

The Haste Partnership

HITRANS Pre Ten O'clock Study

Final Report

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Executive Summary

- E1. Inverness is the most northerly city in the United Kingdom being 582 miles from London and 175 miles from Edinburgh, Scotland's capital. It has enjoyed rapid economic growth over the last 10 years and continues to support economic advancement through the development of modern, high-tech industries.
- E2. There is regional concern that current transport links between Inverness and the Scottish Central Belt are acting as a barrier to business travel and constraining economic growth and development.
- E3. The purpose of the study was to compare the socio-economic status of Inverness with other UK and European centres and to ascertain whether there was any correlation between distance from the capital, train service provision for business travel and the local economy.
- E4. The issue of which is the capital exposes the point that whilst devolution has occurred in Scotland and Wales this does not appear to have been reflected in train service planning where all the UK places tested have better business travel links with London than with Edinburgh, for Scotland, or Cardiff, for Wales.
- E5. No requirement was identified in the UK or Europe which requires 'business time' trains between important towns and their capital. However, in Europe every one of the seven comparator locations each enjoyed a pre 10 o'clock service to the capital; something which does not occur in the UK.
- E6. All the comparator locations have at least one return service to/from the National Capital at the end of the business day.
- E7. The carbon emissions for equivalent road and rail journeys are provided for each location researched and make an important statement with regard to the environmental impact of transport strategies.

1. Introduction

1. Introduction

- 1.1 Inverness is the most northerly city in the United Kingdom being 582 miles from London and 187 miles from Edinburgh, Scotland's capital. Despite its relative remoteness it has enjoyed rapid economic growth over the last 10 years and continues to strive – as a city and region – for continuing economic advancement through the support and development of modern, high-tech industries.
- 1.2 Of concern is the fact that transport between Inverness and the Scottish economic heartland of the Edinburgh – Glasgow Central Belt is constrained by limitations of the A9 Trunk Road and rail services provided on the Highland Main Line.
- 1.3 The purpose of this study is to ascertain to what extent the current Edinburgh/Glasgow – Inverness rail service is a barrier to business travel and acting as a brake on economic growth and development in and around Inverness.
- 1.4 A basic comparison of Inverness with Aberdeen provides an example which demonstrates how rail services might constrain development. Inverness is 175 miles from Edinburgh (180 from Glasgow). It has 11 direct weekday services, daily, to/from Edinburgh **or** Glasgow with connections at Perth for the indirect origin or destination. The earliest arrival in the Central Belt is 1000; the earliest in Inverness is 1028 which impacts on the time available for business meetings. The journey time is about 3½ hours. The rolling stock is Class 170 diesel multiple units. By comparison, Aberdeen which is just 50 miles nearer Edinburgh enjoys direct services to and from the Central Belt at least 3 trains which arrive before 1000.
- 1.5 The first objective for the study was to find similarly remote population centres in England and Wales and to investigate any correlation between distance from the capital (London or Cardiff), train services for business travel and the local economy.
- 1.6 The second objective was to identify European centres which were comparable with Inverness and to investigate any correlation between distance from their capital, train services for business travel and the local economy.
- 1.7 The comparator locations for Inverness selected for the study are :

	UK		EU
Aberdeen	Scotland	Esbjerg	Denmark
Aberystwyth	Wales	Joensuu	Finland
Accrington	England	Lund	Sweden
Bangor	Wales	Coimbra	Portugal
Barrow in Furness	England	Quimper	France
Lincoln	England	Zlin	Czech Republic
Northallerton	England	Slupsk	Poland
Torbay	England		
Truro	England		

2. The Study Brief

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- 2.1 The Study Brief was issued by HITRANS at the end of November 2011. HITRANS is the statutory Regional Transport Partnership covering most of the Highlands and Islands: Highland Council; Moray Council; Orkney Islands Council; Comhairle nan Eilean Siar (Western Isles Council) and parts of the Argyll and Bute Council area.
- 2.2 The Brief required a suitably qualified consultancy to investigate rail access to a range of cities and regions across the UK and EU which enables early enough arrivals to permit a working business day and/or half day in both the national/regional centre and in the regional/administrative centre. The objective of the study was to give an understanding of the competitive position of Inverness, and its relationship with the Scottish Central Belt, compared to other parts of the UK/EU and their relationship with their national or regional centre.
- 2.3 The current position for Inverness is that it has a first arrival from Edinburgh/Glasgow at 1028, and a first arrival in Edinburgh and Glasgow at 1000/1014. Meetings which start earlier than this necessitate an overnight stay, or a car journey, which leads to increased costs and lack of productivity. There is no suitable air alternative for Inverness to Edinburgh or Glasgow.
- 2.4 The HITRANS *InverCity* study, undertaken in 2010, identified a market demand for improved business travel opportunities by rail. Additionally, the Passenger Focus *Highland Boost – Everything You Wanted to Know about Pax* has noted journey purpose and customer opinions.
- 2.5 In summary, the purpose of this Study is to :
 - Relate the analysis to the drivers for travel
 - State the position of Inverness in terms of its geographical position, economy and business travel opportunities to and from the centre
 - Identify similar locations in the UK and EU – in terms of geography, peripherality, and GDP/GVA – and compare their rail access options and indicative impact on their economy
- 2.6 The study findings will be used to inform HITRANS as they develop proposals for their desired specification of the next ScotRail franchise. The specification will be submitted to Transport Scotland as part of the refranchising consultation process.

