The Expansion of Dublin and the Policy Implications of Dispersal

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Introduction and Background

The 1990s in Ireland have been characterised by rapid economic growth, with average annual Gross National Product growth rates of 7 to 8 per cent, greatly increased spending power, increased manufacturing output and service provision, improving educational standards and new infrastructure.

The transformation of Dublin's economy commenced in the late 1980s with a substantial shift away from older manufacturing industry and towards services. This restructuring involved major closures of previously tariff-protected industries and unemployment rose to a national level of 17 per cent with higher levels in urban areas. By 2000, the reversal in economic trends has seen unemployment fall below 4 per cent nationally and by May of 2001, applying International Labour Organisation criteria, unemployment stood at 3.7 per cent. These figures represent employment expansion over the period 1993 to 2000 of 150,000, to a figure of 534,000 for 2000 for Dublin (Central Statistics Office (CSO), 2000). The National population by the end of 2000 was at its highest level in 120 years at 3.84 million with immigration at 46,000 per annum, of which a large part is to Dublin (CSO, 2001). While the importance of IT and the software industry is widely recognised and the Dublin Region (Dublin County Borough, Fingal, South Dublin County and Dun Laoghaire-Rathdown) is seen as a new technology-led economy the key role that such new employment has played in shaping the new urban development pattern is only new becoming clear. The location of new employment centres gives a clear indication of the emerging edge city/core area pattern of employment. While the growing financial services sector (now employing over 30,000) remains central-city based, many of the recently emerging sectors have tended to locate at suburban and office park type locations.

While the process of economic globalisation has presented the region with significant opportunities the future and continuing economic development of the region is also threatened by global exposure of the export orientated sectors in the face of economic downturn. Nevertheless, there remains a broad consensus to develop a high knowledge-based and high-technology based productive sector. The initial trend in 2001 is that while the new economy downturn has resulted in job losses and closures such as Gateway, Motorola and others the current skills and labour shortages have seen significant numbers of such staff immediately re-employed elsewhere. Future economic prospects since the September 11th terrorist attacks on the USA are considerably more uncertain. Whether this scenario continues is of course open to question.

The previous absence of a definite regional strategy or plan for the development of land use and transportation in the Dublin city region has seen economic and population growth occurring in a strategically uncontrolled manner. In particular the failure to meet the region's expanding infrastructural requirements is now placing constraints on the economic potential of the region. What emerges is a picture of consolidation of the city; a number of economic growth nuclei are influencing the future shape and direction of development activity. Also evident is the growth of a significantly expanded commuter belt up to 90km around Dublin. Understanding this pattern is a necessary first step in achieving maximum economic and social benefit from such development and minimising the negative impacts of the development boom. This paper explores the current policy parameters shaping the expansion of Dublin and the conflicting pressures of concentration and dispersal. In particular, it examines the potential benefits of the option of increasing residential densities within built-up area of Dublin in terms of urban sustainability.

The Policy Context

The first Strategic Planning Guidelines (SPGs) for the Dublin region were published in 1999 and a review and update was published in the year 2000 as initial population and growth projections were already being exceeded. While generally welcomed as a useful contribution to resolving Dublin's urban development problems, the absence of serious funding commitments or proposals for implementation reduce such plans' credibility. The fact that the SPGs were brought forward after six of the affected local authorities had adopted or were in the process of adopting their own Statutory Development Plans opens up issues for conflict.

In broad terms, the SPGs place a strong emphasis on sustainable integrated urban development along existing or to-be-developed transportation corridors separated by green wedges within which development for local needs only should be permitted. Already some of the local authorities included in the SPG have forwarded planning proposals contrary to the guidelines. Contentious development proposals include the potential development of major business parks at the Dublin Border in county Meath and near Bray, county Wicklow. In June 2001, the National Planning Appeals Board rejected on appeal plans for a business park in Wicklow which had been endorsed by the local planning authority. This signals the board's efforts to uphold the SPG on the basis of proper planning sustainable development criteria (Irish Times, 14/06/2001). The policy shift towards sustaining current economic development is also evident in the bringing forward of a National Development Plan for the Period 2000-2006 (Government of Ireland, 1999). These proposals aim particularly to deal with the infrastructural development required nationally and with particular emphasis on the development of public transport in Dublin. With a funding commitment over IR£ 40 billion, this represents the beginning of an intense public capital programme aimed at improving the competitiveness and efficiency of the Dublin Region. Major projects underway in the Dublin Region at present include the completion of the orbital road network around the western edge of the city, the motorway from Dublin to Belfast and the port access tunnel by which heavy goods vehicle will access Dublin port along a seven kilometre underground route. Previous experience in the region of proposals for extensive infrastructural and public transportation improvements had a poor record of implementation.

Sustainable development in the context of urban development policy has at its core the aim of avoiding uncompensated costs. In the matter of the Dublin Region's ongoing housing and settlement strategy, this concern should ensure that the provision of housing, infrastructure and transportation contribute to economic development over the longer term as well as improving quality of life in respect of other indicators such as education and health. By ratification of UN and EU Treaties such as Maastricht and Amsterdam, the concept has been adopted in Ireland. In *'Sustainable Development - A Strategy for Ireland'* (Department of the Environment, 1997) the issue of sustainable development in the context of spatial planning includes:

Encouraging careful location of residential, commercial and industrial uses
Planning and making effective use of existing developed urban areas
Integrated strategic, economic and social planning.

The concept of sustainable development for urban environments with growth achieved parallel with, rather than at the expense of environmental quality is now widely accepted (UN Agenda 21 and Maastricht Treaties). The strategy for achieving sustainable development in the context of spatial planning and urban renewal in Ireland has been adopted in *'Sustainable Development'* (DOE, 1997). Despite the supposed adoptionof such strategies, current housing problems clearly demonstrate tensions between such policy goals and an ability to implement changes required for their achievement. The difficulty in adapting to rapid changes in the urban economy is made worse through the absence of national regional settlement strategies. The pace and form of change in the urban economy of the Dublin Region have yet to be fully appreciated. Depending on one's perspective, the region can be considered to be on the brink of a historic opportunity for sustained development or facing severe problems orfoverheating due to an inability to manage planning fou0regional development on a long-term basis.

