

LINKING GLASGOW AND EDINBURGH – THE GLASGOW EDINBURGH COLLABORATION INITIATIVE

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1. INTRODUCTION

Glasgow and Edinburgh are Scotland's largest two city economies and dominate the central belt. Connected by three rail routes and the M8 motorway, the cities are linked by goods trade, business to business trips and commuting as well as a host of other connections such as personal trip making, cultural, historical and educational ties. This paper considers outcomes of work commissioned by Scottish Enterprise on behalf of Glasgow Edinburgh Collaboration Initiative which examined economic and transport linkages between the two cities, which was published in June 2011. The work was completed by AECOM in partnership with KPMG.

1.1 Glasgow Edinburgh Collaboration Initiative

The Glasgow-Edinburgh Collaboration Initiative (GECI) was established in 2006 with funding from the Scottish Government following the Cities Review in 2003. Thereafter, it has been funded by partners Glasgow City Council, City of Edinburgh Council and Scottish Enterprise. Collaboration between the two cities provides a critical mass and scale of opportunity that can help to accelerate economic growth, and four strategic goals are at the heart of the Initiative:

- to accelerate the achievement of the cities' shared economic development objectives;
- to compete more effectively with international top performing cities;
- to contribute disproportionately to enhancing Scotland's economic performance; and
- to establish at a national level, the role and importance of cities as generators of sustainable economic growth.

1.2 The Commission

GECI and the wider client group identified a need to understand the economic relationship between Glasgow and Edinburgh, and also between Glasgow/Edinburgh and the main English conurbations. In particular, there was a need to investigate key economic linkages while understanding problems and opportunities for strategic connections (transport or economic) between Glasgow and Edinburgh, and to/from the main English conurbations.

The research focused upon on enhancing the evidence base for economic linkages, at the same time establishing the needs of, and opportunities for, key sectors. In the context of: central belt transport links; High Speed Rail; and UK air links, the study brief recognised that transport is a key driver for economic linkages.

2. RESEARCH APPROACH

Transport widens markets and supports commuting, business trips, and retail/leisure/social activities, and the movement of goods. While transport can be a lever for improving economic performance, these relationships are not clear cut, especially in places which already boast a mature transport system. However, it is only through greater understanding of the links between the economy and its requirements - and the current (and planned) transport provision - that the balance of improvements in transport and other drivers (e.g. education and training) can be identified to ensure an optimum improvement in economic performance.

The study sought to unpick the economic and transport relationship between these two cities and their relationships with major cities in England and Wales. To do this a comparative analysis of many other city to city pairs across England and Wales was undertaken in order to answer five key questions:

- What are the economic linkages between the cities?
- How are they related to economic performance?
- Are the linkages stronger or weaker than we would expect in comparable cities?
- To what extent does physical infrastructure facilitate or constrain the economic relationships?
- How will the linkages change and will economic performance change over time and under different scenarios?

To answer these questions a quantitative framework for analysing the strength of the city to city linkages amongst eleven areas across the UK was developed, the outcomes of which were validated against an extensive programme of face to face stakeholder consultation.

