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Title	Acceleration into sprawl : causes and potential policy responses
Author(s)	Williams, Brendan; Shiels, Patrick
Publication Date	2000-06
Publication information	Quarterly economic commentary, (June 2000): 37-73
Publisher	Economic and Social Research Institute
Link to publisher's version	http://www.esri.ie/UserFiles/publications/20070725110234/QEC2000Jun_SA_Williams.pdf
This item's record/more information	http://hdl.handle.net/10197/1235

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**Acceleration into Sprawl:
Causes and Potential Policy Responses**

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1. Introduction

The continuing pace of economic growth in Ireland is giving rise to debates on national spatial planning and economic development policy. It is clear that the need to shift policy priorities towards sustaining economic development in the longer term while maintaining economic growth is a difficult process. Lower rates of economic growth put lesser pressures on the environment and planning processes and therefore the planning, regulatory and legal systems have been unprepared for the impacts of a major surge in all forms of development activity. The absence of the implementation of a sustainable development strategy puts at risk the environment and the benefits of economic development in the 1990s.

The pressures of urban growth without adequate infrastructure are increasing nationally and are most critical in the physical growth of Dublin and its impact on the Leinster area. In this paper we use the Greater Dublin area as a case study to examine the issues raised by the phenomenon of urban sprawl. The continuation of the present outward sprawl of Dublin is creating major future problems for the inhabitants of the region. Congestion, environmental damage and a deficit in infrastructural facilities are increasingly evident. The long-term competitiveness of the region is also seriously impacted upon by present trends.

The regional economic environment is a critical determinant of future business and economic activity. Issues such as the quality of land and infrastructure including links within the regions, the actions of public policy at local level and the co-ordination of infrastructural provision and land development are critical to a properly functioning urban economy. The locational preferences of both business and residential users are not limited by administrative boundaries that operate in the functional urban region of Dublin, but are determined primarily by access to vital infrastructure. Past approaches in dealing with the region's development in a fragmented and uncoordinated manner have contributed to major problems associated with urban sprawl and require urgent reform. In particular, the need for major infrastructural investment and reformed urban governance are clearly evident. This research indicates that a policy mix favouring the option of the sustainable compact city is required.

This paper examines the consequences of the acceleration into sprawl evident in the Dublin Region and extends on work by Williams and Shiels (1998). While past urban policy failures may be fairly linked to inadequate resources and public finance deficiencies, the present economic situation offers opportunities never before available.

Dublin enters the twenty-first century with a contradictory set of urban development patterns. Innovative urban renewal policies are viewed internationally as relatively successful while the management of the peripheral development of the region is seen to be inadequate. Basic issues for the region's development including the provision of transportation infrastructure, waste management and serviced land for affordable housing are not being properly addressed. This paper sets out to analyse the resulting sprawl pattern of development spreading up to 100km from Dublin with resulting congestion and long-term sustainability consequences.

As noted by Forfás (1999), infrastructural and regional development are essential to social and economic life but long delayed changes in the regulatory processes are needed to deal with aspects of the recent phase of

growth. This is important both for inhabitants' quality of life and to continue economic prosperity that is critically dependent on mobile capital investment. The necessity of good urban and regional governance with a capacity to determine where growth should go and the ability to make the necessary infrastructural investment for such growth has never been more evident.

The institutions and methods used for the organisation and management of the city region require a transformation in methods to take account of the rapid and largely uncoordinated expansion of the past five years. New approaches may be needed in terms of:

- Institutional organisations involved in terms of responsibilities and geographical areas;
- Innovation in planning methods;
- Innovation in operational and development approaches;
- Redeveloping partnerships between public authorities, communities and the private sector.

In particular, the region will have to manage the problems of scattered urbanisation characterised by low population densities. With the private motor car becoming the preferred or only method of transport in such areas, previous commitments made to principles of sustainable development are null and void. Many European cities have experienced similar low-density development, peripheral to major cities and research on controlling and reducing negative impacts of such development includes:

- Policies on the location and shape of urban expansion;
- Ongoing assessment and control on the effects of transportation investment in generating development;
- Reducing dependency on the motor car as a means of urban transportation.

The emerging development of Dublin can be described as a result of infrastructure-led speculative development with the notable absence of inter-suburban transport links and essential infrastructure, it is clear that the current planning and development control systems are inadequate. This is reflected in terms of the absence of procedures for implementation of strategic planning at a regional level, delayed processes for the delivery of essential infrastructure and the failure to address the full economic and environmental cost of individual developments in terms of congestion, pollution and other external impacts. In particular, fiscal structures as applied by local authorities for environmental services, if under-priced, lead to waste and excess environmental damage (Barrett, Lawlor and Scott, 1997). The functional urban area of Dublin defined by where people work and travel to spend their daytime is now developing without structures, systems or processes of control for their integrated transportation and land use development. The aim of this paper is to indicate on the basis of national and international experience the potential way forward to overcome Dublin's regional development problems and so act as a case study for other urban areas in the country.

The adoption of the European Model of a more compact urban form, with clear demarcation between built up areas and countryside, extensive pedestrian zones and effective traffic management has been widely advocated in the Irish context. Gribbin (1999) recommends that densification of existing urban areas within 1km of the intended transportation structure. This additional population would support a

greater diversity of ancillary land uses such as retail and services. Obviously this approach would need to be integrated with planning and development to create environmentally sustainable areas.

2. Sustainability in Urban Development

The strategy for achieving sustainable development in the context of rational spatial planning and urban renewal has been adopted in Sustainable Development – A Strategy for Ireland (DOE, 1997). Issues included:

- 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.

In the context of the Dublin Region, the report, *Towards Regional Sustainability Agenda 21, Scoping Report for the Dublin and Mid-East Region* (1997) identified the following specific sectoral issues of concern:

- Settlement Patterns – planning pressures of an expanded commuting pattern and resulting congestion;
- Waste Management;
- Water Supply.

Progress has been achieved in terms of renewal of some existing developed urban areas and in integrating strategic social and economic planning. However, examination of the concerns relating to the Dublin Region and its peripheral development show a worsening problem with strategies offered and discussed but progress minimal.