Future Urban Development Policy Initiatives
Over the period 2000 - 2001 a consultation paper on The National Spatial Strategy has been widely debated and the announcements of key decisions on such policy is expected at the end of 2001. Analysis of the proposals indicates decisions on several major areas with particular relevance to the Dublin Region are well advanced. The aspiration to distribute new industrial service and enterprises development within Ireland has already been reflected in reduced grant aid to business locating in Dublin from January 2000. Attempts to redirect such development will have investment consequences for the Dublin region should an economic slow-down occur. Redirecting urban growth to alternative areas with the capacity to absorb both the positive and negative externalities of such growth may prove more difficult than expected.

The consideration of new institutional arrangements for land use and transport in the greater Dublin area is also at consultation stage (DoELG, 2001). This policy document recognises the need for structural changes in key urban management process for the Dublin area. In particular the sharing of administrative and executive power over several layers of government is seen as creating overlapping responsibility and competing or conflicting interests. However, the need to link transportation planning with planning polices is recognised.

No single agency is responsible for the co-ordination and integration of a policy and urban management response to the region's problems. Consequently there is an absence of any comprehensive approach to urban development issues. The need for effective urban management has increased with rapid economic development as existing resources including infrastructure is fixed in the short term.

The lack of public trust in the planning and development system often results in communities often reacting to all proposals in a defensive manner. Such proposals and plans are often viewed on a highly localised basis with widespread co-ordinated opposition to specific proposals. Positive public attitudes to the public planning process and the ability of the planning and development statutory authorities to deliver on improved urban and regional environment are often regrettably less evident. Consequently, every element of infrastructure development for the Dublin region, such as the development of the Luas urban tramway system, can become significantly delayed. All such proposals now involve significant public consultation, public inquiries and environmental impact assessments. Whilst recognising the importance of all such inputs in proper decision making, the potential for serious and significant delays on all projects is correspondingly greater.

The introduction of the Planning and Development Act, 2000, confirms the priority attached to urban development policy issues. The Act codifies nine previous Acts and makes significant changes in many issues of especial importance in the Dublin Region, such as social and affordable housing and strategic development zones. In the housing provisions of the Act, a controversial obligation on planning authorities in preparing housing strategies is the general policy that up to 20 per cent of lands zoned for residential or residential and other mixed uses shall be reserved for social and affordable housing. Planning authorities in 2001 and onwards may require developers to enter into agreements relative to social and affordable housing with several options open to developments to fulfil such obligation.

Strategic Development Zones (SDZs) are targeted at large infrastructural projects and attempt to fast track strategic development. Once the site for an SDZs has been designated, the relevant planning/development agency prepares a planning scheme with procedures for public display and consultation. If adopted by the elected members of the relevant planning authorities, subject to appeal to the National Planning Appeals Board, it is deemed to be part of the development plan. Subsequent planning applications consistent with the planning scheme will be granted and there will be no appeal allowed on such decisions. It is anticipated that the SDZs will apply in to the development of essential infrastructure and major residential development in the Dublin region.

In a wider context, the difficulties involved in regulatory reform in relation to such rapid economic change were recognised in the recent OECD review of regulatory reform in Ireland (Organisation for Economic Co-operation and Development, 2001). The attempts to use such reform to enhance productivity and address critical bottlenecks, such as the provision of physical infrastructure, are assessed and the importance of housing, transport and environmental services are stressed.

Population and Demographic Trends in Dublin

The Dublin and Mid-East Regions, which together constitute the Greater Dublin Area (GDA), are currently experiencing rapid population growth in excess of the national rate of growth. Such growth is both a contributory factor to, and a result of greatly increased economic activity in these regions in recent years (Cawley, 1996).

During recent decades, Ireland's population has become increasingly concentrated in the GDA. Dublin is estimated currently to account for 29.2 per cent of the national population in 2001, while the wider GDA comprises 39.6 per cent of the total (CSO, 2001), having increased from 32.2 per cent in 1961. The population of the GDA is estimated to have grown by 8.2 per cent between the 1996 Census and April 2001, almost twice the growth rate (4.4 per cent) for the remainder of Ireland. However, population growth within the GDA has not occurred in a uniform manner in recent years. The Mid-East (which comprises counties Kildare, Meath and Wicklow) experienced population growth of 14.7 per cent between 1996 and 2001, a growth rate over three times that for Ireland outside the GDA. During the same period, the population of the Dublin Region is estimated to have increased by 6.1 per cent, indicating a much faster rate of population growth in the Mid-East Region compared to Dublin, resulting from housing affordability problems in the capital (CSO, 1996, 2001).

The reasons underlying such strong rates of population growth in the GDA in comparison to the rest of Ireland include faster rates of economic and employment growth. In addition to the process of urban agglomeration, a significant level of internal migration is taking place from the other regions of Ireland to the East. However, the lack of capacity for the Dublin area to absorb this population growth has meant that increasing numbers of those working in Dublin have dispersed into the Mid-East Region and beyond, as a result of the lack of affordable housing in the city. Thus, the Dublin Commuter Belt is expanding at a rapid rate both in terms of population and geographical spread. Commuting to the edge-city employment centres is now viable from a far greater range of distances than previously.

