

Ideopolis: Knowledge City Region

Edinburgh Case Study



“This profusion of eccentricities, this dream in masonry and living rock is not a drop scene in a theatre, but a city in the world of reality”

Robert Louis Stevenson



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Executive Summary

Edinburgh can rightly claim to be an Ideopolis. It is highly knowledge intensive, has a highly skilled population and a range of economic strengths. Quality of life for most in the city is outstanding. To sustain its position as an Ideopolis, however, it needs to increase innovation and address the concentrated pockets of deprivation that remain.

Ideopolis driver analysis: strengths, challenges and opportunities

- **Physical knowledge city:** The city has some good office accommodation, including the financial services district and business parks. Questions remain about whether it is possible for the city to accommodate further growth.
- **Building on what's there:** The city has taken advantage of its historical position as capital and administrative centre of Scotland.
- **Diverse specialisation:** Whilst Edinburgh's economy is diverse; some interviewees expressed concern about the public sector elements in a time of potential cutbacks, which could jeopardise future growth.
- **High skill organisations:** The city's population is largely professional, and takes advantage of a range of reasonably well-paid, high skilled jobs.
- **Vibrant education sector:** There are five HEIs in the city: they offer a high educational standard and are reasonably well linked to local businesses.
- **Distinctive knowledge city offer:** Edinburgh has a distinctive offer, helped by its attractive built and natural environment and strong cultural offering, such as the festival.
- **Leveraging strong connectivity:** International connectivity is strong, but connectivity within the city region is threatened by current governance structures.
- **Leadership around a knowledge city vision:** Like others, the city lacks coordinated governance across the city region level. This presents a current challenge (dealing with the consequences of success) as well as a future challenge (potential to constrain further growth).
- **Investing in communities:** The city is working to address the pockets of concentrated deprivation. A key challenge for social cohesion and social mobility is the high level of schooling in the independent school sector.

Policy recommendations

- Using **governance at a city region** level to address the problems of coordination, which inhibit growth in the city region. A city region approach will also enable the benefits of growth to be spread more widely.
- **Focus on graduates:** work with universities to keep graduates in the city and to manage the potential consequences of an ageing population.

Lessons for other cities

- **Invest in high quality public realm:** Edinburgh did this 200 years ago, and is still benefiting now.

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1. Introduction

Edinburgh is an Ideopolis, albeit a small one. It is knowledge intensive, has a highly skilled population and offers an excellent quality of life. Its economic success drives success in the surrounding region. The city should not be complacent though. There are concerns that it is not sufficiently innovative, that it may be vulnerable to cutbacks in the public sector, and that the existing infrastructure may be unable to cope with further growth.

Edinburgh and the wider city-region

Edinburgh lies at the heart of a city region, as defined as “the enlarged territories from which core urban areas draw people for work and services such as shopping, education, health, leisure and entertainment”¹. For the purposes of this case study, ‘Edinburgh’ refers to the area covered by Edinburgh City Council and the broader city-region includes Clackmannanshire, Fife, East Lothian, Midlothian, Scottish Borders, City of Edinburgh, Falkirk and West Lothian².

There are however no agreed or fixed boundaries for the city region and, as we shall later discuss, the social and economic linkages between Edinburgh and Glasgow are strong and have the potential to strengthen and to create a ‘city region’ across Scotland’s central belt.

Defining Ideopolis

The Ideopolis is the vision of a sustainable knowledge intensive city that drives growth in the wider city-region. It gives cities a framework for developing knowledge-intensive industries that will be economically successful and improve quality of life.

About the Ideopolis project

The Work Foundation conducted a year-long research project looking at the concept of the Ideopolis – a sustainable knowledge city that drives growth in the wider city-region. Based on literature reviews, data analysis and UK and international case studies, the research highlights nine drivers of an Ideopolis. This case study forms part of the evidence base for the project. It uses the Ideopolis framework and nine drivers to assess to what extent the city is an Ideopolis and what challenges the city faces in the future if it is to be economically successful and sustainable in a knowledge economy..

