

Letting the train take the strain: growth in the Scotland-England & Wales rail market since calendar-2000

Ross Clark, Rail Performance Manager, Transport Scotland
ross.clark@transport.gov.scot

INTRODUCTION

In December 2006 the Scottish Ministers published *Scotland's Railways*, which set out their aspirations for the railway industry in Scotland. In terms of the cross-border rail traffics, the document observed that it expected the railway industry to deliver services which ensured that rail was the preferred mode of travel for cross-border journeys, and a real alternative to air travel as well. The document specifically noted: "Developments on [Anglo-Scottish] routes are critical in providing an alternative to domestic air travel". The document laid out the priorities as they then stood for improvement in cross-border services, noting: "We expect the industry to ... deliver [a] service that ... ensures that rail is a real alternative to the car and air travel, both within Scotland and cross-border"¹. The document was part of a wider-ranging *National Transport Strategy*, also published at this time, which looked at the overall priorities for transport. It noted, "We will continue to investigate the feasibility of high speed rail to England as an alternative to domestic flights"².

In 2008³ and again in 2009⁴, this writer presented papers which looked at the actual cross-border rail market (that is, that between Scotland and the remainder of Great Britain), as it had trended from 1994 onwards. At that stage it was concluded that rail's cross-border market had been static in absolute size for a number of years, and as a result, rail's share of the cross-border market had been falling. However, in the two or three years previous to these papers, the situation had begun to turn around.

Seven years on, and post a recession which significantly affected the size of overall travel market as well, is a good time to take stock of what has happened. Rail's position in the cross-border market is stronger than in 2008, and much stronger than in 2004, the point at which rail's market share had reached an historic low. High-speed rail between Scotland and England – an option which was mentioned in *Scotland's Railways* – is now receiving more active consideration.

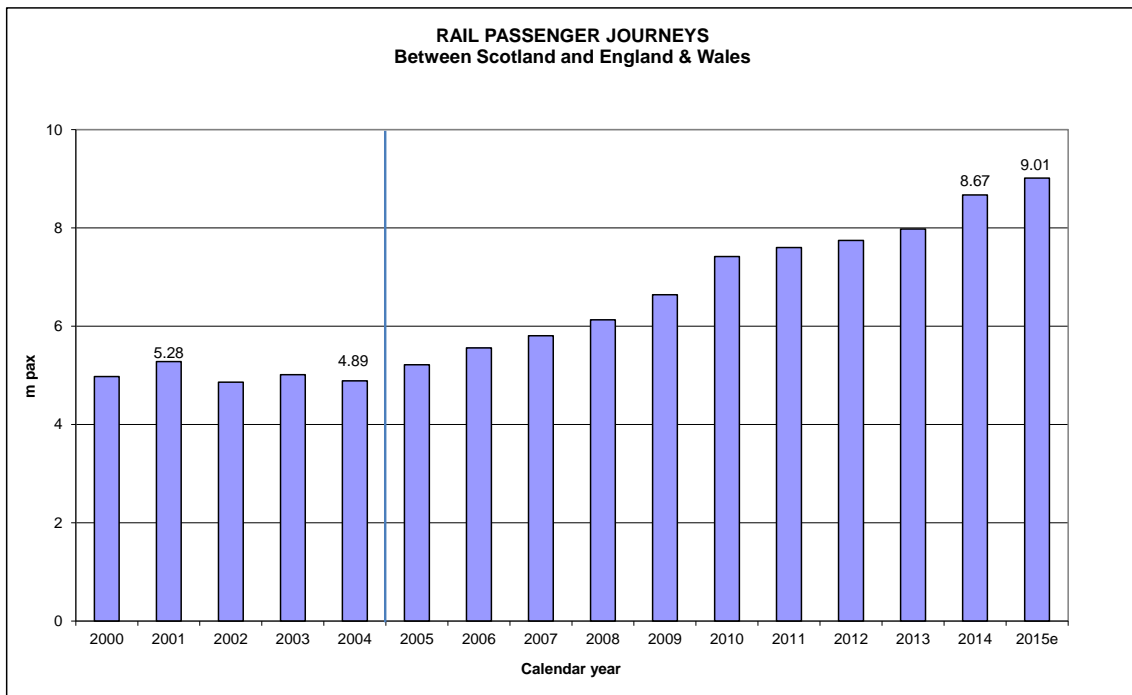
Accordingly, this paper is organised in five parts. First, a review of the overall trends in the market over the last fifteen years identifies the big-picture market factors and how they have changed. Second, some explanations of the differing market trends are documented. Third, a discussion of the situation for the London market is included, in particular to illustrate the effects of the improvements in the Glasgow-London Euston sector. Fourth, some key 'lessons learnt' are identified. Finally, the situation for the year just gone (calendar-2015) is noted

1. How the market has trended

Chart 1a following shows the trends in the cross-border rail market as a whole. From a low point in 2004*, at which point the market was running at less than 5m passengers per year, the growth in the market since then is obvious. That is, between 2004 and 2014, cross-border rail traffic grew from 4.89m to 8.67m (+3.78m, a 77 percent increase). Note that the confirmed data for rail only go up to the March 2015 year, equivalent to calendar-2014; for 2015, an estimate of 9m passengers was used, based on the known rates of overall growth in the long-distance rail sector.

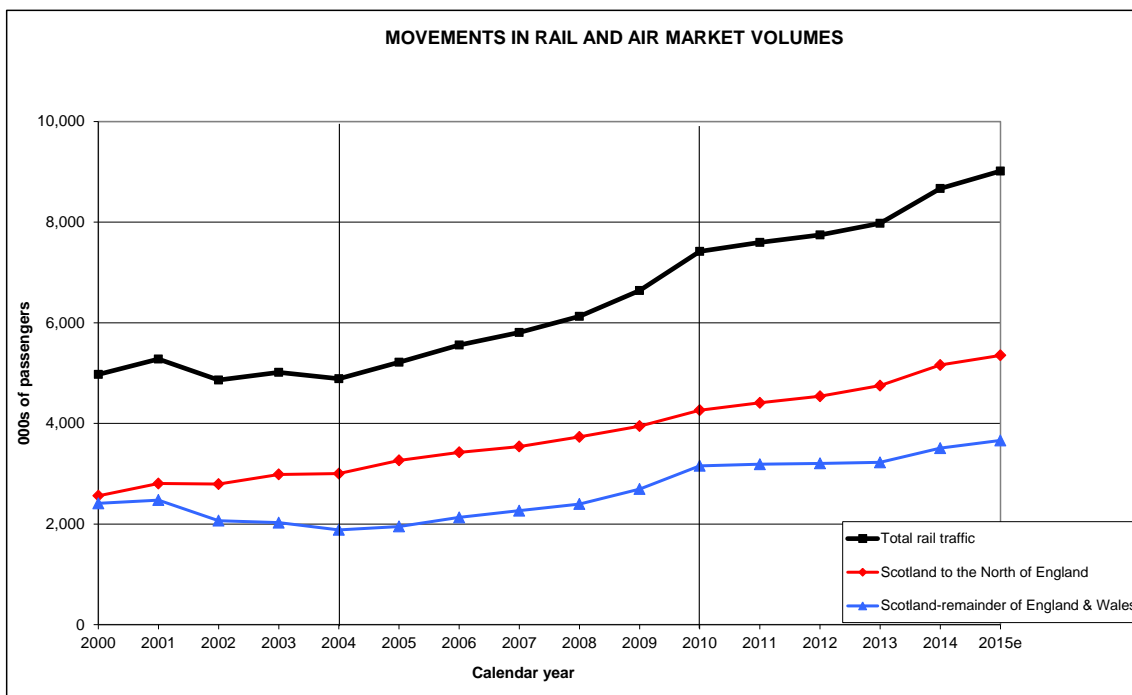
* Actually, the 2004/05 (March) year; the data are reported here on a calendar year basis to make them comparable with the equivalent aviation data.

Chart 1a Trends in rail journeys



However, the change has not been consistent in the various sub-markets. The decline after 2001 which affected the railway market, did not affect traffic between Scotland and the North of England, which continued to grow over this period. The following chart shows the volumes in cross-border travel, since 2000:

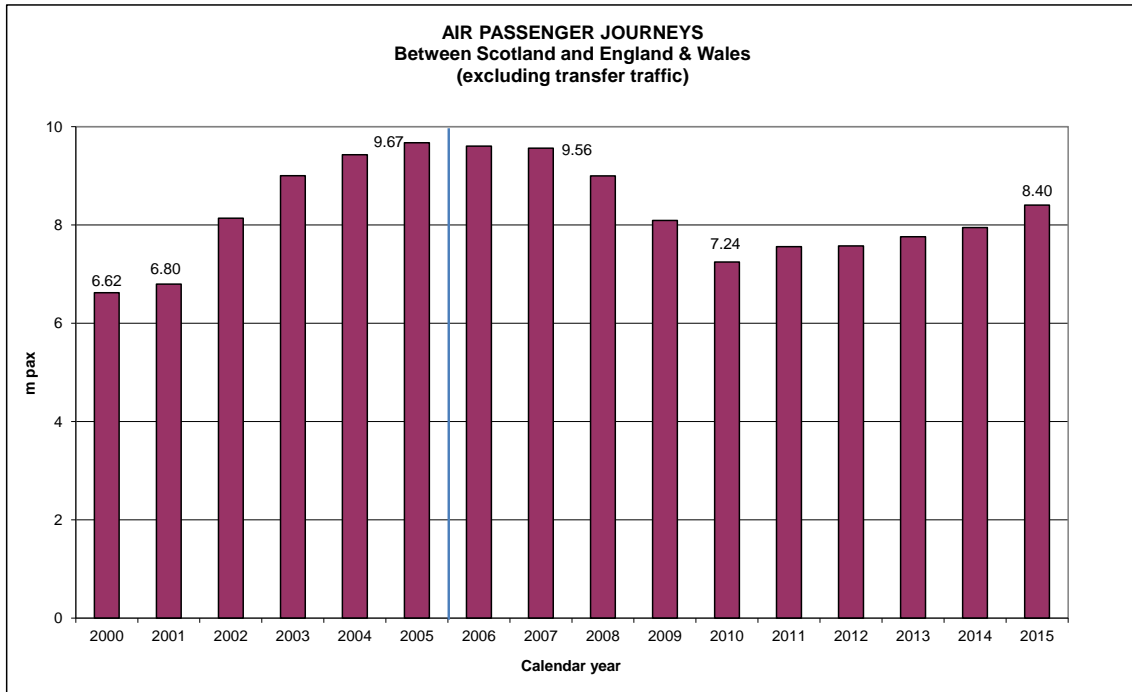
Chart 1b Trends in journey numbers – by market segment



The 'North of England' is here defined as traffic between Scotland and the Northwest; Scotland and Northeast; and Scotland and Yorkshire.

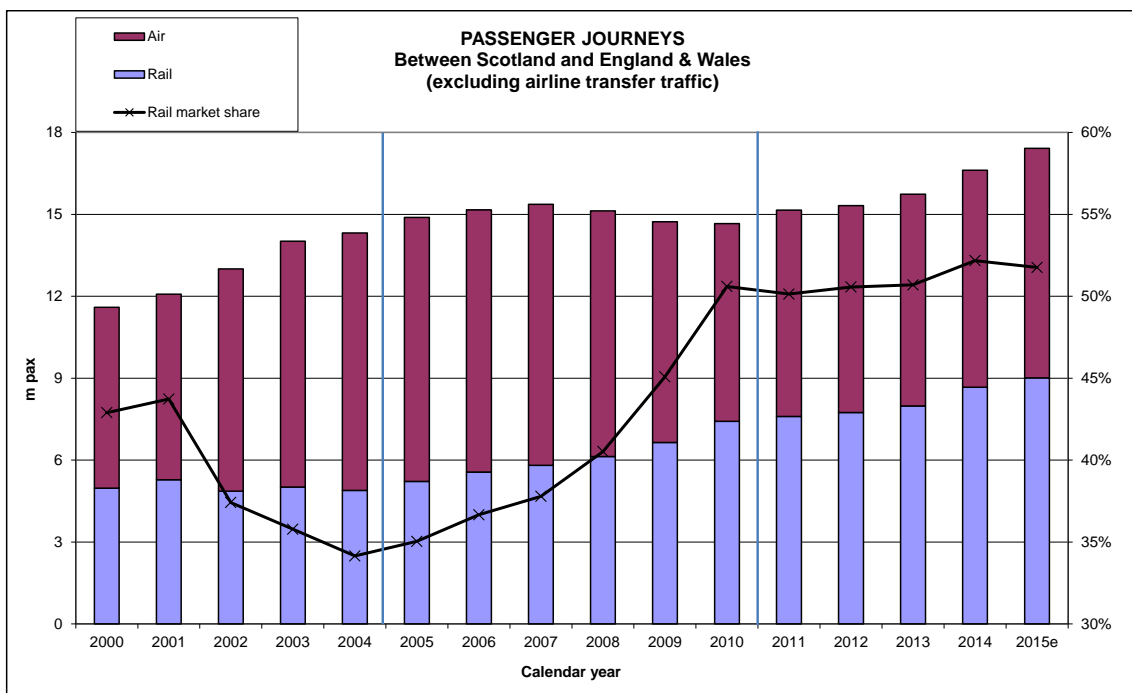
It is at this point that we introduce the data for airline activity, shown in Chart 2. The data here *exclude* air passengers which are transferring at a London airport onto or from an international flight, as rail cannot really compete for this traffic.