The commitment of large-scale capital investment in urban infrastructure is welcomed. Past experience indicates that such major inflows of investment will require careful monitoring, information and control. If national environmental policy is inadequately developed with regard to legal and fiscal frameworks, the full potential of such investments may not be realised (Honohan, 1997). The creation of new transportation alone may not lead to more efficient or environmentally sustainable patterns of transport use. Alternatives to existing policies in transportation pricing, subsidies and taxes have been explored at the international level in the European Commission Green Paper, *Towards Fair and Efficient Pricing in Transport* (1995). The use of transport taxes has been advocated to contribute to the development of an efficient and environmentally friendly transport system in Ireland (ESRI, 1998).

European experience is that mixed-use medium-density urban development is a useful model and results in internationally recognised compact sustainable and accessible urban areas. In the US, the adoption of a similar pattern of Smart Growth Developments is regarded as a potential solution to traffic pollution, air pollution and sprawl. Modifications of standards to street design, requiring buildings to be set back, have resulted in more pedestrian orientated developments that are transit friendly and have mixed uses (O'Neill, 1999). This flexibility along with the collaborations and integration required are difficult to achieve but enhance developments in growing areas sufficiently to warrant serious attention.

3. Sprawl – The Consequence of Rapid Uncoordinated Urban Expansion

Peripheral expansion of the larger metropolitan areas internationally has occurred as city regions have become the critical focus of economic activity. Rapid expansion often creates a tendency towards functional specialisation of districts in fringe areas. Speculative single land use patterns often dominate and the functional mix of uses associated with the more vibrant traditional urban area are often absent. Greenfield development allows the rapid expansion of an urban economy but may result in outlying suburban areas accumulating high quantities of speculative housing without the associated infrastructure and services. Patterns of discontinuous growth can emerge with low rise, low density housing emerging with unusable and often wasted open space. This has often been the Irish experience. Such a pattern for the purposes of this study is defined as sprawl:

The debate on urban sprawl internationally often has as its focus the wasteful use of land and infrastructure caused by dispersed residential development. In the USA, the sprawl pattern is seen as consisting of leapfrog of scattered development..... ribbon or strip commerciallarge expanses of predominantly low intensity and single use development. This often occurs where planning is poor or non-existent (Peiser, 1999).

As the major international cities have had extensive experience of urban sprawl and its consequence, it is of interest to Ireland to examine its causes, results and recent policies relating to the issue. The suburbanisation pattern in North America is seen as dominant in the period after World War Two with the growth in the dependence on automobiles, office parks, out of town malls and outer urban development. Developers built on greenfield sites because it was easy and fast and often replicates previous successful developments. Major road building programmes contributed as did the existence of fragmented urban governance systems. The desire of developers for inexpensive greenfield sites often leads to the leapfrog effect as areas mature. Developers, instead of competing for remaining infill sites often subject to stringent planning or environmental requirements, move on to areas where such constraints are less.

Fiscal policy interventions in Ireland, in the housing area, have tended to systematically favour and support new building at greenfield locations. This has included initiatives such as preferential taxation treatment in terms of stamp duty and first-time buyers grants aimed at new housing. There is also evidence of a secondary factor in the Irish experience with developers often avoiding areas such as North Wicklow where environmentalist opposition to large-scale housing developments has occurred. When demand for housing is high, total demand is at its highest at central locations. Purchasers, however, will also buy houses at more peripheral locations due to lack of supply. As this land is readily available at cheaper prices, it is often more profitable for a speculative developer. The results of these demand and supply factors encourage the emergence of sprawl into peripheral areas around the more desirable centre. Purchasers in Ireland as elsewhere are often prepared to move further from the city in order to avail of cheaper housing. Long-term transportation costs and the lack of proper infrastructure and facilities are tolerated in order to acquire a home.

The move back to planned neo-traditional communities internationally occurs with the realisation that sprawl often results in areas lacking in

community, character and urban services. In the USA, public policy is now reverting to development concepts based upon “smart growth” where efficient use of state and local government infrastructure funding is linked to development along transportation routes. This results in higher density mixed use along transportation routes. The rationale for this trend is that sprawl leads to the State or providers of public utilities being unable to efficiently provide facilities for the continuation of sprawl type development (Salveson and Richardson, 1999).

As in Ireland, congested roads, overcrowded schools and inadequate utilities are the result of uncoordinated sprawl pattern of development. This pattern has led many public authorities in the US to introduce *Adequate Public Facility* ordinances (APF). This process identifies the impact of urban growth on public infrastructure and facilities in accordance with their provision. Public facilities are required concurrent with development and if their need is identified, development may not proceed without such provision. This approach controls the negative impact of sprawl and is intended to both manage urban growth and assist in the development of more balanced integrated communities with mixed land uses.

A major factor in the more successful examples of the North European Compact Urban Model, is the existence of strong and effective planning and urban governance structures. In the absence of such structures, the pattern of urban development emerging in the Dublin region has signs of creating many of the major disadvantages associated with sprawl. The pattern is one of speculative single land-use development, particularly for housing, at ever greater distances from the city. This allied with an increased dependence on edge city retail developments encourage car usage and complement the edge city employment pattern in a combination which negates stated policies on sustainability.

There is much agreement as to the negative consequences of sprawl internationally. Similarly, the wish to return to the development of a more traditional urban area with a sense of community is evident. The solution to urban and social problems is beginning to centre on related concepts such as:

- Neighbourhood Communities.
- The Civic Parish.
- The Urban Village.

Statements of aspirations and goodwill will be insufficient to alter market forces sufficiently to deliver such solutions. A regional planning and development process capable of delivering such solutions will often conflict with individual preferences and vested interest groups. Whether the collective political will to deliver the alternatives to sprawl exists is open to debate.

The 1998 *Action on House Prices*, among its key recommendations, proposed increasing housing densities in key locations in order to increase housing supply with a limited amount of development land (Bacon *et al.*, 1998). This was followed by the Government’s announcement in April 1998 that it intended to facilitate increased residential densities in inner urban “brownfield” sites or public transport nodes (DoELG, 1998). Guidelines on housing density were prepared in February 1999 (McCabe *et al.*, 1999), but since this time, much discussion but very little further advancement of medium-density residential proposals has occurred. There are currently two major suburban medium-density housing schemes being

4. Population and Demographic Changes

developed in Dublin, at Blanchardstown and Santry Woods. Both schemes met with considerable planning difficulties due to local opposition, as many residents believed they were out of character with the existing low-density suburban landscape of the area.