3. The Study Approach

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- 3.1 It was agreed at the outset with the client that this would be, by its very nature, a desktop study. The key data required to provide meaningful analysis and comparisons was established by the study team after a review of the material which was publicly available both in the UK and the EU. The other key strands of information were provided by HITRANS and comprise two earlier reports commissioned by them :
- HITRANS Rail Passenger Study : Everything You Always Wanted to Know About Pax But Were Afraid to Ask
 - HITRANS InverCity Rail Study
- 3.2 The key criteria to be used for comparison purposes in the case of each selected location were determined as being :
- Population
 - GVA/GDP per Capita in Euro (€)
 - Rail Station footfall
 - Distance from Capital in km
 - Distance from Key Regional Centre (where relevant) km
 - Journey Time (rail and road)
 - Trains arriving at Capital before 1000
 - Trains arriving from Capital before 1000
 - Return services 1600 – 1800 (both directions)
 - Carbon Impact of rail, road and air travel options
 - Accommodation Costs if out and back travel in day not possible (€)
- 3.3 Each location was assessed analytically to get reasonably comparable data from which conclusions could be drawn. Where direct comparisons could not be made our assumptions have been noted
- 3.4 For both the UK and the EU the rail timetable applicable from December 11th 2011 was used to assess train service provision for business travel purposes.
- 3.5 For the population and economic data, the information was obtained from national statistics offices, official city or regional websites wherever possible. Local currencies have been converted to the Euro (€) based on the conversion rate applicable on December 15th 2011. Figures for GDP/GVA per capita relate to the relevant sub-region (NUTS 3 level).
- 3.6 The information obtained is included in individual reports on each location; Section 4 for the UK locations and Section 5 for those of the EU. A summary of the key data from both sections is included in Appendix A.
- 3.7 A standard table was devised for recording the data collected for each location. It enables comparison of key demand drivers comprising journey time, distance, train service frequency, and socio-economic factors including population and relative wealth.

- 3.8 Station footfall figures for UK stations are available from the Office of Rail Regulation (ORR). In the EU comparable data are not publicly available but the data has been requested from each of the national railway administrations. Despite repeat applications nothing has been received at the time of publication. If it is subsequently made available it will be forwarded to HITRANS.

4. Research Findings : UK

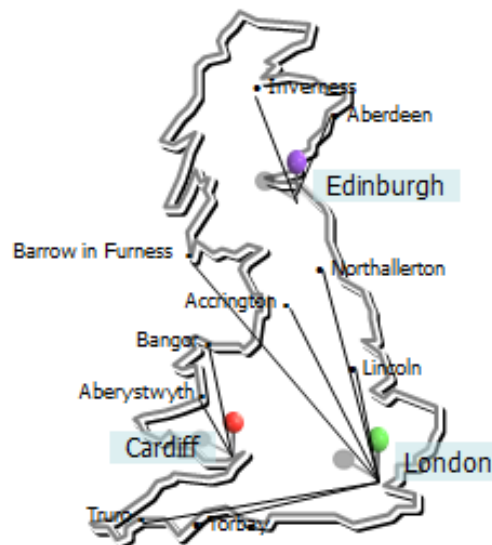
4. Research Findings : UK

- 4.1 The UK centres selected for comparison with Inverness were chosen primarily on the grounds of their remoteness (distance and journey time) from their national capital – Edinburgh, Cardiff or London – and/or their principal regional centre. Additionally, the selection criteria included the requirement to be part of the rail network, size of population, geographical relationship with the National Capital and the economic profile. In the case of the latter three measures we were seeking an acceptable match with the characteristics of Inverness.
- 4.2 The two earlier HITRANS studies were thorough and exhaustive. Not all the information they contain is relevant to this study because they addressed travel opportunities and barriers to travel for all passengers – business, commuting and leisure – whereas the single focus for this review is business travel.
- 4.3 In the **Rail Passenger Survey** it is noted that ‘on company business’ is a key journey purpose to which must be added the smaller, but not insignificant, amount of ‘on personal business.’ This is borne out by the fact that on the Highland Mainline fewer than 30% of passengers view themselves as regular travellers, the high demand for 1st Class seating and about 50% of journeys being over 2 hours in length. The need to change trains at Perth, at times when direct services are not available, is a recognised barrier to travel but less so to the business traveller than the leisure traveller.
- 4.4 Whilst the impact of rolling stock quality and branding is not easily quantifiable it should be noted that there is only one service from Inverness branded *inter-city* – The East Coast Highland Chieftain service between Inverness and London Kings Cross – and its timings do not meet the Pre Ten O’Clock arrival criteria although the northbound service does fit in with the 1600 – 1800 return journey time band. On the other UK and EU routes, the journey to and from the capital is either by an *inter-city* train throughout or for, at least, a large part of the journey. To test whether this is a significant barrier to travel would require a more in-depth review especially in assessing the rolling stock provided on the EU services.
- 4.5 The **HITRANS InverCity Rail Study** found that the Class 170 trains used on the Highland Main Line between Inverness and the Central Belt are seen to be only ‘adequate.’ The absence of facilities for the business traveller to work en route – including at-seat tables and wifi – reduce the perceived advantages of taking the train over driving. This is exacerbated by the toilets and luggage space which are also seen to be ‘poor.’
- 4.6 Staying with the InverCity Rail Study, the importance of the product offer may be demonstrated by the fact that of the 1.1m passengers journeys through Inverness station 40% – 440,000 – are classified as inter-city. Of those 17% – almost 75,000 or 286 per normal working day – are business travellers. A significant number for a relatively basic 3-car diesel multiple unit which offers facilities generally accepted

