

THE RAILWAY IN BRITAIN: ON THE RIGHT LINES

BY GEORGE MUIR
ATOC

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The Voice of European Railways



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Born in Edinburgh in 1943, George Muir trained as an engineer in the Merchant Navy and later left to take a degree in Maths and Physics at Aberdeen University. In 1969 he joined the finance company, 3i, providing venture capital to new companies and later worked for Morgan Grenfell where he advised on company takeovers and finance in the City and New York. In 1991, he joined the large French utilities group, Vivendi, as Head of Business Development and then moved to Psec, as Chief Executive, supplying managed services to local authorities. He then helped to bid for and subsequently managed Connex South Eastern rail company. In April 1999 he became Director General of the Association of Train Operating Companies (ATOC).

We are very proud to publish this essay from George Muir, Director General of the British Association of Train Operating Companies (ATOC). It is the second in our CER essay series – a series designed to promote interesting, stimulating and personal views on the European rail market from some of its most distinguished figures.

Personally, when reading this essay, I am struck by the enormous energy, effort and ingenuity that private-sector operators in the UK have brought to generate new demand: passenger operators elsewhere in Europe have lessons to learn from operators that can increase demand by 40% in ten years.

I wish you all an enjoyable read.



Johannes Ludewig
CER Executive Director

It is ten years since the first private train operator ran the first train, early on Sunday morning, on the 4 February 1996. It ran from Twickenham, beside the famous rugby stadium, to Waterloo and to the surprise of the journalists on board, it completed its journey without mishap.

Since then there have been two parallel worlds running side by side: the one in the newspaper headlines, which we all hear about - an accident, a broken down train, one more failure on the railway – and the one on the ground hidden from view. In this hidden world is the solid work of skilled, motivated railway managers making good decisions over a long period of time to improve the railway and look after passengers. Now, after ten years, this second world is coming into view.

In the mind of the Government and in the mind of the public there is a growing recognition that the railway is a success, for passengers and freight. Passenger service is good, often very good, and above all the railway is doing what it is supposed to do – it is attracting passengers, 40% up in the last ten years, and it is improving the life of the citizens of this country through better transport. Passenger satisfaction is now a respectable 80%. Freight traffic too is massively up, nearly 50% above ten years ago.

It is a big railway, either the second or third largest in Europe: second by passenger kilometres and third by passenger numbers. It has been the fastest growing railway over the last ten years. Though it is a success, the circumstances in Britain are special and I am not arguing in this essay that our experience is relevant, one way or another, to other countries.

I have very considerable respect for the achievements of the railways in other countries, which provide an excellent service to their passengers. To be frank, I am more interested in learning from them.

My own role is Director General of the Association of Train Operating Companies, ATOC, based in London. Inevitably I see things from the point of view of the passenger train operators, but we have very good relations with our freight operator colleagues and our colleagues in Network Rail who have made the growth in traffic possible. Of course there are arguments, but there is also a real sense of partnership. This is true in running the railway and it is true in establishing our policy on European affairs and in collaborating in European institutions.

In this essay, I describe the railway and what its achievements have been. This is my essay, and the opinions are mine so I can give a flavour of what it feels like to work on the railway and my view of the strengths, weaknesses and challenges.

These challenges are about costs (costs are too high), handling growth (the railway is full), and public policy (should taxpayers' money be used to enlarge the railway, to keep fares down or to keep staff on stations until the last train at night?). I expect these are familiar challenges which every European railway has to face.



HOW IT WORKS

The key feature of the railway in Britain, the thing that gives it its distinctive flavour, is the role of the private train operator. They are a noisy, individualistic and aggressive bunch – but they do have energy. They have added hugely to the railway. They run all the trains and most of the stations. They have the relationship with the passenger. When things go wrong, it is they who are answerable to the passengers and the public.



Train operators are strongly motivated to look after passengers. Having bid aggressively for a franchise, asking for either the least subsidy from Government or offering to pay the highest premium (a premium for a high revenue, low cost route), and having given binding commitments on a whole range of things – from the timetable to station opening hours – the financial discipline is intense. Profit is most likely to come from growth in revenue, and if you are to grow the revenue, you have to look after your passengers. The passenger interest and the shareholder interest are pointing in the same direction. It is true that with their different names, with their different logos on the trains, with different policies for promoting tickets, and with different approaches to how each operator runs its business, things can seem confusing to an outsider – but it works.

There is intense competition between companies to win a franchise, but after they have won train operators collaborate very closely together – much more so than most outsiders are aware.

For the passenger, they arrange things to make travel simple, so that passengers wanting to travel across the network do not have to know which train operator's trains they are on. Behind the scenes, they collaborate and share best practice amongst themselves in rolling stock engineering, operating practice, training, retailing technology – the things needed to deliver safe, efficient and – hopefully – lower cost operations.

Fares

A passenger wanting to travel from, say, the seaside town of Brighton on the South coast of England to the great city of Birmingham in the West Midlands has to change trains. They can choose whether to travel across London or to by-pass it – there are four or five ways the passenger can go. But if the passenger buys an Open Ticket (or a season ticket if it is a frequent journey), they can take any route they wish and travel at any time – crucially in the morning peak, up to 9.30am. The ticket is accepted by all the operators, and the computers run by the Association of Train Operating Companies (ATOC) allocate the revenue amongst the train operators. Don't ask how we do it, it is too long a story, but we do.

The Brighton passenger will get impartial travel information from all the normal ticket offices, telephone call centres and internet sites about the timetable and fares of all the operators for his journey to Birmingham. This obligation to supply accurate and impartial information is enforced through the ATOC multi-operator agreement.

Advance purchase tickets are different from Open Tickets. They are aimed at selling the empty seats in off-peak trains. There is a huge demand from people who do not want to pay the Open Ticket price but still want to travel and who have some flexibility as to when. They buy advance purchase tickets which by definition are tied to particular trains. Operators have tried all sorts of approaches to find the best way to specify and price these tickets so that they are simple for the passenger and are targeted at the right market segment. Some of the prices available are very low indeed – €45 return Edinburgh to London, a 1,400 km round trip, is not unusual.

