The Role of Dublin in Europe

A Report prepared for the Spatial Planning Unit, Department of the Environment and Local Government

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Executive Summary

1. The EU is one of the most urbanised regions of the world, a region where large cities are continuing to grow. It is also a region where cities are engaged in intense competition and where cities hold the key to many aspects of EU competitiveness. Dublin is one of the large number, of one million plus cities throughout the European Union, although Dublin has to be seen as a relatively small city by EU standards.
2. Cities are playing a key role in European and global competitiveness. It is in the interests of EU development to foster and to develop the competitiveness of cities. Development policy at both the EU and national levels must take cognisance of issues such as urban size, urban economies and the importance of agglomeration in both metropolitan and national development.
3. Dublin has been transformed during the 1990s. Not only has the metropolitan area grown and expanded rapidly, the economy has been liberalised and made more competitive. Dublin has prospered as a major focus for foreign direct investment into Ireland, as well as an expanding centre of trade and tourism. The city has become a dominant national gateway. At the same time, Dublin functions strongly as the control centre of the economy and of virtually all facets of Irish economic and social life. While being a comparatively small and peripheral city in European terms, Dublin dominates the Irish urban, economic and social landscapes of Ireland. In many respects, Dublin is the centre of Irish economic life.
4. Dublin's successful development during the 1990s is intertwined with the national efforts to improve the competitiveness of the Irish economy. These efforts have improved Ireland's competitive position from 22nd in the World Competitiveness league in 1996 to third place in 2000. At the same time, the Forfas Annual Competitiveness Report shows that Ireland's economic success can be seen as fragile with room for further improvements. This is further highlighted by Ireland's 19th place in a world ranking of countries based on an "Information Society Index".
5. Dublin has both benefited from and been central to Ireland's overall success. Unfortunately, it has proved difficult to obtain sufficiently detailed published material, which could set Dublin in a league table of international cities and metropolitan areas. Work for the EU's Urban Audit 2000 study has been helpful; it also illustrates the types of comparative analysis, which might be undertaken if better data were collected and available on a standardised basis. However, it is significant that the European Regional Economic Growth Index places Dublin in top place in a schedule of 117 European cities and ahead of all other EU Member State capitals and larger cities.

6. To set Dublin in an international context it has proved necessary to carry out a series of in-depth case studies in selected EU cities. The selection of case study cities has had regard to factors such as population size, metropolitan importance, levels of growth, experience of networking and the development of growth corridors between nodes. The cities finally selected were Helsinki, Stockholm, Copenhagen, Frankfurt-Main, Toulouse, Bristol-Cardiff and Edinburgh-Glasgow. An in-depth profile of each city is provided in Section 5 of this report.

7. Case-Study cities were assessed and compared with particular regard to eight factors, which underpin competitiveness. These factors included were:

    - Financial and related business services
    - Commercial and business development
    - Office location and office space growth
    - Research and Development, universities and science parks
    - Business tourism, convention traffic, importance as a centre for business travel
    - Ease of access and transport links notably with other urban centres (national & international)
    - Information flows and capacity
    - Modern high-tech industry

    Acquiring comparative data on each of these sets of factors and indicators has proved difficult, particularly in regard to "information flows and capacity" and "modern high-tech industry".

8. Section 4 of the Report has sought to compare Dublin and the other nine EU cities across a range of factors or indicators. Dublin can be seen to have a "moderate potential" on many of the indicators with the exception of "Business Tourism", where Dublin's ranking is relatively weak. As a general rule, Dublin is ranked about equal to or just above Helsinki on many of the indicators. However, with the exception of the indicator on "Office Location and Office Space Growth", Dublin did not rank above Copenhagen and Dublin was out-ranked by Stockholm and Frankfurt in terms of potential on all indicators.

9. Section 5 of the report provided city profiles and strategies for all the cities, with more extensive material on the cities of Helsinki, Copenhagen and Stockholm – cities which have very clear competitiveness strategies and which have a relevance for this study. There are many similarities in the strategies being pursued by these cities; all have a strong capacity for research and substantial higher education facilities. While sector specialisations and differences exist, there are considerable similarities in the various competitiveness strategies being pursued, as well as in their factor composition. Environmental issues and quality of life factors are increasingly important. Some cities have adopted a regional strategic approach, which identifies a particular role for a city in its transnational or European regional

context. In this way, cities develop complementary functions to other cities in their transnational region and thereby promote their specialised role within the wider regional network of cities, e.g. Stockholm is developing as a communication centre for Scandinavia, while Copenhagen is being promoted as the Gateway to, or the capital of, the Baltic.

10. The final section of this report examines the policy issues arising for Dublin. Since the improvement of competitiveness is a continuous process, Dublin requires both a Vision and a Strategy to take the city and its region forward to 2010 and up to 2020. This strategy requires both a wider North West European context and it needs to be supported by new structures and procedures in the domestic context.

    Dublin's competitiveness is threatened through under-investment and ineffective implementation procedures. Dublin is also overburdened by the costs of sprawl and the lack of integration. Future strategies for Dublin need to focus upon issues of quality, social cohesion, human resource development. Dublin needs to focus upon development rather than growth, placing emphasis on the city's international role for Ireland. While some functions might, with advantage, move beyond the Dublin region, Dublin will continue to play a key role in the future success of the Irish economy and society. The city can best fulfil this role through closer integration within the development of north-west Europe and through participation within networks of complementary cities. This report has shown that Dublin is rather comparable to Helsinki in many respects. One target should be for Dublin to match the role and potential of Copenhagen by 2010.

Policy Implications

The policy implications of this study are numerous and they are important. The implications are detailed throughout the study and particularly in Section 6.

1. Dublin provides advantages of scale and agglomeration economies which are unique in Ireland and which need to be protected and enhanced in the national interest.
2. Dublin is a national gateway and the city performs an important international role for Ireland as well as for the city and its region.
3. Looking to the future Dublin requires a Vision for its future and a strategy to deliver that Vision up to 2010 and beyond.
4. Dublin must pursue policies directed towards the continuous improvement of its competitive position. This requires lage scale investment in both physical and social capital, effective implementation procedures, the overcoming of fragmentation in all its manifestations and a focus on integration.
5. Dublin's future strategy needs to focus on development rather than just growth, enhancing its value chain, improving further the quality of life and avoiding the unneccessary costs of unsustainable development patterns and costs arising through a lack of integration across a wide range of functions. Dublin continues to face problems of social exclusion and, like the rest of the country, must attach a higher priority to human resource development. Once again, issues of integration arise.
6. While protecting and enhancing Dublin's development and its international functions, it is timely to undertake communication and information audits of Dublin firms to determine which firms have a real need to be in Dublin and which could both relocate and thereby contribute to balanced regional development. A less overburdened, leaner and fitter Dublin with a support for a culture of decentralisation could prove to be more efficient, more sustainable, and more competitive.
7. Dublin must overcome its relative isolation. The next decade requires an effort to secure stronger inter-urban and urban-rural links within Ireland. Dublin must also engage with the rest of North West Europe and it needs to follow the example of its competing cities and form networked links with other cities in the Celtic Fringe and through North West Europe as part of a policy of enhanced competitiveness, improved integration and city marketing.

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1 Introduction and Context

1.1 Introduction

From a spatial planning perspective, most of the research work on Dublin has concentrated upon two broad aspects – the role and dominance of Dublin within the Irish urban system and Dublin's long history of social division and social contrasts. At least until recent years, less attention focussed upon Dublin's international role or the role of Dublin in Europe. This is hardly surprising given the protracted periods of recession during the 1970's and 1980's and the need "to get our fundamentals in order". Indeed, Europe-wide studies of economic potential and contact potential (Keeble et al,1981), (Sahlberg and Engstrom, 1973) show both Dublin and Ireland as a whole to have been rather remote and isolated from the centre of European economic activity. In addition, a 1989 publication on Le Villes Europeennes placed Dublin in its sixth level within a ranking of European cities, well below almost all other European capitals (Reclus-DATAR, 1989). Dublin was perceived as being rather remote and having a peripheral role.

In contrast, the 1990's have witnessed the growing recognition of Ireland's international role and its position as an important European capital (Bannon, 2000). Dublin's importance lies in the reality that in the case of Ireland Dublin "is the location where the Global economy comes to ground" (Saskia Sassen, 1999) and where the international, post Fordist economy is leading to structural changes in the role and pattern of Dublin in line with those affecting cities that may be described as "global or globalising" (Marcuse and van Kempen, 2000).

This report focuses upon "the role of Dublin in Europe". But in line with Dublin's growing dominance within the Irish economy, the role of Dublin may be seen as increasingly synonymous with the role of Ireland in Europe and in global affairs in many respects. This is also part of the wider reality that Europe is increasingly "a Europe of cities" and European competitiveness is increasingly a question of the competitiveness of its cities.

1.2 The Role of Cities in the European Economy

The European Union is the most urbanised region in the world with 79 per cent of the Union's total population of 237 million living in urban areas in 1992, the latest date for which comparable data is available (Europe 2000+). The urban landscape of Europe is also characterised by a close network of urban areas, with concentrations of important towns or cities in close proximity to each other (Figure 1). While there was a total of 3,630 towns or cities of over 10,000 inhabitants throughout the Union, critically there were 32 cities of more than a million in 1990. Apart from Dublin, the one million size metropolitan areas included Helsinki, Copenhagen, Stockholm, Munich, Cologne and Frankfurt, the Randstad cities, Marseilles and Lyon, as well as Birmingham, Manchester and Glasgow. These urban agglomerations of one million or more accounted for 56 per cent of the Union's urban population. Collectively, these cities play an increasing role in the commercial and business life of the modern Europe.

Figure 1:Global, regional and local urban centres in Europe

The major cities of Europe are the foci for the increased volumes of capital flows, both between Member States and with the wider global economy. Europe's major cities perform a critical role as service providers within the global economy; they are the location for a growing array of trans-national service, information and high technology firms. Europe's million-plus cities are the hubs of information networks and exchange. Cities which are both national capitals and EU capitals are of increasing importance. The very forces, which can facilitate the de-concentration of work and living, also enable the greater concentrations of wealth, resources and enterprise in the larger cities. Cities are both increasingly co-operative and competitive and city competitiveness is seen as the key to overall improvements in Europe's competitiveness. As the Final Report of the Study Programme on European Spatial Planning states:

> *"In today's global economy, metropolitan areas can increase their competitiveness through co-operation with other metropolitan areas on a global scale. In this new context, metropolitan areas have become less dependent on the surrounding areas".*
>
> *(Study Programme, p. 22)*

While the Study Programme stressed the importance of the "*Polycentric urban model*", such a model of more balanced urban development, based around a network of roughly similar sized cities with strong evidence of inter-urban trading, appears to fit most easily with the network of cities in the vicinity of the Rhine in the Netherlands and Germany. At the same time, the Study Programme stresses the importance of developing and strengthening urban-rural relationships, inter-urban and inter-metropolitan links, which should become of even greater importance for innovation, economic success and access to the global economy in the coming decades.

This context is particularly challenging for Ireland, where the Dublin region holds a distinctly primate position in terms of demography and economic development, where inter-urban or urban-rural relationships are not particularly robust and where, to-date, Dublin is in the early stages of putting in place urban and inter-urban networks at a trans-national, European level. For the future, there is a need for Dublin to play an increasing role within Europe and globally, both for the sake of the citizens of the Dublin region and the country as a whole.

1.3 Cities in Global Competitiveness

While much of the comparable international data focusses upon national or regional performance, there is increasing recognition that cities or clusters of cities lie at the cutting edge of competitive enhancement for countries or regions. Such a role for cities is acknowledged in Europe 2000, Europe 2000+, the Study Programme on European Spatial Planning and the Spatial Vision for North West Europe. Not only did Europe 2000+ identify a trend towards the growth of larger cities, but the study also emphasised the role of cities in EU competitiveness. It also stressed the need for EU cities to collaborate and to network in their own interests and to ensure improved competitiveness throughout the Union. A similar theme has been explored in the Spatial Vision For North West Europe: Building Co-operation (European Commission, 2000)

In 1999 Kresl and Singh reported on a study of competitiveness and the urban economy of twenty-four large US metropolitan areas. The authors argue that '*Urban competitiveness is determined by both economic determinants and strategic determinants. The economic determinants are composed of factors of production, infrastructure, location, economic structure and urban amenities, and the strategic determinants are composed of governmental effectiveness, urban strategy, public-private sector co-operation and institutional flexibility. While the economic determinants are quantitative in nature and data for them can be gained from a variety of statistical sources, the strategic determinants are qualitative in nature and can be got be got only through interviews and examination of the relevant local documents*'. (p.1022)

Having analysed the US Metropolitan performance Kresl and Singh conclude that '*Urban economies that get this (their competitive position) right are likely to have futures characterised by more attractive employment opportunities, rising incomes, growing tax revenues to fund the array of demands for social, educational and infrastructure projects with which they are being confronted, and social stability; those that do not act aggresively and with wisdom are likely to suffer marginalisation, declining economic conditions, and social tension*'. (p. 1026)

1.4 The Economics of City Size

There have been a number of attempts to explain the economic functions of the city. One of the traditional approaches has been the view of the city as a place where external economies are generated (see Bristow, 1996). This suggests that producers may find it advantageous to locate near other producers because agglomeration may support:

- Specialised local providers of inputs;
- A larger labour market, with more ready access to a firm's labour needs; and
- The spread of information about markets and technology.

Another view is that a second major source of agglomeration arises from the interaction between economies of scale and market size. This argument derives from the view that there are two types of activities in cities: those that meet local demand and those that meet export demand (from outside the city). Export growth creates local incomes, which are spent partly on locally produced goods and services, creating a multiplier effect. The size of the multiplier effect depends on the proportion of income spent locally. As cities grow, the proportion purchased locally also increases. This is because larger local markets allow firms to gain economies of scale and compete with imports (from outside the city). These effects of market size and economies of scale are mutually reinforcing, giving rise to cumulative growth that encourages increased city size. It is important to recognise that this is basically an import substitution argument for city growth. It thus does not provoke a particular resonance with the Irish experience, where growth would seem to derive more from agglomeration processes affecting the export sector.

There is a tension between the external economies and the external diseconomies of agglomeration arising from congestion effects. In this view, cities cease to grow when the external diseconomies outweigh economies.

The fact that cities are of different sizes is explained by the observation that while external economies are specific to particular industries, external diseconomies depend on the overall size of the urban area. It makes little sense for all industry to locate in one city, as individual industrial sectors will not create spillovers of benefit to others on a scale sufficient to counteract the external diseconomies to which they would give rise. A second aspect of this argument is that optimum economic size may differ depending on the industries in which they specialise. If a city specialises in an industry where spillovers are large, its optimum economic size will be larger. An example might be a city specialising in financial services, where knowledge spillovers are large. Such a city may have a larger optimum size that one specialising in a traditional basic industry such as textiles, where technological change is slow and backward linkages are few. Optimum size is thus a facet of function.

Apart from external diseconomies, such as congestion, there are two other factors that may limit city growth. Firstly, there may be immobile factors, particularly labour. That is, people may be unwilling to move from other regions and cities to provide these sources for urban growth. Secondly, urban concentration drives up land rents, which creates a disincentive to further urbanisation.

In summary then, there are competing factors determining city size as depicted in Table 1.1.

Table 1.1: Economic Factors affecting City Size

Factors Promoting Increased Size	Factors Promoting Decreased Size
Market size effects (linkages) Thick labour markets Pure external economies	Immobile factors (e.g. labour) Land rents Pure external diseconomies (congestion)

Will cities achieve an economic optimum size, if left to market forces? This appears unlikely, as individual decision-makers, in choosing to locate in the city, will not take account of either external economies or diseconomies. Thus, intervention *may* be warranted to control city size.

However, the fact that individuals do not take account of the positive external economies should cause some hesitation in implementing policies to limit city size. This is because, where there are such economies, cities will not expand to the economic optimum level *ceteris paribus*. Intervention to limit city size would be justified only where there is certainty that these external economies are outweighed by external diseconomies. If this is not the case, actions to limit city size will have negative economic consequences overall.

The question of economies and diseconomies arising from urban or regional policies are of major importance if Irish policies are to be meaningful and constructive. In the absence of rigorous research it is difficult to determine what the effects of particular policies may have been or may be in the future. But all policies should seek to ensure that firms and businesses are optimally located and that they benefit to the maximum extent from aggolmeration economies and the avoidance of diseconomies. The question of agglomeration and urban economies is central to any meaningful discussion of the role of Dublin in Europe in the future.

1.5 Methodology for the Research

The general approach to the study has been to seek to provide a comprehensive picture of the relative competitiveness of Dublin, whilst making meaningful comparisons of the data that is readily available. An exhaustive search has been undertaken of data available from international organisations including the European Union institutions, the OECD, the World Bank, private sector reviews and others. Ten European cities have been contacted to gather more detailed information. The report has made use of both quantitative and qualitative information.

The search for comparative information has concentrated on three broad areas which relate to the main factors of competitiveness. The three factors are:

- **structure of economic activity**, especially in growing sectors as evidenced by

  modern high tech industry

  financial and related business services

  office space growth

  commercial and business development;
- **innovative capacity** as evidenced by

  research and development activity

  information flows and capacities;
- the **gateway role** of the city as evidenced by

  business tourism, convention traffic and

  transport links and flows with other cities.

The research has sought to find relevant indictors within each area. However, it is difficult to identify appropriate indicators for all factors. This is a widely recognised problem, especially in relation to innovation, where for example the number of patent applications is used by both the EU and OECD. Also, there are few internationally agreed templates or definitions for the collection of data, thus what counts as 'high-tech employment' or even 'office space' is different from one country to another.