¹ ODPM (2006) *A Framework for City-Regions*, Urban Research Summary 20

² CURDS (1999) *Core Cities: Key Centres for Regeneration*, available from www.corecities.com

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About this case study

Presenting findings from interviews with a range of stakeholders as well as literature review work, this case study analyses Edinburgh using the Ideopolis framework to assess where the city is on the 'Ideopolis trajectory'. It is organised into the following sections:

- Brief history of Edinburgh
- Edinburgh now
- Edinburgh: knowledge city?
- Ideopolis driver analysis: strengths, challenges & opportunities
- Conclusions
- Policy recommendations
- Lessons learned from Edinburgh

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2. Brief History of Edinburgh

As the historic capital, Edinburgh has traditionally been seen as the administrative centre of Scotland, in contrast to Glasgow, which was seen as the manufacturing centre. Combined with the strong higher education base (there are four universities and an art college) and a highly skilled population, Edinburgh has been in an excellent position to compete in the knowledge economy.

Edinburgh castle mound provided the original basis for the development of the city, which was originally just a thin strip of housing stretching from the castle to Holyrood Abbey. The city maintained its original street plan in this area, and growth in the medieval period was mainly upwards as tall, narrow buildings were built. The need to cluster for protection near the castle has left the city with a mixed-use pattern of development in tall tenement flats, often with shops underneath, and so a high population density. This pattern of development has left the Old Town with its historical street plan, which is now creating challenges for the city because of traffic congestion and the constraints it places on growth in the centre. Originally relatively affluent, in later Victorian times these flats became slums.

The city slowly expanded to incorporate surrounding settlements such as the port of Leith and Duddingston Village. But there were concerns that the Edinburgh was no longer attractive enough to keep the rich there, and the collapse of a poorly maintained tenement building in 1861 caused both scandal and an impetus for improvement. Compounding this, the wealthy nobles and merchants of the 1800s

had deserted the city for London. The response of the city was the development of the New Town, one of the largest planned developments of the era. Designed by James Craig and based around George Street, it consisted mainly of large private houses, and a series of public works improvements in the city. It provided an iconic urban environment. Designed to attract the knowledge workers of the day, it still attracts them now.

It was from this time that the city's current professional economic structure became apparent. The financial services sector was important, with many banks starting in the 1800s and choosing Edinburgh as their location as the national capital and home of wealthy Scots. One of the earliest of these firms, the Royal Bank of Scotland, was founded as in 1695. The economic path of Edinburgh was established early.

More recently, the arrival of the Scottish Parliament in 1999 has given a further boost to the city's economy. The associated businesses and regional offices which relocated to, or were established in, Edinburgh proved a spur to the economy.

There has been a concurrent development in business, with the growth of the Bank of Scotland and the Royal Bank of Scotland, and the success of the financial services district. Firms such as Standard Life and Scottish Widows are based in the city. The Exchange business district, which contains the Edinburgh International Conference centre, has provided high quality office accommodation for the financial services sector.

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3. Edinburgh Now

Building on its past success, Edinburgh is still strong economically, richer than the UK average. It also maintains a high quality of life, including cultural facilities, an excellent built environment, employment prospects and access to the surrounding countryside. However, there are still pockets of deprivation in the city, such as the Craigmillar Estate, and there are suggestions by interviewees that the economy is vulnerable to reductions in public spending. House prices are high and proving a problem, particularly for first time buyers.

Broadly speaking, Edinburgh's labour market is highly qualified and has high quality opportunities available to its workforce (table 1, on the next page). Not only does the city have an above average level of economic activity and below average inactivity, but also a staggering 41.3% of the population are qualified to NVQ Level 4 or above. Nearly half of its occupations (48.5%) are 'knowledge' occupations (i.e. either managers and senior officials, professional or associate professional and technical), and the city has a particularly high percentage of professionals, with that category accounting for nearly a fifth of all occupations in Edinburgh.

