ATTRACTING BUSINESS TRAVELLERS FROM AIR TO RAIL

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ABSTRACT

Most business travel between Glasgow/Edinburgh and London is currently by air, even though rail accounts for a majority of the market in other countries with similar distances between major cities. And while climate change emissions from air travel are far higher than rail, environmental concerns alone are unlikely to convince all businesses to change their travel habits. Accordingly, this research evaluated the business case for travelling by rail instead of air between Glasgow/Edinburgh and London. Detailed analysis identified that rail offers clear advantages when seeking to maximise productivity instead of considering the narrow aim of minimising travel time. Rail was also found to compete well on issues such as punctuality, price, comfort, and stress. However, perception does not always match reality and this research identified several important communication messages as well as improvements that would help rail compete more effectively in areas such as ticketing, travel policies, and fare structures.

1. INTRODUCTION

A high volume of business travel exists between Glasgow/Edinburgh and London due to the presence of significant business, financial, and government operations in Scotland's two biggest cities. Much of this business travel is by air, with Edinburgh and Glasgow the fourth and fifth top destinations from London's airports. Numerous studies have shown that in other countries with similar distances between major cities, rail accounts for a majority of the market. This is supported by recent success on routes in England: in the face of competition from Virgin Trains, the air route between Liverpool and London has been entirely abandoned and rail has replaced air as the most popular form of transport between Manchester and London.

Anthropomorphic climate change is one of the most important challenges we currently face as a society, and transport is a large and growing contributor to climate change emissions. This creates a pressing need to bring about a shift from air travel, with its high emissions, to lower emission rail travel. However, businesses are unlikely to shift from air to rail purely on environmental grounds. A number of studies and statistics already exist on the preferences of business travellers, attitudes to rail travel, and attitudes to air travel. At the same time, there are several popular assumptions about both air and rail travel.

With these factors in mind, this research aims to bring together the disparate sources of information to provide a clear view of how rail travel compares to air, and to present practical recommendations on how to attract more business travellers to the rail network.

2. SCOPE AND METHODS

This paper considers business travel between Glasgow/Edinburgh and London. The Glasgow to London route considered is the West Coast route operated by Virgin Trains, and Edinburgh to London services are those provided by National Express East Coast[1]. Other rail services are not examined[2]. Whilst some of the lessons in this paper will be applicable to sleeper services, they are not the focus as sleepers take an approach that is fundamentally different in key aspects. Business travel between Scotland and the continent or between Scotland and non-London stations in England will not be considered. However data from these routes will be referred to if they are appropriate to the Glasgow/Edinburgh-London routes.

The strategy used in compiling this paper was to collect, analyse, and present information from existing research rather than attempting to carry out a new body of original research. Where further original research might be useful, this is noted, but the scope of this project did not allow for meaningful original research to be carried out. Some of the research cited is based on surveys of business travel in general, including international business travel. However, the Barclaycard Business Travel Survey shows that even in these cases, 73% of business travel is within the UK (Barclaycard, 2007 cited in ABTN, 2007A). Therefore, the general UK business travel surveys can be used to draw useful conclusions.

The focus of this paper is on changes that can be made to services, quality issues, facilities provided, and important communication messages to attract business travellers. Issues such as track upgrades, signalling replacement, rolling stock alterations, and other larger infrastructure projects are specifically excluded. Essentially, this paper looks at changes that can be made in a relatively short timescale and without massive cost implications.

3. BACKGROUND: FACTORS THAT ARE IMPORTANT TO BUSINESS TRAVELLERS

3.1. Reliability

In an American Express (2007) survey the top concern when booking travel, cited by 99% of respondents, was reliability, and 84% were annoyed by flight delays and cancellations. The British Chambers of Commerce (2006) found 69% of business respondents rated "reliability and punctuality" as their first or second priority[3] for rail improvement while only 18% rated speed improvements[4]. Regarding flying, 46% cited "punctuality/ reliability" as their first or second priority[5], the second most desired improvement (*ibid.*). Barclaycard (2006) also found that "cancellations, missed connections and delays" was the most common response when businesspeople were asked to state the worst thing that had happened to them whilst travelling. One explanation for the primary importance of reliability is that it is more important for workers to know they will definitely make a meeting at 12:30 than to have

the possibility of one at 9:30 (Brown and O'Hara, 2003).

3.2. Journey time

Barclaycard (2006) asked what would encourage respondents to travel more by rail. Forty-three percent – the largest number – said "faster trains", followed by 40% for "[a] more regular service". The survey includes all types of business travel and comparing the immediate convenience of a car with slow or infrequent local train services would certainly affect results, but the importance of speed should still be considered on the Anglo-Scottish routes.

3.3. Cost

The British Chambers of Commerce (2006) survey found that cost is the second most important area for rail improvement, with 65% of respondents stating that cost was either their first or second priority[6]. Looking at an increase in air use, the same survey found that 49% felt air transport to be cheaper, the top reason given for domestic travel. In American Express (2007) cost ranked the sixth in a list of top travel considerations[7], but was still considered an important concern for 84% of business travellers in the survey. A Scottish Executive (2006) survey also found that cost was commonly cited in decisions of how to travel to London including reference to the total cost of the trip (*e.g.* need for overnight accommodation, cost of non-working time). Taken together, these surveys show that cost is an issue but it is not always the top concern and will likely include more than just the individual ticket price. The issue of travel time productivity and the competitiveness of rail fares is addressed elsewhere in this paper.

3.4. Convenience and comfort

American Express (2007) found that 69% of respondents struggle with flight check-in queues. When asked what would most enhance their flight experience, eliminating queues was travellers' top demand (66%), while speedy baggage retrieval was third (63%). Heightened security at airports, however, means travellers will probably spend even more time waiting (BBC, 2007). At the same time, the schedules and locations are important for business use. More flights into main airports would encourage almost half of respondents to an Accenture (2005) survey to increase use of low-cost airlines, and the top influence when choosing an airline was a convenient schedule.

