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LIMERICK CITY PROFILE

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LIMERICK CITY DEVELOPMENT BOARD

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Introduction

The City of Limerick is located at the lowest bridging point of the River Shannon. It has been a centre of trade since Viking times, and is one of the oldest chartered cities in Ireland. The original city occupied a defensive island site located between the Shannon and its tributary, the Abbey River. This area of King's Island forms the historic core of what is now the third largest urban area in the state, and the manufacturing, commercial, administrative, and cultural capital of the Mid-West region.

The purpose of this profile is to provide a comprehensive account of the present state of the city, in order to assist the City Development Board in the preparation of its strategy for economic, social and cultural development over the next ten years.

The profile provides a summary of the current situation in respect of a wide range of indicators as suggested in the Guidelines document, *A Shared Vision for County/City Development Boards*. Comparative data for neighbouring counties and the Mid-West region are provided where appropriate, and detailed mapping has been undertaken to illustrate patterns within the city wherever data has been available.

The profile commences with a brief outline of a model of development which identifies the main determinants of living standards and quality of life for the residents of the city. This is followed by an overview of the role of the city as a regional capital, with particular attention given to the main forms of economic restructuring that have occurred in recent years. The central part of the profile examines the geographical distribution, at the level of the city ward and surrounding DEDs, of several variables that are considered relevant to the themes identified in the Guidelines document. This analysis first considers the variables in isolation from each other, and then goes on to explore the inter-relationships among more than 40 indicators, which results in four maps that provide a synthetic summary of the social geography of the city and environs. Following this is a brief overview of local development initiatives in the city, as well as an assessment of cultural development needs. The profile concludes by identifying a number of key emerging issues in the city's development.

An Outline Model of Development

The analysis of demographic, economic and social patterns provided by this profile is guided by a model which has been developed by NUI Maynooth and the Economic and Social Research Institute (ESRI) and very much underpins the philosophy of the National Development Plan. According to this model per capita wealth creation depends on the interplay of four key factors. These are:

- productivity, measured as the value of output per employee,
- the employment rate, measured as the percentage of the labour force that is at work,
- *the participation rate*, measured as the percentage of the total number of persons of working age (16-65 years) that are in the labour force, and
- *the dependency rate*, i.e., the ratio of the number of people who are not of working age to those aged between 16 and 65 years.

The crucial issue in policy and strategy analysis is to identify those variables that can be subject to influence and those that cannot. The dependency rate, for example, is determined by the age structure of the population, and is not amenable to major policy influence at national level over the short term. However, at city level the rate is sensitive to population movement patterns, which in turn can be affected by housing development – an influx of young families will in the short term lead to an increase in youth dependency. The employment rate is largely affected by cyclical factors, although at particular periods structural factors (such as the decline of traditional industries) may affect the rate quite significantly. Proactive labour market interventions and targeted sectoral supports sustained over a long period may be required to increase the employment rate.

The participation rate is influenced by economic, social and possibly cultural factors including, for example, the prevailing attitude towards married women working outside the home. This rate can be affected by a number of initiatives. At national level tax incentives can be used to encourage more married women to (re)enter the workforce on either a part-time or a full-time basis. The participation rate can also be influenced by national and local initiatives to improve the provision of childcare facilities. An additional factor that can influence the ability of women to participate in the labour force is the availability of adequate transport facilities.

The fundamental determinant of improvements in wealth creation and living standards over the long term is of course the ability of a region or city to enhance its overall level of productivity. Productivity increases can be influenced by two broad sets of factors, namely those affecting the sectoral composition of output and the accumulation of capital. The sectoral composition of output concerns the relative contribution from different sectors and sub-sectors. The main issue here is whether there is a significant presence of high value added manufacturing and traded services in the city region. This is linked to the extent of restructuring that has occurred, which may also have indirect effects on the labour market, including a tendency towards polarisation between those who are successfully integrated into new sectors, and those who become more marginalized through unemployment.

The second set of factors that influence productivity increases is related to the accumulation of capital. The processes involved here are those that influence investments in private capital (factory buildings, office space, equipment, housing, etc.), public infrastructure (roads, rail lines, telecommunications, utilities, water and sanitary services, public housing, social, cultural and recreational facilities, etc.), human capital (education and training), and knowledge capital (research and development).

Research undertaken at NUI Maynooth has identified the importance of multinational investment in the enhancement of productivity and ultimately of living standards. The research has also identified a linkage between the location of this type of investment and large urban centres. This linkage has underpinned the proposal in the National Development Plan for a number of "gateways", which may take many different formats, as a key component of a strategy to promote balanced regional development. The strategy for Limerick city must take account of the broader regional context of the city as well as the local patterns of differentiation within the city.

LIMERICK IN ITS NATIONAL AND REGIONAL CONTEXT

The population of the County Borough (CB) and its environs² was recorded as 79,137 in 1996, having grown by 4.9% in the preceding 5-year period, a rate of growth significantly in excess of that for the state as a whole (2.8%). With a population some four and a half times that of the next largest urban centre (Ennis), and which represents 25% of the total for the region, the city dominates the settlement structure of the Mid-West (Table 1). The region in fact is relatively rural in character, with 58% of its population living in rural areas³, as compared to a level of just 42% for the state as a whole.

Table 1: Distribution of Population, Mid-West Region

Settlement size	No. of	Total	Percentage of	Category's share of
	centres	Population	Region's	National Population
			Population	
50,000 - 100,000	1	79,137	25.0	35.0
10,000 - 50,000	1	17,726	5.6	11.7
5,000 – 10,000	3	20,791	6.6	5.7
1,500 - 5,000	6	15,714	5.0	5.7
Rural areas		183,701	57.9	41.9

Source: CSO Census of Population, 1996

The study area covered by the Limerick Planning, Land Use and Transportation Study includes not only the city and its immediate environs but also many rural areas that may be best described as peri-urban, in that the majority of the inhabitants share a socio-economic profile that is broadly similar to that of the majority of the urban residents. The population of the study area in 1996 was 215,783 persons. It is projected to increase to between 230,000 and 236,000 by 2006. A city region of this scale is of a sufficient size to sustain a very broad level of functions that can provide the basis for a dynamic approach to regional development in accordance with the objectives for spatial development that underpin the National Spatial Strategy.

The relative strength of the city-region economy is represented by the following summary indicators for County Limerick and the Mid-West region (Table 2). In 1995 County Limerick had the fourth highest level of Gross Value Added per capita and the third highest level of per capita disposable income, according to CSO estimates. The percentage of the population covered by medical cards is a proxy measure of the proportion on low incomes. At under 29% it is the fourth lowest among the counties. However, this is not to deny or under-emphasise the existence of pockets of very low income households in some parts of the city, as will become evident in the later analysis.

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² The environs of Limerick City (County Borough) refers to those areas which, for census purposes, are deemed to form part of the continuously built-up urban area. Throughout the report the term 'urban area' is used to refer to the County Borough area plus these environs.

³ Defined as the Aggregate Rural Area which consists of the open countryside and all nucleated settlements with less than 1,500 population.

Table 2: Income Indices

	GVA per capita 1995	Disposable Income Per capita 1997	Percent of population covered by medical
		1	cards, Sept. 2000
Limerick	98	101	28.8
Clare	96	94	31.0
N. Tipperary	86	97	31.3
Mid-West region	95	98	29.9
Ireland	100	100	30.6

Note: Data are not available for Limerick city on its own.