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Table 1 – Edinburgh’s labour market (all statistics from NOMIS)

	Edinburgh	Scotland	GB
General (Source: Midyear Population Estimates, 2004 and Annual population survey, April 2004 - March 2005)			
Population	453,700	5,078,400	58,124,600
Working age population	303,800	3,174,000	36,037,300
Economically active	81.4%	79.1%	78.3%
Economically inactive (all)	18.6%	20.9%	21.7%
Economically inactive (wanting a job)	4.8%	6.3%	5.2%
Skills (Source: Local Area Labour Force Survey (March 2003 - February 2004)			
NVQ4 and above	41.3%	28.4%	25.2%
NVQ3 and above	59.9%	47.6%	43.1%
NVQ2 and above	72.9%	64.7%	61.5%
NVQ1 and above	82.5%	76.1%	76.0%
Other qualifications	9.0%	7.3%	8.8%
No qualifications	8.5%	16.6%	15.1%
Occupations (Annual population survey, April 2004 - March 2005)			
Manager and senior officials	14.7%	12.6%	14.9%
Professional	19.0%	12.1%	12.6%
Associate professional and technical	14.5%	13.8%	14.0%
Admin and secretarial	17.6%	13.0%	12.6%
Skilled trades	6.9%	11.1%	11.2%
Personal services	7.8%	8.4%	7.7%
Sales and customer service	7.8%	8.8%	7.8%
Process plant and machine	2.9%	7.9%	7.5%
Elementary	8.3%	12.2%	11.5%
Businesses (Source: VAT registrations / de-registrations by industry, 2004)			
VAT registrations		9.3%	10.1%
VAT de-registrations		9.4%	9.9%

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4. Edinburgh: Knowledge City?

Measures of Knowledge Intensity

One of the key outputs of the Ideopolis project is the contribution to discussions around how to measure knowledge intensity. Knowledge intensity is too often restricted to the OECD definition of knowledge intensive businesses. The Ideopolis project argues that knowledge intensity should be assessed based on knowledge-intensive occupations and knowledge intensive industries (which should include education and health, as well as all creative and cultural industries). We have developed four measures of assessing knowledge intensity for cities; see Ideopolis report for detailed discussion (this can be downloaded from www.theworkfoundation.com)

Table 2 (below) shows that Edinburgh has a strong knowledge economy, with 53% of jobs within knowledge based businesses being knowledge intensive, the highest proportion of any city of its size. 38% of businesses are

knowledge intensive businesses (column C) and 49% of the population are employed in knowledge intensive occupations. On all measures, Edinburgh is the most knowledge intensive of cities in the UK.

Table 2 – Knowledge intensity in larger cities³

City	A	B	C	D
	Employed in Knowledge Occupations (Residence Based, 2001)	Employed in Knowledge Occupations in Knowledge Industries (Residence Based, 2001)	Businesses that are Knowledge Based (Workplace Based, 2001)	Employment in Businesses that are Knowledge Based (Workplace Based, 2001)
	%	%	%	%
Edinburgh	49	36	38	53
Bristol	41	28	40	47
Leeds	38	24	31	41
Glasgow	38	25	31	48
Manchester	38	26	37	52
Sheffield	37	24	28	40
Birmingham	36	23	30	42
Newcastle*	35 (39)	23 (27)	31 (33)	45 (50)
Bradford	35	21	25	37
Liverpool	35	24	32	48

*Figure given is Newcastle-Gateshead, Newcastle alone in brackets

Source: Annual Business Inquiry

Method: The Work Foundation Definition Knowledge Intensity, District/Unitary Local Authority units

³ Local authorities with populations greater than 350,000.

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The Edinburgh city region is only slightly less knowledge intensive (table 3, below). 30% of its businesses are knowledge intensive businesses (column C), whilst 41% of the population of the city region are employed in knowledge

intensive industries (column D). Of the core English city regions and Glasgow, only Bristol city region has a comparable level of knowledge intensity.

