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Twice the size?:Imagineering the Future of Irish Gateways

Futures Academy, Technological University Dublin

Technological University Dublin

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A REPORT FOR THE URBAN FORUM

March 2008

DIT — Dublin Institute of Technology

THE FUTURES ACADEMY

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The Urban Forum is an initiative of the Royal Institute of the Architects of Ireland, Engineers Ireland, the Irish Planning Institute, the Irish Landscape Institute and the Society of Chartered Surveyors. The aims of the Forum are:

- to promote the discipline of urban design in the public and private sectors;
- to develop education courses for members of the above bodies to improve the levels of Urban Design knowledge and skills within the professions; and
- to promote the benefits of good urban design to the public.

The Futures Academy is an active research organisation, which was founded in response to the need for a fresh, more effective approach towards forward planning. It was established in January 2003 and it is located in the Faculty of the Built Environment in the Dublin Institute of Technology (DIT), Ireland. Through the futures thinking, the Academy aims to promote new ways of exploring and approaching the future. Using various futures methodologies and techniques we examine the future of society, economy and the environment. In order to encourage creative and innovative thinking we introduce futures methodologies to industry and government and assist public and private parties in applying futures methods.

School of Spatial Planning

The School of Spatial Planning at DIT is the largest planning school in Ireland and educates professionals in the areas of land use planning, environmental management and geomatics. The appropriate use of limited space and resources is one of the most pressing concerns in modern times. Pivotal issues include the location of public facilities, efficiency of movement, how to use limited resources with best regard to future generations, and concerns about the spatial consequences of climate change. Graduates of the School of Spatial Planning at DIT have gone on to play leadership roles equipped with the strategic foresight and practical skills that are essential for these roles.

THE PROJECT TEAM

The project has been carried out by The Futures Academy, Dublin Institute of Technology in collaboration with the School of Spatial Planning, Faculty of Built Environment, Dublin Institute of Technology.

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F O R E W O R D, by Professor John S. Ratcliffe and D. Conor Skehan

Whilst this study is primarily about the necessary hopes and visions of the various *gateway towns and cities* identified in the National Spatial Strategy, it was inevitable that, in a world where increasingly everything affects everything else, their future wellbeing would be shaped by the driving forces of change sweeping around the world and an economy inexorably dominated by Dublin, and heavily influenced by emerging synergies with Belfast and the rest of Northern Ireland. Unashamedly, it adopts a 'futures studies' approach, believing that time and effort spent on *strategic thinking* prior to strategic planning ultimately pays enormous dividends in terms of discovering, exploring and evaluating possible, probable and preferable futures. Furthermore, in an era of accelerating change, growing complexity and heightened uncertainty, it enables all the key players and stakeholders in policy formulation and decision-making processes to think, talk, plan and act, creatively and differently, together. It *imagines ahead* and *plans backward.*

Spatial planning and futures studies are both chiefly concerned with the needs and expectations of tomorrow. Each activity deals with ambiguous, multifaceted and contentious issues, for which the outcomes are complex and uncertain. Their common purpose is to provide a 'better future', while avoiding undesirable risks. Spatial planning and futures studies both share ethical dilemmas of representation and manipulation from the way they operate, and the methodological difficulties of balancing a wide range of information, techniques, participants and attitudes. Despite these similarities, the way of thinking about and addressing the future by the spatial planning profession differs greatly from the one practiced by futurists. This is discussed elsewhere, (Ratcliffe & Krawczyk, 2007), but in the context of this study, a 'futures' approach constitutes a much more effective platform for collaborative planning, helping to develop agreed solutions and ensuring that the ownership of those solutions is embedded in the community so that they have a greater chance of successful implementation.

What has emerged from the *Twice the Size* study is that the central tenet of present planning in the Republic of Ireland - the *attainment of balanced regional development* - is mistaken. Further, that unless this error is recognised and redressed, then Ireland's future economic, environmental and social prospects are likely to be seriously impaired. In examining the main aim of the National Spatial Strategy, to increase the size of the Gateway settlements to twice the current population, the *principal drivers of change* emerging as having the greatest significance to such an outcome were as follows.