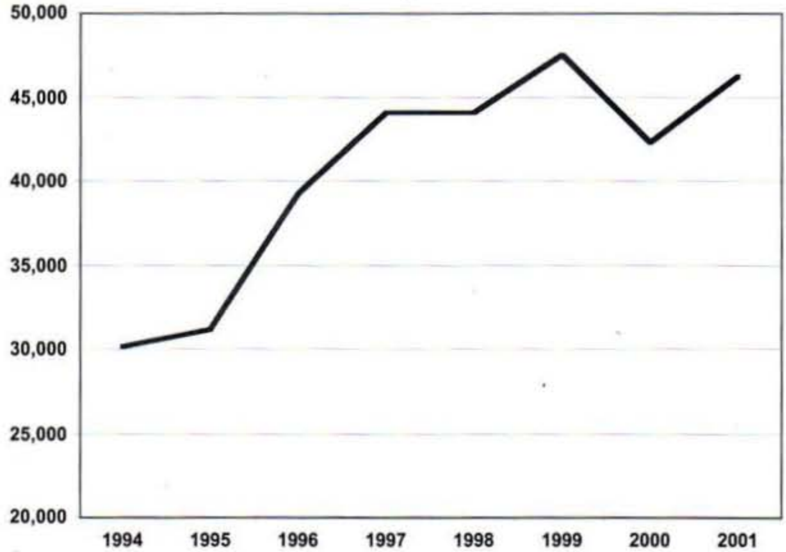
Migration Trends

Ireland is experiencing a high level of immigration which has occurred in response to the favourable economic conditions during the past seven years. Between 1994 and 2001, a total of 324,000 persons migrated to Ireland, accounting for 12 per cent of the total estimated 2001 population (CSO, 2001) (see Figure 1).

The annual number of immigrants to Ireland increased by 53 per cent between 1994 and 2001 (from 30,100 to 46,200) and, if current trends continue, it appears that upward of 200,000 persons will migrate to Ireland during the 2000-2005 period. Based on an analysis of CSO data, it appears that the largest age cohort of immigrants (45.1 per cent) during the 1994-2001 period has been the 25-44 age group, which represents the prime age category for labour force activity and house purchases. The 15-24 age group comprised the second largest age group for immigrants, at 29.7 per cent of total immigrants between 1994 and 2001. The destination of migrants to Ireland is not disaggregated on either a county or regional basis. Nevertheless, by analysing the total number of persons in the 1996 Census who lived at an address outside Ireland during the previous year, the figures indicate that for this category, 47.5 per cent resided in the Greater Dublin Area. It suggests that perhaps half of all immigrants to Ireland are permanently settling in this region (CSO, 1996), up from 34 per cent in 1981, showing that not only is net immigration increasing, but a growing proportion of this group is settling in the East Region.

The population of the GDA is expected to continue to account for an increasing share of the national population during the first decade of the new century. If current trends continue, the Mid-East will absorb most of this growth. Population of the GDA has increased by an estimated 115,000 between 1996 and 2001 (CSO, 2001). If the growth rate over the past five years is maintained, population in the GDA would total approximately 1.85 million by 2011. It is apparent that the concentration of economic activity into the GDA is continuing, despite proposals by Government for new industrial and service investment to be redirected to

Figure 1. Immigration into Ireland 1994-2001



Source: CSO and DoELG data.

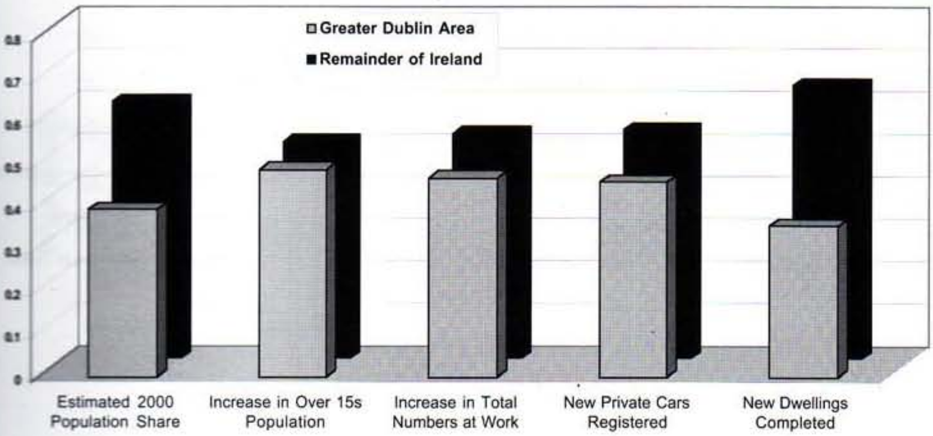
peripheral regions through the forthcoming National Spatial Strategy. However, it is apparent that the absence of quality infrastructure in peripheral locations will continue to ensure that the majority of new investment will remain skewed towards the GDA and, to a lesser extent, the other Irish city regions (Cork, Limerick and Galway). Throughout the developed world, the process of economic clustering is accelerating in urban areas and particularly in major cities (Sassen, 1994).

Economic Dominance of the Greater Dublin Area

The Greater Dublin Area accounted for 49 per cent of the growth in the population over 15 years of age, 47 per cent of the increase in total numbers at work and 46 per cent of new private cars registered in Ireland between 1994 and 2000. However, the GDA accounted for only 35.6 per cent of the share in the total number of new dwellings produced in the 1994 to 2000 period, well below the percentage share for the other three economic criteria (see Figure 2). This indicates the disproportionate share of growth in economic activity for the entire state during the 1994 to 2000 period accounted for by the GDA, well in excess of its 1996 population share of 38.8 per cent. Despite this growth, housing provision falls behind the other three categories substantially.

The Greater Dublin Area has experienced growth in population over 15 years of age by 15 per cent between 1994 and 2001, compared to a national rate of 12 per cent, indicating a rapidly increasing labour force readily available for employment and further population growth due to family establishment. For the GDA, the growth in over 15s population at 15 per cent for 1994-2001 is considerably in excess of the growth rate of 10.5 per cent for the rest of the country. These 'supply side' figures indicate the continuing likely trend for large-

Figure 2. Comparison of economic variables between the Greater Dublin Area and the Remainder of Ireland, 1994-2000