as being more suitable for mid-distance inter-urban journeys rather than the long distance intercity journey.

- 4.7 A further deterrent to the business traveller is the need to change at Perth when there is no direct service to/from Edinburgh or Glasgow.
- 4.8 As far as journeys from Inverness to the UK capital are concerned there are just two direct service options. For a wholly daytime journey there is the East Coast Highland Chieftain service. In both directions this train allows ample time in an *inter-city* environment for working and meeting preparation but requires an overnight stay in both cities for a pre 10 o'clock meeting. The alternative is the Caledonian Sleeper service which allows a working day in one city, travel through the night and an arrival in the other city in ample time for a 10 o'clock meeting. The downside to this option is the sleeping car accommodation which is 'basic' in terms of en suite provision and meals service. To be a truly viable option for the business traveller would require more modern rolling stock offering accommodation such as is provided by the Paris – Barcelona or Paris – Madrid Elipsos service.
- 4.9 On the pages which follow, we present a brief overview of each of the UK towns under consideration in this study and the associated information on key indicators and travel opportunities.

Pre Ten O'clock : UK Locations Compared



Inverness

This is the UK's northernmost city – 582 miles from London and 188 from Edinburgh, the Scottish capital. It is one of Europe's fastest growing cities managing to combine traditional industries with new, innovative high-tech businesses focussing on engineering, electronics and medical care. Inward investment has been attracted by the highly skilled and educated workforce. The latest investment for the city is the creation of a purpose-built bio-medical research and development centre which will be open to interested companies rather than just one organisation. Besides commerce, Inverness is a tourism hub, gateway to the Highlands and the regional centre for a population of c250,000 people.

Population	72,745		GDP/GVA per capita €		19,050	Station Footfall		1.11m		Figures in bold italics show Carbon Emissions (kg)			
	Distance (km)		Journey Time		Trains to Inverness				Trains From Inverness				
to/from Inverness	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)		
					Direct	Change	Direct	Change	Direct	Change	Direct	Change	
London	937 87	906 211	8:11	10:20	0838†	-	-	-	0745†	-	-	-	
Edinburgh	302 28	253 58	3:30	3:30	-	1028*	2	-	1000*	-	-	1	
Glasgow	290 27	275 64	3.20	3.45	1028*	-	-	2	-	1014*	1	-	
Note: † Caledonian Sleeper service * Earliest arrival													

Aberdeen

Lying on Scotland's east coast, Aberdeen is 130 miles from the Scottish capital in Edinburgh and 523 miles from London. It is a hub city for six major roads as well as rail, air and coach services. The population of 217,120 makes it the 3rd largest city in Scotland. Aberdeen is a thriving business centre with high levels of employment and a skilled workforce. The economy benefits from the oil industry, two world-renowned university institutes – focusing on agriculture, food and nutrition – and a centre of a fast-growing electronics industry. Looking to the future when oil production will diminish Aberdeen is now working on diversification into renewable energy programmes.

Population	217,120		GDP/GVA per capita €		30,767	Station Footfall		2.66m		Figures in bold italics show Carbon Emissions (kg)			
	Distance (km)		Journey Time		Trains to Aberdeen				Trains From Aberdeen				
to/from Aberdeen	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)		
					Direct	Change	Direct	Change	Direct	Change	Direct	Change	
London	843 79	861 200	7:04	9:50	1*	-	1	1	1*	-	-	1	
Edinburgh	210 20	205 48	2:30	2:48	2	-	2	-	2	-	2	-	
Glasgow	249 23	232 54	2:30	3:10	1	1	2	-	2	-	3	-	
Note: * Caledonian Sleeper service													

Aberystwyth

The principal administrative and tourism centre of the west coast of Wales. It is 110 miles by road (187 by rail) from the Welsh capital in Cardiff and 240 miles from London. The University of Wales with 7,000 students and the National Library of Wales are located here. Its relative isolation from the rest of Wales and the UK means that over the years it has acquired more resources than a town of this size would normally have and is considered to have a micro-economy. There is no major industry but Welsh Assembly offices have brought 1,000 jobs to the town.

