

THE WIDER ECONOMIC BENEFITS OF HIGH SPEED RAIL IN SCOTLAND

Peter Fuller
John Godwin
Iain Paton
Halcrow Group Limited

1. SUMMARY

Halcrow Group Limited was commissioned by the Glasgow : Edinburgh Collaboration Initiative (GECI) to undertake a study to identify the measures required to ensure that the regional economic benefits to Scotland from High Speed Rail (HSR) can be realised and maximised.

There is clear evidence that HSR can create and facilitate significant economic impacts and wider benefits. It is over greater distances that decreased journey times, and consequent economic impacts on business efficiency and competitiveness can be best secured. However, maximum benefit will only be achieved where positive action is taken to realise the full potential in the regions served.

Experience shows that HSR will influence socio-economic trends rather than initiate new ones. Trends in the economy and labour market will be influenced by much more powerful forces. Taken in isolation, the economic impacts and immediate wider benefits of HSR in Scotland will not transform the Scottish economy into a world class performer. However, HSR can create opportunities for greater interactions between key businesses working in different markets. This could result in a positive economic flow outward from London, creating powerful regional partners within the UK economy. Scotland must not be left behind in this process and therefore Scotland's immediate involvement in phase 1 of HSR is of fundamental importance.

For benefits of a step change in economic performance to be achieved, the foundation that HSR would provide will need to be linked to an aspirational economic development strategy and implementation plan. The current potential for economic development within Glasgow and Edinburgh city regions in particular should be a focus for Scotland. Local and national transport networks must be integrated with the new high speed links. Land use allocations and planning policy must be aligned towards maximising the opportunities created by HSR for those business sectors that most stand to benefit.

The movement towards a single economic area and integrated labour market for Scotland's two largest cities, linked to world class transport infrastructure, can provide the basis for economic transformation in Scotland. With appropriate policies and investment in place, HSR can facilitate major new

opportunities which will produce economic and spatial distribution benefits at a city, city region and national level.

2. WIDER ECONOMIC BENEFITS AND COMPLEMENTARY ACTIONS

Evidence shows that the assessment of wider economic benefits adds between 12% and 25% to direct economic impacts. Greengauge21 has recently estimated this can be as high as 50%. Including these wider economic benefits will significantly strengthen the business case for HSR to Scotland.

Wider economic benefits will only accrue over the longer term. Direct benefits decline over time, indirect benefits will reach a plateau. However the structural changes which can occur in parallel with HSR will provide continued benefits over decades, derived from wider economic benefits and from complementary actions. Understanding the nature of such benefits will help to ensure that they are maximised through supporting policy and intervention.

2.1 Agglomeration Benefits

Agglomeration is the biggest potential source of wider economic benefits. This is simply a geographical concentration or cluster of businesses and employees. The benefits derive from close interaction between businesses, an enlarged pool of specialist labour, skills and talents along with a shared and supportive supply chain all within a highly accessible area. Not all business sectors benefit from agglomeration, but those employing shared specialist knowledge, skills, facilities or resources will benefit the most. Generally it is understood that the larger the agglomeration economy, the greater the agglomeration benefits. The clear implication of this is that if the scale of a city region is increased, agglomeration benefits are increased and consequently economic performance is enhanced.

However, it should be recognised that effective density is a more important influence than absolute size. Increasing effective density means increasing the number of people and businesses who can access the city efficiently through rapid door-to-door connectivity. It should be noted that city regions with higher baseline productivity will tend to realise more agglomeration benefits and subsequent growth in productivity.

3. GLASGOW : EDINBURGH CITY REGION ECONOMIC CONTEXT

Glasgow and Edinburgh are key drivers of the Scottish economy. Scotland's two largest cities already make a disproportionate contribution to national wealth creation. Since 1995, 50% of Scotland's additional jobs have been created in Glasgow and Edinburgh, the rate of increase was more than double that experienced in Scotland as a whole. Their performance is fundamental to the future prospect of achieving sustainable economic growth and building a world class economy in Scotland.