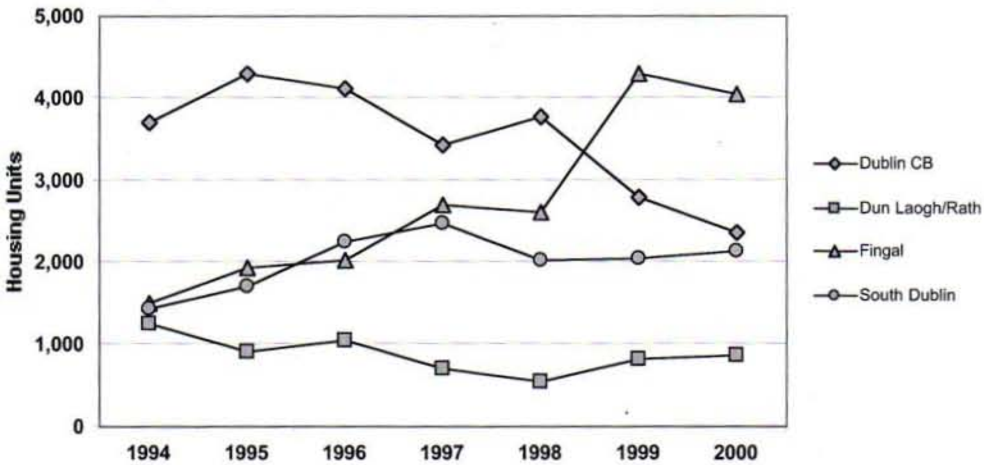
Source: DIT analysis of DoELG housing statistics.

scale multinational employers to locate in the GDA in preference to more peripheral regions, as this region contains a labour force qualified in the growing sectors of the global economy, such as information technology, communications and services. Further supporting evidence comes from IDA statistics. The GDA captured 68 per cent of IDA-supported new jobs between 1996 and 2000, compared to 32 per cent for the remainder of Ireland. The number of jobs in IDA-supported companies increased by 78 per cent in the GDA between 1996 and 2000, compared to 45 per cent nationally and in contrast to a decline of 23 per cent in the Donegal/North-West Region (IDA, 2001). Between 1994 and 2000 the GDA experienced 47 per cent growth in employment, compared to 36.4 per cent for the rest of state (CSO, 2000). This trend indicates that the creation of employment in the GDA is disproportionately greater than for the rest of the country, probably in connection with the higher rate of growth in the labour force in this region and the preference of foreign direct investment to locate in the hinterland of Dublin.

The Housing Crisis and its Long-term Development Implications

Despite attracting a disproportionate share of new investment and population growth, new housing completions in Dublin have not increased to meet demand and have essentially remained static since the mid-1990s; fewer new houses were completed in Dublin in 2000 (9,405 units) than in 1996 (9,446 units). The share of new houses completed in the GDA has declined from 40.1 per cent in 1994 to 31.2 per cent in 2000. The proportion of total national housing output accounted for by the Dublin Region has declined from 29.4 per cent in 1994 to 18.9 per cent in 2000, providing evidence of the continuing deterioration of housing supply in Dublin. Between 1994 and 2000, new house completions in the Dublin Region increased by 19 per cent, compared to a national figure of 85 per cent. Housing completions in the GDA vary greatly between the local authorities. Fingal experienced a 167 per cent increase in housing production between 1994 and 2000 compared to a 57 per cent decline in Dublin County Borough, reflecting a shortage of inner-city and inner suburban infill sites which are

Figure 3. New housing production in the Dublin Region, 1994-2000



Source: DIT analysis of DoELG housing statistics.

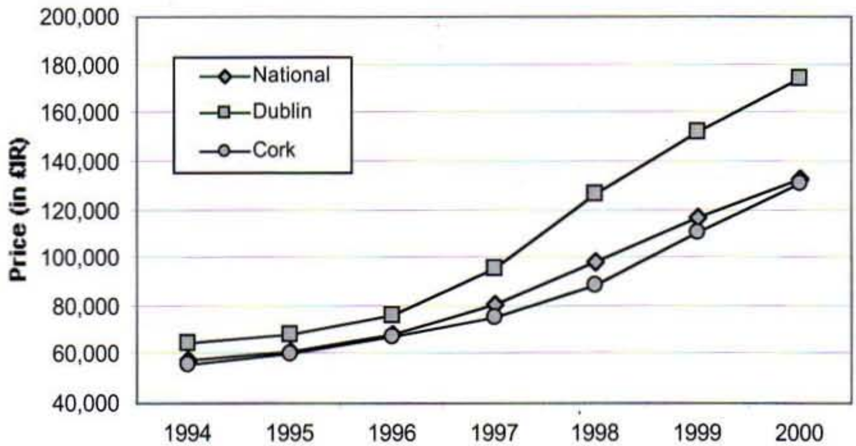
easy to develop and financially attractive to developers. The supply/demand mismatch in Dublin is forcing first-time buyers to purchase properties in locations outside the capital and its traditional hinterland. The net result of this deflection of demand from the capital and an expansion of the commuter belt with increased commuter traffic on arterial routes.

The latest available data shows that the number of new houses completed in the Dublin Region experienced an decline of 9 per cent between the first halves of 2000 and 2001, from 4,955 to 4,551 dwellings completed compared to an national increase of 5.3 per cent for the same period (Department of the Environment and Local Government (DoELG), 2001). It is apparent that both economic and population trends will maintain a high level of demand for new housing in the GDA and that demand will continue to exceed supply in the near future, further reducing affordability. Such a decline in affordable owner-occupied accommodation adds further pressure to an already overburdened rental market.

House Price Trends 1994-2001

The housing market is Ireland is marked by a strong degree of spatial differentiation. Pressures of a demand/supply imbalance exist in the east of the country, particularly in and around Dublin where higher house prices reflect the pressure on the market and the stronger economic position of the capital and its hinterland. Average prices for new housing in Dublin increased by 170 per cent between 1994 and 2000, from £64,575 (Euro 81,993) to £174,622 (Euro 221,724). This increase compares to a 133 per cent price rise nationally. Second-hand average house prices in Dublin rose by 198 per cent during the 1994 to 2000 period, from £65,188 (Euro 82,772) to £194,559 (Euro 247,039), compared to a 173 per cent increase for Ireland as a whole. Currently, average prices for new and second-hand houses in Dublin are 36 per cent and 27 per cent above the national average respectively (DoELG, 2001). This reflects the very high levels of demand in relation to supply taking place in Dublin, providing further evidence for the process of concentration of economic activity into the Greater Dublin Area. House price data for the first half of 2001 indicate that the rate of price inflation in Dublin is

Figure 4. Annual New House Prices, 1994-2000



Source: DIT analysis of DoELG housing statistics.

slowing. The average price of a new house in Dublin was £197,102 (Euro 250,268) during the second quarter of 2001, with an increase of just 0.8 per cent on the first quarter of the year (DoELG, 2001). This trend compares with a 9.7 per cent price increase between the first and second quarters of 2000. In the current climate of economic uncertainty, many economic and property commentators predict a decline of 10 per cent to 15 per cent in house prices during 2002.