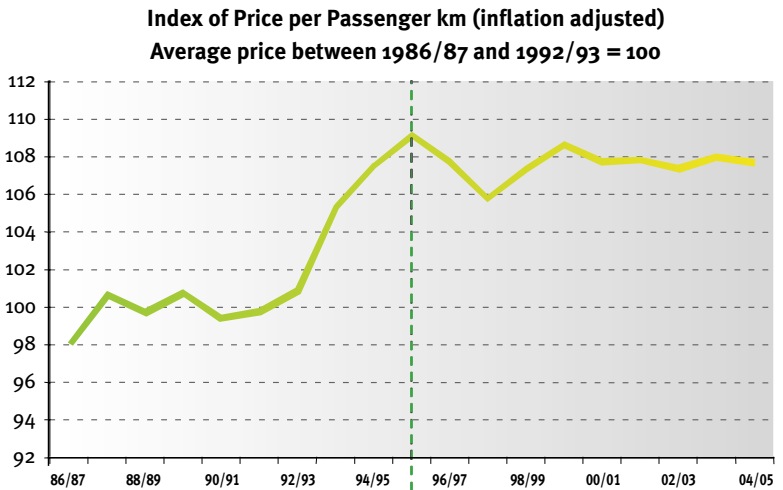


This has been a very lively area of development. Some claim that it is confusing, but it is very popular with passengers I can assure you. (using £1 = €1.5)

This example of a very low advance purchase ticket price compares with the much higher Open Ticket price of €330 for the same return journey. You can see that there is a huge range of fares. This is classic yield management. The train operator's objective, like that of any other business, is the maximisation of revenue. An empty seat is money wasted, as would be the sale of a ticket for use in the peak at less than market value. All-day load factor is an important performance indicator for an economically viable railway.

Train operators are free to set fares as they wish with one important caveat. Fare levels are controlled by Government – “regulated fares” – on routes where there is no competition to rail, where passengers have no alternative than to go by train, mainly commuter travel into London where price rises are controlled at inflation plus one percent. Otherwise, train operators, through yield management are meeting Government policy and reducing the call for subsidy from the taxpayer.

Notwithstanding some fares which seem high, average fares have not risen in real terms. Regulated fares were set at inflation minus 1% and are now set at inflation plus 1%. And TOCs have been selling a lot of low priced tickets for use off-peak. The graph shows average fares per passenger kilometre since 1986/87. There was a 7% rise before privatisation, but since then fare levels adjusted for inflation have not increased.



Passengers have mixed views about fares - they like the cheap fares and don't like the expensive ones – and the press turns every price rise into a “Great Train Robbery” story. But beneath the surface, there is recognition that the pricing policy has a rational basis. The Government says it does not mind providing some subsidy for the railway, but passenger revenue should meet most of the costs.

Passengers have other concerns. The ones in the newspaper headlines at the moment concern the staffing of small stations at night, and the problem of graffiti.

Network Rail

While different operators run the trains, there is just one company running the track and signalling. Network Rail is the single infrastructure manager for the entire national network. Their work has made possible the growth we have seen on the railway, which has involved a near 25% increase in train miles running on their track.

They are true specialists in their single focused task – planning and managing the infrastructure and the traffic on it to greatest effect. This is a huge endeavour. Besides all the obvious things like signalling, track maintenance and delivering renewal projects, Network Rail maintains the national timetable (responding to train operator requirements) and in the last year has been asked to take over leadership of railway planning with train operator support.

Railway planning, what we call Route Utilisation Studies, involves the careful study of the train capacity on each route, likely passenger demand in the future and the options available to meet the increased demand – from changes to the timetable to extra rolling stock to new track.

While the industry does the planning, led by Network Rail, it is the Government which decides. The Government will specify the high level outputs from the railway the taxpayer will pay for.

In my view, Network Rail does its job very well and I believe they will be yet more impressive in the future. While train operators face the difficult task of working out how to satisfy passengers consistently day-in, day-out, Network Rail has the equally difficult railway-technical question to answer: how to increase track capacity, how to re-signal, how to deliver fault-free track, and at the same time reduce infrastructure cost per vehicle mile. This is their challenge and, being specialised infrastructure managers, they are well set up to do it.

Freight

The three largest freight operators are EWS, Freightliner, and GB Railfreight. The freight companies had to overhaul their business completely. They became more responsive to their customers, they invested in new, reliable locomotives and EWS set up a single control and dispatch centre to monitor their freight traffic across the whole country. There is competition between these companies. GB Railfreight, a new entrant, has carved itself a market share and good profitable business. Freight on the railway is now an increasing percentage of total freight traffic in Britain.



A VERY SHORT HISTORY

The Government's decision to privatise the railway was made in 1992. The Government was determined to go as far as it could to introduce competition. Creating vertically integrated regional railway companies was given serious thought, but the decision was made to adopt the wheel-rail split instead, with a single national network operator, Railtrack. With regional companies, too many trains would run across regional boundaries.

The initial intention was that Railtrack would remain Government owned and only the train operators would be private. But at the last-minute, in 1996, Railtrack was floated on the stock exchange, supposedly to prevent the Labour Party, which was likely to come to power in the 1997 general election, from reversing the entire railway privatisation programme.

The first franchised train operator, South West Trains, ran its first train on 4 February 1996. The other 25 train operations were franchised soon after.

Though always controversial and with very hostile coverage on the front pages of newspapers every day, things actually went well for some years. Passenger numbers grew, new services were added to the timetable and new rolling stock was placed on order. These were good decisions.

But some other decisions which would later have fateful consequences had been taken at the very start of privatisation - the low and inadequate budget for track maintenance and its outsourcing ("never outsource a problem") was one, the optimistic contract for upgrading the West Coast Mainline another, and the very short time allowed for new train delivery a third. Some very silly decisions were made at that time, and not just on the railway. It was the lead up to the internet bubble when fantasy and reality merged.

