

# **LONG-TERM DEVELOPMENT OF EXPRESS COACH SERVICES IN BRITAIN**

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## **ABSTRACT**

Express coach services compete for longer distance market with car and rail, and largely cater for the leisure, tourism and VFR market. Britain deregulated its express coach system in 1980, and it is now opportune to examine long-term impacts of that change. The initial impacts were reviewed at the 1986 WCTR (Robbins & White 1986) but such impacts do not necessarily match long-term outcomes. Monitoring of the British system has been conducted by examining service changes and data on ridership, together with financial performance of the main operator groups and technical press coverage. It can be shown that a dominant position has been retained by the major operator (National Express), with a continued decline in the role of smaller independent operators in the all-year-round daily network. However, new competition has emerged from other large groups (most notably Stagecoach ‘Megabus’ in 2003). The paper analyses the operating and marketing strategies of the new operator and contrasts these strategies with those adopted in the 1980s. Implications for the future development of the network in Britain are outlined.

*Keywords: Express coach; deregulation; competition; pricing; long-distance; Britain*

## **THE ROLE OF EXPRESS COACH SERVICES**

### **Definitions of service types**

This paper is concerned with scheduled, long-distance express coach services. These are open to the general public, either by pre-booking or ticket purchase at time of boarding. They may thus be distinguished from other types of coach service, such as those providing day excursions, or extended tours (including overnight stays) for a party of passengers who remain together throughout the trip. We also exclude cases where a coach is hired privately by an organisation for the transport of its own members (such as clubs). However, it is not always possible to distinguish between these service types in some forms of data, such as aggregate counts of coach vehicular movement, international passenger flows, or data provided by respondents to national travel surveys. In these cases, we indicate where a broader definition is being used. From an operating industry perspective, different types of coach services may be provided by the same firm, in some cases inter-working vehicles (for

example, vehicles used on private hire work being used to augment capacity at peak periods on scheduled express services).

Within Britain, scheduled express services have not required a formal licensing or registration procedure for many years, except where local traffic is carried. In other countries, even where liberalisation has taken place, some form of licensing or registration often remains. In terms of international services within Europe, our definition corresponds to that of 'regular' services.

### **Network structures and passenger journey purposes**

As in the case of other public transport modes, networks are focussed on the main activity centres which generate sufficient traffic to justify operation. As coach services are largely operated commercially, i.e. without specific public funding for particular services, financial viability plays a greater role than in much of local public transport, or national rail systems, both of which can receive substantial amounts of financial support from public funds.

Hence, one typically finds a network forming radial routes from major urban centres – for example, in the British case, London, Birmingham, Glasgow, etc. However, in contrast to rail systems, much lower density flows can be sufficient to sustain financially viable operation, enabling a much more extensive network to be provided, and smaller towns served. The flexibility of the coach also enables more rapid change in network structures. This can be seen in the development of direct long distance services to major airports (notably London Heathrow) and routing of services within urban areas to serve points other than traditional central areas (for example, university campuses). In the British case, deregulation from 1980 enabled rapid development of services to major airports, which had been largely unserved previously. More recent competition, notably that between National Express and Megabus (discussed further below), has encouraged more direct services for the student market.

The principal routes in express coach networks will tend to parallel the major rail corridors (except in some other countries, where regulation prevents this). In such cases, express coach may be the slower mode, offering a lower fare but at a substantially lower speed. Hence a critical value of time may be identified at which users choosing solely on a journey time/money cost trade-off will be neutral between coach and rail options, with those who have a lower value of time (and typically, of lower income level) favouring coach.

However, in a considerable number of cases, coach may be able to offer broadly comparable journey times to those by rail, notably where low-speed single-track rail infrastructure is found (for example, in the north of Scotland, or parts of Norway). Furthermore, on a door-to-door basis, coach may also compare more favourably where the access journeys to/from rail stations are taken into account. In other cases, coach may provide links not offered by rail networks, both on lower-density routes and to locations such as airports or university campuses.

A typical outcome of the relatively low speeds offered by coach is that little 'business' travel as such is attracted (in contrast to rail), and a greater predominance of non-business purposes is found. Typically, visiting friends and relatives (VFR) is a major category, together with leisure and holiday travel. Table 5 of the recent study by Dargay (2010) for the Independent Transport Commission indicates that holiday, leisure and VFR travel accounts for 92% of the total distance travelled by coach (derived from National Travel Survey averages, 2002-2006) Within certain distances, a commuter market may develop, served either by peak-only services (as between Kent and London), or intensive all-day services also serving a wider mix of journey purposes (notably between London and Oxford).

A consequence of the mix of journey purposes, and also the income levels of users, is that a fairly high magnitude of short-run price elasticity may be expected. Hence, real price reductions (for example, arising through competition) may be expected to maintain broadly stable total revenues. This is in contrast to the low short-run elasticities for the urban bus market (around  $-0.4$ ), in consequence of which price reductions produce a lower real total revenue. One may thus suggest that price competition is likely to function more effectively in the long-distance than local markets.

The National Travel Survey (NTS) is a valuable source of data for travel within Britain, including 'long-distance' journeys (defined as being of 50 miles - approximately 80 km). In terms of all trips over this distance, bus and coach services (all types combined) represented only about 4% of the total in 2008 (DfT 2009a, table 3.11), albeit having a somewhat greater share over longer distances (6% for trips between 150 and 349 miles, or 241 and 561 km). The NTS also contains data on reported frequency of travel by all its respondents. For 'express bus or coach' less than 0.5% reported travel at frequencies of more than 'once or twice a month'. Some 1% of all respondents reported this frequency, with a further 13% as 'less than once a month, more than once or twice a year' and 10% 'once or twice a year'. 84% of NTS respondents indicated that they used coach 'less than once a year or never' (DfT 2009a, table 3.8). This indicates a market comprised of users who typically travel at low individual frequencies (although it should be noted that insofar as any excursion or tour trips, or occasional private hire journeys, were included in these figures, a greater proportion of very low-frequency trips might be included, and travel by scheduled coach as such may show a somewhat more frequent pattern of use). Hence, operators must ensure that a large number of potential users are aware of their services in order to secure viable demand levels.