Glasgow and Edinburgh do not yet form a fully integrated economic area. In particular, the two city region labour markets are still relatively distinct. Only about 3% of the respective workforces commute from the Glasgow city region to Edinburgh or vice versa. A larger and more integrated labour market could offer more productive and more specialised jobs. Having reached what could be described as a critical mass, the two economies would be more balanced, less prone to business and economic cycles and better protected from external shocks. In short, a more integrated labour market and economy would provide greater economic resilience and increase potential opportunities. As a consequence, Scotland's economic potential and performance would increase. In order to achieve this, both Glasgow and Edinburgh city regions will need to coordinate economic development and make an improvement to connectivity, accessibility and transport infrastructure quality so as to achieve effective integration and critical mass.

There are European regions which share a similar dual city pattern such as Oresund, Randstad and Dresden-Leipzig. Glasgow and Edinburgh's proximity and their complementary structures make the potential of their collaborative impact extremely significant. Economists who have tried to measure this suggest that doubling city and city region size could result in up to 8% productivity increases (Rosenthal and Strange, 2004; Venables, 2006). A single integrated economic area for Glasgow and Edinburgh will provide the environment to maximise the benefits for Scotland. Understanding the geography of economic development and key industries in Scotland will be critical to exploiting the opportunities that will be presented by HSR. The clustering of higher value businesses and industries around HSR hubs will assist the development of a single bi-polar economic region or a 'super cluster' to provide Scotland with a true engine for growth.

3.1 Productivity

Glasgow and Edinburgh cities and city regions currently have a production gap with the top international performers. The primary reason for this gap is their relatively low productivity rates. Increasing productivity must be the major focus of any economic development policy. In the long term, it is productivity which determines economic success, higher wages and living standards of any highly developed economy.

A world class transport system is recognised as one of the key enablers for enhancing productivity and sustainable economic growth. This is a consequence of closer interaction between complementary businesses, and improved use of scarce resources. HSR can facilitate a one-off effect on the level of productivity (along with focused economic development interventions) by enabling an increase in higher value businesses. If sustained over a 20 year period of development, this increased rate of growth could enable the cities and city regions to close the production gap with the top international performers.

At a time of economic uncertainty an integrated transport network is even more important to link businesses with markets through HSR and people with jobs by local rapid connectivity. HSR requires complementary measures to maximise impacts and local networks linked to hubs are essential to secure distributional benefits. Currently, Glasgow and Edinburgh fall behind their international comparators and competitors whose productivity rates and transport systems are significantly superior.

4. INTEGRATED POLICY AND INTERVENTION

A key to achieving a sustainable long term future is successful integration between economic development, land-use, regeneration and transport planning. Integration between policies and interventions would help to align land-use and infrastructure with business and jobs thereby improving city and city region labour markets. A focus is required on key themes such as sustainable economic growth, global competitiveness, key sectors and growth businesses, regeneration and spatial distribution, environmental improvement and quality of life.

At a city region level, transport, economic and spatial strategies across the UK have not been as well integrated as in other countries, where concepts of smart growth and transit oriented development are more deeply embedded. Innovative approaches should be considered, including more streamlined planning regimes and use of special development zones. Nevertheless, there is reason to believe that recent legislative changes to the planning system in Scotland will provide an improved policy context and a more streamlined system. The Planning (etc) Scotland Act 2006 includes provision for a National Planning Framework for Scotland, larger city region strategic development plans and a hierarchy of development including strategic development.

The current NPF includes high speed rail to the south. The strategic development plans will include the Glasgow and Clyde Valley Strategic Development Plan, and the South East Scotland Strategic Development Plan. This means that two strategic level plans will be covering the central belt of Scotland, allowing for greater interregional collaboration. Moreover, the establishment of Regional Transport Strategies and associated partnerships increases the scope for policy integration at the regional level between strategic development planning and strategic transport planning. However, there may be a need to focus on delivery at the national government level, to ensure that strategic transport priorities continue to be aligned with National Planning Framework priorities.