Table 3 – Knowledge intensity in central cities and city regions

Central City of City region	A		B		C		D	
	Employed in Knowledge Occupations (Residence Based, 2001)		Employed in Knowledge Occupations in Knowledge Industries (Residence Based, 2001)		Businesses that are Knowledge Based (Workplace Based, 2001)		Employment in Businesses that are Knowledge Based (Workplace Based, 2001)	
	%		%		%		%	
	City Region	City	City Region	City	City Region	City	City Region	City
Bristol	41	41	26	28	35	40	41	47
Edinburgh	39	49	26	36	30	38	42	53
Manchester	38	38	22	26	30	37	37	52
Leeds	37	38	22	24	28	31	37	41
Glasgow	37	38	24	25	28	31	40	48
Liverpool	36	35	22	24	33	32	39	48
Birmingham	35	38	20	23	27	30	34	42
Newcastle*	35	35 (39)	22	23 (27)	27	31 (33)	39	42 (50)
Sheffield	32	37	19	24	25	28	35	40

*Figure given is Newcastle-Gateshead, Newcastle alone in brackets

Source: Annual Business Inquiry, 2001 Census

Method: The Work Foundation Definition Knowledge Intensity, District/Unitary Local Authority units

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The knowledge intensive industries within the Edinburgh city region are largely concentrated in the core local authority, the City of Edinburgh. Compared to other city regions, Edinburgh City retains a high proportion of knowledge intensive businesses, employment

and employees. Whilst Edinburgh's growth in knowledge based businesses lagged behind some of the other case study cities between 1998 and 2004 (table 4, below), this is largely because Edinburgh was starting from a considerably knowledge intensive base.

Table 4 – Growth in percentage of businesses that are knowledge based for the case study cities

	1998 Businesses that are Knowledge Based (Workplace Based) %	2004 Businesses that are Knowledge Based (Workplace Based) %	Growth 1998 - 2004 %
<i>UK Average</i>	30	33	9
Birmingham	28	32	13
Brighton and Hove	36	42	15
Bristol	35	39	12
Cambridge	42	46	10
Edinburgh, City of	37	40	8
Glasgow City	31	34	10
Manchester	33	38	13
Newcastle-upon-Tyne	32	35	11
Sheffield	26	31	20
Watford	34	34	0

Source: Annual Business Inquiry

Method: The Work Foundation Definition Knowledge Intensity, District/Unitary Local Authority units

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5. Ideopolis driver analysis: strengths, challenges and opportunities

Ideopolis drivers

This next section of this case study will analyse Edinburgh according to the nine drivers of the Ideopolis¹³ that have been identified through our literature review, data modelling and case study research. It will consider the following questions: what are the factors that have supported Edinburgh's success? And what are the remaining challenges that the city faces, as well as the opportunities that will support Edinburgh in realising and sustaining the Ideopolis vision?

5.1 Physical Knowledge City

Edinburgh has a distinctive 'physical knowledge city' offering. Indeed the city is well known for its attractive built environment, and some outstanding architecture. Edinburgh is a manageable size, making it relatively easy to move around and "know what's going on"⁴. The most recent physical development in the city has been the financial district, built in the late 1990s according to a masterplan by Terry Farrell. This is now the home of many of the city's financial service firms, and provided the space for their expansion.

Independent reports have stated that Edinburgh is likely to have "sufficient supply" of property to meet overall industrial and office requirements for the short to medium term⁵. However, some interviewees and literature suggest that the city should consider to what extent it can accommodate growth industries in the future. *Better Cities* suggests that there is a shortage of office accommodation, especially in terms of larger, open plan office and city centre spaces⁶. One of our interviewees also complained that small businesses, particularly in the New Town, were unable to get the planning permission to expand in their, often listed, locations. This suggests that the city will

need to continue to plan how it responds to the growth of knowledge industries.

Another challenge is that Edinburgh may suffer in the future from its current success. House prices in the city are high, making it difficult for families, first time buyers and those on low incomes to buy in the city centre. This is an issue that needs to be addressed at the city-region level.

5.2 Building on what's there

Edinburgh's growth has been path dependent: the city has built on its historical role as the capital of Scotland, administrative centre of the country and site of the headquarters of national, particularly financial, companies. As the capital city, Edinburgh was boosted by the establishment of the Scottish Parliament in 1999, and is the site of the Scottish Executive. This brings regional organisations here, Scottish wings of organisations and an associated body of consultants, lobbyists and public relations consultants.