Ticketing is also an important aspect of the travel experience. The largest segment of travellers book their tickets the week before travelling – between 38% (Barclaycard, 2006) and 51% (Accenture, 2005) within which 7%–11% book twenty-four hours or less before departure. Only 23% (Accenture, 2005) to 27% (Barclaycard, 2006) book more than two weeks in advance. American Express (2007) found 91% of travellers concerned with their ability to change plans at short notice, 45% irritated by inability to change flights easily, and

53% stating that easily changeable flight timings would enhance their experience. These results demonstrate the importance of being able to purchase desired tickets at short notice and the flexibility to change arrangements once booked.

3.5. The travel environment

According to Barclaycard (2006), the most-used technologies when travelling were power points for laptops and phones (66% of respondents) then remote email access (40%) and WiFi (29%). All trains on the Glasgow/Edinburgh to London routes provide power points for charging laptops and mobile phones. GNER also estimated that installing WiFi attracted 22% of passengers who switched from air (Silicon.com, 2006), while 84% of business travellers felt that mobile access to email has had the biggest technological impact. American Express (2007) partly explains this: 43% of travellers complained of needing to catch up on work when they get back to the office. Considering amenity aspects of rail travel, Passenger Focus (2007) found that GNER's restaurant service influenced passengers' choice of rail over air.

4. ACKNOWLEDGED ADVANTAGES OF RAIL TRAVEL

To provide context, this section concentrates only on those advantages that are already established in the public mind and rarely (if ever) contested. An assumption that underpins numerous transport-related media stories and political initiatives is rail's perceived lower negative environmental impact than air. The Conservative Party proposed a moratorium on new runways until there is "compelling evidence that railways cannot offer lower-emissions alternatives". A senior party source was quoted as saying that "nearly a quarter of flights from Heathrow are on routes reachable by rail" (Observer, 2007) without feeling the need to explain why rail is better. Likewise, in a Guardian (2007B) article about Flybe's launch of an aeroplane eco-labelling scheme, a campaigner points out that many of Flybe's destinations can be reached by high-speed rail, the presumption being it is better for the environment. And the Economist (2007) noted that, amongst other factors, concern over climate change has made the train an increasingly attractive alternative to flying. Even popular no-frills carrier EasyJet has found that concern over the environment has started to affect sales (Guardian, 2007C).

Rail's superior environmental performance is largely because aeroplanes require such a vast amount of energy to operate, but recently the rail industry has started to focus on further reducing the environmental impact of rail travel. Virgin Trains (2007A) has measured the CO_2 emissions from its services and is considering energy use in buildings, recycling of waste, sourcing environmental and ethical products, and their carbon footprint. When the UK Department for Transport (2007) launched its InterCity Express Programme to develop new trains, it stating that, "environmental concerns are an increasingly important consideration… [Current train fleets] perform relatively poorly in this regard" and a primary objective is to, "deliver an environmentally

sustainable solution" with "improved energy efficiency… reduced noise and emissions, and more sustainable construction and maintenance". As a final example, Eurostar (2007A) launched 'Tread Lightly' including a target to reduce CO_2 emissions by 25% by 2012 and a plan to tackle the environmental impact throughout their operations. So while rail travel already benefits from the perception that it is better for the environment than flying, key players are now specifically addressing and improving environmental performance to ensure that rail retains and increases this advantage over flying.

Another advantage for rail is that the routes between Glasgow/Edinburgh and London have departure and arrival points in the centres of the respective cities[8], near the majority of business destinations. Even when destinations are not nearby, major stations have good links and rail allows travellers to complete their journeys with a minimum of hassle and extra time. In comparison, when flying only London City Airport offers a central location for even one end of the journey and several airports are over 30 miles outside of city centres. Factors such as these create a 'tipping point', below which, a significant percentage of travellers will take the train even if a shorter flight is available on the same route. SNCF has found that on journeys of less than four-and-a-half hours where they compete with airlines, their share of the market is over 50% (Pepy, 2007) and other European rail companies are capturing more than 60% of the business market from airlines on four hour journeys[9] (Economist, 2007).

5. PERCEIVED DISADVANTAGES OF RAIL TRAVEL

5.1. Punctuality

Travellers often complain that trains arrive late, and as punctuality and reliability are valued over journey time and cost this is potentially the most important issue to address. Official figures, however, show that rail performs significantly better than air (see *Table 1*). Between Glasgow/Edinburgh and London, rail services' punctuality rates, at 84%-87% in 2006, were over one fifth higher than those of air services (69%-72%). Additionally, an aeroplane is considered on-time if it lands within 15 minutes of its schedule, assuming no delays when taxiing to the gate, so passengers cannot necessarily disembark immediately. And statistics do not factor in flights that are cancelled or diverted. On the other hand, a train must arrive within 10 minutes of its scheduled time to be considered on-time, arrival is at the platform so passengers can disembark immediately, and cancelled services are factored in to provide an overall assessment of performance. If it were possible to compare on-time arrival of trains and aeroplanes using the same conditions, the gap in performance would likely be larger.

Table 1: 'On-time' arrival of rail and air routes between Glasgow/Edinburgh and London in 2006. Note that an aircraft is considered to be 'on-time' if it arrives within 15 minutes of the schedule, and delays taxiing to the gate and cancelled or diverted flights are not included. A train is considered to be 'on-time' if it arrives within 10 minutes, arrival is at the platform, and cancelled services are reflected in the figures. London airports include Gatwick, Heathrow, London City, Stansted, and Luton; Glasgow airports include Glasgow and Prestwick.