The identified strategic priority areas in both Glasgow and Edinburgh are aligned with accessibility opportunities which will facilitate the flow of benefits from the centres across the city regions. The West Edinburgh Planning Framework is an example (the only example in Scotland to date) of how

planning, transport and economic development can be integrated in the spatial context to deliver a strategic development corridor. These recent strategic developments provide a model for a more joined-up approach in the future.

5. COMPREHENSIVE AND HIGH CLASS TRANSPORT INFRASTRUCTURE

HSR (or any other mode) must not be viewed in isolation, but as part of a comprehensive transport strategy. Integration with the wider transport infrastructure to ensure high levels of access is essential to maximise distributional benefits. The HSR terminals must be located at the centre of hubs of the national network so as to extend the benefits of HSR across Scotland. They must also be at the centre of local and regional networks so that people and businesses have direct and rapid access to HSR, and so that key businesses located close to HSR have effective access to the local and regional labour market and supporting industries.

'Hub and spoke' models will provide for high levels of integration with local and city-region networks, particularly in the Glasgow and Edinburgh city regions. A critical element of this will be fast, efficient link between Glasgow and Edinburgh, although HSR is not viewed as a requirement as few benefits would accrue from high speed operation over such a short distance. Fortunately there are already enabling infrastructure initiatives such as capacity increases and electrification, which will enhance integration and wider benefits.

The HSR hub also provides a wide range of opportunities for extending links across the whole of Scotland including Dundee, Aberdeen and Inverness. Feeder services can be enhanced as required to link other parts of Scotland and its international airports with the HSR network. This regional network needs to deliver improved speeds, increased frequency and capacity and an improved working environment to complement the HSR network itself and spread the benefits across Scotland. Connecting Scotland's strategic corridors to national and international networks is a priority. The development of global connections, particularly new business routes from Scotland's airports to the European continent, is an essential element of improving international positioning and competitiveness. Domestic air travel will be significantly reduced by HSR releasing capacity for airports to develop direct international business routes. However close linkages with Heathrow as a major transport hub with a much wider range of destinations than Scotland's own airports is also important.

5.1 City Centre Stations

Edinburgh and Glasgow city centres are established as major agglomerations of businesses in key growth sectors. Attractive and dynamic city centres will remain fundamental for supporting sustainable economic growth. It is the cities that act as a gateway and magnet for business key sectors and other commercial activities. They provide the density of co-located business activity that brings real agglomeration benefits. Well designed and strategically

focused transport infrastructure, bringing together at one location the hubs of local, national and international transport networks, are essential to enhance city and national accessibility, which in turn facilitates major land-use developments. They can improve the attractiveness of a location for inward investors, facilitate productivity gains as key sectors and higher value activities cluster around major hubs, increase local and tourist spending and have a positive impact on the economic outputs and the wider benefits of the city regions and nations they serve.

Bringing HSR into Scotland's big cities is critical to maximise economic impacts and wider benefits and could have a major impact on their identity, image and behaviour, since their accessibility characteristics and development values would be transformed. Clustering higher value activities of the knowledge economy around city centre hubs, such as financial and business services and creative industries, would provide further momentum to success achieved over the last decade. Improved connectivity and accessibility would provide a major boost to city and Scottish business and leisure tourism. The evidence of European experience is that edge of town 'Parkway' style HSR stations, although potentially serving a large catchment, fail to generate the same level of benefits, through a lack of connections to established city activities and networks.

We identify Central Station as a preferred option for Glasgow's HSR station. It is in the heart of the city centre, in close proximity to the International Financial Services District and the best retail offer outside of London and with easy access to the HE quarter and the Clyde Waterfront. Furthermore, it sits at the heart of a corridor already identified for development, stretching south-east and north-west of the city, all directly served by rail. Central Station itself potentially provides a unique development opportunity to create a Glaswegian St Pancras.