It has also been the natural home for the 'headquarter functions' (and so, often, knowledge bases) of a range of Scottish industries. The two national banks, Royal Bank of Scotland and Bank of Scotland, have been

⁴ Ideopolis Interviewee

⁵ A Report into the Key Sectors of Edinburgh's Economy, 2001, p4.

⁶ Better Cities, New Challenges, A Review of Cities, Scottish Executive, 2002, p75

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particularly important. There is considerable historical path dependency here, with RBS having been founded in 1695. Four of the top 5 of Scotland's top 500 companies are based in Edinburgh (Royal Bank, Standard Life, HBOS and Scottish Widows).⁷

Given the knowledge intensive nature of these industries, it is likely that they will remain in Edinburgh. Sectors such as financial services may depend on the sharing of "tacit" knowledge, which often depends on face-to-face communication. This then requires other firms to locate close to each other, in areas that have a critical mass of such firms large enough to be beneficial⁸. For Edinburgh, this helps to explain the ongoing success of financial services in the city, although other factors, such as its position of capital of Scotland and a relatively skilled workforce, are also important. In the long run, it suggests that unless there is a shock, such as the closing of several firms, that brings the number of firms below this critical mass, Edinburgh will continue to be successful in these industries.

5.3 Diverse specialisation

As discussed above, Edinburgh's financial services specialism is significant, accounting for 8.3% of the businesses in the city-region area, well ahead of another financial services centre Bristol, where 5.3% of businesses are in the financial services sector. Edinburgh has almost double the UK average, strongly concentrated in the centre of the city-region, where almost 15% of businesses fall into this category. As Scotland's capital, it is unsurprising that Edinburgh has a significant tourist market. It also hosts the largest arts festival in the UK

every August, making creative and cultural industries important to the Edinburgh economy. Research and Development is a historical strength of the city, with 54% of all Scottish R&D taking place in Edinburgh and the neighbouring Lothians. This dates back to the medical work of James Simpson, who developed anesthetics, and was expressed more recently in the controversial cloning of Dolly the Sheep. The city's biotechnology industry has been the subject of particular interest, experiencing rapid growth (around 28% annually 1999-2004, against a European average of 15%)⁹. The industry has been closely linked to neighboring research institutes and universities – these work as public sector 'anchors' of private sector growth.

The main challenge for Edinburgh's economy is one of dependent, rather than diverse, specialisation. Whilst the proportion of public sector work is not as high as in other cities in Scotland, Edinburgh's success in other industries means that it is a vulnerability it should consider. Public sector spending may reduce because of political change, and this could affect the city's economy. One interviewee also suggested that the public sector could "crowd out private sector enterprise...my competitor in high-tech research is often the state".

Beyond the public sector, there are concerns that the city relies on a few large businesses, and that the withdrawal of any of these would be disproportionately harmful. While the Royal Bank and Bank of Scotland are historically linked, there are concerns that other financial institutions less embedded in the region may leave in the future. These firms offer more than economic success, providing 'springboard

⁷ See www.insider.co.uk, 2003

⁸ Paul Krugman (1998) "Development, Geography and Economic Theory"; London: MIT Press

⁹ Scottish Enterprise (2005) 'Key Facts and Figures'

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employment' for short periods, allowing former students to stay in the city after graduation and while looking for long-term employment. Without these, it might be more difficult to retain graduates.

Manufacturing in Edinburgh still employs around 6% of people; a figure that – it has been noted – is not significantly lower than Glasgow¹⁰. However, the industrial base has declined in recent years and may soon be below critical mass. If this does happen, the possibility of re-establishing these industries into the area will become even more challenging.

5.4 High skill organisations

There are enough good jobs in the city to allow it to support a highly educated population – and the proportion of the population that is highly educated is growing, from over 30% being educated to degree level in 2001, to over 40% in 2004¹¹. Wages are relatively high, certainly compared to the rest of Scotland and the North of England.