	Trains arriving 'on-time'	Aeroplanes arriving 'on-time'
Glasgow ↔ London	87%	72%
Edinburgh ↔ London	84%	69%

sources: National Rail Trends Yearbook 2006–2007 (ORR, 2007)
Punctuality Statistics: Annual 2006 (CAA, 2007)

GNER (2007) analysed the Edinburgh–London route month-by-month and classified on-time train arrivals as being within 15 minutes of the schedule in order to achieve some parity with airlines[10]. The results, shown in *Figure 1*, found that only in October 2006 did on-time train arrivals fall below 82% (to 75%) but between June and September 2006 only 58% to 60% of flights arrived on-time. Nor was 2006 unique: the period 2003 - 2006 saw punctuality on the Edinburgh – London rail route improve continuously while air remained constant, with a drop in 2006. Until the Hatfield crash of 2000 resulted in widespread speed restrictions and delays, rail punctuality was very high. This could be why people often consider rail punctuality to be poor: this mindset was partly created or reinforced after the Hatfield crash. There is good reason to expect rail performance to improve further as speeds are reinstated, and renewals pay off. It is important to challenge people's assumptions and publicise the high level of rail punctuality compared with flying. Finally, on punctuality, airlines do not offer compensation for flights that arrive late: only if a flight is expected to depart more than five hours late will they offer a full refund if the traveller chooses to cancel their trip. In contrast, the rail companies will offer a 25% or 100% refund if the train arrives more than an hour late[11] (EC, 2004; National Express East Coast, 2007; Virgin Trains, 2003). Refunds cannot make up for arriving late, but demonstrate a commitment to running punctual services.

Figure 1: Four-year trend of 'on-time' arrivals for travel between Edinburgh and London. For the data in this figure, 'on-time' is arrival within 15 minutes of the schedule for both rail and air. London airports include Gatwick, Heathrow, London City, Stansted, and Luton
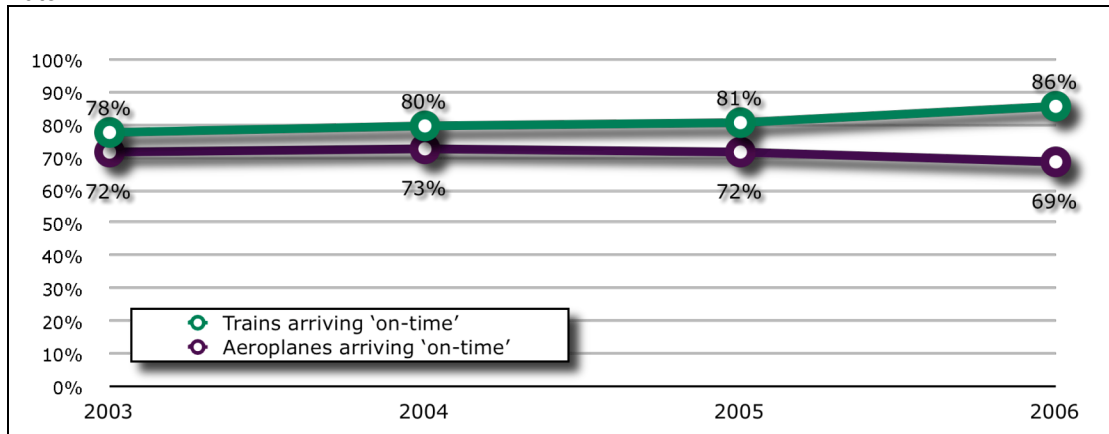
5.2. Journey time

The second frequently perceived disadvantage of rail travel is that it takes significantly longer than flying and so 'wastes more time'. The time on the plane is, however, only a small part of the overall journey and to be meaningful, it is necessary to compare the full city centre-to-city centre journey times. *Table 2* provides an example of how full journey times were calculated and *Table 3* shows the resulting figures for popular air routes between Glasgow/Edinburgh and London. The departure and arrival points considered are not necessarily exactly the same: they have been chosen to be most appropriate to the mode of travel instead of giving rail advantage by using the stations served by the Glasgow/Edinburgh to London routes. For instance, on the air route from Glasgow to London via Heathrow, the journey is taken from George Square to London Paddington[12]. Details of all calculations can be found in Warren (2007).

Table 2: Calculating the best-case journey time when flying between Glasgow and London via Heathrow. Origin and destination are both city centre locations to provide comparison with rail travel. Online check-in prior to leaving is assumed as this would likely be the most convenient option for a business traveller.

Journey Section	Mins.	Source
City Centre → Glasgow Airport	35	GlasgowFlyer.com express shuttle, with 10 minutes to wait for the bus and then walk to the terminal at the other end[13]
Through security to gate	50	EasyJet minimum (Independent, 2007) + 10 minute buffer
Glasgow → Heathrow	80	British Airways website
Disembark & walk to main terminal area	25	Estimated time for getting aeroplane doors open, disembarking, and walking to the main terminal area
Walk to Heathrow Express	10	Heathrow Express website
Wait for next train	7	Median wait, as trains run every 15 minutes
Heathrow → Paddington	15	Heathrow Express website
Total	**222**	**3 hours, 42 minutes**

Table 3: Full journey times for air routes between Glasgow/Edinburgh and London. Timing for the return flights only varies by a maximum of five minutes. Details of the journey time calculations can be found in Warren (2007).

Route	Journey Time
Glasgow → London via Heathrow	3 hours 42 minutes
Glasgow → London via Gatwick	4 hours 10 minutes
Glasgow → London City	3 hours 40 minutes
Glasgow → London via Prestwick and Stansted	4 hours 28 minutes
Edinburgh → London via Heathrow	3 hours 42 minutes
Edinburgh → London via Gatwick	4 hours 05 minutes
Edinburgh → London City	3 hours 25 minutes
Edinburgh → London via Luton	4 hours 13 minutes

Edinburgh to London is the faster route with most journeys south taking 4h40 but several coming in around 4h20[14]. The northbound journey is slightly faster with most being between 4h20 and 4h30 and the fastest journey being 4h12. Currently, most journeys on the Glasgow to London route take around 5h20 southbound or just over 5h00 northward with the shortest journeys around 4h30. From the beginning of 2009, a new timetable will see major improvements to Glasgow services with higher frequencies and speeds[15]. Provisionally, most journeys south will be around 4h30 with a couple at 4h21, while northbound trains will generally take 4h26 with one service taking only 4h10 (Virgin Trains, 2007B). *Figure 2* shows a comparison of rail journey times with the full journey times for air.