Strong growth in manufacturing and internationally traded services has been central to the strong performance of the local economy, with a net gain of 3,296 jobs in these sectors in County Limerick between 1995 and 1999 (Table 3). This represents 60% of the total increase for the Mid-West region. Two-thirds of these job gains were in foreign-owned firms, and the industrial base now shows a strong orientation towards the advanced (high-technology) sectors: 58% of employment in the county is so classified. However, despite this high-technology orientation, GVA per employee in 1998 was comparatively low, at just 68% of the national average, suggesting a relatively low-skilled occupational profile. Further cause for concern arises from the high degree of dependence on a small number of firms, with the five largest firms accounting for fully 37% of total industrial employment.

Table 3: Industrial Indicators for Mid-West Counties and Region

	Limerick	Clare	N. Tipperary	Mid-West	Ireland
No. of Industrial Plants 1999	226	197	57	480	5474
Employment in mfg. and	17,448	11,104	4,173	32,725	324,422
intnl. traded services					
Net employment gain 1995-	3,296	1,991	164	5,451	62,524
99, all firms					
Net employment gain 1995-	2,191	1,727	70	3,988	39,453
99, foreign-owned firms					
Net employment gain 1995-	1,105	264	94	1,463	23,071
99, Irish-owned firms					
% employed in advanced	58.4	49.9	31.2	52.0	44.9
sectors					
Share of employment in five	37.0	23.0	43.0		N/A
largest firms					
GVA per person employed	68.0	70.0	47.0	66.0	100.0
1998 (Ireland = 100)					
Wages and salaries as	20.5	34.6	37.4	25.2	16.9
percent of net output					
Ratio of industrial to admin /	3.5	4.2	3.3	4.0	4.5
technical workers					

Source: Forfas database and CSO Census of Industrial Production, 1998

Reflecting the situation in the county and region, manufacturing is the dominant employment sector for the labour force of the urban area, with commerce and professional services also important (Table 4). Relative to national employment shares in each sector, manufacturing is even more dominant, and within the manufacturing sector the single most important area, both in absolute and relative terms, is the metals, machinery and engineering group of industries. This reflects in particular the local importance of employment in the computer industry and the metals processing industry. Both of these have emerged relatively recently to supersede older, more traditional activities in the food industry and textiles and clothing. Industrial restructuring has also entailed a change in ownership patterns and a much greater dependence on foreign-owned firms⁴.

Table 4: Employment in Selected Sectors, 1996, Limerick City and Environs

Sector	Number at Work	Percentage of	Sector's share of
	1996	Total at Work,	National Total at
		Limerick	Work
Manufacturing	7,323	26.6	19.1
Metals, machinery &	4,854	17.6	6.5
engineering			
Commerce	5,720	20.8	20.8
Retail trade	3,208	11.7	10.9
Transport, Communication	2,029	7.4	6.0
Storage			
Professional Services	5,609	20.4	18.5
Personal Services	2,584	9.4	7.6

Source: CSO Census of Population, 1996

The restructuring of the city's (and the region's) manufacturing base towards high technology industries has been accompanied by changes in the locations of manufacturing firms. While firms operating from more central locations dominated the older, traditional industries, firms in the newer sectors are more likely to locate on the industrial estates on the outskirts of the city. The largest of these, at Raheen, Corcanree, Galvone, the Ballysimon Road, and the National Technological Park now constitute significant employment locations relative to the city centre (Map 1)⁵. Other manufacturing centres throughout the region, and especially those in the Shannon Estuary area (including Shannon, Aughinish, Askeaton, and Foynes) are also significant sources of employment for city workers. With workers commuting to and from these centres, the city now forms the hub of a complex multi-nodal functional region.

Professional services is the most significant of the various service industries providing employment in the city. This includes the major public sector services, health and education, and the city's regional role in both these areas is reflected in the presence of two major regional hospitals and three third level institutions. The personal services sector, which is also important, includes hotels and the catering industry. The high level of

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⁴ It should be noted though that in the period 1993-97, while employment in foreign-owned manufacturing declined in the CB, the indigenous sector showed strong growth (Shannon Development, no date: 51).

⁵ All Maps are available on accompanying CD ROM.

employment in transport, communications and storage is due to the city's role as a major centre for bus, rail and port services, as well as the proximity of Shannon Airport.

The decline of traditional industries in the 1970s and 1980s led to the decay and dereliction of large parts of the urban fabric. However, the urban renewal scheme introduced in 1986 has led to the rejuvenation of the city centre. Limerick has been a major beneficiary under the scheme. Total investment in the city during the first 10 years of the its operation was more than for any other urban centre outside of Dublin, and the highest in the state on a per capita basis (KPMG, 1996: 16). This investment has strengthened the city's role as the region's major commercial centre, and helped to promote tourism. The latter is likely to be further boosted by major infrastructural work, currently nearing completion, to improve the Shannon navigation.

The transformation of the city over the past quarter of a century has been helped by the presence of a number of key factors such as the third level education institutions, the dynamic role of Shannon Development as a regional development agency, the international airport at Shannon, a firm commitment to partnership as a model for different agencies to work together, a concerted effort to maximise the opportunities presented by the urban renewal programme, and lastly the development of high quality industrial parks, including the National Technological Park.

For the future, Limerick will continue to play the pivotal role in the development of the Mid-West region. Given the predominantly rural character of the region, the city is the only centre that can realistically act as a gateway for the attraction of large scale foreign investment in high technology manufacturing and traded services. However, while this role will be important, the need to further diversify the manufacturing base through the development of competitive indigenous enterprises represents a major challenge for the city. Further development of the city region as a gateway to counteract the dominance of Dublin may require an assessment of the potential of Limerick to become the pivotal location of a strategic development axis extending from Galway to Cork.

SOCIO-ECONOMIC PROFILE OF THE CITY

Like all large urban centres, Limerick is a complex mosaic of demographic, economic and social patterns. This section looks in turn at each of these aspects of the city's internal geography, by mapping some key variables representative of each dimension. The area covered in the map analysis includes the County Borough, consisting of 37 census wards or DEDs, plus a further 6 DEDs in County Limerick and County Clare which contain significant parts of the 'environs' of the city, as defined for census purposes. The DEDs in question and the suburbs which they contain are listed in Table 5. The DED of Ballyvarra in County Limerick, which also contains part of the environs of the city, is <u>not</u> included in this analysis on the grounds (i) of its greater distance from the city, and (ii) that a much lower proportion of its population is classified as environs of Limerick, as compared to the other DEDs (Table 6). The location of all the areas covered by the analysis is shown on <u>Map2</u>.

Table 5: Suburbs of Limerick included in the Map Analysis

DED	Suburbs Included
County Limerick	
Ballycummin	Ballykeeffe, Gouldavoher, Dooradoyle, Raheen
Ballysimon	Milford, Castletroy, Monaleen, Kilbane
Limerick North Rural	Caherdavin, Aylesbury, Clonmacken, Moyross (part of).
Limerick South Rural	Bawnmore
Roxborough	Ballysheedy, Ballyclough
County Clare	
Ballyglass	Shannon Banks, Westbury, Parteen

Source: OSI

Table 6: Population of DEDs containing Limerick Environs

DED	Population 1996	Population in	Percentage in
		Environs	Environs
Ballycummin	9,907	8,862	89.5
Ballyglass	4,239	3,408	80.4
Ballysimon	8,222	7,027	85.5
Limerick North Rural	7,102	6,613	93.1
Limerick South Rural	751	427	56.9
Roxborough	1,520	396	26.1
Sub-total	31,741	26,733	84.2
Ballyvarra	2,928	365	12.5
Total	34,669	27,098	78.2

Source: CSO Census 1996

While the population of the County Borough remained static in the five years from 1991, that of the environs grew by 3,745 or 16%. As a result, the environs now contains 34% of the total population of the urban area, a larger proportion than for any of the country's major cities outside Dublin. The suburbanisation of both population and economic activity in recent years means that the city is now significantly under-bounded.