Chart 2 Trends in air journey numbers



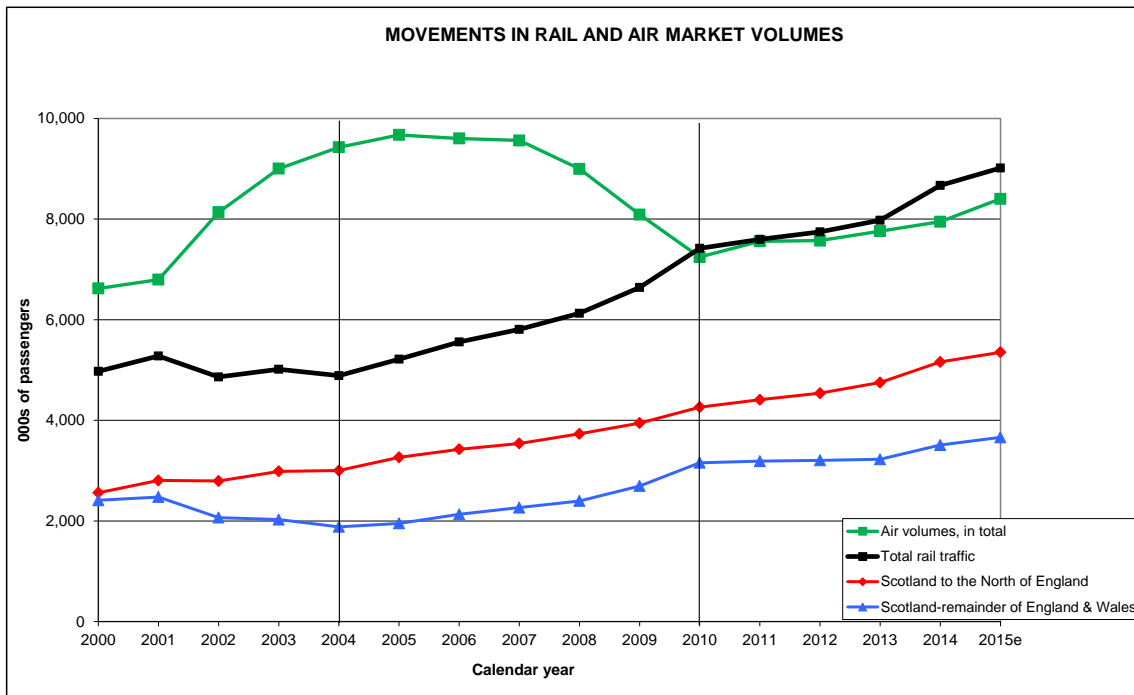
Between 2000 and 2005 the airline market grew from 6.6m to 9.7m passengers (46 percent; 43 percent between 2001 and 2005). After 2005 the market levelled out and then went into a decline after 2007; in three years, demand fell by nearly a quarter, before commencing a recovery in 2010. Charts 3a and 3b following shows the combined markets.

Chart 3a Trends in journey numbers – the total market



This allows us to derive a market share for rail over this period. Note also how the overall market size has trended: since 2010 the market has grown steadily; and rail's share of the cross-border market has stabilised. The overall market grew some 16 percent between 2004 and 2014, and 13 percent from 2010 to 2014. Chart 3b picks up Chart 1b and adds to it the total airline data, in order to highlight how the two different modes were separately trending over this time.

Chart 3b Trends in journey numbers – rail and air compared



It is also helpful to break out the situation for the overall market between Scotland and the North of England from the remaining traffics, because of major differences in rail market share. Charts 4a and 4b following show the historic trends in market size and market share.

Chart 4a Between Scotland and the North – historic trends

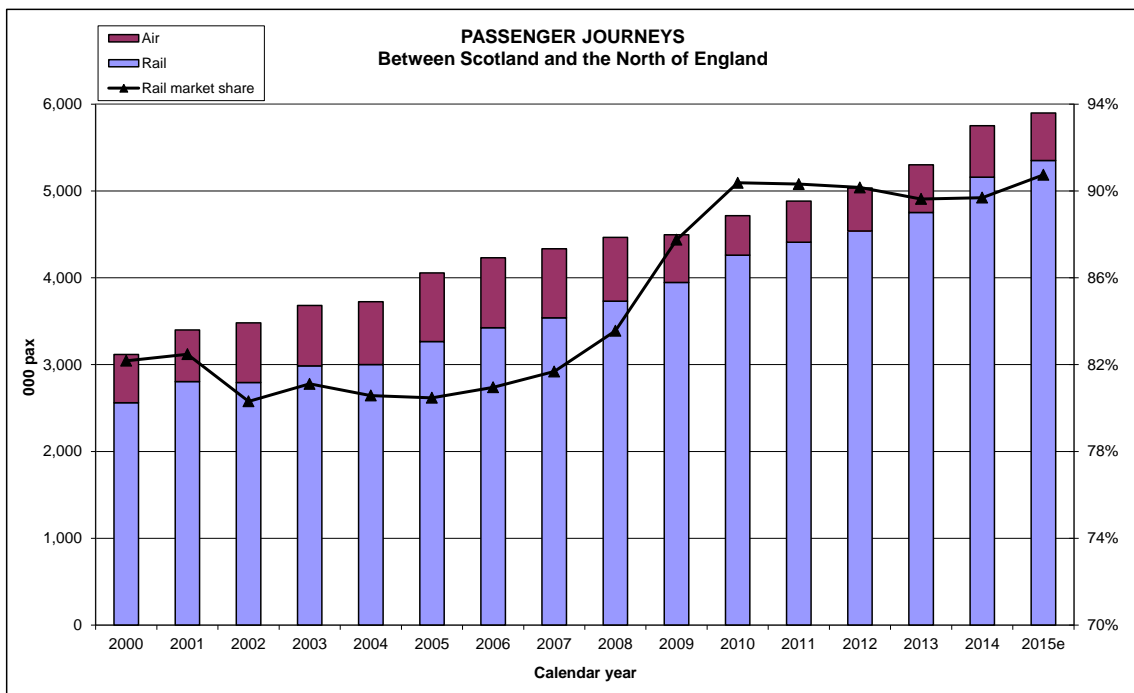
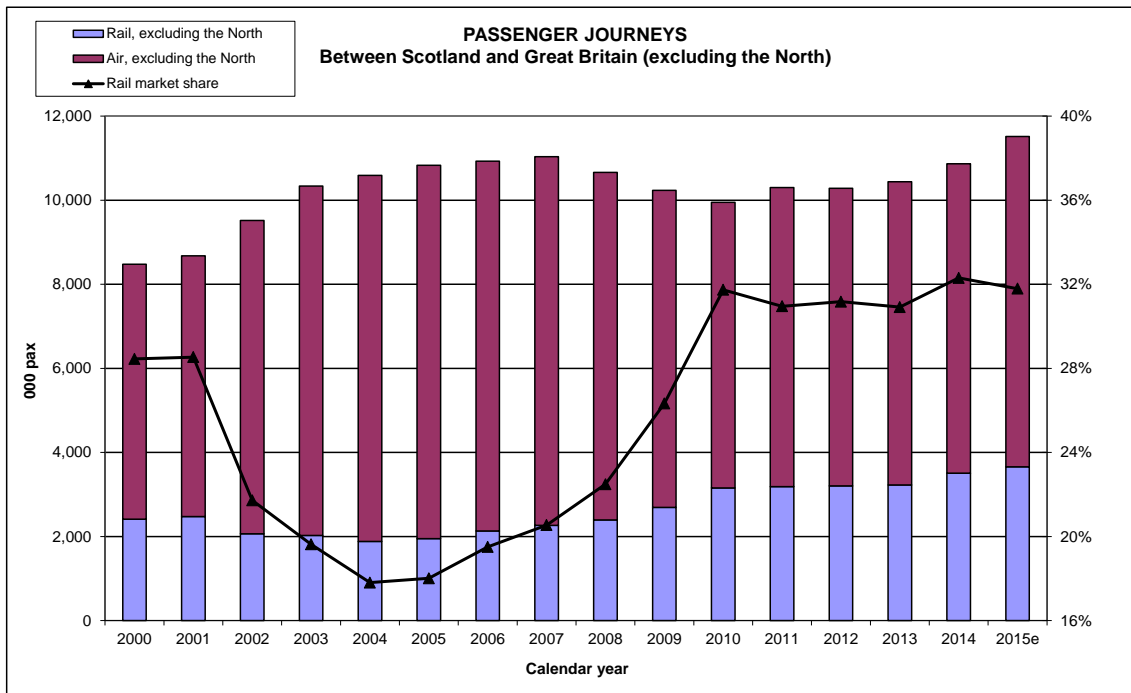


Chart 4b Between Scotland and outwith the North – historic trends



The overall travel market between Scotland and the North of England has grown by far more than its equivalent in the remainder of England & Wales ⁵ (that is, 54 percent, versus 3 percent for the period 2004-2014). Also of note is that rail's market share between Scotland and the North of England held up in the first half of the 2000s, whereas rail's market share to the rest of England & Wales fell over this time period by ten percentage points.

The peak for rail's market share in 2010 was probably the result of the disruption to airline activity caused by the Icelandic volcano eruption in April of that year ⁶. It is also striking to consider that traffic between Scotland and the North of England as a whole (that is, across both modes) continued to grow during the recession (9 percent over 2007-2010), whereas traffic for the remainder of the market declined 10 percent over this time. Put another way: between 2004 and 2014, the market between Scotland and the North of England grew by 2,168,000 journeys (72 percent); and this specific market comprised 57 percent of the growth in the total market (3,782,000 journeys).

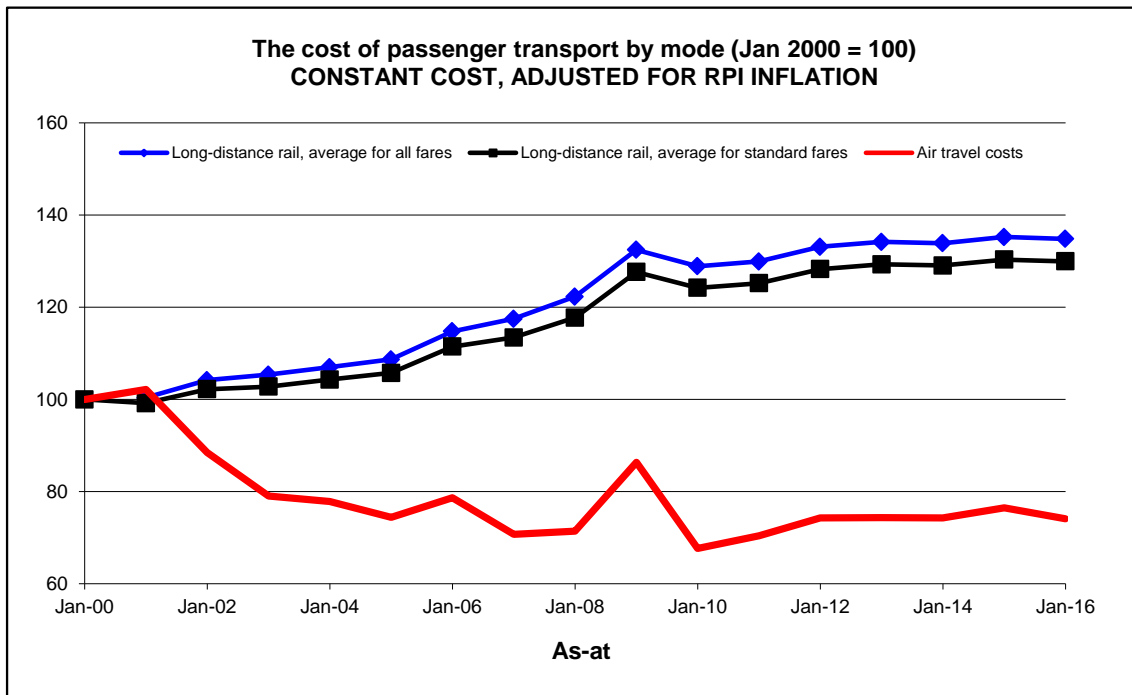
Northern and non-Northern markets

The change in rail's market share has been as follows:

Shift in rail market share 2004-14 – overall	18.0%	(that is, the extent of the market which shifted mode)
Shift in rail market share 2004-14 – the North of England	9.1%	
Shift in rail market share 2004-14 – outwith the North	14.5%	

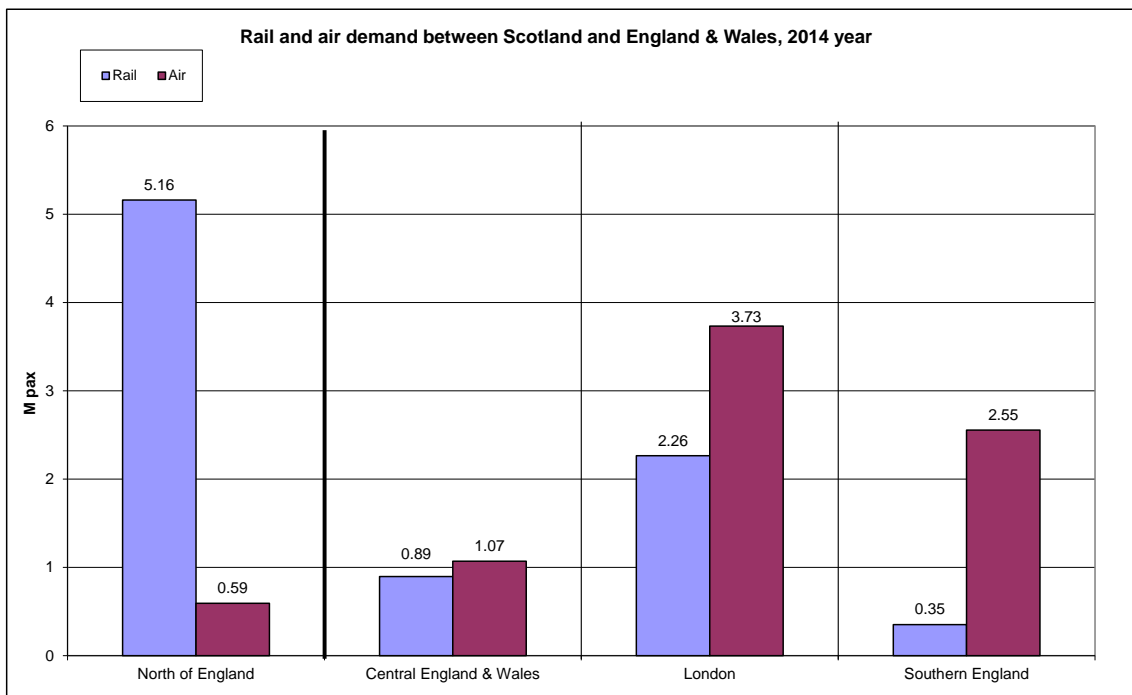
What is also of interest is that rail's share of the market for travel between Scotland and the north of England was reasonably stable in the years 2000-2004 and rail's volumes were growing as well – in sharp contrast to the remainder of the rail market. The likely reason is that in the period after 2001 there was a sharp decrease in real airfares (over twenty percent in the next four years) which – given that at the time, long-distance rail fares were continuing to increase – both diverted traffic from rail to air, where air was time-competitive, and also generated new traffic as well. The change in fares is illustrated in Chart 5 following, which provides the context, of changes in fare structures over this time:

Chart 5 The context of fares structures



The sharp change in fares after January 2001, both in relative and in absolute terms, is clear. It also provides an explanation as to why airline traffic grew, and rail traffic fell, for traffic between Scotland and outwith the North of England during the first half of the 2000s⁷. Rail traffic between Scotland and the North of England was not affected by the growth in aviation demand during this period.

Chart 6 Market share by region, 2014



That is, 60 percent of cross-border rail traffic is between Scotland and the North of England; and 47 percent of the cross-border airline traffic is between Scotland and London. The distribution of overall cross-border traffic is as follows: 35 percent between Scotland and the North; 12 percent between Scotland and Central England & Wales; 36 percent between Scotland and London; and 17 percent

between Scotland and the South of England. Much of the south-of-England traffic is via the London airport system.