Figure 2: Comparison of rail and flight journey times between Edinburgh/Glasgow and London. The 'Shortest Journey' or 'Longest Journey' for rail represents the scheduled service with the shortest or longest journey time; for air it represents the airport pairing that results in the shortest or longest total journey time. The 'Normal Journey' for rail represents the journey time for the majority of scheduled services; for air it represents flying to Heathrow as this is the airport with the most flights from both Glasgow and Edinburgh.
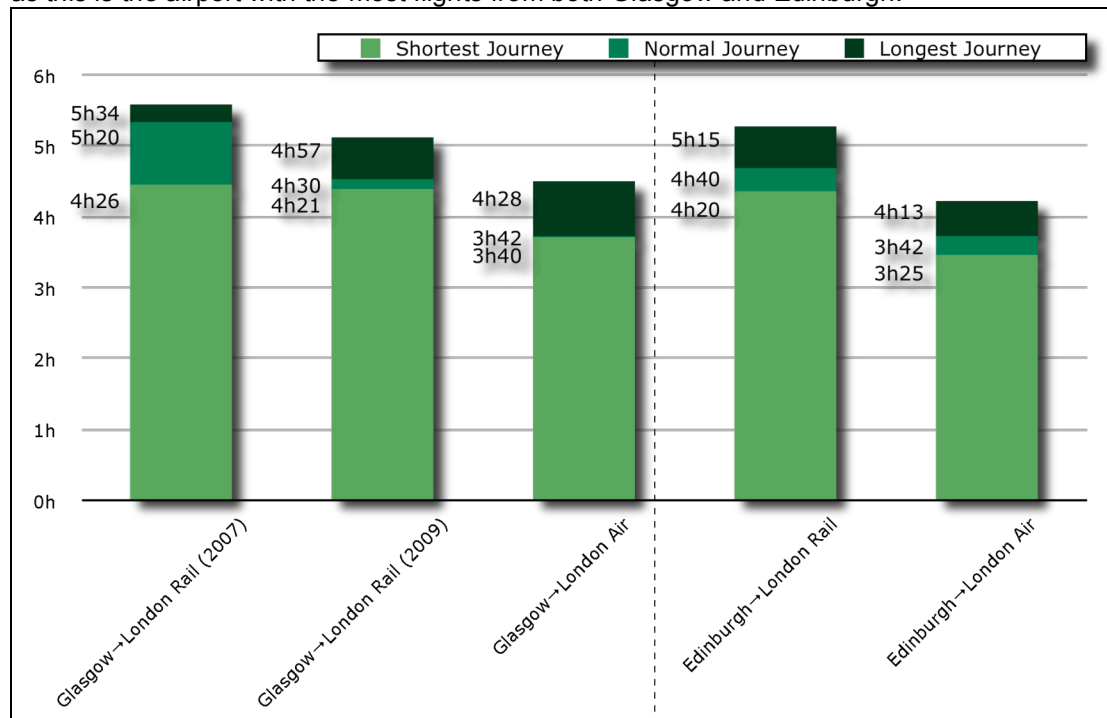
Rail journey times, on the Edinburgh and 2009 Glasgow timetables, are generally no more than an hour longer than the full journey time of flying, and the fastest trains are already as fast or faster than the longer flight routes. With delays, the air journey will be as long or longer than rail. Nonetheless, rail should not generally aim to compete on journey times using raw numbers. The impact a journey has on the working day and the stress involved are more important, as these will determine how effective a person can be. The point of travelling for business is to facilitate more effective work and so a rail journey might take an hour longer, but will result in less lost work time, a richer environment in which to work, and a less stressful journey. The details of these benefits are discussed in *Section 6*.

5.3. Cost

There is a belief amongst a significant percentage of businesses that rail travel is too expensive, as shown by the 23% of business travellers who increased air travel "because [it] is cheaper" (British Chambers of Commerce, 2006). It is always possible to find specific flights that are less expensive than specific rail journeys, but investigation shows rail ticket prices to be competitive. When an example booking enquiry was made one week in advance for a return journey between Glasgow and London, the lowest price on British Airways was £121. Tickets were available on Virgin Trains for £77

in standard class and £118 in first, with more departure times to choose from. The lowest price on EasyJet was £68 but this did not include the costs of getting to and from Glasgow and Luton Airports, which would add another £10, making the total cost more expensive than the train. Travel to the airports brought the cost of British Airways up to £142. A more comprehensive study of the cost of rail versus flying between Edinburgh and London, using a booking horizon of 1–14 days, showed average rail cost at 9.6p/mile while air was 14.8p/mile (GNER, 2007) without the costs of getting to and from airports. For the flight alone, British Airways' fully-flexible return ticket between Glasgow and London costs £398[16], more than Virgin Trains' fully-flexible first class return fare of £347 and hugely more expensive than the £98 fully-flexible standard class return ticket. The average fare paid on Virgin Trains (2007D) for a return between Glasgow and London is £62 in standard class, £129 in first, and can be as low as £35 and £86. However, many businesses find rail fares complicated, as shown by the statement that "trains running on time and a simpler tariff system are the main requirements" (British Chambers of Commerce, 2006). Train operators should consider how rail tickets are presented to those booking business travel and also highlight competitive fares. Of course, they must ensure that enough low-fare tickets are available so that business travellers feel there is substance behind the publicity.

6. EXISTING ADVANTAGES THAT SHOULD BE EMPHASISED

6.1. Market Context

The British Chambers of Commerce (2006) found that respondents most likely to travel by train were those based in London (86%) and Scotland (78%), those in public and voluntary sectors (84%), and those in business services (75%). In London and Scotland, for 94% and 85% of organisations (respectively) the rail use was for business travel (as opposed to staff commuting or freight), although not necessarily on the Scotland to London services. Barclaycard (2006) found that women business travellers preferred rail (39%) over flying (25%)[17], and travellers overall slightly favoured rail over air (32% *versus* 29%)[18]. Encouraging business travel by rail should therefore build on existing preferences.

6.2. Convenience and comfort

Trains between Edinburgh and London leave on the hour, every hour throughout the day. From 2009 the Glasgow to London route will also be more predictable, with trains leaving London at half-past each hour. Some two-hour gaps will allow for a half-hourly service in the early evening and should help persuade business travellers to switch to the train (Virgin Trains, 2007B). Each airport and airline combination has only a handful of flight times which are at odd times past the hour, making them difficult to remember. Rail can offer frequent, predictable ('clockface') times which, together with reliability, should be publicised as an advantage.