The NTS is subject to some limitations, notably that the sample size for long-distance journeys for a mode with small market share such as coach may result in year-to-year fluctuations (hence averaging over a number of years is desirable if examining patterns in detail), and exclusion of travel by those not resident in Great Britain.

## **EXPERIENCE IN BRITAIN SINCE DEREGULATION**

### **Changes in legislation**

Express coach services in Britain were deregulated under the Transport Act of 1980, whose major elements came into effect from October of that year. Separate 'road service licences' for each scheduled route were no longer required. Price control was also removed. Operators simply registered long-distance services they proposed to run, specifying routes, timetables and fares as they wished. This enabled both greater inter-operator competition within the express coach system, and greater competition between coach and rail. Following the Transport Act of 1985, some further changes were introduced, removing the need to register the service where all passengers were carried a distance of at least 15 miles (approximately 25 km), measured in a straight line. It should be noted, however, that while quantity and price limits were removed, 'quality' controls were made more stringent, notably through the adoption of a system of 'Operator Licensing' (generally known as 'O-licensing') in which a licence is awarded to a business to operate passenger-carrying vehicles (PCVs). The total number of vehicles an operator is permitted to run (for all types of service) is specified in the licence. This is influenced by its record in safety aspects (notably adequacy of vehicle maintenance, and adherence to drivers' hours rules). Traffic Commissioners have powers to reduce the number of vehicles permitted, or to revoke a licence altogether, where performance is unsatisfactory.

### **Initial outcomes of deregulation**

This paper follows one by the same authors at the WCTR in 1986 (Robbins and White 1986), and provides the opportunity to examine whether findings reached then have been consistent with subsequent events. In summary, the main findings at that stage were:

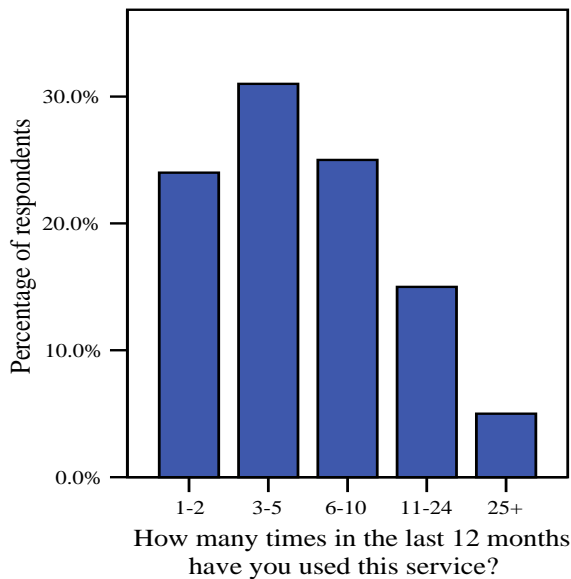
- A rapid growth had taken place in total passengers carried on the express coach network, of about 50% between 1980 and 1985. This was driven both by diversion of trips from rail, and generation of new travel.
- Large price reductions took place, especially on the major trunk routes. This enabled the major operator, National Express, both to pre-empt some competition with other coach operators, and to compete more aggressively with rail.
- Service levels on the major routes had improved substantially, both in terms of frequency, and in speed through greater use of the motorway network
- Substantial competition from smaller independent operators had occurred, notably through the British Coachways consortium. However, much of this had been short-lived, with National Express retaining a dominant role

- Improvements had taken place in service quality, notably through use of higher-specification vehicles.
- Direct services to airports had been established, overcoming the previous opposition of the principal airport owner (BAA) to coach services. In the case of Heathrow (located west of London, a short distance south of the M4 motorway) these had been provided by diversion of existing trunk services to London, but also as demand grew, by provision of direct services to Heathrow in its own right
- Rail prices were reduced in response to coach competition, notably in the form of the 'Super Saver' off-peak fares for long-distance journeys. Hence the deregulation provided indirect benefits to some rail users, even where modal diversion did not occur.
- While these changes could be seen as generally beneficial, some lower-density cross-country routes, and services in rural regions, had not benefited from fares reductions, and in some cases reduced service levels were provided. This may have reflected the removal of previous cross-subsidy within the coach network
- The limited terminal infrastructure both constrained overall growth of the network, and may have favoured the incumbent operator (notably through the ownership of Victoria Coach Station, the principal terminal in London, by National Express).

The limited impact of competition from smaller independent operators may have seemed surprising at first sight, given the low costs of entry to the market. Coach operation does not incur the costs of infrastructure associated with rail or airport provision, and even the vehicles can be leased rather than purchased outright. 'Contestable market' theory would suggest a major role for smaller players in such circumstances. However, in practice the main costs of entry may be those associated with marketing, and the relatively infrequent nature of long distance travel means that a relatively large customer base is required to sustain profitable operation. For example, Figure 1 confirms the infrequent nature of coach travel from a case study of the London to Bournemouth route. Of those intercepted in a survey of coach users as such, over 50% travelled by that service less than 5 times per annum. As a result substantial losses may be incurred during a period in which demand builds up from service introduction to commercially viable levels (Robbins 1989).

