



ASSOCIATION of TRAIN OPERATING COMPANIES

# Ten-year European Rail Growth Trends

**A study by the Association of  
Train Operating Companies**

# Introduction

This report follows on from the Ten-Year European Rail Growth Trends paper that The Association of Train Operating Companies (ATOC) published in July 2006, which highlighted the unprecedented levels of growth on Britain's railways since the early to mid-1990's.

Growth continues at a high level. In 2006 a total of 45.6 billion passenger kilometres were travelled, an increase of 6.5% compared to twelve months earlier. In the past decade passenger kilometres have risen by 42.2% - the highest in Europe - and now are at a higher level than at any time since 1946, when they stood at 47 billion.

Passenger journeys in 2006 increased by 6.7% to 1 billion and 147 million (again to a level not seen since 1946), the highest rate of growth of any of the countries studied except Ireland. Over the past decade passenger journeys have risen by 43.6% in all.

There is an average of 3.15 million carried daily on Britain's rail network. Only Germany carried more passengers in 2006, on a network significantly bigger than Britain's, and there were 130 million more journeys made than in France, which has a similar population. Over 19,800 scheduled passenger services were operated each weekday during 2006, an increase of 14.5% since 1996.

Freight traffic continues to grow massively - up 60.7% in terms of tonne kilometres since the early 1990's, making Britain the fourth highest haulier in Europe. There was an increase of 3.5% in 2006 compared with the previous 12 months.

## Methodology

The study looked at the growth performance of Britain's railways compared with those of a wide range of countries in mainland Europe in 2006. To derive a representative comparison we used a "Base Year" comparator, this being the average of the three years 1995, 1996 and 1997, since the choice of a single individual year would disproportionately affect the results. This paper compares the performance of 2006 with this "Base".

The countries covered in this study include:

Austria	Germany
Belgium	Hungary
Czech Republic	Ireland
Denmark (DSB only – passenger: Railion DK – freight)	Italy
Great Britain	Norway
Holland (NS only – passenger: Railion NL - freight)	Poland
Finland	Portugal
France	Spain
	Sweden
	Switzerland (SBB)

## Acknowledgements

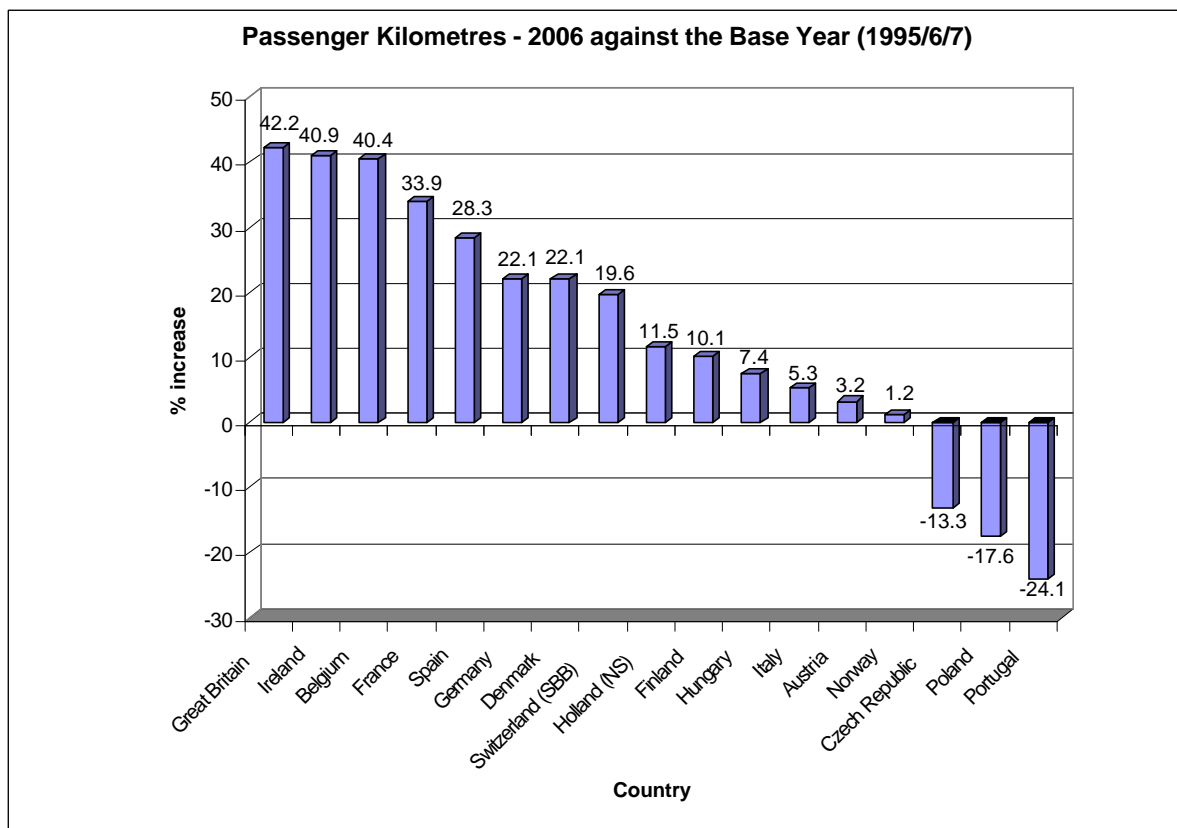
We are grateful to the International Union of Railways (UIC), the Office of Rail Regulation and ATOC's Commercial Analysis Unit for providing the raw data used in this study.