2. Explaining the changes in the market

That said, while the effects of the recession can be seen in overall transport demand, those effects are certainly not consistent. Total rail traffic between Scotland and the North of England has continued to grow strongly over the last few years, even in the context of the recession. Essentially, though, two broad factors can be identified as contributing to the market change.

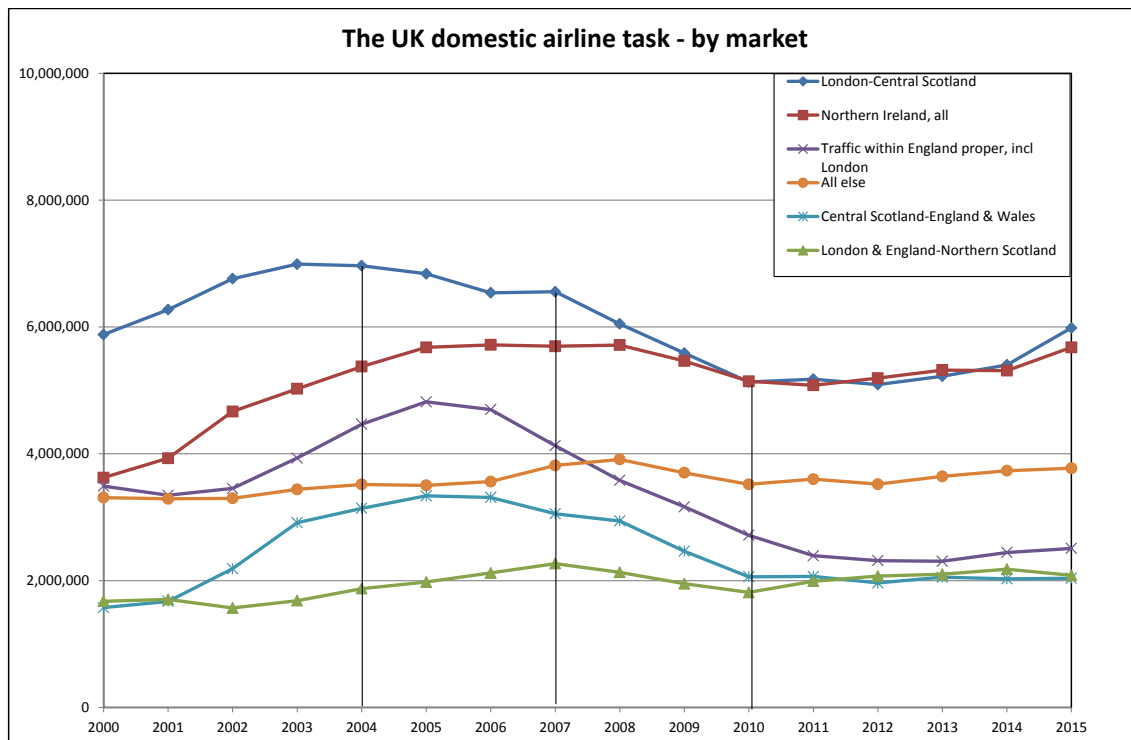
First, there were improvements in the standards of rail service provision

Over the last ten years, there have been some significant improvements in the overall standard of service provision in Great Britain. Where Scotland is concerned, this includes more cross-border trains⁸, in particular to the North⁹, and significantly faster trains in a few instances (e.g. Glasgow-London Euston).

Second, additional security has led to a longer end-to-end journey time for air journeys

While a sharp decrease in real airfares between 2000 and 2004 led to significant growth in airline traffic – and that at a time when long-distance rail fares were rising significantly – after 2005, some significant service issues became apparent in the airline industry. Many of these were specific to the airports, and in particular, airport security. After a major security incident in August 2006¹⁰, security screening arrangements became more onerous, as the additional security has led to longer end-to-end journey time^{*}. In a domestic airline context, this can rapidly become intolerable¹¹. Even now, customers report significant service issues with the security screening at Glasgow and Edinburgh airports, especially Edinburgh¹². So, the net result was the significant change in market share away from air and towards rail. However, one important caveat needs to be introduced at this point – that the changes in airline demand occurred only where there was a time-competitive rail option. This is illustrated in Chart 7a below, which shows trends in market volumes for different UK internal airline markets

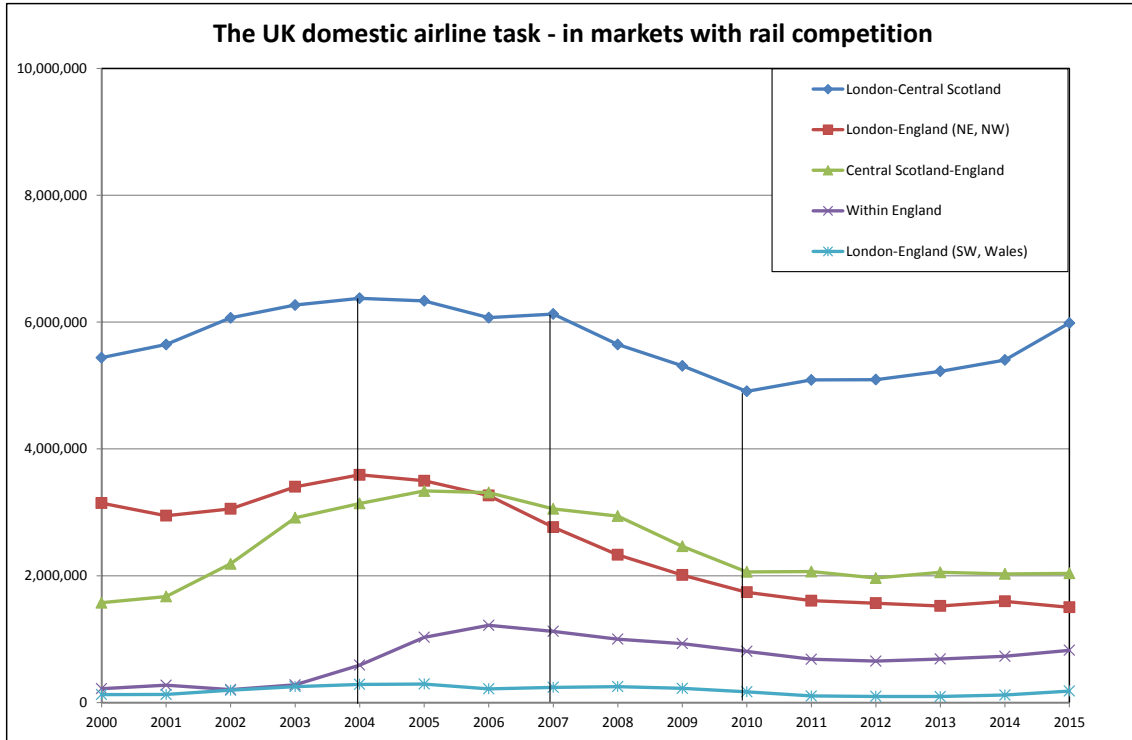
Chart 7a Trends in the UK domestic airline market



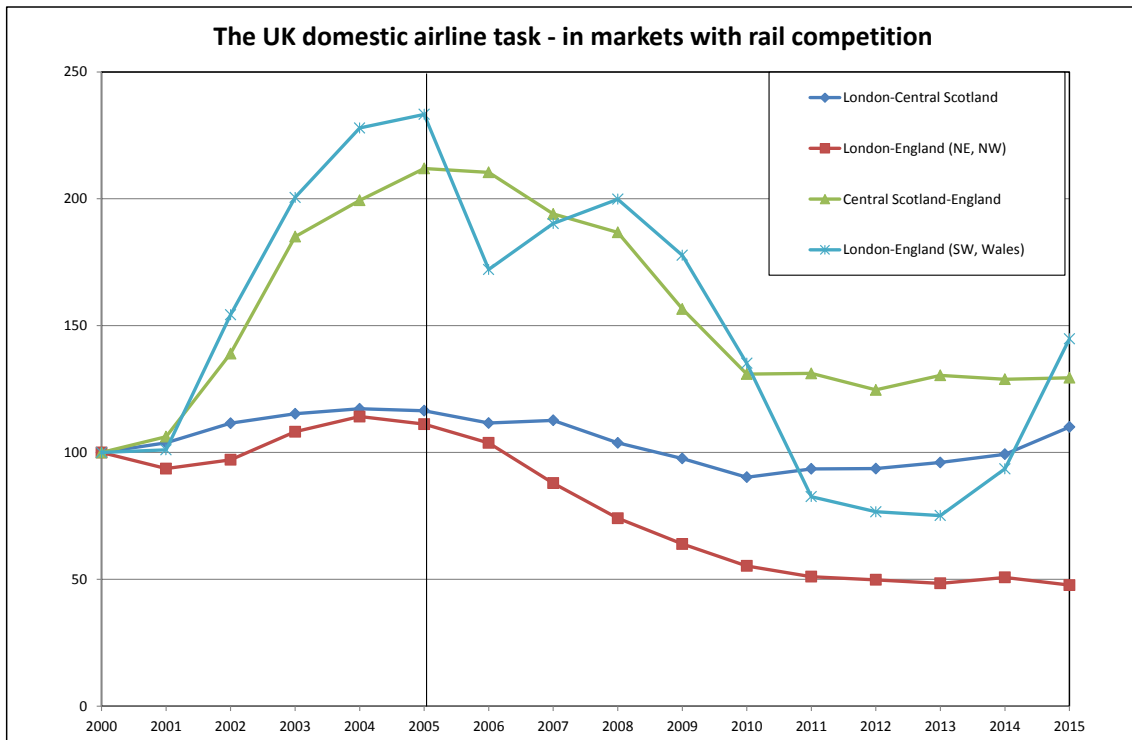
* Another issue is that the time needed for the security screening becomes much less predictable – travellers can't rely either on the process taking a consistent length of time.

The decline in the traffics between London and Central Scotland, between England and Central Scotland, and within England proper, is clear. However, what is also clear is that traffic volumes between England and Northern Scotland and Northern Ireland to all of Great Britain, have held up much better.

Chart 7b Domestic airline markets subject to rail competition

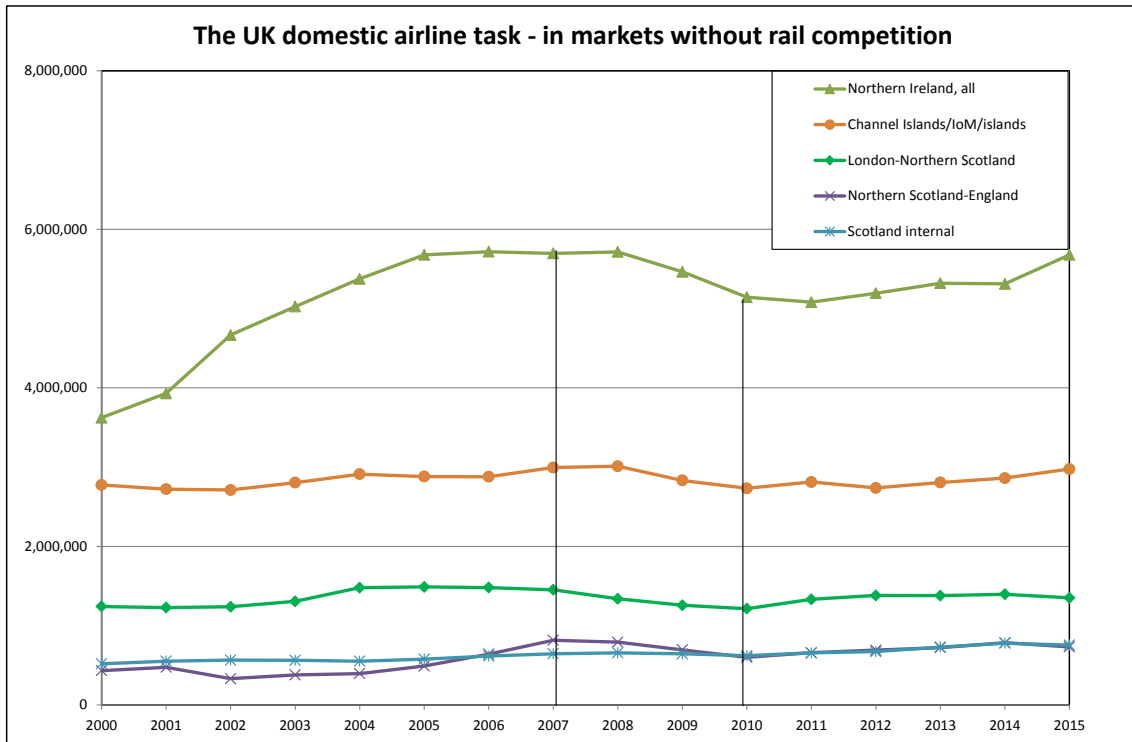


Displayed as an index chart (2000 = 100):

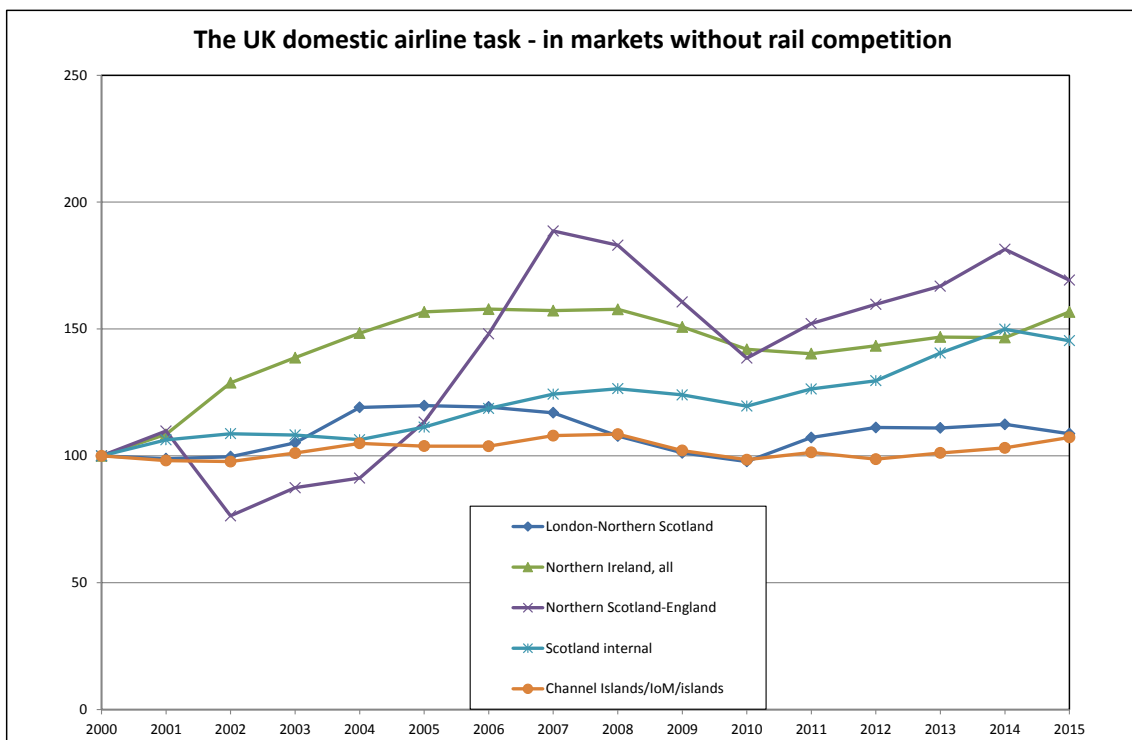


To come back to Chart 5 above, although the relative gap between airfares and rail fares has continued to widen – they do not seem to have had much effect in securing airline traffic. The market and market share secured by the airlines after 2000, because of lower fares, was then lost because of the changes in the relative service environment after 2004. So, where the market grew strongly after 2001, it was from the takeup of new and expanded services, but it was also these markets which fell the most after 2005.