1. *Demographics.* The very strong concentration of population towards the East is likely to continue as the relative size of the rest of the State continues to fall. This Eastern region will most notably remain the primary engine of the Irish economy because of intrinsic competitive advantages conferred by scale and a critical mass of urban population.

2. *Spatial Continuity*. The low density spatial pattern of development, following coasts, river valleys, favourable topography and transportation corridors are unlikely to change

- although there will continue to be an increased local urbanisation of the population on all areas.

3. *Changing Agriculture*. The completion of the reform of the Common Agriculture Policy by 2015 will create widening differences between an area of intensive agribusiness in the south and the East compared to very large areas in the West and north where agriculture will cease to be a dominant and full-time activity, and where environmental designations are likely to become the dominant determinant for development.

4. *Changing Values*. The recent rapid economic and social development of the country combined with the urbanisation of lifestyles and populations, as well as the continuing high proportion of younger people will mean that values in Ireland will continue to change rapidly and dramatically compared to other European countries.

5. *Changing Politics*. The changing demographics, values and urbanization are likely to mean that an urban agenda will come to dominate politics and policies within ten years or less.

The basic conclusion emerging from these drivers is that by the year 2030 over two-thirds of the population of the island of Ireland will be concentrated within 25 km of the East coast. There is no evidence that existing strategies will prevent this, nor indeed is there any evidence that this would be desirable. An Eastern corridor from Belfast to Waterford, is likely to be Ireland's best opportunity to maintain a competitive position among the city-regions of an increasingly competitive Europe.

More disturbingly, there is no evidence of *any* plans to provide for this future. On the contrary the existing National Spatial Strategy is fundamentally conceived to achieve 'balanced regional development'. This strategy, dubbed at one workshop as the *ABD Strategy* [Anywhere But Dublin] is likely to be counterproductive to all parts of Ireland because it will divert resources away from the region that will probably sustain the economic growth necessary to transfer funds to less advantaged areas. This strategy is viewed as a relict of a political system based upon rural values that is rapidly losing relevance and demographic support.

These findings have significant implications for politics, policies and planning. At a fundamental level lies the very real possibility that at the grand scale we are planning for a future that will never happen. Are we squandering scarce resources to prop-up the unsustainable expectations of dwindling peripheral populations? Are we ignoring, or worse, under-providing for the needs of the overwhelming majority of the population? Are we damaging the future prospects for those concentrations of economic activities that sustain the rest of the country through fund transfers?

These findings may mean that we may need to revisit more than just our demographic projections. Instead, we need to re-examine our assumptions about the values and needs of the future society that we are attempting to provide for. Major changes are underway in Ireland at the very fundamental levels of the demographics and values that shape future needs and aspirations. These need to be clearly articulated and examined.

The most profound shift that will occur in the near future will be the growing recognition that Ireland has become an urban society. Ireland has long been recognised as one of Europe's most rural cultures due the lack of either an underlying Roman or Feudal urban tradition. This shift is occurring very rapidly, and attitudes and expectations are only slowly adapting to this new reality.

One of the deepest consequences of the urbanisation of a society is the emergence and acknowledgement of the duty of care of the city to sustain the wellbeing of its inhabitants. Whereas rural communities can survive in a *laissez faire* regime, the urban citizen is entirely dependent on the city to supply and sustain their conditions of life, potential and prosperity. Deliberately fostering, providing and sustaining the conditions for a human being to live an entire lifetime is a huge challenge, doing so in such a way that facilitates the attainment of the fullest potential for the widest range of society is especial*ly* daunting.

The evocation of a city region that meets the cultural, economic, social and physical needs of the very young, the very old and everyone in between – from an increasingly multi-cultural society – will be a huge and exciting challenge. The means of meeting the challenge will surprise many. Elements of the city like parks, cultural activity, community identity and pedestrian convenience will very rapidly move from the role of luxuries to necessities. Many existing institutions, policy makers and professionals who find these challenges difficult to acknowledge or accept are likely to have their authority challenged or diminished. There will be territorial turmoil and turf wars.