Population	17,288		GDP/GVA per capita €	16,527	Station Footfall	299,770		Figures in <i>bold italics</i> show Carbon Emissions (kg)				
	Distance (km)		Journey Time		Trains to Aberystwyth				Trains From Aberystwyth			
to/from Aberystwyth	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
London	389 36	382 89	4:45	4:52	-	1125*	-	1	-	2	-	1
Cardiff	302 28	178 42	4:10	2:31	-	1	-	1	-	1	-	1
Shrewsbury	132 12	121 28	2:00	1:46	1	-	1	-	2	-	1	-
Note: * Earliest arrival												

Accrington

This town in Lancashire forms part of the borough of Hyndburn. It lies about 17 miles from Preston, 22 miles from Manchester (30 by rail) and 228 miles from London. The town is a former centre of the cotton and textile machinery industries and was famed for manufacturing the hardest and densest building bricks in the world. Although initiatives are being taken to regenerate the local economy it shares with other East Lancashire communities a high level of deprivation.

Population	70,000		GDP/GVA per capita €	18,422	Station Footfall	279,422		Figures in <i>bold italics</i> show Carbon Emissions (kg)				
	Distance (km)		Journey Time		Trains to Accrington				Trains From Accrington			
to/from Accrington	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
London	368 34	364 85	3:55	4:13	-	1	-	4	-	1004*	-	3
Preston	28 3	26 6	0:32	0:27	5	-	5	-	5	-	4	-
Manchester	48 4	36 8	1:15	0:38	-	5	-	5	-	5	-	5
Note: * Earliest arrival												

Bangor

Bangor is a city on the North Wales coast within the Gwynedd Council area. Its population of 13,725 is almost doubled by the 10,000 students at its university. Of the resident population there is a higher proportion of 'dependents' – children or the elderly – than is the case nationally. Gwynedd, as a whole, has a GVA rate which is c67% of the UK national average and which is increasing at a significantly lower rate than in the rest of Wales and the UK. The economy of this area of Wales is experiencing decline at a faster rate than for Wales or the UK.

Population	13,725		GDP/GVA per capita €	15,932	Station Footfall	591,978		Figures in <i>bold italics</i> show Carbon Emissions (kg)				
	Distance (km)		Journey Time		Trains to Bangor				Trains From Bangor			
to/from Bangor	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
London	384 36	432 101	3:20	5:10	-	1028*	2	1	2	-	-	2
Cardiff	323 30	298 70	4:00	4:15	1	-	1	1	1	1	-	2
Chester	96 9	101 24	1:10	1:13	2	-	2	-	5	-	2	-
Note: * Earliest Arrival												

Barrow in Furness

Barrow lies on a peninsula 85½ miles from the county town, Carlisle and over 130 miles from its nearest major regional centre, Manchester. Despite this remoteness and its lack of major road and rail links it has a strong economy based on multi-billion pound projects which include design and build of the Royal Navy's 11 nuclear powered submarines, offshore wind farms, investments by companies serving global oil and gas fields and West Cumbria's civil nuclear decommissioning and new build activities. Manufacturing is one of the economic strengths of the Barrow Travel to Work Area.

Population	71,981		GDP/GVA per capita €	17,669	Station Footfall	611,364		Figures in <i>bold italics</i> show Carbon Emissions (kg)				
	Distance (km)		Journey Time		Trains to Barrow				Trains From Barrow			
to/from Barrow	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
London	437 41	463 108	3:50	5:25	-	1009*	-	2	-	2	-	2
Carlisle	138 13	137 32	2:30	1:45	-	1	2	3	2	3	2	2
Manchester	214 20	159 37	2:00	2:08	-	2	2	-	3	1	-	2

Lincoln

Lincoln is a small, in area, city and is Lincolnshire's urban hub situated in the East Midlands region of England the city is entirely urban in nature and has a tightly drawn boundary covering just 13.78 square miles. It is a significant regional centre, with a high number of people who commute to work, shop or visit the city. Now heavily dependent on the service sector the city has a proud industrial history and continues to lead on innovation through its expanding university and business development centres. The University of Lincoln has more than 10,000 students who contribute significantly to both the city's economy and its vibrancy.

Population	85,595		GDP/GVA per capita €		16,627	Station Footfall	1.45m		Figures in <i>bold italics</i> show Carbon Emissions (kg)			
	Distance (km)		Journey Time		Trains to Lincoln				Trains From Lincoln			
to/from Lincoln	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
London	244 23	229 53	2:00	3:07	-	3	-	2	2	2	-	2
Nottingham	55 5	61 14	1:00	0:58	3	-	3	-	4	-	2	-
Note:												

Northallerton

This is an affluent market town on the East Coast rail line and is 233 miles from London and 170 miles from Edinburgh. At the heart of a largely rural community its economy is principally dependent on agriculture plus some light industry and commerce. Nearby RAF Leeming provides a considerable amount of employment. Northallerton is also the County Town of North Yorkshire – the largest county in England. The county's economy is based on agriculture, tourism and light industry.

