of this growth has been promoted by the advent of low cost carriers and lower production costs for tourism services in this region. This is likely to expand further with the growth of the new Member States to be added to the EU, known as the Central European candidate countries (CEC). It will also have an impact on the Trans European Networks (TENs) which are considered to be vital for encouragement of European travel.

### The Low Cost Airlines: Development Amidst Adversity for the Global Carriers?

Much of the debate on low cost airlines emanates from the growth of SouthWest airlines in the USA since 1971. This company epitomises the traits of the low cost carrier and established many of the basic business principles of streamlined airline operations which many subsequent carriers have sought to emulate (see Table 1.1). A study by Reynolds-Feighan (2001) examined network concentration and the rise of new low cost airlines in the USA in the 1990s. It found that two types of operators could be discerned: the point to point operators such as SouthWest with relatively low levels of concentration in networks, with average non-stop flights of 500 miles or less; and those with high levels of concentration in the network with flight sectors of 750 miles or more with some connecting traffic. These organise their traffic flows and routes in a similar manner to traditional full-service carriers using small nodes or hubs.

What the low cost carriers have achieved based on the SouthWest model of airline provision and management is a cost structure well below its revenue. This means it can operate at a cost base, which is often 25–40% below that of its competitors where unrestricted fares are low. Further, many of its flight sectors are often short and so revenue per kilometre flown is relatively high, with a simple fare structure, high levels of punctuality and correspondingly high levels of customer satisfaction. What researchers have begun to focus on is the challenge of carriers such as SouthWest which have attracted business
Table 1.1: Key characteristics of low cost carriers which make them more competitive than other carriers.

- Some carriers have introduced single/one-way fares not requiring stopovers or saturday night stays to get advanced purchase (APEX) prices
- No complimentary in-flight service (no frills) which often reduce operating costs 6–7%
- One class cabins (in most cases)
- No pre-assigned seating (in most cases)
- Ticketless travel
- High frequency routes to compete with other airlines on popular destinations and up to three flights a day on low density routes
- Short turnarounds often less than half an hour, with higher aircraft rotations (i.e. the level of utilisation is higher than other airlines) and less time charged on the airport apron and runway
- The use of secondary airports where feasible (including the provision of public transport where none exists)
- Point to point flights
- Lower staffing costs, with fewer cabin crew as no complimentary in-flight service which also reduces turnaround times due to the lack of cleaning caused by food service
- Flexibility in staff rostering, a lack of overnight stays for staff at non-base locations and streamlined operations (e.g. on some airlines toilets on domestic flights are only emptied at cabin crew requests rather than at each turnaround to reduce costs)
- Many of the aircraft are leased, reducing the level of depreciation and standardising costs
- Many airline functions are outsourced, such as ground staff, check-in, minimising overheads reducing overhead costs by 11–15%
- Standardised aircraft types (i.e. Boeing 737s) to reduce maintenance costs and the range of spare parts which need to be held for repairs
- Limited office space at the airports
- Heavy emphasis on advertising, especially billboards to offset the declining use of travel agents as the main source of bookings
- Heavy dependence upon the internet and telephone for bookings
- Small administrative staff, with many sales-related staff on commission to improve performance (as well as pilots in some cases)

Source: Page (2003a).

and leisure travellers. This was a feature examined by Mason (2000) and the implications of marketing for the selection of low cost and full-service airlines in a subsequent study (Mason 2001). Research by Williams (2001), however, has ruled out the demise of charter airlines in Europe due to competition by low cost carriers, with long established charter carriers owned and run by vertically integrated tour operators. Charter airlines retain lower operating costs than low cost carriers where they are focused on core business — package
holidays and a proportion of seat-only sales. Furthermore, with some low cost airlines being unprofitable, the charter market is likely to retain its cost advantage.

Therefore, these innovations in low cost flying have been translated into the low-cost revolution that has now affected the U.K. and mainland Europe, whilst other examples, which exist in Australasia and Asia, are following this pattern. The development of the low cost airline revolution in the USA means that up to 15% of all domestic air travel is on low cost carriers (Page 2003a). In Europe, this figure is much lower at 3%, although it is growing rapidly, especially in the U.K. Therefore it is certainly a notable development in a global aviation market characterised by constraints on development due to high entry barriers, vested interests and global interests represented through alliances.

Despite the success of low cost carriers, there are more underlying constraints on tourist travel which impact upon transport provision and the ability of the tourism sector to operate in a predictable environment independent of risk and crises. Some of these issues are now addressed since they add a useful context to the book.

Interdisciplinary Research Challenges in Tourism and Transport Research for the New Millennium

Health and Travel

Travel by its very nature leads to changes in the normal environment in which people live, and the move to an unfamiliar environment poses its own risks and challenges in terms of managing the health, safety and implications for tourism transport systems. The interdisciplinary nature of transport and tourism research means that there is an ever expanding body of knowledge emerging as new fruitful areas of inquiry develop through the synergies with other disciplines. It is interesting that within an emerging area of study the travel medicine literature (for example, the *Journal of Travel Medicine*), many of the studies of air travel note that over 60% of travellers are apprehensive or nervous about flying despite the global rise in the demand for air travel. The health issues which travellers encounter on tourism transport systems have assumed a significant profile for transport operators, with concerns about reducing the stress of travel through better design and ease of access to terminals. What is not so widely debated outside of the travel medicine literature are the consequences of such issues for tourist travel (see Wilks & Page 2003 for a review of this area). Travellers can be subject to a range of illnesses induced by travel on different forms of transport such as motion sickness although research is still unclear about the precise causes of this problem. Probably the most prominent issue of recent years which airlines have had to address through legal action is the recognition of Deep Vein Thrombosis (DVT), especially after long haul flights. Research in this area remains at an early stage and it will be some years before this is able to impact upon the ergonomic design and conditions which air travellers endure on long-haul flights. The current concern with DVT has somewhat paled into insignificance given the recent concerns associated with the spread of infections by air travellers, where close proximity to other passengers and re-circulated air poses increased risks such as Severe Acute Respiratory Syndrome (SARS).
**SARS and Tourist Transport**

SARS first emerged in China and Hong Kong in November 2002 and is a new virus (a corona type virus) producing flu-like symptoms which can be potentially fatal. The distribution of the virus by a number of super carriers meant that it was subsequently passed on to other travellers and then infected other areas such as Vietnam, Canada, Singapore and other regions of the world. The geographical distribution of the cases are shown in Figure 1.3 for the period from the initial outbreaks until the end of April 2003 which shows the rapid diffusion by air travellers from the initial source. This illustrates just how tourist travel can turn a regional problem into a global issue and have major repercussions for transport operators, through to crisis management measures at airports using thermal cameras to detect possible cases of fever in travellers.