Politics are changed by demographics and values. Politics changes policies. Urban politics will create urban policies. Experience of mature urban politics elsewhere indicates that they are dominated by issues such as local finances for the provision, maintenance and renewal of urban facilities as well as the maintenance of security, equity and amenities. This kind of urban politics places a very high emphasis on the effectiveness and technical competence in planning and managing complex systems. Immature city regions are led by infrastructure. In mature and successful urban areas, proactive visions about quality, identity and competitiveness set an agenda which is served by infrastructure *not visa-versa.* This inversion of priorities can lead to the costly re-evaluation of earlier decisions. With foresight, Ireland's Eastern city region may be able to anticipate and avoid this problem.

Above all else, the deliberate creation of a new city region carries with it the need for beauty as a duty of care. The quality of urban spaces – in denser urban centres and less dense residential areas alike – move from being a luxury to a necessity as cities increase in scale. The residents of larger settlements are completely dependent on the quality of the design and the delivery of urban spaces for their emotional and physical well-being. This is recognised in the spatial planning of larger urban areas and lies at the heart of the challenge of sustaining Ireland's emerging city region.

Delivering a vision of the city that is socially, economically, environmentally and emotionally sustainable will require imaginative work. It will involve establishing a *Charter of Civic Rights.* It will involve engaging in pioneering land uses to overcome the *Scale Conflicts* that give rise to the worst aspects of the Edge City. It will involve embarking on bold *Urban Prospecting* to discover new lands hidden within the fabric our cities. But that's another story.

The prime outcome of this study, therefore, is to set the scene and make the call for a series of strategic conversations at all scales and across all sectors informing a major national debate and decision-making process about the preferred future spatial framework for Ireland to sustain the well-being of all its people. We hope that the scenarios elaborated throughout this *Twice the Size* document might be used to inspire future national policy planning processes and gateways thinking and action.

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Introduction

- All areas of Irish life have been deeply transformed over the past 15 years; nonetheless, as the entire world progresses rapidly, Irish gateway cities and towns face even more profound changes that will bring radical transformations to their spatial structure and socio-cultural composition.
- The Futures Academy, in conjunction with the School of Spatial Planning, at Dublin Institute of Technology, and commissioned by the Urban Forum, conducted this study to instigate a discussion about the long-term future of Irish gateways, explore possible future alternatives, and additionally, encourage future-oriented collaboration between the stakeholders in the gateways.

Methodology

- In an environment of growing complexity, heightened uncertainty and a quickening pace of change, the planners and decision-makers face a difficult and complicated task of preparing for the future. However, as failures of the traditional planning practice become more apparent, more imaginative and innovative future-oriented approaches are being increasingly used.
- The adoption of futures methods, such as the Prospective Through Scenarios approach used in this study, and its integration into city planning offers a rigorous, systematic and comprehensive approach for the exploration of possible future alternatives and the identification of preferred future options. It can also constitute an effective platform for collaborative planning.

Context

Places

- The contemporary pattern of spatial development, both globally and locally, is characterised by an uneven distribution of prosperity and well-being on a spatial and social level. Successful regions usually constitute large metropolitan regions, intermediate industrial regions or tourist regions.
- The prevailing economic model places localities and regions in direct competition with each other, both globally and nationally, which in turn, forces them to develop competitive advantages.
- In the highly urbanised parts of the world, a new phenomenon of the *polycentric mega-city region* is emerging.
- The National Development Strategy, by Colin Buchanan and Partners, published in 1968, recommended the creation of a hierarchy of growth centres into which a key infrastructure and amenities were to be directed. However, the strategy was rejected by the government

- of the time, leaving Ireland without a spatial policy for the country until 2002. This led to the dispersal of new investment into rural areas.

- As pressures on the natural environment increased significantly during the era of rapid economic growth during the 1990s, planning professionals started to adopt the principles of sustainable development in order to reduce the impact on the environment.

- The publication of the National Spatial Strategy in 2002 provided a spatial development framework for Ireland. One of the most important provisions was the designation of Gateways and Hubs, into which new investment is to be directed. This was aimed at achieving balanced regional development.

- The current urban structure in Ireland is dominated by the Greater Dublin Area, where 40% of Irish population resides. The urban hierarchy of the rest of the country is relatively weak, particularly in the West and North-West.

- Significant growth of Dublin's population in recent years and an under-supply of affordable housing led to the creation of an extensive commuter belt. This resulted in greater pressure on existing transport infrastructure caused by a massive increase in private car use, which was the result of a mismatch between the location of new housing, places of employment and public transportation infrastructure.