In Edinburgh, Waverley and Haymarket are identified as possible stations for Edinburgh. Waverley Station is our preferred option in terms of its location in the city centre, but access from the west is problematic and there will be serious constraints on development around the potential hub, in particular because of townscape and heritage issues which preclude higher density development. Nevertheless, Waverley is in close proximity to redevelopment proposals including the new St James's Centre and Caltongate. Haymarket offers an opportunity within an existing masterplan centred on station redevelopment, the interchange with the Edinburgh Tram and access to western Edinburgh's financial service centres. It is less central than Waverley although higher densities would be more acceptable than for Waverley. Both locations lie connect into the national rail network. At either location the local rail network serve a wide hinterland, and the Edinburgh tram will provide access to a corridor of dense development opportunities running from the Airport to the Waterfront.

A further enhancement of the city centres and their core uses would accelerate economic development and regeneration opportunities across Scotland. Furthermore, this would integrate and strengthen the Glasgow and Edinburgh role as a fully functional economic region and Scottish economic driver and support global ambitions by improving connectivity and increasing its investment attractiveness. However, it is critical for HSR interchanges to be connected and integrated with the existing network and other key gateways through very efficient, attractive and sustainable links to maximise the benefits for the surrounding regions and Scotland. Strategically located secondary hubs, linked through the national rail network, that focus on key development areas will also play a major role in spatial distribution and the development of clusters of secondary businesses.

5.2 Land Use Requirements

Assuming the successful implementation of HSR in Scotland and focused complementary measures, the demand for business land uses in Glasgow and Edinburgh is likely to increase significantly over the next 20 years. The development of mid-urban business parks utilising industrial land closely linked with the expanding city centres within the hub-and-spoke model should be considered as a priority. Both the Glasgow and Clyde Valley Strategic Development Plan, and the South East Scotland Strategic Development Plan identify corridors of available development sites. The most accessible developments sites should be allocated to those business sectors that can benefit to the greatest degree from direct access to HSR hubs, and those sectors least related to international and national transport links located elsewhere. The planning system can affect this distribution by managing the redevelopment or change of use of existing land or buildings, or by guiding the location and form of new development. In both Edinburgh and Glasgow this strategic direction to land-use allocation, driven by considerations of connectivity, can be seen to be a continuation of recent practices.

5.3 UK Connectivity

There is a need to consider the nature and potential of the relationship with London. For key sectors particularly financial services, faster, more regular city centre to city centre access to London will further boost Scotland's cost competitive advantages, as much of the growth sector has been in relocations out of high cost London-based locations. Other sectors identified link with other centres or clusters of activity to be of particular business benefit, such as life sciences in Cambridge, digital media in Manchester. Further discussions should take place to identify potential benefits from closer collaboration links and common causes with other UK cities such as Manchester, Leeds and Newcastle.

6. CASE STUDIES

Case studies were investigated in relation to the wider benefits of HSR at the national and regional levels, and also in relation to the scope for city centre regeneration and renewal.

6.1 France, Paris to Lyon – South-East TGV

Development of the TGV network has led to the evolution of Lyon into a city which supports a Euro region linking Paris with South France, Switzerland, and Italy. TGV has had a significant impact on tourism in the Burgundy region. The European Commission estimated that HSR as a whole would add 0.25% to EU GDP and 0.11% to employment over 25 years.

Lyon has prospered with the arrival of TGV. The routing of TGV services to a newly built station at Part-Dieu has acted as the catalyst to redevelopment of the area as a commercial centre. Part-Dieu is now considered to be a second city centre for Lyon. Commercial developments include major shopping malls and office developments. Between the opening of TGV in 1982 and 1990, office space in Part-Dieu increased by 43% (equivalent to 250000 sq m).

However, it should be noted that the majority of firms that have relocated to Part-Dieu were already based in Lyon. Therefore, the impact of TGV has primarily led to an intra-urban distribution of economic activity, rather than interregional. Around one third of firms which relocated stated that TGV was the main factor in locational choice. TGV has allowed Lyon-based firms access to Paris markets, without the same reverse impact.