Growth of the Dublin Commuter Belt

The spatial expression of the increased level of economic activity in the GDA has been characterised by a dispersal of both population, housing and employment functions from Dublin to an expanded commuter belt. The outward dispersal of cities is a very powerful trend occurring in most cities on a global level (Hall, 1997). This zone now encompasses a region up to 90km from Dublin city centre, well beyond the boundary of the GDA, which has been adopted as the zone of Dublin's influence for both strategic planning and transportation purposes. There have been a number of identifiable trends related to the growth of the commuter belt of Dublin (Williams and Shiels, 2000).

1. Outward expansion

The commuter belt of Dublin continues to expand outwards as the pressure for development land intensifies in the immediate environs of Dublin and indeed in many established commuter locations in the Mid-East Region. Locations such as Rochfortbridge in Westmeath, Gorey and Bunclody in Wexford and Castlecomer in Kilkenny have experienced new housing development marketed to Dublin commuters, and such anecdotal evidence indicates that the outer edge of the Dublin Commuter Belt has attained a distance of 90km from central Dublin.

2. Consolidation and acceleration of development in emerging large commuter towns

The pattern of residential development in commuter towns is changing as further pressure is placed on such locations to cater for rapid expansion. Towns such as Navan, Drogheda, Carlow and Naas are experiencing accelerated levels of new housing development, including the emergence of apartment schemes in these locations. In both Portlaoise and Mullingar, very large housing schemes have commenced which are aimed at the Dublin commuter market.

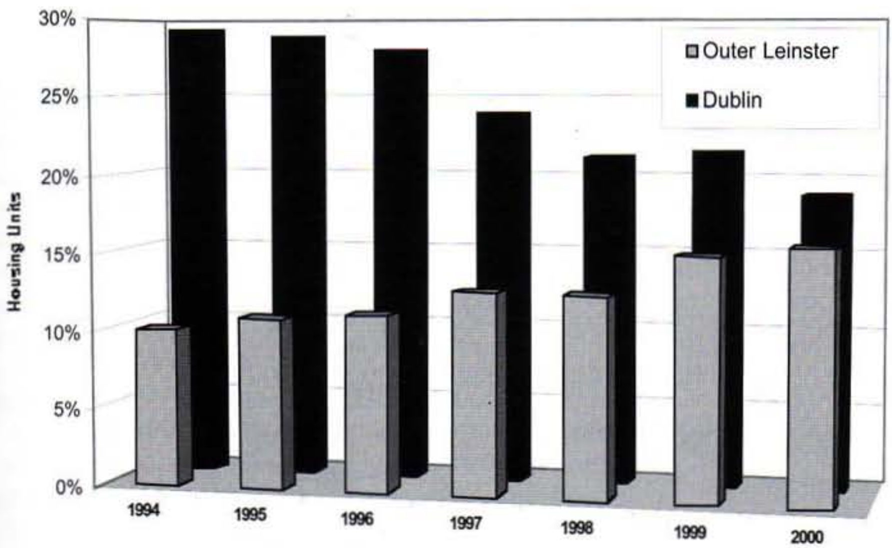
3. Dispersal of residential development into smaller urban settlements
A strongly emerging trend is characterised by the development of housing schemes in small villages that have not previously experienced large levels of housing construction. Such villages are widely dispersed throughout the Dublin commuter belt and include Clonard, Stamullen, Enfield, Ratoath and Ballivor in county Meath, Carbury and Prosperous in county Kildare, Aughrim and Baltinglass in county Wicklow, Kinnegad in county Westmeath and Collon in county Louth.

4. Dispersed patterns of growth are likely to continue and possibly accelerate
Despite the objective of the Strategic Planning Guidelines to concentrate development into self-sufficient 'growth centres' in the Mid-East Region and minimise the dispersal of development through the creation of 'Strategic Green Belts', it appears that the process of urban sprawl and dispersed development is accelerating. This trend runs counter to the concept of sustainable development.

Diffusion of Dublin's growth to the Mid-East Region
Between 1994 and 2001, the Mid-East Region experienced 61 per cent growth in total numbers in employment, in excess of the 49 per cent growth rate for the Dublin Region (CSO, 2001). Based on 1996 Census data, many towns located in the Mid-East Region are characterised by a high percentage of their workforce engaged in managerial, professional and commercial activity. In 1996, for example, 60 per cent of the workforce of Naas were employed in this category, with 62 per cent for Maynooth and 62 per cent for Dunshaughlin. As this type of employment is strongly concentrated in Dublin, this provides a strong indication of their commuter function. The Mid-East Region achieved much faster new house production growth rates than the Dublin Region between 1994 and 2000. New housing completions have increased by 114 per cent in the Mid-East Region (counties Kildare, Meath and Wicklow) reflecting a deflection of construction activity from Dublin city as a result of supply constraints. Urban settlements adjacent to Dublin are experiencing faster rates of population growth than those located in the remainder of Ireland. Based on an analysis of the 1991 and 1996 Census figures, towns of over 10,000 population within Dublin's sphere of influence experienced an inter-census growth rate 80 per cent greater than for towns located beyond it (11 per cent compared to 6.1 per cent). For progressively smaller towns, the disparity in growth rates increases between those adjacent to Dublin and those in other regions in the country. For towns of 1,500 to 3,000 in population, those adjacent to Dublin grew by 11.1 per cent, in contrast to 0.9 per cent growth for towns located outside Dublin's sphere of influence. These data clearly indicate a greater scale of development in towns within the Dublin Commuter belt and the dispersal of development activity to smaller urban settlements.