- The peace process in Northern Ireland in the 1990s that has led to a significant growth in trade across the border, and the improved transport infrastructure on both sides of the border has facilitated the growth in linkages between Dublin and Belfast and the development of an economic corridor on the East coast.

- As a response to the economic dominance of the East coast, policy makers have designated an 'Atlantic Corridor', linking the cities of the South and West, to provide a counterbalance to the Greater Dublin Area. However, whether this corridor generates the necessary amount of linkages between these cities remains to be seen.

People

- For the population to double by 2030, the country's population would have to grow by 3 per cent per annum. However, the most rapid annual growth that has been achieved to date has been 1.6 per cent per annum. Therefore, it would be unrealistic to expect that the population of Ireland could double by 2030.

- It is expected that growth of the Irish population will continue into long-term future. Given the nine billion predicted for the world population by 2050, it is evitable that countries like Ireland will be subjected to ever-increasing in-migration pressures.

- Doubling of the population is possible at the gateway level. However, it will be rather difficult considering the modest population growth of the gateways in the period between 2002 and 2006. Only two gateways, Galway and Letterkenny, which are not in Dublin's sphere of influence, achieved a growth rate higher than the State's average.

- Projection of the existing trends into the future shows that population concentration in the East coast will continue, unless the implementation of government policy will change the current trends. However, in the case of lack of such implementation and an economic slowdown, it can be assumed that concentration of population in the GDA will continue at an even higher rate.

- Value systems of societies can be described by two dimensions: (1) *traditional/secular-rational* and (2) *survival/self-expression* values. As nations develop economically their value systems become more secular-rational and more emphasis is placed on self-expression.

- At present, Irish society has a quite unique combination of fairly strong traditional values with well developed self-expression values. As the period of cultural modernisation progresses, the values of Irish people will move away from those that emphasise traditional centralised control and concern for economic betterment towards values based on rationality and a concern for personal self-development and self-expression.

- This shift in value systems will create potential conflicts between rural-based Western regions seeking to preserve the status quo and urban-based Eastern regions seeking a more autonomous, responsive, rational and effective mode of politics and governance.

Potential

- Global population will increase significantly during the coming decades. An adequate strategic policy focus on a robust and accelerating external demographic pressure would create the possibility of rectifying Ireland's current low population density. This in turn would assist in sustaining economic growth.

Driving Forces of Change

- The exploration of the future of the gateways in Ireland is underpinned by a recognition that the 21st century is a period of rapid change in which new discoveries, philosophies and technologies play an ever more prominent part in shaping social, economic and spatial development.

- The future will be shaped by a number of critical challenges that can be summarised under these headings: "too many people"; "not enough resources"; "it takes time"; "there will be new technologies"; "what's the risk?"; "redefining the enemy"; "economics are complex"; "détente with dilemma"; "running the show"; and "there will be surprises".

- The changes will take place in all areas of life: demography, economy, governance, environment, society and technology and they will affect global, national and local futures.

- No single driver will dominate, but each driver will have varying impacts at different times and different locations. The drivers are not necessarily mutually reinforcing; in some cases they will work against each other.

Scenario Logics

- The alternative scenarios for the future of Ireland are built around nine scenario logics: globalisation, European cohesion, Irish stability, values, people, spatial patterns, competitiveness, sustainability and learning. In each scenario these logics play out differently.

Scenarios for Ireland in 2030

"The Sow of Liberty"

- This scenario pictures a world of expanding globalisation and growing libertarianism that encroaches upon steady economic growth, the further opening-up of markets and rapid technological advances. The role of national governments diminishes while an increasing emphasis on international collaboration emerges, largely aiming to facilitate global competition and the enhancement of market efficiency. Developed nations are fragmented into many differentiated and competing sub-national regions and interests. The accent overall is on the individual, and the prime motivation is materialistic.
- Europe, in this scenario, has largely been shaped by constant economic growth driven by continuing processes of globalisation, privatisation and the liberalisation of key markets, including technology, energy, air transport, pharmaceuticals, and financial services. The EU has been enlarged by the accession of new states, including Turkey. European societies are more fragmented than ever, and people are focused on their immediate associates and families.
- Ireland is a large player at the world stage, specialising in highly advanced areas of science and technology. The Eastern region of Ireland is home to some of the wealthiest cities in Europe. The quasi-autonomous city regions, led by elected mayors, specialise in medical research and nano-technology. The Western regions are dominated by a commercialised heritage industry.