Chart 7c Airline markets where rail competition is not present



Displayed as an index chart (2000 = 100):

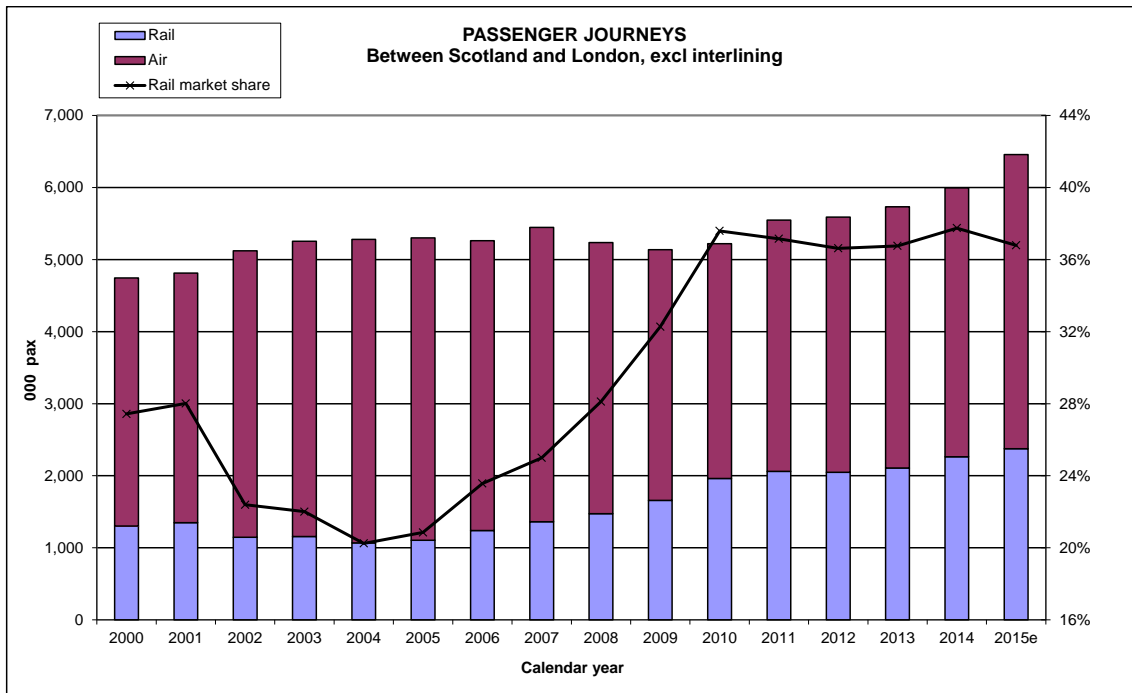


So, the contrast is clear. Relative to calendar-2000, these markets have mostly grown over time. This also helps us distinguish the effects of increased competition on airline demand, from the effects of the 2007-2010 recession.

3. The market to London

Both the rail and the air service between Scotland and London, is a particular interest for the Scottish Ministers¹³. Chart 8 following shows the trends over the last few years – note, in particular, the strong growth in the overall market since the end of 2010.

Chart 8 Scotland-London



Providing the data by individual market catchment¹⁴:

Chart 9a Edinburgh to London

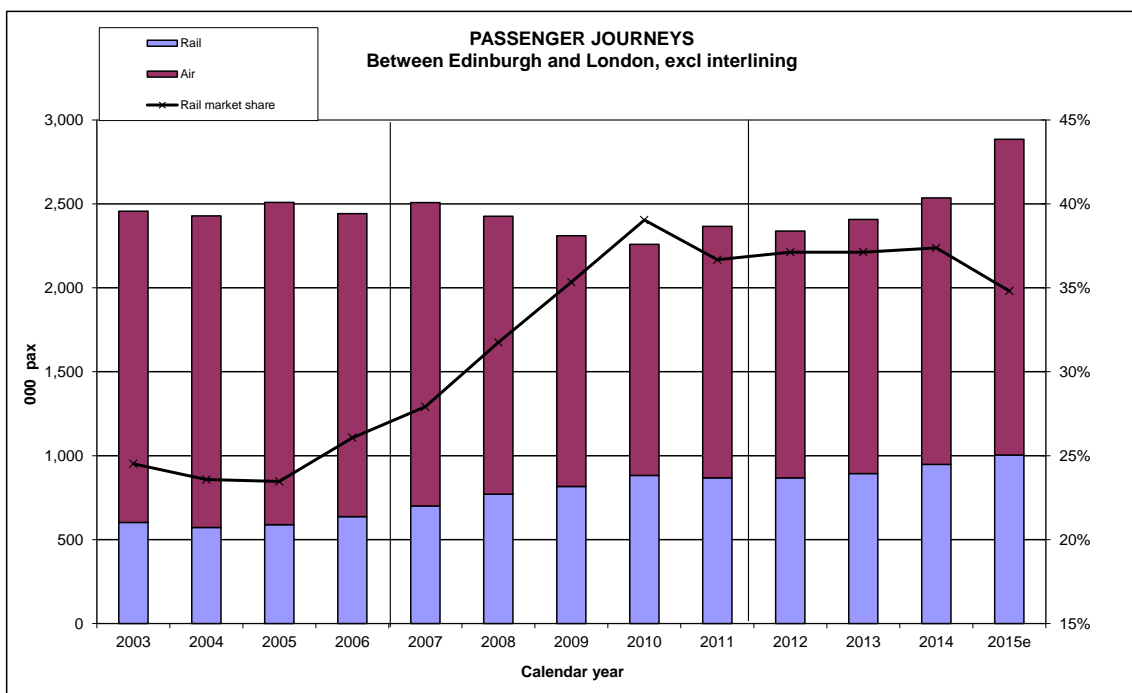
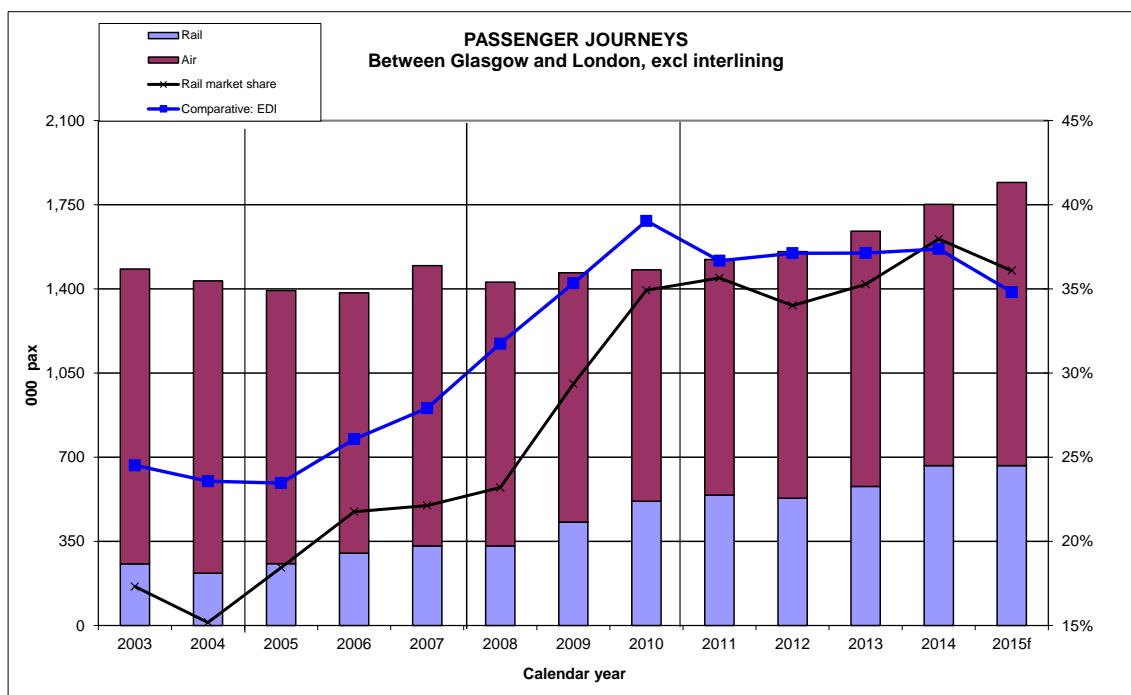


Chart 9b Glasgow to London, with Edinburgh market share data for comparison



The low point in market share in 2004 was the endpoint of a decline which had been going on for a number of years (Clark, 2008; Clark, 2009) *.

There are some interesting differences, and now more evident in the way of similarities. The total market for Edinburgh is certainly larger, and rail’s share of that market was measurably larger, until quite recently. Both markets show a growing share for rail after 2004; rail’s share of the market in Glasgow grew rapidly, and by 2008 it had increased to 24 percent, some 8 percentage points behind Edinburgh’s (the gap in 2004 had been the same). However, after 2008 the gap closed very rapidly, so that by 2010 rail’s share of each market was similar; showing also a very large increase in volumes over those two years (2009, 2010). This can be explained by the completion of the West Coast Main Line improvements, as it reduced the time for rail between Glasgow and London down to four and a half hours on average – about the same as Edinburgh. Rail’s share has declined in both markets since then, reflecting a strong pickup in aviation demand in both markets. Until quite recently, Edinburgh’s market share for rail has been slightly stronger; possibly reflecting higher rail service frequencies ¹⁵ (the Glasgow market in 2014, having also benefitted from the Commonwealth Games in August of that year).

3.1 The sources of rail’s growth

If we compare trends in domestic airline traffic, we can begin to identify where rail’s growth came from – not just the airline market as a whole, but by specific journey pair. If we break out the traffics by individual airports, some more differences in trends become apparent. 2014 is used as the endpoint while more up-to-date rail data are awaited. All data are in thousands unless indicated otherwise.

* For the avoidance of doubt, the calculation of rail’s market share in these charts excludes an allowance for the air traffic whose final destination is in the south-east. The equivalent rail market to the south-east proper is much smaller than the market for travel to London proper; rail cannot easily compete for this market; accordingly, the market share calculation is so designed to, as much as possible, compare like-with-like. Rail’s market share for travel between Scotland and London & the South-east, if calculated together, is measurably lower than that for London proper.

Table 1a Market change – Edinburgh

Edinburgh

	2004	2014	change	
Heathrow domestic	1,187	957	-230	-19%
Other London:				
- Gatwick	591	552	-39	-7%
- London City	192	352	160	83%
- Luton	385	221	-165	-43%
- Stansted	350	280	-70	-20%
Other London:	1,519	1,406	-113	-7%
All domestic airline	2,706	2,363	-343	-13%
			↓	
Plus rail (inc. Southeast)	632	1,047	415	66%
Total Edinburgh-London & south-east	3,338	3,410	72	2%

The growth in the rail market was as follows:

	2004	2014	change	
Heathrow lost domestic traffic overall:	1,187	957	-230	-19%
It lost traffic to London City	192	352	160	83%
	192	352	160	83%
So, the remaining Heathrow market decline was to rail:			70	
Which also got traffic from Gatwick			39	
Which also got traffic from Luton			165	
Which also got traffic from Stansted			<u>70</u>	
			343	
Now, rail's overall market grew by			415	
So rail's natural market growth from its own improvements was:			72	qed

Table 1b Market change – Glasgow

	2004	2014	change	
Heathrow domestic	1,075	566	-509	-47%
Other London:				
- Gatwick	317	490	173	54%
- London City	0	208	208	
- Luton	397	230	-167	-42%
- Stansted	278	243	-34	-12%
Other London:	991	1,171	179	18%
All domestic airline	2,066	1,737	-330	-16%
			↓	
Plus rail (inc. Southeast)	255	724	469	184%
Total Glasgow-London & south-east	2,321	2,460	139	6%

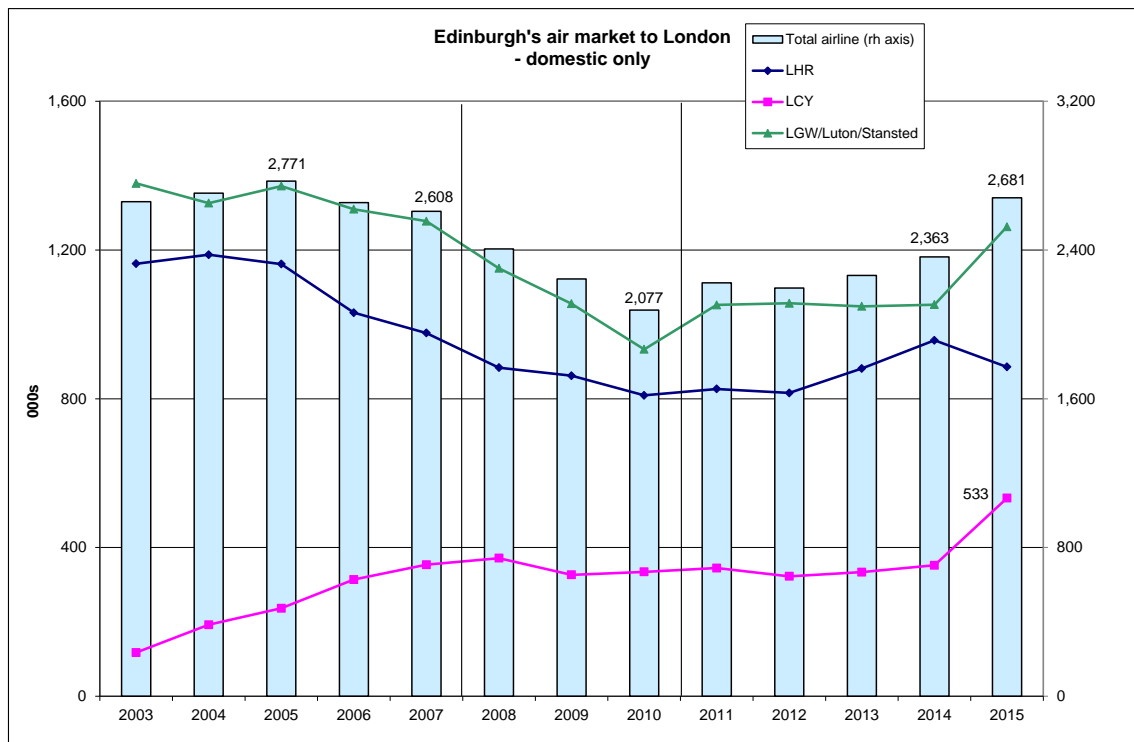
The growth in the rail market was as follows:

	2004	2014	change	
Heathrow lost domestic traffic overall:	1,075	566	-509	-47%
It lost traffic to London City	0	208	208	
It lost traffic to Gatwick	317	490	173	54%
	317	698	380	120%
So, the remaining Heathrow market decline was to rail:			128	
Which also got traffic from Luton			167	
Which also got traffic from Stansted			<u>34</u>	
			330	
Now, rail's overall market grew by			469	
So rail's natural market growth from its own improvements was:			139	qed

As can be seen, Edinburgh's Heathrow traffic declined by much less over this time (19 percent versus 47 percent for Glasgow), and its rail market grew by less (66 percent versus 184 percent, although the absolute growth was similar). Overall domestic airline traffic fell by about the same (13 percent versus 16 percent), and the overall market from Glasgow to London grew by slightly more over the ten years (6 percent versus 2 percent)¹⁶. One significant difference in the change affecting the markets should be noted here. 70 percent of the decline in Edinburgh's Heathrow traffic can be explained as a shift arising from the business market across to London City – possibly because of the financial sector at Canary Wharf. In Glasgow's case, the proportion of the decline in Heathrow's market going across to London City was a lot less; almost as much went across to London Gatwick, which for Edinburgh showed a distinct if small decline over the ten years.