The emergence of the 'Outer Leinster' region
As the supply of land in locations close to Dublin city has diminished, evidence is growing that housing development is "leapfrogging" the established dormitory areas (i.e. Leixlip-Maynooth, Bray-Greystones) in favour of settlements located at greater distances from Dublin. Currently, rapid growth in new housing is taking place in locations such as Wicklow Town,

Figure 5. Proportion of the National Housing Output built in the Dublin Region and in Outer Leinster, 1994-2000



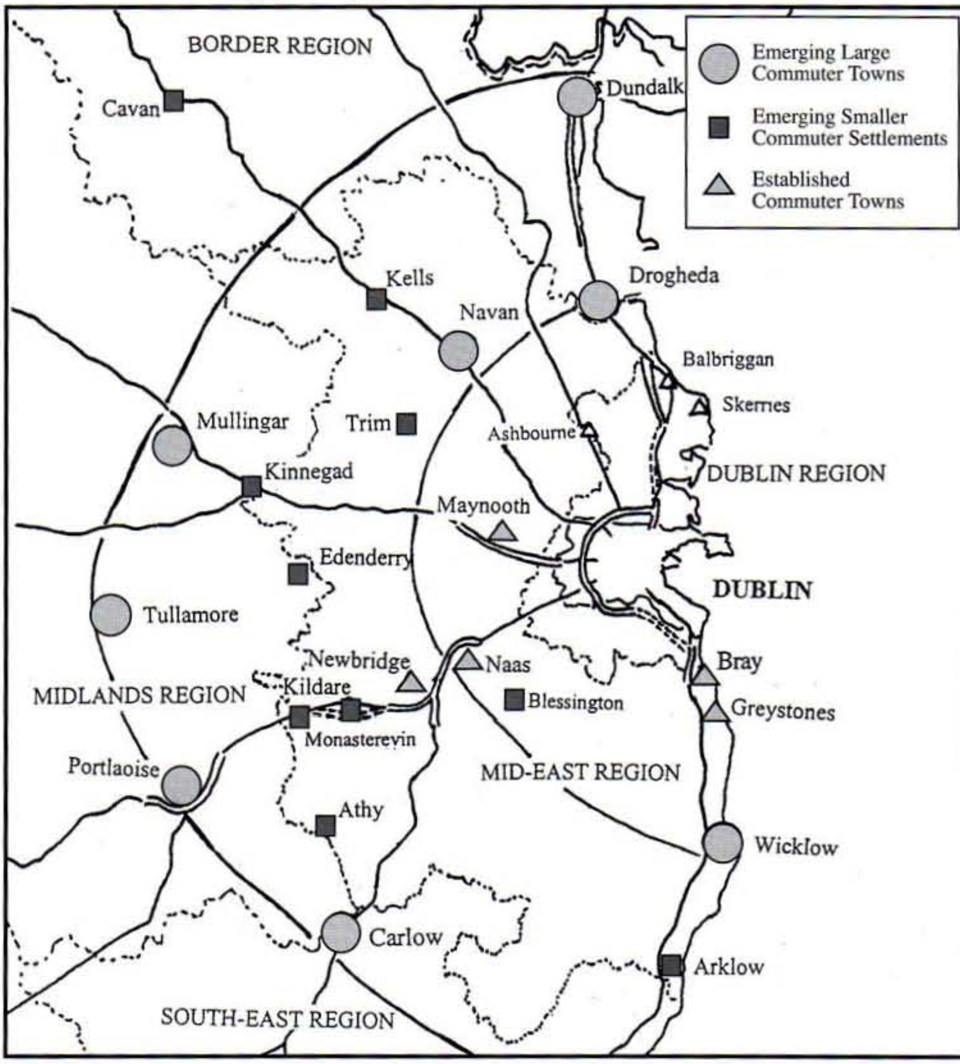
Source: DIT analysis of DoELG housing statistics.

Arklow, Navan, Kells and Drogheda. The chief causal factor in the emergence of the Outer Leinster (Louth, Westmeath, Offaly, Laois, Carlow and Wexford) commuter area is rising new house prices in the Dublin and the inner Mid-East Regions, with a less prominent 'pull' factor of an improved transport infrastructure. To exemplify this trend, between 1994 and 2000, new house production increased by 193 per cent in the Outer Leinster counties, a rate over four times that of the GDA (DoELG, 2001). Whilst the proportion of national housing output accounted for by the Dublin Region has declined from 29.4 per cent in 1994 to 18.9 per cent in 2000, the proportion accounted for by Outer Leinster has increased from 10.1 per cent to 16 per cent (see Figure 5).

The increase in commuting from the Outer Leinster counties to Dublin can be exemplified by a 257 per cent increase in new car registrations between 1994 and 2000 for this region compared to 179 per cent for the GDA, with a 634 per cent increase for county Louth. An increase of 142 per cent in average daily passenger figures on the Dublin to Dundalk rail commuter service took place between 1993 and 1997, providing evidence for the growth in long distance commuting to Dublin (Corás Iompair Eireann, 1998).

The inclusion of the Outer Leinster counties into the Dublin commuter belt is not uniform between all the counties involved. Counties Louth and Westmeath appear to be experiencing growth in excess of the remainder of the Outer Leinster counties, probably linked to greater ease of access to Dublin. In terms of new housing provision, Louth experienced a housing output growth rate of 124 per cent between 1994 and 2000, from 677 housing units to 1,513. During the same period, housing completions in Westmeath grew in the order of 428 per cent, from 299 units in 1994 to 1,578 units in 2000.

Figure 6. The Growth of the Dublin Commuter Belt



Emergence of the Edge City
In the Greater Dublin Area, an emerging phenomenon is taking place: that of a 'ring' of new, mainly high-technology based industrial and service employment located adjacent to the Dublin Metropolitan Region. Edge cities tend to gain the advantage of their spatial proximity to larger urban settlements from which they are able to derive the benefits of a readily accessible labour force, enhanced transport links and proximity to major decision-making functions within the traditional core, particularly capital cities. The advantage of proximity to larger urban centres and their associated infrastructure has been termed 'borrowed size' (Phelps, 1998).