Increased density residential development, however, does not by necessity have to involve high-rise apartments. Since the late 1980s in the United States an innovative planning concept for housing has emerged – Neo-traditionalist development. Such communities were devised as a reaction to excessive dependency on cars facilitated by the use of cul-de-sacs in low-density post-war suburbs, and a growing sense of alienation in such areas (Calthorpe, 1993). Neo-traditionalist development aims to foster a stronger sense of community by providing a wide variety of housing styles to cater for different social and age groups. In addition, development is clustered around public transport nodes in order to reduce car usage and an open space or “Town Square” acts as a focus for community activities. Dwellings are arranged in close proximity to streets and are typically two or three storeys in height. This type of medium-density development should be examined for its possible adaptation to Irish circumstances, as large-scale apartment developments will almost certainly face increasing local opposition in suburban areas.

The Dublin and Mid-East (Kildare, Meath and Wicklow) Regions, which together constitute the East Region, 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).

The East Region contained 38.8 per cent of the total national population of Ireland in 1996 (CSO, 1996). However, the share of national population located in the East Region has steadily risen during the last century, and from a 32.2 per cent share of the national population in 1961, the East Region is estimated to contain 39.4 per cent of Ireland’s population in 1999 (CSO, 1999). Population, therefore, is undergoing concentration into the East Region, with Dublin accounting for 29.3 per cent of the national population in 1999. The population of the East Region is estimated to have grown by almost 5 per cent between the 1996 Census and April 1999, a rate over twice the 2.2 per cent for the remainder of Ireland.

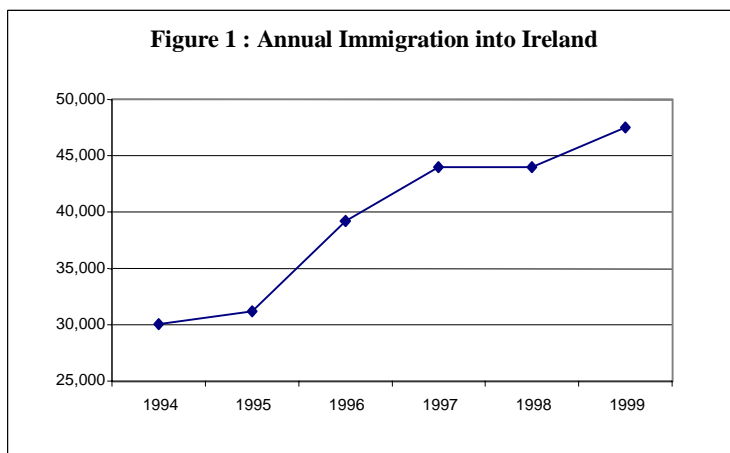
The population growth within the East region has not occurred in a uniform manner in recent years. The Mid-East (which comprises the counties Kildare, Meath and Wicklow) has experienced population growth of 8.9 per cent between 1996 and 1999, a growth rate over four times that for Ireland excluding the East Region. During the same period, the population of the Dublin Region is estimated to have increased by 2.3 per cent, indicating a much faster rate of population growth in the Mid-East compared to Dublin in recent years (CSO, 1996, 1999).

The reasons underlying such strong rates of population growth in the East Region 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. The lack of capacity for the Dublin Metropolitan Area to absorb this population growth has, however,

5. Migration Trends – A Critical Factor

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 Dublin. Thus, as a result of this trend, the Dublin Commuter Belt is expanding at a rapid rate both in terms of population and geographical area. Commuting to the edge city employment centres is now viable from a far greater range of distances than previously.

Ireland is currently experiencing a high level of immigration which has occurred in response to, and is also assisting, the current favourable economic conditions. Between 1994 and 1999, a total of 236,000 persons immigrated into Ireland with the highest annual figure, 47,500, taking place in the year to April 1999 (CSO, 1999), see Figure 1. The annual number of immigrants to Ireland increased by 58 per cent between 1994 and 1999 (from 30,100 to 47,500), and if current trends prevail, it appears that upward of 200,000 persons will immigrate to Ireland during the 2000-2005 period. The largest age category of immigrants (43.4 per cent) during the 1994-1999 period has been the 25-44 age group, which represents the prime age group of economic activity and house purchases. The 15-24 age group comprised the second largest age group for immigrants, at 29.4 per cent of the total number of immigrants between 1994 and 1999.



Source: CSO (1999).

The destination of immigrants into Ireland is not disaggregated on either a county or regional basis, but by analysing the total number of those persons in the 1996 Census who resided at an address outside Ireland the previous year, the figures indicate that for this category, 47.5 per cent reside in the East Region (Dublin and Mid-East Regions) which provides an estimate indicating that half of all immigrants to Ireland are permanently settling in this region. (CSO, 1996). From 1996 Census data, roughly 50 per cent of all immigrants into Ireland are permanently settling in the East Region, up from 34 per cent in 1981, indicating that not only is net immigration increasing, but a growing proportion of this group are settling in the East Region.

The population of the East Region 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

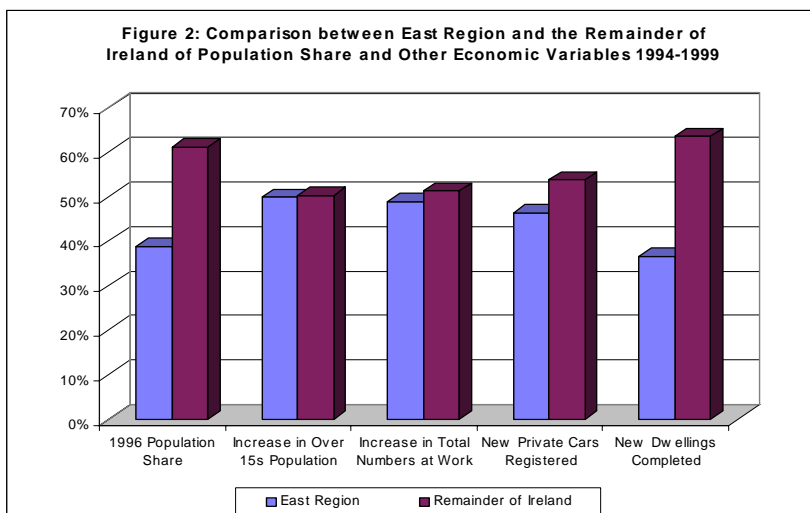
**6.
The Growing
Economic
Dominance of
the East Region**