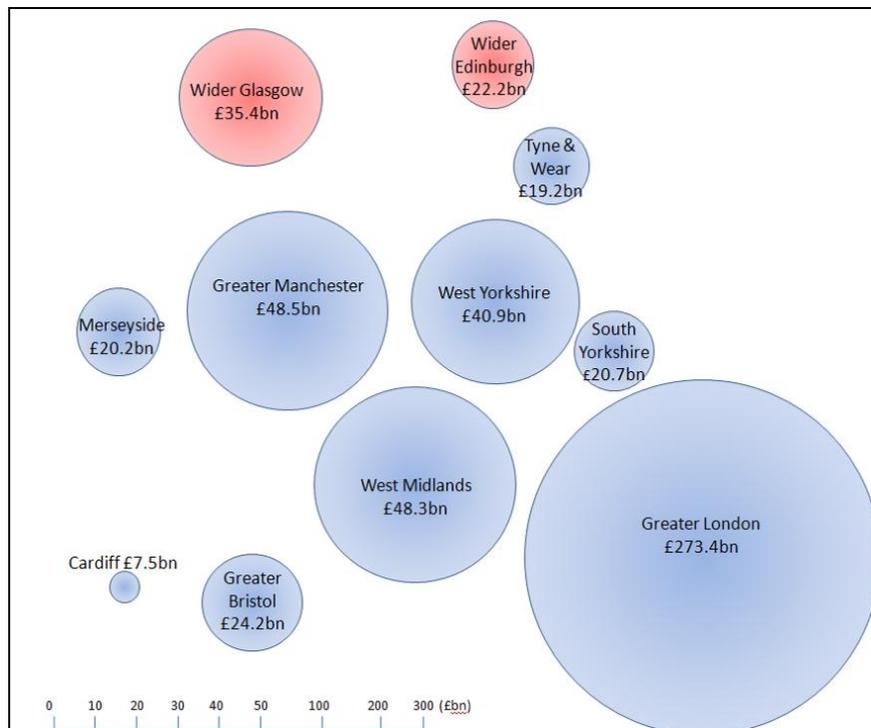
The approach adopted was based on no new data collection, but on data collation from existing sources, including Scottish Government and Office of National Statistics (ONS) statistics, various data sources held by the Department for Transport, such as the Continuing Survey of Road Goods Transport (CSRGT), and Transport Scotland's Land-Use and Transport Integration in Scotland (LATIS) service. Where possible, primary data sources have been used, that is, data that has not been processed or interpreted by third parties. However, there is always an inevitable time lag in the collection and publishing of statistics, and subsequent analysis and reporting. Accordingly, data from the last couple of years is not included within the analysis presented in this paper.

3. WHAT ARE THE ECONOMIC LINKAGES BETWEEN THE CITIES?

Consultation revealed that the economic linkages between the two cities is strong, but complex. Analysis demonstrated that the relationship is stronger than might be expected given the size, composition and transport network between the two cities. It is also growing in importance as the economies grow and converge. Labour market links between the two cities are likely to

grow quickly as the populations continue to increase their skills, specialise and become prepared to travel further for the right job.

Figure 1 – Gross Value Added (GVA) by metropolitan area, 2008



Source: analysis of ONS data

Freight flows are the most visible and measurable index of the economic relationship, although they only tell part of the economic story. Some 12% of the freight by tonnage that leaves Wider Edinburgh is destined to Wider Glasgow and 7% of the freight leaving Wider Glasgow is bound for Wider Edinburgh. The next most significant freight destination from both cities is Tyne and Wear which is the destination of 1.5% of Wider Edinburgh's freight and 0.6% of Wider Glasgow's.

Each city contributes to the 'economic mass' of its sister city. Economic mass measures the economic size, density and proximity that enable the specialisation and productivity benefits found in cities. The study found that 17% of Wider Edinburgh's economic mass results from the proximity of Wider Glasgow, while 5% of the benefits of economic mass that are felt in Wider Glasgow are due to the presence of Wider Edinburgh nearby. Other cities are too distant to have any significant effect on this measure, so Wider Edinburgh and Wider Glasgow jointly benefit from the scale that they jointly provide in a way that they do not from any other city.

The commuting between Wider Glasgow and Wider Edinburgh is at the far end of the spectrum of acceptable commuting distances. Nevertheless, the two wider city areas do contribute to each others' labour market. Wider Edinburgh contributes 1.8% of Wider Glasgow's workforce and Wider Glasgow contributes 4.3% of Wider Edinburgh's. Based on the distance,