However, a major dilemma facing emerging edge cities is the need to maintain competitiveness, flexibility and accessibility, lest problems of over-development, changes in service industry technology and congestion reduce their effectiveness at attracting new investment. This type of problem has been occurring in certain early edge cities, such as Croydon in London (Phelps, 1998). The edge city is in its embryonic stages of development in Ireland, but in the USA, it has been estimated that two-thirds of office facilities are located in edge cities, 80 per cent of which have been established between the 1970s and the 1990s (Garreau, 1991). Commuting patterns in the USA have radically altered from traditional suburb to central city radial patterns to a suburb to suburb nature (Garreau, 1991). This trend is emerging in the Dublin Region, and is exemplified by the increasing levels of traffic congestion on the central axis of Dublin's edge city, the M50 C-ring motorway. Edge cities tend to develop at the intersection of major transportation arteries, and often these nodes are characterised initially by a major shopping centre, followed by industrial and office functions over time. In Dublin, Tallaght and Blanchardstown are good examples of the emerging edge-city trend.

Major office nodes are emerging in suburban Dublin as a result of the following:

- A lack of available sites for development in the traditional Dublin 2 and 4 central business district core, exemplified by very low vacancy levels.
- The ready availability of development land in suburban and peri-urban locations.
- The change from a production-based to an information and service-based economy, leading to the blurring of distinctions between industrial estates and business parks.
- The development of key transportation arteries, particularly the M50 motorway.
- The advantage of proximity to major labour pools, headquarter and government functions in Dublin, social and economic infrastructure such as third level institutions and Dublin port and airport.

Emerging nodes of office and industrial development in the Dublin Area include:

1. Leopardstown/Sandyford

This area has experienced a major and rapid transformation from a 1980s industrial estate into a major office location. Adjacent to this location is Cherrywood, where a major technology park is being developed.

2. Tallaght and Environs

Tallaght has experienced the emergence of a strong core function to its original satellite town status. The Square shopping centre began this trend, followed by a series of retail and office developments, civic amenities such as the South County Dublin headquarters and the Regional Hospital. Adjacent to Tallaght are a series of major business parks, including Citywest, Baldonnel Business Park and Parkwest.

3. West Dublin/North Kildare

The West Dublin and North County Kildare area has attracted major industrial employers including Intel and Hewlett Packard, the Liffey Valley Shopping Centre and various retail parks.

4. Blanchardstown/Mulhuddart

The Blanchardstown area has experienced a major influx of development of retail and industrial activity since the early 1990s. The Blanchardstown Centre is acting as a nucleus for further retail and office developments. The northern fringe of the suburb has attracted major electronics firms (e.g. the IBM Complex in Mulhuddart) and a series of freight forwarding businesses which have located close to Dublin Airport, taking advantage of proximity to the M50 C-ring.

5. Dublin Airport/Swords
Dublin Airport functions as a major employment centre in its own right, employing in excess of 11,000 persons. Adjacent to Dublin Airport, major IT industries and cargo forwarding functions have located in the Swords and Santry areas, in order to take advantage of their proximity to the airport.

Therefore, a series of nodes and localities containing more dispersed forms of employment exist in the Greater Dublin area. However, few are strongly connected to public transport systems and their emergence has been almost exclusively car based. The M50 has emerged as a 'western axis' of edge city development and its original intended function as a bypass of Dublin has been greatly compromised by an increasing amount of inter-suburban commuting and shopping trips, with an estimated 150,000 journeys via the M50 on a daily basis (NRA, 1999). This trend is placing additional strain on its capacity to handle traffic volumes.

Options for Future Development
In their paper *'Acceleration into Sprawl'*, Williams & Shiels (2000) identified and analysed the following options for the future development pattern of Dublin:

1. Continue present peripheral expansion into Outer Leinster.
2. The National and Regional Development Plan/Planning Bill.
3. Redirect growth from Dublin to alternative regions.
4. Redirect growth to new urban areas within the Dublin Region.
5. Densification of the existing Dublin Urban Area.

Option One
The present trend of uncoordinated peripheral expansion and resulting sprawl represents the least sustainable option but is nonetheless the likely result of the present policy mix. It essentially involves supplying urban housing needs in a dispersed manner without adequate infrastructure and services, providing long-term problems in terms of sustainability.

Option Two
Present Policy Aspirations could represent the start of a National and Regional Development Planning System (Bannon, 1999). However, it is also clear that these ambitions could postpone the effective decision-making and reforms that are needed in the short term. A continued emphasis on the blueprint/masterplan and central direction of economic and physical development does not mix well with the short-term market realities that the future shape of the region will already be decided while debates about alternative formulations of this complex pyramid of interlocking plans are taking place.

The new Planning and Development Act gives statutory backing to such changes but makes no clear commitment on resourcing and implementation of such systems in the short term. The long-term need for rationalisation of local government, financing strategic planning and development is clearly required. The main spending commitments of existing local authorities (roads /transportation, housing, environmental protection, water supply and sewerage) are clearly regional and national issues. However, moves to place strategic planning and development onto these levels have already proved problematical. Within the Dublin Region, attempts to deal with waste management on the regional level have experienced problems. Difficulties in longer-term reform again surfaced with innovative proposals for directly elected mayors for urban areas, which were delayed for political reasons. Expectations are therefore that effective change in this area may only be implemented over the longer term.

The principal short-term measures announced in the Planning and Development Act intended to have an immediate impact on the Region's most obvious problem - housing affordability - is included in Part Five of the Act. The current proposal obliging land transfers for social and affordable housing could be welcomed as introducing a necessary system of planning gain into the Irish planning system. However, in the short term, it may serve to reallocate existing inadequate levels of supply of development land but could also serve to hold up or defer development decisions by landowners. Management of the scheme will be complex and legal challenges and delays are certain.

Option Three
Redirecting growth to alternative regions again represents a long-term aspiration rather than a feasible short-term option. Moves towards a reformulated regional growth policy are fraught with widespread local political difficulties. As desirable as this option appears from an objective viewpoint, its acceptance and implementation are unlikely particularly in the short to medium term.