There is considerable variation in the availability of comparative data on indicators. At the national level there is a reasonable set of comparative general statistics on demography and economic performance. At the city level, the availability of comparative data is much less satisfactory. Data on movements on goods and people through the main gateways is reasonable, but data on financial and information flows has proved particularly difficult to capture. In the case of Dublin this problem is compounded in two ways. First, statistics are often aggregated to the regional level, which in the case of Dublin is sometimes regarded as the whole of Ireland. This is the case with much regional data held by Eurostat. Second, many flows from Dublin to elsewhere in Europe whether people, goods or information are routed through other areas, notably the south east of England.

The recently published Urban Audit involved extensive effort to compare indicators for 58 cities across Europe but provides only limited assistance. The Audit report concluded that there is an urgent need for good quality urban and metropolitan data on all aspects of urban life and business. The situation regarding data availability is improving and in particular on competitiveness, sustainability and the quality of life. Data covering 31 competitiveness indicators for the whole of the EU is being prepared and is to be published imminently. Because of the difficulty with data availability, and changes to this, the Department of the Environment and Local Government may wish to consider establishing a periodic comparative review and/or more detailed investigation of particular factors.

Taking these data issues into account the report provides as complete a picture as possible within the resources and time available. In order to do this the research has involved a number of approaches, which are summarised in Table 2.1.

Initial reviews have been undertaken of existing comparisons of city characteristics and competitiveness. These reviews tend to compare all cities and do not discriminate between, for example, the global cities like London and Amsterdam and the majority that perform quite different roles such as Dublin. Therefore, a more detailed investigation has subsequently been undertaken concentrating on comparable cities elsewhere in Europe. Ten comparable cities have been selected. These are cities that share similar characteristics to Dublin. The emphasis is on northern European cities that are important regional centres or capitals of smaller countries and that have exhibited strong growth over recent years. Six cities are grouped into three pairs since it might be argued that to some extent their performance is interrelated.

Table 1.2: Approaches to Comparative Analysis Adopted in the Report

Method	Areas considered
Dublin's international role: Review of trends in the recent growth and international role of Dublin	Demographic indicators Employment Investment patterns Finance related services Flows of goods and people;
Ireland's international competitiveness: Review existing international comparisons of the competitiveness of countries	International competitiveness indicators Social, people, education and skills Labour and other costs Infrastructure Telecoms and electronic business Regulatory context for competition Science, technology and research Economic indicators
Dublin's general growth ranking Review existing comparisons with 21 cities in Europe and existing economic growth rankings	Demographic indicators Employment GDP Economic growth potential
Comparative city rankings An In-depth comparison with 10 selected cities of comparable size and character	Location of headquarters, financial and business services Commercial and business developments Research, development and education Accessibility and transport links Business tourism Office location and office space growth
Comparative city strategies and networks A comparison of the strategies adopted by the 10 comparison cities to address economic competitiveness	Economic development and territorial/spatial development policy framework for the city The use of city networks as a tool to improve competitiveness

Finally, the research has considered the strategies adopted by each city to address the issues of economic competitiveness and managing growth. Specific attention has been given to the role of 'city networks'.

1.6 Structure of the Report

Having set the context and outlined the methodology in Section one above, Section two examines the role of Dublin as it has evolved during the 1990's. Dublin has changed significantly during the 1990's and this section will overview this changing role, as well as identifying the underlying causes of change and the factors underpinning Dublin's competitiveness within both an Irish and international context.

Section three focuses upon the evaluation of competitiveness at both a national and a Dublin scale. Sections four and five will be devoted to an examination of comparative analyses of city performance across Europe and to the assessment of comparative strategies. Much of this material will derive from case studies undertaken for this report. Section Six outlines the implications of the study findings for Dublin's future development and relative position.

2 The Changing Role of Dublin

2.1 Introduction

Dublin is one of the million-plus urban agglomerations referred to in Section 1.2 above. Some aspects of the following discussion relate to Dublin City with a population of less than half a million, but for the most part, this analysis is related to the Greater Dublin Area embracing seven mainline local authorities and having a population of 1.457 million in 1998 (Figure 2). This analysis is also set within the domestic national context in which Dublin dominates the national urban system, with the Greater Dublin Area having well over twice the population of the next nineteen urban centres outside Dublin (Bannon, 1999). The following sections of this report will examine some facets that both reflect Dublin's dominance within Ireland and, at the same time, underpin its international role as a centre of commerce and trade and a linchpin in Ireland's pursuit of an improved competitive position.

2.2 The Growth of Dublin

Dublin and its region has been one of the fastest growing city regions within the European Union during the last decade. Such growth has been fuelled by high levels of natural increase, internal migration and, latterly, through net immigration of both returning emigrants and the immigration of foreign nationals. As a consequence, the population of the Greater Dublin Area increased by 551,000 persons (or 60.1 per cent) between 1961 and 1998. At the same time the percentage of the State's population residing in the Greater Dublin Area grew from 32.3 per cent in 1961 to 39.3 per cent in 1998. Between 1991 and 1998 the Greater Dublin Area increased by 106,000 (or 7.2 per cent), with the growth and spread of Dublin continuing into the 21st century and forecast to grow to at least 1,700,000 by the year 2011 (B.S.M. et al, 1999) and (Figure 2).

Correspondingly, the Greater Dublin Area has experienced a significant growth in employment. Between 1981 and 1998 employment in the region increased from 453,000 jobs to 618,00 (+165,000 or + 36.4 per cent) with the GDA's share of total State employment increasing from 39.8 per cent in 1981 to 41.7 per cent in 1998. Of even greater importance has been the transformation of the employment structure of the region Table 2.1

Though never a strong industrial region, the industrial sector of the Dublin economy accounted for 35.5 per cent of the region's total employment in 1998, largely as a consequence of the expansion and growth of high technology, modern industrial firms in Dublin and its vicinity. But the major employment growth occurred in Dublin's service sector, which increased by almost 180,000 jobs in the region between 1986 and 1998. By 1998 some 49.7 per cent of all service workers in the State were resident in the Greater Dublin Area – a percentage, which increases as skill and professional levels increase (Bannon, 1999).

Figure 2: Regional Development Strategy, 1999 - 2011

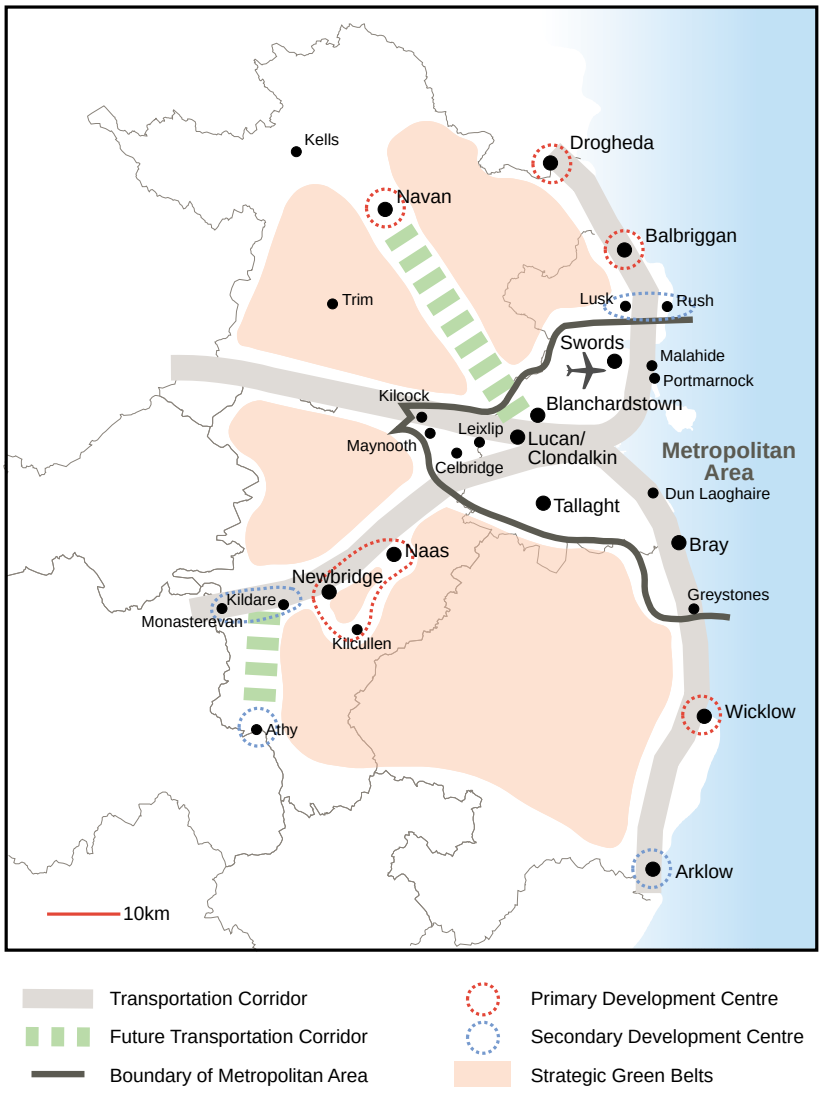


Table 2.1: Changing employment composition within the Greater Dublin Area and its increasing national significance, 1961-98.

	Agriculture	Industry	Services	Total
1961				
Number Employed by Sector	31,880	124,610	188,119	344,609
Percentage of Regional Total	9.3	36.2	54.5	100.0
Percentage of National Total	8.4	48.1	45.3	32.7
1998				
Number Employed by Sector	14,400	137,300	466,700	618,100
Percentage of Regional Total	2.3	22.2	75.5	100.0
Percentage of National Total	10.7	35.5	49.7	41.7

Source: Census of Population (1961) and Labour Force Survey Estimates (1998)

Service employment growth has continued throughout the 1990's with high quality services growing in parallel with the promotion of Dublin as a centre for high-technology industry, financial services and eCommerce. Dublin's enhanced domestic position and its increasing international position are inter-related.

2.3 Why is Dublin Growing in Relative & Absolute Terms?

Much of the recent growth of the Dublin region can be said to derive from two inter-related factors. The first is the key and dominant role played by Dublin in the domestic economy and throughout most facets of Irish life. The second factor relates to the vigorous promotion of Ireland as a location for foreign investment during the 1990's and the crucial importance of Dublin and Dublin related locations within this FDI promotion strategy to date. Table 2.2 seeks to illustrate the crucial and unrivalled role of Dublin (including the Greater Dublin Area) within the country in terms of higher order and control functions and roles.

Table 2.2: Miscellaneous Measure of Concentration in the Greater Dublin Area, 2000

Organisations	Total Number in State	Total
Central Government Departments	15	100
Bodies Within the Civil Service	47 (estimate)	98
Embassies Accredited to & located in Ireland	43	100
State Sponsored Bodies	118	81
Major Companies and Co-operatives	185	70
Largest Public Quoted Companies	50	72
Financial Institutions – Banks, Insurance, etc*	410	100
Trade and Professional Organisations	381	89
Social, Cultural & Political Organisations	474	88
Full-Time Students in University Education 1998-99	60,000	35

Source: IPA Yearbook and Diary, Dublin, 2000 and the Higher Education Authority

* Includes financial firms located in the Dublin International Financial Services Centres.

Table 2.2 shows that Dublin is the nerve centre and the control focus of virtually all facets of Irish life – business, commerce, finance, government, industry, labour and social organisations, culture and the arts, as well as higher education. Because of this concentration of control and the inter dependence between control functions, (Bannon, 1977), Dublin has prospered as a location for foreign investment and as a key control location in terms of foreign trade, investment and information flows. In short, Dublin has proved central to Ireland's economic development effort and to the Irish programmes to improve the country's international competitiveness rankings. Dublin simultaneously plays a key role in the management and control of the domestic economy and in terms of virtually all facets of Ireland's international position – as EU capital, national capital, financial centre, export location and as an important tourist entry point and destination. These two roles enhance and re-enforce each other.

2.4 Aspects of Dublin's International Performance in the 1990's.

Dublin can be seen to be linked into the global and European Economies both through the inflows to Ireland (Foreign firms, tourism, finances) and through the outflows as measured in terms of trade exports, passenger destinations and measures of money flows.

2.4.1 Industrial Trends

Ireland accounts for a substantial proportion of all US Foreign Direct Investment in to Europe – a fact reflected in the dominance of large, high technology and foreign exporting firms in the Dublin area (Table 2.3). In the year 2000, there are 778 foreign owned establishments in the Greater Dublin Area with 254 (32.6 per cent) employing more than 50 people. Many of the firms in this latter and larger category would involve a Headquarters function for Ireland and Europe.

This Table highlights the declining importance of traditional sectors of the Dublin economy (food, drink and tobacco) in favour of the electronics and computer software sectors, sectors largely driven by foreign investment, with some of these key players using Dublin as a European headquarters location.

Dublin's top exporting firms in 1999 included Intel (Ir£3,230 million), Smurfit (Ir£2,900 million), CRH (Ir£2,810 million) and Microsoft (Ir£1,600 million). Such growth in trade and in industrial output has fuelled demand for industrial, warehouse and "B.1" type space throughout the Dublin built-up area and now reaching out to the outer parts of the Greater Dublin Area.

Table 2.3: Major Industrial Employers, Dublin Area 1999

Electronics / Computer Software	Employment
Intel	4000
IBM Ireland Product Distribution Ltd	3500
Gateway	1600
Motorola	1500
Ericsson	1875
3Com	1700
Lotus	570
NEC Semiconductors	450
Creative Labs	450
Compaq Computer Corporation	440
Stratus / Ascend	352
Schneider	350
Siemens	350
Dell Direct	300
Silicon & Software Systems	300
Solectron	300
Shinko Microelectronics	270

Table 2.3: Major Industrial Employers, Dublin Area 1999 *(continued)*

Electronics / Computer Software	Employment
Celestica	260
SLC Technologies	250
ICL	250
Amdahl	230
Sun Microsystems	225
Food / Drink / Tobacco	
Cadburys	1600
Guinness	1100
Irish Biscuits	720
Irish Distillers	450
Gilbeys	400
Gallaghers	260
Player Wills	205
Plastics	
Munekata	250
Nypro	300
Acco	50
Little Tikes	180

Source: Dublin Chamber of Commerce, 2000

Ireland, and in particular Dublin, has developed as a prime location for foreign high technology industrial and services firms, supported in and around Dublin with Optical Fibre international connections, 200,000 kilometers of broadband fibre communications and the National Digital Park at City West, as well as proposals for a major "Digital District" in the vicinity of the Guiness Brewery. Dublin's International Telecommunications links can be seen in Figure 3. The importance of Dublin as a regional industrial and service location can be confirmed with reference to Table 2.4, although this may change as city rents and urban congestion increase thereby favouring urban decentralisation.

Table 2.4: Table Indicating the Breakdown of Industries by Sector in the Dublin Area.

	Dublin	Kildare	Meath	Wicklow	Total
High Tech.	100	7	5	7	119
Services	93	5	2	6	106
R & D	31	0	0	0	31
Manufacturing	94	10	7	10	121
Total	318	22	14	23	367

Source: IDA 2000

2.4.2 Office Supply, Demand and Costs

Modern Office development in Dublin largely commenced in the early 1960's and has been subject to severe cyclical variations over the past forty years (Bannon, 1972). However, demand for office space since the mid 1990's has outstripped supply and has greatly exceeded almost all expectations. The total take-up of Dublin office space, both new and re-let, from 1980 to 1989 inclusive was approximately 194,000m^2. From 1990 to 1998 the total area of office space let and sold increased to 952,000m^2 (Hamilton Osborne King, 1999).

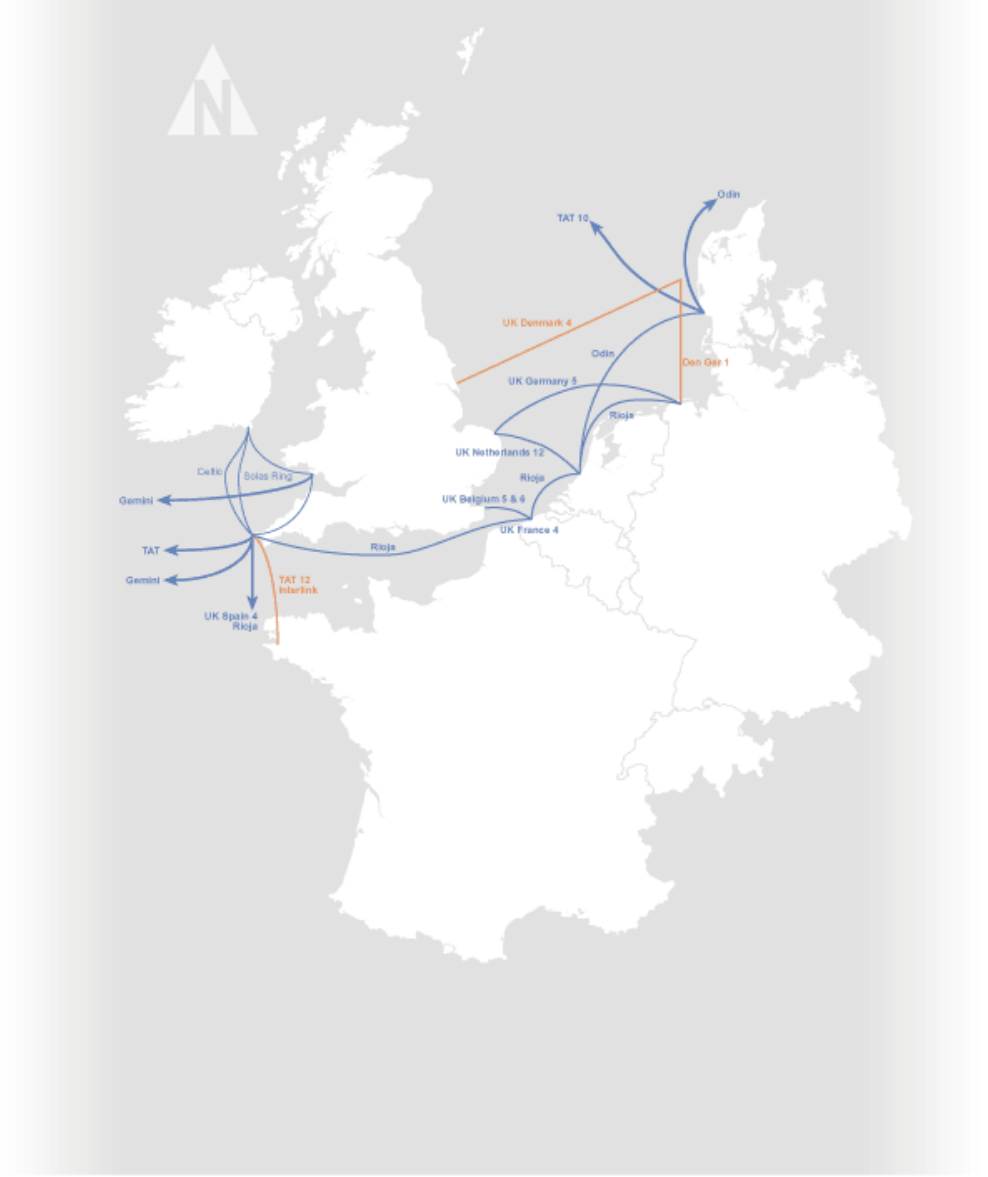
Almost one quarter of a million m^2 of office space was due for completion in 1999 as vacancy rates evaporated and rents reached almost Ir£450.00 per m^2. While traditional factors, together with developments in the Docklands area, have helped to concentrate new office developments in the city centre, "44% of the total area scheduled for completion during 1999 was in non-traditional office locations outside the central city" (Hamilton Osborne King, 1999). Table 2.5 shows the importance of international firms and information sector in the take-up of new office space in Dublin in 1999.

