UK PASSENGER TRANSPORT INFORMATION ON THE INTERNET: PROMOTING BEST PRACTICE THROUGH ACCREDITATION

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1. INTRODUCTION

Publication in July 1998 of the first UK Transport White Paper for some 20 years (DETR, 1998) was the culmination, although not conclusion, of considerable debate concerning the future of UK transport set against the background of an increasingly car dependent society with a (perceived to be) declining public transport system. The White Paper sets out a series of policy objectives designed to discourage inappropriate use of the car and improve and promote alternative public transport modes. Information in this context is seen as a key factor in empowering individuals to make more informed travel decisions, particularly with regard to mode choice.

Mode choice decisions are based on an individual's comparison of one or more attributes associated with the disutility of making a trip. An individual notionally ranks the available modes according to the collective disutility or Generalised Travel Cost (Ortúzar and Willumsen, 1994) for each mode and selects the mode that offers the lowest disutility. Such decisions are seldom based on perfect knowledge. Drivers may, for example, have no information about alternatives to a trip by car and as such will discard public transport as an alternative or will assume the collective disutility of public transport is higher than private transport regardless of the accuracy of their assumption. There is, therefore, a role for traveller information in ensuring that travellers make choices that are more informed with the implicit hope that in so doing drivers will, in some instances, elect to use an alternative mode.

Information cannot *change* the disutility of a particular mode for a particular journey. It can only change the *perception* of disutility. Hence there may be many occasions when perfect information will simply serve to highlight the disparity between a trip by private transport as opposed to public transport and reinforce a decision to travel by car. Nevertheless there will be occasions where information could have a more positive influence and encourage use of alternatives to the car. Policies set out within the White Paper are intended, through improvements to public transport services coupled with continued financial penalties imposed on car use, to render public transport a more viable alternative to the car. If this is achieved then the provision of accessible, high quality information to the public, particularly concerning public transport choices, will become an increasingly important factor in bringing about modal shift.

Information is made available to the public in a variety of ways. A key means of delivering information to the public is now the Internet and World Wide Web (WWW). This will undoubtedly become a major, if not the principal, communications medium for the next Century. It offers a highly versatile means of delivering information to a rapidly increasing proportion of the population and as such is already being used extensively to provide information on public and private transport.

This paper reports on the activities of an Accreditation Panel for public transport information WWW sites. Further to a request from the Department of the Environment, Transport and the Regions (DETR), this was set up in autumn 1998 by The Chartered Institute of Transport in the UK (CIT UK) which has now become The Institute of Logistics and Transport (ILT) on merging with the former Institute of Logistics.

The aim of the accreditation process that has now been developed is to foster public confidence in the quality of public transport information available via the WWW, achieving this through recognising good practice and promoting best practice in information provision. The paper first outlines the UK policy context for public transport information delivery via the WWW and then considers the state-of-the-art. The accreditation process being taken forward by ILT is described. A series of activities during 1999 seek to sell the concept of accreditation to the WWW public transport information sites' industry. The first activity was a workshop targeted at individuals concerned with the technical management of public transport WWW sites. The aim of the workshop was to explore views within the industry concerning issues and challenges associated with delivering information via the WWW and concerning the nature and value of the accreditation process and its role in promoting best practice within the industry. Findings from this workshop are reported.

2. RELATED UK POLICY

In its 1998 White Paper 'A New Deal for Transport: Better for Everyone', UK Government committed itself to achieving a national public transport information system (NPTIS) by the year 2000. Target dates of 31 July 2000 (for England), 2 January 2000 (for Wales) and 31 December 2000 (for Scotland) have subsequently been set for delivery of such a system. Although a longer term aim will be to include fares information in such a system, the initial aim, associated with the target dates, is to provide timetable-based information. This will be made available in the first instance via a telephone enquiry service although the Internet is explicitly acknowledged as an alternative delivery mechanism and one which is likely to assume a dominating role in the future. The Government does not intend to commission production of the 'system' itself, since many local authorities and operating companies already have the necessary data as a basis to contribute to a NPTIS, and a significant stake in delivery. The Government sees partnership between different local authorities and public transport operators as key to delivering the NPTIS.