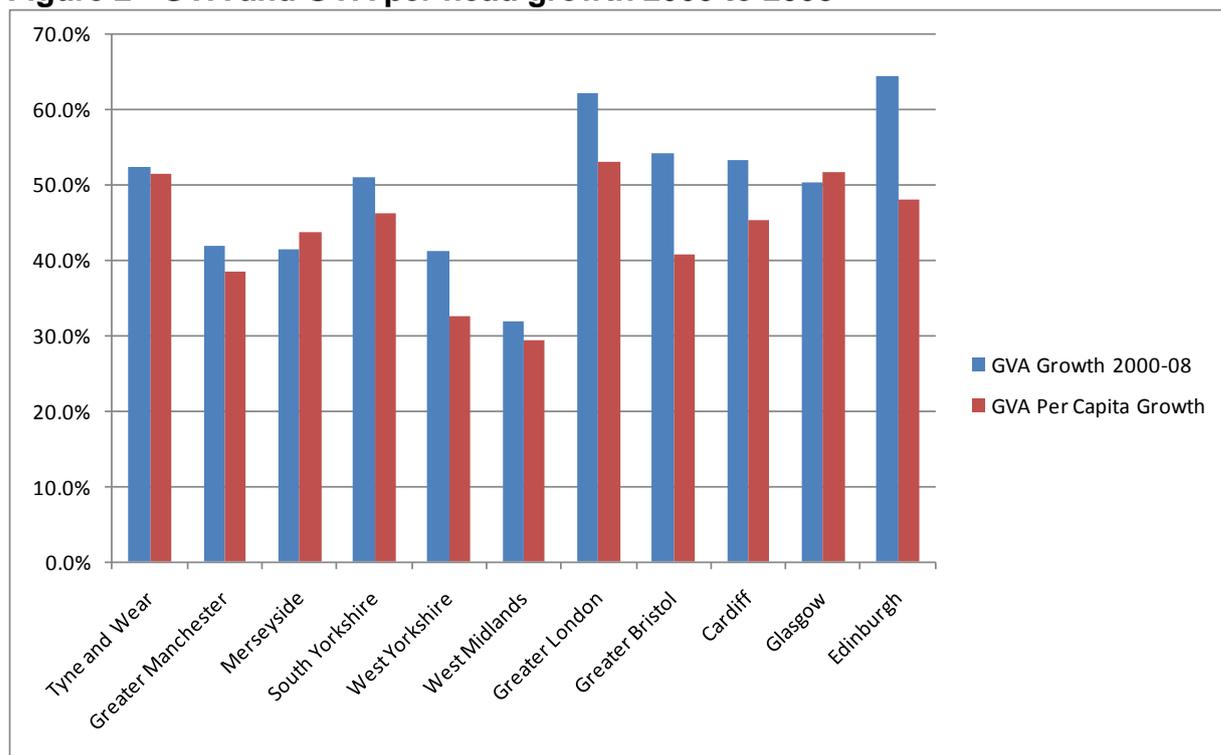
working age population and employment sizes alone, we would expect commuting between Wider Edinburgh and Wider Glasgow to be roughly symmetric because Wider Glasgow's larger number of jobs is offset by Edinburgh's smaller pool of people of working age. However, the data shows that there is more than 30% more commuting from Wider Glasgow to Wider Edinburgh than the other way around.

4 HOW ARE THE ECONOMIC LINKAGES RELATED TO ECONOMIC PERFORMANCE?

The economic linkages support improved economic performance by contributing to each other's economic mass. The metropolitan areas provide markets for each other, enabling specialisation of firms and businesses. However, the two do not function as a single 'super city'. Each provides the vast majority of its own labour and contributes to its own economic mass far more than the other does. The physical distance and travel time between them limits their ability to offer these joint labour markets, shared services or leisure opportunities in the way that they would if they acted like a single larger city.

Both the Wider Glasgow and Wider Edinburgh economies have performed strongly over the last decade, as illustrated in Figure 2. The economic output of Wider Edinburgh in particular has grown faster than the other cities in our study, except Greater London, partly because it has seen an influx of population. Its residents are very highly skilled compared to all of the cities we examined. Earnings are high in Wider Edinburgh in a city economy heavily skewed towards the finance and business services sector. Meanwhile in Wider Glasgow, while population has grown only slightly, economic output per head has risen quickly. Now Wider Glasgow boasts higher output per capita than Greater Manchester, West Yorkshire and the West Midlands. Wider Glasgow's economy is tilted towards the manufacturing and utilities sectors which are seeing growth in output but not in employment.