A consequence of deregulation of both quantity and price was that, although a new operator could enter the market more easily, incumbents could also react very quickly (or anticipate the activities of new entrants). For example, National Express was able to recast services prior to the deregulation of October 1980, and change fare levels, literally overnight at deregulation, before smaller operators could gain a substantial foothold. A parallel has occurred recently, when First Greyhound announced new services from London to Portsmouth and to Southampton in August 2009. National recast their services on these corridors to offer more fast journeys two days prior to the start of First Greyhound operations (which took place on 14 September), and also to offer a low level of book-ahead fares.

Figure 1 : Frequency of Use : Sample of express coach users between London and Bournemouth 2005/6.



Source : Robbins 2007.

It should be noted that National Express was in 1980 simply a brand name used by the National Bus Company (NBC), a state-owned holding company for regional bus and coach operations in England and Wales. Vehicles and crews were provided principally through the regional operating companies, but running under a common brand so far as the passengers were concerned. Within Scotland, a somewhat different pattern applied: the equivalent state-owned Scottish Bus Group had operated trunk services to London for many years, but was slow to develop services within Scotland, and a greater impact was attained by independent companies in consequence.

While deregulation and privatisation are often associated, the express coach experience in Britain illustrates a notable difference in timescale. Privatisation of NBC did not begin until 1986, and of the railways until 1996. Hence, the initial phase of intensive competition was largely that between state-owned coach and rail operators, rather than private and public sectors.

### **Subsequent changes**

Between 1986 and the early 2000s a number of further changes took place, those to 1999 being summarised by White (2001):

- National Express (NE) was privatised as a separate business in 1988. It operated only a small number of vehicles directly, contracting in from other operators for most of its services. Building on the pattern under NBC, this included existing regional companies, but also a wider range of operators. A competitive system has been used, with careful monitoring of service quality provided. This could be seen as a

parallel with the extensive development of competitive service tendering within local public transport networks, but within a wholly commercial environment.

- The equivalent operation in Scotland, Citylink, was also privatised, and operated in a similar form. This business was acquired by National Express in 1993, but subsequently NE was required to divest itself of this operation in 1997 following award of the Scotrail franchise (Monopolies and Mergers Commission 1997a). For some years, the greater part of Citylink's shares has been held by Comfort Delgro of Singapore with Stagecoach taking a minority share from 2005.
- Victoria Coach Station in London passed to the ownership of London Transport in 1988, a tariff system giving equivalent treatment of different operators being introduced. This removed the advantage of National Express as incumbent, a wider range of operators now using the terminal. Today, the station operates as a subsidiary company of Transport for London (TfL).
- Further consolidation of all-year round scheduled services continued, through acquisition by National Express of other operators. Notable examples included independents which had developed direct services from other regions to Heathrow and Gatwick airports (Cambridge Coach Services, and Flights of Birmingham). Significant independent operation was largely confined to the M4 corridor from the west country to London (Berrys of Taunton, and Bakers of Weston Super Mare), and an overnight service between London and major Scottish cities (Silver Choice, acquired by First Group in December 2008)
- Following privatisation (as a management-employee buyout), the management of NE introduced substantial real price increases in the early 1990s, reversing much of the real price reductions which had occurred around deregulation. By 1993 price levels on trunk routes had increased substantially. It was noteworthy that little new independent competition was attracted, apart from a short-lived operation from the north west of England. Subsequently, following flotation of NE as a plc, fare levels were again reduced in real terms. Total patronage of NE services fell substantially between 1989 and 1993, recovering subsequently, while total revenues changed little in real terms, consistent with a relatively high price elasticity for this market sector.

### **Issues in measuring ridership**

A crucial indicator of the impacts of coach deregulation is total ridership. Reference has been made already to the approximate growth of 50% that occurred in the period immediately following deregulation. Unfortunately, both in Britain and other countries, this data is often of poor quality. In contrast to comprehensive statistics on aggregate local bus ridership, the Department for Transport (DfT) and its predecessors have not published an explicit figure for express coach passenger trips since 1984. Following the Transport Act 1985 and local bus deregulation, aggregate statistics have been divided between 'local' and 'other' services, the latter including not only scheduled express but also all other types of coach travel, and

contract work such as school services. Aggregate data are published for 'other' services, but vehicle-km have not been published since 2007/08, and revenue since 2004/5 (DfT 2009b, Annex A, Table 4). In 1999 it was estimated by the predecessor department to the DfT that about 14% of vehicle-km and 17% of revenue for 'other' services then related to 'express runs over long distances' (White 2001). Given this small share of express coach operations within the total and lack of recent published data, it cannot serve as a proxy for express coach trends as such.

Some data is available on NE's operations, and in the absence of other evidence we have used these as a proxy for trends in the sector as a whole. This is clearly not ideal, since the share of the market held by NE vis a vis other operators affects this assumption. However, no other series of data is available. In addition, figures are quoted from time to time in the technical press for other operators, which we also cite here. Trends in vehicle movements at Victoria Coach Station, and roadside vehicular traffic counts also give some indications of overall trends. As discussed earlier, the National Travel Survey (NTS) also provides some useful indications, but since the share taken by coach is very small, it cannot be used as a reliable indicator of year-to-year trends.

### **Pricing structures and trends**

In the initial period after deregulation, conventional pricing and ticketing systems were in use, i.e. most passengers were pre-booked (except for some shorter regional services), and operators advertised fares for specific origin/destination pairs. Given the importance of VFR and leisure traffic, it would be reasonable to assume that much travel was at lower fare levels such as the 'period return' of National Express. This fare was used as the base for an index in earlier research by the authors as already cited. On this basis, taking 1982 equal to 100, the real fare for a common sample of routes rose to 175 in 1990, and 250 in 1992, falling to 231 in 1996 (White 2001, page 98).