The goal of the NPTIS is to offer door-to-door travel itineraries for public transport journeys. Systems such as the National Rail Enquiry Service (NRES) already provide timetable-based information for the national stage of a public transport journey. The remaining information requirement concerns the local start/end stages of such a journey which are likely to be made by bus. A 'daughter document' to the White Paper, 'From workhorse to thoroughbred - a better role for bus travel' (DETR, 1999a), poses questions to the public transport industry and addresses issues concerning the provision of bus information. Statutory backing will be introduced for Quality Partnerships to strengthen voluntary partnerships between local authorities and bus operators. Local authorities will be given a statutory duty to ensure bus passenger information is available in their area (introducing an obligation rather than a hitherto power to ensure information provision). There will be a matching power to recover reasonable costs from operators where appropriate. A package of measures will be introduced to promote stability of bus services and in turn information provision, for example by reducing frequent timetable

changes. Bus operators are already under a legal obligation to register details of their local services but at present the format in which bus registration information is supplied varies widely. The Government therefore proposes to introduce a standard registration format and perhaps an obligation to supply information electronically. Collectively these measures should foster greater co-operation and co-ordination in making comprehensive local bus information available as an input, subsequently, to the NPTIS.

The Government has a number of mechanisms to ensure that the NPTIS comes into being. The first is that of regulatory obligation as set out in the White Paper and daughter document. The second is in its guidance on preparation of Local Transport Plans (DETR, 1999b). A Local Transport Plan (LTP) replaces the Transport Policies and Programme document produced annually by each local authority. The LTP is required to set out a local authority's 5-year strategy concerning transport which includes the provision of public transport information. Government expects local authorities to audit the provision of public transport information in their areas and to identify a strategy where necessary for addressing inconsistencies or shortfalls in that provision. This should be done with an awareness of the need for local public transport information to form a component of the national system. Information provision via a range of media is encouraged and specific mention is given to the Internet as a delivery mechanism and to the associated ILT accreditation scheme. Local authorities are expected to ensure that public transport information is made available outside their area for the benefit of prospective visitors.

A third mechanism is one of persuasion or facilitation. The DETR has asked the Confederation of Passenger Transport (CPT) to take a lead in this regard. The CPT has set up a NPTIS Steering Group with cross-industry representation covering parties with data to contribute to the system and also including the DETR. A Project Director has been appointed (funded collectively by the parties comprising the Steering Group) with the remit of ensuring the NPTIS delivers to time.

The fourth mechanism, or lever, is finance. The LTP is the vehicle that local authorities will now use to get capital funding and the guidance document mentioned above enables Government to steer investment in information provision. Other sources of funding include the Rural Bus Partnership fund. Investment in relevant research is also ongoing.

3. PUBLIC TRANSPORT INFORMATION ON THE INTERNET

The Internet and in particular the WWW has rapidly developed from being a plaything for academics to becoming a mainstream communications medium offering substantial flexibility and versatility in information exchange. Growth in Internet use has been prolific with an estimated increase in the number of computers connected to the Internet of 1950 per cent over the last five years and a growth of nearly 50 per cent during the last year (see Figure 1). Statistics suggest that 9 per cent of households in Great Britain are now on-line compared to 5 per cent in 1997 (Roper Starch Worldwide, 1999) with access in the workplace also increasing. The growth in household access is being spurred on by attractive Internet connection packages from Internet Service Providers (ISPs). In 1998 most ISPs charged a monthly subscription (typically £10) for connection to the Internet with the additional cost to the consumer of local rate telephone calls when connected to the Internet. Now there are more than 100 ISPs offering Internet access without a monthly subscription fee with some also giving a saving on telephone costs. Free subscription often includes a free allocation of WWW 'space' enabling individuals to produce their own WWW sites.

One in five Internet users world-wide seek information on travel (Roper Starch Worldwide, 1999) highlighting the (latent) demand for such information via the WWW. The transport community has recognised the tremendous opportunity this presents to facilitate more informed decision making amongst travellers, to raise awareness of public transport alternatives for tripmaking and ultimately to encourage more sustainable mobility (Lyons and McDonald, 1998). A growing number of public transport information WWW sites now exist. The UK Public Transport Information site (http://www.pti.org.uk/), which provides a directory of sites, now lists over 300 links to public transport information sites for the UK. In addition there are many sites providing driver-based information. Used collectively individuals can already assemble information from different sites relating to different modes of travel upon which to base their travel decisions. An illustration of this is outlined below. The example is intriguing since it highlights the point made previously that informed decisions do not always imply a greater likelihood of using public transport.