The spread of cases of the virus from Gunagdong province in China to Hong Kong (Figure 1.3) occurred between February 1, 2003 and February 29, 2003 and was then spread across the globe after one infected super carrier in Hong Kong infected 12 other people who then travelled by air to: Canada, USA, Vietnam and Singapore. By April 21, 2003, there were 3,000 cases in 27 countries. Some of the effects accompanying the global media hype and publicity of the problem resulted in Cathay Pacific seeing passenger numbers drop by two thirds and losses of US$3 million a day, cutting its services by 45% (i.e. 218 flights a week). Hotel occupancy rates in Hong Kong’s buoyant tourism sector slumped from 85% to 10–20% in some cases. Within Hong Kong public transport services, operated by Stagecoach, have also seen massive drops in usage which have brought about substantial financial losses. In the U.K., travel insurers in late April withdrew cover for travel to SARS-affected areas whilst airlines continued to reduce capacity. What is also interesting to observe is the response by government agencies in different countries to restricting global travel and tourism, through visa restrictions, official travel advice and the intervention of the World Health Organisation issuing travel advice regarding infected regions. It is also evident that poor crisis management in a number of destinations compounded by media activity combined to create panic, severe responses and a sudden drop in tourist travel.

Yet SARS needs to be viewed in the context of Hong Kong with a resident population of 6.8 million people. The SARS-induced panic has put between 50,000 and 100,000 jobs at risk in the tourism and associated service sector. Outbound tourism from Hong Kong has dropped 80% during the SARS outbreak while inbound has dropped by a similar proportion, especially as business travel has been cancelled. Estimates from local media in Hong Kong have reported some of the following effects on tourism:

- Drops in hotel occupancy down to single digits;
- Hotels for sale and forecasts of receiverships;
- 40% of flights to and from Hong Kong have been cancelled;
- the loss of Easter weekend business and China Golden Week in early May (two weeks trade) will lead to a loss of around US$250 million in revenue;
- up to 5,000 restaurants could close;
- 300 travel agents could be forced to close;
- economic growth in Hong Kong may only be 0.5% compared to forecasts of 3%;

*Source: McKercher (2003).*
Figure 1.3: The geographical distribution of SARS cases November 2002 to April 30, 2003. Source: Developed from World Health Organisation disease surveillance data.
In Singapore similar problems have been posed by SARS, with visitor arrivals down 61%. This illustrates the fickle nature of tourism and the sudden impact of crises which can have devastating impacts on the transport sector when the visitors stop travelling although tourism does have the potential to recover quickly.

In addition to illnesses induced by travel, the quality of the conditions in which people travel on-board certain forms of tourist transport, particularly the quality of air, has been a great cause for concern among consumer groups in recent years. Air quality has been a major cause of concern, since many airline companies only provide re-circulated air for its passengers and fresh air to the cockpit. As Page (2002) observed, the main areas of concern are:

- **Pressurisation**, since cabin pressure is low and may impact upon those with breathing difficulties;
- **Ventilation**, where cabins have low rates of ventilation and are ideal environments for the transmission of disease pathogens. Until the 1980s, cabins were ventilated by outside air, but in the 1990s the practice of mixing fresh and recycled air in a 50:50 proportion which add to feelings of fatigue and jet-lag, were withdrawn. The reintroduction of air flow nozzles on older aircraft are being re-evaluated for wider reintroduction to address such concerns;
- **Ozone pollution** on board aircraft;
- **The use of pesticides** to disinfect aircraft.

These health-related issues also highlight the growing concern among consumers about security and quality management issues.

### Service Quality and Security

The SARS outbreak has highlighted the concern travellers have for their well-being when in transit on different forms of transport, which underlines a more general trend within the transport sector for security as a key factor within an overall desire for improved service quality. In the EU, for example, recent policy changes with the White Paper on transport highlight the need to reverse the decline in public transport and to make such travel options more attractive. This has important implications for the tourism sector, especially in the surface transport sector where the EU is prioritising major quality improvements in both rail and bus/coach travel (Page 2003b, c). To stem the decline of rail and bus use, an internal EU study — the QUATTRO study — examined the Public Transport Quality Matrix (European Commission 2000), to explain which factors impact upon passenger perception of quality. This is shown in Table 1.2 and highlights a wide range of issues which transport operators and the public sector funders of transport systems need to grapple with in addressing the erosion of public transport usage, primarily due to the impact of the car. In tourism terms, this matrix has an even greater significance where visitors use public transport services because it forms an image of the destination and its ability to meet vital mobility needs to travel to and between attractions in urban and rural areas.

In terms of security and creation of a more ambient environment for travel, The EU Study Guide — Urban Interchanges — A Good Practice Guide (2000) illustrated how important
Table 1.2: The public transport quality matrix.

| Quality       |       |
|---------------|-------|
| 1. Availability|       |
| 1.1. Network  |       |
| 1.2. Timetable|       |
| 2. Accessibility|     |
| 2.1. External interface| |
| 2.2. Internal interface| |
| 2.3. Ticketing|       |
| 3. Information|       |
| 3.1. General information| |
| 3.2. Travel information — normal conditions| |
| 3.3. Travel information — abnormal conditions| |
| 4. Time       |       |
| 4.1. Journey time|   |
| 4.2. Punctuality and reliability| |
| 5. Customer care|   |
| 5.1. Commitment|    |
| 5.2. Customer interface| |
| 5.3. Staff     |       |
| 5.4. Physical assistance| |
| 5.5. Ticketing options| |
| 6. Comfort     |       |
| 6.1. Ambient conditions| |
| 6.2. Facilities |      |
| 6.3. Ergonomics|       |
| 6.4. Ride comfort|    |
| 7. Security    |       |
| 7.1. Safety from crime| |
| 7.2. Safety from accident| |
| 7.3. Perception of security| |
| 8. Environment |       |
| 8.1. Pollution |      |
| 8.2. Natural resources| |
| 8.3. Infrastructure|   |