Chart 10a following illustrates the nature of the changes in the Edinburgh-London domestic air market and Chart 10b does the same for Glasgow.

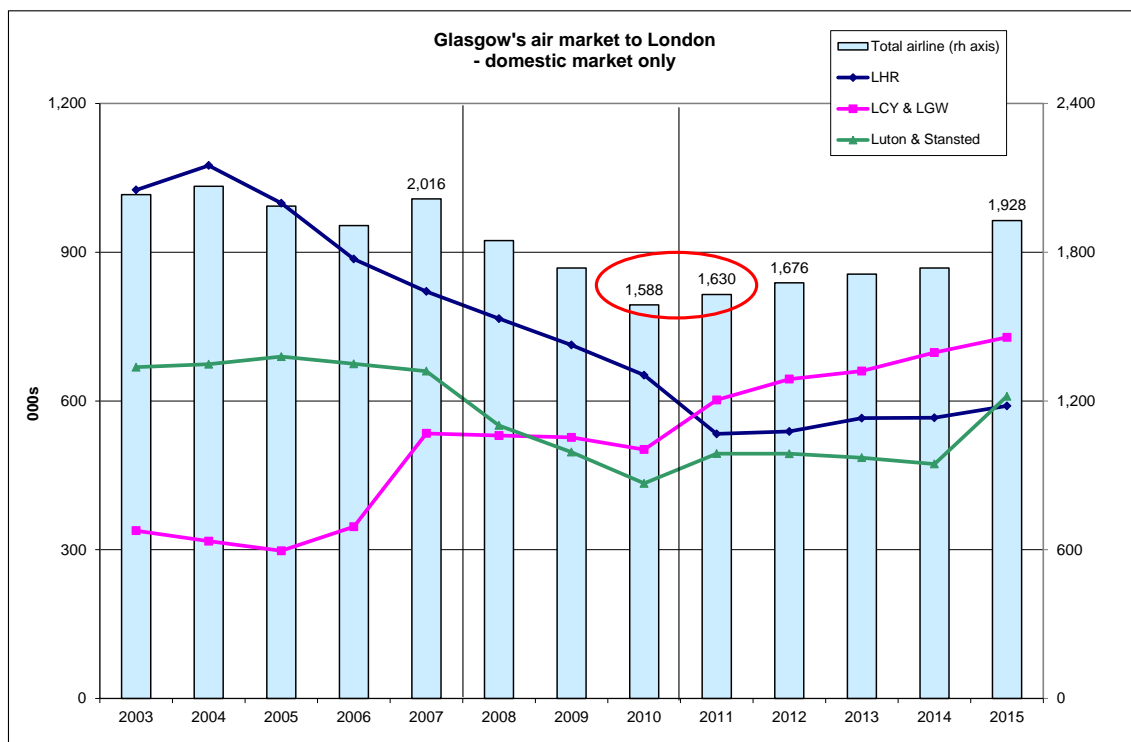
Chart 10a The change over time in domestic air traffic between Edinburgh and London



The evidence confirms that the steady decline in the overall market after 2005 was not uniform. This is not difficult to explain; London City has developed quite significantly in the last ten years as the 'business airport' for London. While a small decline during the recession (early 2008-late 2010) is evident, overall London City volumes since then remained quite stable until 2015. The strong growth in this year explains some of the decline in Heathrow's traffic. The remaining airports saw significant decline during the recession, and a recovery in the year following (2011); a further recovery was apparent in calendar-2015.

The equivalent analysis for Glasgow is as follows:

Chart 10b The change over time in domestic air traffic between Glasgow and London



The situation for Glasgow differs in a number of respects. First, note the strong growth in traffic for the combined total for London City and Gatwick, although for different reasons – Gatwick services have grown because of British Airways using it as a second-choice airport for the Glasgow-London market. Second, the domestic traffic through the remaining airports fell sharply during the recession, picked up in 2011 and 2012, and then grew further in 2015. Third, Glasgow's domestic traffic to Heathrow has fallen by much more than it has for Edinburgh. The 2010-2011 situation is highlighted because of the withdrawal of BMI services in March 2011. Stansted traffic has grown in the last year or so as Ryanair have added more services.

4. The lessons learnt – and what we understand better

Further to the comments above explaining the overall changes in rail's market, the following lessons can be fairly drawn:

First, it confirms how important it is to reduce rail journey time and improve service, whilst keeping fares competitive

When I initially undertook this work, my main focus was on the way that lower airfares, both in relative and absolute terms, had both shifted traffic from rail to air, and generated significant additional traffic volumes for the airlines as well (Clark, 2008). However, the situation has changed significantly. More trains (especially between Scotland and the North of England), faster trains (especially between Glasgow and London) and a better service environment, have all helped to grow rail's market, and market share. Even in markets such as that between Scotland and the North of England, where competition from the airlines was not an issue, the overall market grew quite strongly; much more so,

in fact, than for travel between Scotland and the remainder of Great Britain. But the effects on rail demand between Glasgow and London Euston, from the improvements made to the West Coast Main Line, are quite clear: taking a full hour off the end-to-end journey time led to about eight percent of the market, in current terms about 128,000 passengers per year, shifting from air to rail. That is in distinct addition to the 170,000 passengers per year, ten percent of the current market, who shifted across from air to rail as part of the general market shift over the 2004-2010 period. (Total rail travel between Glasgow and London Euston grew about 469,000 passengers per year in the 2004-2014 period; the balance is from natural market growth and/or generated traffic). But, to stress this point again, this change was seen only where a time-competitive rail option was in place. A good comparator market in this instance is air's share of the market for travel between Scotland and Northern Ireland; after huge growth in the first half of the 2000s, because of the low-cost airline revolution, it has remained fairly stable since, although the market itself is declining slightly (Clark, 2013, section 2.5).

The other contributor to growth in rail's position, as noted above, was from a poorer service environment in the airports, and in the wider airline industry. In my 2009 paper I cited factors such as poor experiences of airport security, in the context of the increased security checks, poor airline practices, and other issues such as strained surface access (traffic congestion), as all contributing to the shift away from air. It is not clear that anything has changed in the interim; security checks certainly take longer than they used to. In markets which did not see significant change in the nature of the rail service on offer, such as that between Edinburgh and London, there was still a consistent shift in the market, from air to rail, over the six years. But there is a lesson in this for the rail industry as well: if service standards fall, rail will lose the market, and market share, it has gained.

Second, it tells us that cross border air and rail markets are not homogeneous

This is certainly true in the rail sector – comparing the relative rates of growth by market relative to 2000 makes this clear. The way that rail traffic between Scotland and the North of England has grown over the years, and not from capturing airline traffic to any great degree, is a good example. Another example comes from looking at the shift from air to rail over time; one would reasonably think that the change would be a consistent one across the five London airports, in terms of losing market. But this is not the case at all; while Glasgow's Heathrow traffic has declined, the traffic into Gatwick and London City has improved by almost as much. The most reasonable explanation for these changes is that domestic traffic has moved out of Heathrow, for two quite separate reasons. First, there is the development of services into London City, which both caters for and thus competes for the high-yield business market that Heathrow serves. Second, there is the way that Gatwick has become the airport for the more price-sensitive Glasgow-London traffic. This has been done using differential pricing to keep the Glasgow-Heathrow services for interlining and the higher-yield domestic traffics, and encouraging the medium- and lower-yield traffics into using Gatwick. On the other hand, Edinburgh-Gatwick has declined slightly, perhaps indicating that in comparison with Glasgow, the Edinburgh-Heathrow market has proved to be the stronger at retaining its traffic.

Traffic from the Central Belt into Luton and Stansted over this time declined significantly as well, which tells us that these two airports have been the principal net contributors to the growth in the rail travel task. As the tables above show, 19 percent (70,000 trips) of the market shift for Edinburgh from air to rail over this period was from Heathrow; the equivalent for Glasgow was 28 percent (128,000 trips) of the shift from air to rail over this period. The real contributor to the decline in Heathrow's domestic traffics, has been movements within the London airport market as a whole, both market-driven and supplier-driven. Most of the change had happened by 2011, although Luton's decline was the greater¹⁷. Thereafter, the situation was stable until Ryanair commenced services to Stansted, from both Glasgow and Edinburgh¹⁸. In total the traffic on these two journey pairs grew by about 75 percent during calendar-2015.

Another fundamental factor is that overall, rail and air have different customer bases. Advice provided to the ORR (not as-yet published) cites a mix of MOIRA^{*} and CAA data to note that while about half the domestic aviation between Edinburgh and London is business-related, only about a quarter of the equivalent rail task could be so described. This analysis also reported that rail also has only about a quarter of the business market proper, once interlining is excluded from the aviation data. On that basis, the share of the non-business traffic would be much more even.

^{*} "MOdel of Inter-Regional Activity" – the railways' main modelling and forecasting approach

Third, it confirms that a policy objective of enhancing Heathrow access is complementary to an objective to promote the use of rail for domestic journeys

There have been a number of statements over the years from the Scottish Ministers, expressing concern for Scotland's access to Heathrow. As I observed in an earlier paper (Clark, 2014):

These concerns [about access] were both summed up and explained by a press release by the Minister of Transport and Veterans in November 2012¹⁹. The occasion of this press release was the release of an aviation policy framework earlier in that year by the Westminster government²⁰. *Inter alia* the press release observed:

Transport Minister Keith Brown has called on the UK Government to ensure that its new aviation framework addresses the concerns of all regions in the UK, not just the South East. In submitting the Scottish Government's response to the draft policy framework, Mr Brown highlighted key concerns such as access to Heathrow for Scottish services, aviation taxation and the ability of Scottish airports to compete for new air routes.

The publication of the Airports Commission report in July 2015 drew the following statement from the Scottish Minister of Transport:²¹

Commenting on the findings of the report from the Airports Commission, Minister for Transport and Islands Derek Mackay said:

"After decades of prevarication over airport expansion, this report now shows a way forward and the UK Government must act on it.

"The Scottish Government's response to the Commission was impartial but pressed the importance of guaranteeing Scotland adequately benefits from new capacity. We welcome the Commission's report and specifically Sir Howard's recognition that good connections between an expanded Heathrow and Scotland's airports are vital in respect of business connectivity, inbound tourism, and getting Scotland's products to the global market.

"The Scottish Government has been voicing for some time concern on the direction of travel of Scotland's connections to Heathrow and, in parallel with our engagement with the Commission, the Scottish Government has also worked directly with both Heathrow and Gatwick. We welcome Heathrow's commitment to introduce a regional pricing structure for airport charges, which was one of the key issues highlighted in our response to the Airports Commission. This will help maintain key links between Scotland and London and encourage greater competition on these routes.

"We are clear that Scotland needs to have a strong mix of direct services – where we have made significant strides in recent years – and strong connections to global hubs like Heathrow. Sir Howard's recommendation that Public Service Obligations are used in a new way to ensure appropriate connectivity from nations to an expanded Heathrow is also welcome.

"We want to ensure Scotland's airports adequately benefit from this new capacity at Heathrow and reiterate our call for a defined minimum level of access for flights from Scotland. This would help Scottish businesses to connect to global markets and ensure that the significant numbers of inbound tourists travelling through Heathrow have the best possible access when it comes to connecting to Scotland."

For Scottish Ministers to advocate improved connectivity to Heathrow, means that they place a significant priority for those services over more flights to the other London airports. This is because access to Heathrow enables access to global markets, and so is also about international connectivity. However, promoting Scottish access to Heathrow is quite complementary with promoting the use of rail for journeys between Scotland and London. This is because the main concern in terms of Scotland's access to Heathrow is for the interlining traffic (that is, traffic then flying further afield or coming from further afield), which is not a market which rail can easily service²². The volume of domestic demand is still important in this context, because domestic demand comprises about two-thirds of the overall traffic; and the frequencies required to serve this market also benefit the interlining traffic, through less waiting-around at Heathrow for an onward flight.

Overall, the decline in the specific Heathrow domestic traffic was not about a wholesale shift of this traffic towards using the train; three-quarters of the decline in the Heathrow-Central Belt domestic market was as a result of a shift in demand to London City or Gatwick, and less than a quarter of the growth in the equivalent rail market was from former Heathrow traffic ²³. That said, maintaining sufficient capacity at Heathrow for Scottish services will remain an issue for quite some time to come. It is likely that the known capacity constraints at Heathrow have encouraged the airlines to look for other options for Scotland-London traffic, whether domestic or interlined.

Fourth, it provides a better understanding of the potential for market growth from the incremental extension of high-speed rail

In the current cross-border market, journey pairs where the rail journey time is around three hours have very little, if any, airline presence in them. This is quite clear from looking at the market for travel between Scotland and the North of England (refer Chart 5a above). Now, this is of keen interest in terms of any assessment of the market changes from high-speed rail – clearly, if high-speed rail allowed a reduction in rail journey time between the Central Belt and London down to three hours, then it is clear that in the market for domestic travel, rail would be completely dominant. It would also capture some of the traffic which at presents flies to and from Heathrow to connect with journeys going further afield.