When travelling by train, it is possible to show up a few minutes before departure and then simply step off the train at the other end. Because train stations are located in city centres, rail travel also provides the opportunity for having a drink or meal with clients or colleagues before catching the train back home. Finally, if changing their booking a traveller must contact the airline, even with a flexible ticket, and may be refused if there are no available seats. In contrast, with a rail ticket the traveller can simply show up for a different train if they change their plans. These aspects should be highlighted by train operators to demonstrate the lower hassle associated with rail travel.

The British Chambers of Commerce (2006) found that in spite of improvements to rail comfort, most (74%) of respondents had increased their use of rail "due to road congestion as opposed to cost, rail network coverage, comfort, convenience, speed, etc. [...] the railway industry still faces a major marketing challenge to fully convince the business community that the overall service offering has improved." Since then, Virgin Trains has run adverts highlighting the comfort of rail travel. Continued emphasis should be placed on this advantage as none of the flights between Glasgow/Edinburgh and London offer business or first class.

6.3. Productivity

Transport 2000 (2002) conservatively estimated the value of work done on trains in the UK at £713 million per year. On an aeroplane there is not enough space to work with a laptop and briefcase (Perry *et al.*, 2001) and Jain & Lyons (n.d.) found the train was preferred to the aeroplane for laptop users. The National Passenger Survey found that 58% of business travellers had made some use of their time travelling by train and 27% made very worthwhile use of their time. This was more pronounced in first class where 33% felt they had made very worthwhile use of their time, as opposed to 23% in standard class (Lyons *et al.*, 2007). The higher price of a first class ticket may therefore be offset by the ability to get more work done.

The working environment on a train can also be more conducive than the office for activities such as reading long documents, working through email, and solid periods of writing. Work done when travelling is sometimes a unique opportunity to get certain tasks done (Holley *et al.*, n.d.). In fact, Brown and O'Hara (2003) found that mobile workers develop strategies so that appropriate tasks are allocated to travel time. Lyons *et al.* (2007) found that only about one-half of business travellers did some work on rail journeys with just one-third working most of the time. However, in the National Rail Passenger survey, 86% of business travellers said that they had work which could be easily undertaken on the train (Holley *et al.*, n.d.) so there is an opportunity for business travellers to plan work to do on the train.

When flying between Glasgow/Edinburgh and London, there are several periods when a traveller could theoretically get work done. However, it is periods of uninterrupted time that are best used for work (Jain and Lyons, n.d.). For example, one business traveller would not get his laptop out to work

in an airport departure lounge because the time was not suitable for engaging in useful tasks (Brown and O'Hara, 2003). The only time a traveller is sitting down for more than 35 minutes on a typical air journey is the 80 minute flight. Working time will be further diminished by take off and landing procedures, so the journey affords just over an hour for working and a loss of at least 2h30 working time, rising to 3h42 lost working time if the traveller decides to use the flight time to relax. In contrast, on a 4h40 train journey a dedicated traveller could work for 4h30 (allowing time to unpack and pack up). More realistically, a rail traveller could accomplish over three hours of work and still have more than an hour to relax. This means that a single air journey results in an additional 60–212 minutes of lost working time compared with the equivalent rail journey, as shown in *Figure 3*.

Figure 3: Lost working time when travelling between Glasgow/Edinburgh and London. The arrows show the minimum and maximum additional lost working time resulting from air travel. The air journey represents flying to Heathrow as this is the airport with the most flights from both Glasgow and Edinburgh.
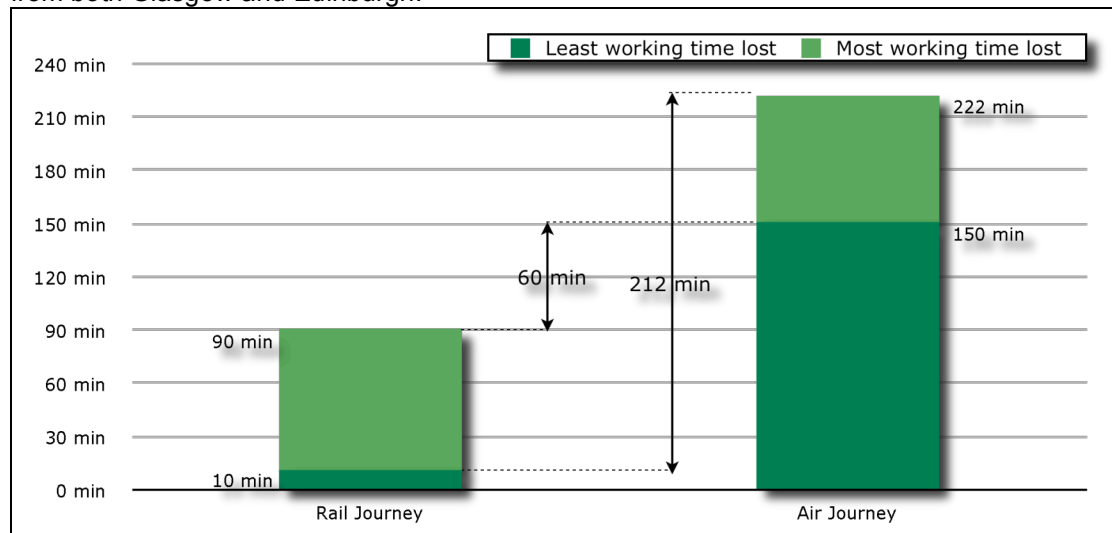
The "clock-controlled time" characteristic of industrial activity no longer dominates the business world. In "task-based time", time is governed not simply by location or time of day, but by whether a particular task can be completed (Holley *et al.*, n.d.). Many attitudes to travel time are still stuck in the industrial mindset: in the Scottish Executive (2007) travel survey, respondents were concerned about the total cost of travel, including lost working time. One respondent recognised the advantage of being able to work on the train, but another one viewed time on the train as unproductive. It is vital to shift perception so that business travellers see the train as a type of mobile office, a place that can be part of the working day. One way to shift public thinking would be to publicise tasks that can be accomplished on the train but not on the aeroplane in combination with the full journey time and the extra lost working time associated with air travel. This gives a clear advantage to rail travel when considering which mode has the least impact on available working hours.