A fare scale is still provided by NE to its agents, but in practice there has been a marked shift to 'yield management' techniques, in common with many other long-distance operators in the rail and air sectors. Hence the price paid will vary according to the length of time between making a booking and date of travel, together with availability of capacity. A case study of a coach route (White and Reynolds 2006) showed that a substantial proportion of users purchased their tickets via the internet rather than traditional agencies, and those who did so tended to book their travel further ahead than those using traditional purchase methods. For those buying their ticket more than one day before travel, the internet was the most common method. It has thus become difficult to derive a fare index in the same manner as before. Where published data exists, a crude overall average revenue per trip may be derived, but this will be affected by definitions of trips included (see below) and may also include the effects of other revenue streams. On this basis, NE average revenue per passenger trip (at 1996/97 prices) rose from £6.50 in 1984 to a peak of £10.20 in 1994, falling to £9.10 in 1996 (White 2001, table 2).



In the case of Scottish Citylink, a higher proportion of fares are paid in cash on boarding the vehicle, and many services are registered with 'local bus' sections. The availability of concessionary travel for older and disabled users (as distinct from discounts offered commercially by operators) had also had substantial effects. In the case of Citylink, the nationwide extension of free concessionary travel for such categories within Scotland from 2006 considerably boosted use of services. In the case of England, the equivalent nationwide extension took place in April 2008. NE likewise has substantial sections of routes in low-density areas registered as 'local bus', and hence the free concessionary travel became available on these. Some capacity problems were caused as result, and from 2009, government advice restricted such validity in England to services more strictly corresponding to 'local' routes, with the free concession not available on routes where the majority of passengers would be pre-booked (as is typical of express travel in most cases).

As described below, Megabus services introduced from 2003 have been based almost wholly on a yield management basis, with bookings made by web-based or telephone methods. Tickets are not available from drivers. This has reduced operating costs, while enabling maximum use of yield management to secure high load factors. National Express has also increased the proportion of travel sold in this manner, in part in response to competition, but also the opportunity to increase loadings.

However, over high-frequency short-distance routes, a pre-booking requirement would offset the 'walk on' convenience offered. This is particularly noticeable in the case of Oxford – London services, on which two operators have competed since 1987. The initial Megabus operation introduced over this route in 2003 was subsequently dropped from Autumn 2004 in favour of the opportunity to pre-book at low fares on the Stagecoach 'Oxford Tube' high-frequency service (and likewise, between Edinburgh and Glasgow).

### **National Express total passenger and revenue volumes**

Even taking NE data, there are some limitations, in that total passengers carried (and revenue received) does not correspond exactly to 'express' operations as such. Subject to these qualifications, NE data indicate the following trends. Table 1 corresponds to long-distance passengers carried in England and Wales up to 1997.

Table I – National Express long-distance coach passengers in Britain (selected years, millions)

Year	Passengers
1980	9.2
1985	15.4
1990	13.5
1993	9.8
1997	12.1

Source: White (2001), table 2

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Table 2 indicates total activity for the National Express coach business. This is based on a broader definition, including, for example the 'hotel hoppa' services operated from Heathrow to nearby hotels, which are parts of NE's business, but are clearly not 'express' services in the general sense.

Data shown in table 2 is in money terms. Adjusting to 2008 values using RPI, total turnover in 1999 was £218.5 million, indicating a real growth of about 12% between 1999 and 2008, and a reduction in real revenue per passenger trip from about £11.50 to about £11.10 – however, this may be affected by changes in composition of the trip volume shown, as well as fares for a particular type of service, and is based on a passenger volume figure shown only to the nearest million.

As mentioned previously, National Express operates many of its services through contracts with other operators. Its capital investment is thus limited to only a part of the total fleet required to provide services. Hence, a high rate of return on assets may be observed vis a vis the operating a profit margin shown. For example, in 2000, a return on net assets of 30% was reported vis a vis an operating margin of 6.0% (from National Express Annual Report 2000, page 31).

Table 2 – National Express total coach passengers and financial performance in Britain 1999-2009

Year	Passengers (million)	Turnover (£ million)	Operating profit (£m)	Operating margin (%)
1999	19	168.2	11.0	6.5
2000	22	186.8	11.2	6.0
2001	17	181.3	10.6	5.8
2002	17	184.5	12.2	6.6
2003	17	186.4	15.9	8.5
2004	18	195.6	19.3	9.9
2005	(a)	200.5	21.5	10.7
2006	19	207.3	23.7	11.4
2007	19	231.0	23.1	10.0
2008	22	244.7	27.0	11.0
2009	21	242.9	34.3	14.1

Source: Derived from National Express Annual Reports for years shown

(a) No figure published for that year

'Operating margin' is operating profit as a percentage of turnover. A picture of consistently healthy profit margins from the coach business thus emerges, the more recent financial problems faced by NE having been associated mainly with its rail franchises (notably East Coast). Growth of competition since 2003 does not appear to have reduced operating profit margins, nor has it had any obvious effect on passenger volume or total revenue.