Figure 2 - GVA and GVA per head growth 2000 to 2008



Source: ONS

The impact of city to city links on economic performance is more difficult to quantify. Recent growth in economic output of both cities has boosted the trade relationship between them and is expected to contribute to greater commuting and business to business links between the cities. However, the two cities have very different economic structures and are perceived to play quite different economic roles. As well as examining the economic structure through broad industrial groups, we also investigated seven growth sectors across the eleven cities. Within these cities and growth sectors, Wider Edinburgh is one of the three most specialised cities in creative industries, life sciences, financial services, tourism and higher education. Wider Glasgow is one of the three most specialised cities in the remaining two growth sectors of energy and food and drink.

5 ARE THE LINKAGES STRONGER OR WEAKER THAN WE WOULD EXPECT IN COMPARABLE CITIES?

The commuting links between Wider Glasgow and Wider Edinburgh are more significant than expected and are expected to grow quickly. The trade relationship between the two metropolitan areas may be hampered by their different economic compositions because businesses in similar business sectors tend to trade more with each other. Compared to the other metropolitan area pairs we have examined, the trade relationship between Wider Edinburgh and Wider Glasgow is likely to be more dominated by service sector trade and less by the productive industries. This implies that the balance of importance is likely to be skewed more towards personal and business travel and less towards freight compared to the links between the comparator metropolitan areas.

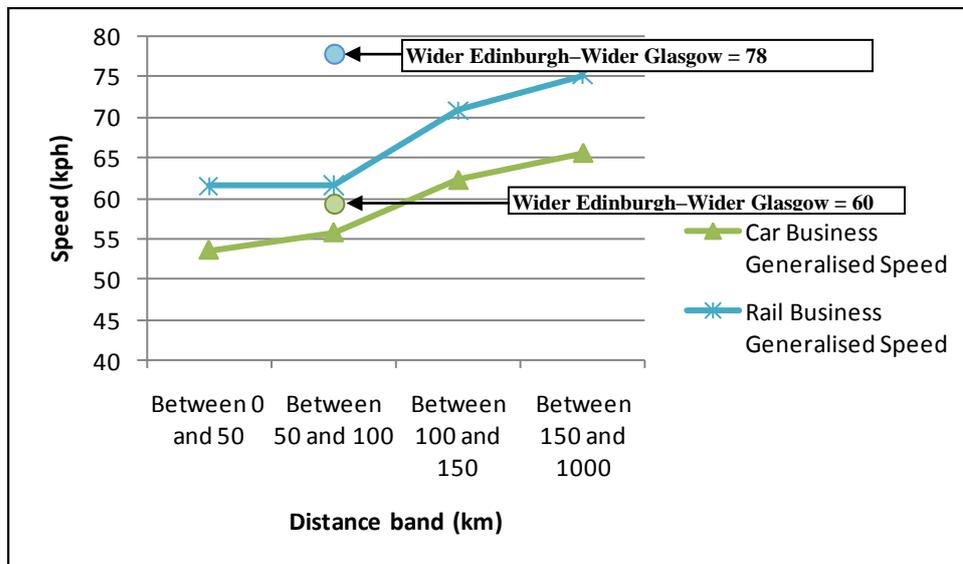
The vast majority of commuting takes place within cities rather than between them, so Wider Edinburgh and Wider Glasgow only contribute small amounts to each other's labour markets. However, there is some tension here between estimated theoretical linkages and the observed data that throws light on commuting behaviour between the two cities. Constructs of commuting tend to underestimate compared to the observed data. This is partly due to the quality of the transport links between the two cities and partly due to geography. Commuters from the east of Wider Glasgow have a relatively easy journey to Wider Edinburgh while commuters from the west of Wider Edinburgh have a relatively easy journey to Wider Glasgow. The closest metropolitan area pair comparison is between Greater Manchester and South Yorkshire which are also approximately 60 kilometres apart but are geographically separated by the Pennines. Growth in commuting between Wider Edinburgh and Wider Glasgow is forecast to see some of the largest proportionate growth of any transport flow in Scotland, although commuting is still expected to be relatively small in absolute terms.