# 1. Growth in Passenger Kilometres

There has been a very high level of growth in the number of passenger kilometres travelled on Britain's railways over the past decade.

In the notional Base Year with which comparisons were made (an average of 1995, 1996 and 1997) a total of 32.07 billion kilometres were achieved. This had increased to 45.6 billion by 2006, a rise of 42.2% - the highest of the countries studied. The four next fastest growing countries over the same period were Ireland (40.9%), Belgium (40.4%), France (33.9%) and Spain (28.3%). See Figure 1/Appendix Table 1.

Figure 1



At the other end of the scale, there have been major reductions in travel in Portugal over the same period (-24.1%) and in two of the major eastern European countries, the Czech Republic and Poland, which lost 13.3% and 17.6% respectively.

In the UK growth has been high in all business sectors but particularly impressive in London and south east, with passenger kilometres rising by 47.2% (up from 14.6 to 21.5 billion) in the notional Base Year to 2006. In the long distance market the increase was 36.0% - from 11.1 to 15.1 billion, whilst on Regional services the increase was 39.3% (6.1 to 8.5 billion).

Britain also achieved the highest year-on-year growth (6.5%) in 2006 compared to the previous year. Switzerland achieved 5.5% while the major networks in Germany and France both achieved 3%. Spain's passenger kilometres rose by 2.4% and Italy's by a mere 0.6%.

## **2. Growth in Passenger Journeys**

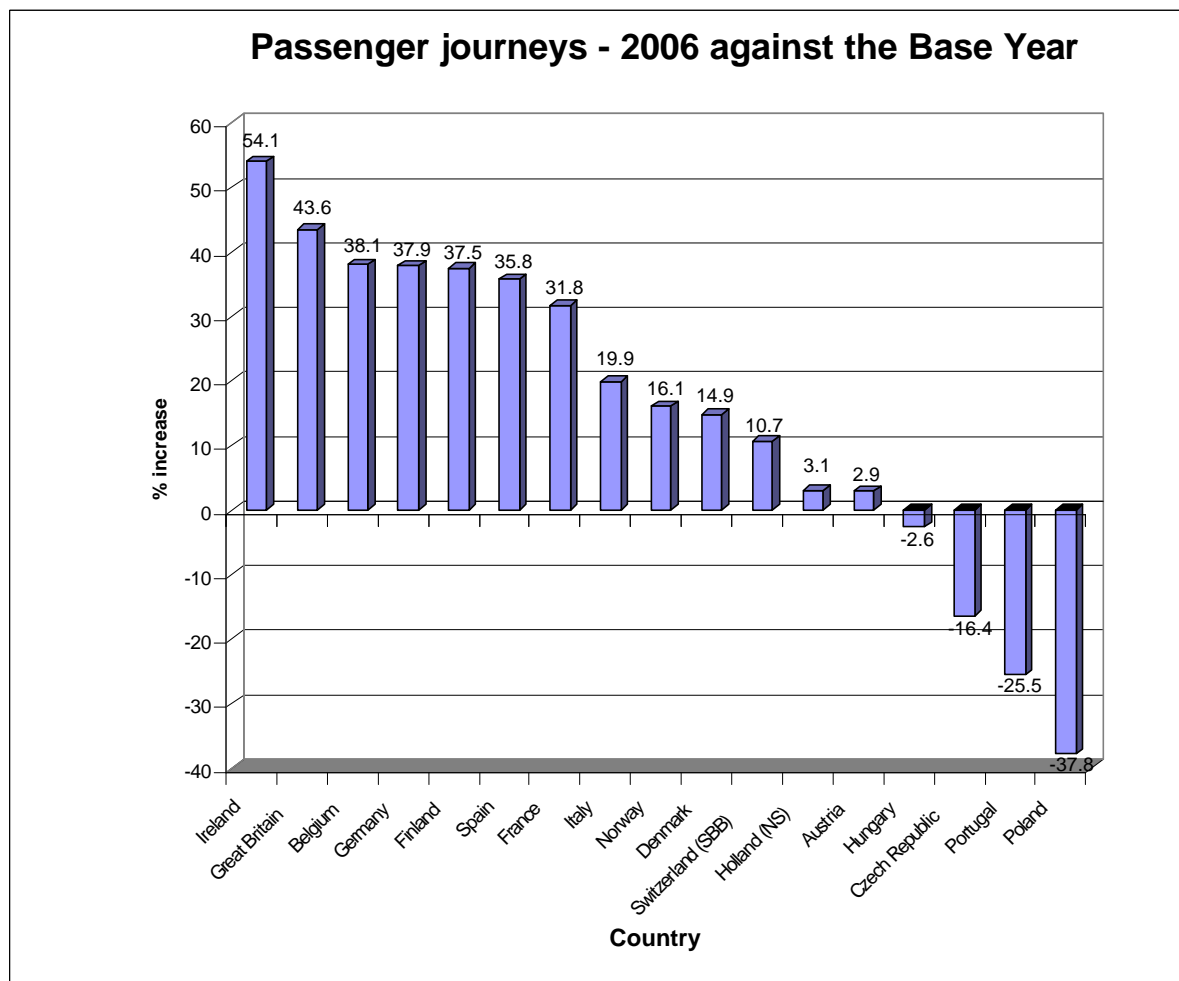
**Britain's rail network performance in growing its passenger journeys is also very impressive. In 2006 a total of 1,147 million journeys were undertaken, an increase of 6.7% during the year and of 43.6% since the notional Base Year.**