## **A NEW PHASE OF COMPETITION - MEGABUS.COM**

### **The role of 'Megabus.com'**

Megabus.com launched in 2003. Megabus is a wholly owned subsidiary of Stagecoach PLC, one of the 'big three' UK bus operators, and therefore has the financial resources to withstand an unprofitable period of operation whilst demand for its services built up. Interestingly, Stagecoach has experience of express coach operation having introduced London – Scotland routes in the early 1980s, but like so many other services at that time, competition with the incumbent operators was short lived. It gained further experience through domestic operation with in Scotland as described above. Hence, when Stagecoach returned to the UK nationwide express market in 2003, it had as an organisation some prior experience of express coach operation.

Megabus.com offers a no-frills, low cost alternative to National Express following a similar business model to the low-cost airlines within the air travel industry, and the purchase of tickets is available only via the internet or telephone.

Prior to its introduction as a new major competitor, the express coach industry had remained an industry with a single dominant operator following the collapse of the British Coachways consortium in 1983 and the disappearance of most of the route-specific competition from smaller independent operators, a trend which has continued with NE's consolidation of services through acquisition, as discussed above. Certainly the introduction of Megabus has generated a highly competitive battle of marketing campaigns, cost cutting techniques, price wars and branding on some key inter-city routes, mostly to and from London.

### **The Competitive Advantage of National Express.**

As outlined above, much of the initial competition from October 1980 had been short-lived, with National Express retaining a dominant role. There are many suggestions as to why such a high number of failures were experienced. Jaffer and Thompson (1986) identified a number of barriers to entry that explains why new entrants had been unsuccessful. Further analysis is provided by Thompson and Whitfield (1995). These barriers include:

- National Express's refusal to allow its rivals to use coach terminals over which it had control of access.
- Difficulty for entrants to establish sales networks.
- National Express matching new entrants' prices exactly.
- National Express's much higher frequencies

Some of these advantages still persist. NE retains a much denser network and much more frequent services, serving around 1000 destinations in England, Scotland and Wales (nationalexpress.com 2006). Table 3 compares the frequency of service in 2006.

Table 3. Frequency Comparisons on major London Express Coach Routes 2006

Departure point	Number of direct journeys (no changes) per day.	
	National Express	Megabus.com
Birmingham	36	9
Leeds	17	4
Liverpool	8	2
Manchester	13	6
Newcastle	5	3
Sheffield	9	4
Bournemouth	20	2
Bristol	18	5
Cardiff	11	4
Leicester	14	2
Nottingham	11	2

(Source: National Express 2006 and Megabus.com 2006)

Megabus.com carried about 1.3 million passengers in 2005 (Stagecoach Group 2005, page 5). In the year to 30 April 2007 it carried about 2 million passengers, and made an operating profit of £0.2m (Stagecoach Group 2007, pages 8 and 9) – however, the latter corresponded to a margin of only about 10 pence per trip. Although separate financial data for the UK Megabus.com operations are not quoted in earlier reports, it is known that a combined loss of £1.5m was made in 2003/4 with the ‘Yellow Taxibus’ operation (the latter subsequently abandoned) (Transit 2004). In 2004/05 a combined loss of £3.5m was made on the Megabus and Taxibus operations (Transit 2005), but profitable operation of Megabus as such was anticipated from summer 2005. Megabus currently operates on 19 intercity routes serving 41 destinations.

### **A case study of the London - Bournemouth route**

The following case study of the London – Bournemouth route, based on a survey carried out in December 2005 and January 2006 demonstrates one further competitive advantage of NE for a minority of passengers, depending on the journey destination. Megabus.com services stop only at Ringwood en route to London whereas some National Express services stop at multiple terminals en route to London including, Southampton, Winchester, and Heathrow. The survey established that 100% of Megabus.com passengers were travelling to London. In contrast only 90% of National Express passengers quoted London as the final destination of their journey reflecting that some passengers alight at differing destinations (most noticeably Heathrow) whilst others interchange at Victoria coach station in London to travel onwards to

varying destinations. The more comprehensive network does give a competitive advantage over Megabus.com.

However, there have also been many developments since the early 1980s which have negated the remainder of the strategic barriers. The change in ownership of Victoria Coach Station has already been discussed and Megabus now operate out of that station. Perhaps, more importantly Megabus has targeted certain key markets, the largest of which is the student market (see below), and by developing services direct to university campuses they have sought to develop departure points at the regional end of the route with advantages over National Express. The Megabus.com strategy to target the student market with their high propensity for internet use has also enabled the development of a high visibility and low cost departure location.

The way consumers purchase tickets is also markedly different. The requirement for a nationwide network of ticket agents in UK high streets that was so essential in the 1980s has now virtually disappeared with the advent of e-commerce and on-line booking, removing perhaps the most significant marketing advantage for NE.

The express coach industry has learned from other modes of transport how to apply yield management techniques. Whilst both competitors can match each other for the 'lowest' advertised fare on offer, NE have sometimes found it difficult to match Megabus fares more accurately, and our survey of passengers on the London to Bournemouth route in 2005/6 (see below) demonstrates that NE customers paid a significantly higher average fare (see Table 6).

Surveys of express coach passengers on the Bournemouth to London route were conducted over two seven day periods, from Monday 12<sup>th</sup> December 2005 through to Sunday 18<sup>th</sup> December 2005 and Monday 16<sup>th</sup> January 2006 through to Sunday 22<sup>nd</sup> January 2006. (see Robbins 2007). Passenger load counts were conducted over these two seven-day periods on each route operating out of Bournemouth. Megabus.com ran two Bournemouth to London services a day from Bournemouth University, also picking up at Bournemouth Triangle in the town centre. National Express ran 20 Bournemouth to London services a day picking up at the Travel Interchange in the town centre.

A self complete questionnaire was distributed to random sample of 50 users of each service on the Bournemouth to London route at the coach pick up points, so a total of 100 passengers were questioned.