Table 2.5: Dublin - Top Office Deals in 1999

Occupier	Location	Sq. Ft.
Citibank	IFSC	250,000
Bank of Ireland	IFSC	82,200
A&L Goodbody	IFSC	80,000
Lucent Technologies	Cherrywood	62,000
Ocean	Grand Canal Plaza	60,500
Goodbody Stockbrokers	Ballsbridge	56,000
Eircell	Sandyford	48,000
Scottish Amicable	Hatch Street, Dublin 2	45,000
World Com	Hanover Court, Dublin 2	45,000
OPW	Belfield Office Park	45,000
Andersen Consulting	Grand Canal Plaza	47,000
Sun Micro Systems	Eastpoint	40,000
Client Logic	Sword Office Park	40,000
Synstar	Swords Office Park	40,000

Source: Dublin Into 2000

Figure 3 *eircom* Communications Network Connectivity to Europe



There is, now the beginnings of an office space famine in and around Dublin regardless of location, with overall vacancy rates now below 2.0 per cent of total. Demand for office space in Dublin has been greatly assisted by Dublin's rising but still relatively low office rental costs, Table 2.6.

Table 2.6: Summary of Relative Occupation Costs

	Rank	US$ per sq.ft.per pa	Tax as a %
Rome	42	27	12
Belfast	37	31	35
Munich	25	42	14
Stockholm	20	49	7
Glasgow	18	50	41
Dublin	17	51	18
Frankfurt	13	58	12
Edinburgh	10	60	38
London City	6	110	31

Source: Insignia, Richard Ellis July 2000

This table is based upon information in the World Office Rents Quarterly Review, 2000 and shows Dublin to have been ranked 17th in terms of office costs out of the 46 cities covered by the survey. Dublin office rents were less than half those in London and less than rental costs in Edinburgh or Frankfurt.

2.4.3 International Investment and Flows

Table 2.7 below provides some indication of the diversity and scale of firms investing in Ireland in 1999.

Major International Investment in Dublin in 1999 from leading companies include the following.

Table 2.7: Investment in Dublin

Company	Product/Sector	Employment	Location
Xerox Corporation	Customer Support Service (exp.)	900	Ballycoolin
Ascend Communications	Customer Technical Support	580	Blanchardstown Ind Park
Motorola	Mobile Phones	500	Swords Co. Dublin
Oracle International	International E-Business	400	East Point
Quintiles	Clinical Drug Trials (exp)	320	East Point Business Park
3Com	Manufacturers of Computer Network Products (exp)	250	Blanchardstown
Hewlett Packard	Technology Campus	200	Liffey Valley
Oral-B Laboratories	Dental Floss (exp)	150	Newbridge, Co. Kildare
Novell Software	Networking & Internet Software Company (exp)	140	Grand Canal Street
MSAS Global Logistics	Share Services Centre	135	Park West Business Park

Table 2.7: Investment in Dublin *(continued)*

Company	Product/Sector	Employment	Location
AOL Bertelsmann	On-Line Services (exp)	125	East Point
Iomega	Customer Satisfaction Centre	125	Citywest
EDS	Telecommunications Centre of Excellence	120	Lower Grand Canal Street
Lexmark Intl	Customer Services Centre	110	East Point
TDK Corporation	R & D Centre and pilot manufacturing operation	100	City West
ICL	Software Development	100	Harcourt Street
Rand A Technology	European Services Centre	100	City West
Informix Software	International Shared Service Centre	100	Westgate Business Park
Reckitt & Colman	Shared Service Centre	80	Ballymount
Baxter Ireland	Call Centre	80	Tba
Synopsys	Software Development Centre	75	Tba
Loctite Ireland Ltd	Adhesive Products (exp.)	70	City West
Citrix	Software Support Centre	50	East Point
Viking Direct	E-Commerce	25	Wilton Place Dublin 2
MIT Media Lab	Multi-media Research Insititute	Tba	Guinness Hop Store

Source: Chamber of Commerce, 2000

The importance of foreign investment in Dublin can be gauged from Table 2.8 showing the breakdown of firms in Dublin's Financial Services Centre. In addition financial firms took up some forty per cent of Dublin's office lettings and sales in 2000. Dublin has developed an important financial service function over the past decade, with the growth of domestic financial functions and the promotion of the Industrial Financial Services Centre (I.F.S.C), which by 1999 had almost 350 "*certified firms*" listed.

Table 2.8: International Financial Services Centre Table of Tenant Grouping

	Number
Banking	88
Insurance	89
Asset Management	113
Treasury	32
Leasing	41
Stockbrokers	5
Other	10
Total	378

Source: IFSC 2000

2.4.4 Growth in Goods and Passenger Movements

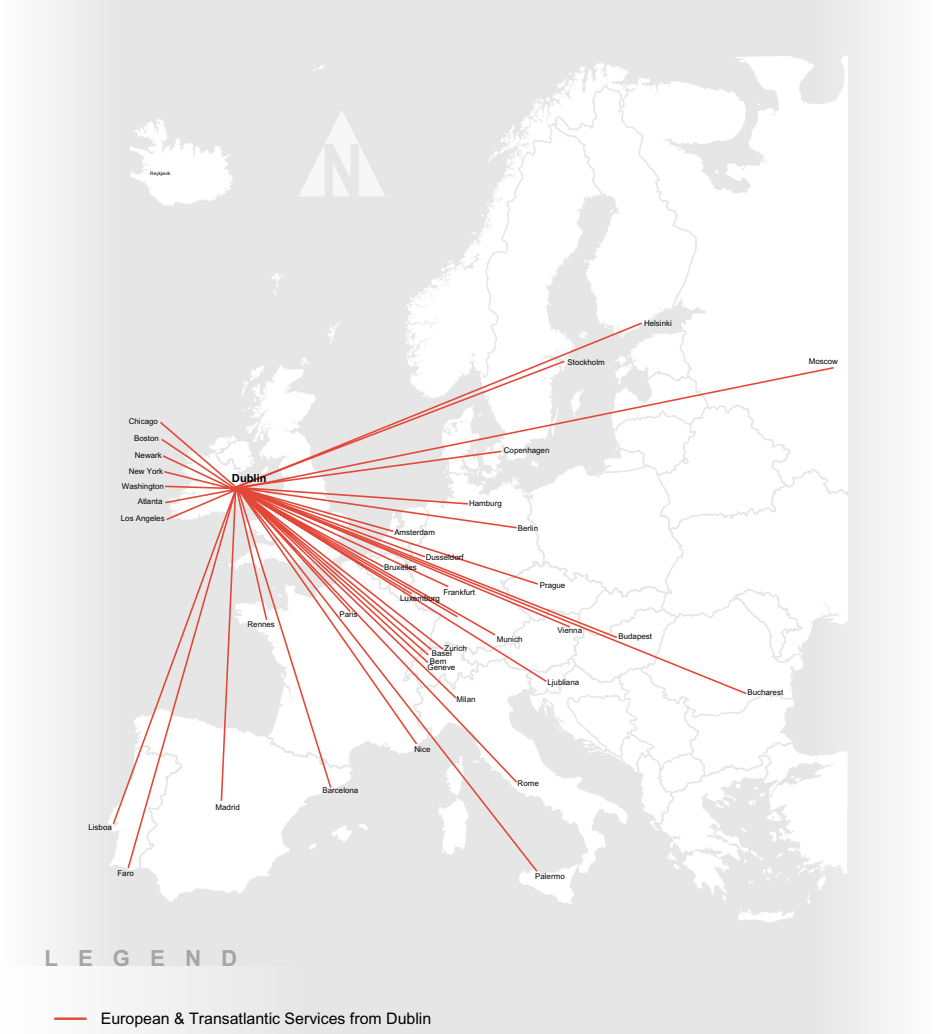
During the 1990's the value of Irish exports increased from £15,019 million in 1991 to £52,442 million in 1999. Since re-organisation in the early 1990's, Dublin Port has become an important gateway to Ireland and a major export route for Irish produce. Thus, the volume of goods passing through the port has increased from eight million tonnes in 1993 to over twenty million tonnes in 2000, while the value of port trade is estimated to exceed £30 billion per annum or in excess of half a billion £s per week.

But, perhaps of even greater significance has been the transformation of the role of Dublin airport. The 1990's witnessed a dramatic increase in all facets of the airport's operation – a massive growth in passenger numbers, a move towards a multiplicity of carriers and a widening of the international destinations served. Thus, passenger numbers have increased from approximately five million in 1993 to almost fourteen million in 2000. Deregulation has served to open up the airport to a wide aray of carriers and Figure 4 illustrates the increasing range of destinations served from Dublin.

In 1999 there were 3.5 million tourist visitors to Dublin, compared with 1.35 million in 1990. Correspondingly, the number of hotel bedrooms in Dublin has doubled to over ten thousand in 1999 with a corresponding growth of self-catering accommodation.

Conference and Business visitors constitute an increasing component of all "tourism" numbers entering Ireland and particularly Dublin. Thus, the number of Business/Conference visitors coming to Ireland has increased consistently from 42,000 in 1991 to 93,000 in 1999. Of these, the vast majority came from the European Union, some 94.0 per cent came by air, just over half stayed between 1 and 3 nights.

Figure 4 - 35 European & 7 Transatlantic Services



The importance of Dublin's role can be seen from Table 2.9 where it is shown that 85.0 per cent of all conference visitor destinations were within the Greater Dublin Area, principally Dublin city.

Table 2.9: Regions Visited – Conference Visitors, 1995-98 Average (%)

	Total	Britain	Mainland Europe
Dublin	78	76	80
Midlands/East	7	7	5
South-East	7	6	3
South-West	14	9	12
Shannon	12	5	9
West	8	5	9
North-West	2	1	1
Northern Ireland	2	1	2

Source: Bord Failte 2000

However, there is concern that the city is still in a somewhat precarious position, in that it is not taking full advantage of conference traffic. This is in part the result of the total lack of an umbrella agency to oversee, fund and co-ordinate business tourism activity in the Dublin area. This point has been further articulated with respect to the potential advantage that Dublin shares with the rest of Ireland in its relative proximity to the United States. US business people are on the one hand unwilling to travel more than 6 – 7 hours to attend overseas conferences (Ireland falls just inside that threshold) and on the other are willing to travel to Ireland on foot of its intrinsic appeal.

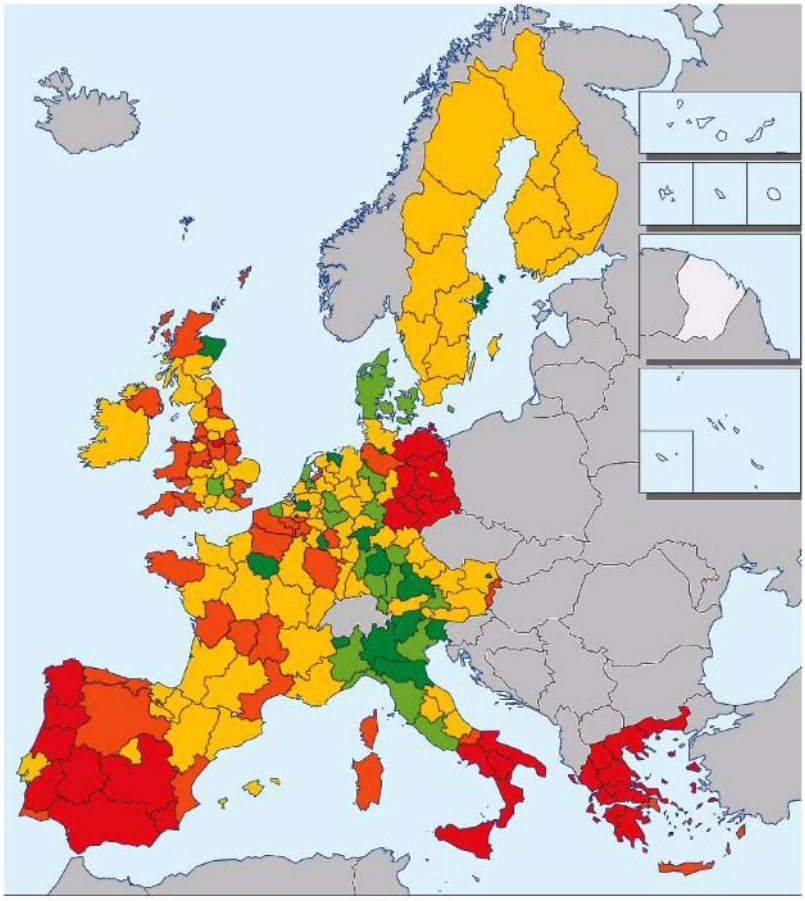
2.5 Dublin's Relative Position

Sections 3 and 4 of this report will examine and apply the best available existing comparative data but, in the end of the day, this study has had to depend upon seven carefully chosen case-studies of cities, their measurable performance and their strategies for future development.

Such comparative work places Dublin in a meaningful international city context and seeks to identify Dublin's strengths and weaknesses.

While Dublin has performed strongly during the past decade, this overall performance has been adversely affected by Ireland's relative remoteness as seen in Figure 5 where "*GDP adjusted to take account of differences in accessibility*" places Ireland in a moderate position relative to most of the central regions of the EU from London through to northern Italy. This is also highlighted in Figure 6 which depicts various "visions" of Europe's future urban pattern.

Figure 5: GDP per head adjusted to take account of effect of Differences in Accessibility, 1995



Adjusted to Equalise Accessibility

Index, EUR15=100

<75
75 - 90
90 - 110
110 - 125
>= 125
no data

Standard Deviation = 24.4

FIN : NUTS

0 250 1250km

2.6 Concluding Note

Dublin city and the Greater Dublin Area has become increasingly dominant in relation to Ireland as a whole and the Irish urban system in particular. Dublin is the control and management centre for virtually all aspects of Irish life. These roles have made Dublin increasingly attractive as a location for foreign direct investment, passenger and goods movements and investment by European firms. In turn, collectively these pressures for growth have fuelled the continued growth of the Greater Dublin Area.

Examination of Dublin's performance relative to other comparable EU cities has been hampered by the poor quality and the out of date nature of comparative data. At a time of increased competition, when Ireland including Dublin, is seen as increasingly marginal to projected future EU growth axes, there is a need to ensure that Dublin's competitive advantages are identified, protected and enhanced. This can only be assured when there is good comprehensive data upon which to base future strategies and policies.

Figure 6a: "Visions" of Future Economic Geography of Urban Europe

Sources: Based on van de Meer. (1988).