The strong growth in passenger numbers was brought to a halt by the accident at Hatfield in 2000, which followed the accident at Ladbroke Grove a year before.

Investigation of the broken rail at Hatfield brought to light widespread weakness in the processes for maintaining track or at least having knowledge of it. Track had been put under huge stress by the extra traffic on the network – tonnes per day London to Reading had nearly doubled. There was a long period of disruption: cancelled trains and low punctuality – on some days only half the trains ran - while the rails were inspected and renewed and while more stringent, sometimes over-stringent, safety precautions were put in place. It was a dreadful time for all of us particularly our passengers.

With the cost of recovering from Hatfield and a large cost overrun on the West Coast Mainline upgrade, Railtrack ran out of money, not surprisingly. Administrators were appointed to take control of the company.

At the time, lots of ideas were canvassed for a better way to structure the railway and avoid the problems which had been brought to light – vertical integration, regional railway companies, re-nationalisation. They were all considered, but the Government concluded that these solutions missed the point. It was not the wheel-rail split which caused the accident, it was poor track maintenance. The Government did conclude, however, that the network operator should no longer be a public company owned by shareholders.

New management in a new “not for dividend company” took over Railtrack in October 2002 and renamed it Network Rail. One of its early decisions was to bring maintenance back in-house.

Later, in 2005, in a move to simplify Government decision-making the independent Government agency, the Strategic Rail Authority, was wound up – most of its functions were transferred to the Department for Transport – and the railway safety regulator was moved to a position alongside the economic regulator in a renamed Office of Rail Regulation.

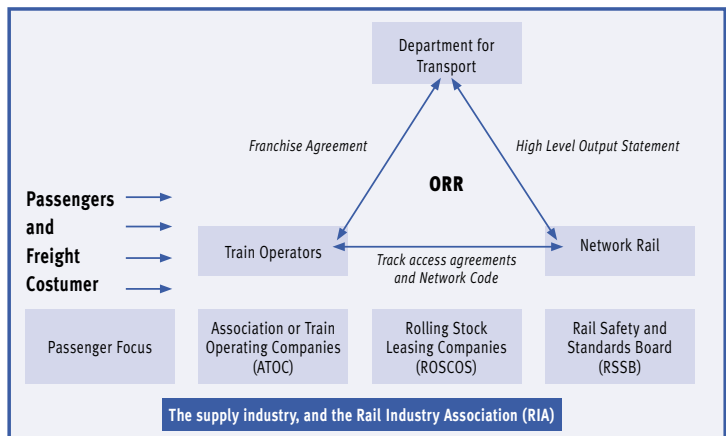
The present structure is described in more detail on the following pages.

THE CURRENT STRUCTURE OF THE INDUSTRY

The current structure of the industry is most commonly shown as a triangle. At the apex of the triangle is Government – more specifically, the rail division of the Department for Transport. At the bottom right hand corner is the infrastructure manager, Network Rail, and at the bottom left hand corner are the train operators and their passenger and freight customers. The Office of Rail Regulation (ORR) is shown in the centre. This office contains both economic regulation and safety regulation.

The triangle is intended to emphasise, first, the primacy of Government and its direction of the railway through a proposed High Level Output Statement (HLOS) directed at Network Rail on the one hand, and Franchise Agreements with train operators on the other. Second, it emphasises that the industry is a partnership of equals between the train operators and Network Rail, formalised through track access agreements and a Network Code.

Freight operators, unlike passenger operators, are not franchised. They are fully independent companies which invest in their own assets, decide their own business strategy, and negotiate access to the track directly with Network Rail.



Underneath the triangle is shown Passenger Focus, the Railway Safety and Standards Board (RSSB), the Rolling Stock Leasing Companies (ROSCOs), the Association of Train Operating Companies (ATOC) and the supply industry.

RSSB is the body, controlled by the industry, which both manages standards in the light of TSIs and monitors safety. It is well respected. It has, for example, developed a very good risk model which alerts the industry to safety issues and helps prioritise effective risk mitigation measures.

There are three ROSCOs. They are privately owned leasing companies, subsidiaries of large banks, from which train operators lease rolling stock on operating leases. This is necessary because rolling stock lasts longer than the length of an operator's franchise. They contribute technical and procurement knowledge as well as the funding of the €7 billion new rolling stock investment.

ATOC is the body, controlled by passenger train operators, which provides the central services necessary for a multi-operator industry (such as revenue allocation and the distribution of timetable and fares information) and which represents operators in their relations with the rest of the industry, Government, and European institutions. I have already emphasised how much collaboration there is between operators. It is very important.

ATOC is concerned largely with the passenger business. Freight operators are represented by the well informed and articulate Rail Freight Group.

Passenger Focus is the body representing passengers. It is funded by Government, its members are selected to represent the passenger interest and its job is to speak up for the passenger, to articulate passenger concerns and the things passengers want, based on evidence and research. A strong, well informed passenger voice, like Passenger Focus, is an essential component in the creation of a responsive industry.

The supply industry has many parts: train manufacturers, maintainers and component suppliers; infrastructure renewal companies, signalling and telecommunication suppliers; IT and managed services companies; suppliers of training, accounting and legal services; and many more. They are a major part of the industry and have helped enormously in its success. They are represented by their trade body, the Rail Industry Association (RIA).

The components of the triangle are explained in more detail below.

The Office of Rail Regulation (ORR)

- ORR was established by Act of Parliament in 1993. It is required to protect the interests of users of the railway, to promote the use of the railway for passengers and freight, to promote the development of the network to the greatest extent economically practical, and to promote efficiency and competition.

Network Rail – the company

- Network Rail is a normal limited liability company, but with some differences: for example, it has “members” instead of “shareholders” and its constitution prohibits the payment of dividends to members.
- There are about 120 members. They do not buy shares, they are selected to represent the community.
- The principle role of the members is to elect Directors. They do not set strategy, which is the role of the Board.