"Wild Cats of Equality"

- In this scenario, the future is underpinned by a system of shared values, an equitable distribution of opportunity and a desire for sustainable development. A worldwide metamorphosis is taking place with commercial and institutional renewal accelerating across the developed world, with policy-making and decision-taking becoming increasingly delegated and expert. The overall focus is on collective, collaborative and consensual actions, shaped by commonly held attitudes and aspirations.
- The EU holds a strong framework for public policy pursuing sustainable development. Economic growth is sustained due to legal certainties and market transparency. A sustainable and high quality of life is enjoyed by all, and the integration of Europe has dramatically altered the global political and economic landscape.
- Irish society enjoys a good standard of living, even though there is a greater policy intervention in both civic affairs and the market. There has been a strong growth of services and high-tech industries offering a low environmental impact and high social value, while agriculture and resource intensive sectors have declined. Irish society is divided between two strands living side by side: the 'knowledge' society of towns and cities and the 'wisdom' society of rural areas.

- In this scenario, the world is shaped by a socio-political backlash against the forces of change leading to regressive developments in institutions, a failure of cohesion among the wealthy nations and a dislocation in developed economies. The desire to preserve personal independence within a distinctive national identity prevails. Patriotism dictates that political power remains within the nation state in an increasingly fragmented world. The main emphasis is placed on continuance of individual freedom, protected by state security, and a consciousness of cultural difference. Overall, the world moves towards greater instability.

- For Europe it is a turbulent and insecure world that has been primarily shaped by long periods of global economic instability, technological development and international competition. Europeans perceive the world beyond their border as fearsome and are highly anxious about the future. Economic integration is virtually abandoned and the EU is collapsing into a loose arrangement of separate treaties and bilateral agreements.

- The Irish people value freedom to do as they choose, but within the context of closed and independent Ireland. Business is focused mainly on domestic markets, the UK, and to a lesser extent Western Europe. Dublin, although one of the most expensive cities in the world and highly divided between rich and poor, remains the economic engine of Ireland. People are proud to be Irish and much emphasis is placed on the preservation of culture and heritage. The attitudes of personal responsibility develop, while government has been decreasing its role in the provision of healthcare, education and other social services.

The Emerging Territorial Future

- The most plausible future spatial model of Ireland will be based on a single city-region serving the entire country. It is likely that such a city will be located on the East coast and would be initially based on the pre-existing Dublin-Belfast Corridor. This future is likely to develop as political and economic integration between Northern Ireland and the Republic of Ireland progresses. Additionally, it is reinforced by the weak urban structure of the island outside the Dublin-Belfast Corridor, the existing strength of the Greater Dublin Area and proximity to the UK and Europe.

- Out of three national spatial options, the *Eastern Corridor* (The Sow of Liberty), the *Atlantic Gateway* (Wild Cats of Equality) and *Urban Sprawl* (The Fragility of Mé Féin), the Eastern Corridor is a most likely and robust option. The development of the Atlantic Corridor requires strong policy and high levels of investment and is not robust at times of economic uncertainty, while an Urban Sprawl pattern of development is vulnerable in an energy shortage/high prices situation and is environmentally unsustainable.

- Development of the Eastern conurbation would mean that a continued policy based on the radial model as exemplified by the current national road and rail infrastructure strategies, may be ill-conceived. Development of cross-transverse links between the East and the West would be a more viable and future-proof option.

- There are a number of risks associated with current national planning policy. There is a risk that continued policy support for the development of a counterweight to Dublin may not be

successful, as planning policies that 'fight trends' are often doomed to fail. Also, the shift of population from rural to urban will likely result in the loss of political support for shifting resources from the East to the West, as the political and electoral base becomes increasingly urban.