Source: Common work Quattro/CEN TC320 WG5.
good interchange facilities are for travellers to achieve seamless travel where travel routes converge. The interchange needs to offer both access and a transfer function and requires more strategic public transport network planning to be balanced with a customer-focused information strategy to set out all public transport options. One of the greatest innovations here is the development of Real Time Information systems so that travellers have up-to-date travel information. In the U.K. one notable development has been the introduction of the Traveline project (see Lyons & Harman 2002) to unify multiple sources of travel information. Many of the European bus operators and rail operators (see Page 2003c) report passenger and staff security as major challenges for attracting business, with many resorting to CCTV, security staff and a greater police presence in urban areas which are most prone to assaults on staff and passengers. Similarly, the rise in air rage incidents reported by the Civil Aviation Authority in the U.K. comprising disruptive behaviour by passengers, has seen a gradual increase in recent years. Although not a major problem, it is symptomatic of some of the operational issues now facing transport operators carrying passengers. For example, 1,055 incidents were reported in the U.K. in the year ended March 31, 2002; violence occurred in 10% of cases, with alcohol involved in a further 45% of cases and smoking (which is banned on most European flights) mainly in toilets. The Civil Aviation Authority acknowledge that the majority of such offences are committed by males in 77% of cases, largely aged 20–40 years of age, with only 5% of cases occurring in first or business class. Problems faced by airline staff are disruptive passengers, using verbal abuse and being unruly although serious offences are still rare.

Marketing Surface Transport

Transport operators have seen a new wave of interest in marketing to develop positive images of public transport, around stronger brand identities for land-based transport for tourists. In 2003, the National Express company in the U.K. re-branded all of its operations under a new logo and identity. This replaced a familiar icon of express coach travel from the early 1980s and the National Express nationalised bus company logo. This is seen as critical as a way to translate corporate values into passenger growth through for example offering passengers an opportunity to support the planting of trees to balance the CO2 emissions of their coach fleet. In this case it is evident that the company is seeking to communicate the brand through naming, design, advertising and promotions whilst unifying a diverse range of products under one banner.

Across the transport sector, the pursuit of the competitive tourist spending is now seeing advertising and the wider philosophy of marketing applied routinely to corporate business strategy. There appears to be a gradual realisation by many transport operators, especially the larger transnational groups, such as Arriva or Stagecoach; they are moving from a traditional operational focus to a more marketing-orientated strategy to maintain existing customer bases and to develop new markets.

The Future of Tourist Transport

It is evident that the new millennium has led to the realisation, that traditional operational approaches to the provision of tourism transport are having to adapt to consumer tastes.
One of the most pervasive developments for transport businesses, which have substantial tourism interests, is the vertical integration with tour operators (for example, airlines) and horizontal integration by purchasing the competition (for example, Ryanair’s purchase of Buzz and EasyJet’s purchase of GO). At the same time, the traditional land transport sectors of rail and bus/coach travel, which have hitherto not been integrated, are now firmly transnational groups (Page 2003b). There are also trends towards globalisation, most notably with Stagecoach’s operation of bus/coach operations in Canada, USA (Coach USA), Australia, New Zealand, China, Hong Kong and the U.K. Large transport groups such as Stagecoach recognise that investment is critical to attracting additional passenger growth after years of neglect in the public transport arena where operator margins have been reduced by unregulated competition and an inability to provide state of the art vehicles, passenger comfort and a high quality travel experience. After safety, these are the key factors required by visitors.

The major challenge in the aviation sector remains the impact of deregulation in many markets previously protected by state regulation, and similar policy decisions have been applied in the airport sector where state governments have privatised operations to attract much needed investment for expansion and development (Hooper 2002). Oum & Zhang (2001) point to the interaction between privatised airlines and airports and their importance in hub and spoke operations. Where a hub is selected it is evident that the airline makes a substantial investment in the location as a vital stakeholder. At a global level, research has identified how airports have sought to compete to become international hubs, as in the case of South East Asia (Page 2001). Furthermore, this has brought about major changes in the development and positioning of airports. In Chapter 8 Freathy analyses the current trends in airport development and the move towards terminals also becoming centres of retailing.

This is complemented by a growing realisation that airlines need to work in partnership through the concept of strategic alliances although the level of involvement and motivation for alliance involvement is complex. Indeed, the types of alliance range considerably from the tactical level as code shares on selected routes, through to linking of routes which requires a more embedded approach to collaboration. Yet for many global airlines, the pressures of operating remain an ever-present challenge with revenue per passenger dropping as seat prices fall (Doganis 2001). Briggs, in Chapter 9, argues that the future of airline development will feature not only the increasing collaboration of regional companies toward global alliances but will be driven increasingly by technical and operational imperatives within the next decade.

Doganis (2001) outlined a number of key challenges for this sector in the new millennium as the most heavily capitalised and probably the transport provider most vulnerable to economic changes with its dependence upon business travel for its profitability (excluding the low cost and charter market). Among the principal challenges it faces according to Doganis (2001) are: competition between alliances and their hubs as change and uncertainty remain the two hallmarks for the new millennium in the air transport sector. The challenge of adapting to continuous change means that airlines have to evaluate which markets they wish to operate in (global vs. niche) and the identification of appropriate strategies to achieve these corporate goals. Other key pressures will remain in terms of cost reduction, the need to improve yields, increased adoption of marketing and an ability to constantly reassess the objectives of the airline’s core business.
Another major challenge is the way in which suppliers of transport are having to develop potential synergies between travel, telecommunications and information technology (Golob 2001). The advances in internet, mobile telephone, and personal digital assistance have been embraced in tourism and transport provision but increasingly rapid technological change is likely to bring widespread benefits which are not yet applied. This also includes satellite navigation and positioning systems which bring many commercial gains for businesses, for example, in terms of tracking progress of vehicles en route. The technological benefit is well developed in North America and will be strengthened in Europe through the EU-sponsored Galileo project.