Population	15,741		GDP/GVA per capita €		19,265	Station Footfall	544,070		Figures in <i>bold italics</i> show Carbon Emissions (kg)			
	Distance (km)		Journey Time		Trains to Northallerton				Trains From Northallerton			
to/from Northallerton	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
London	375 35	375 88	2:40	4:28	1	2	2	2	3	1	1	2
Whitby	90 8	75 17	2:30	1:09	-	1118*	-	1	-	1205*	-	1
Scarborough	116 11	85 20	1:40	1:17	-	3	-	2	-	3	-	2
Skipton	131 12	77 18	1:40	1:13	-	4	-	5	-	3	-	4
Note : * Earliest arrival time												

Torbay

Principally the towns of Torquay, Paignton and Brixham, Torbay is a district within the county of Devon. It is 200 miles from London, 24 miles from Exeter – the County Town – and 30 miles from the major centre of Plymouth. It has no motorway access, the congested A380 being its main road link. Torbay has a long history of tourism being known as *The English Riviera* and is still very tourist dependent. Businesses in the area report improvement in sales at a rate better than the UK as a whole and the Torbay Development Agency are promoting the area for the development of suitable industry.

Population	134,000		GDP/GVA per capita €		14,882	Station Footfall	471,782		Figures in <i>bold italics</i> show Carbon Emissions (kg)			
	Distance (km)		Journey Time		Trains to Torbay				Trains From Torbay			
to/from Torbay	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
London	323 30	351 82	3:00	4:08	-	1	1	2	-	1	-	3
Plymouth	64 6	49 12	1:30	0:44	-	5	-	4	-	4	-	3
Exeter	46 4	39 9	0:50	0:37	4	1	3	1	2	3	3	1
Note:												

Truro

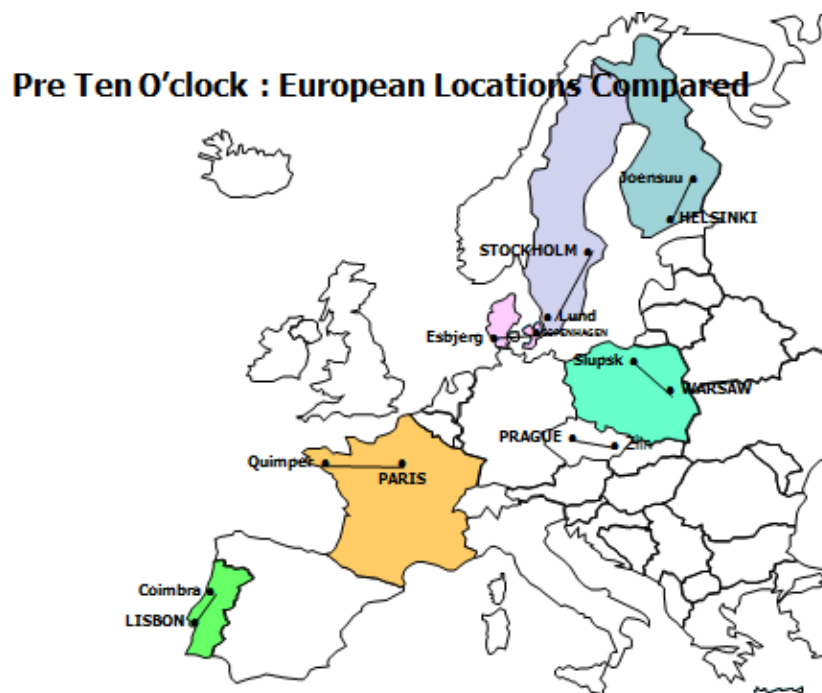
A bustling cathedral city and the County Town of Cornwall, Truro lies 281 miles from London, 26 miles from Penzance and 53 miles from Plymouth. Whilst it is the centre of Cornish commerce it has to be recognised that the county is one of the poorest areas in the UK having a GVA just 65% of the UK national average and a recipient of EU poverty-related grant funding. The china clay industry is much reduced although nearby Camborne is home to the world-class Camborne School of Mines. Truro and Cornwall are heavily dependent on tourism which represents a quarter of the regional economy.

Population	20,920		GDP/GVA per capita €		15,090	Station Footfall	1.0m		Figures in <i>bold italics</i> show Carbon Emissions (kg)			
	Distance (km)		Journey Time		Trains to Truro				Trains From Truro			
to/from Truro	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
London	452 42	459 107	5:00	5:16	0704† 1201*	-	2	-	0525† 1002*	-	1	1
Plymouth	86 8	90 21	1:20	1:18	3	-	3	-	5	-	2	-
Penzance	41 4	43 10	0:45	0:42	5	-	3	-	3	-	2	-
Note: † Sleeper service * Earliest direct daytime service												

5. Research Findings : Europe

5. Research Findings : Europe

- 5.1 In selecting the European locations for comparison with Inverness we have initially concentrated on the small independent European Union countries. This group of eight countries, Scotland, Austria, Denmark, Finland, Ireland, Luxembourg, Portugal and Sweden, is used by the Scottish Government to compare economic performance as measured by GDP growth.
- 5.2 We have selected comparison locations in four of these countries, Denmark, Finland, Portugal and Sweden. In addition we have included one location in a larger EU country, France, and two locations from recent accession countries in Eastern Europe. Selection of the Eastern European countries was influenced by the size and importance of the rail network to the national transport network. A number of the former USSR countries have rail networks developed to link cities of the former republic; links which are now no longer as relevant, these countries were considered inappropriate for comparison. The countries selected, Poland and Czech Republic have a more "conventional" rail network. The selection criterion for each of the cities in this part of the study included the requirement to have rail access, size of population, geographical relationship with the National Capital / regional centres and, to a lesser extent, the economic profile. In the case of the latter three measures we were seeking a good match with the characteristics of Inverness.
- 5.3 The locations selected are Esbjerg, Denmark; Joensuu, Finland; Coimbra, Portugal; Lund, Sweden, Quimper, France; Slupsk, Poland and Zlin in the Czech Republic.