A number of caveats must be borne in mind in relation to the analysis that follows. First, the data used are obviously somewhat dated, being based on the 1996 census of population. Unfortunately, no more recent information is available at DED level: indeed the amount of data available even for the city as a whole is also severely limited. However, it should be emphasised that the focus throughout this section is on the relativities between areas of the city with respect to the various indicators, and, while absolute levels may change from census to census, it is unlikely that any significant changes will have occured in the pattern of these relativities since 1996. Second, caution should be exercised in interpreting the census-based maps, due to considerable variations in the area and population size of the different spatial units. These variations result in population densities which vary more than one hundred-fold. Generally speaking, the size of DEDs increases with distance from the city centre, so that those on the outskirts tend to dominate the visual impact of the maps, even though the population density in these areas is quite low (see

below). Finally, it should be clear that the descriptions that follow are profiles of areas and not of individuals: it must not be assumed that a given individual, family or household in an area will exhibit the aggregate characteristics of the area.

Population Distribution and Change

Population density in urban areas generally declines outwards from the city centre, though often with a trough at the centre itself where non-residential land uses generally prevail. While densities in Limerick conform to some extent with this concentric principle, the pattern is more complicated than this. The concentric principle is evident in low densities in the city centre, with highest densities in older residential areas close to the city centre, and lower densities again on the outskirts where non-urban land uses predominate (Map 3). However, within the CB this concentric pattern is overlain by an even stronger sectoral pattern with highest density found in areas to the north-west and south-east of the city centre. The former includes St. Mary's Park, Thomondgate, Kileely, Ballynanty and Moyross, as well as Farranshone, Landsdowne, and Mayorstone. The latter includes Garryowen and Singland, as well as Prospect, Ballinacurra Weston, Janesboro and Southill. It is notable that many (but not all) of the areas listed were developed as public housing estates where higher residential densities generally prevail.

While the urban area as a whole grew in population by just under 1% per annum in the 5 years to 1996, there was considerable variation between DEDs in rates of population change. Generally speaking, the highest growth rates were recorded in the city centre and the outlying DEDs, with population decline in 18 of the 37 DEDs in the CB (Map 4). The growth in the city centre was due in large part to urban renewal activity, both that which was induced by the urban renewal scheme (e.g., in the John's Gate and Steam Boat Quay / Mount Kennet areas) as well as spontaneous activity in the immediate vicinity of the central business district (CBD). While these central growth rates represent welcome evidence of population recovery in the urban core, after a prolonged period of decline, it should be borne in mind that, given the relatively low population base to begin with, the absolute increases involved were relatively modest. In this respect the more significant growth continued to be in the outlying areas of Ballycummin, Ballysimon and Ballyglass DEDs reflecting the continuing spread of suburban development in these areas. Particularly notable in this period is the amount of residential development around the University of Limerick (UL) which of course includes a significant student population.

By contrast with the above areas, population decline was widespread in the CB, on King's Island, in the area to the south of the city centre which contains the residential areas of Prospect, Janesboro, Rathbane, Galvone and Southill, and to the north west of the city in the DEDs containing Coolraine, Mayorstone, Ballynanty, Moyross and Caherdavin. In many of these areas decline is the result of population movements associated with the maturing of older residential communities.

Population movements in the city can be further investigated by looking at changes in particular age cohorts over a given period of time. Of particular importance in this respect are the younger, more fertile, age groups. Although deaths account for part of overall population change, mortality rates are relatively low for the younger age groups, so that net migration (in-migration less out-migration) is the major component of change.

Map 5 illustrates the net migration pattern for the cohort aged 20-29 years in 1996. This shows strong out-migration of young people throughout much of the area, but with highest rates in the CB area outside of the city centre wards. The latter, and the Ballysimon DED, showed the largest migration gains for this age group. Again this appears to be due to the provision of additional residential accommodation in the city centre, and of student accommodation in areas near the university. For the cohort aged 30-39 years in 1996 net migration gains were found mainly in the outlying DEDs to the north and south of the CB, with most of the wards in the CB experiencing decline in this cohort (Map 6). Once again this reflects the suburbanisation of those in the young family-rearing age groups.

In more recent times in-migration has included some refugees and asylum seekers which has required new responses by many agencies.

Age Structure

Population change resulting from migration has a direct influence on the age structure of the population, and contributes in this way to some of the most marked contrasts in demography between different areas of the city. These contrasts in turn are of significance because of their implications in terms of the demand for local services. The next series of maps identifies some of the more significant patterns of variation in age structures in 1996.

Focusing first on the younger segment of the population, two distinct areas with relatively high proportions of children are evident (Map 7). The first of these is found to the north of the city, stretching from Caherdavin through Moyross and Kileely to Westbury. The second is located to the south-east of the CB and includes the areas of Rathbane, Southill and Singland. With the exception of the areas listed, most of the DEDs within the CB had relatively low proportions of children, and the same was true of the Ballysimon DED, where the largest age cohort was that aged 15-24 years, and the percentage of the population accounted for was among the highest in the city (Map 8). This reflects the concentration of students in the vicinity of the university, in areas such as Milford, Castletroy and Monaleen. A second area with relatively high percentages of young adults was the central city wards where population density is low in any case, and where much of the accommodation is in the form of flats and apartments occupied by young people employed in the city centre.

The highest percentages of those in the key economically active 25-44 age band are found in suburban areas close to the CB boundary (Map 9). Many of these areas also have high proportions of children, reflecting the importance of this age group in terms of family formation. Together maps 7 and 9 reflect the suburbanisation of population which was very strong in the period up to 1996.

The more mature age profile of the CB area is reflected in the next two maps showing the proportions of middle-aged (Map 10) and elderly (Map 11) population. The highest proportions of these age groups were found in mature residential areas of the city such as the North Circular Road, Ennis Road, Thomondgate, the southern part of King's Island, Garryowen, Janesboro, and the South Circular Road⁶. It is notable that the elderly

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⁶ The highest concentration is in the Upper Shelbourne Road area but this is due largely to the presence of St. Munchin's hospital (formerly the City Home) in this area.

population was relatively low in all of the outlying districts: this age group was contained to a large extent within the CB relatively close to the city centre.

The variations described above are summarised in the next three maps which relate to the youth dependency ratio, the elderly dependency ratio, and the vitality ratio. Reflecting the distribution of population aged 0-14 years, the youth dependency ratio (Map 12) is generally highest in wards within the CB which contain large local authority housing estates (such as Moyross and O'Malley Park) or in outlying DEDs, with the exception of Ballysimon DED. The ratio is low in the city centre wards, where children form a very small part of the resident population. The elderly dependency ratio (Map 13) contrasts the mature residential areas of Thomondgate, Garryowen, Janesboro, and the South Circular Road, with the outlying commuter zone, as well as the areas within the CB that have received new housing development in relatively recent times. The Central Business District also appears as an area with a low elderly dependency.

The vitality ratio (Map 14) compares population in the main family forming age range with that in the older (60 years and over) age group. The pattern revealed by this ratio draws a sharp contrast between most of the wards within the CB area and the outlying DEDs. The former are characterised by relatively low values of the index, and many of these have older population structures (e.g., the South Circular Road area). At the other side of the scale the influence of the university is again evident, with the Ballysimon area showing a relatively high value of the index, as does the Limerick North Rural DED, possibly due to the influence of the Limerick Institute of Technology.