The advent of the internet has changed the nature in which transport suppliers offer their services to other businesses but also the relationship with consumers who have access to far more information than ever before. As the market for personal and household internet appliances broadens across all countries this is likely to have a lasting effect on patterns of transport. For example, shopping from home is forecast to become more important and travel intermediaries will change even more to meet this change or perish. Low cost airline carriers have demonstrated how fast the fusion of customer culture can be. The use of IT to improve advance and real time travel information will remove some of the uncertainty about travel and hand-held equipment such as the mobile’ phone will enable visitors to access current information about local public transport or congestion at resorts. Smart card technology at a destinations will also help to afford access to facilities including public transport and parking places. Whilst, it is unlikely that increased access to telecommunications will lead to a reduction in travel it will change patterns of travel (Lyons et al. 2002).

Sustainable Development

The issue of sustainable development (meeting the needs of the present but not at the expense of future generations) and the current negative contribution of transport has been the subject of extensive discussion in recent years (Banister et al. 2000; Hayashi et al. 1999). There has been a detailed evaluation of the likely effects of an increase in tourism related transport: energy consumption, pollution and other impacts consequent on growth of air transport and the motorised vehicle (Adams 1997; Burns & Holden 1995; Gillingwater 2003; Greene 1997; Janic 1999). A number of studies have also focused on related socio-economic barriers to sustainable development and questions of equity in the process (Black 2000; Hall 1999). The distinction becomes more poignant in low income countries where subsistence-based communities live in a walking world and tourists speed by in four-wheel drives on newly built roads (Porter 2002). Hall takes this discussion forward in Chapter 3 when he questions the extent to which current transport systems deliver tourism in an equitable manner.

The pivotal role of the car in relation to the change of urban structure has been the subject of critical analysis in transport analysis. The phenomenal growth of car ownership in earlier decades in developed countries is well documented (Nijkamp et al. 1990). The emphasis is not surprising; society has witnessed a tenfold global increase from 53 million vehicles registered in 1950 to 500 million recorded in 1992 and with a continuing increase of approximately 3 million cars per annum in Europe per year being reported (Forward 2000). The benefits of personal convenience which the car offers is set against the negative
effects such as safety issues, congestion and pollution (Sartre 1997; Wilks et al. 1999). Furthermore, the issue of global warming, the consumption of finite energy resources and globalisation are driving forces, which are likely to shape the future of transport systems, and hence tourism transport (Newman & Kenworthy 1999; Tolley 2003; Topp 2002).

The question of land use planning and surface transport for tourism is another area where research has been limited. In reality, the relationship between transport and tourism tends not to be integrated into an overall policy process for sustainable development and hence is not analysed in any detail (Giannakodakis 1994; Gunn 1994; Lamb & Davidson 1996). There is often recognition of a relationship between tourism and transport in the planning documentation, but for the most part the implementation of policy is afforded by different organisations and there is a variance between professional values, methods and approaches (Goodwin et al. 1995). This imbalance has resulted in a negative trade-off for other modes than the car, which make up the overall transport system (Hallsworth & Whitelegg 1997; Whitelegg 1993). There has, in recent years, however, been a renewed interest in visitor attractions having formal travel plans which encourage modal transfer from the car to more sustainable modes of travel. This signals a change in the way the tourism sector is responding to transport (English Tourist Council 2001). However, few academic studies have evaluated the development of tourism transport systems, particularly those designed to provide sustainable transport and or a tourism experience (Lumsdon 2000).

What is certain in the wider context of tourist transport is the continued growth of car-based recreation and tourism at the expense of other modes, although comparatively little research is directed towards this area (Høyer 2000). The problem is particularly pressing in countries with high car ownership and energy consumption levels such as the USA and the European Union (see Table 1.3). The car has seen unprecedented growth since the 1960s, for example, at many destinations which have many sensitive environmental areas such as the Alpine areas of central Europe. For example, in 1991, 103 million visits were made to National Parks in the U.K. (Countryside Commission 1992; Cullinane 1997), the most popular being the Lake District and Peak District Parks, i.e. over 90% of visitors arrive by car. In terms of car usage, car traffic was estimated to grow by 267% by the year 2025 from the levels current in 1992. The greatest pressures of rising car usage have coincided with the decline in public transport usage for tourist and recreational trips. Yet many National Parks seem unlikely to be able to cope with the levels of usage predicted to the year 2025, given their urban catchments and the relative accessibility by motorway and main roads in the U.K. Eaton & Holding (1996) reviewed the absence of effective policies to meet the practical problems of congestion facing many sites in the countryside in Britain, a feature further investigated in their analysis of strategies designed to reduce car dependence in resort areas (Holding 2001).

One interesting explanation of the wide acceptance of the car which seems set to continue to grow, aside from its flexibility, is its ability to be more appealing than public transport (Cohen & Harris 1998). In destinations with vast areas to explore, the car and road travel has been seen as a way of exploring areas more flexibly and in establishing individual itineraries (Taplin & McGinley 2000; Taplin & Min 1997). There is also some evidence to suggest that visitors will pay a road toll to gain access (Steiner & Bristow 2000). In most cases, attitudes of visitors to public transport options, especially in National Parks illustrate the continued problems of demand management and of providing inducements to switch to attractive
Table 1.3: Performance of EU passenger transport by mode 1970–2000 (1,000 mn passenger Kms).

| Year | Passenger Car | Bus and Coach | Tram and Metro | Railway | Air | Total |
|------|---------------|---------------|----------------|---------|-----|-------|
| 1970 | 1,582         | 269           | 39             | 219     | 33  | 2,142 |
| 1980 | 2,295         | 348           | 41             | 248     | 74  | 3,006 |
| 1990 | 3,199         | 369           | 48             | 268     | 157 | 4,041 |
| 1991 | 3,257         | 378           | 48             | 276     | 166 | 4,126 |
| 1995 | 3,506         | 382           | 47             | 274     | 202 | 4,410 |
| 1996 | 3,558         | 391           | 48             | 282     | 209 | 4,488 |
| 1997 | 3,622         | 393           | 49             | 285     | 222 | 4,571 |
| 1998 | 3,702         | 402           | 50             | 287     | 241 | 4,682 |
| 1999 | 3,788         | 406           | 51             | 295     | 260 | 4,801 |
| 2000 | 3,789         | 413           | 52             | 303     | 281 | 4,839 |