most of this growth. Population of the East Region has increased by an estimated 70,000 between 1996 and 1999 (CSO, 1999). If growth rates over the past three years are maintained, population in the East Region would total approximately 1.8 million by 2011. This figure is well in excess of the original *Strategic Planning Guidelines* (SPG) projection of 1.65 million for the East Region by 2011 (designated the Greater Dublin Area in the SPG). These projections have been recently revised upwards and will be monitored on an annual basis to reflect the changing demographic environment.

It is apparent that the concentration of economic activity into the East Region is continuing, despite proposals by Government for new industrial and service investment to be redirected to peripheral regions, particularly the designated BMW Region (Border, Midlands and West) in the recently published *National Development Plan*. 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 East Region, and, to a lesser extent, the other Irish city regions (Cork, Limerick and Galway). Throughout the developed world, the process of clustering of business activity is accelerating in urban, particularly major urban areas (Sassen, 1994).

The East Region accounted for 50 per cent of the growth in the population over 15 years of age, 49 per cent of the increase in total numbers at work and 46.3 per cent of new private cars registered in Ireland between 1994 and 1999 which is illustrated in Figure 2. However, the East accounted for only 36.5 per cent of the share in the total number of new dwellings produced in the 1994-1999 period, well below the percentage share for the other three economic criteria. This indicates the disproportionate share of growth in economic activity for the entire state during the 1994-1999 period accounted for by the East Region, 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 (a 24.4 per cent deficit exists for housing production rates compared to the average figure for the other three criteria.

Source: DIT Analysis of CSO and DoELG data.



**7.
A Deepening
Housing Crisis
and its Long-
term
Development
Implications**

The East Region has experienced growth in population over 15 years of age by 9.2 per cent between 1994 and 1999, compared to a national rate of 8.5 per cent, indicating a rapidly increasing labour force readily available for employment and further population growth due to family establishment. For the Dublin and Mid-East Regions in aggregate (East Region) the growth in over 15s population at 9.2 per cent for 1994-1999 is considerably in excess of the growth rate for the rest of the country at 5.3 per cent for the same period. These “supply side” figures indicate the continuing likely trend for large-scale multinational employers to locate in the East Region 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 East Region captured 83 per cent of IDA supported new jobs in 1999, compared to 44.7 per cent in 1993. The total number of IDA supported jobs grew by 14 per cent in the East Region between 1998 and 1999, well in excess of the national figure of 7.3 per cent and in contrast to a decline of 16.1 per cent in the Donegal/North-West Region (IDA, 2000).

Between 1994 and 1999 the East Region experienced 39 per cent growth in employment, compared to 29 per cent for the rest of the state (CSO, 1999). This trend indicates that the provision of employment in the East Region is disproportionately greater than for the rest of the country, probably in connection with the larger rate of growth in the labour force in this region and the locational preferences of foreign direct investment.

As supported by recent statistics, the rapid and accelerating growth in population and economic output in the East Region has not been matched by adequate housing provision.

In proportion to the remainder of Ireland, new housing output has declined from 39.3 per cent in 1996-7 to 33.4 per cent in 1998-99, shown in Table 1. During the 1994-1999 period, the Dublin Region experienced an increase in new house production of 27 per cent, but Dublin County Borough witnessed a decline of 32 per cent, reflecting a shortage of inner-city and inner suburban infill sites which are easy to develop and financially attractive to developers. The emerging housing shortage in the Dublin Region is exemplified by the situation in the Dun Laoghaire/Rathdown Sub-Region, which for the 1994-1999 period experienced a decline of 40 per cent in new house production. This trend has been exacerbated by serious difficulties in servicing development land due to the planning delays associated with the proposed South-east motorway. Based on the latest available data, the number of new houses completed in the Dublin Region experienced an increase of 12 per cent between 1998 and 1999, from 8,957 to 10,035 dwellings completed (DoELG, 2000). It is apparent that both economic and population trends will maintain a high level of demand for new housing in the East Region and that demand will continue to exceed supply in the near future, further reducing affordability. Such a decline in affordable owner-occupied accommodation adds pressure to an already overburdened rental market (Downey, 1998).

**8.
House Price
Trends
1994-1999**

TABLE 1: Housing Unit Production, April 1996-1999

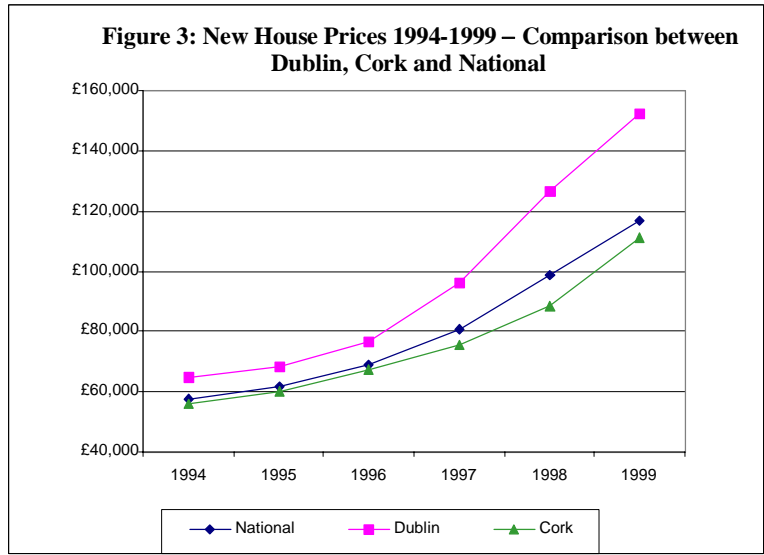
Year (April to March)	State Production	East Region	East as % of State
1996-1997	34,590	13,589	39.3
1997-1998	39,333	13,946	35.5
1998-1999	44,371	14,809	33.4
TOTAL	118,294	42,344	35.8

Source: DIT analysis of DoELG Annual and Quarterly Housing Statistics Bulletins.