### *Market Share of National Express and Megabus.com.*

Clearly from this information National Express still holds an overwhelming majority of the market. Both operators regard detailed patronage data on specific routes as commercially sensitive in this competitive environment. Table 4 indicates the passenger capacity provided by the two operators, and Table 5 shows a summary of results from the passenger load counts.

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Table 4. Frequency and Capacity Analysis: Bournemouth to London 2005/06

Operator	Daily frequency of service	Weekly no' of services	Daily pax capacity	Weekly pax capacity
National Express	20	140	980	6,860 (84%)
Megabus.com	2	14	184	1,288 (16%)

Table 5. Summary of Passenger Load Count

Operator	Average load per service	Average daily load	Average weekly load	Average load factor (%)
National Express	15	299	2099	30.6%
Megabus.com	39.3	78.6	550	42.7%

In the absence of ridership data from the operators (which would be commercially confidential), the market share held by each has been estimated from the survey counts as shown in table 5. Due to the higher average load factor on the Megabus service, it represented about 21% of the total market, compared with 16% of services offered (the NE share thus being 79%). The higher load on the Megabus service may have offset the lower average fare in terms of attaining commercial viability. Note that these figures relate to the off-peak winter season.

*Target Market for Megabus.com.*

The express coach market stereotypically attracts the following segments :

- Low income groups
- The transportation poor with no access to a private car
- Those unable to drive

In other words coach travel appeals to those who must use public transport and are time-rich and income-poor. Key segments include :

- Those too young to hold a drivers licence
- Students
- Senior citizens.

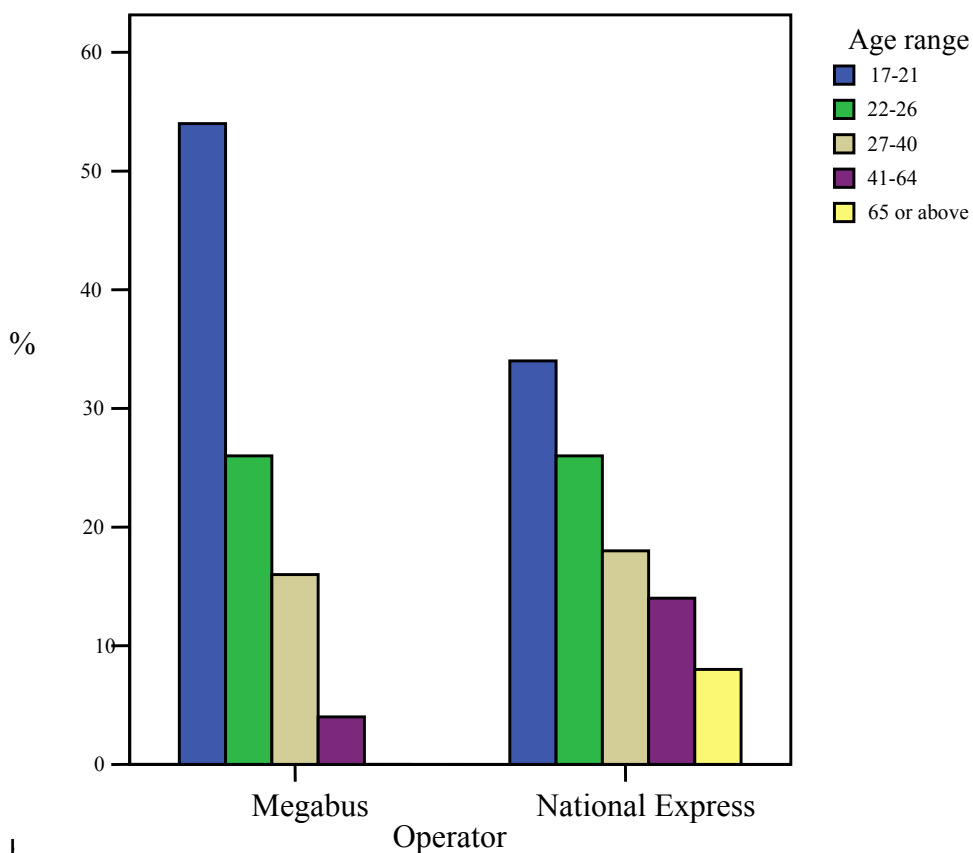
This is consistent with evidence of a very low income elasticity for coach travel in comparison with other long-distance modes in the Independent Transport Commission study (2010, page 15) and detailed report by Dargay (2010).

There were substantial differences in the users of the NE and Megabus services (Figure 2 & Table 6). Megabus has focused on attracting specific sub-segments of the traditional express coach market. Figure 2 clearly shows a younger demographic using Megabus where over 50% of users were under the age of 21, whereas National Express held the dominant market share for the older users.

Table 6 Operator used and Employment Status (%)

		Employment Status				Total
		Employed	Unemployed	Retired	Student	
Which service are you using today?	Megabus	18	2	0	80	100
	National Express	44	0	20	36	100
Total		31	1	10	58	100

Figure 2 : User Age categories by operator (%)



It is also interesting to compare employment status. Table 6 clearly demonstrates the Megabus reliance on a single market segment where students accounted for 80% of the sample observed, whereas National Express catered for a wider range of passengers, of which students were an important but much less dominant segment.

*Fares*

Megabus offered a standard rate with a £0.50 booking fee per transaction. Tickets are purchased as singles, so for a return journey customers book two separate single tickets on the required route. The system adopts the model of the low-cost airline industry where Megabus operates on a yield management basis whereby the first seats on each journey are sold very cheaply increasing in price as the number of seats sold rises.