6.4. Well-being and health

Research has shown that airline passengers experience a stress surge at arrival and check-in, followed by a gradual rise until boarding, after which stress levels decline (Business Traveller, 2004). Another survey found that 43% of travellers felt stress before reaching the airport and 74% experienced the most stress before boarding the aeroplane while 95% thought that the stress of business travel was staying the same or increasing (American Express, 2007). Barclaycard (2006) found that 58% of respondents did not enjoy travelling for business because it is tiring and stressful. And while "non-work" downtime is important for the well-being of employees, results in better productivity, and is important for the creativity required for knowledge work, the non-flying portion of an air journey does not allow for this (Csikszentmihalyi and Sawyer, 1995, cited in Holley *et al.*, n.d.). The lack of queues, security checks, or needing to arrive far in advance of the departure time contribute to a much less stressful experience by rail.

There is much anecdotal reference to the poor air quality inside aircraft (*e.g.* the "Air Travel Health News" website). To investigate this, the US National Academy of Sciences (2002) conducted research into the environment inside an aeroplane. This work found that airline ventilation standards for outside air per minute per occupant were less than two-thirds that recommended by the relevant trade group, and air pressure standards were inadequate as at the required levels air may be too thin for those with heart and lung problems. It also raised concerns about exposure to ozone, carbon monoxide, lubricating oils, hydraulic fluids, and deicing fluids. Because of poor monitoring, definitive health effects could not be proved. In contrast, the air inside a train is like that in many indoor environments. This has two significant benefits: a much more comfortable travel environment and lower health risks from repeated travel.

7. POTENTIAL IMPROVEMENTS TO THE SERVICE OFFERING

7.1. Punctuality

The number of on-time arrivals on trains between Glasgow/Edinburgh and London is already good but could be higher still. Slow boarding and dispatch at intermediate stations can contribute to late running and giving staff a greater sense of urgency could help to reduce this. Both routes have a goal of at least 90% punctuality, and they should seek to reach and exceed this on a consistent basis (National Express East Coast, 2007; Virgin Trains, 2003). Improving, maintaining, and publicising punctuality will attract business travellers.

7.2. Ticket booking

Figure 4: How business travellers book their tickets. The green (top three) colours are used for self-booked tickets whilst the purple colours are used for those booked through travel agents.
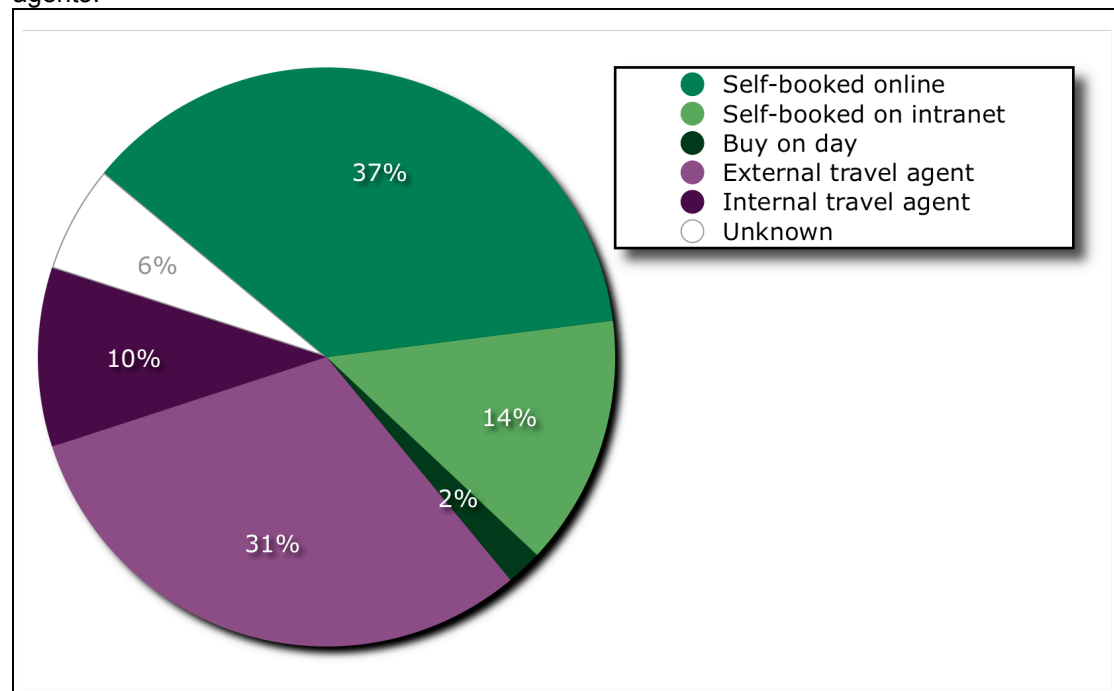
source: The Barclaycard Business Travel Survey 2005/06 (Barclaycard, 2006)

Figure 4 shows how business travellers book their tickets. At 37%, the most popular method of booking business travel is self-booked online (Barclaycard, 2006), so providing easy-to-use systems is important. In 2007 both National Express East Coast and Virgin Trains upgraded their online ticket booking systems with easier searching and a simpler display of fares. However other websites, including popular third-party rail booking sites, still have awkward features, such as:

- The need to create an account or log in to see ticket prices

- Ticket prices displayed in a complicated matrix, including different fares with the same restrictions

- After selecting a ticket from the matrix, up to six screens are presented before actually buying the ticket

The National Rail Enquiries website provides an easy facility to search for suitable journeys and fares but there is no ticket-buying facility. The traveller has to go through the whole process again, often using a more difficult site, when the details should be transferred directly to a check-out page. It can be a confusing experience, especially for those who have not done it before, and it is vital that the situation is improved. More business travellers are likely to book tickets online in the future (ABTN, 2007B) and all sites selling tickets need to be a considered: around 25% of business customers (the largest

group) use TheTrainLine (Virgin Trains, 2007C). If necessary, research and development should be conducted so that websites offer a best-of-class experience. E-ticketing would also encourage 27% of travellers to use rail more (Barclaycard, 2006). Although there have been trials, e-ticketing has not been fully developed for rail travel.