New house prices in Dublin have increased by almost 136 per cent between 1994 and 1999 (DoELG, 2000), sharply reducing the affordability of such properties. The very sharp increases in house prices in the Dublin Region compares with a national price increase of 104 per cent between 1994 and 1999, but the Dublin figures distort the overall statistics upwards to a significant degree. For comparison, the second largest city in Ireland, Cork, experienced new house price increases of a more modest level – 97.5 per cent between 1994 and 1999. 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 Dublin and East Regions.

Of significant interest is the impact of the *Action on House Prices* (1998), upon which the government immediately acted by removing “Section 23” type tax incentives for residential property investors outside designated urban renewal areas. Between the first and second quarters of 1998, average new house prices increased by 4.7 per cent, from £91,583 to £95,885 on a national level, and by 10.6 per cent in Dublin, from £112,401 to £124,306. This quarter of 1998 immediately preceded the publication of the initiatives and subsequent measures to tackle price increases by the government. Between the first and second quarters of 1999, new house prices increased by 1 per cent nationally from £112,172 to £113,299 and by 2.6 per cent in Dublin from £143,597 to £147,301, see Figure 3. However, despite the obvious slowing of house price inflation between early 1998 and early 1999, house prices continue to move strongly in an upward direction, adding pressure to the already overburdened social housing and private rented sectors. It must be noted that very little standardised, empirical data exists in relation to rent levels in the private rented residential sector.

9. Growth of the Dublin Commuter Belt



Source: DIT Analysis of DoELG Housing Statistics.

The spatial expression of the increased level of economic activity in the East Region has been characterised by a dispersal of both population, housing and employment functions from the Dublin Metropolitan Area 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 East Region, 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:

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 locations such as Clonard, Stamullen and Ballivor (Meath), Carbury and Prosperous (Kildare), Aughrim and Baltinglass (Wicklow), Kinnegad (Westmeath) and Collon (Louth). These locations have added to other small towns within the Mid-East Region which have experienced large amounts of residential development (e.g. Enfield and Ratoath).

4. Dispersed patterns of growth are likely to continue and possibly accelerate

In recent months, much new development land has been released for sale onto the commercial property market, possibly in response to the new measures in the *Serviced Land Initiative* to encourage the sale of residential development land. Most of these sites appear to be located adjacent to the new and established commuter settlements in the Mid-East and Outer Leinster Regions, but several are located beside small villages unsuitable for very large-scale residential development. 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.

10. Rise of the Mid- East Region

Between 1994 and 1999 the Mid-East Region experienced 46 per cent growth in total numbers in employment, in excess of the 39 per cent growth rate for the Dublin Region (CSO, 1999). 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 at 81 per cent for the 1994-1999 period.

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 of 80 per cent more than towns outside of it (11 per cent compared to 6.1 per cent between 1991 and 1996). 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 between 1991 and 1996, in contrast to 0.9 per cent growth for towns located outside Dublin’s sphere of influence. This trend indicates the greater level of development in towns within the Dublin Commuter Belt, and particularly the dispersal of development activity to smaller urban

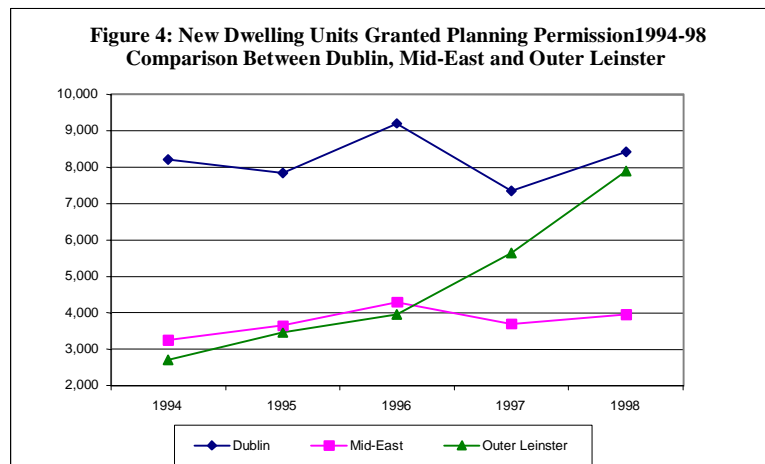
11.
Emergence of
the “Outer
Leinster”
Region

settlements, which causes rapid population increases in such towns and villages. This trend is likely to continue, and may accelerate during the 1996 to 2001 period (Hughes, 1998).

As the supply of land declines in areas closer to Dublin, evidence is growing that housing development is “leapfrogging” the established dormitory areas (i.e., Leixlip-Maynooth, Bray-Greystones) in preference of settlements located at increased distances from Dublin. Currently rapid growth in new housing is taking place in locations such as Wicklow Town, Arklow, Navan, Kells, Kinnegad and Drogheda. The move by housing developers to locations increasingly further from Dublin means that the Outer Leinster counties (Louth, Westmeath, Offaly, Laois, Carlow and Wexford) beyond the Mid-East Region are becoming integrated into the Dublin Commuter Belt. The chief causal factor in the emergence of the Outer Leinster commuter area is rising new house prices in Dublin and inner Mid-East Regions, with a less prominent “pull” factor of an improved transport infrastructure.

To exemplify this emerging trend, between 1994 and 1999, new house production increased by 163 per cent in the Outer Leinster counties, a rate over three and a half times that of the East Region (DoELG, 2000). The level of planning permissions granted for new housing indicates a 40 per cent increase for the Outer Leinster Counties between 1997 and 1998, compared to a 14.7 per cent increase in the Dublin Region for the same period and an increase of 12.1 per cent for the East Region (CSO, 1999).

The increase in commuting from the Outer Leinster counties to Dublin can be exemplified by a 164 per cent increase in new car registrations between 1994 and 1999 for this region compared to 114 per cent for the East Region, with a 433.5 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).