% Change 1991–2000: +16% +9% +10% +10% +70% +17%

Source: European Commission, Directorate-General for Energy and Transport, EU Energy and Transport in figures 2002.

forms of public transport. In some areas such as the North Yorkshire Moors in the U.K., this may also be integrated into plans for increasing greater levels of social inclusion by making scenic areas more accessible to non-car users in the local population. However, whatever the future of the car remains in relation to tourism and recreational travel, de-marketing of the car (Wright & Egan 2000) must be a germane area for future research. For many tourism destinations, managing the car, its environmental impact and flexibility remain portent forces for individual localities at a time when the car is widely viewed as a lifestyle enhancing factor (Goodwin 1997; Mintel 2003). Owen & Lumsdon (Chapter 12) outline the problems facing tourism planners in attempting to introduce schemes to enhance sustainable modes of travel at the expense of the car. They discuss mechanisms for consultation and how this can be problematic in light of resistance from traders at the destination. In another study, Shailes et al. (2001) observed the manner in which car-based tourists adjust their travel behaviour in response to congestion rather than switch to other modes of transport.

Conversely the bus and coach sector has fared badly in relation to the car and attempts to revive its fortunes in different countries are being promoted by the public sector. This action is not only for environmental and sustainability reasons, but also to reduce the costs of congestion and road building to accommodate not only commuters, but also leisure and tourism trips as experienced in many re-emerging city destinations. Both road-based public transport and rail-based options are seen by many consumers as outdated and outmoded forms of transport from another age (i.e. the 1960s and 1970s). Yet ironically in many destinations, the use of public transport to see the attractions and sights in a destination are proving very popular. This is especially in relation to the use of vehicles that add nostalgia
and a heritage experience (i.e. trams and cable cars in destinations such as Lisbon and San Francisco). While many such services still need public subsidies to operate they provide attractive services for visitors which have become tourism transport experiences in their own right. The role of destination tour buses and their impact on tourist patronage of attractions and sites along their routes remain poorly understood at the micro level even though they are familiar element in many destinations.

The activities of the transnational and global operators have also attracted comparatively little attention in terms of their leadership role in developing new strategies to make tourist use of land transport more attractive rather than the car. It is clear that future research will need to take these agents of change into account as new approaches to tourism transport are formulated in many larger cities. Similarly, the role of bus and coach travel still remains weakly developed within the transport studies literature and particularly in relation to tourism. Although a number of studies have examined the industry structure of coach businesses (e.g. Gauf & Hughes 1998; Mintel 2002), there has only been few theoretical insights into the nature of the coach tourist (Downward & Lumsdon 1999; Seaton 2002) and the significance of the coach as a form of tourist travel. There is a paucity of studies which investigate other forms of public transport such as transit minibuses and taxis (Waryszak & King 2000).

Rail-based tourist travel has been similarly absent from many of the conventional tourism journals although by its very nature tourist travel is subsumed within all forms of rail travel despite its significance, a feature reiterated in numerous studies (Page 1994, 1999a, 2003a). Much of the existing research has been policy-based (Shaw et al. 2003) making little distinction of the role it plays in tourism despite the significance for VFR travel, leisure trips and scenic travel (Prideaux 1999). Many railway companies have acknowledged the importance of tourism and leisure market segments as significant contributors to revenue, especially in relation to new product development. This is also the case as privatisation of railways in developing countries where concessionaire companies are segmenting their markets more effectively such as in Brazil and Mexico (Campos 2001). It is clear that further research on the role of tourist rail travel and its responsiveness to increased marketing, tactical promotional campaigns and its price sensitivity vs. the low cost airlines remains an important and under-explored area (Milan 1997). Modal competition has attracted highly quantitative and theoretical research by modelling travel behaviour. Yet the explicit tourism and leisure dimension remains a virgin area for research to understand the relationship between the potential for modal switching for pleasure travel rather than the prevailing focus of many transport studies on commuting. With a new policy focus in the EU towards making rail transport a more attractive option for cross-border travel, the significance of country-based and EU-wide initiatives that may see rail become competitive with investment in high-speed infrastructure, is certainly important for future patterns of tourist travel.

Likewise, the importance of European and global trends in the ferry market and cruise ship market have attracted a great deal of industry-based market intelligence studies but few academics have developed more sophisticated models of the characteristics of cruise tourists and the relationship to other forms of tourism they engage in. In other words we do not fully understand cruise tourists in relation to what Pearce (1993) described as the travel career ladder and how travellers develop their tourism experiences. Simply adopting marketing
classifications to describe types of tourists does not acknowledge the dynamic nature of the travellers through time and how a one-time cruise tourist might equally be an ecotourist or fervent package holiday maker. More sophisticated analyses of tourists and their use of transport and underlying travel preferences through time would help transport providers to recognise the nature of travellers over and beyond simple marketing classifications. What is apparent from current market intelligence studies such as those published in *Travel and Tourism Analyst* is that the market has become more highly developed to the extent that certain itineraries have become saturated by cruise ships (see Miller & Grazier 2002). In addition, consolidation in the industry has followed trends in the wider transport sector in terms of control and investment in new plant. Wood explores the nature of the cruise sector and its considerable growth; he provides several insights into the segmentation of the cruise market in Chapter 10.

Finally, the importance of non-motorized transport has been totally understated in the discussion of visitors at destinations. Whilst this is not the world of large scale projects it is in reality the most common form of transport available to visitors and the management of walking trips is often crucial to the retail sector in tourism destinations and large scale attractions. Cycling is also important for short trips in many countries. Whilst destinations continue to build highways and parking in central zones, walk and cycle trips will decline except for the small enclave areas reserved for retailing. However, there is growing interest in developing non-motorized transport not only to ease congestion and reduce energy consumption but also to enhance the destination as a tourism experience; again the sector has been undervalued. These elements are worthy of detailed research.