> *A family of four (2 adults, 1 child under 5, 1 child aged 5) needed to plan a return journey from Salisbury to Heathrow Airport travelling outbound on Saturday 19 June 1999 and returning on Sunday 27 June 1999. The family (who live some 10 miles outside of Salisbury) were aware that three choices were available to them, namely to travel by car, coach or train. They used a series of WWW sites to inform their eventual mode choice decision. TheTrainLine (http://www.thetrainline.co.uk/) is a site that provides impartial information on train times and tickets on mainland UK routes and also offers online booking and payment. The family determined from this site that to travel by train would cost £115.50 and would take 2 hours and 29 minutes (excluding the journey from home to Salisbury Station). The National Express site (http://www.nationalexpress.com/natxbok1.htm) provides journey planning, booking and payment facilities for national coach travel. The family determined from this site that to travel by coach would cost £48.00 but that this would entail a five-hour journey (excluding the journey from home to Salisbury Coach Station) going via Bristol to arrive at Heathrow at a suitable time. The BAA site (http://shop.baa.co.uk/) includes the facility to pre-book and pay for long term parking. The family determined that to leave their car at Heathrow for the duration of their holiday would cost £46.80 and estimated that the journey from home to the airport car park would take approximately one hour twenty minutes. The family determined on the basis of cost, time and convenience to drive to the airport and subsequently booked and paid via the WWW for their parking at Heathrow.*

The UK Public Transport Information site (Austin, 1999) provides a useful starting point for anyone wishing to appraise the state-of-the-art in WWW-based public transport information provision. It is, however, appropriate in this paper to offer an overview and some examples of developments in this area.

Public transport information is presented in a variety of ways across WWW sites. British Telecom's Superoute 66 Live site (http://travel.labs.bt.com/route66/) provides a graphical and text-based alternative depiction of real-time positioning of buses along the Superoute 66 route and mock-ups of the on-street electronic bus information signs showing expected arrival times of buses. Buckinghamshire County Council's site (http://www.pindar.co.uk/bucks/) offers the user a variety of ways of accessing bus information. In addition to a journey planner, the user can view bus route maps for the County and subsequently access static timetables for a selected service number. The ROMANSE Project's site in Hampshire (http://www.romanse.org.uk/) presents a public transport journey planner (TRIP*lanner*) alongside car-based information including real-time car park occupancy figures for Southampton and real-time colour-coded congestion maps for in-bound and outbound routes.

A journey planner is an increasingly common information interface associated with public transport information sites. The user is presented with a journey enquiry form to complete (e.g. Figure 2). This requests details including the origin and destination of the journey and certain constraints such as desired arrival or departure time. The details entered on the form are then used by the journey planner engine to interrogate a timetable-based database and thereby process the enquiry and return a suggested travel plan to the user. These sites are limited in their coverage by virtue of providing timetable-based information associated with a particular geographical area or a particular public transport mode or operator. As such sites continue to emerge and coverage increases it is likely that a user will eventually be able to plan a door-to-door long distance public transport trip using information from a series of different WWW sites. However, for the user to do so 'manually' would be a time consuming and daunting task. Key players in the industry have recognised this issue and the JourneyWeb project was subsequently awarded Government and industry funding to develop a means by which information from a series of local distributed databases could be combined to address WWW-based enquiries covering more than one area, mode or operator (Fingerle et al, 1998). It is likely that a federal system such as this will now be adopted by the industry as a means by which, through the co-operation and interaction between a series of locally held and managed databases, a NPTIS can be delivered via the WWW. Indeed it is likely that in due course such as system would provide a supporting role to operators in telephone enquiry bureaux.

There are already many examples of WWW sites that are providing public transport information in a way that is helpful to the user. However, the Internet and WWW present an unregulated and anarchic environment in which to search for information. With a proliferation of WWW sites it can become increasingly difficult for the user to discriminate between sites of varying quality in terms of public transport information provision. Such difficulty and uncertainty could discourage travellers from using the WWW as a source of information for tripmaking decisions and may in turn diminish the prospect of a greater number of people using public transport. As such, some form of beacon is needed to guide new public transport information seekers in particular to the most appropriate sites. Accrediting sites which offer an acceptable quality of service to the user and displaying an accreditation logo on such sites could offer such a beacon.