The increase in tourism is reflected at micro-level with the increase in hotel developments around TGV stations and the reorganisation of coach travel to ensure closer integration between the two modes. TGV South-East led to massive modal shift from plane/car to train for journeys between Paris and Lyon. Between 1981 and 1984, mode share increased from 40% to 72% for trains, and decreased from 31% to 7% and 29% to 21% for planes and cars respectively. Now, it is estimated that TGV holds 91% of the air/rail travel market share.

6.2 Netherlands, Thalys Corridor

The Thalys high speed rail route has connected cities in The Netherlands to Belgium, France, Germany and Great Britain since 1996. By 2020, the network is expected to lead to GDP uplift of 0.10%. This could relate to the boost the tourism industry has benefited from since the advent of Thalys, as many journeys on the network are associated with holiday and leisure trips.

Thalys has had a positive impact on economic activity on the towns in which HSR stations are located. In general there has been an increase in property values, rents and real estate prices, the number of jobs available and the presence of businesses in the vicinity of Thalys stations. In Maastricht, office rental prices have increased faster than in other similar cities, making them the

most expensive in the region. This is attributed to the nearby Thalys station. Similarly, the area around the Thalys station in The Hague has gained from a number of major developments, which have been sparked by the attractiveness of accessibility to the Thalys network. Around 80,000 sq m of office development, 15,000 sq m of retail space, 565 apartments and 1300 car parking spaces have been developed. Interviews conducted with office managers around stations in The Hague indicate that proximity to Thalys was a key factor in choice of location.

The modal shift impacts of Thalys link to The Netherlands should not be underestimated. The number of passengers travelling between France and the Netherlands via Thalys is estimated at 700,000. This represents a 25% increase in rail trips along this corridor since the introduction of HSR. At the same time the market share for air travel has dropped by 4%. Research suggests 21% of people using Thalys are former air passengers, whilst 16% previously made the journey between France and The Netherlands by car. The HSR hubs have become the focal point for economic development across the Netherlands and within cities.

6.3 Kings Cross and St Pancras International

Improvement works across St Pancras International to accommodate HSR connecting London to mainland Europe has facilitated the regeneration of the area around the station. The land around King's Cross and St. Pancras stations presented one of the largest inner city redevelopment opportunities in Europe with planning and listed building applications for 72 ha. The development comprises business, residential uses, serviced apartments and hotels, shopping, cafes and restaurants, professional services and a full range of community facilities providing high density living and working opportunities.

The socio-economic impact assessment undertaken as part of the Environmental Impact Assessment submitted to the London Boroughs of Camden and Islington indicated significant benefits for the local community as well as London as a whole. Estimation included around 3,005 full time equivalent jobs created during construction phase, 25% of which would be taken up by residents of the wider area around King's Cross. When complete the development is expected to generate between 24,800 and 29,500 direct jobs after accounting for displacement and multiplier effects. It is further estimated that without any positive intervention, local residents would account for between 7,500 and 8,800 jobs. The number of jobs created is expected to increase the potential total expenditure in local services and shops, enabling them to increase income and possibly expand and improve. Other significant social benefits include increased open space availability as well as reduced perception and actual incidence of crime.

6.4 Birmingham Gateway

Birmingham Gateway is a £600 million project by Network Rail, Advantage West Midlands and Birmingham City Council for the improvement of New Street station in the city centre. The project will transform the station, the shopping centre above it and the surrounding areas. The works include remodelling the platforms, enlarging the concourse with airport style passenger lounges and with a large atrium to bring in natural light, improved pedestrian links to the city centre, redefining the image of the building using stunning architecture. It will create a major commercial mixed-use development opportunity with two tall towers to the southern aspect, all surrounded by pleasant new public spaces and squares.

The Gateway project is expected to contribute around £2bn to the wider region. Furthermore, physical regeneration of the areas surrounding the station can potentially lead to up to 10,000 new jobs created across the city. Redevelopment of New Street station and regeneration of the surrounding area are also expected to raise around £60 million in retail revenues. In total the net present value of the project as estimated by the Department of Transport amounts to about £1.4bn.