**So What of the Future for Tourist Transport Provision?**

The tourism sector is far from static. It is constantly evolving as new trends, economic conditions, visitor preferences and product development combine with innovation to create one thing that is certain: nothing is and can be certain — change is the overwhelming element (Page 2003a). There are also major changes forecast in terms of the energy use and externalities of transport for tourism. These will, alongside rapid development of telecommunications, substantially change the nature of tourism supply (Hanson 1998).

For the transport sector, this is particularly challenging given the massive investment in capital intensive plant and equipment that cannot easily be disposed of or changed if trends and tastes change suddenly or rapidly. Therefore, two vital elements for the transport sector dependent on tourism markets are:

(a) The need for innovation, marketing and supply leadership so that demand can be more effectively managed (i.e. the consumer becomes more central in the process). This requires better communication with the consumer, a greater understanding of their needs, wants and tastes and how these can be met through aligning the provision to best fit their requirements.

(b) The need to address the principles of sustainable development by encouragement of energy reduction, and minimisation of externalities as envisaged in Agenda 21 (World Travel & Tourism Council *et al*. 1995).
Many of the chapters within this book contribute to this need for greater reflectivity in tourism and transport research to see the synergies between the two sectors: the tourism and transport sector have mutual interests in fulfilling customer demand. Recognising changing trends and tastes is critical, but so is a more holistic approach to the inter-relationships between both sectors. The chapters in this book seek to explore some of these issues while others offer analyses focused on themes which now play a key role in the tourist transport interface. Any such book will necessarily be selective in the range of contributions it provides but we hope these will seek to push the research agenda forward, making more explicit the tourist transport interface and the need for more provocative and synergistic studies.

References

Adams, J. (1997). Can technology save us? World Transport Policy and Practice, 2(3), 4–17.
Artist (2000). Agenda for research on tourism by integration of statistics/strategies. Brussels: European Commission.
Banister, D., Stead, D., Steen, P., Akerman, K., Dreborg, P., Nijkamp, P., & Scleiser-Tappeser, R. (2000). European transport policy and sustainable mobility. London: Spon.
Black, W. R. (2000). Socio-economic barriers to sustainable transport. Journal of Transport Geography, 8, 141–147.
Bull, A. (1991). The economics of travel and tourism (p. 32). Melbourne: Longman.
Burns, P., & Holden, A. (1995). Tourism a new perspective (pp. 158–160). New Jersey: Prentice-Hall.
Calder, S. (2002). The truth behind the low cost revolution in the skies. London: Virgin.
Campos, J. (2001). Lessons from railway reforms in Brazil and Mexico. Transport Policy, 8, 85–95.
Chang, Y.-C., & Williams, G. (2002). European airlines’ strategic reactions to the Third Package. Tourism Policy, 9, 129–142.
Chew, J. (1987). Transport and tourism in the year 2000. Tourism Management, 8(2), 83–85.
Child, D. (2000). TTI Tourism Award: The emergence of no-frills airlines in Europe: An example of successful marketing strategy. Travel and Tourism Analyst, 1, 87–121.
Clawson, M., & Knetsch, J. (1966). Economics of outdoor recreation. Baltimore: John Hopkins University Press.
Cohen, A., & Harris, G. (1998). Mode choice for VFR journeys. Journal of Transport Geography, 6(1), 43–51.
Cooper, C., Fletcher, J., Gilbert, D., & Wanhill, S. (1998). Tourism principles and practice? Countryside Commission (1992). Trends in transport and the countryside. Cheltenham: Countryside Commission.
Cullinane, S. (1997). Traffic management in Britain’s national parks. Transport Reviews, 17(3), 267–279.
Dann, G. M. S. (1994). Travel by train: Keeping nostalgia on the track. In: A. V. Seaton (Ed.), Tourism — A State of the Art (pp. 775–783). Chichester: Wiley.
Doganis, R. (2001). The airline business in the twenty-first century. London: Routledge.
Donne, M. (2001). The growth and long term potential of low-cost airlines. Travel and Tourism Analyst, 4, 1–15.
Downward, P. M., & Lumsdon, L. (1999). The determinants of day excursion coach travel: A qualitative market analysis. Services Industries Journal, 19(4), 158–168.
Eaton, B., & Holding, D. (1996). The evaluation of public transport alternatives to the car in British national parks. Journal of Transport Geography, 4(1), 55–65.
English Tourism Council (2001). *Tourism and transport, the issues and solutions*. London: English Tourism Council.

European Commission (2000). *Quality in transportation (QUATTRO) study*. Brussels: European Commission.

European Environment Agency (2003). *Tourism travel by transport modes [2001] http://themes.eea.eu.int/Sectors_and_activities/tourism/indicators/modes/index.html* Accessed May 3, 2003.

European Travel Monitor (1998). *European travel monitor*. Luxembourg: European Community.

European Union Study Guide (2000). *Urban interchanges — A good practice guide*. Brussels: European Commission.

Eurostat (1998). *Community methodology on tourism statistics*. Luxembourg: European Community.

Forward, S. (2000). Walking at the beginning of the 21st century, attitudes and motivations. *Walk 21 taking walking forwards in the 21st century*. London, 21–22 February.

Fox, M. (1995). Transport planning and the human activity approach. *Journal of Transport Geography*, 3(2), 105–116.

Gauf, D., & Hughes, H. (1998). Diversification and tour operators: The case of TUI and coach tourism. *Tourism Economics*, 4(4), 325–337.

Getz, D. (1986). Models in tourism planning. *Tourism Management*, 7, 21–32.

Giannakodakis, G. (1994). Transport Planning: A holistic systems approach. *Road Transport Research*, 3(3), 4–21.

Gillen, D., & Morrison, W. (2003). Bundling, integration and the delivered price of air travel: Are low cost carriers full service competitors? *Journal of Air Transport Management*, 9(1), 15–23.

Gillingwater, D. (Ed.) (2003). Special issue: Airports and sustainability. *Journal of Air Transport Management*, 9(3), 139–200.