- Recent trends in population growth show that the counties that grew the fastest were the ones without the gateways, while the counties with gateways grew the slowest. This points to a conclusion that the NSS has focused on rather weak centres and therefore the return on public investment was rather low.
- Although a strong possibility that the urban conurbation on East coast will dominate the development of Ireland in the future may be rejected by many, it is recommended that the critical mass argument of balanced regional development is reviewed; all spatial planning and infrastructure policies should be tested against the possible development of a single urban centre along the Eastern seaboard; and the gateway cities outside the Eastern conurbation should be encouraged to develop 'distinctiveness' instead of population growth.

Preparing Ireland for Possible Futures

- An analysis of the scenarios shows that some underlying drivers and outcomes are common to all scenarios. It is recommended that plans and policies should be tested by asking whether interventions will reinforce or impede the desirable outcomes identified in this report.
- The key area of concern for the way forward for the gateways identified by this study is the issue of governance, and especially the lack of appropriate regional governance structures that would oversee development and implementation of strategic regional policy.

Conclusion

- The study identified a critical need to revise the National Spatial Strategy reflecting the vital and dominant role of the Greater Dublin Area in securing the future of Irish society and the continued prosperity of the national economy, as well as the progress towards spatial and economic cohesiveness with Northern Ireland. The revision of the Strategy should also address the need to formulate development policy in a way that would reflect distinctiveness of the Eastern and Western regions.
- There is a pressing need for fostering collaborative visionary leadership at all scales and across all sectors.
- Finally, the study recognised a fundamental requirement for a major reform of local and regional structures of governance to be conducted based on the concepts of sustainable city regions, subsidiarity and integrated policy formulation, decision-making and implementation.

The Future of Gateways

Cork

- Cork's destiny will be formed by the ability to combine the best elements of its urban and rural environments. The key uncertainties facing the future of the city are the success of the Docklands development, the vulnerability of flooding as a consequence of rising sea levels and the reliability on FDI. Development of a new brand for Cork based around water, as an element of the landscape and a resource, and Irish culture and heritage is proposed.

Dundalk

- The future of Dundalk will be shaped to a large extent by the development of the Dublin-Belfast corridor. A key uncertainty that may influence the city's future is the continuation of the peace process and ability for Dundalk to develop a new distinctive positive image. Dundalk has the potential for the creation of a renewable energy and clean technologies cluster, as well as becoming an important recreational and leisure hub within the Eastern urban region.

Galway

- Galway's destiny will be influenced by high population growth, its image linked to arts, culture and education and the ability to retain the ICT and medical devices sectors. One of the key challenges for the future will be ability to create high quality urban and rural environments while catering for high rates of growth. Underpinned by collaboration of the main educational institutions, the future strategy for Galway should aim to reinforce the culture and arts identity while developing high value added sectors, such as creative industries and life sciences.

Letterkenny

- The future of Letterkenny will be highly reliant on this relationship with Northern Ireland and, in particular, Derry. The ability of Letterkenny to protect natural landscapes despite high growth pressures and sustain the distinctive and highly positive image based around a slow pace of life and good work-life balance will be paramount. Letterkenny's future strategy should focus on strengthening its distinctive identity, development of tourism and attaining a synergy with Derry.

Limerick

- Limerick's future will highly depend on changing its negative image and the revitalisation of some the most disadvantaged areas in the country, capitalisation on the strong educational sector and a reduction of the reliance on FDI. The future strategy for the city could be built around the creation of a 'campus city' and development of a new image underlined by

social equity, tolerance and multicultural values. Also, the development of new uses for the river Shannon could be part of the future strategy.

Midlands

- The future of the Midlands gateway will be likely influenced by its ability to develop strong links with the Eastern seaboard conurbation as well as achieving synergy between its three key towns: Athlone, Mullingar and Tullamore. Its strategic location in the geographic centre of Ireland, the Athlone Institute of Technology as a major regional driver and peat land are the Midland's key advantages. The future strategy for the region could be built upon two main pillars: development of 'support services' such as waste management, water processing and logistics; and provision for alternative, rural-based lifestyles.

Sligo

- Sligo's future will be primarily shaped by its location in the north-West of Ireland, its attractiveness to tourists and the transformation of its agriculture. A vulnerability of Sligo for the future lies in its dependence on FDI as well as the ability to improve accessibility to the rest of Ireland and the world. The future strategy for the town should be developed to strengthen its best qualities: very high quality of life, environmental lifestyles and a creative, diverse and tolerant society.