Figure 6b

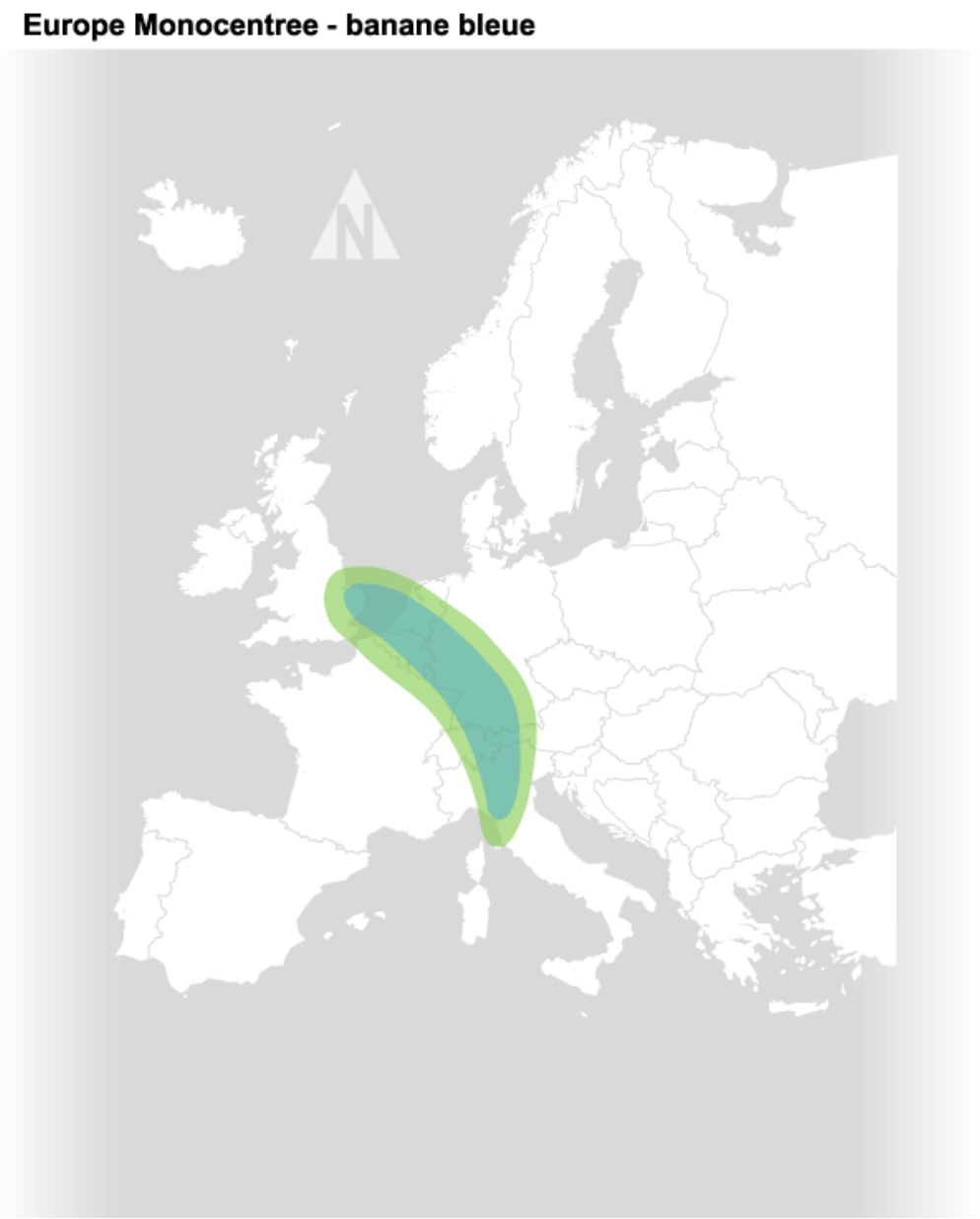
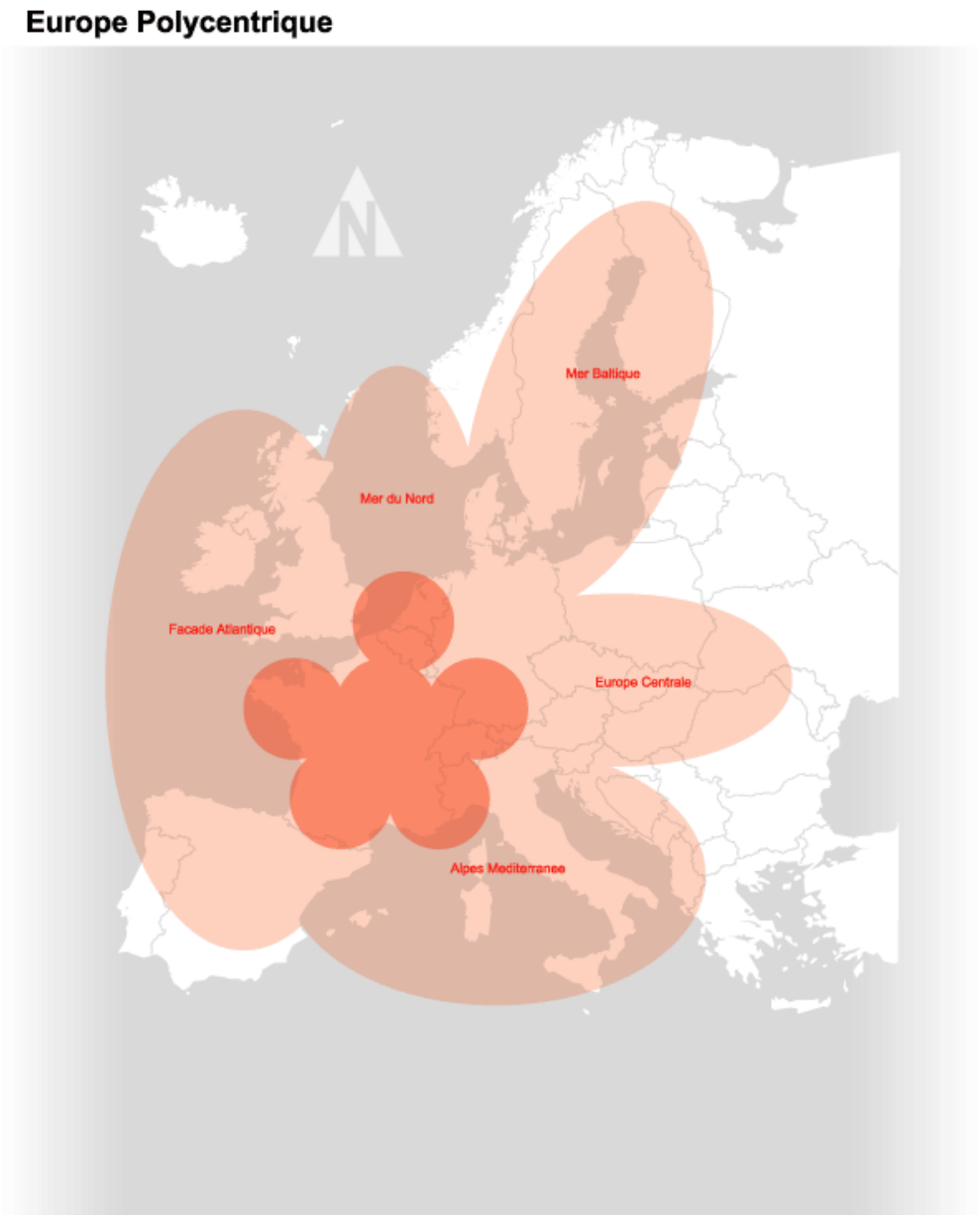


Figure 6c


Europe Polycentrique
Mer Baltique
Mer du Nord
Facade Atlantique
Europe Centrale
Alpes Mediterranee

3 Competitiveness and Dublin's improved position

3.1 Introduction

The Terms of Reference for this report placed an emphasis on the issue of competitiveness and the competitive position of Dublin vis a vis other EU cities. Section 2 has shown that the performance of Dublin is very closely bound up with that of the State as a whole. For the most part, the work of improving competitiveness and "*getting the fundamentals in order*" has been a national project, which has benefited the entire State including Dublin. But as the "*control centre*" of the national economy and as a trade gateway, Dublin was both the cornerstone and a principal beneficiary of improvements in national competitiveness.

Improvements in national competitiveness required the reduction of inflationary trends, the liberalisation of key branches of the economy, the introduction of competition, the reduction of taxation levels and the promotion of a free, open and competitive economy. The impact of such policies was to benefit Dublin and the country as a whole.

3.2 Improvements in National Competitiveness

The World Competitiveness Report shows a remarkable imprvement in Ireland's comparative ranking in the five years form 1996 to 2000 both in global terms and in relation to other EU Member States, (Table 3.1).

Table 3.1: EU Member States - The World Competitiveness Scoreboard

	Rankings				
Country	**2000**	**1999**	**1998**	**1997**	**1996**
Finland	3	3	5	4	15
Netherlands	4	5	4	6	7
Luxembourg	6	4	9	12	8
Ireland	7	11	11	15	22
Germany	8	9	14	14	10
Sweden	9	14	17	16	14
Denmark	12	8	8	8	5
U.K.	15	15	12	11	19
Austria	18	19	22	20	16
France	19	21	21	19	20
Belgium	20	22	23	22	17
Spain	24	23	27	25	29
Portugal	29	28	29	32	36
Italy	30	30	30	34	28
Greece	32	31	36	37	40

Source: World Competitiveness Yearbook 2000, Ranking as of April 19th 2000.

Comparative competive rankings are normally based upon four broad factors as follows:

- Structure of economic activity, the division of employment between agriculture, construction, manufacturing, market services and non-market services.
- Innovative activity measured by the number of patent applications.
- Access, an index of peripherality.
- Skills, the number of people with higher university degrees etc.

This World Competitiveness ranking is based upon a limited range of indicators but it illustrates Ireland's remarkable improvement in its competitive performance since 1996. This table places Ireland in line with a number of the Scandinavian countries, in particular Finland, which also achieved a remarkable turnaround in the late 1990's. Box 1 highlights the underlying reasons for Ireland's improvement.

Box 1: Ireland's Enhanced Competitive Performance

Ireland (7th) continues its impressive performance improving 4 ranks compared to 1999, and up from 22nd position in 1996. Ireland is the fastest growing of the economies surveyed in the Yearbook, with GDP growth at 8.6%. It attractiveness, based on a well-designed incentive policy for High Tech Manufacturing and Financial activities, is well known. Ireland's effort to educate its young workforce is also paying off, and contributes to the reversal of emigration. However a significant part of the country remains rural, less educated and with limited infrastructure, thus raising the spectrum of a two-tier country.

But Table 3.1 also shows that some of Ireland's competitor countries, e.g. the Netherlands, Luxembourg and Sweden, have consistently secured high rankings in their competitive position. In this context, the performance of Finland and Ireland may be regarded as fragile with a necessity for continued improvements in the competitiveness of the counties and their capital city regions.

Box 2: Performance of Small, Northern European Economies.

Finland (3rd) continues its impressive performance, jumping from 15th place in 1996. Sweden (9th) experienced robust economic growth in 1999 at 3.9%. However, Denmark (12th) suffered from a weaker economy in 1999, after a good period of economic growth in previous years. Norway (16th) loses 3 ranks due to weak oil prices in 1998 and early 1999. And reduced investment in offshore platforms. Iceland (10th) posts an astounding performance gaining 7 ranks. All of the Northern Countries significantly invest in their technological infrastructures. They are among the world's leading nations in term of Internet connections, telecommunication and computer usage. They highlight the positive impact that the "New Economy" can have on the competitiveness of nations however small they may be. In addition, they are strong in the development of mobile access to the Internet, which will further strengthen their competitiveness.

3.3 Need for Continued Improvement in Competitiveness

The fragility of Ireland's improved position can be gleaned from an examination of Table 3.2 in which the Forfas Annual Competitiveness Report examined Ireland's performance on a total of thirty-three variables across a wide range of competing countries, including all EU Member States, the US, Canada, Australia and New Zealand.

Table 3.2: Key Competitiveness Indicators by Quartile and "Best" performing Country

Priority	Indicator	1	2	3	4	Best
Social Partnership	GDP* per capita/EU GDP per capita				Irl.	Luxembourg
	Income inequality ratio: share of richest (*20 per cent to poorest 20 per cent)*				Irl.	Finland
	Standardised Unemployment Rate		Irl.			Luxembourg
People	School expectancy for a 5 year old child (*years*)				Irl.	Australia
	Net enrolment in tertiary education (*18-21, per cent)*	Irl.				Canada
	Science and engineering degrees awarded as per cent of total degrees		Irl.			Finland
	Total tax wedge (*single person*)		Irl.			Japan
	Female activity rate *(per cent pop, 15-64)*				Irl.	Iceland
Costs	Unit labour costs in the total eocnomy (*per cent increase*)			Irl.		Japan
	Interest rate spread (*Absolute*)				Irl.	Canada
	Industrial Electricity Prices (*large users*)			Irl.		Norway
	Building costs (offices)				Irl.	Turkey
	Producer prices		Irl.			France
	Consumer prices (annual change)				Irl.	Japan
Infrastructure	Average time commuting to and from work			Irl.		Italy
	Rail infrastructure indicator				Irl.	Austria
	Road Infrastructure				Irl.	France
Telecom and e-business	Internet hosts per capita			Irl.		Finland
	Mobile subscirptions per capita			Irl.		Finland
	2 Mbit/s leased lines national cricuits (annual rental, 100km)		Irl.			Finland
	Internet use (30 mins)		Irl.			Canada
	Cost of call: Business basket			Irl.		Canada
	OECD national (GSM) mobile basket				Irl.	Austria

Table 3.2: Key Competitiveness Indicators by Quartile and "Best" performing Country *(continued)*

Priority	Indicator	1	2	3	4	Best
Competition & Regulation	Overall regulatory environment	Irl.				US
Science & Technology	Business R & D expenditure as per cent of GDP		Irl.			Sweden
	Inventiveness coefficient *(resident patent applications per capita)*		Irl.			Japan
	ICT expenditure as per cent of GDP		Irl.			New Zealand
Economic Environment	Productivity *(annual average change)*	Irl.				Ireland
	Non residential fixed investment as per cent of GDP				Irl.	Japan
	Export eprformance for total goods (per cent change from last period)	Irl.				Hungary
	FDI inflow as per cent of GDP		Irl.			Finland
	FDI outflow stock as per cent of GDP			Irl.		Switzerland
	Cumulative venture capital raised as per cent of GDP		Irl.			UK

Source: Forfas – Annual Competitiveness Report, 2000

Ireland's relative performance is set out in the Table 3.2 in terms of Quartiles and also showing the best performing country on each of the thirty-three indicators. Ireland performs best of all in terms of "*productivity improvement*" and is in the first quartile on indicators relating to '*tertiary education*', '*the regulatory environment*' and the '*national export performance*'. This strong performance on such free trade indicators is confirmed by the placing of Ireland in third position on the US Index of Economic Freedom.

Of concern for Ireland and for Dublin is the country's very low ranking on variables such as '*income inequality*', '*school expectancy*', '*female activity rates*', '*building costs*', '*consumer prices*', '*rail and road infrastructures*' and '*GDP per capita*'. Ireland has done well, but there are challenges ahead for the country, with many of the relatively poor performances on indicators of significance for Dublin.

National rankings on '*competitiveness*' are dependent upon the factors and indicators, which are used in the analysis. In addition to the '*economic*' factors applied in the World Competitiveness report, it is now realised that there is a need to also have regard to less quantifiable indicators such as '*Quality of Life*', '*Institutional Capacity*' and issues such as '*Transportation Infrastructures*'. Likewise, rankings can relate to specific *"growth sectors"* as in the case of the World Times Information Society Index where in the year 2000 Ireland ranked 19th in a list of fifty-five countries (Table 3.3).

Table 3.3: An extracted table showing relative European Country rankings in the 2000 ISI Rankings out of 55 countries

Country	Rank
Sweden	1
Finland	3
Denmark	5
Netherlands	7
United Kingdom	12
Germany	13
Belgium	15
Austria	16
Ireland	19
France	21
Italy	23
Spain	24
Portugal	26
Greece	29

Source: The IDC/World Times Information Society Index 2000.

This ranking was based on four groups of indicators relating to:

a. Computer Infrastructures: including numbers of PC's, Educational PCs, home networked PCs and levels of software v hardware spending.

b. Internet Infrastructures: including business users, home users and eCommerce spending.

c. Information Infrastructures: including Cable subscribers, Cellular phone ownership rates, fax ownership rates, TV and radio ownerships and costs of communication.

d. Social Infrastructure: ratings in relation to Civil Liberties, Press freedom, readership rates and tertiary school enrolments.

Many of the EU Member States, particularly the Scandinavian countries, outperform Ireland on this *"technology related"* index. This highlights the importance of the strategies similar to those noted in Box 2 above. Such an index and Ireland's modest ranking is serious for Dublin where the continued growth of the information economy and digital type investments need to proceed ever more rapidly.

3.4 How Does Dublin Compare?

While national rankings and the creation of performance league tables for countries may be difficult and often rather arbitrary in nature, data at the regional or metropolitan level is more difficult to obtain and the information available is seldom comparable. It had been hoped that the EU Urban Audit of fifty-eight cities would yield comparable information relating to the quantification of metropolitan economic and competitive performance indicators. In practice, the available information relates to twenty-one cities and to rather basic mid-1990s material, as set out in sub-sections 3.4.1 to 3.4.4.

3.4.1 Population of Working Age in Employment

There was a wide level of data available to answer this issue and the results show very wide levels of variation between the cities, (Table 3.4). The proportion of population of working age in employment ranges from a low of 33.6 per cent in the case of Valencia to a high of 75.5 in the case of Stockholm. Dublin with a score of 46.8 per cent in 1996 was amongst the lowest in the group of 21 cities, seriously lower than Copenhagen, Helsinki, Hamburg or Edinburgh. Dublin's position places the city in the fourth lowest category of 5ths, (see Table. 3.4).

Table 3.4: Proportion of population of working age in employment (%) (Date of survey)

City	Score	Position 1/5s	Date of survey
Thessalonika	47.92	4	1996
Turin	57.99	3	1991
Florence	60.73	2	1991
Dublin	46.75	4	1996
Luxembourg	63.54	2	1991
Rotterdam	52.94	4	1996
Oporto	45.25	5	1991
Edinburgh	66.91	1	1991
Cardiff	72.87	1	1996
Cologne	60.35	3	1996
Hamburg	64.51	2	1996
Vienna	74.74	1	1996
Copenhagen	67.33	1	1991
Antwerp	61.13	2	1996
Barcelona	40.35	5	1996
Valencia	33.64	5	1996
Helsinki	57.88	3	1990
Toulouse	56.07	3	1990
Bordeaux	55.39	3	1990
Lille	57.89	4	1990
Stockholm	75.52	1	1996

Source: Urban Audit, 2000

3.4.2 Comparison of GDP per capita

Of the 21 cities in this analysis, 17 were able to supply data on GDP per capita with most of the responses relating to the mid 1990's, (Table 3.5).