Source: DIT Analysis of DoELG Housing Statistics

The emerging 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. In terms of new housing provision, Louth experienced a growth rate of 134 per cent between 1994 and 1999, and in the same period Westmeath witnessed new housing output growth in the order of 280 per cent, albeit from a low base level in 1994. Between 1994 and 1998 the number of housing units granted planning permission increased by 572 per cent in Louth and 282 per cent in Westmeath. Most striking are the data for individual towns. In Drogheda urban district, the number of housing units granted planning permission increased by 238 per cent between 1994 and 1998 (from 144 to 486) and growth of 55.7 per cent occurred in Dundalk (from 115 in 1994 to 179 in 1998).

12. Emergence of the Edge City

In the East Region, 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 of major urban areas, particularly capital cities. These advantages 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 since the 1970s (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:

- 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 has begun development.

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 (IBM Complex in Mulhuddart) and a series of freight forwarding businesses which have located close to Dublin Airport, taking advantage of 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 (Shiels, 1999). 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 suburb to suburb 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.

The edge city trend in Dublin is likely to intensify in the coming decade. In mid-1999, it is estimated that office vacancy rates in Dublin had fallen to 1.45 per cent, which is caused by higher take up rates than completions, thus fuelling demand for offices in suburban locations, which encounter less land supply problems and planning delays. By June 1999, it was estimated that 48 per cent of office space under construction in Dublin was located in suburban locations (DTZ Sherry FitzGerald, 1999). Despite the success of the IFSC in the Dublin Docklands at attracting new investment, the supply of land remains limited in the central city area. Thus, the overall spatial pattern of office location and service employment in Dublin will be increasingly characterised by peripheral edge city development, a trend which is global in nature (Hall, 1997). Such a dispersed pattern of employment locations will further encourage car based inter suburb commuting, countering the principles of sustainable development.

13. Lessons of Urban Regeneration Policies

The understanding of the nature of demand for urban development as a derived demand with a complex relationship between property demand, construction activity and the general economy is essential to assessing policy initiatives. Cyclical movements in economic trends make the necessity for flexibility and adaptation of such policies essential. The context within which urban renewal policies have evolved from 1984 to 2000 have seen the economy move from a period of economic stagnation, emigration, unemployment and urban population decline to the rapidly expanding urban economy with labour and housing shortages for an increasing population in recent times. Optimum conditions for initiation and implementation of urban renewal and development strategies could be described as a strong economy, adequate public resources and a critical commitment to solving urban problems with planned improvements in infrastructure, transportation and environment supported by and benefiting all social partners (Williams, 1999). Globalisation and economic restructuring have presented both challenges and opportunities and necessitate urban management initiatives (Whiting, 1999). Urban renewal and development programmes in Dublin have developed as a response to evolving problem situations.

A steep learning curve has resulted in a move from a taxation-based incentive programme encouraging development activity towards a broader integrated area planning approach encompassing social and economic objectives. Subsidisation of development has been criticised from a number of perspectives. First, such tax breaks can cause general taxation rates to remain higher than they should be, burdening general levels of economic activity. Results, costs and optimum level of subsidy are difficult to establish and market distortions often occur with development gains for included investors and developers and defined community gains along with impacts on excluded owners/developers/investors the subject of contention. Overall however, it is clear that in terms of the successful physical development of parts of Central Dublin, urban renewal policies have contributed to and in turn been assisted by the major improvements in economic and business confidence throughout the 1990s.

The rationale for urban regeneration policies, i.e. maintenance of social stability, ensuring full use of infrastructural public assets and using central

government's capacities to remove bottlenecks to development is internationally recognised and applies to both renewal of central areas and urban development more generally. The use of grants and complex fiscal incentives has been developed to guide land uses towards specific forms of development (Williams, 1999).

The evolution of urban renewal policies in Dublin from stimulation of construction and investment in a stagnant recession hit economy resulted in successful physical redevelopment of designated inner city areas with problems in terms of displacement and an absence of wider social and economic benefits. The introduction of a new approach since the 1998 *Urban Renewal Guidelines* has involved a more holistic approach incorporating concepts such as sustainability, mixed use, equity, integrated development and community participation.

This approach is represented in a structured programme of *Integrated Area Plans* (IAPS) for selected areas (Molloy, 1999). Such reports are prepared by local authorities based upon criteria by an expert advisory panel. Such plans tend to be detailed area-focused plans identifying strengths and weaknesses of districts and targeting those areas in need of rejuvenation in consultation with local representative groups.

Content of IAPS include issues such as urban design, sustainable land uses, education, training, local economic development, environmental improvement and traffic management. Selective use of incentives and public funding are used to assist implementation and progress is periodically monitored to ensure physical economic and social progress on an annual basis. A major locational shift has occurred from the city centre to outlying areas where urban renewal is required. The transparency of the scheme is assisted by the public availability of relevant details of the decisions of advisory panels.

This approach represents a radical shift from the older single use zoning concepts of traditional planning towards a more integrated approach. Permission for development within such areas are based upon the contribution of such development to the general aims of the IAP and can involve planning gain type agreements where developers agree to specific community gains in return for permissions. Such community gains can include affordable housing or social infrastructure. The benefits of a more integrated approach have been clearly demonstrated internationally in various alternative urban development models such as:

- Germany – Where a strong link exists between physical land use, planning, transportation and infrastructural development.
- Holland – Tradition of linking housing, social welfare and physical planning.
- France – Complex systems of land and property taxation have assisted the planning system in ensuring the revitalisation of historic cities.

The benefits of co-ordination, integration and committed budgets have been evidenced both internationally and in the development of Irish urban regeneration policies. Making such approaches the norm in policy making in dealing with urban development generally seems the obvious way forward.

In general terms, the moves toward an integrated approach have involved two essential ingredients, the role of planning gain agreements

and a move towards encouragement of mixed-use developments. Planning gain involves:

- Local development returning some of the profits gained to the community;
- Working with development interests in a negotiated manner;
- Achieving identifiable community improvements.

This approach is suited to large-scale mixed-use developments in which partnership arrangements develop between landowners, planning authorities, developers and local authorities. It involves long-term commitment and perspectives on behalf of all parties but can substantially contribute to conserving and renewing existing urban areas, encouraging investment development and cumulative revitalisation and renewal of older urban areas, often on a cumulative and gradual basis if possible.