4. ACCREDITATION

The ILT has established a Panel to provide and operate an accreditation scheme for WWW public transport information sites in the UK. The objectives of the scheme are to promote best practice and to foster public confidence in the quality of information being presented by verifying that appropriate standards for information content, delivery and maintenance are being observed. The composition of the Panel harnesses expertise from the main public transport associations, research bodies and a large user group (see Table 1).

The first task of the Panel was to prepare an Accreditation Criteria document detailing the process and requirements of accreditation. Currently the accreditation scheme is not supported financially and Panel members give their time on a voluntary basis. Consequently the scheme does not seek directly to rigorously examine the accuracy or otherwise of the information a site provides and the way in which it provides it. Rather, it seeks to ensure that management processes are in place to monitor the site and thereby

achieve a high level of reliability in the information provided, giving confidence to the user of the site. Addressing site quality in this way also avoids being overly prescriptive and critical concerning sites seeking accreditation which could otherwise serve to suppress evolution of best practice rather than reward it. Set against this rationale the following four criteria constitute the core of the Accreditation Criteria document and the aims of the accreditation scheme:

- *site description* (a site should state clearly what it does and do it);
- *currency* (information currency should be made known to the user);
- *maintenance warranty* (this must be undertaken by the site provider); and
- *accessibility* (sites should aim to be economically available to as many Internet users as possible or acknowledge their inability to do so).

Panel Member	Organisation represented
Alastair Duff (Panel Chairman)	British Airports Authority, Heathrow
John Carr	Metro West Yorkshire Passenger Transport Executive
Peter Lovegrove	Association of Train Operating Companies
Glenn Lyons	Transportation Research Group, University of Southampton
Malcolm Pickett	Transport Research Laboratory
Steven Salmon	Confederation of Passenger Transport
Roger Slevin	Association of Transport Co-ordinating Officers
Reg Harman (Panel Secretariat)	Institute of Logistics and Transport
Adrian Pigott (Alternative Secretariat)	Institute of Logistics and Transport

Table 1. ILT Accreditation Panel Composition

The accreditation scheme can only promote and encourage best practice within the industry and subsequently foster public confidence in the WWW as a source of public transport information if the industry embraces the scheme and all or most WWW sites that are worthy of accreditation come forward for assessment. To promote and develop the process the Panel therefore proposed the following series of activities during 1999:

- a specialists' workshop;
- a research project which DETR could let as part of its research programme; and
- a seminar to promote the results.

DETR agreed to support this programme of work and the first activity took place in May 1999. The Workshop was attended by representatives from passenger transport companies, local authorities, specialist Internet systems providers and other interested organisations.

5. VIEWS FROM THE INDUSTRY

The underlying aim of the Workshop was to bring together key players at a technical management level to discuss and elicit views concerning the development of public transport information provision on the WWW and the role and value of accreditation in this activity. In this regard the Workshop was successful and a considerable amount of material emerged concerning both best practice and more specific issues relating to the accreditation process.

5.1 The Need for a Presence on the WWW

With over 300 WWW sites in the UK providing public transport information, this is a field which is rapidly moving forward and is clearly viewed as a worthwhile endeavour by the industry.

There is a rapidly growing proportion of the population with Internet access. This is concurrent with a general trend across all sectors to use the WWW as an information/advertising delivery mechanism alongside existing media. The inclusion of WWW site addresses is now commonplace in both television and paper-based advertising. Consequently there is a growing expectation from the public for, and increasingly the opportunity to access, information via the WWW including travel information.

Indeed, there appears to be considerable latent demand for public transport information via the WWW. The Railtrack site (http://www.railtrack.co.uk/travel/) (see Figure 2) provides access to timetable information for national rail travel through a journey planner. The week prior to the Workshop the site's journey planner engine received one million enquiries. This level of use has grown through word of mouth and the use of proprietary search engines with very little advertising and promotion of the site by Railtrack.

WWW sites are automated, electronic information delivery mechanisms. In principle they should offer a highly cost-effective means to disseminate traveller information. This is particularly true as levels of demand for information rise. Increasing information demand associated with call centres or paper timetables introduces increased manpower costs or production and distribution costs respectively. Conversely, with sufficient hardware capacity, a WWW site can absorb increases in enquiry numbers at little or no additional cost. However, once hardware capacity is exceeded, increased equipment costs would then arise. Indeed the cost of providing a (popular) WWW site is not insignificant, particularly where large databases and journey planner facilities are concerned. The amount of infrastructure that must be operated to maintain databases and integrate them with journey planner engines can be substantial. The involvement of an Internet agency may also be required to provide the look and feel around such engine technology. An Internet Service Provider is required to provide the Internet gateway for two-way communication with users.