Golob, T. F. (2001). Travelbehaviour.com: Activity approaches to modeling the effects of information technology on personal travel behaviour. In: D. Hensher (Ed.), *Travel Behaviour Research, the Leading Edge* (pp. 145–183). Oxford: Elsevier Science Ltd.

Goodrich, J. N. (2002). September 11, 2001 attack on America: A record of the immediate impacts and reactions in the USA travel and tourism industry. *Tourism Management*, 23, 573–580.

Goodwin, P. (1997). Mobility and car dependence. In: T. Rothegatter, & V. E. Carbonell (Eds), *Traffic and Transport Psychology*. Amsterdam: Pergamon.

Graham, B., & Guyer, C. (2000). The role of regional airports and air services in the United Kingdom. *Journal of Transport Geography*, 8, 249–262.

Greene, D. L. (1997). Environmental impacts. *Journal of Transport Geography*, 5(1), 28–29.

Gunn, C. A. (1994). *Tourism planning*. London: Taylor and Francis.

Hall, D. R. (1999). Conceptualising tourism transport: Inequality and externality issues. *Journal of Transport Geography*, 7, 181–188.

Hallsworth, A., & Whitelegg, J. (1997). Summary and conclusions, looking around and looking ahead. In: R. Tolley (Ed.), *The Greening of Urban Transport* (pp. 453–461). Chichester: Wiley.

Halsall, D. A. (2001). Railway heritage and the tourist gaze: Stoomtram Hoorn-Medemblik. *Journal of Transport Geography*, 9, 151–160.

Hanson, S. (1998). Off the road? Reflections on transportation geography in the information age. *Journal of Transport Geography*, 6(4), 241–249.

Hayashi, Y., Button, K., & Nijkamp, P. (Eds) (1999). *The environment and transport*. Cheltenham: Edward Edgar Publishing.

Hensher, D. (Ed.) (2001). *Travel behaviour and research, the leading edge*. Oxford: Elsevier Science Ltd.

Hobson, J. S. P., & Uysal, M. (1992). Infrastructure: The silent crisis facing the future of transport. *Hospitality Research Journal*, 17(1), 209–215.
Holding, D. (2001). The Sanfte Mobilitaet project: Achieving reduced car-dependence in European resort areas. *Tourism Management, 22*(4), 411–417.

Hooper, P. (2002). Privatisation of airports in Asia. *Journal of Air Transport Management, 8*(5), 289–300.

Høyer, K. G. (2000). Sustainable tourism or sustainable mobility? The Norwegian case. *Journal of Sustainable Tourism, 8*(2), 147–160.

Humphreys, I., & Francis, G. (2002). Policy issues and planning of U.K. regional airports. *Journal of Transport Geography, 10*, 249–258.

Janic, M. (1999). Aviation and externalities: The accomplishments and problems. *Transportation Research Part D, 4*, 159–180.

Lamb, B., & Davidson, S. (1996). Tourism and Transportation in Ontario, Canada. In: L. Harrison, & W. Husbands (Eds), *Practising Responsible Tourism: International Case Studies in Tourism Planning, Policy and Development*. Chichester: Wiley.

Laws, E. (1991). *Tourism marketing: Service quality and management perspectives*. Cheltenham: Stanley Thornes.

Leiper, N. (1990). Tourist attractions systems. *Annals of Tourism, 17*, 384–387.

Lew, A. (1991). Scenic roads and rural development in the U.S. *Tourism Recreation Research, 16*(2), 23–30.

Loomis, J. B., & Walsh, R. G. (1997). *Recreation economic decisions: Comparing benefits and costs* (2nd ed.). State College, PA: Venture Publishing.

Lumsdon, L. (2000). Transport and tourism: A sustainable tourism development model. *Journal of Sustainable Tourism, 8*(4), 1–17.

Lundgren, J. O. (1973). The development of the tourist travel system. *The Tourist Review, January* 2–14.

Lyons, G., Chatterjee, K., Beecroft, M., & Marsden, G. (2002). Determinants of travel demand — exploring the future of society and lifestyles in the U.K. *Transport Policy, 9*, 17–27.

Lyons, G., & Harman, R. (2002). The U.K. public transport industry and provision of multi-modal traveller information. *International Journal of Transport Management, 1*, 1–13.

Mason, K. (2000). The propensity of business travellers to use low cost airlines. *Journal of Transport Geography, 8*, 107–119.

Mason, K. (2001). Marketing low-cost airline services to business travellers. *Journal of Air Transport Management, 7*, 103–109.

Mason, K., Whelan, C., & Williams, G. (2000). Europe’s low cost airlines: An analysis of the economics and operating characteristics of Europe’s charter and low cost scheduled carriers. *Air Transport Group Research Report, 7*. Cranfield: Cranfield University College of Aeronautics.

McIntosh, R. W., Goeldner, C. R., & Ritchie, J. R. B. (1995). *Tourism, principles, practices, philosophies* (pp. 17–21). Toronto: Wiley.

McKercher, B. (2003). SARS and SIPs. *Trinet Communication, 28.4.2003* by email.

Milan, J. (1997). Comparison of the quality of rail and air networks in West Central and Eastern Europe. *Transport Policy, 4*(2), 85–93.

Mill, R. C., & Morrison, A. (1992). *The tourism system: An introductory text*. New Jersey: Prentice-Hall.

Miller, A., & Grazier, W. (2002). The North American cruise market and Australian tourism. *Journal of Vacation Marketing, 8*(3), 221–234.

Mintel (2002). *Coach holidays, leisure intelligence*. London: Mintel.

Mintel (2003). *British lifestyles study*. London: Mintel.

Morrison, A., Yang, C., Cai, L., Nadnarni, N., & O’Leary, J. (1996). Comparative profiles of travellers on cruises and land-based resort vacations. *Journal of Tourism Studies, 7*(2), 54–64.
Murray, M., & Graham, B. (1997). Exploring the dialectics of route-based tourism: The Camino de Santiago. *Tourism Management, 18*(8), 513–524.

Newman, P. W. G., & Kenworthy, J. R. (1999). *Sustainability and cities: Overcoming automobile dependence*. Washington, DC: Island Press.