The only rail network with a higher level of journeys growth - 54.1% - was Ireland (but on a very small railway by comparison – Britain achieves the same number of journeys as annually in Ireland in only 15 days). The next highest levels of growth occurred in Belgium (38.1%), Germany (37.9%) and Finland (37.5%). France and Italy achieved 31.8% and 19.9% respectively.

In the UK growth has been high in all business sectors but particularly impressive in the long distance market, with journeys rising by 64.7% (up from 58.3 to 96 million) in the notional Base Year to 2006. In the London and south east commuter area the increase was 41.5% - from 538.6 to 762 million, whilst on Regional services the increase was 47.1% (195 to 287 million).

Only in Germany were more passengers carried than in Britain in 2006 on a network significantly bigger than ours, and there were 130 million more journeys made than in France, which has virtually the same population. See Figure 2/ Appendix Table 2.

Figure 2



### 3. Other Passenger Characteristics of National Railways

In order to aid further comparisons with mainland European railways the study looked into other travel characteristics:

- (i) average passenger journey length
- (ii) passenger kilometres/journeys per head of population

#### 3.1 Average passenger journey lengths

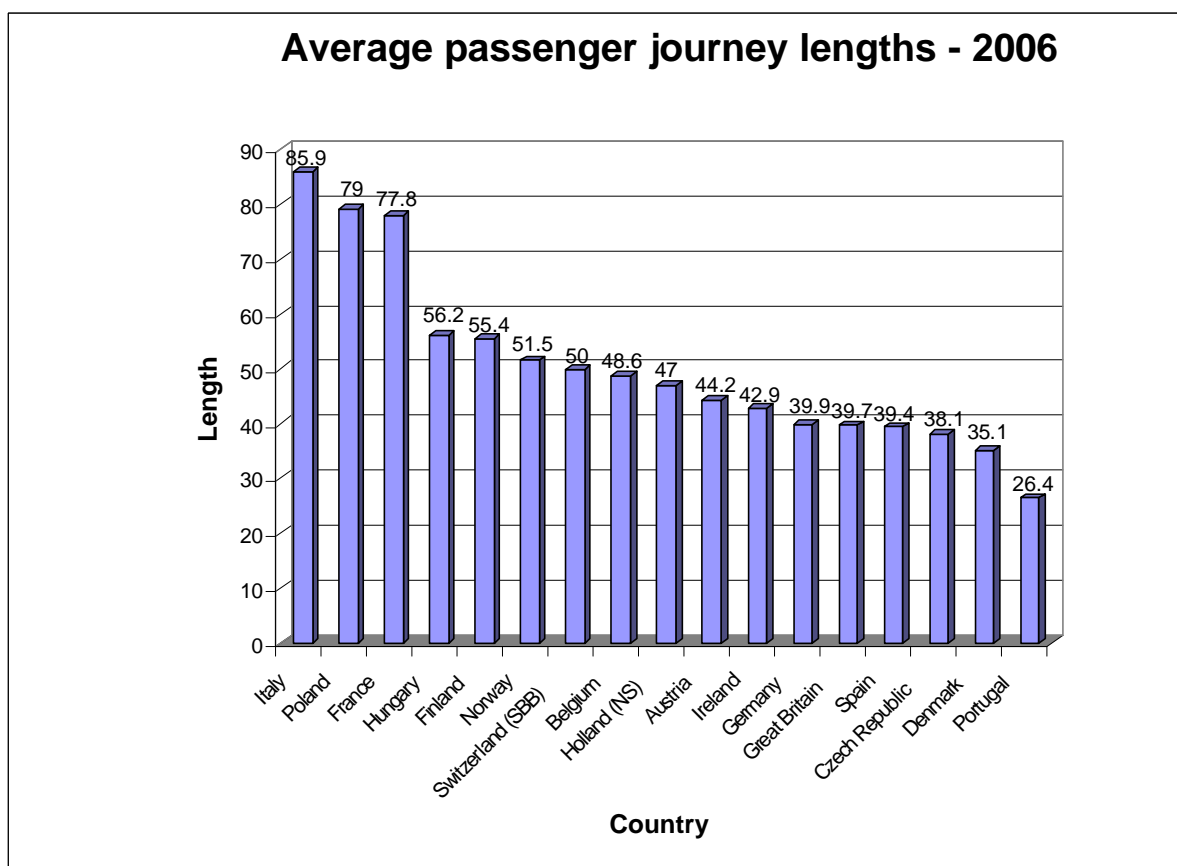
As can be seen from Figure 3/Appendix Table 3 the average passenger journey length varies considerably throughout Europe as a whole. The Italians continue to travel furthest when they make journeys by rail (85.9km), though this is