Option Four
Redirecting growth to new areas in the Dublin Region can be viewed in two alternative models. First, the creation of a new town within the Region might be considered, based upon international models with a development agency organised along the lines of existing regeneration authorities with compulsory purchase powers. Considerable experience in urban renewal and redevelopment is now available from agencies operating within the Dublin Region and could be used for this purpose. The level of political choice involved, the extent of implementation powers necessary and the uncertainty of outcome make this choice unlikely. Instead, the Strategic Planning Guidelines option of dispersal along transportation corridors is being pursued. Unfortunately as these guidelines have no statutory effect the results of this strategy are unlikely to be as intended.

Option Five
Densification of the existing Dublin area has not been fully considered by policy makers despite some obvious advantages. A renewal emphasis building on the success of previous urban renewal strategies should be used to ensure that:

- The substantial numbers of still under-utilised city properties are brought to their full potential use is an obvious starting point
- Vacant and under-utilised floorspace over ground floor commercial users remains a feature of all Irish urban areas
- Such city districts with schools, health and other facilities in a disused or rundown state due to population movement should be the focus of regeneration initiatives.

While this process has already commenced in central Dublin, many of the same factors apply in older areas of suburban Dublin where a previous generation of low-density housing now has ageing populations, falling school numbers and infrastructure in place. Such districts

Table 1. Potential Housing Yield of Zoned Institutional and Private ("Environmental Amenity") Land in North Dublin County Borough

Proportion of Land Developed	Housing Units @20/ha.	Population Capacity	Housing Units @40/ha.	Population Capacity
40 per cent	4,502	13,506	9,005	27,015
20 per cent	2,251	6,753	4,502	13,506

Source: Williams and Shiels, 2001.

are often in need of development in a general sense as they have been neglected and not well provided for in the past. In areas such as the North Fringe of Dublin, the opportunities for improving peripheral disadvantaged areas through development are best evidenced by the Ballymun Urban Regeneration Project. A reduced emphasis on outdated single-use zonings has allowed development to occur in an integrated manner. The potential for increased population density with commercial redevelopment complementing a mix of housing types while re-using disused or vandalised open space is obvious.

Analysis of the existing urban form of the Dublin area strongly indicates that adopting an integrated strategy of transportation and increased residential densities should be considered. The contiguous built-up area of Dublin occupies a land area roughly twice the area of cities of comparable population such as Cologne, Copenhagen or Prague. The resulting distribution of residential, employment and retail functions therefore generates significant additional commuter traffic and results in greater congestion. Recent research has identified the considerable capacity of under-utilised urban space to provide significant regeneration opportunities and improve the quality of existing urban areas (Williams and Shiels, 2001). The continued inactivity relating to vacant and derelict land in inner urban areas is difficult to defend given the strong market demand during recent years and the enactment of the Derelict Sites legislation in 1991.

In particular, given the present housing shortage, the existence of under-utilised lands adjacent to under-used support infrastructure in terms of schools and other facilities point to the need for a new policy initiative on urban regeneration. At the fringe of the city, a similar case can be made that the presence of under-utilised land can contribute successfully to local economic development and should be regarded as an opportunity rather than a problem. The general arguments for urban regeneration policy interventions remain true, whether related to land located close to the urban core or under-utilised land on the urban fringe. The following are frequently cited reasons for urban renewal interventions:

1. Ensuring the full use of historic investment in infrastructure
2. Use of public agency capacity to overcome bottlenecks to development
3. The maintenance and improvement of social stability.

Detailed analysis of the quantity of under-utilised land with potential for development in the north Dublin area was carried out during 2000/2001 (Williams & Shiels, 2001). This research indicated that a total area of 2,087 hectares was designated open space and institutional land in north suburban Dublin. For Dublin County Borough, it was possible to exclude open space designated as public parks and other locations of amenity, as such areas were considered to be permanently protected from any development. Significant areas of vacant land were identified in the form of institutional holdings and private holdings (zoned as 'environmental amenity' land in the Dublin City Development Plan, 1999).

Recognising that maintaining open space is both essential to the quality of the urban environment and protected in development plans, it was decided to investigate the potential yield if a proportion of such land was developed for housing. Using current housing densities of 20 units per hectare, and the increased density of 40 units per hectare as recommended in the current guidelines on residential density (DoELG , 1999), the estimated additional population capacity was derived through an assumption of 3.0 persons per dwelling. The resulting analysis has shown a significant potential for increased population capacity housed on existing under-utilised land. Table 1 illustrates the population capacity of existing zoned institutional and private amenity land in the north suburban Dublin area alone.

The option of developing under-utilised land in Dublin carries the benefit in terms of revitalising the demographic and physical environment of older suburban areas and accommodating the housing demand of Dublin. If this option is extended to other disused urban spaces as well as the significant under-utilised land holdings which could be released by the various state and public bodies, the argument that new green field peripheral urban development should be the main focus for new housing is considerably weakened.

Conclusions

It is recognised that the spatial structure of Dublin has altered considerably in recent years. This has been associated with the emergence of an 'edge city' employment belt adjacent to the M50 motorway, inter-suburb commuting patterns to such employment and indeed reverse commuting trends with inhabitants travelling out from existing built-up areas to the new employment centres. The new commuting patterns necessitate some flexibility in housing strategies with inevitably a need for a limited dispersal of housing stock. Recent trends, however, indicate that the spatial dispersal pattern of Dublin's housing requirements was infrastructure supply driven rather than demand driven. This has resulted in an unsustainable development pattern of further dispersal developing as the market response to an effective gap in policy implementation. The continuation of some limited dispersal of housing development in the Dublin Region in line with the Strategic Planning Guidelines is therefore likely to occur. However, neglecting the positive development potential of existing urban areas has negative impacts in both the short and the longer terms with respect to terms sustainability.

In conclusion, this research indicates that considerable potential advantages exist in the consideration of a residential densification strategy for the Dublin area. Such a policy would conform with closely with stated policy aspirations regarding sustainable urban development patterns and contribute significantly to solving existing development problems. The necessity for integrated and mixed-use development rather than traditional mono-functional urban development, along with the planning-gain type agreements vital to achieving public support for such developments creates practical implementation difficulties. Nevertheless, in terms of local economic development, revitalisation of existing urban and suburban areas and its capacity to address housing supply problems in a more sustainable manner than its alternatives, the option of residential densification merits serious attention.

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