Network Rail – the railway business

- The business of Network Rail is to be a network operator, for which it requires and has been granted a licence by ORR.
- Network Rail owns the track, stations, etc.; but not the trains or other train operator assets.
- The licence, a document of about 100 pages, requires Network Rail to operate the network and to maintain and enhance the railway assets efficiently and in accordance with best practice. It is required to meet the reasonable requirements of its customers and funders. ORR supervises Network Rail's compliance with this requirement.
- The licence requires a ten year business plan to be produced, updated each year, together with other more detailed documents.
- The income of Network Rail comes mainly from passenger and freight operators – its customers – who pay track access charges for access to the network.
- ORR determines the level of track access charges for passenger and freight traffic – and therefore Network Rail's income – for successive five year periods, called “control periods”. Having income certainty for five years enables Network Rail to plan properly.
- Network Rail is able borrow money. Where ORR approves the purpose of the borrowing, for example to fund a capital asset, the borrowing can count towards the “regulatory asset base”. In determining the level of track access charges, ORR includes an amount for interest (or a “return on assets”) on the regulatory asset base.
- Most recently, ORR allocated £22.2 billion (€33 billion) for the five years from April 1994. The decision was based on approval of a detailed business plan, which Network Rail is then required to deliver.
- While Network Rail receives track access income from train operators, franchised passenger operators, as a condition of their franchise agreements, can reclaim any increase (or rebate any decrease) to the Department for Transport as a change to their subsidy line. This is the mechanism through which most Government funding of the railway takes place.

- Freight operators, not being franchised, are not financially protected in the same way as franchised passenger operators.
- Enhancements to the network – new or improved track lay out for example – is mostly decided on and paid for directly, not through normal track access charges.

The Department for Transport, the High Level Output Statement (HLOS) and ORR

- The requirement on Government to produce an HLOS is new. It is to be produced by Government each five years, a year or so before the start of a Control Period.
- The HLOS will set out what the Government wants the railway to deliver (passenger carrying capacity, punctuality and safety) over the relevant Control Period, and beyond, and how much money the Government is prepared to provide – mainly via subsidies to train operators.
- It will be the job of ORR to confirm whether the money proposed by Government is sufficient to deliver the outputs required in the HLOS and then, working with Network Rail and in consultation with the train operators, to approve a Network Rail business plan setting things out in more detail.

Train Operators and Network Rail

Train operators, to gain access to the network and run trains, require a track access agreement with Network Rail.

This agreement sets out the access rights (e.g. a list of paths and times), the characteristics of the train to run on the track, bonuses/penalties for delays caused by Network Rail, and financial charges. Included automatically in all the track access agreements is a set of standard conditions called the Network Code.



The Network Code is a key document which explains how the practical things necessary to run a railway on a day-to-day basis will happen. It sets out:

- the process for creating the timetable;
- the process for reporting on all incidents and delays on the network and for determining whether they were caused by Network Rail or the train operator;
- the process for day-to-day management of disruptions on the railway;
- the process to follow if Network Rail or a train operators wants a change made to the network – build a new railway junction to gain access to a new depot for example – and the financial compensation requirements (there is a similar provision for changes to vehicle characteristics in so far as they affect the track);
- a requirement for policies on environmental protection;
- etc.

This code, which is policed by ORR, is what makes it possible to run an efficient railway, as an integrated system, even though there are many different operators.

Franchise agreements

Franchise agreements have changed over the years. The key provisions are these:

- the duration of the franchise;
- a schedule of the train services which the operator will run – this is specified in various degrees of detail;
- the stations which the operator will manage, including opening hours for station booking offices, particularly the required opening hours for small stations (actually, station details are in a different document, but the effect is the same);
- required punctuality, with financial bonus and penalty provisions. There is a back to back arrangement with Network Rail whereby it compensates the train operator for the delays it causes;
- requirements, possibly, to make specific investments, such as investment in passenger information systems, new trains, or a new train maintenance depot;

- requirements relating to the provision of information to Government, the use of rolling stock, and the maintenance of quality standards and good management processes;
- financial provisions covering subsidy or premium payments, etc;
- requirements to be part of various multi-operator agreements which ATOC manages, such as the one which requires that accurate and impartial information is available for passengers;
- provisions to allow changes to the requirements on a “no gain, no loss” basis.

More about the role of train operators

The original franchises, in 1996, allowed train operators considerable freedom. While they had to run a specified minimum train service, otherwise they were free to change the service so long as they could agree access rights with, then, Railtrack. For stations, it was expected that they would use the change provision to change opening hours and even to seek closure of a station if it was uneconomic.

The explicit intention of Government was to put the train operator in the lead and to get it to change the railway – the Government wanted change – so that the railway best reflected what passengers actually want and would pay for. This management freedom helped drive the growth of the railway and the improvements in passenger service.

Now, the new franchise agreements specify in more detail what train operators will deliver. The new agreements specify the timetable and rolling stock to be used, for example. This greater specification will work so long as it allows train operators enough management freedom to make the efficiency savings which Government wants to see.

As well as running today’s services, train operators directly and through ATOC are also key participants in the intellectual task of planning the future railway, in the programme led by Network Rail. They are closest to the passenger and have a view of the whole picture.

There are now about 20 franchises. Typically a large franchise will have passenger revenue of about €500 million and employ about 3,000 people.

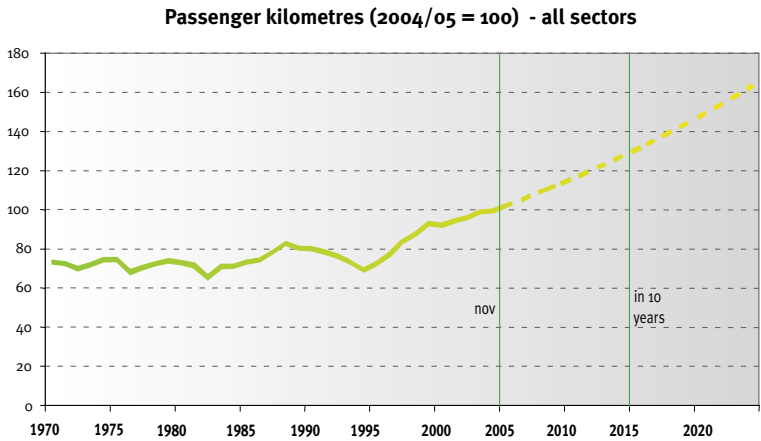
The income to a train operator includes passenger revenue plus Government subsidy where there is one – ie all revenue coming into the railway, other than freight income – and they pay all the bills. Costs include staff costs and all the costs of running the business, the leasing costs of trains and the track access charges to Network Rail. Costs also include premiums payable to Government for the most profitable routes.