down 12.2% from 97.8km in the Base Year. The relatively few heavy commuter flows and a substantial proportion of long distance inter-city travel in Italy accounts for this. At the other of the scale in Portugal passengers only travel 26.4km per journey on average when they take the train.

On the three busiest networks in terms of journeys undertaken (see Appendix Table 2), the average journey length in France is virtually twice that of both Britain and Germany - reflecting the more advanced development of their high speed long distance network. Britain's average journey length has not changed significantly over the past ten years (down 1.1% from 40.2km to 39.7km). Germany's has actually dropped 19% to 39.9 from 45.1km, whilst France's has risen by 1.7% from 76.5 to 77.8km.

Britain's geographical size mitigates against our achieving a high proportion of journeys being long distance compared to France - which is over twice the size of Britain - and Germany, which is almost 50% larger.

**Figure 3**



### 3.2 Passenger kilometres/journeys per head of population

In terms of passenger kilometres and passenger journeys per head of population Britain remains in the mid-range of the countries studied (Figures 4 and 5/ Appendix Tables 4 and 5). In 2006 Britons travelled on average 776 kilometres by rail during the course of the year and made a total of 19.5 journeys each – slightly more than in France (16.5) but fewer than the Germans (22.5). The Italians, though, travelled significantly less frequently (only 9.1 journeys on average each) during the year. Switzerland came out top on both measures – the Swiss travelled on average a total of 1901 kilometres in 2006 and made 38 journeys.