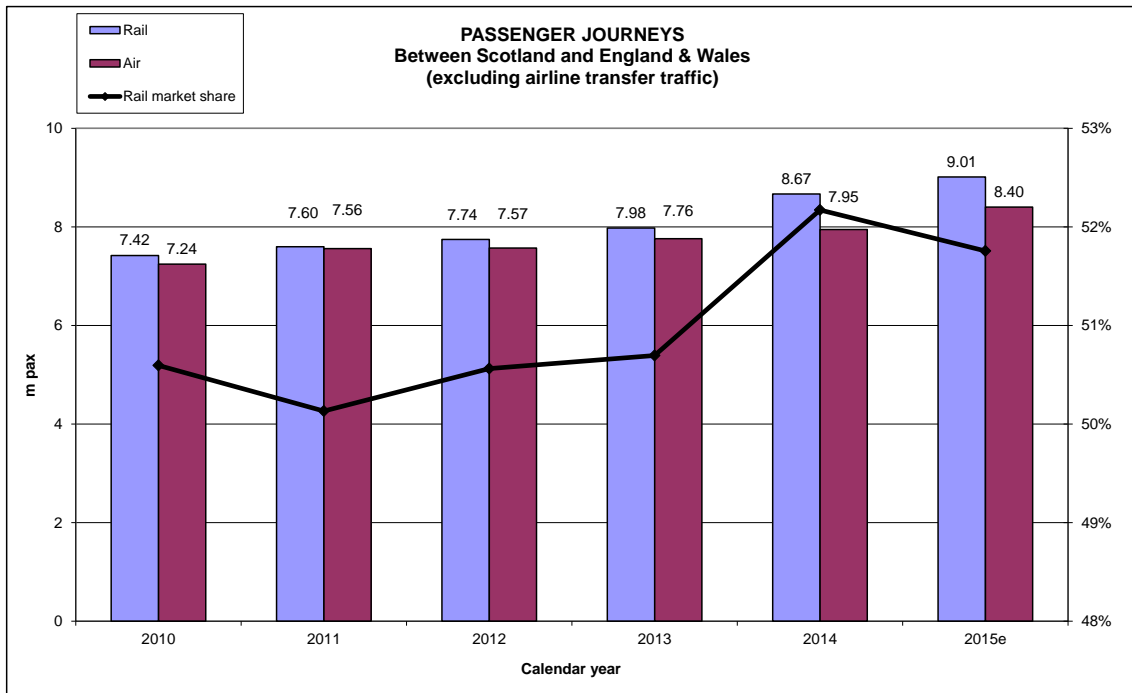
However, what we can now highlight for consideration, are the possible market changes from any incremental improvements in rail journey time. The significant change in rail's market share for traffic between Glasgow and London reflected both a general shift in the market which was happening in this period, but specifically the completion in December 2008 of the West Coast Main Line upgrade. Also, when Virgin Trains East Coast get more of their service times between Edinburgh and London down to four hours, which is the intention from 2018 ²⁴, we are likely to see more of the overall market shift across to rail as well. Possibly, the market would split evenly at that point. Another factor which could grow the market, is if open-access operators are allowed to provide additional services.

Now, the clear change in market demand from these improvements, is important in supporting the case for high-speed rail. It is going to take time to build a high-speed line all the way to Scotland; but if we can show that as the line is extended, more and more travellers will use rail to get between the Central Belt and London, then the business case for extension is improved – rather than assuming that Scotland would get no benefits from HS2 until the line reached all the way to Scotland ²⁵.

5. The market in calendar-2015

One final trend in the market should be noted – the strong growth in domestic travel activity in 2015, across a number of sectors, and especially in the context of the last five years. This is also included as an illustration of how quickly market situations can change, and to highlight how the situation for rail needs to be reported in the context of overall travel market activity.

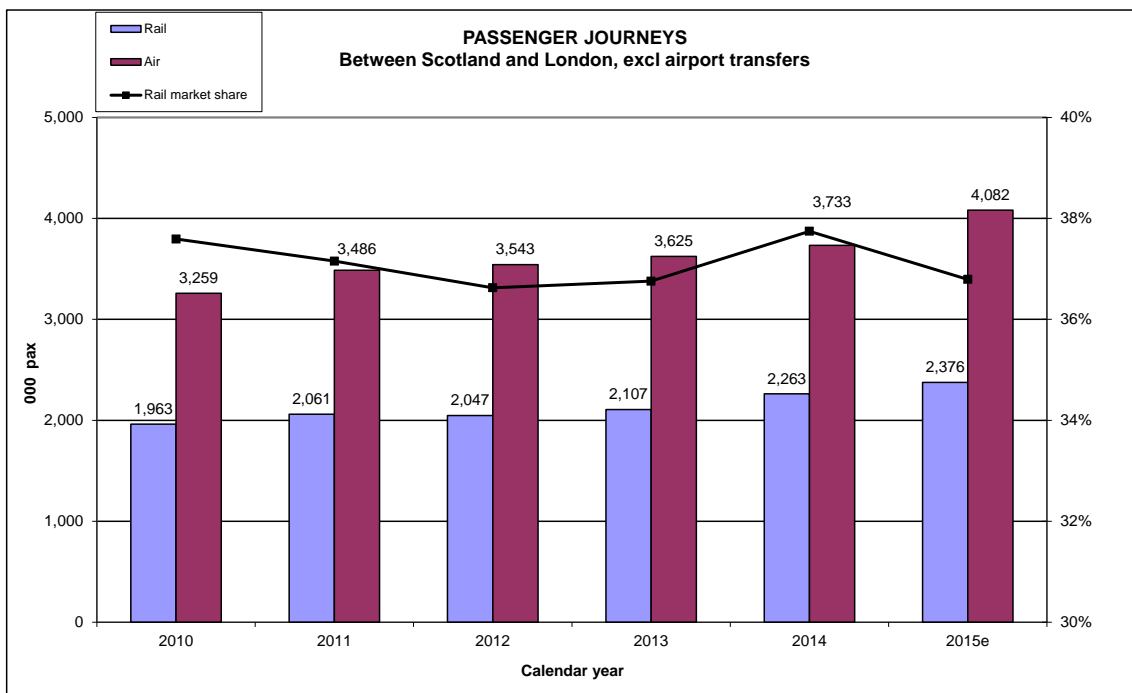
Chart 11a The last five years – overall



Domestic cross-border air travel grew 5.7 percent, compared with 4.0 percent (projected) growth for domestic cross-border rail travel.

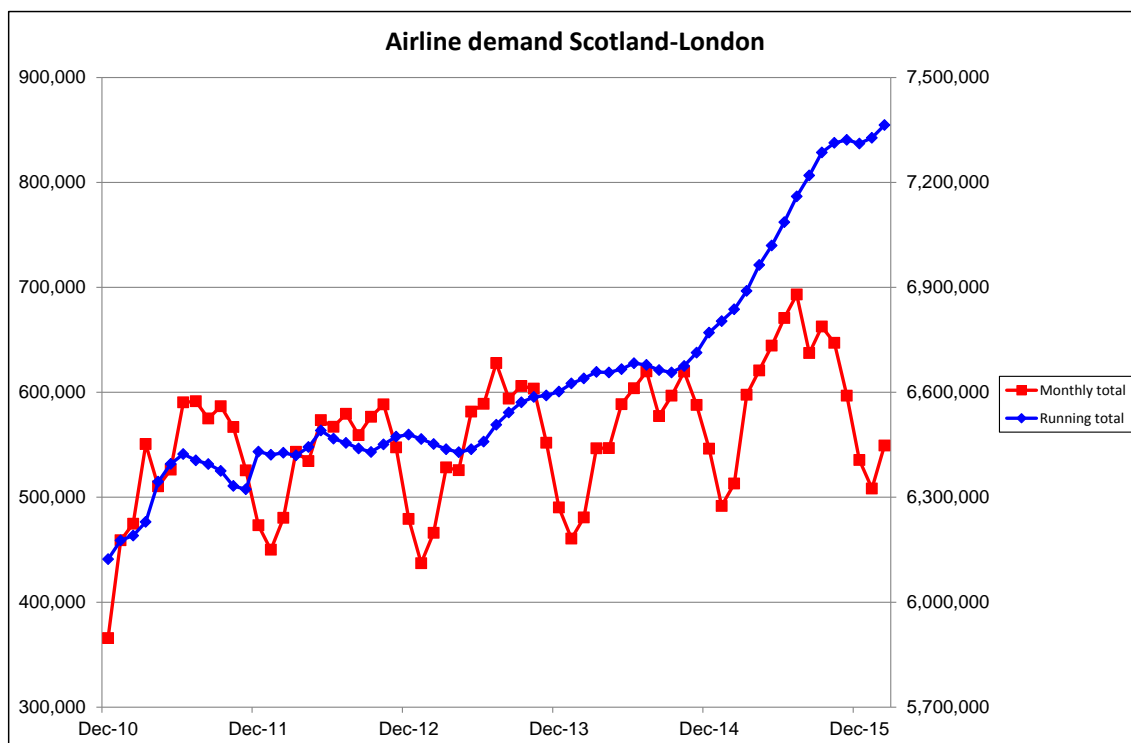
The change is also apparent when looking at traffic between Scotland and London:

Chart 11b The last five years – to London



The sharp growth in airline volumes can be traced in part to Ryanair commencing services to Stansted (Edinburgh and Glasgow), and this has been also helped by decreases in domestic airfares from lower oil prices. This situation can be further illustrated from the current by-month data:

Chart 12 Trends in airline volumes, by month, to London; excluding interlining traffic



Confirmed actuals to December 2015, preliminary data to February 2016 thereafter

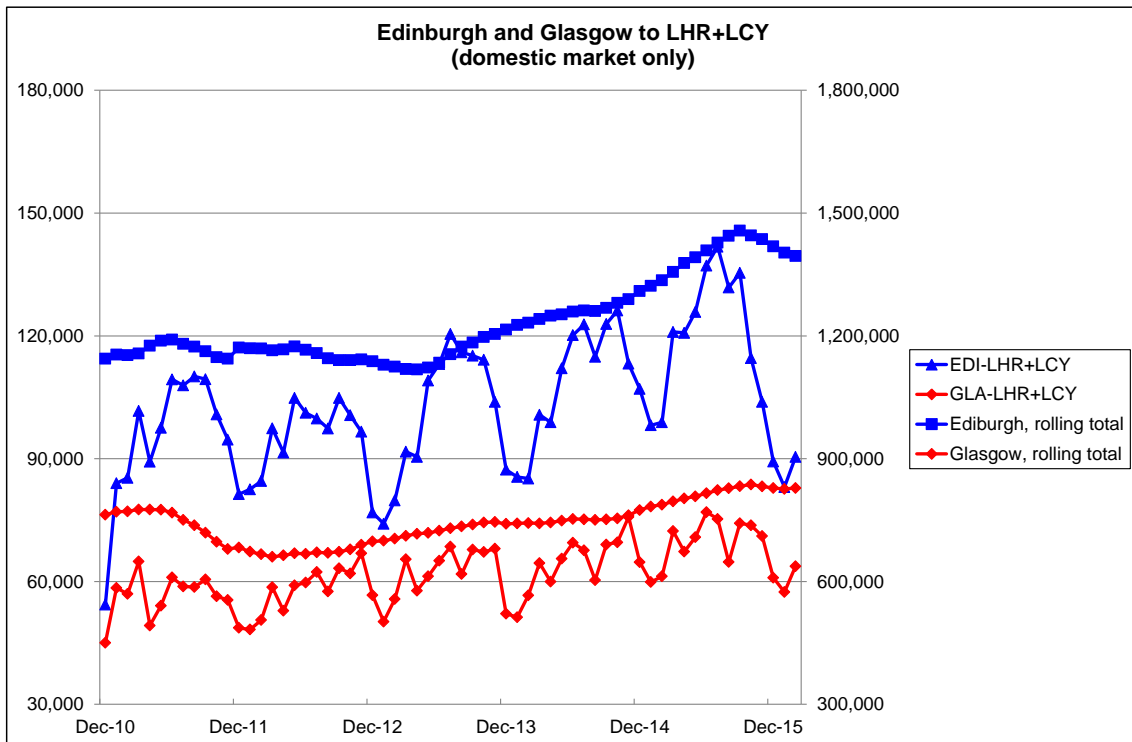
The apparent ‘crest of the wave’ at the end of calendar-2015 reflects the end of Virgin Atlantic services to Heathrow; as their departure appears to be limiting growth in the overall market for the moment

Why has the situation for the airlines turned around, and seemingly so quickly?

One possible explanation is that airline activity is more sensitive than the rail market to the overall business cycle; certainly, as the economy has recovered post-2010, the specific volume of airline traffic has increased by somewhat more than the equivalent volume of rail traffic, and this is across the market as a whole. This answer would also explain why during the recession, airline activity fell by more than the equivalent rail activity; and why the Scotland-to-North of England market, with less business activity anyway, held up better than other markets did. Certainly, rail carries much less of the business market than air, and less of its own traffic is travelling on business. Virgin Trains East Coast announced in May 2015 that they were aiming to develop their market amongst business travellers²⁶. While this is a sensible business initiative – the traffic is a high-yield one – there is clearly plenty of scope for growing this market²⁷.

Now, if the airlines carry more business traffic, then it could also be argued that their demand is more sensitive to the specific business cycle than to changes in household incomes. This is made more clear when we look at the sum of demand for traffic to Heathrow and London City. These markets can be looked at together because both are high-yield when compared with traffic to Gatwick, and because of their traffic makeup: 15 percent of Gatwick’s overall traffic is business, compared with 35 percent for Heathrow and 55 percent for London City²⁸. What is clear is that a significant volume of traffic which used to fly to London through Heathrow, now does so through London City.

Chart 13 The last five years: trends in the market to the ‘business’ airports



This includes only the domestic part of the Heathrow traffic to Glasgow and Edinburgh. Confirmed to December-2015, preliminary thereafter.