The WWW is a communications mechanism that is becoming increasingly commonplace in both the workplace and home. From a public transport perspective it offers the prospect of reaching a different audience of travellers than those already familiar with paper timetables or telephone enquiry services. It has the potential to reach people who perhaps do not consider public transport as a travel option or who have abandoned it in favour of the car. The WWW presents such an audience with a new, convenient and arguably more stimulating means of finding out about public transport travel options. It helps to promote the public transport brand both individually and collectively.

5.2 Challenges in Delivering Information Via the WWW

Acquisition and management of data that are input to WWW sites and more particularly to associated journey planners, remains a notably challenging issue. Inconsistencies

between delivery times and formats of information between different sources is particularly problematic as the industry moves towards integration between databases and sites.

Delivering public transport information via the WWW has an associated cost (albeit potentially less than the equivalent required for other dissemination media such a paper timetables or telephone enquiry services). There are a range of possible revenue streams to partially or fully meet this cost. An operator may consider that the cost of site provision will be balanced by increased revenues from ticket sales. Popular sites have the opportunity to include advertising on their sites although this may not be seen as appropriate for various reasons. Data on customer preferences gathered from the site may be used to provide value added services at a cost to consumers. Central or local government investment may be directed towards WWW sites based on outputs from multi-modal assessment studies. Revenue from economic instruments proposed in the White Paper may be hypothecated into the area of information provision. Expecting the user to pay directly for timetable based information and fares information is not realistic since information is viewed as part of the public transport service.

Public expectations concerning WWW sites are rising as the presence of public transport information sites moves from being a novelty to the norm. With a law of diminishing returns it is not necessarily viable to strive to achieve perfection in site delivery and as such it may be appropriate to temper public expectations. Different users will have different requirements and expectations concerning the 'front end' or interface of a WWW site. A series of interface goals exist including: maintaining information accuracy to ensure users revisit the site; keeping the interface simple (but where possible stimulating) and (thereby) maximising speed of information delivery; providing flexibility in how users can access information depending on the nature of their enquiry; and providing a hierarchy of information where appropriate to offer users the choice to probe further for more detail.

A key point of debate is the difference between delivering a basic, predominantly text-based site, and a more sophisticated graphics-intensive site. The former ensures backwards compatibility with earlier browsers which also have many parallels with the access limitations associated with Internet access via hand-held devices. The latter enables a more stimulating and potentially more effective means of conveying information to users with appropriate browsers, computer platforms and Internet access bandwidth. An ideal site would offer alternative versions of the site to cater for these two sectors of enquirers and might use automatic detection of browser type to determine which alternative to use for each enquiry. However, to offer parallel front-ends to a site has a cost implication. Effective site provision is a matter of balancing visual attractiveness against functionality within resource constraints.

Delivery of real-time information is a natural aspiration beyond the provision of static timetable-based information. This may be an attractive and helpful feature from the user's perspective. However the value of static information in terms of its potential to influence choice should not be forgotten and the quality of this information and its delivery should be maximised. The need for real-time information (which is costly and complicated to deliver) may decline as the reliability (or frequency) of the public transport system(s) improves.

The algorithms and rules operating within journey planner engines are not always fully transparent to users and, in parallel to the site accreditation process, there is a case for regulation or accreditation of the journey planner engines themselves to ensure accuracy, impartiality and comprehension of the results output to the user. Many sites are using journey planning engines to present results of timetable interrogations to the user. However, they do not typically offer the user the opportunity to have access to the source timetable. For the Buckinghamshire County Council site, which provides journey planning, mapping and timetables, most enquiries are directed at the static timetables. Collectively, as noted already, users require flexibility in how the access information. Addressing this has an associated costs but should maximise the site audience.

Particularly for the local (end) legs of a journey, travellers are likely to require more detailed directions on how to get to/from the entry/exit point of the public transport system. This information can be effectively conveyed using mapping. However, copyright and royalty issues are at present impinging upon widespread use of such information presentation. Mapping becomes increasingly important as sites begin to deliver multi-modal information including highway information.