Train operators were set up so as to be able to take a holistic view of the total service and to understand everything needed for good passenger service. They are to use this broad insight to work with Network Rail and the Government to improve the railway.



WHAT THE RAILWAY HAS DELIVERED

The most obvious success of the railway has been passenger growth and freight growth. The graph shows passenger kilometres from 1970 to the present-day.



For 25 years, from 1970 to 1995, people in Britain travelled more and more but they had turned to the car. As the graph shows, there was no rail growth. Indeed, at the time of privatisation, the accepted view was that this would continue, that rail was yesterday's way of travelling. It was ex-growth. But many railway managers believed that if they could get management independence and small amounts of investment without bureaucratic hurdles in the new private companies, and if they could improve marketing and service quality, then the business would grow. And it did grow. The railway was not ex-growth.

In their very different ways, the leaders of the new private companies brought a lot to the industry: some naivety at the beginning perhaps, but a lot of passion as well and some shrewd visionary ambition for what the railways could deliver. They supported the best railway managers.

The growth chart shows the trend of passenger kilometres. It includes the ATOC base case projection for the next ten years, a further increase of 28%, and a similar extension for years ten to twenty.

No one suggests that the initiatives of the private train operators were the sole cause of the growth in rail travel in the last ten years. Economic growth and congestion on the roads were major contributors. But the train operators responded vigorously to these favourable market conditions. They put on more trains, they improved marketing, and they focused on passenger service quality.

Network Rail, for their part, made paths available for the new train services, they improved the timetables to make them more efficient, they improved track maintenance to support the extra traffic, and they overhauled the running of signalling centres and control offices. They have introduced a much greater degree of analysis than existed before, they have researched and introduced new tools of all kinds including some of the most advanced track measuring trains in the world. Project management is improved. The mission statement is “Engineering Excellence”. They have made a huge contribution to the growth of the railway.

But about the train operators, I am often asked, “what exactly did they do that is different from what every other railway does?”

The first thing they did was compete. Competition for franchises is intense and requires an ambitious view of what can be done to grow revenue. The management team of the successful bidder is then utterly focused on delivering it. Competition gets the creative juices flowing and provides an incentive which no amount of analysis and instruction from the top can duplicate. During the life of a franchise, there is some competition for passenger on shared routes and competition for reputation or what the Americans call “bragging rights”. It is a powerful human motive.

I think the main innovation by train operators was not a technical one, it was an organisational one. It was team building and the “brand”. In a railway, you cannot emphasise too much the importance of people and a shared sense of purpose.

Train operators worked very hard at team building. The brand name for each of the train operators became the symbol of what the managers and staff aimed to deliver to passengers and it became the symbol of the quality which passengers came to expect. Whether the brand was “good” or “bad” was crucial. Operators worked very hard to make it a good brand. Passengers quickly started talking about their local train operator, “ABC-rail”. They talked about catching the “ABC 9 o’clock train to London”. They would say, “ABC is always late” or, hopefully, “ABC are pretty good, I like ABC”.

This, certainly, has helped make the population at large more aware of their local train service and though I can’t prove it, I think it helped build staff commitment to passenger service and quality.

Having created a way to build staff commitment – we have very good staff – and a means of communicating with passengers, it is then necessary to do things and do them better.

- Train operators talk a lot to passengers. They issue passenger magazines, they meet local passenger groups, they talk to Passenger Focus, local government officials, they get out and about.
- They put on more trains, especially in off-peak, and set about trying to fill them.
- Marketing is crucial to long distance operators. They take press and TV advertising. They run fare promotions and offer the range of off-peak and advance purchase tickets described earlier.
- Customer information was an immediate priority – on stations and through the ATOC call centres and internet sites.
- They sought to make the trains and stations clean and comfortable, as much as possible.

- They address security of passengers; they gated stations, installed CCTV, hired security guards, worked with the British Transport Police.
- They worked with their staff, offering training and support, to build a service culture.
- They aimed to be responsive to passengers and Government – within the obvious financial constraints.

A lot has changed in the last ten years in society at large. There are much higher expectations from employees, from passengers and from society which the railway has had to respond to. These changes have affected other public services too – the railway is not alone and it has responded well.

Growth across the country

There has been passenger growth across the whole country, but not at the same rate. The table shows data for the three sectors: InterCity, Regional and London and the South East. The first column shows the size of the sectors. London and the South East is the biggest, then InterCity then Regional. The other columns show the change in patronage in the last ten years.

	Current level of passenger km billion	Growth passenger km 95/6 to 05/06	Growth passenger journeys 95/96 to 05/06	Growth train km 95/96 to 05/06
InterCity	13.3	30%	64%	55%
Regional (and city regions)	8.2	41%	30%	16%
London and South East	21.1	53%	56%	18%
Total	42.9	43%	50%	24%

What has been happening across the country is very interesting. The growth of London and South East reflects the very high level of inter-connectedness in that part of Britain, particularly within the circle stretching 120 km from the centre of London. 20 million people, a third of Britain's population, live in that circle. This makes a long but perfectly practicable daily rail journey. A lot of the travel involves London, but not all of it is into London. There is plenty of travel out of London in the morning.

The map shows the main InterCity routes and the main freight ports.



Growth in the regions, the next highest level, is very encouraging. The South East of England has a robust economy but this is less the case elsewhere and anything the railway can do to encourage integration and larger, more competitive economic units – city regions as they are now called – is very welcome. Much regional economic planning addresses the concept of city regions, the integration of cities such as Manchester with its region in an attempt to create economies of scale, specialisation and the cluster effect.