The distinction is important because it helps us understand where the market drivers arise – “the customer determines the market” – and also helps us to understand where we can encourage growth in the use of rail. This is borne out by looking specifically at London City. In the last three years the volume of Scottish traffic going through the airport has increased by sixty percent

Chart 14a The growing importance for Scotland of London City – over time

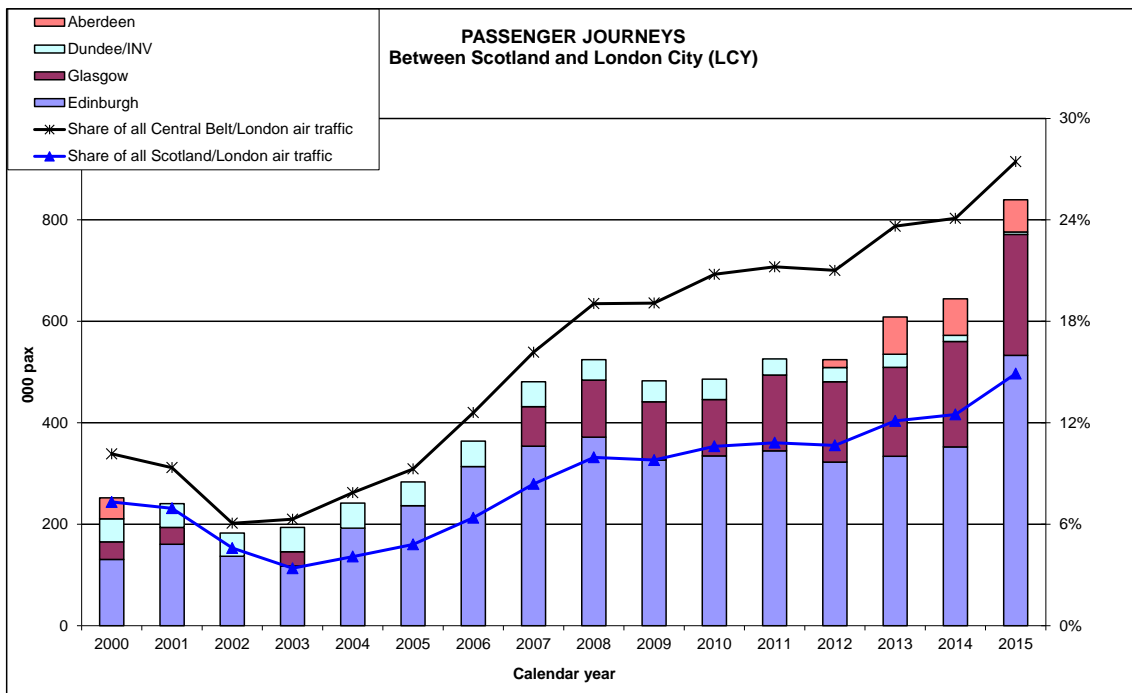
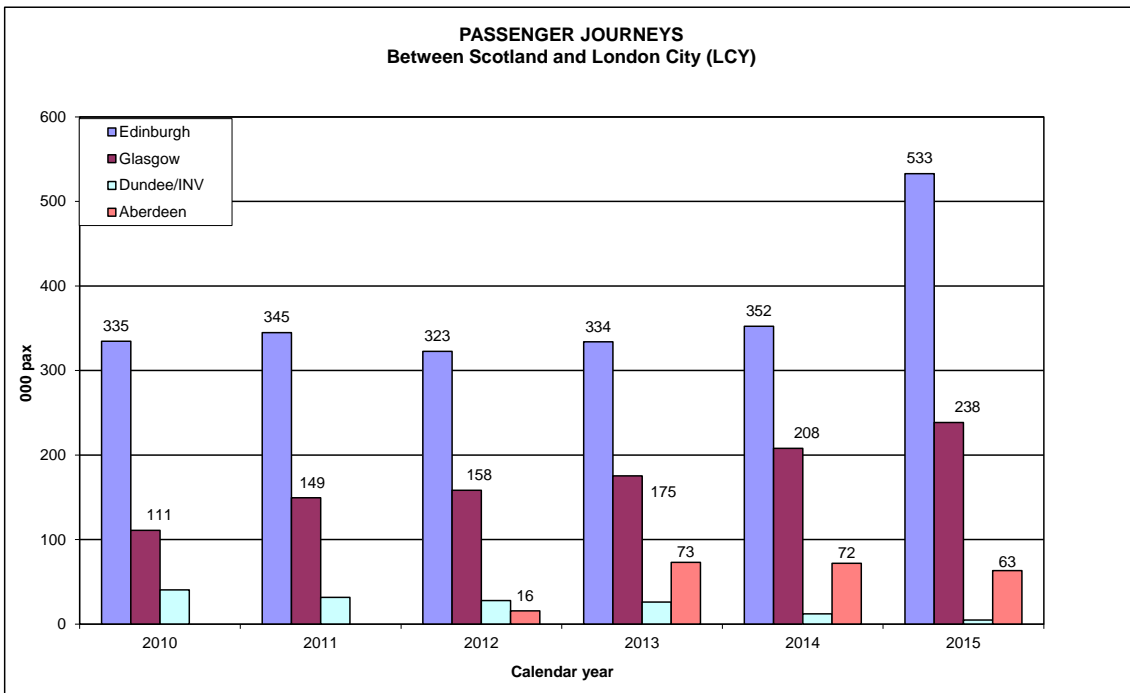


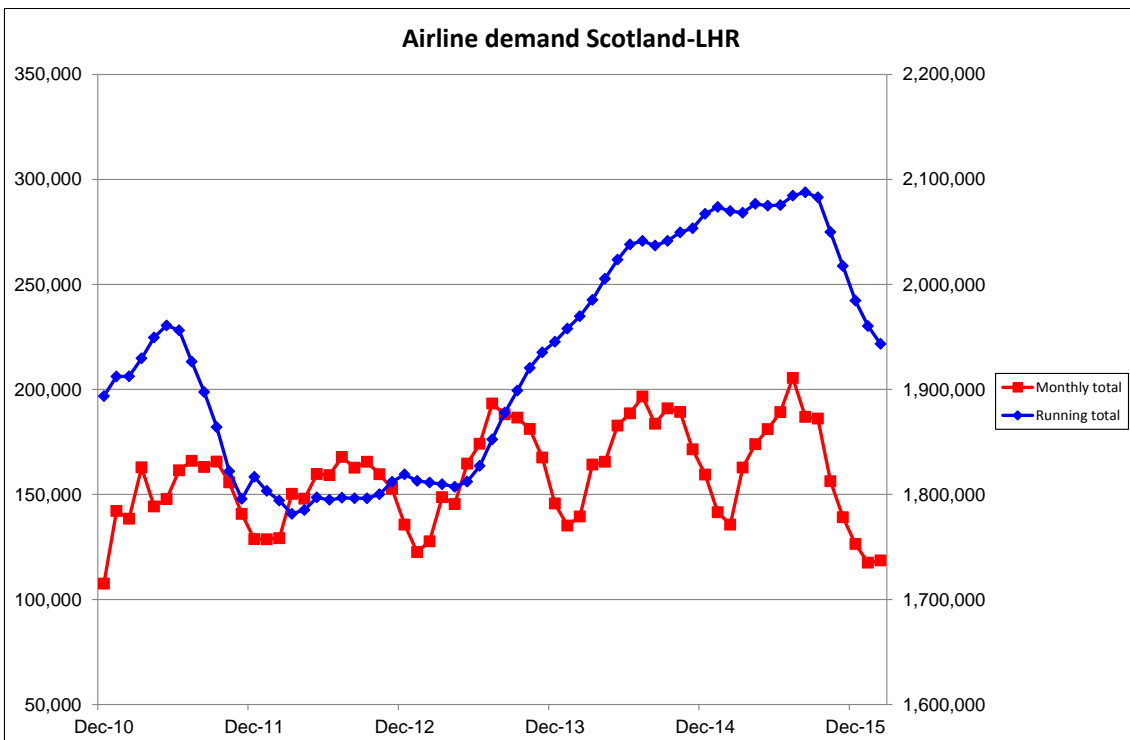
Chart 14b The growing importance for Scotland of London City – detail since 2010



That is, while Edinburgh’s traffic to London City has grown very significant in the last year, by just over half, Glasgow’s traffic has been growing consistently as well.

It is also important to keep this in mind when considering the traffic volumes between Scotland and Heathrow. The end of Virgin Atlantic services between Edinburgh and Heathrow, and Aberdeen and Heathrow, has led to significant falls in volumes between Scotland and Heathrow:

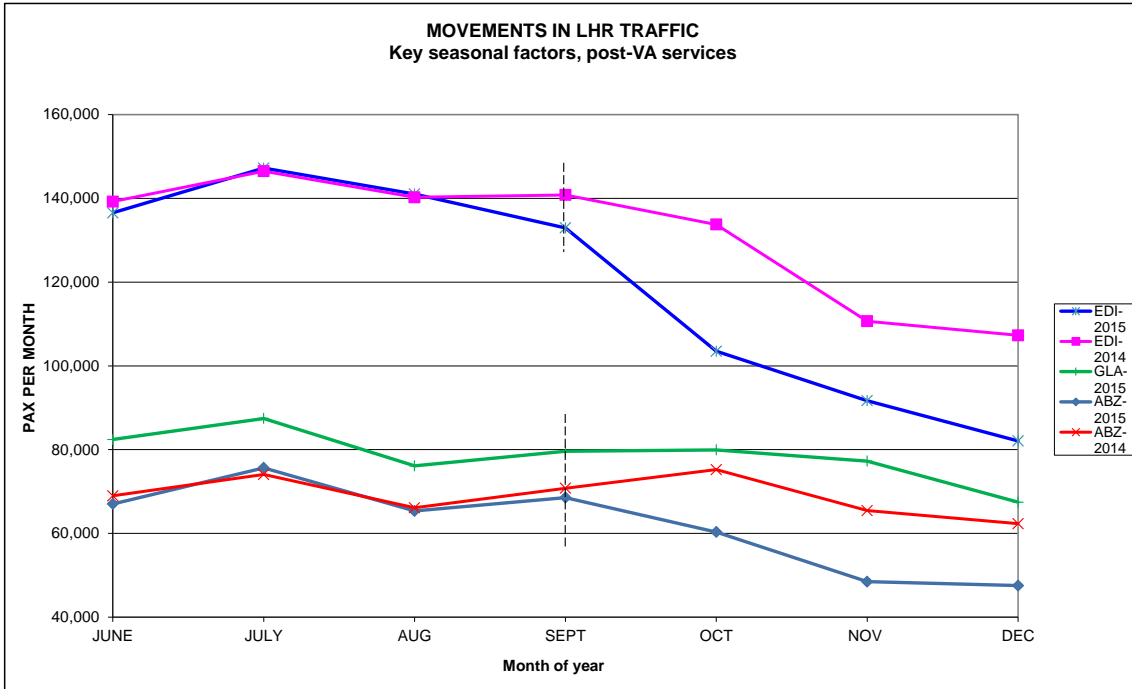
Chart 15a Trends in airline volumes, by month, to Heathrow; excluding interlining traffic



Confirmed actuals to December 2015, preliminary data to February 2016 thereafter

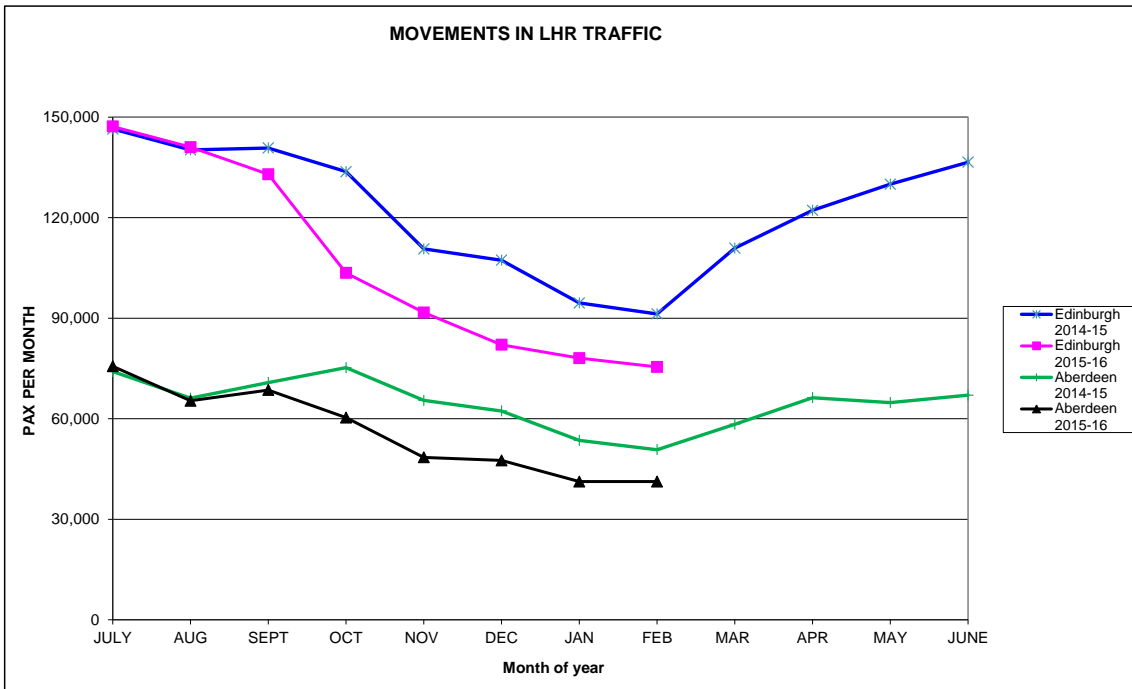
Now, we can also show the by-month situation for Heathrow's demand, by airport. This chart shows the travel patterns for the second half of last year, compared with the year before.

Chart 15b Seasonality in Heathrow demand – by month, and post VA's exit



Glasgow's Heathrow traffic patterns are included for reference.

Chart 15c Seasonality in Heathrow demand – by month, and post VA's exit – since July-14



This shows the travel patterns based on a full June year. Confirmed to December 2015, preliminary thereafter

That is, over the five months for which we have data (October 2015-February 2016), Edinburgh's total Heathrow traffic is down 20 percent, and Aberdeen's about 22 percent.

What is not clear as yet, is where this traffic is diverting to. Virgin Atlantic was carrying about half a million passengers per year between Edinburgh and Heathrow, and Aberdeen and Heathrow. BA appears to have captured some of this traffic on its existing services; Virgin Atlantic had some higher-yield business traffic and some interlining traffic, so it is certainly in BA's commercial interest to want to secure this market. The remainder, though, seems to have been lower-yield²⁹. Edinburgh's total London air traffic volumes are holding up; Aberdeen's are under pressure because of its localised recession. It may be that the remainder of Virgin's Edinburgh air traffic is now taking the train, but we will have to wait for more data to confirm this judgement.

CONCLUSION

This paper looks at the trends in the cross-border rail market (that is, between Scotland and the rest of Great Britain), over the last fifteen years. It documents the factors which have contributed to the growth and includes evidence from the airline markets as they have been affected by the changes in the rail market. It shows that rail's growth correlates with improved standards of service, and problems in airline and airport services; but it also shows that that shift of traffic from air to rail only happened where a time-competitive rail option was available. Further, the paper shows that neither the rail nor the air markets are homogeneous, and changes within the markets as a whole are made up of a series of individual market changes. Finally, the paper confirms that a policy objective of more and faster cross-border rail services, is complementary to a policy objective of improved air services between Scotland and Heathrow.