Another important ticketing area is company-provided intranet travel portals, which account for 14% of all business tickets and 26% of self-booked tickets (Brown, 2007). And company travel policies, given to almost two-thirds of travellers, can have a significant effect on choices (Barclaycard, 2006). Operators should therefore work with business to ensure rail travel is fully integrated and given prominence in both areas.

Finally, 41% of travel is still booked through travel agents who use global distribution systems (GDS) to find and book airline tickets. Train journeys appear as flights through AccesRail, though longer running times mean trains rarely appear first (AccesRail, 2007). Full journey times would allow more realistic comparisons and rail operators should work with GDS companies. One provider, Amadeus, already intends to improve integration of rail (ABTN, 2007C). It is also worth investigating ways of engaging with travel agents: ABTN (2007D) has run popular training days on the benefits of rail and plans to run more in the future.

7.3. Productivity

National Express East Coast trains already have WiFi, and Virgin Pendolino trains will be fitted with a similar system. But the WiFi access can be slow at times and mobile phone reception on both operators is weak during parts of the journey. Reliably providing both these facilities would help business travellers to associate train travel with a flexible work environment. Also, by considering how the travel environment limits or promotes activities operators could target investment and marketing. The goal should be that the train is seen as a place for work or where meetings can take place (Jain and Lyons, n.d.; Lyons and Urry, 2005). Seeing rail travel as an opportunity might encourage travellers to plan for the journey and therefore consider their travel time useful (Lyons *et al.*, n.d.).

7.4. Well-being and health

Rail operators should consider how improvements can be designed around increasing rail travel's advantage in the areas of well-being and stress, and also how to help business travellers feel more refreshed when they arrive at their destination. Business travellers feel that Virgin Trains' first class complimentary meals, while very good, could be improved (Virgin Trains, 2007C). They already include fresh fruit but part of the menu could be specifically designed around refreshing and nutritious food, marketed around the theme of looking out for customers' well-being. Another, bolder, move would be to introduce free massage in first class. Eurostar provides this in its

first class lounge in London and as does Virgin Atlantic Airlines in business class. Massages on the train could be an iconic way to show the difference between the stress and hassle associated with flying, and low-stress, refreshing rail travel.

7.5. Targeting the service appropriately

Considering all types of business travel, only 22% of train trips and 27% of flights are in a premium class (Barclaycard, 2006). Taking the Glasgow/Edinburgh to London rail routes alone might result in different figures: five of the seven business travellers surveyed by Virgin Trains (2007C) on the Glasgow to London route travelled first class, but this sample size is too small to draw conclusions. However, it is clear that business travellers' needs must inform improvements to standard class and how the service is marketed. Otherwise a large section of the business travel market (*e.g.* non-premium class) will be left to the airlines. Economy class business flyers could also be targeted with advance purchase first class rail tickets. Given when most business travel is booked, switching to rail can be seen as a way to upgrade from an economy flight to the luxury of first class travel for a similar (or lower) price.

The 2009 schedule for the route between Glasgow and London will result in a step-change in predictability. However, scheduling the additional early evening London to Glasgow departures on the hour, rather than three minutes before as planned, would be one specific improvement. Another, arguably less important, improvement would be for trains to depart Glasgow at half-past the hour instead of forty minutes past. Travellers would then know they could show up at the station on the half-hour, regardless of the direction of travel. These adjustments may not be possible, but the 2009 timetable is not yet finalised, and they should be given serious consideration in the light of research. Another alteration worth considering is train departures to directly compete with popular air services which would run from Scotland to London without stopping (with complementary return journeys). Air services show that substantial demand exists for direct travel between Scotland and London and extra fast services have the potential to wipe out the marginal journey time difference with certain air routes. Breaking the 4 hour threshold should be a target for both routes.

7.6. Specific incentives

Fifteen percent of business travellers say that frequent flyer schemes boost their enjoyment of travel (Barclaycard, 2006). However, at least 91% of business travellers on the West Coast route are not members of the frequent traveller scheme (Virgin Trains, 2007C). Further research is needed to make the scheme more attractive, including the possibility of validity across multiple long distance rail operators. Finally, environmentally-conscious businesses could be encouraged to buy into rail travel on a corporate basis. More and more large companies are attempting to improve their 'green' credentials in a

public way so they can benefit from their efforts through positive publicity (BBC, 2004; Guardian, 2007A). A 'Green Star' scheme could award business a certain number of stars based on the percentage of Scotland to London travel taken by rail. This would allow companies to publicly display their stars and related carbon savings.

8. KEY RECOMMENDATIONS

8.1. Set an example

One way both to highlight rail travel's advantages and to counter misconceptions would be for the operators to work with a major organisation to switch a significant portion of their Glasgow/Edinburgh to London business travel from air to rail. The Scottish Government is an example of the type of organisation that could be targeted – they require frequent travel over these routes, but staff currently feel flying is the assumed mode (Scottish Executive, 2007). The experience of an organisation making a significant switch to rail would provide concrete examples for other businesses and also show how to reconsider the role of travel and the opportunities it offers.

8.2. Communication messages

Below are the main messages this paper recommends should be communicated to businesses in order to promote rail and make it more attractive to business travellers.

Performance: punctuality and reliability

(1) Publicise rail's high level of performance on the Glasgow/Edinburgh to London routes.

(2) Rail punctuality is improving, air travel's punctuality is not.

Cost

(1) Target publicity about low-fare rail tickets at businesses and ensure these tickets are available so that business travellers feel there is substance behind the publicity.

(2) Flexible rail tickets are much cheaper than flexible air tickets.

Travel time and productivity

(1) Taking the train is more productive. The fragmented nature of air travel leads to greater loss of working time.

(2) Trains provide tables, space to work with a laptop and briefcase, and power sockets for charging laptops and phones. Highlight work tasks that can be done on the train but not on an aeroplane.