5.5 Vibrant Education Sector

Edinburgh's university sector is strong. There are five higher education institutions in the city¹² and Edinburgh has the seventh largest student population in the UK (around 51,500), amounting to a quarter of the Scottish total¹³. Primarily, this provides a skilled population –and the proportion of students who stay in the city after graduation is relatively high. However, there are some concerns that foreign students are increasingly unlikely to stay on,

meaning Scotland loses a highly educated group. Responding to this, Scottish Executive has initiated a programme of visa extensions to persuade foreign students to remain in Edinburgh following graduation.

The student population in Edinburgh are a well-used pool of employees for filling service jobs¹⁴. This helps to prevent staff shortages and keep wage inflation down. The demand effects of a large student population are also important, albeit with a potentially divisive impact on house prices.

Around 25% of pupils in Edinburgh are educated at "independent" schools and exam results in these schools tend to be "significantly above" those achieved in state schools¹⁵. This has a tendency to draw some high achievers from the state sector, leading to concerns that this is divisive and prevents social mobility.

5.6 Distinctive knowledge city offer

Edinburgh has a spectacular and distinctive built environment. The centre of the city is well defined and looks out onto Princes Street Gardens and Edinburgh Castle. Architecturally the city is outstanding, with the 18th Century Classical New Town and the medieval street layout of the Old Town. This gives the city a core, and so maintains cohesion and a sense of place. It maintains a high population density close to the centre, with the Scottish model of tenement buildings around a central staircase.

The city is close to attractive countryside, and has superb green space within the city itself. Arthur's seat, an extinct volcano, physically

¹⁰ Glaeser – 4 Challenges for Scotland's Cities. However, our analysis of city regions suggests that Edinburgh City Region actually has a higher share of businesses in manufacturing than the Glasgow City Region.

¹¹ 2001 Census, Scottish Census Results Online

¹² These are: The University of Edinburgh, Napier University, Queen Margaret University College, Heriot-Watt University and the Edinburgh School of Art

¹³ The Case for Edinburgh, Summary of Economic Case

¹⁴ Competitive Places, Divided Spaces, Ivan Turok, 2005, p9.

¹⁵ Better Cities, New Challenges, A Review of Cities, Scottish Executive, 2002, p59

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overlooks the city, which surrounds it. There are views from the centre and suburbs of the Pentlands and the Firth of Forth. Portobello beach is half an hour from the centre, and there are others slightly further away. The area also has good links into the Scottish Highlands.

The city builds distinctiveness with a series of international festivals and an enhanced cultural offering. The annual Edinburgh festival draws tourists to the city, boosting the city's economy with an estimated 3,200 jobs a year¹⁶. But, furthermore, it provides the added extra which can attract some knowledge workers – by giving them cultural facilities they want, an attractive environment to live in and the quality of life factors they need. Edinburgh is well known as a tourist centre, making it easier to attract knowledge workers from abroad to live there¹⁷.

As a world heritage site, the centre of Edinburgh experiences tension between maintaining historical distinctiveness and economic development. This hampers economic development in the city, providing a constraint on growth. It means that older buildings cannot be replaced by larger ones. Similarly, the interplay of road transport with the historic street pattern, particularly in the old town, slows urban traffic and causes congestion. Interviewees were concerned that Edinburgh would creak under future growth, and could potentially struggle to maintain its quality of life offering. The Scottish Parliament was seen as a notable exception as interviewees thought it was very high quality (if expensive).

The city has traditionally seen a high-density pattern of residential developments, in tenement blocks of flats based around a central stairwell. This has allowed residents to live relatively close to the city centre, which has

maintained a good infrastructure of service industries, particularly in the creative and cultural sector. However, there has been a perceived retrenchment of this traditional mixed-use pattern of development, with family homes in the suburbs and 'bijou flats' in the centre. This has consequences for the vitality and function of the city centre.

5.7 Leveraging strong connectivity

Edinburgh is well connected nationally and internationally. The train line to London is also seen as a good service, although Edinburgh still remains a long way away (4-5 hours; further than Paris). There are some challenges with connectivity within the city, and with the wider city region.