A recent document produced by local government in these city regions says, “From the dark days of the post-Beeching era, these railway networks have been transformed. Indeed on some of these systems, ridership has doubled, and is still growing faster than the national average..... On the West Midlands network alone, further growth of up to 43% is expected by 2011.” Local Government likes the new railway.

The InterCity operators, GNER on the East Coast Mainline, First Great Western and Midland Mainline have seen steady growth in their business. Growth on the Virgin West Coast on the West Coast Mainline and Virgin Cross Country services, however, were held back till recently by the five years of engineering work on the West Coast Mainline. But during that time they pushed through a huge and ambitious redesign of the timetable with new half-hourly train services radiating from Birmingham (crucially, not London) to the major cities and furthest points of Britain and introduced the new high speed 200 km/h trains. This new Virgin service is coming good and it is now seeing high growth in passengers.

This half-hourly service involved a large increase in train kilometres, which accounts for the very high growth in train kilometres shown in the table for InterCity, but the trains are shorter and you would not expect a commensurate increase in passenger kilometres.

Journey time, investment and stations

Railways in different countries evolve in interesting ways to suit their geography and demographics, which might be interesting to touch on at this moment.



Starting with London and the South East, there are 20 million people in the circle with a radius of 120 km from central London. This is a huge market for rail. It requires a dense but relatively fast commuter network, part of which is at 160 km/h. Most main routes into London are four track, though for historical reasons there are a lot of flat junctions which cut capacity. The four track main line route out of Waterloo is an exception and it runs an impressive 40 trains per hour each way in the peak.

The other population centres of Britain are close together compared with some other large countries like Spain, France and Italy. Both Bristol and Birmingham are only 200 km from London whilst Manchester, Leeds and York are only 300 km. High speed, 300 km/h InterCity trains are not needed for these distances; 200 km/h is satisfactory, less expensive and capable of providing good enough journey times. The strategy over many years has therefore been to push up the speed of conventional trains on the InterCity routes to this level, 200 km/h, using conventional signalling and a simple version of limited supervision.

There are 1,500 km of routes with a line speed of 200 km/h: the West Coast Mainline (640 km), the East Coast Mainline (640 km) and Great Western (180 km). Midland Mainline (260 km) runs at 175 km/h.

It would be very good to have trains like the TGV or ICE but we have chosen a different way. It would be good also to have more dedicated, single use routes, like freight only routes; but most routes are mixed traffic. The West Coast Mainline in particular is very busy and very mixed.

With this network, what we need from ERTMS – the new European standard in-cab signalling system – is a low cost way to renew conventional signalling when it becomes life expired and a way to get more train capacity on the track. (We don't need it to allow us to run 300 km/h trains.)

The investment which has pleased passengers most in the last ten years is in new trains. About half the national fleet is now new. Out of a total of about 10,700 passenger vehicles in the fleet, 4,800 are new at a cost of €7 billion – almost all funded by the ROSCOs, which have been a reliable source of capital for the industry.

The UK passenger fleet now looks like this:

Number of passenger vehicles in the national fleet			
	pre 1996	post 1996	total
Diesel multiple units	1,332	764	2,096
Electric multiple units	3,557	3,027	6,584
InterCity	1,050	997	2,047
Total	5,939	4,788	10,727

The passenger from Brighton will probably be travelling on a new air conditioned train.

Stations, though often a low priority for railway investment, have seen investments about €1.5 billion. Some of the big stations now look very good: Paddington, Manchester Piccadilly, Glasgow Central. And money has been spent on other stations. The beautiful wrought iron roof dating from around 1870 at the station at Brighton, at the seaside, has been repaired (as has its men's toilet which had been awful).



About 60 entirely new stations have been opened. Some of these are “parkway” stations, with the big car park, situated just outside town. But there are still a lot of very old stations which look tired and shabby. They are cleaned regularly by the train operator but given their age, sometimes you might not know it. I don’t know how we will get the money to make them good.

The largest investment has been on the overdue upgrade to the West Coast Mainline on which €12 billion has been spent. At the beginning, this was not well-planned and the cost should not have been this high, but at least it is now finished.

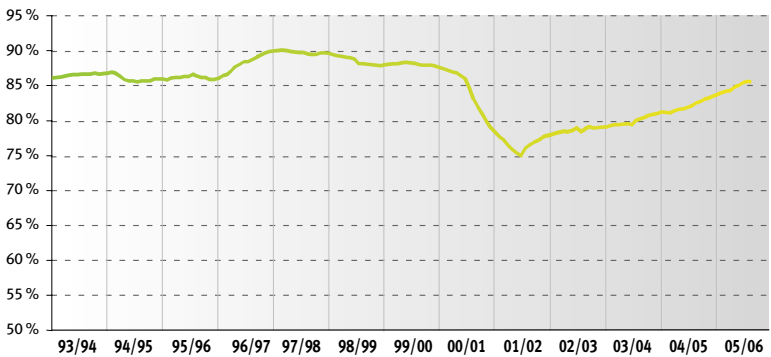
Punctuality

The most obvious unfinished business is punctuality. With the high growth in traffic, this is perhaps not surprising. The industry is running nearly 25% more passenger traffic with only about 4% more rolling stock and nearly 50% more freight traffic than ten years ago over exactly the same network. If anyone is “sweating the assets”, we are. With this intensive use of train and track, it is not surprising that delays occur.

The punctuality chart covers the last twelve years. It shows the percentage of trains arriving within five minutes of schedule (ten minutes for InterCity); all trains are included with no exclusions for force majeure events such as line side fires, which seem to be extraordinarily frequent for such a rainy island.

From the level inherited from British Rail, not much more than 85%, punctuality improved to 90% after privatisation. The sharp dip after 2000 is the consequence of the Hatfield accident when everything fell apart. But that is behind us and punctuality is steadily increasing back towards 90% again. To achieve much above 90% would, we calculate, require a reduction in train services and that is not what we want. Perhaps faults will magically disappear from track and train but unless they do, we will need to balance punctuality with capacity.