The traveller is far less concerned with site branding than with obtaining information as easily as possible from the WWW concerning a particular trip. In this regard co-operation between operators to ultimately provide a single information enquiry point on the WWW is desirable. A potential difficulty is ensuring that customer complaints are directed at the right source since it will not be in the commercial interest of any one co-operating site provider to address complaints associated with another organisation.

E-commerce is likely to become increasingly common. It will become increasingly accepted by a currently hesitant public in the same way that use of plastic bank cards have taken over from cheques. This paves the way for an increase in the number of public transport information sites offering on-line booking and payment facilities.

5.3 Reactions to the Accreditation Scheme

Accreditation is seen to be of clear benefit to the industry as a means of self-regulation and promotion of best practice. A series of additional reasons for needing accreditation have been put forward including: accreditation identifies bona fide sites and gives them authority; collectively it raises the profile of the industry; and it offers a beacon to new users to navigate through a proliferation of new and emerging sites in the unregulated, anarchic environment of the Internet and WWW.

Realising the benefits of accreditation for the end-users entails a number of difficulties some of which are already being addressed and others which will need further consideration: a lay-user will not know who ILT is (although this should not be critical providing they make the association between a quality site and the accreditation logo); unaccreditable sites will not seek accreditation and will remain on the Internet compromising the collective quality of information delivery (this however reinforces rather than diminishes the value of a 'charter mark' system); the law of supply and demand means that users can effectively accredit sites for themselves through experience (crucially however this does not assist new users); users, as they do in other areas, might ignore any accreditation logo and associate particular 'brands' with product quality and reliability; and the accreditation logo itself is subject to illegal copying and use by rogue sites.

As the accreditation scheme grows it will be essential to ensure its upkeep and integrity. This could potentially have resource implications for the Accreditation Panel. As such it is important to encourage and harness complimentary quality checking mechanisms. Two such mechanisms are the internal auditing of sites and feedback from users.

The accreditation criteria do not demand information completeness in the sense that a site can, for example, provide information on only some services run by an operator. While there are scenarios in which this might make a nonsense of the accreditation process, such situations are unlikely and should they occur would be judged as appropriate by the users themselves. Sites seeking accreditation might abandon delivery of potentially useful information which cannot meet the accreditation criteria. As such accreditation could stifle some information provision. However this is arguably desirable if such information could be misleading to the user.

Accreditation can only warrant what an accredited site itself provides. Accredited site providers may have links in their sites to unaccredited sites. This may be an issue that the accreditation process will need to address in due course, particularly as the industry is moving into a distributed environment with interactions between different sites' journey planning databases.

Accessibility is one of the key accreditation criteria. Its primary interpretation concerns speed of information download and browser limitations while its secondary interpretation relates to disabilities of the users such as visual impairment or difficulties in using a mouse or keyboard. Arguably the secondary interpretation should be given greater importance. However it is likely that browser options and add-ons will address such problems for general WWW use by disabled individuals thereby diminishing the need for site providers to specifically cater for these users. However to do so might be good design practice. It was suggested that the Accreditation Panel might benefit from the addition of a disabled users' representative.

There is a clear distinction between accreditation and best practice. Best practice is about setting future standards to work towards while accreditation clarifies what standards have been used and minimum standards to be currently taken as acceptable. The two matters, whilst distinct, are nevertheless strongly related.

6. CONCLUDING REMARKS

The term 'Information Society' is a reflection of the world in which we now live. Information exchange is made increasingly more easy through advances in technology that allow more (cost-)effective collection, management and dissemination of information. The transport community in the UK has for some time recognised the value of information in empowering the traveller to make more informed decisions. This is particularly true for pre-trip information that can influence the departure time, mode, route and destination of a trip. However, until recently, with deregulation and privatisation in the public transport industry, there has not been the motivation, co-operation, resources or technological capabilities to fully realise the potential of informing the traveller.

The strong political stance that has now been taken on information provision paves the way for the delivery of comprehensive traveller information systems. The Internet and

WWW are receiving rapidly growing recognition as a means to effectively disseminate public transport information to the public. Indeed it is likely that the Internet will be a major (or arguably the leading) player in the delivery of a national public transport information system.