(3) Rail travel should come to be seen as an opportunity to work, and trains should also be seen as places that can provide space for meetings and social interaction – a 'mobile office'.

(4) For increased productivity, businesses should book first-class. First class rail passengers are more likely to feel they have made very worthwhile use of their time compared to standard class passengers.

(5) The train is also a good place to relax, before and after work, increasing overall productivity and creativity when at work. High levels of stress when travelling by air prevent it from providing effective downtime for the majority of the journey.

Convenience and comfort

(1) The high level of comfort provided by trains should be widely promoted to business travellers.

(2) The train eliminates queueing or waiting for luggage. These are serious irritations for business travellers when flying.

(3) There is no need to change reservations with a flexible rail ticket, simply show up for a different train.

(4) Routes with predictable, easily remembered, and frequent departures should be highlighted.

(5) The city centre locations of railway stations provide the opportunity for socialising by having a drink or meal with clients or colleagues before catching the train back home.

Well-being and health

(1) Publicise the quality catering offered on Glasgow/Edinburgh–London rail journeys.

(2) Rail travel can offer a comfortable, low-stress travel experience compared to the high levels of stress involved with flying.

(3) The atmosphere inside a train is 'normal' and comfortable, compared with the re-circulated air in aircraft which is often of low quality and can contain contaminants such as oils and carbon monoxide.

8.3. Improvements to existing services

While rail travel has many existing advantages, various improvements would either increase rail's competitiveness or make the process of booking and travelling by rail easier.

Performance: punctuality and reliability

(1) Improve punctuality to 90% or higher, maintain it, and publicise the figures. Poor airline punctuality undermines the raw time advantage of air travel.

(2) Ensure travellers know that they can claim compensation when rail services are more than an hour late, in contrast to the airlines who do not pay any compensation for delayed arrivals.

Cost

(1) Present a straightforward fare structure. Rail fare structures are complicated and this likely leads to the perception that train travel is expensive.

Travel time and productivity

(1) Increase the speed and frequency of rail services when possible.

(2) Consider competing directly with popular flights by scheduling extra fast services that pick up in Scotland and run to London without stopping, with one or two complementary return journeys.

(3) Provide reliable WiFi internet access and consistently strong mobile phone signals on all services between Glasgow/Edinburgh and London.

(4) Investment and marketing should consider how rail travel currently limits or promotes business activities on board trains.

Convenience and comfort

(1) Create regular, frequent, easily remembered timetables.

Well-being and health

(1) Design menu items to be refreshing and nutritious and market on the theme of looking out for customers' well-being.

(2) Consider how service improvements can be designed around strengthening rail travel's well-being and health advantages.

Ticket booking

 (1) Simplify the online ticket buying experience, including better links from the National Rail Enquires website. Continue to improve online ticket booking, including options such as e-ticketing.

 (2) Ensure that rail is given prominence in companies' travel policies and that rail booking facilities are fully integrated in internal travel portals.

 (3) Ensure that rail services are offered alongside air services through travel agent global distribution systems (GDSs) without extra effort. Further, investigate whether GDSs can more accurately calculate full travel time when ranking and comparing air and rail journey times.

Targeting the service

 (1) Target business travellers who use standard class, both when designing service improvements and in marketing, so as to capture the largest segment of the business travel market.

 (2) Target economy class flyers with advance first class rail tickets. This would provide luxury rail travel for a similar or lower price to flying economy.

 (3) Research improvements to frequent traveller schemes to attract more business travellers, including the possibility of a scheme that works amongst multiple long distance operators.

8.4. New services to offer

The following two new service suggestions could create iconic examples of the benefits of rail travel. They could provide genuine benefits and raise rail travel's profile.

 (1) Investigate the feasibility of providing free massages in first class to highlight the low-stress and refreshing nature of rail travel compared with the hassle and stress of flying.

 (2) Create corporate incentives to travel by rail. Environmentally conscious businesses could be encouraged to use rail by creating a 'Green Star' scheme, based on the percentage of business travel a company carries out by rail.

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1 Between compilation of the original report on which this paper is based, and writing this paper, the East Coast Main Line franchise changed from GNER to National Express East Coast. As a result, reference to the service is made as National Express, while historical data is attributed to GNER.

2 Virgin Trains also runs one service daily between Edinburgh and London Euston. Certain National Express East Coast services via Edinburgh originate or terminate at Glasgow Central.

3 Of businesses surveyed, 42% stated that reliability and punctuality were their first priority for rail improvements and 27% that it was their second priority.

4 Six percent claimed speed was their first priority for rail improvement and 12% stated it was their second priority.

5 Improved reliability when flying was the top priority for 23% and the second priority for a further 23% of respondents.

6 The split in importance of cost was 39% as first priority for rail improvement and 26% as second.

7 Cost was ranked below below reliability, safety, airline security, the ability to change plans at short notice and access to customer service.

8 London does not have a compact focal point like Glasgow or Edinburgh, but the stations serving the Scottish routes are both in the central London area.

9 For leisure travel, rail captures a similar percentage of the market from airlines on six hour journeys.

10 This still does not address the fact that airline figures assume no delay in disembarking once an aeroplane has landed and do not include cancelled or diverted flights.

11 For delays between half and one hour, National Express East Coast offers a 50% refund. For delays of an hour, Virgin Trains offers a 25% refund on the Glasgow route and National Express East Coast offers a 100% refund on the Edinburgh route. Refunds are in the form of vouchers that can be used for any future rail travel.

12 Trains to London run from Glasgow Central rather than Glasgow Queen Street (the closest station to George Square) and arrive at London Euston, not Paddington. A short journey is likely needed to get to the final destination in either case.

13 This time is the same as, or faster, than driving to the airport when parking is taken into account.

14 There are twice as many direct trains between Edinburgh and London (18) as between Glasgow and (9).

15 Technically the new timetable will come into force in December 2008 but because of holidays it will essentially take effect from January 2009.

16 British Airways only offers economy class between Glasgow/Edinburgh and London.

17 Another 32% preferred travel by car, though this would be less attractive over the distances involved in travelling between Glasgow/Edinburgh and London.

18 The clear preference for men was car travel, stated by 38% of respondents.