Punctuality 1993 - 2005
PPM Moving Annual Average 1993/94 - 2005/06 - Passenger Trains



*PPM (Public Performance Measure) = % of trains within 5 mins, 10 mins for InterCity
 Derived from Passenger Charter 93/94 - 97/98. Actual from 98/99.*

Note - Punctuality is defined as the percentage of trains arriving within 5 minutes (or 10 minutes) for InterCity services. Every train is included with no allowance for force majeure events.

Doubtless many railways across the world have better punctuality. In Japan, it is legendary, and I compliment and admire those who do better. But we have to work with what we have, a mixed traffic railway, limited money and the conflicting demands of more trains and more punctuality.

Safety

This is a very important subject – because no accident is acceptable – so I will let Andrew Evans speak for himself. He is the Professor of Transport Risk Management, Imperial College, London, and the following words are taken from the summary of his paper of June 2004:

“British Rail had achieved downward trends in the mean numbers of accidents per train-kilometre for all the main classes of accident in the 27 years up to 1993. The paper takes the extrapolation of these favourable trends as the yardstick by which to judge the safety performance of the privatised railway.”

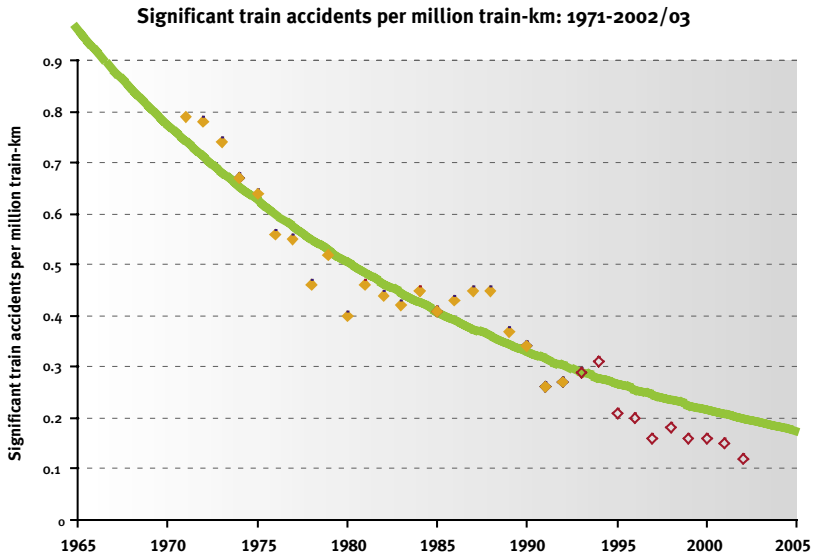
“The paper finds that the privatised railway bettered this yardstick in all classes of accident.”

“Notwithstanding the generally good record, many people believe that safety has deteriorated on the privatised railway. The paper discusses reasons why, contrary to the evidence, this belief persists.”

It is an interesting paper, and is available on the web. It has just been updated with last year’s data, and the message is the same.



The graph, taken from the paper, illustrates the point well. It shows “significant train accidents” which is a broad definition of accidents and includes collisions, derailments and overruns; fatal and non-fatal. The yellow dots are pre-privatisation; the red dots after privatisation.



“Significant train accidents” are defined as train collisions, derailments and overruns affecting passenger lines. They include fatal accidents and not-fatal accidents.

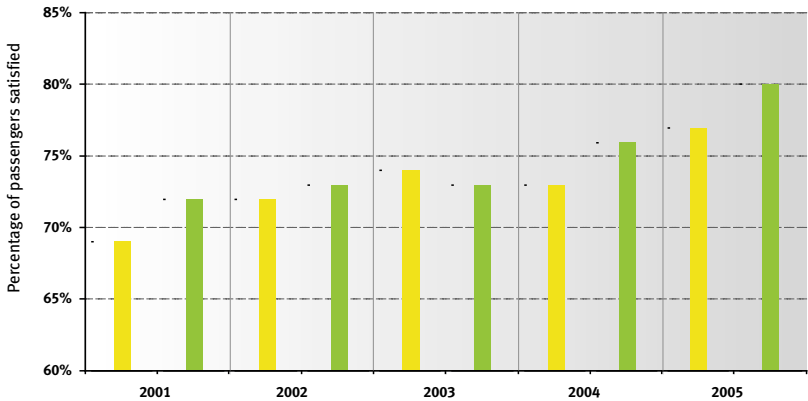
The trend-line is the improving yardstick against which Professor Evans judges the railway. All recent years are below this yardstick.

The Passenger Experience

All sorts of things go to make up good service for passengers. It is not magic. It is made up of sensible, practical things delivered reliably – but the list of these things is quite long: easy access to passenger information, well designed stations, punctual, comfortable and tidy trains, good interchange with buses and taxis, etc.

We measure overall passenger satisfaction with the National Passenger Survey (a large survey size of 25,000 passengers carried out by the independent Passenger Focus) which tracks 30 components of passenger service plus an overall score. This has been running for five years now on a consistent basis. The latest issue shows all but one of the measures at an all time high. For the first time – possibly for the first time in the entire history of the railway – it shows overall satisfaction (satisfied or very satisfied) at 80%. This is good for transport – even a good major airline can be less, at 70% say.

**National Passenger Survey Results (percentage)
over the last five years**





Many of the areas where passengers are less satisfied and many of the stories which hit newspaper headlines are a consequence of public policy and limits on money, and are not in the control of operators. The level of fares is an issue for passengers, particularly for those needing to travel at peak times; but cutting fares would increase the need for subsidy. The condition of stations is very variable. Some are excellent, but of the 2,500 stations in the country, many are old and need investment, which can only come from the Government. The hours in which the smaller stations have staff is also an issue for passengers. We have 1,000 stations with less than 100 passengers a day. They would like to see staff even at the smaller stations, but the economics don't justify it. There are increasing complaints about standing. These are questions for the Government – do they want taxpayers' money spent on these things?

Inevitably train operators are in the firing line over these issues. Some are our fault but many are the consequence either of Government policy or of a railway trying to do too much – deep questions indeed.