Whilst National Express to some degree matched the prices offered by Megabus, the average prices were much higher. Furthermore, the most common price paid by the customers of each service (as represented by the mode) was markedly different. The largest number of National Express customers paid £15.00 and over for whereas the most common price paid by Megabus customers was between £3.00 - £5.99

Table 7 Average and Mode Price Paid

	Combined data from two operators	National Express	Megabus.com
Average Price Paid (£)	9.87	14.05	5.69
Mode Price		15.00+	3.00-5.99

Given the yield management pricing system used by Megabus, it may be assumed that the price paid by those passengers who booked well in advance would be lower than the price paid by those passengers booking close to departure date, and this is predominantly confirmed by Table 8, although a number of relatively late bookers were fortunate to secure the second lowest fare band.

Table 8. Cross tabulation between Megabus.com ticket prices and when ticket booked (%)

		When did you book your ticket for your journey today? Short, Medium or Long Term?			Total
		Short Term	Mid-Term	Long-Term	
How much did your ticket cost today?	0.00-2.99	0	4	16	20
	3.00-5.99	22	18	6	46
	6.00-8.99	4	4	0	8
	9.00-11.99	26	0	0	26
<b>Total</b>		52	26	22	100



The relationship between price paid for a National Express journey and where ticket was purchased is shown in Table 9. Although the small percentage of National Express customers who paid less than £9.00 for a journey all purchased online, the number passengers finding bargain fares was very low, even amongst on-line purchasers. 44% of respondents on the National Express service bought their ticket at the ticket office reflecting the dominance of National Express in the older age bracket, and the importance at the time of the study for National Express to retain a relatively expensive ticket sales and distribution infrastructure.

Table 9 Cross tabulation between location of National Express ticket purchase and price of ticket (%)

		How much did your ticket cost today (£)?						Total
		0.00- 2.99	5.00	6.00- 8.99	9.00- 11.99	12.00- 14.99	15.00 +	
Where did you purchase your ticket for your journey today?	Online	4	2	2	2	26	16	52
	By Telephone	0	0	0	2	0	2	4
	At ticket office	0	0	0	6	2	36	44
	Total	4	2	2	10	28	54	100

### *Alternative Choices*

Perhaps surprisingly, only 28% of sampled passengers had used both Megabus and National Express services over the previous 12 months. Many express coach users also travelled to London by other methods, 50% of the sample having used rail, to travel to London over the previous 12 month period and 39% had made the journey by car. These statistics show that express coach users are aware of and exploit other modes of transport to London and inter-modal competition is alive and well.

Table 10 shows how passenger journey frequency would have been affected if the service chosen by the passenger were not available. These results should be treated with caution, as they reflect the response to a hypothetical question. Nevertheless they give an indication of customer choices. Just under half of the sample would have travelled to London as frequently if the service chosen were not available. These journeys are essential to the individual and would be made regardless of the availability of express coach services. Nevertheless a high percentage of users on both services claimed they would not travel to

London as often if the service were not available, and in the case of National Express 6.1% of respondents claimed they would never travel to London. Express coach services were clearly satisfying demand for discretionary journeys and are possibly also directly generating demand.

Table 11 reveals that a low percentage of National Express users would have transferred to Megabus if the National Express service were not available (18.4%). National Express users were more likely to travel by rail (61.2%). This could be for a number of reasons including; lack of awareness of the other operator and lower frequencies with Megabus. In contrast Megabus users tended to favour the National Express service (52%) if Megabus were not available, although again a high percentage claimed they would travel by train.

Table 10. Journey frequency if service were not available

How often would you travel to London if this service was not available?	Percentage of customers	
	Megabus.com	National Express
Just as frequently	42	49
Not as often	44	36.7
Very rarely	14	8.2
Never	-	6.1

Table 11. Alternative Mode if Service not Available

What form of transport would you use if this service were not available today?	Percentage of customers	
	Megabus.com	National Express
Other Coach Operator	52	18.4
Rail	40	61.2
Car	8	14.3
Other Mode	-	16.1

### *Conclusions.*

To conclude, although some of the strategic barriers to entry remain, many have been removed. Megabus, with its corporate resources to sustain losses during the start-up phase, has been able to win significant market share by targeting its key markets, particularly students and developing appropriate marketing strategies and operational strategies.

## **RECENT DEVELOPMENTS**

### **Overall trends**

The continued dominance of National Express in the British market is clear. Within Scotland, Citylink likewise retains a dominant position. A merger took place with Stagecoach's internal Scottish express services in 2005, notably on the Edinburgh - Glasgow route, and the 'Saltire Cross', trunk services Glasgow – Perth – Dundee - Aberdeen and Edinburgh – Perth – Inverness, which provide alternate linking and through journeys at Perth on each leg. Following a ruling by the Competition Commission in 2007, some divestment was forced on this aspect of the operations.

The emergence of new competition has come from large groups, rather than small independents. These are able to withstand the cost of launching services, and have sufficient scale of operation to market their services on a large scale. In the case of Stagecoach Megabus about 2 million passengers per annum are carried, so with National Express carrying around 18 million long-distance passengers, this represents a market share of around 10%. However, as table 2 indicates, National Express do not appear to have suffered any noticeable financial impacts as a result.

More recently there has been the inauguration of the First Greyhound services in September 2009. A wholly-owned subsidiary of First Group, this represents the second of the 'big three' UK bus operators to enter the express coach market. The inaugural routes were from Portsmouth and Southampton to London. It is too soon for any volume data to emerge, although anecdotal evidence is that loadings are healthy. A third service, from Bournemouth to London, was introduced from 1 May 2010, adding weight to the view that the inaugural services have performed well.