Figure 4

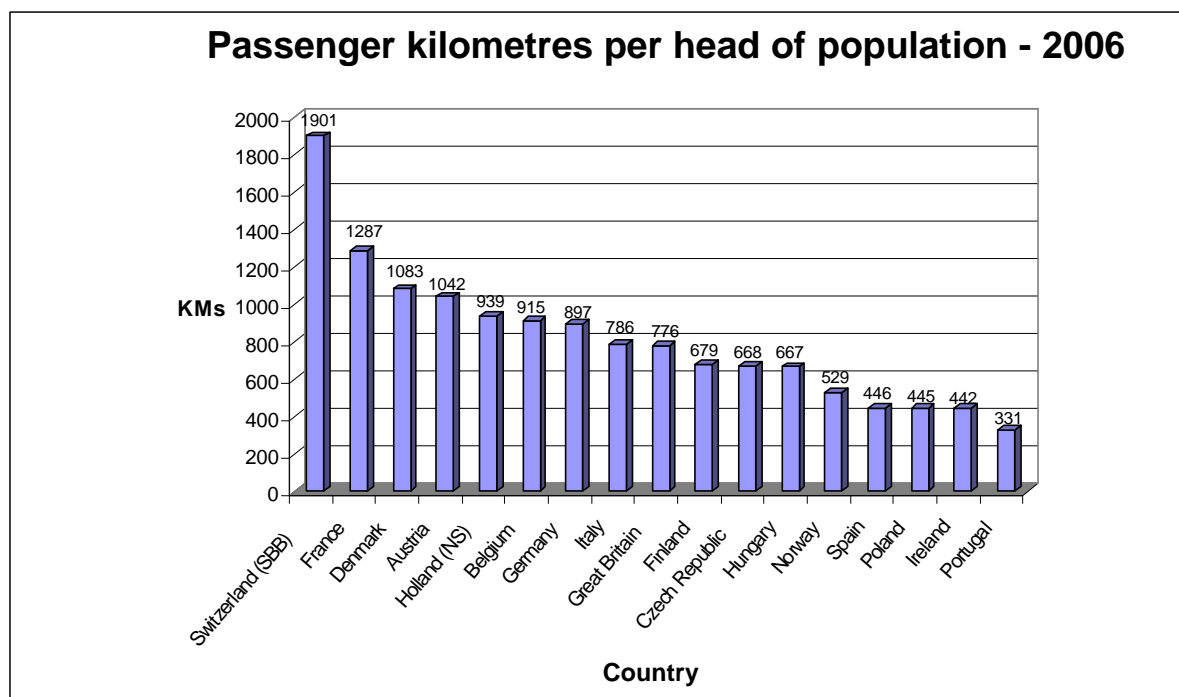
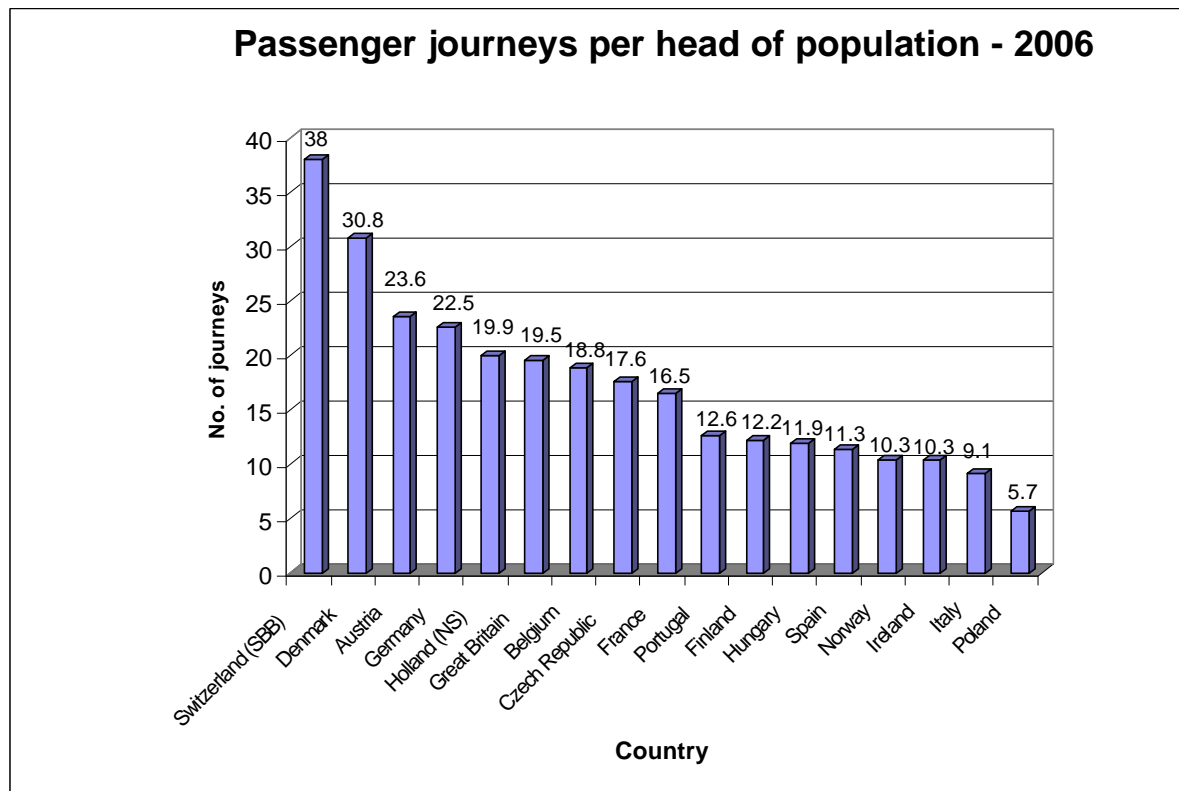