Developments in information delivery via the Internet are taking place at a phenomenal rate and it is seen as essential to ensure that delivery of public transport information via the Internet matures in an effective way to the mutual benefit of the industry and the individual traveller. Initial consultation with the industry suggests that an accreditation scheme would be welcomed as a means to achieve this. The evolving nature of WWW-based public transport information provision will demand, however, that such a scheme also develops to keep abreast of change.

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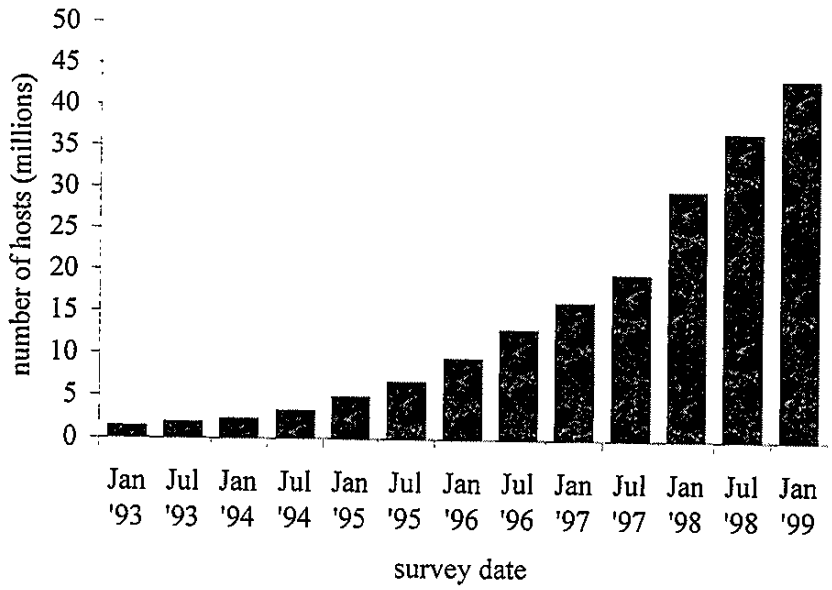

Fig. 1. Growth in Internet use (source: Network Wizards, 1999)

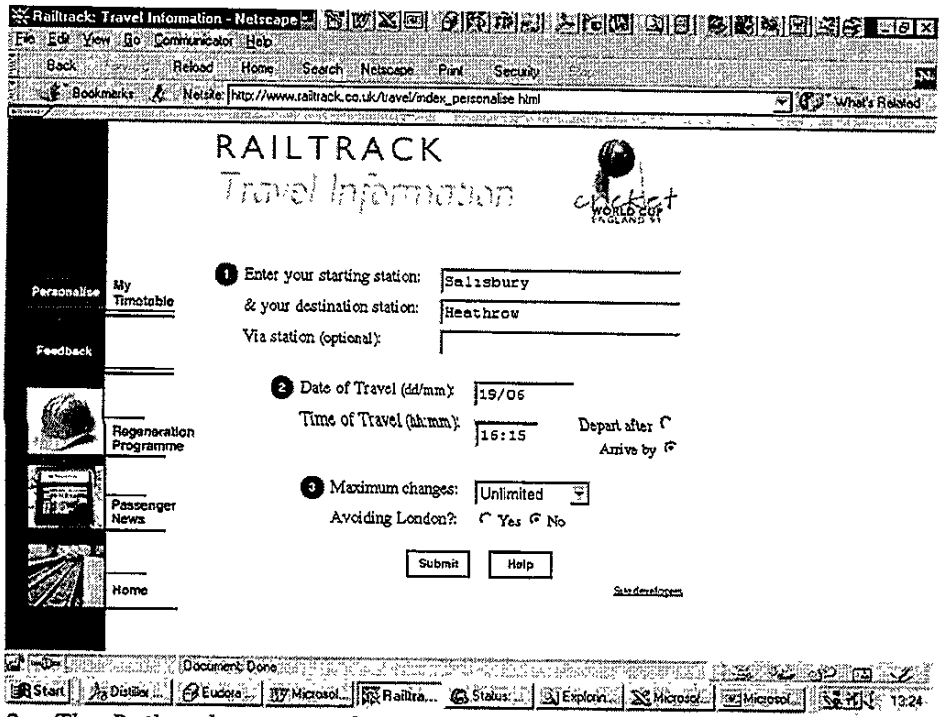

Fig. 2. The Railtrack journey planner for national rail journeys (image courtesy of Railtrack)