The previous research on deregulation noted that from 1981 competition did encourage some service innovation, particularly in terms of improved comfort on the vehicle. Small independent operators were the first to introduce on-vehicle toilets, and refreshments facilities to enhance the travel experience in 1981 and this was adopted by National Express in the form of the 'Rapide' network in 1982 (Robbins and White 1986). As independent competition was removed, competition along quality lines largely disappeared. However the First Greyhound services appear to be trying to develop quality as a unique selling point, stressing the fewer number of seats (41) in their vehicles offering improved leg room and

also Wi-Fi facilities in their advertising. However at this stage the First Group is still some way from being a third significant provider of express coach services.

Megabus themselves appear to be developing a more integrated approach to long distance travel. Like the First Group and National Express, Stagecoach operate important rail franchises, and rather than seeking to perpetuate the traditional modal competition between coach and rail, they appear to be seeking greater integration with the launch of 'Megabusplus'. This differs from Megatrain, launched in 2005, which offered infrequent cheap rail travel in dedicated carriages on a limited number of routes, and offers combined onward travel by bus and rail. Furthermore, the Megabus.com website has for some time provided integrated journey information on both express coach and rail. This may prove an interesting longer term development at a time when rail franchises have caused serious financial difficulties for the dominant operator National Express.

This period of express coach competition is fragile. National Express has survived recent takeover bids from both Stagecoach and First Group, and whilst the financial difficulties faced by the group which make it a target for such bids are related to their rail performance, the impact of a Stagecoach takeover would have been to return the express coach market to near-monopoly, (indeed even more monopolistic than previously given the Stagecoach involvement in the Citylink network in Scotland).

The commuter coach market is largely focussed on London, although some operations are also found in the Glasgow area. A striking contrast has emerged in the two major sectors east of London. The network of services from south Essex has been reduced to a very limited peak-only service by a single operator. This appears to have been associated with radical improvements in the quality and range of rail services. Conversely, the market from north Kent to London remains strong. It was traditionally dominated by locally-based independent operators, but National Express entered this market by acquisition of the principal operator, Kings Ferry, in 2007, whose identity has been retained. However, a subsequent venture by National Express into establishing its own commuter service from Milton Keynes to London was not successful. The continued substantial market from north Kent is associated in part with housing development which has occurred in areas not directly served by rail.

The airport market has generally become of increasing importance, associated with overall growth in air travel until recently. National Express has continued its policy of separating London and Heathrow/Gatwick markets as demand has grown, with provision of services for each sector (most recently in the case of services from Hereford and Gloucester, and Southampton). The current recession in air travel has however affected overall volumes (notably at Stansted) and hence viability of some links. EasyBus have also developed express coach services to several London airports (Gatwick, Luton, Stansted) but from central London where they target a price sensitive market.

A feature of the rapid growth in coach travel in the early 1980s was the greater use of the motorway network, enabling substantially faster services to be offered. However, some of

these benefits have been offset by speed restrictions placed on coaches (for all types of service) and growing congestion on the motorway network. A somewhat complex pattern of speed restrictions has been applied, which the government currently propose to simplify to a common 65 mph (approx 105 kph) limit for all coaches (in contrast to 70 mph, approx. 113 kph). Coaches are also banned from the 'third' (fastest) lane, which limits their ability to overtake slower vehicles. The effect of such changes, together with increased road congestion, may be illustrated from the National Express advertised timings for non-stop London - Birmingham journeys, of 2 hr 15 min in 1982, to 2 hr 20 min in 1991, and about 2 hr 40 min from 2005

In terms of financial performance, as indicated in table 2, the coach operations of National Express have generally provided a rising profit margin over the last years. Recent financial difficulties faced by the group have arisen primarily from problems in rail franchises, notably losses incurred on the East Coast franchise, which was handed back to the state in November 2009 following an inability to meet the ambitious premium payment commitments which had been set. It appears likely that the group may pull out of rail operations when other existing franchises terminate in 2011. The original core coach business will thus attain increased importance. The relatively small direct investment by National Express, and use of contractors, means that operating profit margins translate into high returns on capital in some years. One must, however, also bear in mind the profitability of companies providing services on contract to NE. Unfortunately, it is not possible to distinguish this element explicitly, since such operations often form only a small part of their total activity, and in any case published accounts may not be available for smaller companies or subsidiaries of larger groups.

Scottish Citylink has also generally been profitable. However, as indicated earlier in this paper, Megabus took a considerable period to attain profitable operation.

## **FUTURE PROSPECTS**

Some modest growth in overall volumes of express coach travel may be anticipated, associated with further expansion, and recovery from recession in the air travel market. The degree to which further competition will develop is uncertain. Clearly, the extent to which the first two services of First Greyhound prove successful may affect the extent to which that operator expands. However, experience to date suggests that prospects for smaller independents successfully entering the market are limited.

The ITC study (2010, figure B) and detailed work by Dargay (2010) suggest a 'base case' growth of 25% in coach travel within Britain between 2005 and 2030 (albeit with a population growth of 14%). This would be a lower growth rate than for other long-distance modes, implying a falling market share. Higher growth was envisaged if motoring costs rose in real terms, but lower if rail fares did not rise in real terms.

A wider range of longer-term possibilities may also be envisaged. Rail cost coverage is currently poor when the large direct payment from the state to Network Rail for infrastructure provision is taken into account, and a faster growth in rail fares would encourage diversion to

coach. If HOV lanes (including coach access) were introduced on a substantial scale on motorways, this would help to reverse the trend of falling speeds, making coach services more attractive.

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