Nijkamp, P., Reichman, S., & Wegener, M. (Eds) (1990). *Euromobile: Transport, communications and mobility in Europe — a cross-national comparative overview*. Aldershot: Avebury.

Oppermann, M. (1997). Predicting destination choice — A discussion of destination loyalty. *Journal of Vacation Marketing, 5*(1), 51–65.

Oum, T., & Zhang, Y. (2001). Recent studies on some key issues in international air transport. *Transport Policy, 8*, 167–169.

Page, S. J. (1994). European bus and coach travel. *Travel and Tourism Analyst, 1*, 19–39.

Page, S. J. (1999a). *Transport for tourism*. Harlow: Addison Wesley and Longman.

Page, S. J. (1999b). *Transport for tourism* (p. 8). London: Routledge.

Page, S. J. (2001). Gateways, hubs and transport interconnections in South East Asia: Implications for tourism development in the twenty-first century. In: P. Teo, T. Chang, & K. Ho (Eds), *Interconnected Worlds: Tourism in South East Asia* (pp. 84–102). Oxford: Pergamon.

Page, S. J. (2002). Tourist health and safety. *Travel and Tourism Analyst*.

Page, S. J. (2003a). *Tourism management: Managing for change*. Oxford: Butterworth Heinemann.

Page, S. J. (2003b). European rail travel: Special report. *Travel and Tourism Analyst*.

Page, S. J. (2003c). European bus and coach travel. *Travel and Tourism Analyst*.

Papatheodorou, A. (2002). Civil aviation regimes and leisure tourism in Europe. *Journal of Air Transport Management, 8*, 381–388.

Patterson, J., & Perl, A. (1999). The TGV Effect: A potential opportunity for reconciling sustainability with aviation. *World Transport Policy and Practice, 5*(1), 39–46.

Pearce, P. (1993). Fundamentals of tourist motivation. In: D. G. Pearce, & R. Butler (Eds), *Tourism Research: Critiques and Challenges* (pp. 113–34). London: Routledge.

Pizam, A., & Mansfield, Y. (Eds) (1999). *Consumer behaviour in travel and tourism*. New York: Haworth Press.

Porter, G. (2002). Living in the walking world: Rural mobility and social equity issues in sub-Saharan Africa. *World Development, 30*(2), 285–300.

Preston, J. (2001). Integrating transport with socio-economic activity — a research agenda for the new millennium. *Journal of Transport Geography, 9*, 13–24.

Prideaux, B. (1999). Tracks to tourism: Queensland rail joins the tourism industry. *International Journal of Tourism Research, 1*(2), 73–86.

Prideaux, B. (2000). The role of transport in destination development. *Tourism Management, 21*, 53–63.

Raguraman, K. (1997). Airlines as instruments for nation building and national identity: Case study of Malaysia and Singapore. *Journal of Transport Geography, 5*(4), 239–256.

Reynolds-Feighan, A. (2001). Traffic distribution in low-cost and full-service carrier networks in the U.S. air transportation market. *Journal of Air Transport Management, 7*, 265–275.

Royal Commission on Environmental Pollution (2002). *The environmental effects of civil aircraft in flight: Special report*. London: Royal Commission on Environmental Pollution.

Sartre, (1997). *Social attitudes to road risk in Europe*. European Commission.

Seaton, A. (2002). Observing conducted tours: The ethnographic context in tourist research. *Journal of Vacation Marketing, 8*(4), 309–319.

Shailes, A., Senior, M., & Barry, P. (2001). Tourists’ travel behaviour in response to congestion: The case of car trips to Cornwall, United Kingdom. *Journal of Transport Geography, 9*(1), 49–60.

Shaw, J., Walton, W., & Farrington, J. (2003). Assessing the potential for a “railway renaissance” in Great Britain. *Geoforum, 34*, 141–156.
Steiner, T. J., & Brisstow, A. L. (2000). Road pricing in National Parks: A case study in the Yorkshire Dales National Park. *Transport Policy, 7*, 93–103.

Taplin, J. H. E., & McGinley, C. (2000). A linear program to model daily car touring choices. *Annals of Tourism Research, 27*(2), 431–467.

Taplin, J., & Min, Q. (1997). *Annals of Tourism Research, 24* (3), 624–637.

Tolley, R. S. (Ed.) (2003). *Creating sustainable transport; planning for walking and cycling.* Cambridge: Woodhead.

Tolley, R. S., & Turton, B. (1995). *Transport systems, policy and planning: A geographical approach.* Harlow: Longman.

Topp, H. (2002). Traffic 2042 — mosaic of a vision. *Transport Policy, 9*, 1–7.

Travel & Tourism Intelligence (1998). The North American cruise market. *Travel & Tourism Analyst, 4* (pp. 1–23). London: Travel & Tourism Intelligence.

Travis, A. (1989). Tourism destination area development (from theory to practice). In: S. Witt, & L. Moutinho (Eds), *Tourism Marketing and Management Handbook* (pp. 487–498). Hemel Hempstead: Prentice-Hall.

Waryszak, R., & King, B. (2000). Tourist and taxis: An examination of the tourism transport interface. *Journal of Vacation Marketing, 6*(4), 318–328.

Whitelegg, J. (1993). *Transport for a sustainable future: The case for Europe.* London: Belhaven.

Wilks, J., & Page, S. J. (Eds) (2003). *Managing tourist health and safety.* Oxford: Pergamon.

Wilks, J., Watson, B., & Faulks, I. J. (1999). International tourists and road safety in Australia: Developing a national research and management programme. *Tourism Management, 20*, 645–654.

Williams, G. (2001). Will Europe’s charter airlines be replaced by “no frills” scheduled airlines? *Journal of Air Transport Management, 7*, 277–286.

World Tourism Organization (2000). *Data collection & analysis for tourism management.* Madrid: World Tourism Organization.

World Tourism Organization (2002). *Tourism highlights 2002.* Madrid: World Tourism Organization.

World Travel & Tourism Council (WTTC), World Tourism Organisation, Earth Council (1995). *Agenda 21 for the travel & tourism industry: Towards environmentally sustainable development.* London, WTTC. WTTC.

Wright, C., & Egan, J. (2000). De-marketing the car. *Transport Policy, 7*(4), 287–294.