A Department for Transport appraisal also highlighted additional wider economic benefits for the city centre: 125,000 sq m of additional office development across the city centre by 2018, leveraging around £620m of private sector investment and accommodating some 11,100 additional direct jobs, productivity benefits across the city centre resulting from agglomeration effects of some £35bn per annum by 2018, uplift in the value of existing property and potential development of 16 sites in the southern half of the city centre amounting to a potential uplift of £100m, and up to an additional £100m from the regeneration of other existing property in city to the south of the project.

7. CONCLUSIONS

It is clear that HSR provides Scotland with a major opportunity for significant economic growth and world-class business development. There is evidence however that HSR alone will not deliver these benefits, but requires complementary measures through the positive support of government, local government and business if the opportunities are to be fully realised.

With many of the tools already developed, and some of the key policies and programmes already in place, it is less a question of what, but how these can be implemented effectively.

7.1 Political Context and Governance

A commitment should be sought from the Scottish and UK Parliaments to support a joint approach and Transport Scotland's business case for HSR. Cross-party support will have to be canvassed to gain the commitment to drive the development forward. The Scottish Government must take the lead in

securing HSR for Scotland and to drive the need to proactively maximise benefits and minimise any potential disbenefits. Involvement in the first phase of HSR is an absolute priority for Scotland. Success breeds success – many businesses will make their investment decisions on the basis of the Phase 1 plans, but later phases will have to compete with the growth poles already established. A strong and robust case needs to be sustained throughout the planning phase.

It is clear that changes in governance are needed to support more joined-up action within both national and local government and between national decisions on HSR routing and local/regional action on complementary measures. Unresolved this could prove to be the biggest barrier to reaping the full rewards of HSR. Transport Scotland is not currently a member of the Government's Strategic Forum, the body charged with driving alignment across Government and its national agencies. Closer partnership working with Transport Scotland will be essential to maximise benefits during HSR development and implementation. Strategic thinking at a national, regional and city level must be aligned, but this consensus will be tested as hard strategic choices are made. Careful consideration needs to be given on how to engage and secure support from a wide range of stakeholders and partners across Scotland. Clear communication to gain and maintain the general public's support is essential.

Business will provide a critical role in the development of this relationship. To be effective governance arrangements need to ensure that stakeholders and partners have the instruments and powers to achieve change both in securing opportunities and in managing conflicts. They must also ensure that the incentives and resources to deliver the desired outcomes have legitimacy in the eyes of stakeholders and the public. The following principles of strong and effective governance must be applied:

- Achieving stakeholder and partner buy-in;
- Clear aspirational vision;
- Establish mission, values and principles;
- Clear strategy and objectives;
- Comprehensive and integrated implementation plan;
- Clear leadership and communication;
- Clarity of roles and responsibilities (individual and partnership);
- Business and technical excellence;
- Appropriate resourcing for long term management;
- Risk management;
- Critical success factors;
- Key performance indicators and performance management.

7.2 Single Economic Space

As journey times are reduced, an expanded catchment area increases the scale of city regions and maximises agglomeration benefits. Opportunities and benefits created by the development of a single economic space and integrated labour market in the Central Belt should be recognised as a strategic priority. Glasgow and Edinburgh need to understand and exploit economic and market trends and undertake focused interventions that exploit their full potential. Glasgow : Edinburgh needs to operate as a single bi-polar economic region to maximise benefits. A fast, efficient point to point link between Glasgow and Edinburgh is critical, potentially with strategically located secondary hubs.

7.3 High Value Clusters

The biggest economic gains will be in the city centres and achieved through:

- Provision of effective high quality gateway hubs in each city;
- Focus on key sectors and high value businesses;
- Provision of accessible sites for development in the city centres and at satellite nodes well connected to the city centres; and
- Development of both national and local transport networks feeding into the hubs.