Labour Force and Employment Patterns

Changes in the overall level of population and in its age structure have direct implications for the supply of labour. However, a key mediating factor in this relationship is the labour force participation rate (or activity rate), defined as the percentage of those aged 15 to 65 years who are in work, or actively seeking work. The participation rate showed considerable variation within the city in 1996 (Map 15), and three distinct groups of areas stand out. These are: (i) the university area and those wards containing large institutional populations (e.g., Farranshone and St. Laurence's Ward) where participation rates were among the lowest; (ii) wards in the CB but outside the city centre where participation rates were also relatively low; and (iii) the suburban DEDs to the north, west and south of the city which showed relatively high participation rates. These suburban DEDs contain large numbers of commuters and increasingly supply the city's labour force.

Among the more significant sources of labour force growth in recent years has been the increasing rate of female participation in the labour force. This in turn is tied into changing patterns of marriage and fertility, but it also reflects the accessibility of suitable employment opportunities. Significantly, the female activity rate shows an even wider range of variation than the overall activity rate, ranging from just under 20% to over 60%. The spatial pattern is somewhat different too (Map 16) with wards within the CB and in particular those near the city centre showing the highest rates, together with some (but not all) of the suburban DEDs. The areas in question are those which provide access to employment opportunities (such as Limerick Regional Hospital and Dooradoyle shopping centre in the case of Ballycummin DED).

The census of population provides extensive small area data on the employment status of workers, but it should be noted that these are reported for the areas in which the workers live, rather than where they work. The following maps therefore do not indicate where job growth or jobs in different sectors are located, and unfortunately detailed information on this is not available. However, it can be noted that there is a small number of dominant concentrations of employment. These would include the city centre, the university and National Technological Park, and Raheen industrial estate, as well as employment centres in the region such as Shannon Airport and industrial estate, and the southern estuary area (see again Map 1).

In the period 1991-96, employment in the CB and Environs increased by 17%, with an overall increase of over 4,000 in the number at work. Most areas of the city and suburbs registered an increase in employment in this period, but the rate of increase nevertheless varied considerably between areas. Since the city as a whole operates as part of a single labour market area, differences in the rate of employment change between areas cannot be attributed to local differences in labour demand. Instead these reflect differences in the demographic and social profile of each area.

The map of employment change (Map 17) indicates that the highest levels of employment growth occurred in three city centre DEDs. This reflects the population growth in these areas over the five-year period, in turn attributable to urban renewal. Significant employment gains were also recorded in other areas of population growth, such as the south-western and northern suburbs, as well as in areas with populations entering the economically active age groups (such as the Corbally area). In contrast to the above are those areas experiencing decline in the numbers at work: in almost all cases this appears to be attributable to population decline linked in turn to net out-migration of younger age groups. The areas affected include: Coolraine Ward (covering the Greystones and Avondale areas), King's Island, Ballinacurra B Ward (containing Ballinacurra Gardens and Greenfields) and Galvone B Ward (containing O'Malley Park).

As expected in an urban setting, comparatively few workers were employed in primary activity (Agriculture, Forestry and Fishing) which accounted for just over half of 1% of employment in the city as a whole. The importance of this sector was somewhat greater however in the suburban DEDs where rural land uses predominate, as well as in city wards close to the CB boundary such as Moyross-Ballynanty-Kileely on the north side of the city, and O'Malley Park-Keyes park on the south side (Map 18). As noted earlier, manufacturing constitutes the main stay in the city's economic base, and this sector was the major employer for those resident in a group of DEDs in the south-eastern part of the CB, as well as employing relatively high proportions in the Ballycummin, Ballyglass and Limerick South Rural DEDs (Map 19). Most of these areas are close to the city's major industrial estates at Raheen, the Childers Road, and the Ballysimon Road.

The distribution of workers in Commerce, Insurance, Finance and Business Services follows a more complex pattern, and one indicative of longer commuting distances for workers in this sector. While a large proportion of these jobs are located in the CBD, the workers filling them are resident throughout the urban area (Map 20). Employment in Professional Services, which includes the medical and teaching professions, presents an inverse image to that of the manufacturing sector, with particularly high levels in an arc running from west of the city centre (in areas such as the North and South Circular Roads)

through the suburban wards to the south of the city, to the eastern DED containing the university (Map 21). Conversely employment levels were low in a geographical area extending from the north-west of the city centre through the centre and south-eastwards as far as Southill.

Social Exclusion

The restructuring of the local economy in recent years, as described earlier, can be expected to have had both positive and negative consequences, the latter reflected primarily in the marginalisation of particular groups from the labour market. With the restructuring of employment towards more highly skilled occupations which demand higher levels of formal qualification, education has emerged as perhaps the most significant determinant of the labour market prospects of the individual. Reflecting the changing norms in education and employment, those whose education extended to lower secondary level or less could be considered to be at a significant disadvantage in terms of access to higher status, more remunerative, occupations. For those whose education had ceased, the percentage attaining lower secondary level or less was over two-thirds in the city wards containing the residential areas of Moyross, Ballynanty, Kileely, Thomondgate, St. Mary's Park, Garryowen, Prospect / Ballinacurra Weston, Rathbane and Southill (Map 22). At the other end of the scale, the concentration of individuals who had attained a postgraduate degree was at its highest in the areas containing the North and South Circular Roads and the university, as well as the southern suburbs of Ballyclough and Ballysheedy (Map 23).

While educational attainment strongly influences occupational status, occupation is used to determine the individual's social class; and consequently the geographical pattern of social class corresponds closely to that of educational attainment. Professional workers (social class 1) and managerial / technical workers (social class 2) combined, and their dependants, form a relatively high proportion of the population in areas where higher levels of educational attainment are more common (Map 24). Conversely, the highest relative concentrations of population in social classes 5 or 6, representing semi-skilled and unskilled workers respectively, are found in those areas identified above as having lower levels of educational attainment (Map 25). These extend from the local authority housing estates in the north-west of the city through the city centre and out to the estates which form the south-eastern boundary of the CB.

Given these differences between areas in education and social class, it is not surprising that, despite the experience of overall employment growth in the five years to 1996, there remained significant differences between DEDs in the rate of unemployment. This ranged from a low of 4.4% to a high of 55.6% (average for the CB plus environs = 16.5%), with the geographical pattern closely mirroring that of educational attainment. The areas worst affected by unemployment were those containing large populations in local authority housing: from Moyross in the north-west of the city, through Ballynanty, Kileely and Thomondgate into King's Island, and south through Prospect, Ballinacurra Weston, and Rathbane into Southill (Map 26). Of even greater significance in terms of social exclusion is the duration of unemployment: it is the long-term unemployed (i.e., those without employment for a year or more) who carry the greatest risk of exclusion and poverty. It is notable then that in the areas of high unemployment, relatively high proportions of those

affected were also long-term unemployed (Map 27): in the worst affected areas roughly two-thirds of the unemployed had been without work for over one year.

While the unemployment situation in the city has continued to improve since 1996 in line with growth in the economy, it is reasonable to surmise that significant unemployment 'blackspots' will have persisted in many of the areas identified above. Moreover, the situation with regard to other social exclusion risk factors appears to have deteriorated. Some evidence for this is presented in Table 7, which shows that, for County Limerick as a whole (i.e., inclusive of the city), while the number on the Live Register declined by 36% between 1996 and 1999, the number in receipt of other categories of social welfare payment increased. In particular, recipients of one parent family allowances increased by 43%. Research shows that lone parent families (especially those with young children) run a significantly higher risk of income poverty than that of the population at large, and the same is also true of elderly persons living alone. Even where income poverty is not a problem, these households may experience other forms of exclusion related to problems such as restricted mobility.