Esbjerg, Denmark

Denmark has a total population of 5.53 million peopleⁱ. Esbjerg is a seaport lying on the west coast of the Jutland peninsula, 319 kilometres, by rail, to the country's capital, Copenhagen. The city has a population of c. 71,000 people, the wider municipality which takes in the towns of Ribe and Bramming has a population of c. 115,000 people. The economy of the area is influenced by its coastal position and includes fisheries, offshore energy, tourism, sea freight and passenger ferries as well as plastics and furniture manufacturing. Esbjerg is also an education centre with campuses of two universities and other academic institutions.

Population	71,000		GDP/GVA per capita €		36,000		Station Footfall		Figures in <i>bold italics</i> show Carbon Emissions (kg)			
	Distance (km)		Journey Time		Trains to Esbjerg				Trains From Esbjerg			
to/from Esbjerg	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
Copenhagen	319 <i>7</i>	295 <i>40</i>	3:09	3:00	1	2	2	2	2	2	2	2

Joensuu, Finland

The capital of the North Karelia region, Joensuu is a city of c. 73,000ⁱⁱ with a wider economic area catchment of c. 123,000. Some 506 kilometres by rail the city lies to the North East of Helsinki, Finland's capital. The country has a total population of 5.38 million. Joensuu has three University campuses and other academic institutions making it a significant education centre. Its major industries include timber, forestry, bio-energy and metals. It also has economic activity in the service sector and film making and supports innovation with a science park.

Population	73,000		GDP/GVA per capita €		25,600		Station Footfall		Figures in <i>bold italics</i> show Carbon Emissions (kg)			
	Distance (km)		Journey Time		Trains to Joensuu				Trains From Joensuu			
to/from Joensuu	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
Helsinki	506 <i>26</i>	437 <i>51</i>	4:36	5:32	1140*	0	1	0	1	0	1817*	0
Note: * Evening departure from Joensuu to Helsinki 18:17 : first arrival in Joensuu from Helsinki 11:40												

Coimbra, Portugal

Located above the coastal plain approximately 40 km from the sea Coimbra is an ancient University City with a population of 101,069ⁱⁱⁱ. The city is 218 km by rail to the capital Lisbon and 119km to the second City of Porto. It also lies on the A1/P1 national highway that runs between Lisbon and Porto. "Intercity" rail services run to a station to the north of the city, access to the old city centre being provided by a frequent shuttle train service with a journey time of 5 minutes. In addition to education, Coimbra has strong technology and services sectors. Portugal has a total population of 10.64m.

Population	101,069	GDP/GVA per capita €	16,000	Station Footfall		Figures in <i>bold italics</i> show Carbon Emissions (kg)						
	Distance (km)		Journey Time		Trains to Coimbra				Trains From Coimbra			
to/from Coimbra	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
Lisbon	218 <i>8</i>	208 <i>23</i>	1:40	2:08	4	0	3	0	3	0	4	0
Porto	119 <i>5</i>	121 <i>13</i>	1:16	1:16	5	2	3	2	2	3	2	2

Lund, Sweden

Located towards the south western tip of Sweden, Lund is 581km by rail to the capital Stockholm, its regional centre, Malmo, is 16 km by rail and Copenhagen, the capital of neighbouring country, Denmark is 63 km away and can also be reached directly by rail. Lund boasts a knowledge-based economy supported by a science park and research facilities along with its university, the largest in Scandinavia. The city has a population of c. 83,000^{iv}; the wider municipality has c. 110,000 people. Sweden's total population is 9.48m.

Population	83,000	GDP/GVA per capita €	34,000	Station Footfall		Figures in <i>bold italics</i> show Carbon Emissions (kg)						
	Distance (km)		Journey Time		Trains to Lund				Trains From Lund			
to/from Lund	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
Stockholm	581	602 <i>56</i>	4:26	6:19	2	0	3	0	2	0	3	0
Malmo	16	21 <i>2</i>	0:11	0:21	10 direct services per hour in both directions							
Copenhagen	63 <i>1</i>	67 <i>7</i>	0:48	0:50	4 direct services per hour in both directions							

Quimper, France

Quimper is in the region of Brittany, north-west France. As a peninsula the region is on the periphery of France. Quimper is also towards the south western edge of the peninsula increasing its peripherality. It lies 612km by rail to Paris and 257km to the regional centre of Rennes. Quimper has a population of c. 64,000^v and its economy is dominated by the services sector including a significant tourism element. Pottery and food manufacturing, fisheries and agriculture are also important in the wider economic catchment.