Edinburgh airport has experienced considerable growth, but there are concerns that links into the centre are poor in peak times. With Glasgow only 40 miles away, both cities could potentially benefit from a shared international airport in the future. This would minimise the environmental impact of airport growth, and would enable planners to lever strong connectivity between the two cities.

Waverly station is in need of expansion and redevelopment, although plans for dealing with this are being considered. Transport within the city is a key area where growth has overreached capacity. The city's ancient street plan is difficult to negotiate, and there are several natural barriers in the centre

Links with the surrounding region are also important. One third of the working population in Edinburgh live outside the city, and need to get in somehow. Transport within the wider city region is therefore a crucial challenge to be addressed to allow future growth (see 'Leadership below').

¹⁶ SQW Consultants (2005) Edinburgh's Year Round Festivals 2004-2005, Economic Impact Study, available from www.capitalreview.co.uk

¹⁷ See Distinctiveness review

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5.8 Leadership around a knowledge city vision

Like other cities in the UK, Edinburgh is experiencing the outcome of a lack of planning at an appropriate city-region level. This has proved a challenge in expanding appropriate infrastructure across the city, and planners can come up against boundary issues resulting in inappropriate developments. An example is the new Ikea development: Edinburgh city council rejected a proposed store on the edge of their authority; on the grounds that insufficient infrastructure was in place. Midlothian Council were willing to place it on their boundary, close to the original site – but the infrastructure problems remained the same.

This problem is particularly acute for transport infrastructure and is compounded by a generally conservative attitude from residents towards new infrastructure developments, as well as what some interviewees perceived as a lack of direction from the local authority. Yet the resistance of residents has had both positive and negative outcomes: for example, it prevented the re-development of the Georgian New Town in the 1970s which is now largely regarded positively.

House prices have pushed some people out from the city, while the expanding economy of the centre has drawn people in to work and to access the retail and cultural offerings of the city centre. Like other city-regions across the UK, Edinburgh and the Lothians already operate as a 'region' in terms of economic and social activity. However, the lack of co-ordinated planning at the city-region level constrains the abilities of connectivity to match the realities of this activity. .

A final governance challenge is around cooperation between Edinburgh and Glasgow. While there are some examples of cooperation, for example between the provosts¹⁸, there are concerns that the lack of cooperation between the two cities is preventing the development of "agglomeration economies" or the benefits of being close to other firms¹⁹ and that the size of the two cities is not being exploited together to benefit from economies of scale. In a paper for the Scottish Executive, Edward Glaeser argued for collaboration, summing up two key issues in relation to collaboration as:

1. A rapid expansion of quality affordable housing, helping to reduce the central belt's prohibitively high property prices.
2. Transport infrastructure and services must be upgraded and extended, as the "essence" of service companies is "personal interactions".

This second point is particularly important. In many knowledge industries, proximity to other economic agents is crucial as it allows the exchange of information that facilitates innovation, problem solving and the efficient working of markets. This makes the city, which is the physical manifestation of humans seeking to live near each other, more important. It also increases the economic need for mass transit, as people need to be able to travel to see each other.

5.9 Investing in the community

The situation for deprivation in Edinburgh is mixed. It has one of the lowest incidences of low pay in Scotland, while it has some of the highest numbers of children living in low-income households²⁰. There have been

¹⁸ The 'Lord Provosts' of Edinburgh City Council and Glasgow City Council are elected civic heads, with political and ceremonial duties

¹⁹ This might include the benefits of information sharing, a pool of specialised suppliers and specialised labour markets

²⁰ Joseph Rowntree Foundation (2004) *Monitoring poverty and Social Exclusion in Scotland 2004*

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significant moves towards improving the built environment in the deprived areas of the city. However, one interviewee expressed concerns that in some areas, notably Craigmillar, this regeneration is leading to increased rents and so actually leading to local businesses having to move out, rather than allowing them to grow.

6. Conclusions

The driver analysis and assessment of Edinburgh's knowledge intensity and role within the wider city-region make a strong case for Edinburgh as an Ideopolis. The city is highly knowledge intensive, has significant niche sectors and a highly skilled labour market. Edinburgh is undoubtedly driving growth within the wider city-region, and there are potential opportunities to be realized through a more co-coordinated Edinburgh-Glasgow approach to economic growth.