The clustering of higher value businesses and industries around HSR stations in city centres will generate significant agglomeration benefits. A presumption in favour of planning consent for appropriate business uses around HSR hubs should be made.

7.4 Spreading Intra-Regional Benefit

Land use and infrastructure plans, policies and proposals provide the opportunity to spread wider benefits intra-regionally. Consider development of mid-urban business parks using industrial land closely linked (economically and geographically) with expanding city centres in a hub and spoke model. Other areas will not experience the same benefits directly; therefore, the transport network must continue to develop to ensure these areas gain as many access and distributional benefits as possible.

ENDNOTES

APPENDIX 1 – BIBLIOGRAPHY

Presentations and Papers

Capturing the Value of High Speed Rail, presentation by Renfe to High Speed Rail Summit, (September 2009)

Complementary Measures to Facilitate Regional Benefits from High Speed Rail, Greengauge 21 (June 2009)

The Economic Effects of High Speed Rail Investment, De Rus, (2008)

The Economic Impact of the California High-Speed Rail in the Sacramento/Central Valley Area, Kantor, (2008).

The Eddington Transport Study: The Case for Action, Eddington (2006)

European Regeneration Experience, Greengauge 21 (2006)

Evidence on the nature and sources of agglomeration economies, Rosenthal and Strange (2004)

Fuel Efficiency of Travel in the Twentieth Century, Lawyer (2002)

Gares TGV et nouvelles dynamiques urbaines en centre ville: Le cas des villes desservies par le TGV Sud-Est [Urban stations TGV and new dynamics of urban centres: the case of the cities served by the South-eastern TGV] Mannone (1997)

High Speed Rail: International Comparisons, Steer Davies Gleave (2004)

High Speed Trains and the Development and Regeneration of Cities, Greengauge 21 (2006)

HST Impact Study, South East England Development Agency (2008)

Impact of High Speed Railway Accessibility on the Locational Choices of Office Establishments, Willigers (2006)

The Likely Macro-economic Benefits and Employment Impacts of Investments in Trans-European Transport Network; European Commission (1997)

Monitoring the Effect of the Thalys High Speed Train, Ettema et al (2006)

Network Rail: High Speed Rail Investment; An Overview of the Literature, Nash (undated)

The Non-Transport Impacts of High Speed Trains on Regional Economic Development, Kamel et al (2008)

OECD Joint Transport Research Centre Discussion Paper 2008-16, De Rus (revised October 2008)

Shifts in Economic Geography and their Causes, Venables (2006)

Spain's high-speed train the envy of Obama, Valencia Life, (April 2009)

UK Rail, A Case for Investment, Inversys (February 2009)

Policy

National Planning Framework for Scotland, Scottish Government (2009)

Strategic Development Plans in Scotland: The Way Forward, Scottish Government (2009)

Glasgow and the Clyde Valley Structure Plan 2000

Edinburgh and the Lothians Structure Plan to 2015

Data Sources

Scottish Vacant and Derelict Land Survey, Scottish Government (2008).

Edinburgh and Glasgow Office Commentary, GVA Grimley (2007)

Property Market Overview, DTZ (2009)

Office Market Research for Edinburgh and Glasgow, DTZ (2009)

Mid Year Population Estimates 1998 and 2007, NOMIS

Annual Population Survey 2004, 2005, 2007 and 2008, NOMIS

Gross Value Added 2006, Office of National Statistics online

Annual Survey of Hours and Earnings 1999-2008, NOMIS

Annual Business Inquiries 1998 and 2007, NOMIS

VAT Registration/De-registration Data and Annual Population Survey 2000-2007, NOMIS

APPENDIX 2 - STAKEHOLDERS CONSULTED

- Transport Scotland
- SPT
- SESTran
- Scottish Council for Development and Industry
- Scottish Enterprise
- Glasgow-Edinburgh Collaboration Initiative
- Glasgow City Council
- City of Edinburgh Council
- Scottish Financial Enterprise
- Glasgow Chamber of Commerce
- Edinburgh Chamber of Commerce
- Glasgow City Marketing Bureau