Table 7: No. of Recipients of Social Welfare Benefits 1999, and Change 1996-99

_	Limerick*	Clare	Ireland
One parent family allowance 1999	3285	1344	70387
% change 1996-99	42.6	51.1	39.2
Disability benefits	2417	866	45535
% change 1996-99	14.8	12.6	7.2
Invalidity pensions	2530	812	46946
% change 1996-99	7.4	19.9	9.1
No. on live register	7595	3606	176539
% change 1996-99	-36.1	-32.5	- 34.6

^{*} includes city and county. Source: Department of Social Community and Family Affairs

The relative distribution of these two 'at risk' categories is illustrated in Maps 28 and 29. Reflecting the distribution of elderly population generally, the relative frequency of persons aged 65 years and over living alone is highest for the wards within the CB area, and more specifically for those wards closest to the city centre, such as the Market Ward and Abbey C Ward which is centred on Old Clare Street (Map 28). Lone parent families with young children also show a high concentration in the city centre wards, as well as in the wards containing the estates of Ballynanty, Moyross, Ballinacurra Weston and O'Malley Park (Map 29). The close correspondence of this map to that of unemployment is remarkable, and may reflect in part the difficulties lone parents with young families face in accessing employment opportunities. It also provides strong evidence of the existence of areas of multiple deprivation corresponding mainly to the local authority estates.

Patterns of social exclusion in the CB only are summarised in the two final maps on this topic which show patterns of household incomes, and a composite measure of deprivation which takes into account all of the factors investigated above - education, social class, unemployment, elderly alone and lone parenthood. Household incomes show a significant range of variation, with the average level in the best-off ward (Castle D, which extends from the North Circular Road to the Ennis Road) some 50% higher than the average in the

poorest ward (John's A, which includes St. Mary's Park) (Map 30). In general the areas north and south of the Shannon in the west of the city, as well as the Corbally area stand in sharp contrast to the wards containing large local authority estates to the north, south and east of the city centre. This pattern is almost exactly replicated in the geography of the deprivation index (Map 31). This index has been used at national level to guide area-based social inclusion programmes. Its application in Limerick CB reveals the correspondence once again of deprivation and local authority housing⁷. What is also remarkable is the high degree of social polarisation evident in the city, with 62% of all wards (i.e., 23 out of 37) at the extremes of the classification.

AN ANALYSIS OF SOCIAL AREAS IN LIMERICK

The patterns described above point to a number of important demographic and socioeconomic contrasts within the urban area. While each of the maps is unique, it is clear that several of the variables on which they are based bear close similarity to each other, and appear to measure different aspects of the same phenomenon. By examining these similarities further, it is possible to group variables together on the basis of their interrelationships into a small number of composite variables or 'factors', thereby summarising the complex social geography of the city. Each factor is derived from, and interpreted according to, the variables to which it is most closely related.

In applying factor analysis to census data for Limerick CB and environs, some 42 variables (Appendix 1) were chosen in order to provide as complete a picture of each DED as possible within the limits of the census⁸. The analysis revealed that these variables could be reduced to just three factors, and the list of the variables with strong associations with each factor is shown in Appendix 2. Using this information, a score is produced for each census area that indicates the strength of the association between the area and the particular factor. The higher or lower the score, the more the area resembles one of the two ends of the factor continuum. The interpretation of each factor and the geographical pattern of factor scores are described below.

Factor 1: Social Status

This factor classifies the city of Limerick into different socio-economic areas, describing a continuum between higher and lower socio-economic status areas. DEDs which are characterised as "high status" are those that have relatively large numbers of people in the top two social classes, as defined by the census. These are essentially people who are in higher or lower professional or managerial employment, or are proprietors. Educational attainment is high: there are strong associations with people who have leaving certificates or degrees, and who have remained in education beyond the age of 21 years. Owner occupation (whether the property is owned outright or with a mortgage) is the dominant housing tenure in these areas.

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⁷ In part this is due to the inclusion of a tenure status variable as one of the measures on which the deprivation index is based. However, this alone cannot account for the extremely high spatial correlation.

⁸ Most of the variables analysed are derived from the 1996 census, but a small number of those pertaining to housing had to be based on the 1991 census as this information was not collected in the smaller 1996 enquiry.

The lower status areas are associated with social groups 5 and 6; semi-skilled manual or unskilled manual employment. These areas contain large percentages of people who have relatively poor education. A significant number ceased formal education before the age of 15 years, and there are comparatively high levels of unemployment, including unemployment among those aged under 25 years. Relative to the numbers at work, there are relatively large numbers of adult dependants.

In Limerick, socio-economic status is associated with some aspects of family structure. Those areas in the lower socio-economic categories have relatively significant numbers of separated people and one parent households, while households with children tend to be large; 5 or more children. Also, these areas tend to have high levels of housing rented from the local authority.

The map of social status (Map 32) reveals that the highest social status areas are the DEDs which contain the southern commuter suburbs of the city, the Corbally area, and the western inner suburbs stretching from the Ennis Road to the North Circular Road and across the river to O'Connell Avenue. At the other end of the spectrum are the wards which contain large local authority housing estates in areas such as Moyross, Kileely, St. Mary's Park, Ballinacurra Weston and Southill. These wards are also those which have been identified above as most affected by social exclusion.

Factor 2: Family Status

The second factor is related to a group of variables that measure various aspects of 'familism', i.e., the degree of orientation towards traditional family-based household structures. At one end of the spectrum are family areas with children. Here couples tend to have children, and household sizes are correspondingly larger. Families have children in the school system, and therefore children aged between 5 and 19 years are an important component of the population. These are not necessarily newly developed areas but are a mix of those developed over the past twenty or so years. There is still a growth dynamic present with children under the age of 4 years forming an important element.

The areas at the opposite pole have strong to moderate associations with one-person households, flat-type accommodation and the private rental sector. Other households tend to be small, either pre-family or households where children have left home (empty nest).

The distribution of scores on this factor shows a strong concentric pattern, with a general tendency for family orientation to increase with distance from the city centre (Map 33). Central areas, such as those lying between O'Connell Street / O'Connell Avenue and Parnell Street / Lord Edward Street, are characterised by young adults living in rented accommodation forming small households, with fewer married persons and children, and hence low family status. Close by are the older inner residential areas such as Farranshone and Thomondgate, Kilalee and Garryowen where families have passed to the later stages of the family cycle, with again fewer children and many empty-nest households. At the other end of the familism scale are the outer suburban DEDs such as Roxborough, Ballyglass and Limerick North Rural where traditional family-based households predominate.

Factor 3: Mature Areas / New Development Areas

The final factor extracted in this analysis has highest scores in mature areas where a high proportion of the population is aged over 40 years of age. Married people are an important component of the population, but their families have largely grown-up and left home, and the youngest child still at home will tend to be aged 15 years and over. The maturing of these areas has produced a relatively high age-dependency ratio, with relatively more older people per person in the labour force.

These areas are contrasted with those that have experienced recent population growth and, consequently have a mixed character. They are areas where the rental sector is important – people in flats and bedsits – and are also associated with couples in the pre-family stage of the life cycle. Populations in these areas contain relatively more adults than children, and the 19-40 years age group is important. Those households with children have a tendency to have two or fewer children.

Areas with high scores on this factor (i.e., mature areas) are found in older residential areas within the CB, such as along the Ennis Road and in the Nicholas Street - Bishop Street area of King's Island, as well as the Janesboro and Garryowen areas (Map 34). These are contrasted with some of the city centre DEDs, the Singland and Dublin Road - Rhebogue areas, as well as the western and eastern suburbs.

A Typology of Areas

Taking account of the scores on all three composite variables or factors, it is possible to group DEDs together by means of a clustering procedure and produce a mosaic or typology of different social areas in the city. The clustering process involves assigning each area to a particular cluster such that the differences are maximised between the clusters. It was decided that four clusters would best summarise the social geography of the city, and the location of these is illustrated on Map 35.