Some interviewees noted that a key challenge for Edinburgh is a lack of a shared vision for its future amongst key stakeholders. There were some concerns that the city might be 'complacent' and a view that it needed to be entrepreneurial about seeking opportunities for future growth. There are a number of challenges the city needs to address if it is to maintain its innovative historical position:

- **Create more opportunities for private sector involvement in economic development:** some private sector interviewees found it difficult to know how to get involved;
- **Combat social exclusion:** the concentrated areas of social exclusion need to be addressed to avoid problems of social cohesion.
- **Connectivity within the city region:** A focus on joining up nearby areas to the city, to allow them to share in its economic success, is important.

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7. Policy Recommendations for Edinburgh

Edinburgh is an Ideopolis and is outperforming almost all cities in the UK. To ensure that the city retains this position, it needs to deal with some current and potential challenges related to further growth. One of the important issues is local governance: like other cities, Edinburgh suffers from political boundaries not reflecting economic and social activity within the wider city-region.

Further development may also be constrained in Edinburgh: the city centre is clogged, and expansive development would have to be careful to avoid ruining the distinctive and attractive built environment. Space for development within the city centre is, therefore, limited. This puts more pressure on surrounding areas to accommodate the growth, presenting both an opportunity and a challenge

Physical knowledge city

- To address the problem of social inclusion and the changing character of the city centre, affordable housing provision near the centre must be a priority. Keeping the centre mixed use is important, as the concentrated demand keeps it lively and attractive for knowledge workers.

Building on what's there

- Continuing to build on its historic assets and to identify new opportunities, for example developing 'high value' jobs in its manufacturing base.

Diverse specialisation

- Edinburgh needs to encourage more specialised support for small businesses, focusing on organic networks.

High skill organisations

- Edinburgh should work with employers to provide good quality jobs for graduates, to keep them in the city and to address the forecasted consequences of the ageing population.

Vibrant education sector

- Edinburgh's future labour market will benefit from the universities and employers working together to match skilled graduates with entry-level jobs.
- The universities need to be linked more closely into the economic development strategy. The biotech industry suffered when one local university stopped running the degree in biotechnology.

Distinctive knowledge city offer

- New developments in the outskirts should be made to high standards and in keeping with the city's architectural tradition. The suburbs should not be allowed to descend into featureless 'sprawl', but must continue to maintain Edinburgh's distinct sense of place.

Leveraging strong connectivity

- Nearby areas need to be linked in better to the city centre, to allow them to share in Edinburgh's economic success and to take pressures away from the city centre.

Leadership around a knowledge city vision

- Leadership needs to be supported to happen at a co-ordinated city-region level.

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8. Lessons Learned from Edinburgh

Edinburgh has built on a high quality historic built environment, and the infrastructure of a capital city. It has, therefore, some distinct historic assets, and has actively used these to maintain an excellent quality of life offer for highly skilled knowledge workers and an attractive site for investment. Edinburgh has adapted well to economic change, for example by accommodating growth and mergers of financial services. Edinburgh provides several lessons for other cities.

- **Building distinctiveness:** The International and Fringe festivals have given Edinburgh a reputation as an attractive and creative city.
- **Build on what's there:** Edinburgh has built on its position as a national capital, and has used this to stimulate a range of successful industries, such as the financial hubs.
- **Universities and Innovation:** The critical mass of universities provides an 'anchor', attracting some innovative firms.
- **Long-term investment for the physical knowledge city:** Years ago, the city decided to build an architecturally outstanding, high quality New Town, to attract 'knowledge workers'. Today, Edinburgh still benefits from this.

Appendix A: Interviewees

This case study presents findings from a literature review, response at an interim workshop held in Edinburgh on 20 January 2006, and consultation with the following people:

- Mark Ballard MSP for Lothians & Peter McColl (researcher)
- Colin Bryce, Napier University
- Brian Farrell, Edinburgh City Council
- Brendan Hyland, Wireless Fibre
- Martine Sime, SCVO
- Councillor Wilson, Edinburgh City Council