Population	64,000	GDP/GVA per capita €	25,700	Station Footfall		Figures in <i>bold italics</i> show Carbon Emissions (kg)						
to/from Quimper	Distance (km)		Journey Time		Trains to Quimper				Trains From Quimper			
	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
Paris	612 8	564 124	4:32	5:49	1133*	0	2	0	1	0	2	0
Rennes	257 3	214 47	2:15	2:27	2	0	3	0	5	1	3	0
Note: * first arrival in Quimper from Paris 11:33												

Slupsk, Poland

Located a short distance inland from the Baltic Sea coast Slupsk is a city of c 99,000^{vi} the centre of the Slupski sub-region of Pomerania. The city lies between the larger regional centres of Gdynia/Gdansk (111/132 km by rail) and Szczecin (242 km by rail) and is 580 km by rail to the capital, Warsaw. The Slupski area has a fairly mixed economy with equally strong services and agriculture and fisheries sectors. Although somewhat smaller, it has a significant manufacturing sector. The city also has a campus of the Pomeranian University.

Population	99,000	GDP/GVA per capita €	6,157	Station Footfall		Figures in <i>bold italics</i> show Carbon Emissions (kg)						
to/from Slupsk	Distance (km)		Journey Time		Trains to Slupsk				Trains From Slupsk			
	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
Warsaw	580 51	501 53	9:47	7:00	1	0	0	1	1	0	0	1
Gdynia	111 13	110 13	2:00	1:50	4	0	2	0	4	0	3	0
Szczecin	242 19	231 25	3:45	3:33	1	0	2	0	1	0	2	0
Note: Morning arrivals to and from Warsaw are by overnight services : pm departure from Warsaw is at 14:00 or overnight												

Zlin, Czech Republic

The rail line to Zlin is a spur running from the Prerov - Breclav mainline at Otrokovice and lies in the South East of the Czech Republic 312 km by rail from Prague. The city has a population of c 76,000^{vii} and is the centre of the Zlin Region. The original home of Bata shoes, shoe manufacturing continues to be an important part of the economy as are the rubber and plastics industries. The Thomas Bata University was established in 2001 and there are other educational institutions in the city.

Population	76,000		GDP/GVA per capita €	11,472		Station Footfall	Figures in <i>bold italics</i> show Carbon Emissions (kg)					
	Distance (km)		Journey Time		Trains to Zlin				Trains From Zlin			
to/from Zlin	Rail	Road	Rail	Road	Before 1000		1600 – 1800 (dep)		Before 1000		1600 – 1800 (dep)	
					Direct	Change	Direct	Change	Direct	Change	Direct	Change
Prague	312 <i>14</i>	303 <i>32</i>	3:35	2:57	0	2	1917*	1	1	2	0	3
Brno	126 <i>4</i>	96 <i>9</i>	2:10	1:10	0	3	0	3	0	4	0	3
Ostrava	122 <i>4</i>	109 <i>10</i>	2:00	1:35	0	3	0	1	0	3	0	4
Note: * Evening direct train from Prague to Zlin departs 19:17												

6. Conclusions and Recommendations

- 6.1 The study included a search for timetable standards. Investigation of European and International organisations for railway collaboration failed to find any timetabling 'standard' which requires major business centres to be adequately accessible before 1000. Operational constraints, for example, fleet deployment and calling patterns which try to serve a variety of places with the same train, means that 'best fit' may take precedence over regional economic considerations.
- 6.2 The timetable analysis for the comparison locations reveals an interesting mix of results. Five of the nine UK locations benefit from at least one direct service to its national capital arriving pre ten o'clock. A further three of the comparators have a service with interchange arriving in the capital before ten and the remaining location, Accrington, has an interchanging service which arrives just after the threshold time, at 1004.
- 6.3 Focussing on the study locations in Scotland and Wales, each has rail access to the UK capital, London, arriving pre ten o'clock. In three of the four cases the service is equal to, or better than access to the location's national capital. This suggests that as timetables have evolved over many years the historic predominance of London as Capital city has continued to show through in timetable design. Today, national capital cities, Cardiff and Edinburgh, are increasingly important particularly since devolution but this may not have been adequately reflected in current rail timetable specifications.
- 6.4 All seven of the comparison locations from Europe have at least one direct train service to their capital city arriving pre ten o'clock. It is particularly interesting to note that the Czech Republic city of Zlin, for example, has a direct morning service to the capital Prague, even though its railway geography means almost all other rail journeys require an interchange. Quimper is another interesting example which does not have a regular direct service to Paris but does benefit from one direct morning service to the capital.
- 6.5 The evidence from the European research suggests that those responsible for strategic rail planning ensure that timetables are designed to provide pre ten o'clock arrivals to the capital city for locations with a population of similar size to Inverness. This in spite of no apparent standard requirement for such provision.
- 6.6 All the comparator locations have at least one return service to / from the National Capital at the end of the business day allowing for a reasonable working period without the necessity of an overnight stay. In the case of Slupsk and Warsaw, Poland, at least one leg of the journey would need to be taken on an overnight service to allow for a full working day in either city.

- 6.7 Those study locations with an administrative and/or regional centre other than the national capital in most cases had more rail journey opportunities to that centre compared with the services to the capital. This was the case in both UK and European examples.
- 6.8 The study locations were selected for their similarity to Inverness in terms of population, geography, peripherality and GVA/GDP per capita. These factors are important influences on the demand for travel; a close match should smooth the variances in demand between Inverness and the comparison location. Thus leaving other demand drivers, such as competing modes, service quality (e.g. rolling stock) and timetable factors, to explain demand differences.
- 6.9 Comparison of carbon emissions for equivalent road and rail journeys are provided in the research findings and may be useful to help inform decision makers on the environmental impact of transport strategies.