For each cluster, the average value of DEDs in the cluster on each of the original variables can be compared with the average value of the urban area as a whole on that variable (Appendix 3). On the basis of these comparisons the four clusters can be characterised as follows.

Cluster 1 - the suburban DEDs

This is the largest cluster in terms of area and population. It contains over half (54%) of the total population, and had a growth rate of just under 10% between 1991 and 1996. The cluster includes all of the DEDs outside the CB, as well as the DEDs containing the Ashbrook / Bracken areas, the Corbally area, and Singland.

These areas are characterised by an age structure which is weighted towards the younger age groups. Married people and couples with children form above average shares of the population and of households respectively. Families tend to be smaller in size, and younger, than average. A large proportion of the housing has been built relatively recently, and is owner occupied. Unemployment levels are below average, educational attainment levels are above average, and professional and managerial occupations are more common than for the urban area as a whole.

Cluster 2 - the local authority estates

DEDs belonging to this cluster all contain large amounts of local authority housing. The estates in Moyross, Ballynanty, Kileely, St. Mary's Park, Prospect, Ballinacurra Weston, Rathbane, Galvone and Southill are all included, as well as the Watergate Flats in the city centre.

Besides the high proportion of the housing rented from the local authority, these areas also experience high levels of unemployment – in 1996 they contained 40% of the urban area's unemployed but just 20% of the population. Children form a relatively high proportion of the population, and larger families also feature quite strongly. In other respects they are the mirror image of the DEDs in cluster 1. Thus, married persons form a lower, and separated persons a higher percentage of the population. One person households, and one parent households, are more common than the city norm. Educational attainment levels are considerably below the norm, and occupational structures are weighted heavily towards manual occupations (unskilled, semi-skilled and skilled).

Finally it is worth noting that population in this group of areas decreased by over 4% between 1991 and 1996.

Cluster 3 - older residential areas

Like cluster 2, this group of DEDs is found within the CB area. It includes DEDs adjoining the Ennis Road and those to the south of the city centre in the South Circular Road / O'Connell Avenue area, as well as the DEDs covering the Garryowen and Janesboro areas of the city. Altogether this cluster accounts for 22% of the population, but between 1991 and 1996 population declined by 2.1%.

These areas are characterised by more mature population and family structures. Persons aged 65 years and over constitute almost 12% of the population, as compared to just 2% in the urban area as a whole. As a result, the age dependency ratio is relatively high, and one person households and 'empty nest' households are significant. Levels of unemployment are slightly below average. In terms of social status the areas in this cluster are mixed, and the overall profile therefore parallels that of the city as a whole. However, the skilled manual occupational group accounts for a relatively high percentage of the population.

Cluster 4 - the city centre / urban renewal areas.

This cluster contains just five DEDs: four of these (Shannon A and B; Dock A and B) encompass the CBD, and the fifth, Abbey C, contains the Old Clare Street / John's Gate areas. The total population of the cluster is quite small - just 4% of the total - but, at 15.6% the cluster showed the highest population growth rate of all four types of areas.

All of these areas have received significant new investment in recent years, much of this induced by the urban renewal scheme. The defining characteristics of the cluster are the predominance of a young adult population, one person households and pre-family households in rented accommodation, much of which takes the form of flats and bedsits. Levels of educational attainment are high, and many are employed in clerical occupations.

These areas have the social structure typical of city centre areas that have undergone recent renewal. While the demographic dynamism that these populations have brought back to the urban core is to be welcomed, concerns exist as to their longer term sustainability and their contribution to the building of community and social cohesion. It seems likely that many of those households now at the pre-family stage of the life cycle will join the suburbanisation trend at a later stage, moving to areas such as those in cluster 1.

LOCAL DEVELOPMENT

The severity and extent of social exclusion, as documented above, has given rise to a wide range of projects, programmes and organisations that are focused either specifically on attempts to promote social inclusion, or, more generally, on local development. In addition to government departments and national bodies with a remit in this area, the main local organisations involved include Limerick Corporation, Limerick City Development Board, Limerick City Enterprise Board, The Chamber of Commerce, Limerick Civic Trust, the PAUL Partnership, and Limerick Enterprise Development Partnership.

All of these structures are based, formally or informally, on alliances or partnerships between different organisations. The PAUL Partnership is illustrative of this model of inter-organisational co-operation, bringing together a wide range of bodies from the statutory, voluntary and community sectors as well as the social partners. PAUL was one of the first area-based partnerships in the country (originally funded under the EU Poverty 3 programme as one of just two "model action projects" in the Republic of Ireland): it is also widely regarded as one of the most dynamic and innovative, and has been widely used as a model of successful practice in national and international studies of local development initiatives. Among the programmes / projects which the Partnership currently delivers are: the Local Development Social Inclusion Programme, the Local Employment Service, Limerick Local Social Capital Programme, Territorial Employment Pact, and the Money Advice and Budgeting Service.

The emergence of PAUL and other partnerships in Limerick is due in part to the severity of the problem of social exclusion, and the highly concentrated expression of the problem in terms of the city's geography. However, it also reflects a long tradition of community activism and of inter-agency co-operation in the city and the region. This tradition represents one of the city's major assets, a form of 'cultural capital' that, while it is not easily measured, is increasingly recognised as a vital ingredient in successful local development. The wider city region is also uniquely advantaged in having a statutory multi-functional development agency (Shannon Development), which, besides providing support for local development, has also been instrumental in the development of interagency co-operation.

With the decline in unemployment due to recent job creation, and the change from endemic emigration to net immigration, the nature of social exclusion, both nationally and in Limerick, has changed considerably. While the numbers affected have contracted, the severity of the problems faced by those groups still experiencing exclusion has arguably intensified. The introduction and successful implementation of innovative measures to combat exclusion therefore remains a significant challenge for the years ahead. At the same time, globalisation and the volatility that it engenders in local economies, impacts on all of the city's population and poses an equally demanding challenge for local development.

CULTURAL DEVELOPMENT

The culture of a city, as expressed through its arts, heritage and modes of life, including sports and recreational activities, is increasingly recognised as crucial, not just to the quality of life of citizens, but to the city's economic development prospects. This is the case because high technology firms are attracted to locations where the requisite highly skilled labour is available, and, in turn, highly skilled workers are drawn to places characterised by an attractive cultural milieu. In addition, of course, a vibrant cultural life is perhaps the most important asset for the development of urban tourism.

Though the national profile of the arts in Limerick is probably somewhat less than in other cities of comparable size, there is a considerable infrastructure of organisations and facilities. Longer established areas of strength include theatre, where there has been a strong tradition of amateur drama, while newer areas of development include, most notably, music. Most of the facilities are based in and around the city centre, but there has also been considerable recent growth on the UL campus (Map 36). While many of the facilities are within walking distance of the city centre, the city lacks a clearly defined cultural quarter. The relative dispersion of facilities, and the lack of engagement between cultural entities, militate against the development of a strong profile for the arts in the city. The decision to commission a strategic plan for the arts is therefore timely.

On the sports front, the city has long enjoyed a reputation for excellence, perhaps based more on sporting achievement than facilities, though this has begun to change with the development of the sports centre at the university. Among the major mass-participation field sports, gaelic games, soccer and rugby are all strong at under-age and junior levels, and playing pitches are dispersed throughout the city (Map 37). Where rugby is concerned the city enjoys an extremely high profile nationally, and indeed internationally, linked in large part to the success of its senior clubs. While there have been recent attempts at marketing campaigns linked to this success (for example linked to the rugby World Cup in 2000), it is still the case that the potential for tourism development in this area has not been fully exploited.