THE CHALLENGES

The passenger market is good, even buoyant. If we run a good train service, we attract passengers. Service quality is steadily improving. The same is true of freight. What then are the challenges? The first, to be blunt, is to keep the eye on the ball, constant attention to detail, for if you are running a railway, you can never relax.

What then are the other challenges? They are simply stated: cost, capacity and Government policy for the railway.

As to costs, doing almost anything on the railway is just too expensive, and I expect that is the experience in other countries. Notwithstanding the growth in revenue, subsidy from Government has increased to meet increased costs. Some of this increase is the consequence of the railway investment cycle – a lot of assets have become life-expired around this time. But some of the increase is in unit costs. By its nature a railway is people intensive, and people costs increase every year. Safety concerns add to costs, as do passenger demands for customer service – the minimalist low cost airline approach is not welcomed by passengers on the railway. Technology, which has come to the aid of productivity in many industries, has done little for the railway. ERTMS, for example, has yet to bring economic benefits.

Obviously there is no easy solution to the cost problem. The traditional railway skill, which achieved quite low costs particularly for infrastructure and engineering work, was based on experience and judgement, and quite low pay levels as it happens. I think this way of doing things had run its course. Instead, we have been moving to an approach based much more on measurement, scientific understanding of exactly what is happening, process definition and standardisation. The belief is that this approach leads to productivity, quality and lower costs – this is what has happened in other industries. We have made progress in this direction; I would say we have got half way there. This is progress, but we have the costs of a modern society and not yet the productivity of a modern economy.



There are a lot of practical things we need. Lower cost ways to run low patronage services is one (the “community railway” is our name for this initiative).

The second challenge is capacity. The railway in Britain is full but passenger numbers continue to grow. We forecast a 28% growth in passenger kilometres in the next ten years, but at the moment there are only small Government approved plans to increase capacity. Planning work to deliver greater capacity is underway through the Network Rail led Route Utilisation Studies, discussed earlier. These are fascinating for railwaymen. Is it best to provide longer trains or more trains, and if the latter how can the paths be provided? Is the constraint on the number of paths the junction or the platforms at the destination stations? Do we keep in the timetable stopping trains, semi-fast trains and fast trains on the same line? Would it be best to build some new lines instead? Can we get faster turn-round at terminal stations? Can we create a “Pit Stop” railway?

There are a lot of ideas. Once the Government has decided whether to support a growing railway, we will have to choose which ideas are best value for money. I expect our immediate need is for about 200 small and medium sized schemes across the country. Big railway projects do happen. The Channel Tunnel Rail Link will soon be finished and should carry passengers into St Pancras sometime next year. The even larger Crossrail project is being planned, though money has not yet been guaranteed. It is to be a main line rail tunnel under London from Paddington in the West to Liverpool Street station in the East.

The third challenge is public policy, perhaps the most difficult challenge of all. At the highest level, there is a joint Treasury-Department for Transport study underway, chaired by Rod Eddington, the previous Chief Executive of British Airways, which has been set the task of answering the fundamental question: “Given how great the cost would be, is major investment in transport (road, rail or air) absolutely necessary to support Britain’s economic growth?” We await his answer with very great interest.

There are plenty other policy questions for Government. Ministers and government officers will have a busy time.



THE ARGUMENTS

In Britain, arguing about running the railway is a national sport. Every view has its supporters; but fortunately arguments about the structure of the railway are dying down. There is a grudging acceptance that the present structure has delivered a lot and, while it has its problems, any other structure would solve one problem just to create another. This is certainly what I believe.

In truth the most heated arguments now concern public policy – how much investment should the Government make to expand the railway or to keep down fare levels, for example. But perhaps I should offer a brief word about structure.

Short of creating one single, vast company to run every part of the railway, what you could call “Jumbo-Rail”, you have to divide the task up somehow – vertically, horizontally, by region or function. In Britain, we have divided it by the wheel/rail split. The wheels are run by franchised train operators and the rail by Network Rail. The advantage is a strong incentive to deliver and sharp focus. People always underestimate competition. Obviously the interface between the two parts of the industry is crucial and must be managed very carefully so that the whole railway ties together. This needs “integrated thinking”:

- first, in operations (running a punctual railway) and
- second, in planning (best value solutions for capacity or journey speed).

Though we are in different organisations, Network Rail and the train operators sit round the same table addressing both these issues.

In 1992, the Government considered dividing the railway into vertically integrated regional companies whilst British Rail previously divided the railway by sector: InterCity, Regions and London and South East. But however you divide it, there will be interfaces. Even Jumbo-Rail would have interfaces – you just would not see them.

Those who argue for vertical integration point to integration of planning (e.g. internalising the trade off of train weight with track maintenance); integrated operations; providing a passenger focus for infrastructure management; and if vertical integration was achieved through regional companies, you could see competition or at least comparisons of efficiency in infrastructure management. These are important points, but big and integrated does not mean better and I don't think this would be an improvement for the UK. You would lose focus and above-track competition is important. Besides, the necessary "integrated thinking" can be achieved in other ways.

There is also an argument that the franchising process introduces a complex rigidity into the management of the industry. Though there is a process to change franchise specifications, once let, change is a big effort which people shy away from. In principle, the entire franchising process could be avoided through vertical integration – but it is franchising which has introduced the intense pressure to deliver which we have seen. If it was removed the control problem would just move elsewhere. You can't escape it.

What is sure is that there is no perfect structure, but I think what we have works well in Britain.

CONCLUSION

The last ten years have been an extraordinary adventure – a bumpy ride, you could say. But at this moment in time, the railway can be called a success. Passenger numbers are up and customer satisfaction is the highest it has been for many years. The railway industry, with many private train operators and a single network operator, is strong and competent. But I think we are now moving to a new phase. We need to continue improving basic delivery but we now have to face the challenges of cost, capacity, and policy. It is not going to get any easier.



Title previously published in this series:

Jan Sundling : “Developing rail logistic operations in Europe:
Perspectives from Sweden”,
September 2005.