Figure 5

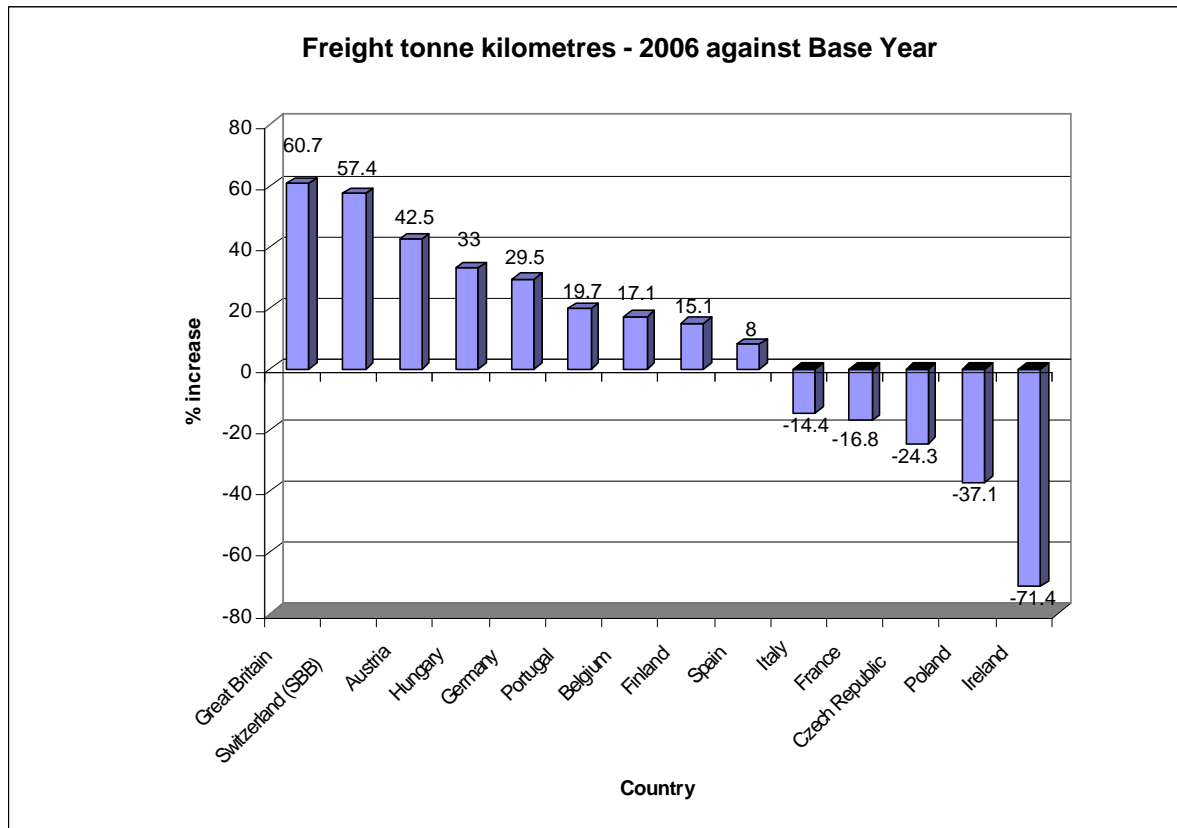


#### 4. Freight tonne kilometres

The growth of the freight sector in Britain has been very strong. There has been an increase in the freight kilometre performance since the Base Year of 60.7% - see Figure 6/Appendix Table 6. In 2006 22.18 billion tonne kilometres were achieved against 13.8 billion a decade earlier. The absolute tonnage of freight is only slightly higher than a decade earlier (8%), but the traffic that is being conveyed is travelling considerably further.

Britain's increase in traffic is by far the biggest in Europe over the ten year period, the next highest growth coming in Switzerland (57.4%), Austria (42.5%) – both of which cater for high levels of international traffic – and Hungary (33%). Freight in Germany (including Railion DK and Railion NL) has risen by 29.5% but there have been significant reductions in Italy and France (14.4% and 16.8% respectively). Two of the major east European countries, the Czech Republic and Poland, have lost traffic heavily, whilst just over 70% of the Irish Republic's traffic has been lost over the past decade.

**Figure 6**



## 5. Conclusion

Over the past decade the railways of Britain have grown faster than in any other European country.

In the decade to 2006 passenger kilometres have risen to a total of 45.6 billion (42.2%) - the highest rate of growth in Europe - and now are at a higher level than at any time since 1946, when they stood at 47 billion. The next best performers were Ireland (40.9%), Belgium (40.4%) and France (33.9%). In contrast, Germany only achieved 22.1% and Italy 5.3%.

How to accommodate this and future growth is one of the biggest challenges the industry has to face over the next few years. Capacity improvements involving low levels of expenditure will have to be combined with skilfully focused major infrastructure enhancements if this growth is the accommodated efficiently. The Government's rail White Paper published in July 2007 ("Delivering a Sustainable

Railway”) specifies an increase in capacity to cope with growth of 22.5% up to 2014 and allows for a potential doubling of capacity over the next 30 years.

A range of measures is set out in the White Paper which will meet the capacity challenge. These include the provision of 1300 new train carriages, the implementation of the Thameslink upgrade through central London, other major station works at Reading and Birmingham New Street and an ambitious programme of enhanced infrastructure to increase both train capacity and frequency, station redevelopment, the elimination of network capacity pinch-points, major power supply upgrades and improved train depot facilities. In addition there are significant investments planned in the White Paper that will deliver capacity improvements beyond 2014, including radio based signalling and the new Intercity Express trains, which will replace in the first instance the trains presently operating on the East Coast and Great Western Main Lines.

# Appendix

**Table 1****Passenger kilometres - 2006 against the Base Year \***

<b>Passenger kilometres (billions)</b>	<b>2006</b>	<b>Base Year</b>	<b>% increase</b>
<b>Great Britain</b>	<b>45.60</b>	<b>32.07</b>	<b>42.2</b>
<b>Ireland</b>	<b>1.86</b>	<b>1.32</b>	<b>40.9</b>
<b>Belgium</b>	<b>9.61</b>	<b>6.84</b>	<b>40.4</b>
<b>France</b>	<b>78.78</b>	<b>58.80</b>	<b>33.9</b>
<b>Spain</b>	<b>20.31</b>	<b>15.83</b>	<b>28.3</b>
<b>Germany</b>	<b>73.96</b>	<b>60.55</b>	<b>22.1</b>
<b>Denmark</b>	<b>5.85</b>	<b>4.79</b>	<b>22.1</b>
<b>Switzerland (SBB)</b>	<b>14.26</b>	<b>11.92</b>	<b>19.6</b>
<b>Holland (NS)</b>	<b>15.41</b>	<b>13.82</b>	<b>11.5</b>
<b>Finland</b>	<b>3.60</b>	<b>3.27</b>	<b>10.1</b>
<b>Hungary</b>	<b>6.74</b>	<b>6.27</b>	<b>7.4</b>
<b>Italy</b>	<b>46.43</b>	<b>44.07</b>	<b>5.3</b>
<b>Austria</b>	<b>8.65</b>	<b>8.38</b>	<b>3.2</b>
<b>Norway</b>	<b>2.49</b>	<b>2.46</b>	<b>1.2</b>
<b>Czech Republic</b>	<b>6.89</b>	<b>7.94</b>	<b>-13.3</b>
<b>Poland</b>	<b>16.97</b>	<b>20.57</b>	<b>-17.6</b>
<b>Portugal</b>	<b>3.51</b>	<b>4.62</b>	<b>-24.1</b>
<b>Sweden</b>		<b>Not available</b>	