Despite the recent improvements, there are still some significant gaps in the city's sports infrastructure. All-weather, astroturf, pitches have been developed at the university, and also on the north side of the city at LIT. However, the lack of a comparable facility to serve the burgeoning population of the south side of the city is notable. Swimming pools are located mainly in suburban areas, with a high proportion in leisure centres. There is a clear underprovision of public facilities in or near some of the larger public housing estates, especially on the north side of the city (Map 38). Finally, accommodation at all three of the main venues for rugby (Thomond Park), soccer (Hogan Park) and gaelic games (the Gaelic Grounds) is deficient to a greater or lesser extent, either in terms of quality or of capacity, or both. Looking beyond the difficulties of inter-organisational relationships, a municipal stadium, capable of accommodating in excess of 25,000 - 30,000 spectators, would be of considerable benefit in economic and cultural terms to both the city and the region.

SUMMARY AND EMERGING ISSUES

Limerick has undergone a major transformation in recent years, both economically and in terms of the physical fabric of the city. It has consolidated its position as the capital of the Mid-West region, through its success in attracting high technology manufacturing and service activities, and the city centre has been extensively redeveloped. At the same time there are grounds for some concern about the long-term sustainability of development in both these spheres. With regard to the economy, concerns include comparatively low levels of GDP per worker in manufacturing, and the heavy reliance on a small number of large employers. In addition, economic growth has failed to redress the high degree of socio-economic polarisation which remains starkly expressed in the geography of the city, and urban renewal has been more successful in terms of property development than in terms of social regeneration.

Arising from the analysis of the city's external and internal relationships in the preceding sections, a number of significant issues that will require attention over the medium term can be identified. All of these issues are closely interlinked, and for progress to be made these linkages must be explicitly taken into account. This in turn demands the adoption of a strategic approach to development.

The future role of the city as regional capital

For the city to maintain and develop its position in the national urban system it will be necessary to develop its role not just as a regional service centre, but also as a significant centre of inward investment and production in the national economy. The National Development Plan has proposed the need for gateways to act as countermagnates to the Dublin city region, and the National Spatial Strategy will further develop this proposal. Unfortunately, none of the intermediate ranked cities, including Limerick, appears to be of a sufficient size to fulfil this role effectively. In this context, the idea of a strategic development zone (or polycentric urban region) extending from Galway to Cork is gaining some currency. Limerick would of course be geographically central to such a zone, and while this centrality will afford opportunities for development, growth will also bring considerable challenges, if the attendant pressures now evident in the Dublin region are to be properly managed.

The need for improved access to/from the city

Considerations of labour availability are becoming increasingly important nationally, and the potential for shortages of skilled labour to act as a constraint on development is already evident. In order to maximise the city's labour pool, and the market for services, it will be necessary to improve access to and from the city. To date, most of the attention has been given to road development, but the requirements of sustainable and socially-inclusive development demand that more emphasis be given to public transport. At present the public transport system in the area covered by the daily urban system (the daily circulation area for commuters, shoppers, goods and services) is poorly developed and in need of investment. One of the main factors affecting the viability of public transport is the density and degree of nucleation of settlement, and so the planning of future residential development will be of crucial importance.

City governance

One of the major problems facing comprehensive land use and transportation planning in the city region is the fact that Limerick City is currently severely underbounded, with over one in every three persons in the contiguous built-up urban area resident outside the County Borough boundary. Even if demographic recovery continues in the city centre, the balance of population is likely to continue to shift towards the suburbs in the years ahead, as most of the land available for residential development is available there (Map 39). The result is that governance of the urban area is fragmented, with three different authorities responsible for public services and planning. The potential for mis-match between the objectives of these authorities is obvious, with deleterious consequences for the city. Failing the granting of a significant boundary extension, there will be a need for much greater, and possibly more formally structured, co-ordination of land use and transportation planning in the urban region.

Maintaining demographic vitality

Urban renewal has transformed the city centre over the last decade, and though there has been considerable success in terms of property development and the elimination of dereliction, there are grounds for concern regarding the demographic and social aspects of renewal. While population recovery has occurred – and the full extent of this will not be evident until the next census is published – the age profile of the new residents in the centre is heavily weighted towards the young adult age groups, with a predominance of single person and non-family households. Given the unsuitability of a large part of the new housing stock for family accommodation, the likelihood is that there will be some movement of population out of the city centre in the years ahead. Meanwhile, in the residential areas close to the centre there is evidence of population ageing, and an increasing number of post-family households. Both of these trends pose a threat to the sustainability of population levels in the longer term, and ultimately to the built fabric of these areas of the city.

Measures to combat and prevent social exclusion

Economic growth has significantly reduced the aggregate level of unemployment in Limerick, but concentrations of long-term unemployment remain, especially in the local authority estates. In general, the city still displays a high degree of socio-economic polarisation, which is sharply delineated in geographical terms. This polarisation represents a major constraint on its ability to fully realise its potential, and as such it must be of concern to all involved in the city's development. At the same time, the nature of social exclusion has changed, with new problems and 'at risk' groups emerging, including refugees and asylum seekers, ex-offenders, and the elderly, especially those living alone. The latter group will become increasingly prominent in future as their numbers increase (see above). Clearly, there is a need both for enhanced measures to combat exclusion in existing target areas, as well as new responses to deal with those groups which may be more dispersed throughout the city.

The image of the city

In the increasingly competitive struggle for inward investment, urban areas worldwide have realised the importance of a positive city image, and have initiated publicity campaigns in response to this need. While much has been achieved in Limerick in recent years, the city still has an image problem. A concerted campaign to promote a positive image of a vibrant and safe city is required, though if this is not to take the form of spurious and ultimately counter-productive 'boosterism', it must continue to be linked to real improvements in social cohesion and in the cultural life of the city.

Appendix 1 Variables employed in the factor analysis

1	Percentage population change 1991-96
2	Children under 4 years as a percentage of the total population
3	Children 5 to 19 years as a percentage of the total population
4	People 19-40 years as a percentage of the total population
5	1 1 0 11
	People 40-65 years as a percentage of the total population
6	Married people as a percentage of the total population
7	Separated people as a percentage of the total population
8	Households in flats or bedsits as a percentage of the total number of households
9	One person households as a percentage of the total number of households
10	One couple households as a percentage of the total number of households
11	Couple with children households as a percentage of the total number of households
12	One parent households as a percentage of the total number of households
13	Couples with 2 or less children as a percentage of couples with children
14	Couples with 5 or more children as a percentage of couples with children
15	Families with youngest child four years or younger as a percentage of families
16	Families with youngest child 15 years or older as a percentage of families
17	Families with children at school as a percentage of all families with children
18	Persons per household
19	Prefamily households as a percentage of all households
20	Empty nest households as a percentage of all households
21	Percentage of the labour force "unemployed"
22	Percentage of those aged 15+ year engaged in "home duties"
23	Persons under 25 unemployed as a percent of under 25 labour force
24	Adults not at work as a ratio of those "at work"
25	Ever married females "at work" as a percentage of all females "at work"
26	Percentage population - Higher professional or managerial, proprietors employing others
27	Percentage population -Lower professional or managerial, proprietors without employees
28	Percentage population -Semi-skilled manual
29	Percentage population -Unskilled manual
30	Age dependency <15 and over 65 as a ratio of the labour force
31	Percentage of population whose education ceased at 15 or under
32	Percentage of population whose education ceased at 21 or over
33	Percentage of population whose highest level of educational attainment is no formal
	education or primary level.
34	Percentage of population whose highest level of education is lower secondary level
35	Percentage of population whose highest level of education is leaving cert
36	Percentage of population whose highest level of education is third level sub degree
37	Percentage of population whose highest level of education is degree level at least
38	Percentage of housing rented from LA 1991
39	Percentage of housing stock as rented accommodation 1991
40	Percentage of housing owner occupied (outright or with loan 1991)
41	Percentage of housing built between 1971 - 1981 (1991)
42	Percentage of housing built post 1981 (1991).