Table 3.5: GDP per capita (euro, 1998 prices) (date of survey)

City	Score	Position 1/5s	Date of survey
Thessalonika	6378	5	1994
Turin	19746	3	1995
Florence	18498	3	1995
Dublin	21987	2	1996
Luxembourg	Na		
Rotterdam	25455	1	1996
Oporto	Na		
Edinburgh	24563	1	1996
Cardiff	16565	4	1996
Cologne	Na		
Hamburg	Na		
Vienna	31414	1	1996
Copenhagen	51776	1	1996
Antwerp	22681	2	1996
Barcelona	14245	4	1996
Valencia	11250	5	1996
Helsinki	24878	1	1996
Toulouse	20857	2	1990
Bordeaux	20045	2	1990
Lille	17681	3	1990
Stockholm	33402	1	1995

Source: Urban Audit, 2000

GDP per capita varied greatly between cities from a low of 6,378 Euro's in the case of Thessalonika to almost 52,000 Euro in the case of Copenhagen. Dublin with 21,987 Euros per capita in 1996 had a level of per capita GDP comparable to Toulouse and somewhat below that of Edinburgh, Helsinki and Rotterdam. In terms of ranking Dublin was in the 2nd place in terms of the 5^{ths} ranking.

3.4.3 Population Density Comparisons

While Dublin is frequently described as a low-density city, Table 3.6 does not bear this out in relation to many of the cities of northern and western Europe such as Rotterdam, Hamburg, Stockholm or Edinburgh.

However, Dublin's gross density is low relative to many of the cities of southern Europe, including Turin and Barcelona.

Table 3.6: Population density (pop. Per km^2) (date of survey)

City	Score	Position 1/5s	Date of survey
Thessalonika	21535	1	1991
Turin	7065	2	1996
Florence	3711	3	1996
Dublin	4098	3	1996
Luxembourg	1489	5	1996
Rotterdam	2901	4	1996
Oporto	7261	1	
Edinburgh	1726	5	1996
Cardiff	3114	3	1990
Cologne	2505	4	1996
Hamburg	2260	5	1996
Vienna	3895	3	1996
Copenhagen	5850	2	1996
Antwerp	2229	4	1996
Barcelona	15225	1	1996
Valencia	5545	2	1996
Helsinki	2876	4	1996
Toulouse	3029	4	1991
Bordeaux	4263	2	1991
Lille	8887	1	1993
Stockholm	3836	3	1996

Source: Urban Audit, 2000

3.4.4 Proportions of EU Non-National in City Populations

Twenty of the twenty-one cities provided data in respect of non-EU nationals residing in their cities with some cities having only 1991 data. There was evidence of a wide range of non-EU national being resident – from a low of 1.2 per cent in Oporto and Barcelona to a high of 18.6 per cent in Cologne and 16.04 per cent in Vienna, Table 3.7. The city of Dublin had a relative score of 1.73 per cent but data was for 1996.

Table 3.7: Proportion of non-EU nationals (%)

City	Score	Position 1/5s	Date of survey
Thessalonika	Na		
Turin	2.15	4	1996
Florence	2.72	4	1996
Dublin	1.73	4	1996
Luxembourg	6.71	3	1996
Rotterdam	9.39	2	1996
Oporto	1.2	5	1991
Edinburgh	3.44	3	1991
Cardiff	6.03	3	1991
Cologne	18.60	1	1996
Hamburg	12.88	1	1996
Vienna	16.04	1	1997
Copenhagen	7.93	2	1996
Antwerp	9.31	2	1997
Barcelona	1.27	5	1996
Valencia	0.62		
Helsinki	3.55	3	1996
Toulouse	5.59	3	1990
Bordeaux	7.07	3	1990
Lille	8.11	2	1990
Stockholm	6.53	3	1996

Source: Urban Audit, 2000

3.4.5 Summary Note on Urban Audit Material

The Urban Audit report provides a wealth of data on Europe's cities. It provides a useful starting point for comparative analysis and it sets the agenda for meaningful data gathering and analysis in the future. At this stage the Audit provides only limited information relevant to cross-city competitiveness.

3.5 Comparative Studies of City Performance

This section of the report has argued that Dublin has played a key role in the improvement of Ireland's competitive performance. At the same time Dublin has been transformed during the 1990's, a transformation recognisable when regard is had to earlier studies of European city rankings. Thus, the 1989 Reclus-Datar study placed Dublin in the sixth category of European cities, alongside Grenoble, Bordeaux, Porto and Nurenberg (Reclus-DATAR, 1989). Similarly, Lever's ranking of 117 European cities based on data from 1971 to 1988 ranked Dublin as 101st on the author's "*problem score*" (Lever, 1999). Similar analyses of EU cities undertaken by Cheshire in the mid 1980's produced a similarly unflattering picture of Dublin's position (Cheshire, 1988).

Modernisation processes have transformed the city, its ranking and its international perception during the 1990s. Thus, the Fortune/Arthur Andersen study of Europe's Top Cities for Business (November 1997) cited Dublin's quality of life as one of its major advantages in attracting internationally mobile new economy workers. This is further confirmed by the European Regional Economic Growth index of metropolitan regions in 2000, as seen in Table 3.8 and Figure 7.

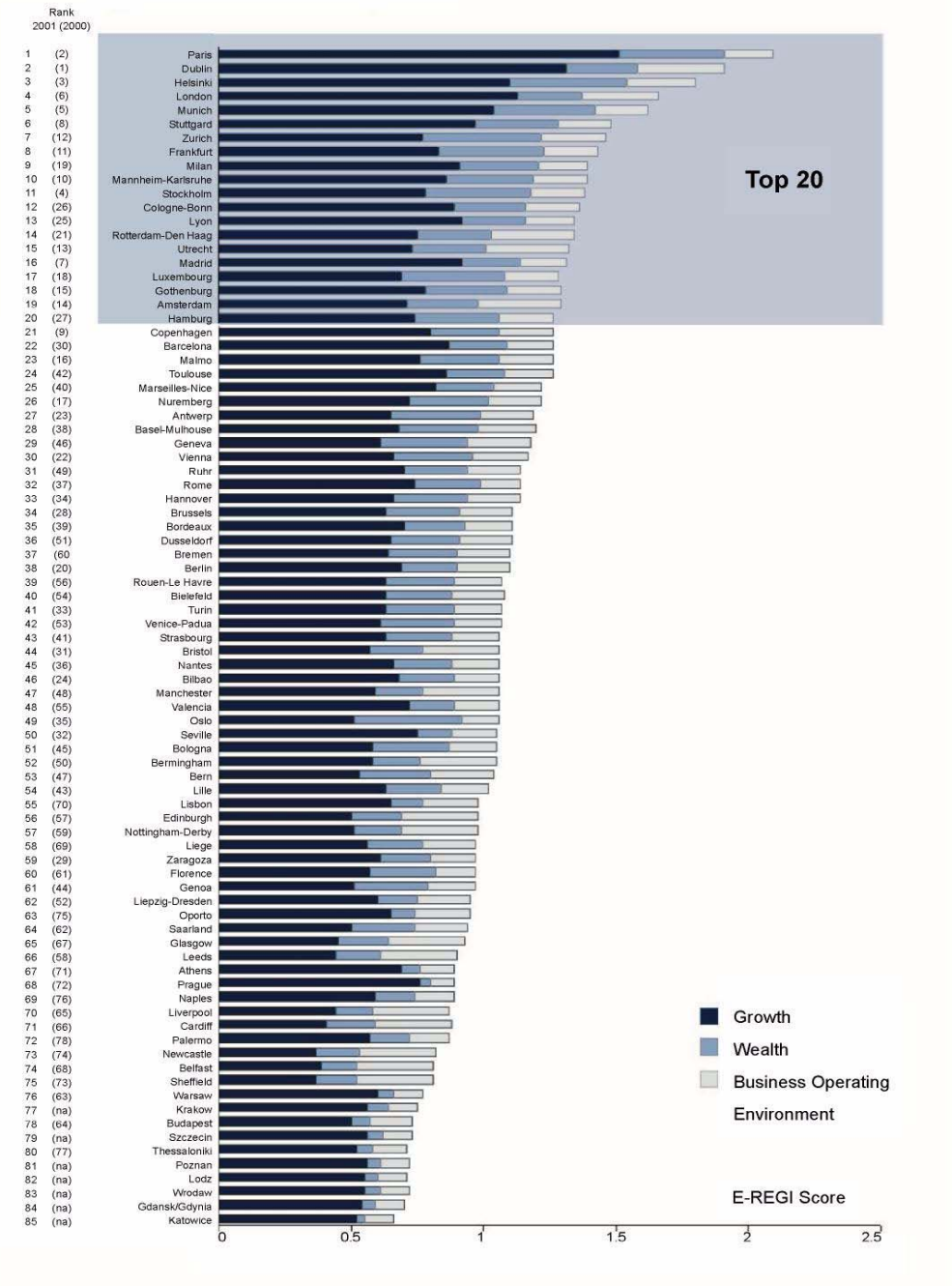
Table 3.8: League Table of Selected European Cites Assessing Economic Growth Potential, 2000

City	Rank
Dublin	1
Helsinki	2
Stockholm	4
Malmo	6
Copenhagen	7
Frankfurt	12
Edinburgh	32
Lille	38
Toulouse	44
Glasgow	56
Belfast	65

Source: Jones Lang and La Salle and E.Regi Growth Index

This index, which is based upon composite indicators of regional GDP per capita, employment change, R & D, output levels and the quality of the operating environment, ranks Dublin in first place in a listing of seventy-one European city regions (Jones-Lang & La Salle, 2000).

Figure 7: E-REGI 2000 – City Scores



Source: Jones Lang-La Salle

3.6 Concluding Note

This section of this report has sought to provide a perspective on Ireland's improved competitive position and the role of Dublin in this transformation. While national level data on the factors underpinning competitiveness is reasonably good and up to date, reliable data on European cities or city regions is more difficult to obtain. The limitations of the EU Urban Audit have been discussed as have various studies by researchers. What is evident is that Dublin's position and the perception of the city's performance has been transformed during the past decade. In contrast to its low ranking and poor image in the 1980s, Dublin is now perceived as a thriving, dynamic, leading city at the top of Europe's investment league. The next Sections of this report adopt a case-study approach, examining a number of carefully chosen cities in terms of their development contexts and strategies and having regard to their performance in respect eight competitiveness factors.

4 Comparative Factors

4.1 Case-Study Comparisons of eight EU Cities

Having looked at the broad overview of European cities as provided in the Urban Audit 2000 report, it was decided to concentrate upon an in-depth examination of Dublin in relation to seven selected EU cities. Several factos influenced this selection. It was important to have cities broadly comparable to Dublin in size, the role of national capital was important as well as the position of dominance of the selected city in the country and its economy. Cities experiencing rapid growth on a scale rather comparable to Dublin were included as was the evidence of successful city or city and region networking. Finally, due regard was had to cities in the Celtic fringe and reference will be made to the Edinburgh-Glasgow and Bristol-Cardiff corridors by way of comparison with Dublin-Belfast proposals.

After careful consideration, the following cities were selected as highly relevant for comparison with Dublin in relation to the factors underpinning competitiveness and their development trajectories and strategies:

Helsinki: capital city, high emphasis on new technologies and a driving force in the national economy.

Copenhagen: a strong capital city in a small, well planned country.

Stockholm: a capital city with strong business and commercial role. It is also a city with a strong tradition of planning and urban management.

Frankfurt-Main: a rapidly growing city with strong transportation, financial and business role in Europe.

Toulouse: a fast growing industrial and commercial hub with record of networking both its internal institutions and with neighbouring cities.

*Bristol-Cardiff and Edinburgh-Glasgow:*city "corridors" emerging as part of the city networks in or near the Celtic fringe with some strong parallels for Dublin and the Dublin-Belfast corridor.

The seven city or city groupings have been compared with Dublin on a range of pre-selected factors and indicators. A total of eight factors were identified for this comparative analysis of cities. For each factor the study team identified and agreed upon appropriate Quantifiable and Qualitative indicators as set out in Table 4.1. At this stage, it has been possible to compile accurate information on six of the eight selected factors, with comparative information on high-tech industry and information flows still awaited.

Table 4.1: Comparative Factors and Indicators for Selected Cities, 2000

1.	Financial and related business services	Number of financial companies with headquarters in the city. Number of employees in the financial sector	Presence of any specific / high powered financial institutions.
2.	Commercial and business development	Number of companies, employment, GDP Percentage of every sector in the overall activity	Trends over time
3.	Office location and office space growth	Existing office space in sqm Average rent of office space	Presence and success of business parks
4.	Research and Development, universities and science parks	Number of Researchers Number of students in higher education	Science Parks
5.	Business tourism, convention traffic, importance as a centre for business travel	Number of fairs and exhibition centres	Policy of the city in terms of publicity and advertising.
6.	Ease of access and transport links notably with other urban centres (national & international)	Volume of air/rail/sea/road freight and passengers	The city's policies to develop as a transport hub.
7.	Information flows and capacity	Internet, eCommerce, Optical Fibre	Performance of IT and telecom sector
8.	Modern high-tech industry	Percent of employment in high tech industries	Trend in the increase and development of high tech industry

4.1.1 Cross City Comparisons of Financial and Related Business Services

Scope

All activities related to banking, movement of capital and investment, provision of funds as well as commercial activities providing support to businesses.

This theme consider s the number of companies with headquarters in the city quoted on the national stock market (1996) and takes into account the presence of any particular global financial institution(s).

Figures and facts

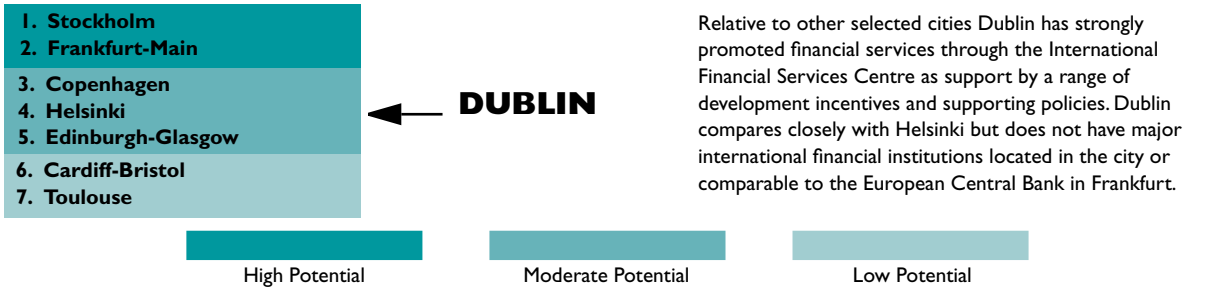
	Quantitative indicators		Qualitative indicator
	Companies with headquarters in the city quoted on national stock market (1996)	Number of employees in the financial sector	Trends Presence of any particular global financial institution(s)
Cardiff -Bristol	13 (10+3[1])	7,300 (1996)	-
Copenhagen	101	64,800 (1998)	There were around 1,000 jobs created in financial and related business services between 1996 and 1998 which accounts for 17% of the total number of jobs created in Copenhagen
Edinburgh-Glasgow	91 (63+28)	62,000 (1996)	-
Frankfurt-Main	-	59,000 (1999)	More than 400 banks, including the German Central Bank and the European Central Bank are located in the city
Helsinki	58	77,575 (1998)	There was around 5,000 jobs created in financial and related business services between 1996 and 1998 which accounts for 20% of the total number of jobs created in Helsinki
Stockholm	-	119,400 (1998)	There was around 13,500 jobs created in financial and related business services between 1996 and 1998 which accounts for 80% of the total number of jobs created in Stockholm
Toulouse	-	2,700 (1990)	Financial services are not significant in Toulouse.
Dublin	42	-	International Financial Services Centre

[1] Source: Bristol City Council, 1999

Description and explanation

Most of the cities have a high number of jobs in the financial and related business services. Stockholm has the largest number with 119,400. However, some cities with a more modest employment number host a great number of companies with headquarters in the city quoted on national stock market such as Copenhagen and Edinburgh-Glasgow. Also, Frankfurt-Main has a financial advantage as a market place with the presence of more than 400 banks, including the German Central Bank and the European Central Bank. Some cities such as Toulouse, Cardiff and Bristol do not really have a large financial sector with a low number of employees in the financial and related business services.

Review



4.1.2 Cross City Comparisons of Commercial and Business Development

Scope

This indicator considers the number of employees in commercial and business development (wholesale and retail trade & hotels and restaurants), the percentage of the service sector in the economic structure of the city and recent trends.

Figures and facts

	Quantitative indicators		Qualitative indicator
	Number of employees in commercial and business development. (Total employment)	Percentage of service sector in the overall activity (1996)	Trends
Cardiff -Bristol	15,500 (1996) + (103,600)	78.6	-
Copenhagen	48,700 (1998) (313,000)	-	There were around 2,000 jobs created in commercial and business development between 1996 and 1998 which accounts for 30% of the total number of jobs created in Copenhagen
Edinburgh-Glasgow	67,800 (29,000+36,700) (1996) (427,000 – 190,000/237,000)	79.5	-
Frankfurt-Main	-	80.3	-
Helsinki	57,000 (1998) (321,500)	83.8	There were around 4,000 jobs created in commercial and business development between 1996 and 1998 which accounts for 17% of the total number of jobs created in Helsinki
Stockholm	80,000 (1998) (475,000)	85.2	There were around 1,000 jobs created in commercial and business development between 1996 and 1998 which accounts for 6.5% of the total number of jobs created in Stockholm
Toulouse	-	77.1 (1990)	-
Dublin	(184,000)	78.2	Around 800 overseas companies are located in Dublin, some with European Headquarters future.

Description and explanation

Service sector activity represents the highest percentage of overall activity in Stockholm and Helsinki. In Dublin, service sector activity was lower in 1996, as an overall percentage, compared to the other cities listed.

Review

1. Stockholm
2. Copenhagen
3. Frankfurt-Main
4. Helsinki
5. Edinburgh-Glasgow
6. Cardiff-Bristol
7. Toulouse

DUBLIN

Dublin has a strong service sector. Development assistance has been applicable to selected tradable service functions. Due to these development aids, Dublin has attracted many international firms with a strong presence of headquarter functions particularly in the late 1990's.

High Potential | Moderate Potential | Low Potential

4.1.3 Cross City Comparisons of Office Location and Office Space Growth Scope

This theme examines the existing office space in thousand sqm, the proportion of office space that is vacant, office occupancy cost and the presence and success of business parks and other major business developments.