\* The Base Year is an average of 1995, 1996 and 1997

**Table 2****Passenger journeys - 2006 against the Base Year \***

<b>Passenger journeys (millions)</b>	<b>2006</b>	<b>Base Year</b>	<b>% increase</b>
<b>Ireland</b>	<b>43.3</b>	<b>28.1</b>	<b>54.1</b>
<b>Great Britain</b>	<b>1147.0</b>	<b>798.2</b>	<b>43.6</b>
<b>Belgium</b>	<b>197.5</b>	<b>143.0</b>	<b>38.1</b>
<b>Germany</b>	<b>1853.4</b>	<b>1343.3</b>	<b>37.9</b>
<b>Finland</b>	<b>64.9</b>	<b>47.2</b>	<b>37.5</b>
<b>Spain</b>	<b>515.6</b>	<b>379.5</b>	<b>35.8</b>
<b>France</b>	<b>1013.0</b>	<b>768.2</b>	<b>31.8</b>
<b>Italy</b>	<b>540.2</b>	<b>450.6</b>	<b>19.9</b>
<b>Norway</b>	<b>48.3</b>	<b>41.6</b>	<b>16.1</b>
<b>Denmark</b>	<b>166.4</b>	<b>144.8</b>	<b>14.9</b>
<b>Switzerland (SBB)</b>	<b>285.1</b>	<b>257.9</b>	<b>10.7</b>
<b>Holland (NS)</b>	<b>327.7</b>	<b>318.0</b>	<b>3.1</b>
<b>Austria</b>	<b>195.9</b>	<b>190.4</b>	<b>2.9</b>
<b>Hungary</b>	<b>119.9</b>	<b>123.1</b>	<b>-2.6</b>
<b>Czech Republic</b>	<b>180.9</b>	<b>216.4</b>	<b>-16.4</b>
<b>Portugal</b>	<b>133.2</b>	<b>178.9</b>	<b>-25.5</b>
<b>Poland</b>	<b>217.4</b>	<b>349.4</b>	<b>-37.8</b>
<b>Sweden</b>	<b>Not available</b>		

**\* The Base Year is an average of 1995, 1996 and 1997**

**Table 3****Average passenger journey lengths - 2006 against the Base Year**

<b>Journey length (km)</b>			
	<b>2006</b>	<b>Average 1995/96/97</b>	<b>% increase</b>
<b>Poland</b>	<b>79.0</b>	<b>58.8</b>	<b>34.3</b>
<b>Hungary</b>	<b>56.2</b>	<b>50.9</b>	<b>10.4</b>
<b>Holland (NS)</b>	<b>47.0</b>	<b>43.4</b>	<b>8.2</b>
<b>Switzerland (SBB)</b>	<b>50.0</b>	<b>46.2</b>	<b>8.2</b>
<b>Denmark</b>	<b>35.1</b>	<b>33.1</b>	<b>6.0</b>
<b>France</b>	<b>77.8</b>	<b>76.5</b>	<b>1.7</b>
<b>Belgium</b>	<b>48.6</b>	<b>47.8</b>	<b>1.7</b>
<b>Czech Republic</b>	<b>38.1</b>	<b>36.7</b>	<b>3.8</b>
<b>Austria</b>	<b>44.2</b>	<b>44.0</b>	<b>0.5</b>
<b>Portugal</b>	<b>26.4</b>	<b>35.8</b>	<b>2.3</b>
<b>Great Britain</b>	<b>39.7</b>	<b>40.2</b>	<b>-1.1</b>
<b>Ireland</b>	<b>42.9</b>	<b>47.0</b>	<b>-8.1</b>
<b>Spain</b>	<b>39.4</b>	<b>41.7</b>	<b>-5.5</b>
<b>Italy</b>	<b>85.9</b>	<b>97.8</b>	<b>-12.2</b>
<b>Germany</b>	<b>39.9</b>	<b>45.1</b>	<b>-19.0</b>
<b>Norway</b>	<b>51.5</b>	<b>59.1</b>	<b>-12.8</b>
<b>Finland</b>	<b>55.4</b>	<b>69.3</b>	<b>-20.5</b>
<b>Sweden</b>	<b>Not available</b>		