A. Summary of Research Data

	Population (k)	Station Footfall (k)	GDP/GVA (€k)	Distance from Capital by Rail (km)	Direct Trains TO Capital before 1000	Direct Trains FROM Capital before 1000	Direct or change Trains TO Capital before 1000	Direct or change Trains FROM Capital before 1000	Direct or change Trains TO UK Capital before 1000	Direct or change Trains FROM UK Capital before 1000
Aberdeen	217	2,657	31	210	2	2	2	2	1	1
Aberystwyth	17	300	17	302	0	0	1	1	2	0
Accrington	70	279	18	368	0	0	1*	1	-	-
Bangor	14	592	16	323	1	1	2	1	2	0
Barrow	72	611	18	437	0	0	2	0	-	-
Inverness	73	1,071	19	302	1*	0	1	0	1	1
Lincoln	86	1,447	17	244	2	0	4	3	-	-
Northallerton	16	544	19	375	3	1	4	3	-	-
Torbay	134	472	15	323	0	0	1	1	-	-
Truro	21	1,042	15	452	1	1	2	1	-	-
Esbjerg	71		36	319	2	1	4	3	-	-
Joensuu	73		26	506	1	0	1	0	-	-
Coimbra	101		16	218	3	4	3	4	-	-
Lund	83		34	581	2	2	2	2	-	-
Quimper	64		26	612	1	0	1	0	-	-
Slupsk	99		6	580	1	1	1	1	-	-
Zlin	76		12	312	1	0	3	2	-	-

* Notes: First arrival in Edinburgh from Inverness is at 10:00

First arrival in London from Accrington is at 10:04

B Acknowledgements

The study team wishes to acknowledge assistance from HITRANS in providing copies of previous studies; the *InverCity Rail Study* prepared by Steer Davies Gleave and the Passenger Focus study *Highland Boost – Everything You Wanted to Know about Pax*.

C. The Study Team

Richard Haste

Richard is a rail transport industry professional with a wide knowledge of all aspects of business efficiency and business development generated during his 30 year career with British Rail. Whilst with British Rail he played an essential role in a number of significant railway development projects and rail revival initiatives which involved working closely with regional and local government as well as transport pressure groups. He was directly involved in creating the practicalities of network benefits at privatisation and, subsequently, created the ORR/ATOC national retailing standards monitoring regime and the quality development programme for National Rail Enquiries. In 2000 Richard opened his own consultancy – The Haste Partnership – and has achieved an extensive client list. This includes major bidders for UK rail franchises, a Passenger Transport Executive, the Association of Train Operating Companies, Highland Rail Partnership, multi-national transport consultancies and a company developing global sales and marketing for European rail travel. Richard is a visiting lecturer at the Université du Maine, Le Mans, France where he teaches the Development and Marketing of Service Industries.

Rita O’Neill MBA ACMA

Rita has wide experience of the railway industry gained during a career spanning over thirty years. Working initially in financial management providing services to department heads in engineering, operations, and general management her career progressed to commercial and business management. In 1997 Rita took up a regional director's post with responsibility for the planning, delivery, marketing and financial results of a network of regional services. She was also board-level sponsor of the company's marketing strategy. In spring 2000 Rita established O'Neill Transport Consultancy, an independent consultancy specialising in transport planning and economics including demand forecasting and project appraisal as well as public service marketing including market analysis and research. Rita also has extensive experience of conducting stakeholder consultation. Her client list includes government departments, regulatory authorities, transport operators, local authorities and major transport consultancies. Rita is an associate member of the rail industry Passenger Demand Forecasting Council (PDFC). Rita holds an MBA which has core elements in Marketing and Strategic Management, and is a Chartered Management Accountant.

Both Richard and Rita are members of the Independent Rail Consultancy Group (IRCG).

D. The Haste Partnership

The Haste Partnership was formed in 2000 and has achieved an extensive client list through reputation rather than promotion. Clients have included major bidders for UK rail franchises, Passenger Transport Executives, the Association of Train Operating Companies, Highland Rail Partnership, multi-national transport consultancies and international transport companies. The Partnership is recognised for its ability to explore rail challenges and opportunities and bring a fresh approach to solutions and enhancements.

E. References

ⁱ Statistics Denmark www.dst.dk was used as the source of population and economic statistics

ⁱⁱ Statistics Finland www.stat.fi was used as the source of population and economic statistics

ⁱⁱⁱ Statistics Portugal www.ine.pt was used as the source of population and economic statistics

^{iv} Statistics Sweden www.scb.se was used as the source of population and economic statistics

^v National Institute of Statistics and Economic Studies France www.insee.fr was used as the source of population and economic statistics

^{vi} Central Statistical Office Poland www.stat.gov.pl was used as the source of population and economic statistics

^{vii} Czech Statistical Office www.czso.cz was used as the source of population and economic statistics