Figures and facts

	Quantitative indicator			Qualitative indicator
	Existing office space in thousand sqm (1999)	Proportion of office space that is vacant (1996)	Office Occupancy Cost in Dollars [Change since 1999] (2000)	Presence and success of business parks (BP) and other business developments
Cardiff -Bristol	1,500 + 2112 3,612	38.8 [10% 1999][1]	< 29[1] [-]	Around 40 Business parks. Every new development is being let very rapidly.
Copenhagen	-	1.1	< 29 [-]	-
Edinburgh-Glasgow	111.5 + 229	- + 13.4	57.8 – 50.1 [-4.23%]	Glasgow: Around 18 BP. The new ones are very successful and are let very quickly. However, problems with the old ones
Frankfurt-Main	9,500	4.4 (2000)	43.6 [-5.67%]	Great importance of lettings of large units of office space. High percentage of pre-lets and vacancy rate dropping sharply.
Helsinki		2 (2000)	< 29 [-]	More business office space is being built and letting rate high
Stockholm	-	1.5 (2000)	49.9 [-1.76%]	-
Toulouse	1,530 (1998)	1.9	< 29 [-]	30 business parks
Dublin	1,700	4	47.3 [+2.13%]	Approximately 60% of space taken up during 1999 was as a result of displacement. This reflects the current economy buoyancy.

[1] Cardiff Only

Description and explanation

Most of the cities have a total existing office space around 1.5 million sqm, except Glasgow which has a much lower total of 230,000 sqm. However, more office space is under construction. Due to the current economic situation, the vacancy rate in all to cities is low around 2 per cent. The occupancy cost which is defined as the average total cost in leasing new office space of 930 sqm including rent and outgoings such as property tax and maintenance cost, is however not identical in all the cities. The occupancy cost in Edinburgh-Glasgow Stockholm and Frankfurt-Main is around 50 USD per sqm. In the remaining cities, it is less than 29 USD. However, in all the cities, except Dublin, this cost is dropping compared to 1999.

Review

1. Frankfurt-Main
2. Stockholm
3. Edinburgh-Glasgow
4. Toulouse
5. Copenhagen
6. Helsinki
7. Cardiff

DUBLIN

Table 2.6 showed that office rents in Dublin were modest relative to many of its competitor cities. However, there is now an acute shortage of office space in Dublin, leading to pressures for increasing rents, suburban development and even to calls for decentralisation to outer parts of the region and beyond. These processes are driven by costs and by labour shortages in Dublin at present.

High Potential | Moderate Potential | Low Potential

4.1.4 Cross City Comparisons of Research and Development, Higher Education and Science Parks

Scope

Research and development activities undertaken by the private and public sectors.

The indicators used are the number of students in Higher Education, number of researchers and presence of Science Parks.

Figures and facts

	Quantitative indicator		Qualitative indicator
	Number of students in HE (1998-99)	Number of researchers	Science Parks (SP)
Cardiff -Bristol	14,000+36,063 50,063	714[2]	None but one proposed development in Bristol
Copenhagen	30,000 (120,000) [1]	300[2] (10,000) [1]	Symbion SP specialised in IT and Biotechnology (75 Companies employ 600 persons)
Edinburgh-Glasgow	109,000 45,400- 63,500	3,600[2] 2,150 – 1,450	West Scotland SP early 1980's – electronics – Developed initially by University and now more private companies involved in research – very successful (possible extension
Frankfurt-Main	47,000 (150,000)[1]	37,000	-
Helsinki	54,770[1]	1,000 [2]	One specialised in biotechnology, medical and pharmaceutical technology employing 1,000 research scientists.
Stockholm	57,500	72,000	Kista SP is one of the city's largest SP and also number 5 world-wide in IT (650 companies, employing 27,000 employees)
Toulouse	115,000	11,000	None
Dublin	58,000	-	-

[1] Greater metropolitan area [2] Academic research only: information for Bristol only.

Description and explanation

The cities from the panel have an average of 50,000 students. Toulouse is the only city with an outstanding figure of 115,000. However, the number of students is not necessarily related to the number of researchers, which include researchers in both education, public and private sectors. For example, Frankfurt and Stockholm, each of which have relatively low student populations, have large numbers of researchers, which illustrates the dynamism of research development and innovation. Cities with a high number of researchers also developed their Science Parks.

Review

1. Frankfurt-Main
2. Stockholm
3. Copenhagen
4. Toulouse
5. Edinburgh-Glasgow
6. Helsinki
7. Cardiff

DUBLIN

Dublin has 58,000 third level students out of a population of 116,548 students nation-wide.
In a European wide context, Dublin has attained a level of moderate integration in terms of Research and Development, universities and Science Parks. There is also a growing emphasis on Digital development and upon research supports for the information economy and international eCommerce promotion. The Higher Education Authority is also funding a significant programme of Research within the network of Higher Education Institutions.

High Potential | Moderate Potential | Low Potential

4.1.5 Cross City Comparisons of Business Tourism, Convention Traffic, Importance as a Centre for Business Travel

Scope

This theme uses indicators on the number of international congresses organised in the cities and also considers publicity and advertisement strategies.

Figures and facts

	Quantitative indicators	Qualitative indicator
	Number of international congresses [UIA World ranking] (1999)	Policy of the city in terms of publicity and advertising.
Cardiff-Bristol	10 + 3[1]	Cardiff participates in several national and international events such as CONFEX (London), EIBTM (Geneva), CONFUR (London). Do not advertise however produce editorials for some magazines. Bristol attracts a lot of small to medium events but lacks a big venue to attract international congresses.
Copenhagen	100 [8]	Participation in fairs of international and national importance.
Edinburgh-Glasgow	55 [22] – (Glasgow missing)	Edinburgh : CONFEX, EIBTM main two, ESEE (USA). Also, advertise in conference magazines. Glasgow; Participate CONFEX, EIBTM. Not advertising.
Frankfurt-Main	34	Participation in fairs of international and national importance.
Helsinki	78 [12]	Participation in fairs of international and national importance.
Stockholm	60 [20]	Participation in fairs of international and national importance.
Toulouse	-	Participation in fairs of national and international importance. Advertisement in newspapers and magazines.
Dublin	8-10	Limited advertisement Participating CONFEX, IT&ME (Chicago), MIT (UK), SHIE (Scandinavia). Organise own workshops.

[1] Source: Conference Bristol Service, 1999

Description and explanation

According to the Union of International Associations, Copenhagen, Helsinki, Stockholm and Edinburgh are the locations where the most congresses of international level are organised. (The figures given by Union of International Associations do not take into account all the meetings of international level, however these do offer a common basis for comparison).

All the cities but at a smaller scale in Bristol are advertising themselves as location for international congresses whether by advertising in specialised magazines or participating in key international fairs in Europe and the US.

Review

1. Copenhagen
2. Helsinki
3. Stockholm
4. Edinburgh-Glasgow
5. Frankfurt-Main
6. Cardiff
7. Toulouse

DUBLIN

Dublin is the major focus of business tourism in Ireland (see Section 2.4.4). However, Dublin continues to lack an adequate infrastructure to exploit the full potential of business tourism, including a purpose built convention centre. Regard has to be had to Dublin's peripherality in the design of "packages" to attract EU and North American business travel.

High Potential | Moderate Potential | Low Potential

4.1.6 Cross City Comparisons of ease of access and tranport links notably with other urban centres (national and international)

Scope

All activities facilitating the access to the city. The indicators used is air traffic from and to the main city airport in terms of the volume of incoming air passengers, the number of direct destinations from the main city airport, and future development strategies.

Figures and facts

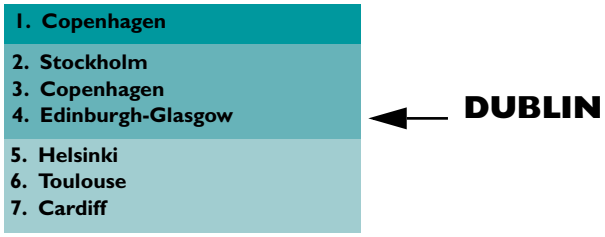
	Quantitative indicators	Qualitative indicator
	Volume of air passengers [% change] (Total number connections - Number of direct national / international connections) 1999	Policies to develop as a transport hub
Cardiff -Bristol	1,304,000 [+5..5%] (10 - 6/4) 2,015,556 [+8.4%] (20 - 14/6)	Cardiff connections exclude seasonal charter flights. Bristol airport opened a new terminal in March 2000. Over the last three years there has been a 50% increase for scheduled flights and a 30% increase for charters.
Copenhagen	17,500,000[+4.4%] (129 - 8/121)	The Copenhagen Airport is the main airport in Northern Europe, i.e. transfer airport for air traffic between other parts of the world and the many national and regional airports in Scandinavia and the area south of the Baltic. The goal of Københavns Lufthavne A/S is to extend the airport concurrent with the increase in traffic, during the next decade investments of more than USD 1 billion are planned. Construction of important motorway and high speed rail links with Sweden have recently been completed.
Edinburgh-Glasgow	5,114,052 [+11.5%] + 6,810,077 [+3.7%] (39 - 23/1655 - 31/24)	Both airports have expanded links to Europe recently. Edinburgh in particular has expanded its passenger capacity with the opening of a new terminal in 2000 and a further new international arrivals terminal due to open 2001.
Frankfurt-Main	45,838,864 [+7.3%] (- -)	Frankfurt Airport has been chosen by international airline route planners as one of the "Best Major Hub Airports" in the world. Pursuing market opportunities in Germany and other countries around the world is part of Flughafen Frankfurt/Main AG's corporate strategy. Step by step, the company's global expansion is being successfully implemented. Now FAG is expanding in the Iberian Peninsula.
Helsinki	8,604,649 [+1.9%]	Extension of the airport with a target of 8 million passengers. A business park (Aviopolis) is planned with an aim of the construction of 400,000 sqm of office space
Stockholm	17,400,000 [+5.8%]	Europe's 6th largest airport, expansion plans include new 3rd runway (need for 4th anticipated by 2015), recently opened express train link to city centre and links with long distance trains, new terminal under construction, extended cargo capacity.
Toulouse	5,068,160 [+7. 3%] (71 – 20/51)	Extension of the airport with a target of 8 million passengers by 2004/7. 200,000 UK pound investment over next 10 years.
Dublin	12,802,031 [+10%] (66 - 4 /62)	The provision of an additional 4,000 car parking spaces, provision for the additional bus services now serving Dublin Airport and the introduction of bus lanes within the Dublin Airport complex to improve traffic flow.

Description and explanation

Frankfurt-Main is the second largest European airport with almost 46 million passengers in 1999. The exceptionally large size of this airport makes comparison with the other airports in this study difficult. Nevertheless, three other airports count around 15 million passengers: Copenhagen, Stockholm and Edinburgh-Glasgow. The four remaining airports have a volume of less than 10 million passengers; but in all cases the airport makes a significant contribution to the cities economy.

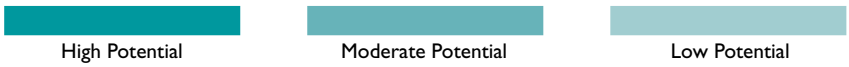
Nearly all the airports have a strategy of investment and development with the aim to increase the number of passengers and improve links at a national level (high speed links) and regional (road links and transport services) as well as create nearby business parks such as Aviopolis at Helsinki so as to create an "airport-city".

Review



DUBLIN

Ireland as the only island Member State of the EU has obvious problems of access to other countries. With its east coast location Dublin is the major trade Gateway to Europe and for international trade at present (Figure 4). In this context the further development of the role of Dublin airport is a crucial issue in terms of Dublin's competitiveness and in Ireland's ability to network and to overcome the "friction of space".



4.2 Conclusions: Dublin in Relation to Seven Case Study Cities

Section 4 has examined the relative position of ten EU cities, including Dublin, against their performance on a range of factos/indicators. Stockholm and Franfurt dominate in terms of "Finance and Related Business Services" while Dublin, Copenhagen, Helsinki and Edinburgh-Glasgow are broadly comparable with "moderate potential". Dublin falls behind the Scandinavian cities and Franfurt on the "Commercial and Business Development" indicator, whereas Dublin ranks alongside Stockholm, with a "high potential" on the "Office Location and Office Space Growth" indicator.

In respect of the indicator on "Research and Development, Higher Education and Science Parks", Dublin has a moderate potential in line with Toulouse and lower than Frankfurt, Stockholm or Copenhagen. Dublin's lowest potential rating and its lowest ranking (circa 6th place) is in respect of the city's weak relative role as a location for "Business Tourism, Convention Traffic and Importance as Centre for Business Travel".

Finally, Dublin ranks alongside Edingburgh-Glasgow in terms of the "Ease of Access" indicator well behind cities on the European mainland. In broad terms this analysis illustrates Dublin as having "moderate potential", ranking equal to or just above Helsinki but being placed well behind Copenhagen.

5 City Profiles and Strategies

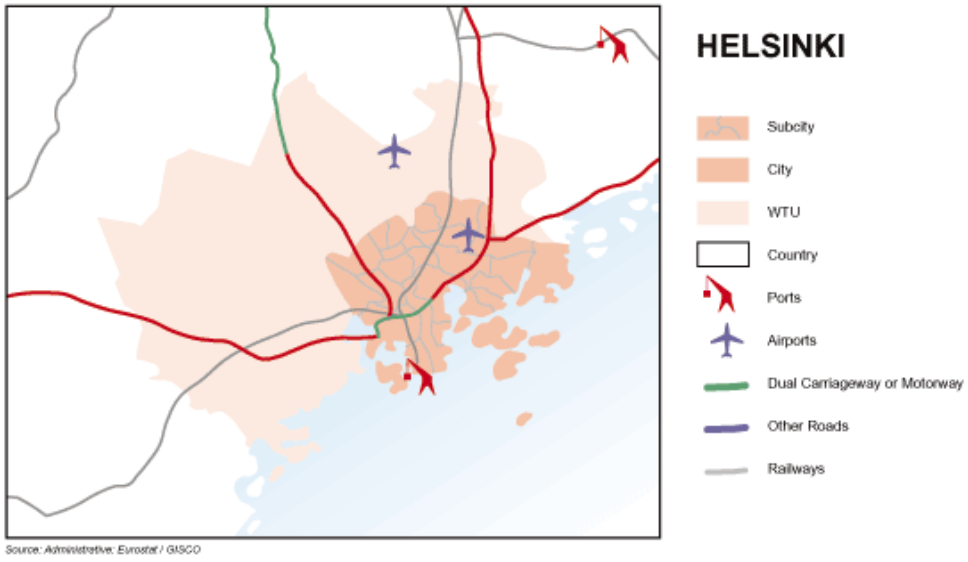
5.1 Introduction

The comparison with selected cities included an investigation of their past and current strategies for maintaining competitiveness and managing economic and physical growth. Competitiveness is an issue for all cities, although some are more explicit about their strategies than others. This section provides a summary of the more relevant findings from this comparison. It should be noted that the review relies heavily on documentary sources and although personnel in the cities have been contacted to help with information there have been no detailed interviews conducted. The review of strategies included the cities of Copenhagen, Edinburgh, Frankfurt, Glasgow, Helsinki, Stockholm and Toulouse. The following review concentrates on three cities – Helsinki, Copenhagen and Stockholm because they have very clear competitiveness strategies and that are of particular relevance and interest to this study.

5.2 Helsinki

Helsinki is the capital of Finland. The city covers an area of 686 sq. km and has a population of 546,3 17 (1999 figures). The total population of the Helsinki Region is I, 171,596.

Figure 8: Map of Helsinki



Helsinki is the country's commercial and financial centre. The Helsinki Metropolitan Area includes 4 municipalities and forms Finland's largest economic area. The Helsinki Metropolitan Area has a population of 1.1 million, which is approximately one-fifth of the population of the country. The Helsinki region has one-quarter of all jobs and almost one-third of the gross national product and almost half of research and development activity of the whole country.

The population of both Helsinki and its region has experienced new growth in recent years. According to UN statistics, the region is the European Union's fastest growing metropolis after Lisbon. The growth of Helsinki's population is due to natural reasons: there are more babies born than people dying. It is also due to immigration from other parts of Finland and from abroad.

The region's economy consists mostly of service and trade with just over ten per cent manufacturing. Over half of Helsinki's labour force, are women with two-thirds of women in work. A fifth of adults in Helsinki have an academic degree. GDP per capita was 144,544.9 Finnish Markka in 1996.

In the early 1990s, Finland and Helsinki were deep in economic recession. Now the recession is over, but its consequences are still felt badly. Unemployment was very high in Helsinki in the mid 1990s. Statistics from 1995 show that there were 112,000 unemployed in the city, which equates to seventeen per cent of the labour force.

Business in the Helsinki Region is becoming increasingly characterised by networking and the formation of clusters. Strong clusters in the region include telecommunications, food processing, shipbuilding, health care and systems engineering. The region also has many strong sectors that straddle the cluster boundaries, such as biotechnology and industrial design. During the recession of the early 1990s, jobs declined at a faster rate in manufacturing and construction than in the service sector. The share of jobs in services consequently rose to eighty per cent of total employment. In 1994 the number of jobs grew and this new growth has continued steadily for the last five years.

The city has a good infrastructure and has strong links with its hinterland. In the field of new communication technologies, Finland has taken a pioneering role both in developing the sector and in dismantling the old monopolies in favour of free competition in the marketplace. This has benefited the cit'/s economy.

In terms of the range and quality of the informational infrastructure, Helsinki and its region are unique in Finland - although Finland has other strong centres of knowledge, as well. The Helsinki Region has nine university level institutions, five scientific and four artistic schools at university level, plus dozens of research centres and scientific libraries. The city's development strategy in cooperation with national government has focused on research and development in telecommunications in the context of establishing a competitive environment and better links between research and industry. The idea of clustering and business networking, have been important in the strategy. Box 3 below provides a pen-picture of the Helsinki Metropolitan Vision 2020.