**\* The Base Year is an average of 1995, 1996 and 1997**

**Table 4****Passenger kilometres per head of population – 2006 cf. 2005**

	<b>2006</b>	<b>2005</b>
<b>Switzerland (SBB)</b>	<b>1901</b>	<b>1814</b>
<b>France</b>	<b>1287</b>	<b>1258</b>
<b>Denmark</b>	<b>1083</b>	<b>1020</b>
<b>Austria</b>	<b>1042</b>	<b>1039</b>
<b>Holland (NS)</b>	<b>939</b>	<b>903</b>
<b>Belgium</b>	<b>915</b>	<b>874</b>
<b>Germany</b>	<b>897</b>	<b>870</b>
<b>Italy</b>	<b>786</b>	<b>785</b>
<b>Great Britain</b>	<b>776</b>	<b>736</b>
<b>Finland</b>	<b>679</b>	<b>661</b>
<b>Czech Republic</b>	<b>668</b>	<b>649</b>
<b>Hungary</b>	<b>667</b>	<b>689</b>
<b>Norway</b>	<b>529</b>	<b>528</b>
<b>Spain</b>	<b>446</b>	<b>456</b>
<b>Poland</b>	<b>445</b>	<b>438</b>
<b>Ireland</b>	<b>442</b>	<b>431</b>
<b>Portugal</b>	<b>331</b>	<b>322</b>
<b>Sweden</b>	<b>Figures not available</b>	<b>Figures not available</b>

**Table 5**

**Passenger journeys per head of population – 2006 cf. 2005**

	<b>2006</b>	<b>2005</b>
<b>Switzerland (SBB)</b>	<b>38.0</b>	<b>37.4</b>
<b>Denmark</b>	<b>30.8</b>	<b>28.2</b>
<b>Austria</b>	<b>23.6</b>	<b>23.5</b>
<b>Germany</b>	<b>22.5</b>	<b>21.6</b>
<b>Holland (NS)</b>	<b>19.9</b>	<b>19.6</b>
<b>Great Britain</b>	<b>19.5</b>	<b>18.4</b>
<b>Belgium</b>	<b>18.8</b>	<b>17.8</b>
<b>Czech Republic</b>	<b>17.6</b>	<b>17.4</b>
<b>France</b>	<b>16.5</b>	<b>16.0</b>
<b>Portugal</b>	<b>12.6</b>	<b>12.3</b>
<b>Finland</b>	<b>12.2</b>	<b>12.1</b>
<b>Hungary</b>	<b>11.9</b>	<b>11.9</b>
<b>Spain</b>	<b>11.3</b>	<b>11.6</b>
<b>Norway</b>	<b>10.3</b>	<b>10.2</b>
<b>Ireland</b>	<b>10.3</b>	<b>9.1</b>
<b>Italy</b>	<b>9.1</b>	<b>8.8</b>
<b>Poland</b>	<b>5.7</b>	<b>5.7</b>
<b>Sweden</b>	<b>Figures not available</b>	<b>Figures not available</b>

**Table 6****Freight tonne kilometres - 2006 against the Base Year \***

<b>Freight tonne kilometres (billions)</b>			
	<b>2006</b>	<b>Average 1995/96/97</b>	<b>% increase</b>
<b>Great Britain</b>	<b>22.18</b>	<b>13.80</b>	<b>60.7</b>
<b>Switzerland (SBB)</b>	<b>12.34</b>	<b>7.84</b>	<b>57.4</b>
<b>Austria</b>	<b>18.87</b>	<b>13.24</b>	<b>42.5</b>
<b>Hungary</b>	<b>9.18</b>	<b>6.90</b>	<b>33.0</b>
<b>Germany +</b>	<b>96.39</b>	<b>74.43</b>	<b>29.5</b>
<b>Portugal</b>	<b>2.43</b>	<b>2.03</b>	<b>19.7</b>
<b>Belgium</b>	<b>8.58</b>	<b>7.33</b>	<b>17.1</b>
<b>Finland</b>	<b>11.06</b>	<b>9.31</b>	<b>15.1</b>
<b>Spain</b>	<b>10.95</b>	<b>10.14</b>	<b>8.0</b>
<b>Italy</b>	<b>20.86</b>	<b>24.35</b>	<b>-14.4</b>
<b>France</b>	<b>40.91</b>	<b>49.16</b>	<b>-16.8</b>
<b>Czech Republic</b>	<b>16.36</b>	<b>21.90</b>	<b>-24.3</b>
<b>Poland</b>	<b>42.65</b>	<b>67.75</b>	<b>-37.1</b>
<b>Ireland</b>	<b>0.16</b>	<b>0.56</b>	<b>-71.4</b>
<b>Sweden</b>	<b>Not available</b>		
<b>Norway</b>	<b>Not available</b>		

**\* The Base Year is an average of 1995, 1996 and 1997**

+ including Railion NL and Railion DK



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