The results of urban renewal policies to date in curbing the drift from the inner city area are already noticeable. While commercial development dominated urban renewal in Dublin from 1986-1991, the emphasis of the scheme moved towards residential encouragement in the early 1990s. Within a four year period, 8,000 residential units were completed or under construction, see Williams (1999). Substantial increases in population are now in place in the designated areas of Dublin with particularly large increases evident in wards such as North City and the general Quays areas (CSO, 1991, 1996).

The profile of the occupiers of such developments show a young population of mainly professional income groups whose willingness to locate in new areas and new type of urban design settings have been evident (MacLaran and Williams, 1995). With the strong economic growth continuing in the Dublin Region it is clear that a similar approach to encouraging new types of development at affordable prices in a broader mix of district throughout the city is feasible. Experience gained in the wide variety of urban renewal processes could therefore be used on a significantly wider scale in terms of redeveloping at increased densities, major areas of the core urban region. There are many international models of fiscal measures which assist this approach including public/private partnerships, assisted project financing and economic impact fees.

14. Urban Development Issues – Policy Issues and Priorities

A growing economy with increased public finances potentially provides an optimistic outlook for the promotion and sustaining of positive development trends in the Dublin Region. However, the particular problems strongly evident as a consequence of this growth over the past three years remains unsolved. The housing affordability crisis linked to the failure to meet expanding infrastructural requirements and the absence of progress on strategic planning implementation measures remain as significant constraints on the future progress of the region

Short-term implications of the housing affordability problems have resulted in a range of initiatives including “*Action on House Prices*”, *Housing Loans Initiatives* along with a second *Economic Review and Assessment of the Housing Market*. These initiatives have failed to calm house price inflation as they have been directed primarily at demand management or supporting and subsidising demand. In the face of inadequate supply levels, such measures including support for home purchasers, have been quickly incorporated into the market at higher price levels.

Supply side initiatives that could calm the Dublin market have, by comparison, been lacking in urgency with regard to implementation. Proposals for transportation and utilities infrastructure have now been discussed over a twenty-year period. The examples of promises of increasing capacity on the existing transportation corridors and major enlargement of the urban rail system without specific guaranteed funding commitments and target completion dates bring planning and public policy procedures into question. While the aspiration has now been adopted of dealing with urban development issued in an integrated manner linking transportation, land uses and associated services, the reality of development occurring has been different.

The Strategic Planning Guidelines for the Dublin Region were widely welcomed as a step forward despite six of the affected local authorities having adopted or being in the process of adopting their own separate *Statutory Development Plans*. Already, by 2000, the central thrust of its recommendations that development should be channelled along strategic transportation corridors has been widely disregarded. High levels of activity have occurred in the hinterland/wedge areas where development was not desired and implementation of the main transportation requirements are delayed.

Such failure in implementation has caused a loss of trust in the planning and development system. The classic pattern that has occurred again is that a development pattern has evolved of rapid creation of new residential communities without adequate infrastructure or facilities. This recent pattern has been causing many communities to adopt defensive and negative responses to all development proposals. The reaction of widespread co-ordinated opposition to all development proposals has become a feature of urban development. Localised development impacts are feared and positive attitudes to development are rare. The ability of the planning and development process to contribute to a better urban and regional environment are less evident. Dispersal of Dublin's housing problems to the outer Leinster area gives particular cause for concern due to the long-term sustainability issues arising. Short-term measures such as bringing forward housing development proposals in the North City area with the use of temporary infrastructure creates a lack of public confidence that a true commitment exists to solving such problems.

A continuation of piecemeal and ineffective implementation of existing policies and initiatives has contributed to the Government bringing forward the new Planning Bill. While this Bill contains many worthwhile reforms and signals potential new approaches and initiatives with regard to housing and infrastructure, the proposals to date seem to not deal with the central features of the Dublin Region's development problems. In common with other urban regions throughout Ireland, the development problems represent inadequacies in organisation, management and commitment of resources.

By international standards, the Dublin Region has a low level of population, adequate land supply, a strong economy and high levels of public finance available. With good urban governance and management in place and a co-ordinated response, solutions are possible. The political commitment to such reforms, resources delivery and implementation have now become critical to the Region's future development. Operational rather than aspirational strategic planning is required. Current problems

are a result of outdated structures, systems and processes rather than the fault of legislation of individual organisations.

We identify five options for the future development of the Greater Dublin region:

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 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 Bill is attempting to give statutory backing to such changes but makes no clear commitments 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 was 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 Bill intended to have an immediate impact on the Region's most obvious problem – housing affordability – in Part Five of the Bill. 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 complex 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 outside objective viewpoint, its acceptance and implementation are unlikely particularly in the short to medium term.

Option Four:

Redirecting growth to new area/areas in the Dublin Region can be viewed in two alternative models. First, the creation of a new town within the Region based upon international models with a development agency organised along the lines of existing regeneration authorities with compulsory purchase powers is possible. Considerable experience in urban renewal and area redevelopment are now available from agencies within the Dublin areas and could be used for this purpose. The level of political choice, the extent of implementation powers necessary and the uncertainty of outcome make this choice unlikely. Instead, the Strategic Development Plan 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 policymakers 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 floor space over ground floor commercial users remains a feature of all Irish urban areas. Contrary to the position in the outer Leinster area such city districts often have schools, health and other facilities in a disused or rundown state due to population movement.

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 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.

The uneven spatial distribution of economic growth in Ireland, which is clearly concentrated in the East of the country, presents special problems for peripheral regions, especially those characterised by a weak urban and transport infrastructure.

This pattern of agglomerated concentration of development in the cities, especially Dublin, is a reflection of the present demand-led forces, and is a sharp contrast to the highly State-interventionist dispersed development during the 1970s and 1980s. Recent economic growth is largely the result of the emergence of a new industrial order in Ireland, based on high technology and high-skill industries, with many operations using Ireland as a “beachhead” for their European operations.