The availability and quality of observed transport and trade data between cities makes it very difficult to match modelled measures of commuting and trade links to observed data. However, it appears that trade links between the metropolitan areas are broadly comparable to what we would expect given their size and economic make up. Looking across all modes of transport, the only data source for comparing the volume of business travel between city pairs is the National Travel Survey. However, sample sizes are often too small to be robust when examining city to city trips. The data is sufficient to demonstrate the importance of connections to London which are more significant than its size, distance or economic structure alone could indicate. Other data for rail flows tends to show more significant relationships with the northern cities, but much of this is because rail mode share increases at these distances.

6 TO WHAT EXTENT DOES THE TRANSPORT INFRASTRUCTURE FACILITATE OR CONSTRAIN THE ECONOMIC RELATIONSHIPS?

Wider Glasgow and Wider Edinburgh are better connected to each other than any of the twin peer city pairs that were examined. Taking into account journey times, costs and other factors that affect travel, such as the frequency of rail services, we find that the links between Wider Edinburgh and Wider Glasgow provide a better level of service than exists for their peers. We have combined these characteristics into a single measure of 'generalised speed' in line with standard practice in transport appraisal, as shown in Figure 3. We find that as distance increases, the quality of connections as measured by generalised speed tends to increase. For rail journeys, this reflects the fact that a larger share of the time is spent sitting comfortably rather than waiting for services or interchanging. It also reflects the fact that the fare per mile tends to fall as journey lengths increase. For car journeys between the city pairs we studied, the effect is smaller and reflects a larger journey proportion on a motorway or other high quality link, and a lower share of the journey on urban roads.

Figure 3 – Comparison of transport generalised speed by distance for business travel



Source: www.thetrainline.com, Google Maps, and WebTAG 3.5.6

Taking all of these things into account, we find that the current connections between Wider Glasgow and Wider Edinburgh are superior to their peer group of cities between 50 and 100 kilometres apart, although this peer group is small. Business travellers in particular are likely to perceive the rail service as superior to comparable journeys between, for example, Leeds and Manchester or Liverpool and Sheffield. This outperformance also applies to car journeys although to a more limited extent.

However, connections between the city centres are only part of the story. Trips begin and end on the local transport network, so interchanges and urban transport within the cities also play an important part in facilitating travel between them. Current urban transport challenges within the cities, particularly gateways and interchanges, will therefore also affect the quality of the interurban travel experience.

The quality of the interurban transport network is therefore not currently hindering the economic linkages between the two cities. Indeed, the interurban transport network is likely to be supporting slightly higher levels of travel than we might expect of similar city pairs.

7 HOW WILL THE LINKAGES CHANGE AND WILL ECONOMIC PERFORMANCE CHANGE OVER TIME AND UNDER DIFFERENT SCENARIOS?

Going forwards, we expect significant growth in the economic linkages between the two cities. With Glasgow and Edinburgh both set to have triple the rate of employment growth of the rest of Scotland, commuting between the two cities is expected to grow by around 70% by 2022.

We have examined different economic and transport scenarios going forward. In all of these scenarios, both cities see a structural shift towards the service sector economy. This is expected to substantially strengthen the link between the two cities for two reasons:

- The increasing similarity between the economic structures of the cities is likely to further boost trade between the cities, particularly through greater service sector business to business contacts; and
- The increasing skill needs of both areas reflects increasing specialisation within the labour market which is likely to result in longer commuting distances as people search further for an appropriate job using their specific skills.