Appendix 2 Variables with the strongest (positive and negative) association with each factor

Factor 1 - Social Status

Variable	Correlation
Percentage of the labour force "unemployed"	-0.956
Percentage population -Unskilled manual	-0.939
Persons under 25 unemployed as a percent of under 25 labour force	-0.935
Percentage of population whose education ceased at 15 or under	-0.923
Percentage of population whose highest level of educational attainment - no formal	-0.871
education or primary level.	
One parent households as a percentage of the total number of households	-0.876
Percentage of housing rented from LA 1991	-0.857
Percentage population -Semi-skilled manual	-0.779
Percentage of population whose Highest level of education - lower secondary level	-0.757
Adults not at work as a ratio of those "at work"	-0.758
Couples with 5 or more children as a percentage of couples with children	-0.699
Separated people as a percentage of the total population	-0.677
Percentage of those aged 15+ year engaged in "home duties"	-0.605
One couple households as a percentage of the total number of households	0.609
Percentage of housing owner occupied with loan or owned outright 1991	0.783
Percentage of population whose highest level of education - degree level at least	0.808
Percentage population - Higher professional or managerial, proprietors employing others	0.828
Percentage of population whose education ceased at 21 or over	0.843
Percentage of population whose Highest level of education - third level sub degree	0.855
Percentage of population whose Highest level of education - leaving cert	0.891
Percentage population -Lower professional or managerial, proprietors without employees	0.915

Factor 2 - Family Areas

Variable	Correlation
One person households as a percentage of the total number of households	-0.888
Couples with 2 or less children as a percentage of couples with children	-0.605
Percentage of housing stock as rented accommodation 1991	-0.565
Households in flats or bedsits as a percentage of the total number of households	-0.553
Prefamily households as a percentage of all households	-0.474
Empty nest households as a percentage of all households	-0.447
Married people as a percentage of the total population	0.552
Percentage of housing built post 1981 (1991).	0.524
Families with youngest child four years or younger as a percentage of families	0.640
Children under 4 years as a percentage of the total population	0.687
Percentage of housing built between 1971 - 1981 (1991)	0.690
Families with children at school as a percentage of all families with children	0.737
Children 5 to 19 years as a percentage of the total population	0.814
Ever married females "at work" as a percentage of all females "at work"	0.828
Couples with children households as a percentage of the total number of households	0.893
Persons per Household	0.911

Factor 3 – Mature Areas / New Development Areas

Variable	Correlation
People 19-40 years as a percentage of the total population	-0.876
Prefamily households as a percentage of all households	-0.762
Percentage population change 1991-96	-0.738
Percentage of housing stock as rented accommodation 1991	-0.734
Households in flats or bedsits as a percentage of the total number of households	-0.710
Percentage of those aged 15+ year engaged in "home duties"	0.681
Age dependency <15 and over 65 as a ratio of the labour force	0.683
Married people as a percentage of the total population	0.664
Empty nest households as a percentage of all households	0.716
People 40-65 years as a percentage of the total population	0.744
Families with youngest child 15 years or older as a percentage of families	0.904

Appendix 3
Mean Characteristics of each cluster and city average

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Limerick
Percentage population change 1991-96	9.80	-4.40	-2.10	15.60	4.70
Children under 4 years as a percentage of the total population	7.27	8.72	5.30	3.43	6.98
Children 5 to 19 years as a percentage of the total population	34.35	39.06	25.02	16.11	32.49
People 19-40 years as a percentage of the total population	42.12	35.25	36.14	57.64	39.74
People 40-65 years as a percentage of the total population	17.42	18.42	21.90	13.90	18.58
Married people as a percentage of the total population	38.33	30.86	36.36	17.56	35.47
Separated people as a percentage of the total population	2.04	5.10	3.03	4.62	3.04
Households in flats or bedsits as a percentage of the total number of households	3.24	5.76	6.18	56.34	7.45
Persons per household	3.45	3.25	2.97	2.12	3.21
One person households as a percentage of the total number of households	13.21	21.07	25.76	43.90	19.82
One couple households as a percentage of the total number of households	13.89	9.88	15.66	13.33	13.45
Couple with children households as a percentage of the total number of households	45.61	36.02	30.36	8.58	37.58
One parent households as a percentage of the total number of households	7.26	18.01	9.35	5.39	10.04
Couples with 2 or less children as a percentage of couples with children	65.03	58.25	67.66	76.12	64.30
Couples with 5 or more children as a percentage of couples with children	3.68	8.83	3.79	.75	4.75
Families with youngest child 4 years or younger as a percentage of families	24.41	25.80	16.20	18.79	22.64
Families with youngest child 15 years or older as a percentage of families	24.10	27.98	34.41	19.72	27.35
Families with children at school as a percentage of all families with children	54.62	52.48	41.71	37.67	50.97
Prefamily households as a percentage of all households	10.52	3.91	6.67	37.35	8.72
Empty nest households as a percentage of all households	10.21	11.04	20.76	10.90	12.93
Percentage of the labour force "unemployed"	7.86	36.92	15.60	18.00	16.05
Percentage of those aged 15+ year engaged in "home duties"	15.61	23.56	20.28	9.06	18.14
Persons under 25 unemployed as a percent of under 25 labour force	13.90	42.30	22.08	21.27	24.71
Adults not at work as a ratio of those "at work"	90.97	178.05	127.62	92.19	112.90
Ever married females "at work" as a percentage of all females "at work"	60.19	47.40	45.67	22.03	52.82

Appendix 3 (Cont'd)
Mean Characteristics of each cluster and city average

	10.16	5 1 C 5	50.10	25.15	45.00
Age dependency <15 and over 65 as a ratio of the labour force	42.16	54.65	50.12	25.17	45.88
Percentage population - Higher professional or managerial, proprietors employing others	9.05	.54	5.34	7.36	6.23
Percentage population - Lower professional or managerial, proprietors without employees	27.59	6.49	18.62	18.26	20.48
Percentage population - Semi-skilled manual	9.80	20.05	13.83	12.41	13.11
Percentage population - Unskilled manual	4.01	17.33	6.86	5.41	7.67
Percentage of population whose education ceased at 15 or under	7.56	32.43	14.76	10.27	14.58
Percentage of population whose education ceased at 21 or over	14.58	1.87	10.34	17.18	11.02
Percentage of population whose highest level of education - no formal education or primary	13.53	46.35	27.91	16.94	24.72
level.					
Percentage of population whose highest level of education - lower secondary	18.53	27.87	20.29	15.50	20.91
Percentage of population whose highest level of education - leaving cert	29.19	13.62	23.50	25.93	24.12
Percentage of population whose highest level of education - third level sub degree	14.38	2.94	9.64	16.46	10.69
Percentage of population whose highest level of education - degree level at least	15.74	1.36	9.28	15.98	10.87
Percentage of housing rented from LA 1991	4.23	45.16	8.33	3.72	15.17
Percentage of housing stock as rented accommodation 1991	10.85	3.36	10.14	57.45	10.82
Percentage of housing owner occupied with loan or owned outright 1991	83.57	30.62	70.30	38.72	65.32
Percentage of housing built between 1971 - 1981 (1991)	32.28	21.66	10.04	3.94	22.45
Percentage of housing built post 1981 (1991).	33.76	6.67	3.52	7.77	17.88