The pattern of development within the East region reflects the growing pressures of congestion and restriction in the Dublin Region itself, which has facilitated the emergence of a “Western Ring” of employment around the edge of the Dublin Region. The Mid-East region has gained from increasing congestion in Dublin, as it absorbs demand for new housing, reinforcing established commuting patterns. In tandem with the growth of the Mid-East, recent improvements in transport infrastructure have permitted areas up to 90 kilometres distance from Dublin previously unaffected by its presence to be incorporated into its commuter belt, with resulting pressures on Local Authorities for increased service provision.

Key Recommendations

A range of actions are required at all levels to counteract the current trend of urban sprawl and the unsustainable growth in long-distance commuting that has been outlined in this paper. Such measures would be best achieved if priorities were identified in order to carry out actions in an effective manner, with the most urgent problems to be addressed initially.

Short term

The region under the remit of the Strategic Planning Guidelines should be extended into the Outer Leinster local authority areas to reflect the new reality of an expanded Dublin commuter belt. Local authorities within the hinterland area urgently need to co-ordinate their planning strategies. A need now exists for the establishment of a unitary authority covering the Dublin, Mid-East and Outer Leinster regions to co-ordinate the development plans of local authorities.

Local authorities need to advance specific proposals for increased-density residential projects. A series of modified “pedestrian pockets”, linked to park and ride facilities along major public transportation arteries, could be developed within a reasonable time frame. Developers could be encouraged to initiate high-density schemes, through specific tax incentives and indeed many schemes could be jointly developed between local authorities and developers.

Commuter towns need to be served better by public transport facilities, ideally a high volume, high frequency service of acceptable quality. This measure should be complemented by tighter planning controls of dispersed development – development patterns should occur in a hierarchical fashion, with the largest towns permitted the most development and a moratorium on substantial development in the smallest villages.

An urgent need exists, in the light of the emergence of an edge city in Dublin, for the development of an orbital, inter-suburban public transport system, possibly close to the route of the M50, linking residential areas directly with major suburban office locations. This strategy could be augmented with tighter planning controls on office location, in order to develop existing emerging nodes, thereby facilitating an increased level of efficiency in the delivery of public transport to the edge city office nodes.

Full implementation of the derelict sites taxation system in the light of current development problems. This approach could also be used as an effective disincentive in the case of under-utilised existing urban property and unused development land.

Medium term

A full examination is required of current and potential specific fiscal measures which directly relate to urban development policy aims. Such a review should focus on the role of such measures in supporting provision of and reflecting the full economic cost of essential infrastructural services. New approaches are required in relation to planning gain associated with land rezonings and public infrastructural investment requirements associated with the development process.

Key factors in the dispersed development patterns of Dublin are a limited land supply and a poor public transport system. Any measure to control the development of Dublin must closely integrate land-use and transportation strategies.

Increased density housing options should be explored for their application to the largest commuter towns, and not simply within the contiguous built-up area of Dublin. Such development would have to occur in tandem with major improvements in public transport.

Long term

Restructuring of planning and urban governance systems to ensure full linkages between transportation/infrastructure provision and land use planning and development.

Reducing the level and extent of car dependency in the commuter hinterland of Dublin must form a key element of future transport strategy.

Much additional research needs to be carried out into the various aspects of the growth of Dublin, which has been briefly examined in this paper. Such aspects include the impacts of rapid development on towns and villages in the commuter hinterland of Dublin and reasons underlying the obstacles to implementing medium-density housing schemes within a reasonable time frame.

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1988	Baker, Terry	“Industrial Output and Wage Costs, 1980-87”	October	33-43
	Massey, Patrick	“Exchange Rates and Competitiveness”	October	45-57
1987	Fitz Gerald, John D.	“Making Economic Time-Series Available to Users of Micro-Computers in Ireland”	October	29-37
1986	Punch, Aidan	“Real Gross National Income Adjusted for Terms of Trade 1970-1984: An Assessment of Technical Issues”	April	30-49
1985	Baker, Terry Scott, Sue Hayes, Laurie	“Trends in Manufacturing Output and Wage Costs 1980-1984”	April	26-35

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	Barrett, Sean D.	“The Value of Cost Benefit Analysis of Road Projects – A Comment”	April	48-52
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	Mansergh, Nicholas	“The Value of Cost Benefit Analysis of Road Projects”	April	36-47
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1984	Barrett, Sean D. Mooney, David	“The Naas Motorway Bypass – A Cost Benefit Analysis”	January	21-34
	Honohan, Patrick	The Evolution of the Rate of Unemployment in Ireland 1962-1983”	May	41-58
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1983	Baker, Terry	“The Oil Find – Some Implications”	November	26-32
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1982	Keenan, J.G.	“Irish Manufacturing Industry – Recent Wage, Price and Productivity Developments”	December	53-64
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	Sexton, Jeremiah J.	“Sectoral Changes in the Labour Force Over the Period 1961-1980 with Particular Reference to Public Sector and Services Employment”	August	36-45
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	O’Leary, Jim	“Competitiveness Indices for Irish Manufactured Exports”	July	44-60
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	O’Loughlin, Brian	“The Building Society Mortgage Market in Ireland”	September	34-55
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1978	Durkan, Joe Menton, Brendan J.	“The Housing Market – Some Aspects”	September	30-40
	Durkan, Joe Menton, Brendan J.	“The European Monetary System”	September	25-29
1977	McCarthy, Colm	“An Econometric Model of Non-Agricultural Stock Changes”	December	20-28
	Walsh, Brendan M.	“Unemployment, Vacancies and ‘Full Employment’ in the Irish Manufacturing Sector”	June	25-35
1976	Kirwan, Frank	“Inter-Industry Differences in Male Percentage Unemployment Compensation – A Cross-Section Analysis for Irish Manufacturing Industry”	November	43-57
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1974	Henry, Eamon W. Scott, Sue	“Estimated Price Increases Due to Higher Costs of Petroleum and Other Imports, as Calculated from a 38-Sector 1968 Input-Output Model”	March	26-36
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1972	Baker, Terry Neary, Peter	“A Study of Consumer Prices Part 3”	October	23-37
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1970	Baker, Terry Durkan, Joe	“The Updating of Certain Econometric Models”	September	19-34
	Baker, Terry Durkan, Joe	“A Study of Imports Parts 4, 5”	March December	16-28 16-28
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