Although affecting linkages between the cities indirectly, transport costs within the cities could be an important factor in economic performance. Intra-city transport costs are expected to rise much faster than the costs of travel between the cities, due to faster growth in future urban congestion, and could pose a threat to the expected urban economic growth. Perversely, the change in the relative costs of travel could have a positive effect on trade between the two cities as travel between them becomes relatively more attractive. However, if trade between the cities squeezes out trade within them, the future increase in city to city traffic will reflect longer journeys rather than growing economic activity.

As demand increases on the interurban network, gateways and interchanges will play an increasingly important role. Future increases in urban congestion could significantly hinder local legs of interurban journeys.

Taken together, the economic and transport changes could be responsible for an increase in commuting between the two cities of around 70% in our central scenario for 2022. Most of this change is driven by the changes in the structure of the economies, with a small element driven by changes in the pattern of transport costs. This compares to an increase of around 30% within the cities themselves which rapidly reach the capacity of their urban road systems.

8 CONCLUSIONS AND POLICY IMPLICATIONS

The linkage between Wider Edinburgh and Wider Glasgow is strong and appears to be performing relatively well. Each city accounts for a large share of trade for the other, evidenced through freight tonnage statistics and other travel data. This is broadly what we would expect of two large cities around 60 kilometres apart and relatively geographically isolated from other cities. The interurban transport network between the two cities is in good shape, but will come under increasing pressure as the structure and sizes of the economies change.

The challenges to growth in the cities appear to be:

- **Immediate:** Both cities need to accommodate rapidly upskilling populations if anticipated economic growth is to be realised. In the immediate future we believe that the key policy challenges for the

successful interaction between the two cities is maintaining the advantages that attract these skilled residents and supporting development of indigenous skills.

- **Short term:** In the short term, attracting and maintaining the skills base of the two cities will pose a planning challenge. In particular, Edinburgh's housing stock may not have the capacity to absorb further skilled migrants while maintaining the quality of life, compact city environment and historic character. Wider Glasgow, being larger has more people qualified to degree level or above than Wider Edinburgh and will similarly have to develop the amenities, housing offer and quality of life that attract an increasingly qualified workforce.
- **Medium term:** In the medium term, urban congestion will erode the quality of life within the cities and is likely to drive some activity outside the cities and expand longer distance travel as business and commuters try to avoid the overcrowded city centres. Mitigating the rise of urban congestion could have a significant economic benefit in the medium term while reducing the pressure towards commuting between the cities. In the medium term, the congestion associated with intra-city travel is likely to be more significant than the pressure from inter-city travel implying that greater value could be derived from urban transport improvements.
- **Longer term:** In the longer term, the importance of the Wider Edinburgh to Wider Glasgow economic connections and the associated travel is likely to rise substantially. While at present the quality of connections between the cities is relatively good, this will come under increasing pressure due to structural change in the two economies and increasing specialisation of labour which is likely to increase commuting distances. This will place increasing pressure on road and rail capacity between the two cities.

The conclusions in this study have taken account of the facilitators of and constraints to economic growth in Wider Glasgow and Wider Edinburgh prior to the recession. It has been shown that the highly educated workforce, the availability of housing that meet workers and others requirements, and the growth in key high value sectors together with the complementary nature of the economic structure of the two metropolitan areas, especially the two cities, have contributed to this success. The quality of transport infrastructure and services have played a major part but we have identified the short term actions based on the greatest threat to future growth – i.e. the decline in the key drivers of the recent growth. This includes the availability of an adequately skilled workforce that meets Scottish, UK and worldwide economic opportunities and the availability of appropriate housing.

Overall, the study has not identified a particular problem with the main drivers of economic growth. However, in our conclusions we have identified potential future threats that, if they materialise, could be very damaging to the joint economy in the short term. From the analysis it is felt that transport does not appear to have the same risk attached in the short term hence transport policy interventions are considered to require action in the medium and long term.

ⁱ The areas studied were, Wider Edinburgh, Wider Glasgow, Tyne & Wear, Greater Manchester, Merseyside, West Yorkshire, South Yorkshire, West Midlands, Cardiff, Greater Bristol and Greater London.