Acknowledgements

The assistance of colleagues in the Scottish Government in the preparation of this paper is acknowledged, and was gratefully received, but the usual caveat about the final responsibility for any errors and/or omissions remaining with the author still applies!

References

Clark, Ross, (2008), "Examining the wider context of rail-air competition between Scotland and England & Wales", presented at the 4th *Scottish Transport Applications and Research (STAR)* Conference, Glasgow, April 2008. Web reference: http://www.stsg.org/star/2008/Ross_Clark.pdf

Clark, Ross (2009), "Examining the wider context of rail-air competition between Scotland and England & Wales – update to end-2008", presented at the *Transport Practitioners' Meeting*, Reading, July 2009 (.pdf copy available via the writer).

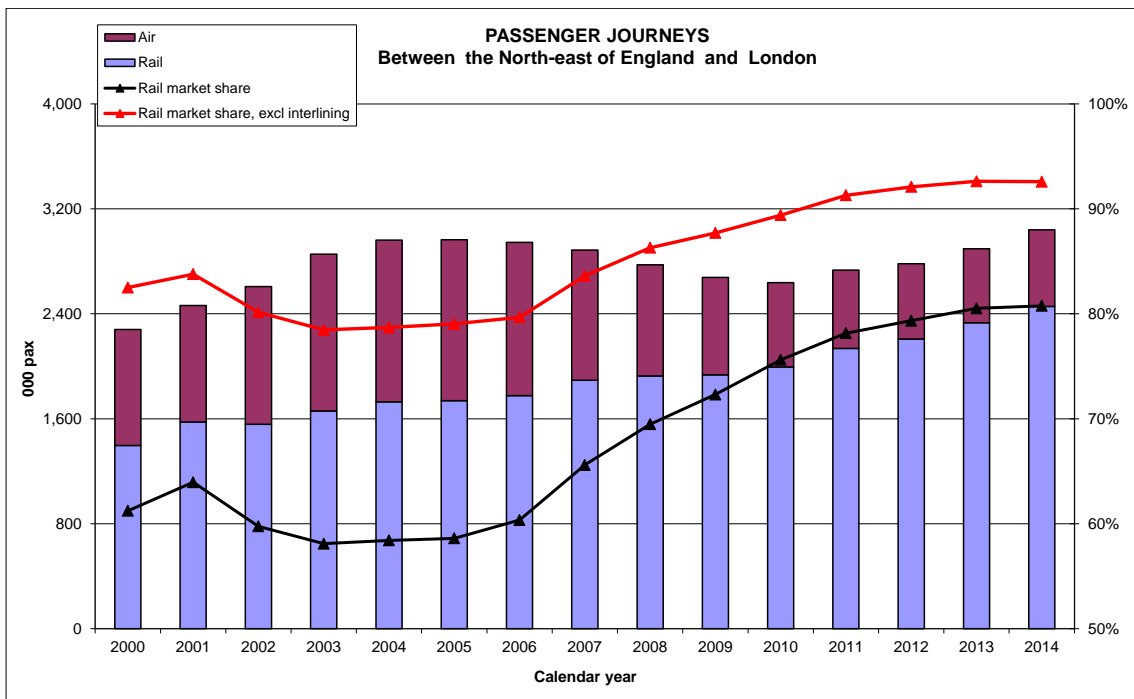
Clark, Ross (2013) "The still-flying Scotsman: trends since 2000 in the Scottish aviation market". Presented at the 9th *Scottish Transport Applications and Research (STAR)* Conference, Glasgow, April 2013. Web reference: <http://www.stsg.org/star/2013//Clark.pdf>

Clark, Ross (2014), "The optional dawn horror: explaining the trends in Scottish access to London Heathrow Airport (LHR) in the last ten years". Presented at the 10th *Scottish Transport Applications and Research (STAR)* Conference, Glasgow, May 2014. Web reference: <http://www.starconference.org.uk/star/2014/Clark.pdf>

Warren, Jolin and Calum McCallum (2008), "Attracting business travellers from air to rail". Presented at the 4th *Scottish Transport Applications and Research (STAR)* Conference, Glasgow, April 2008. Web reference: http://www.starconference.org.uk/star/2008/Jolin_Warren.pdf

Endnotes

- ¹ *Scotland's Railways* can be accessed as follows:
http://www.transportscotland.gov.uk/sites/default/files/documents/rrd_reports/uploaded_reports/j8034/j8034.pdf. This particular quote is from section 8.8 of the document.
- ² The *National Transport Strategy* can be accessed as follows:
<http://www.gov.scot/Resource/Doc/157751/0042649.pdf>. This particular quote is in para. 88. As of January 2016, a refresh of this document is under way: refer,
<http://www.transportscotland.gov.uk/report/national-transport-strategy-nts-8780>.
- ³ Clark, Ross, (2008), "Examining the wider context of rail-air competition between Scotland and England & Wales", presented at the 4th *Scottish Transport Applications and Research* (STAR) Conference, Glasgow, April 2008. http://www.stsg.org/star/2008/Ross_Clark.pdf
- ⁴ Clark, Ross (2009), "Examining the wider context of rail-air competition between Scotland and England & Wales – update to end-2008", presented at the *Transport Practitioners' Meeting*, Reading, July 2009 (.pdf copy available from the writer).
- ⁵ For comparison, one can note both the extent and the trends in rail's market share along the Northeast-London market, and where rail's journey time is comparable to that between Scotland and the North:



- ⁶ Refer here for more details on that incident:
http://en.wikipedia.org/wiki/2010_eruptions_of_Eyjafjallaj%C3%B6kull
This separate article discusses the impacts of the eruption on air navigation:
http://en.wikipedia.org/wiki/Air_travel_disruption_after_the_2010_Eyjafjallaj%C3%B6kull_eruption
- ⁷ This is discussed further in Clark, 2008. In that paper I argued that the substantial growth in aviation demand over the period 1994/95-2006/07, could be explained in terms of; exogenous growth from a growing economy; air traffic *diverted* from rail; and air traffic *generated* from the lower fares. The total volume of growth in air traffic was about equally divided across these three categories (Clark, 2008, Table 2). However, after 2005 what is quite clear is that service issues had much more effect on demand than fares; air fares spiked in January 2009 and went back to their long-term trend by January 2010, but the decrease at that time does not seem to have helped air's market share.
- ⁸ Before mid-2008, there were about 60 return trains per day between Scotland and England. After the end of 2008, this was increased to nearly 70 return trains per day; and by mid-2013, there were about 78 return trains per day, with a significant increase in seat capacity as well. When the new VTEC services commence in May 2016, this will mean more than 80 return trains per day.

⁹ Refer: <http://www.tpexpress.co.uk/about-us/news-blog/news/2008/12/more-rail-services-for-scotland/>
At that stage, the number of daily return trains went from 9 to 11, and now sits at 14, with an increase in capacity from three to four carriages per train.

¹⁰ Refer here for more details on this incident:

http://en.wikipedia.org/wiki/2006_transatlantic_aircraft_plot

¹¹ As early as January 2008, a CAA report had identified security restrictions as, "... having had a particularly severe effect on shorter-distance routes where rail services provide an attractive alternative to air services" (cited in Clark, 2008; section 1.4). The CAA document referred to was, "Recent trends in growth of UK air passenger demand", CAA, January 2008 (not now available on-line).

¹² Refer here to these two web pages for customers' comments on either airport:

<http://www.airlinequality.com/airport-reviews/edinburgh-airport/> (for Edinburgh); and,

<http://www.airlinequality.com/airport-reviews/glasgow-airport/> (for Glasgow). Also refer, "Hundreds slam Edinburgh Airport security shambles", *The Scotsman*, 22 June 2015. Web reference:

<http://www.edinburghnews.scotsman.com/news/transport/hundreds-slam-edinburgh-airport-security-shambles-1-3808881>.

¹³ A press statement in October 2015 from the Cabinet Secretary for Infrastructure and the Minister of Transport and Islands, re-iterated that access to the London airport market as a whole is a concern. In the statement, it was observed:

"... That's why we want to see guaranteed levels of access between Scotland and London. The move will not only help our economy and businesses to connect to global markets, but will also ensure that the significant numbers of inbound business passengers and tourists travelling through the London airports to Scotland continue to have that option. The public statements from both Heathrow and Gatwick on the continuing importance of Scotland to their operations have been encouraging, but we now need guarantees from the airports, and from the UK Government if necessary, which reflect that importance alongside the introduction of new and fairer pricing policies". See, "Call for Scottish aviation guarantee", 21 October 2015. Web reference: <http://www.transportscotland.gov.uk/news/call-scottish-aviation-guarantee>

¹⁴ Since the cross-border rail data for Scotland are not broken down by individual catchment within Scotland, a note is needed as to how these values have been derived. They are based on earlier informal advice from the ORR as to the flows from the Edinburgh and Glasgow catchments through to the mid-2000s, and interpolated from there to Virgin's advice for calendar-2014 (for Glasgow), and a Network Rail advice as to the situation in the year to October 2012 (for both Glasgow and Edinburgh). The interpolation was determined with an eye to the reported growth in the market as a whole.

¹⁵ In this respect, note the recent announcement by Virgin Trains East Coast that from May-2015 it will run an additional four return trains a day between Edinburgh and London. "Virgin extends more East Coast trains to Scotland", *Rail News*, 15 February 2016. Reference:

<http://www.railnews.co.uk/news/2016/02/15-virgin-extends-more-east-coast.html>

¹⁶ The Glasgow data do not include the traffic between Prestwick and Stansted. In 2004 this sector carried 591,000 passengers; but over time, the traffic declined, and in the 2011 year the service carried 88,500 passengers, before being cancelled from October 2011. Basically, demand fell as Ryanair added more in the way of direct flights from Glasgow to the international destinations it serves. The reason for the exclusion of this market is that for the most part, the traffic it carried was transferring at Stansted to or from other Ryanair international flights.

¹⁷ Why Luton should have declined by more is unclear. Easyjet was the main carrier serving both destinations until Ryanair commenced operations, and it is possible that Easyjet, facing a general decline in domestic demand after 2005 across both airports, maintained a 'base load' of service into Stansted (that is, the minimum viable frequency), while Luton frequencies declined by more. Another factor which would have affected overall Luton demand, is that as Easyjet added more direct international services out of Scotland, this reduced the demand for service to the Easyjet hub at Luton.

¹⁸ Refer: "Ryanair to begin flying from Glasgow", *BBC News*, 3 July 2014. Web reference:

<http://www.bbc.co.uk/news/uk-scotland-glasgow-west-28132683>

¹⁹ Web reference: <http://www.transportscotland.gov.uk/news/response-to-UK-aviation-policy>.

²⁰ The final form of the strategy was released in March 2013 and can be found here: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/153776/aviation-policy-framework.pdf

²¹ "Transport Minister comments on Airport Commission report", 1 July 2015. Web reference:

<http://www.transportscotland.gov.uk/news/transport-minister-comments-airports-commission-report>

²² It is possible to get a train from the Central Belt to central London and from there to get a Tube out to Heathrow. It just isn't all that convenient or timely, especially with any amount of luggage. Using a coach service to get from Scotland to London and then Heathrow, or even direct to Heathrow, is even more inconvenient, because of journey time factors. Some passengers still do it, though.

²³ The calculations which confirm this judgement are as follows:

Market change – the Central Belt to London (summary of Tables 1a and 1b)

	2004	2014	change	
Heathrow domestic	2,262	1,523	-739	-33%
Other London:				
- Gatwick, from Edinburgh	591	552	-39	-7%
- Gatwick, from Glasgow	317	490	173	54%
- London City	192	560	368	191%
- Luton	782	450	-331	-42%
- Stansted	627	524	-104	-17%
Other London:	2,510	2,576	66	3%
All domestic airline	4,772	4,100	-673	-14%
			↓	
Plus rail (inc. Southeast)	886	1,770	884	100%
Total CB-London & south-east	5,659	5,870	212	4%

	2004	2014	change	
Heathrow lost domestic traffic overall:	2,262	1,523	-739	-33%
It lost traffic to London City	192	560	368	191%
It lost traffic to Gatwick, in Glasgow's case	317	490	173	54%
	510	1,050	540	106%
So, the remaining Heathrow market decline was to rail:			198	
Which also got traffic from Edinburgh-Gatwick			39	
Which also got traffic from Luton			331	
Which also got traffic from Stansted			<u>104</u>	
			673	
Now, its overall market grew:			884	
So its natural market growth (from its own improvements) was:			212	qed

²⁴ "Platform for the future", *The Scotsman*, 4 August 2015. Web reference:

<http://www.scotsman.com/sponsored?mvi=4dcd337df973468cba47e7bf9a4ce85c#!/> . Also:

<http://www.bbc.co.uk/news/uk-scotland-edinburgh-east-fife-35842408>

²⁵ The most up-to-date assessment of high-speed rail to Scotland, as-at date of writing, can be found here: High-Speed Two Ltd, "Broad Options for upgraded and high-speed rail to the North of England and Scotland", published 21 March 2016. Web reference:

<https://www.gov.uk/government/publications/broad-options-for-upgraded-and-high-speed-railways-to-the-north-of-england-and-scotland>. Refer also to: Scottish Government, "Three hour Scotland/London rail journeys on track" 21 March 2016. Web reference: <http://www.transport.gov.scot/news/three-hour-scotlandlondon-rail-journeys-track>

²⁶ “Virgin Trains East Coast unveils plans to grow business travel”, *Buying Business Travel*, 19 May 2015. Web reference: <http://buyingbusinesstravel.com/news/1924199-virgin-trains-east-coast-unveils-plans-grow-business-travel>

²⁷ This is hardly an original observation. Refer Warren, Jolin and Calum McCallum (2008), “Attracting business travellers from air to rail”, presented at the 4th *Scottish Transport Applications and Research* (STAR) Conference, Glasgow, April 2008. Web reference: http://www.starconference.org.uk/star/2008/Jolin_Warren.pdf

²⁸ These data are sourced from a presentation to the Runways 2015 conference in London, in July 2015, and are reporting overall CAA data (more details available from www.runwaysuk.com).

²⁹ Simon Calder, “Virgin domestic flights a disaster as passengers stick with no-frills rivals”, *The Independent*, 10 October 2013. Web reference: <http://www.independent.co.uk/travel/news-and-advice/virgin-domestic-flights-a-disaster-as-passengers-stick-with-no-frills-rivals-8872505.html>. Also, “British Airways: fury as airline regains monopoly on flights between Heathrow and Scotland”. *The Independent*, 25th September 2015. Web reference (at the time): <http://www.independent.co.uk/news/business/news/british-airways-fury-as-airline-regains-monopoly-on-flights-between-heathrow-and-scotland-10517037.html>. If that link doesn’t work this writer has a printed copy of the piece.