Box 3: The Need for Quality of Life, Knowledge and Competitiveness

Various metropolitan areas have begun to prepare local visions. The Helsinki Metropolitan Area Vision 2020 (1999) is just one such plan to create co-ordinated and ordered development of Finland's economic, spatial and cultural assets.

Of interest is the assessment of competitiveness and how different elements interact to create the condition – "The decisive factors for the competitiveness of a business enterprise are rapid responses, flexibility and networking. The public sector develops the overall conditions for the information society and promotes the construction of technology and the infrastructure." Finland is the model of competitiveness as it "makes a significant investment in education, training and R&D. Finland has an effective innovation system, does well in international competition, and provides favourable conditions for entrepreneurship."

Finland seeks to achieve balanced regional development, in a country where much is made of the Helsinki region and its relative success. It is contended that "heavy migration to growth centres causes problems and high costs."

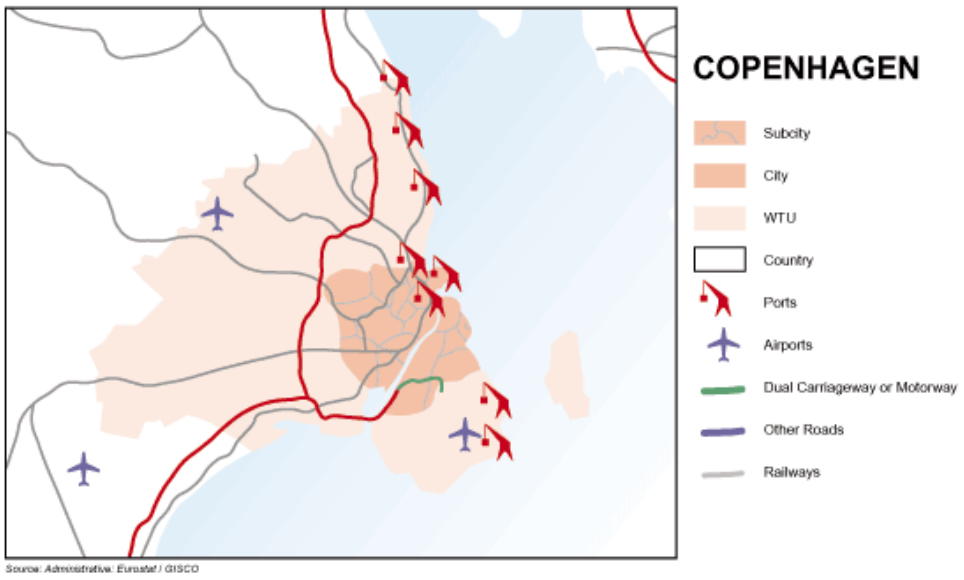
"The exclusion of regions must be prevented through growing co-operation between local authorities within a region and the pooling of resources in the development of services and know-how. In order to ensure the vitality of regions and to promote innovative business, each region must have access to sufficient provision of know-how and a modern infrastructure

5.3 Copenhagen

Copenhagen has significance beyond its size in the economic output of its transnational region and plays a primary role in its national economy with 40% of national GDP. Prospects are for continued high levels of growth. The city has one of the highest GDPs per head in the world, high productivity rates and high economic activity with 73% rate for women. It has diverse economic strengths. It is the major national and transnational centre for high level urban services and finance, and has other strengths in health and social care, research and development, tourism and manufacturing. Over 300 international companies have their world or Scandinavian headquarters in Copenhagen, making it a city of global significance. A noted advantage in international comparisons is the very flexible labour law, although there has been relatively high unemployment given the generally high level of economic prosperity.

There are extensive higher education functions with 11 university level institutions and 120,000 students and 10,000 professors and researchers; and a concentration of research institutes especially in health sciences. Copenhagen provides 50% of Scandinavia's medical technology. Copenhagen is perhaps best known for its very high environmental standards and quality of life. It was the first country to implement rigorous environmental legislation and now has very high rates of recycling and energy conservation. For example, 80% of waste is used in combined heat and power plants. The city has thus become a leader in the development of 'green technologies'. High standards of environmental regulation have not been achieved at a cost to economic development, indeed environmental criteria have influenced Copenhagen's economic development strategy.

Figure 9: Map of Copenhagen



Copenhagen is the major transnational communications hub in the Scandinavian/Baltic Sea region with the busiest airport and good rail, road and sea connections to other northern European cities. There is also an exceptionally comprehensive and high quality urban public transport system. Nevertheless, as a small country on the northern edge of continental Europe there have been concerns about the impact of shifts in the 'economic centre of gravity of Europe' and the need to improve accessibility. One outcome was the commitment to build the Øresund fixed link between Copenhagen and Malmo, which was completed in 2000, despite considerable local opposition. Building of the fixed link is being coordinated with the release of large areas of new development land - amid growing concerns that there is already too much dispersal of new development in the country.

The strategy for maintaining the competitiveness of Copenhagen in the future concentrates on consolidating its position as the regional hub and transnational level service centre for its region. Copenhagen presents itself as the capital for the transnational region. The city, region and country has engaged extensively in transnational cooperation networks with significant results in terms of shared policies and actions. There is intended to be further improvement of transnational transport links and the further extension of the airport (with significant local environmental safeguards) was recently agreed with relatively little opposition. There is no strong sectoral emphasis in the strategy, but continued development of the research function will be important. Furthermore, the development of Baltic markets in newly independent states is seen as crucial. Copenhagen is already providing much technical assistance and aid to the newly independent states, and also strengthening cultural links with these countries. Recent trends already show a big increase in exports to other Baltic states.

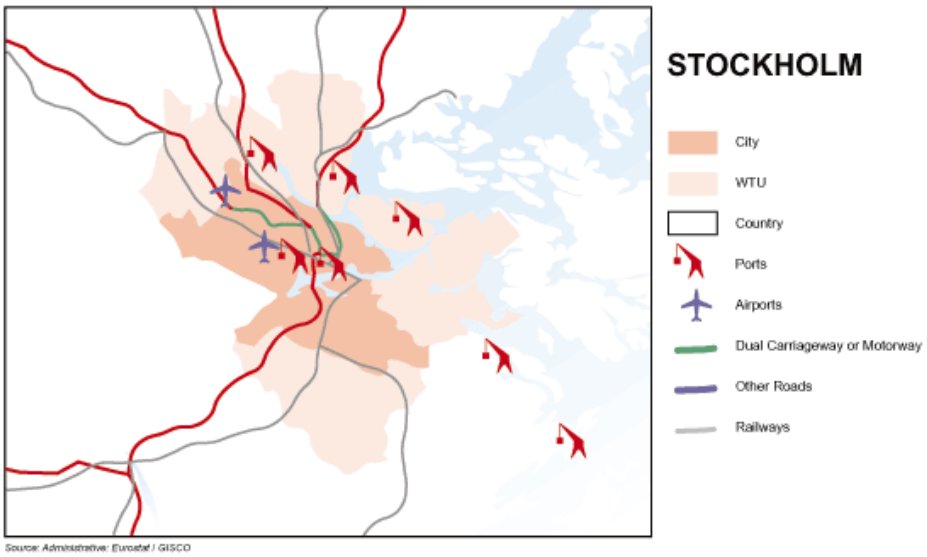
The physical development strategy is well integrated with economic development plans. Strategic physical planning is well established and continues to follow the general long-term approach established in the 1948 'Finger Plan'. Housing and commercial development is concentrated along radial routes and nodes. Green wedges have been protected and enhanced which reach into the centre of the city. Despite protection there has been extensive release of land for new business development (and concerns that this should now be reduced) and continuing investment in physical infrastructure. Copenhagen thus demonstrates the value of a long term strategic approach to development. There is considerable capacity for both regional, national and even transnational planning in Denmark.

5.4 Stockholm

Stockholm has a very high standard of living and quality of life. The city has made great efforts to improve environmental quality and many environment and energy related initiatives are well ahead of Dublin and most other European cities. At the same time there has been significant restructuring of the economy with widespread privatisation. Stockholm is the process of reviewing its existing regional strategy, although elements of its policy towards competitiveness are well established. International competitiveness is one of three major goals of a renewed regional strategy alongside high quality living conditions and creating a more sustainable environment. There is a recognition that Stockholm plays a dominant role in the economic prosperity of the nation and a need to maintain favourable conditions for the further development of the city-region.

Recent years have shown rapid economic growth driven by a large number of foreign owned companies. Economic activity rates are higher than in Ireland (especially women) but this is still thought to be a weakness, with a particular need to integrate the immigrant population into the economy more effectively. Stockholm is also a leader in innovation in the region, but this has not prevented the loss of head offices and research and development and higher education to other regions. Like Dublin, Stockholm suffers from very high costs for business and a relatively small local market, although markets are expanding with the opening up of the newly independent Baltic States. Very significant growth in housing is anticipated over the next 30 years with an increase in population of one third (600,000).

Figure 10: Map of Stockholm



Given the generally peripheral location (again similar to Dublin), there are excellent international connections and generally improving accessibility. City public transport is of excellent quality although significant extra demands on the transport system are anticipated for future years, which are increasingly difficult to meet.

The revised regional strategy (which is undergoing consultation) identifies an overall role for Stockholm, which focuses on strengthening its position as a centre for the whole transnational Baltic Sea area. The objective is to make Stockholm the 'communications centre' for the transnational region, including air traffic, ports and shipping, and particularly ITC. Stockholm already has a very high international ranking in the use of e-commerce and ICT. A transnational strategy is being developed in cooperation with other countries and cities on the extension of the Nordic triangle (Helsinki-Stockholm-Oslo-Copenhagen) to other cities in Baltic (e.g. Vilnius and Warsaw). This will include enhanced ICT infrastructure within the region and with other closely linked countries, notably complete coverage of broadband telecommunications.

There are four other 'strategic developments' covering the economy, education and research, public transport and accessibility, and housing. More support is proposed for research especially in biotechnology, with new science parks and better university-industry links. Education will be targeted with increased participation rates, more university places and special developments in IT training, sustainable technological solutions, health care, finance and other specialised skills.

The Stockholm region has good capacity for planning although it is proposed to strengthen planning institutions across the region and improve the capability to monitor comparative competitiveness and international trends. Alternative scenarios have been developed, one concentrating development nearer the existing centre, and the other providing for 'concentrated dispersal' around more suburban centres. In either case, the proposals will ensure large suitable sites being made available, linked to major infrastructure development and public transport. Land use densities will be increased especially around transport nodes, and new regional centres will be created with better road and rail links between them, possibly involving a new airport to the south (to complement expanding main facilities to the north). The emphasis on development is subject to enhanced environmental protection and sustainable development.

5.5 Other Cities

The strategies of the other cities covered in the review all exhibit similar characteristics to those described above, with specific features reflecting their particular history and circumstances.

Frankfurt-Main is a relatively small city but is at the heart of a very large (4.8m) metropolitan region. Its two main strengths around which its development strategy is built are finance and transport. Frankfurt is a major financial centre with more than 400 German and international financial institutions located in the city. Frankfurt promotes itself as an international city - people from 164 countries live in Frankfurt and one third of the population are foreign. It is also a major distribution and transport hub with Europe's second busiest airport, and the major national connection point for electronic communications. The airport offers excellent high speed train connections to much of the rest of Germany and acts as a major hub for much of central and eastern Europe. Frankfurt is the largest centre in Europe for trade fairs and exhibitions, with 2.7 million visitors. The city's 'competitiveness strategy' is centred on the notion of Frankfurt as the gateway to Europe and strengthening its communications links and visitor numbers even further. Opportunities arising from the opening up of eastern Europe are central to the strategy.

Toulouse is France's fourth largest urban area with a population of 700,000 but has the second highest number of university places after Paris. There are 115,000 students in four universities and many research institutes. The emphasis on education is closely linked to the role of Toulouse as Europe's aviation and space industry capital. Previous strategies have led to diversification of the advanced technologies into other sectors, notably electronics and robotics, computing, biotechnology, pharmaceutical and chemical industries. Future plans, strongly supported by central government are to continue to expand education provision with another university to be established and to continue to strengthen links between education, research and industry. There is also considerable investment in physical infrastructure with a new metro, motorways and international airport. The most recent innovation in development strategy for Toulouse is the transnational cooperation where it is seeking to develop and maintain complementary functions with other cities.

Bristol and Cardiff and nearby towns together make up a very significant metropolitan area along the M4 corridor either side of the Severn Estuary in south west England and South Wales. However, although seemingly closely related in an international perspective they have different characteristics and strategies. Bristol is the regional capital of the south east region, has a population of over 400,000 and a hinterland including the neighbouring city of Bath, of over 1m. Bristol is a generally prosperous city, although the surrounding largely rural areas have below average GDP for the UK. The city has faced major restructuring of its key industries but economic growth continues, indeed, Bristol leads the UK

growth league. Its main economic sectors are ICT, electronics, aerospace and defence, control systems and pharmaceuticals. Advanced research and development is a feature of all these sectors and there are close links with the three main universities. Bristol is also a strong financial and service centre especially in insurance. Strongest growth has been in the media sector. Despite general prosperity there are significant disparities between the more prosperous north (where much employment and housing has been located along the motorway corridors) and the south. Areas to the north of Bristol are subject to continued development pressure. Although much of the land is within a well established green belt the northern edge is possibly the UK's best example of the edge city phenomenon where extensive office and business development has taken place on the fringe and not well linked to public transport infrastructure. The result has been excessive congestion although further development of this area is planned to build on its locational advantages at motorway and railway crossroads.

The economic development and planning strategies for Bristol are centred on realising the economic potential of former docks and land adjacent to the Estuary for transport and industry. A major new science park is planned north of the city, but there is also an intention to steer growth to alternative locations south of the city. There is an emphasis on revitalising the city centre with new harbourside development incorporating regional cultural facilities, and major new office development, strengthening its role as a regional centre. The media strategy is also a major component with Bristol second only to London as a favoured location for media industries.

Cardiff has a population of about 320,000 and as the capital and administrative centre for Wales has high public sector and services employment (more than 85% of workforce). It also has a hinterland of former heavy industry, which has faced massive restructuring over the last 30 years. Since 1980 a renewal strategy supported by the UK government and the EU has focused on new physical infrastructure development including the renewal of derelict land (including the Cardiff Bay area) for new housing and employment uses, and a small airport, now with about 1m passengers a year. The strategy has been successful in attracting investment from overseas, and the area around Cardiff it is one of the most successful regions in the EU in attracting foreign investment. This includes US, Japanese and EU investment in electronics, chemicals and motor industries, together with international services, notably call centres. Despite strong economic and employment growth over recent years, large disparities within the metropolitan area remain.

Cardiff is very important to the Welsh economy overall, and Wales still has lower GDP (82%) and activity rates than the average for the UK. The economic and planning strategy identifies the need to allow for the further economic and physical growth of Cardiff in the nation's interest. However, there are concerns that the distribution of growth is managed effectively and a green belt has been proposed and drawn up in draft, though not yet fully implemented. The thrust of the strategy is to promote Cardiff as a European capital city and to build on this status both in business and tourism terms, and to promote the city as a venue for major conferences and sporting events. The current strategy also emphasises the role of SMEs, the need for a better skills base, tackling disparities in the city, further promotion of inward investment, linking local businesses into global markets, and the provision of new infrastructure.

Glasgow and Edinburgh have largely independent strategies arising from very different circumstances. Edinburgh has recently become the seat of the Scottish Parliament and political devolution has strengthened the city's status and investment interest. It has a very high quality of life (regularly ranking number one in the UK) and is the UK's second busiest tourist centre. The city has a concentration of services especially in finance and government related areas. Future growth is expected to be well above the national average. The City has an ambitious strategy to be one of the wealthiest 5% of European cities through high rates of new firm formation, product innovation and concentration on high value products, and effective education and skill development. Edinburgh promotes itself as an international city that is achieving high economic growth with an excellent quality of life and environmental protection.

Glasgow is the larger of the two cities although it has experienced depopulation for many years. Unemployment is very high in some areas, but the city has been successful in promoting itself for inward investment and in regenerating its city centre. The university sector is prominent and Glasgow is second only to Cambridge in the number of patents registered in the UK. The economic action programme covers all competitiveness factors including business services, skills, infrastructure, equal opportunities and presenting the city as a major metropolitan centre. Glasgow has in recent years promoted itself as an international city with significant cultural assets.

5.6 Conclusion on comparative strategies for competitiveness

The comparison cities were identified because of their similar characteristics in terms of size, growth and regional role. All are major centres for the delivery of high order urban services within the country or region, including financial, health and cultural services. All have a strong capacity for research and development and substantial higher education facilities. Gateway functions tend to be concentrated in these cities.

The analysis of the cities' strategies towards maintaining growth and competitiveness reveals many similarities. All the cities have paid significant attention to strengthening factors of competitiveness in their economic and territorial development strategies. Some have or are undertaking fundamental reviews of strategies in the light of increased international interdependencies, the growth of ICT and competition from other places. There is considerable similarity in the definition of factors of competitiveness with a concentration on:

- improving the workforce education, skills, and activity rates;
- expanding research activity and building better links between research and industry;
- expanding gateway functions, especially airport and related infrastructure developments;
- providing infrastructure for ICT and electronic commerce
- using public sector initiatives to promote growth, through for example, public procurement policies or relocation strategies.

Sectoral specialisations are less important in the development strategies although growth may have been fuelled by one particular sector - as in the case of the aeronautics industry in Toulouse. There is a common emphasis on the use of leading edge ICT whatever the area of economic activity, and coping with the impacts of e-commerce figure widely.

There is also a growing recognition of the importance of environmental quality and quality of life in the long-term vision for these cities. There is certainly no evidence to suggest that stronger regulation on environmental quality discourages the type of investment that these cities intend to promote. All the cities are promoting development but they argue that this can be achieved with increased levels of environmental quality and more sustainability, through for example the improved distribution of urban services and jobs and improving public transport. Needless to say, there are interests who would refute these claims, but nevertheless, all the comparative cities are giving priority to some aspects of sustainable development.

Whilst all the comparative cities investigated pay attention to some degree to all the factors of competitiveness, a smaller number have adopted a broader integrating **regional strategy** that identifies a particular role or roles for the city in its European and transnational context. These cities have tended to follow the argument that increased competitiveness will in part depend on building complementary functions to other cities within their respective transnational regions. In some cases, this approach is related to taking part in cooperation activities through transnational networks of cities. Such integrating strategies are providing a focus for more specific activities, for example, Stockholm wishes to develop as the 'communications centre for Scandinavia, and Copenhagen sees itself as the gateway to or capital of the Baltic.

In all the cases above there is a link, and sometimes a very strong link, between the economic development or 'competitiveness strategy' and the physical development strategy for the city. This is especially so in relation to the provision of special sites for new development, notably the provision of science parks with the necessary communications infrastructure. Institutional matters are also given significant attention, for example in promoting better links among the research, education and commercial sectors. Strategies also emphasise the need for high environmental standards, the provision of accessible green areas and promotion of cultural activities, whilst meeting needs for new housing and commercial development. Regional strategies seek to link requirements for new transport infrastructure to improving the quality of urban places and accessibility both within the city and beyond to other international centres.

Finally, there is a recognition of the need for effective capacity to plan and manage development. All the cities have good capacity for planning but improvements are widely promoted in for example, strengthening the capacity for cross-sectoral policy integration and creating partnerships. The need for more effective monitoring of the competitive situation in the international comparative context is also recognised.

6 The International Role of Dublin: Findings and Policy Issues

6.1 The National Context

The analysis in this report has set Dublin in both its national and its international context, particularly with Europe. An emphasis has been placed upon Dublin's role in the continuous improvement of Ireland's international competitiveness. This is an ongoing task and a constant challenge. Section 3 of this report has documented Ireland's improved competitiveness position but this is a position where further improvements are essential in areas such as infrastructure investment, social cohesion, development of skills, cost reductions, eCommerce development, competition and regulation, as well as science and technology advancement (Forfas, 2000; NESC, 1999).

These national factors are of crucial importance for Dublin's future advance, bearing in mind that, while Dublin dominates the Irish urban landscape, it remains a relatively small, peripheral and rather isolated European city.

6.2 The Need for Vision and Strategy

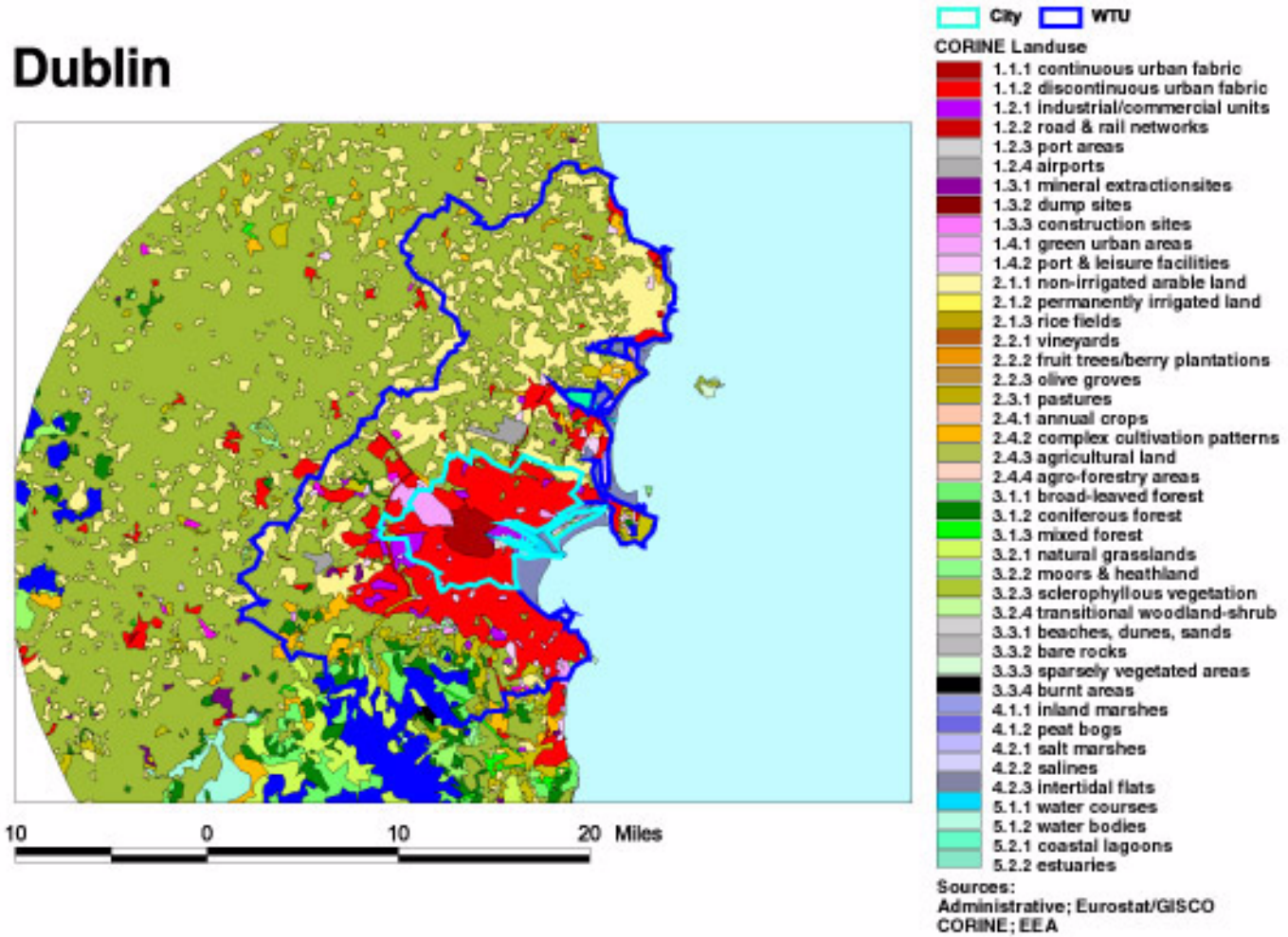
Many of the cities examined in Section 5 above have a development policy, which is firmly imbedded in a well developed vision for the city, supported by a coherent long-term strategy. In Ireland, the NESC Report on Opportunities, Challenges and Capacities for Choice (NESC, 1999), calls for such a vision for Ireland and a Strategy to deliver the Vision. In many ways, the work of the National Spatial Strategy Unit will fill this void in Irish policy development. Studies of Dublin within Ireland and of Dublin within the wider North West European context stress the need for both a vision for Dublin and a strategy to deliver such a vision in the short, the medium and the long term. Dublin requires an integrated development strategy. There is increasing evidence that Dublin cannot be properly managed and that the implementation of a coherent development strategy cannot be implemented successfully within the fragmented structures as they operate at present. The case for statutory regional (planning) frameworks is now being advanced on a wide front (IBEC, 2000 and Chamber of Commerce, 2000).

6.3 Threats to Dublin's International Position

Dublin, like every other European city, faces increased competition and continuous threats to its international position – see Section 5 above. Section 2 of this report also presented indicators of Dublin's rapid growth and its significant development during the 1990s.

But there are serious threats facing Dublin, which require to be addressed. In many respects Dublin is operating at least to maximum capacity; infrastructural investment has not kept pace with growth and demand. Traffic congestion, the increasing problems of access to the airport and to Dublin port, together with the lack of investment in public transport pose major threats to the future development of Dublin as a competitive city. There is an urgent need for investment, for the speedy and effective implementation of capital projects, as well as for the integration of transportation and landuse. Urban sprawl and a scattered spatial development pattern throughout the Greater Dublin Area (Figure11) pose a challenge to the principles of sustainable development while imposing unnecessary and unwarranted costs on the urban economy of Dublin.

Figure 11: Urban Sprawl and Scattered Spatial Development Pattern throughout the Greater Dublin Area.



6.4 Growth or Development: An Emerging Choice

Dublin has grown rapidly during the past decade. As capacity limits are reached or exceeded whether physical or human, Dublin may have to choose between quantitative growth, or development which involves **qualitative change** and improvement.

Many of the cities examined in this study, have thrived and prospered within national and/or regional metropolitan cultures, which have fostered real decentralisation as part of coherent regional development and spatial strategies. Such an approach involves a return to the spatial vision and the identification of those functions truly important to the international and national role of Dublin. Cities such as Paris, London, Stockholm and Copenhagen have operated to priorities, which underpin their international roles both in the interests of the city in question and also in terms of their national advantage.

An information and communications audit of firms presently located in Dublin could reveal many firms which derive little advantage from their Dublin location - firms which could operate successfully in other locations and which, through good planning, could stimulate and enhance the development of their centres.

Such approaches could enable Dublin to develop its key functions while reducing pressures on land, on infrastructures, on skills and on costs and the general quality of life.

6.5 Need for Quality

The previous section stressed the need to commence examining urban functions in terms of their quality and national-international importance. The cities compared with Dublin in Section 5 above are generally characterised both by good planning and by an emphasis on high quality development. There is abundant evidence that the successful city in the era of information economy is one with a high quality of both the physical and the man-made environment, ranging from landscapes to urban design, enforcement, cleanliness and the security within which to enjoy the quality and the cultural amenities of the city.

Quality is part of the wider picture of enhancing the attractiveness of a city for business development. Quality development goes hand in hand with integrated development. It is part of the groundwork for good city marketing and the promotion of a city as a good location for convention traffic, for fairs and for business tourism. It is also a key platform from which to advance up the value chain of producation and service.

6.6 Social Cohesion and Human Resource Development

The case studies of European cities, as discussed above, highlight the priorities, which need to be given to issues of social inclusion and further resource development. While the economic success of the 1990s has reduced Dublin's unemployment crisis, numerous reports from NESC to IBEC testify to the importance of improved social integration and cohesion as part of Dublin's priority for future development. Both NESC and IBEC emphasise the need for continued priority investment in education, in training and in retraining. Tables in Section 3 of this report point to Dublin having a relatively low female participation rate in the workforce. Even cities further developed than Dublin in this regard are exploring ways to make further improvements in activity rates.

Meanwhile, Dublin is in the early stages of knowing how to integrate immigrants or to fully understand their potential to the economic and social development of the city and the region. In an era of increased competition between cities, enlightened and innovative approaches to human resource development, expansion of participation rates and the social integration of all elements in the workforce is increasingly important.

6.7 Inter-City Networking

Figure 6 has illustrated Dublin's peripherality in relation to the mass of European urban centres. At the same time, Dublin, because of its primacy and dominance within Ireland, is not well integrated into the national urban system. Reference has already been made to the growing recognition of the importance of city networking as part of their policies to improve competitiveness. Established inter city networks within the EU include:

- The **MHAL** network is composed of six cities: Maastricht / Heerlen-Hasselt / Genk-Aix-la-Chappelle-Liege.
- The **Saar-Lor-Lux** is composed of Luxembourg, Belgian Lorraine, Metz-Nancy and Treves-Saarebruck and is organised around a wide variety of collaboration structure.
- The **Alpine Diamond**: Geneva-Lyon-Turin City Study Group which has a focus on the promotion of local development.
- The **C6 Network**: Barcelona, Montpellier, Palma in Majorca (Balearic Islands), Zaragoza, Toulouse and Valencia whose objectives are to contribute to the construction of European co-operation and consolidate the potentials of each of the member cities.
- The **Basque City Network** – Bilbao, San Sebastian and Vitorria – a polycentric model for the promotion of the Basque country.

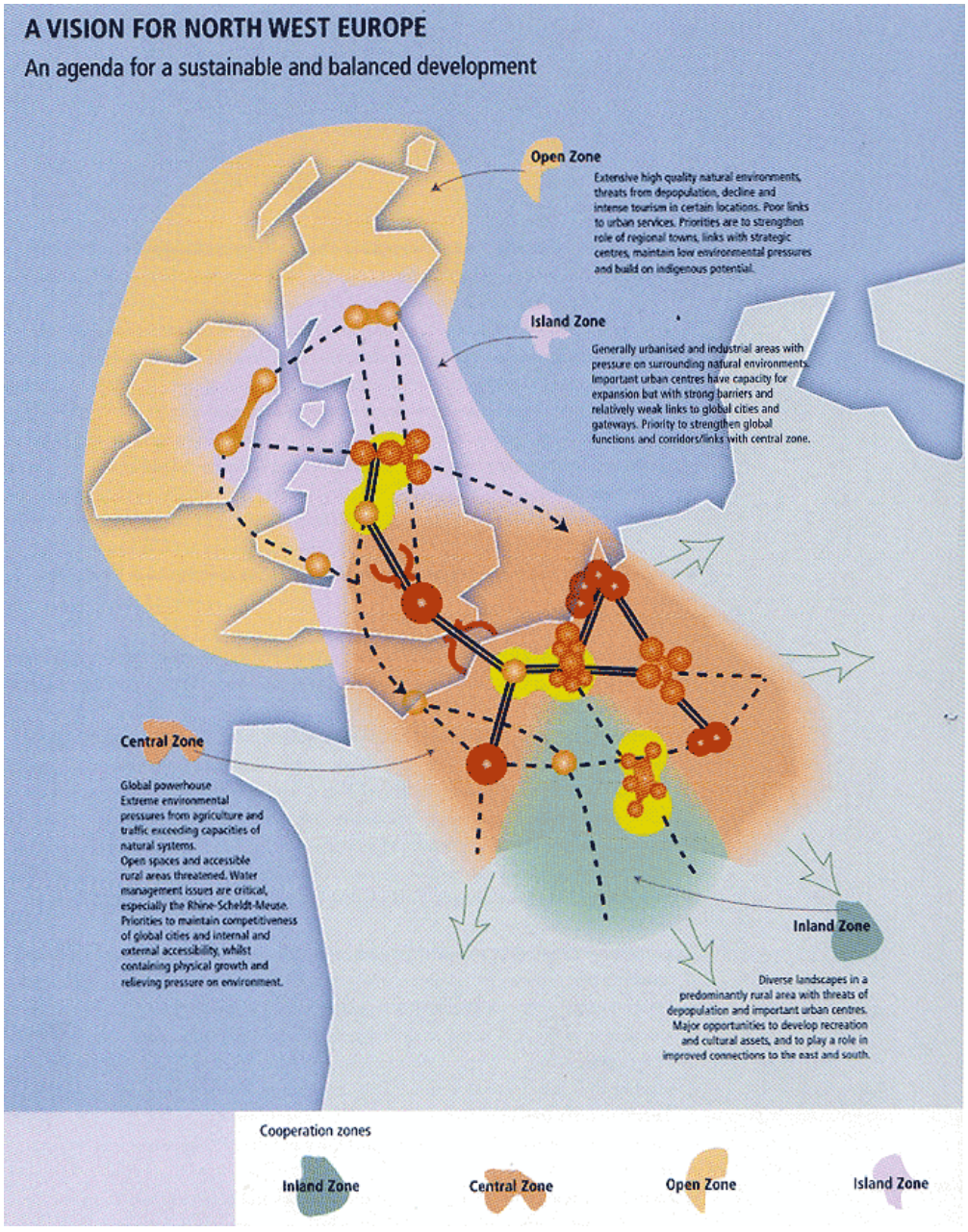
Other inter-city networks are under consideration, including a possible network of Capital Cities in the Celtic Fringe, which could build upon the existing proposals for corridor development (Dublin-Belfast, Edinburgh-Glasgow and Bristol-Cardiff) and which would fit within the Vision for North West Europe as depicted in Figure 12.

Dublin's future international role requires that the city become more closely integrated into the European network of cities in order to face the six challenges identified in the North-West Europe Study.

- How to enhance the global role of north-west Europe's metropolitan areas;
- How to ensure more fairness in the distribution of prosperity throughout north-west Europe;
- How to reduce the global environmental impact of north-west Europe;
- How to protect and manage the cultural and natural resources of north-west Europe;
- How to maintain a high level of access to and from north-west Europe.
- How to improve internal access and mobility in a sustainable way.

Responding to these international challenges, while developing its role within Ireland, requires that Dublin network closely with other cities and that it both contributes to and learns from the collective experience of networks in terms of future economic advance, social development and overall environmental improvement.

Figure 12: Vision for North West Europe



6.8 Concluding Note

Whereas Dublin is viewed as a large city in an Irish context, it is a relatively small and rather isolated city within the wider European context. Dublin has prospered and it has grown rapidly during the past decade. Dublin has both benefited from and also made a significant contribution to the improvement of Ireland's international competitiveness. Dublin also performs a wide range of functions, which are crucial in Ireland's international trade and development.

However, improvement in competitiveness is a continuous process and Dublin needs to take whatever steps which may be required to further improve competitiveness; many of these actions relate to local investment in physical and social capital. Like other capital cities, Dublin needs to focus particularly on its international role both on behalf of Ireland and on its own behalf. Dublin possesses agglomeration and urban advantages unique in Ireland and without which Ireland's development effort could be disadvantaged. At the same time, many of the bottlenecks in Dublin at present may arise from the over centralisation of functions and activities which contribute relatively little to Dublin's key role.

Dublin needs to focus on 'development' and qualitative change rather than on 'growth' per se. This study shows that Dublin has a performance and potential comparable to Helsinki. This is good but, in the decade up to 2010, Dublin requires a vision and strategy enabling it to more closely match the potential of Copenhagen thereby moving up to a higher plane of operation.

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Regionplane- och trafikkontoret (Office of Regional Planning and Urban Transportation) (2000) Regional Development Plan for the County of Stockholm: Summary, Regionplane- och trafikkontoret Stockholm.

Bristol

Conference Bristol Service (**http://www.conference.bristol.co.uk**)
Bristol city council (**http://www.bristol-city.gov.uk**)
Bristol airport (**http://www.bristolairport.co.uk**)