Waterford

- The development of Waterford will be highly influenced by its location at the southern end of the Eastern conurbation, the resolution of boundary tensions with Kilkenny, and obtaining university status for the Waterford Institute of Technology. A strategy for the future could be developed upon the old traditions and the strong brand of Waterford Crystal in combination with the outstanding quality of its natural environment. The city has also the potential to strengthen its role as the primary urban centre of the South-East.

PART I

INTRODUCTION, METHODOLOGY AND CONTEXT

1 INTRODUCTION

Over the past 15 years Ireland has undergone deep transformation from a poor nation on the periphery of Europe to a country with growing population and prosperity. The changes transformed all areas of Irish life – its economy, values, society, political scene and natural landscapes. Yet, as the whole world progress rapidly, Irish regions, cities and towns face even more profound shifts that will bring radical transformation to their spatial structure and socio-cultural make-up. With a possible doubling of existing population size, it looks increasingly that there are no adequate plans for the actual future that may occur, but instead current strategies and plans are continually playing catch-up to the realities already changing Irish society.

This is even more relevant to the Irish gateways[1] designated, in the National Spatial Strategy of 2002 as national centres of growth. To instigate the debate on consequences of the current and future growth of the gateways, The Urban Forum commissioned The Futures Academy, in conjunction with the School of Spatial Planning, at Dublin Institute of Technology, to conduct this study. By using a futures approach - Prospective Through Scenarios - the project intended to:

- promote a longer term proactive outlook amongst the local and regional stakeholders;
- challenge present assumptions about the development of the gateways in the future;
- encourage alternative ways of thinking about the future in a rigorous and systematic manner;
- develop an understanding what futures are possible and desirable and how the gateways can prepare for what the future may bring; and
- create a platform, where stakeholders can meet, think and talk about the future of the gateways in a neutral setting.

The results of the journey into the future of eight Irish gateways, along with the study's context and methodology are presented in this report, which concludes the study.

1.1 Project Aim and Objectives

The main aim of the project was to develop a set of spatial visions of possible and preferable futures for the gateways outside Dublin designated within the National Spatial Strategy using Prospective Through Scenarios methodology. Such visions would act as a stimulus to communities, decision-makers, planners, architects and developers in defining the roles, functions and positions of their cities and towns, and their surrounding regions, having regard to their gateway status.

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[1] Cork, Dundalk, Galway, Letterkenny, Limerick, Midlands, Sligo, and Waterford.

To address the main aim, the following objectives were set.

- ▪ Encourage dialogue, collaboration, and forging new alliances between a wide range of stakeholders in each of the gateways.
- ▪ Explore the driving forces of change at global, national and local level and develop a set of possible and desirable futures for spatial development of the gateways and Ireland as whole.
- ▪ Promote strategic foresight and a futures oriented mindset amongst the key stakeholders and decision-makers involved in planning at local, regional and national level.

1.2 Scope

The focus of this project was specifically aimed at the eight gateway towns and cities (Fig. 1) originally designated in the National Spatial Strategy to stimulate a more balanced pattern of regional development in Ireland. The development of the gateways as national and regional engines of growth would imply great transformations of these places in demographic, spatial, economic and social terms. Many of the gateways are currently undertaking the planning and implementation of major development projects that will have lasting effects on their future. It is also expected that the NSS designation, strengthened by the provision of additional funding (i.e. Gateway Innovation Fund, through the National Development Plan 2007-2013), will foster further growth of the gateway cities and towns.

The special attention of this project on the eight gateways was dictated by a strong need to examine the effects of the growth of the past few years, but even more so, by the need to provoke and challenge current thinking about the long-term future in order to test, enhance and future-proof decisions taken today. This is needed to ensure that these territories are not exposing themselves to threats on the one hand, and not closing themselves to the opportunities that the future may hold on the other.

At this point, it is also important to stress that as the remit of the study has been limited to the eight gateways, the future of the Greater Dublin Area, as well as the 'hubs'[2], has not been examined in detail, but only to the extent required for the exploration of Ireland's future.

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[2] Hubs – towns designated in the National Spatial Strategy as "centres supporting the national and international role of the gateways and in turn energising smaller towns and rural areas within their sphere of influence" (DoELGH, 2002: 12).
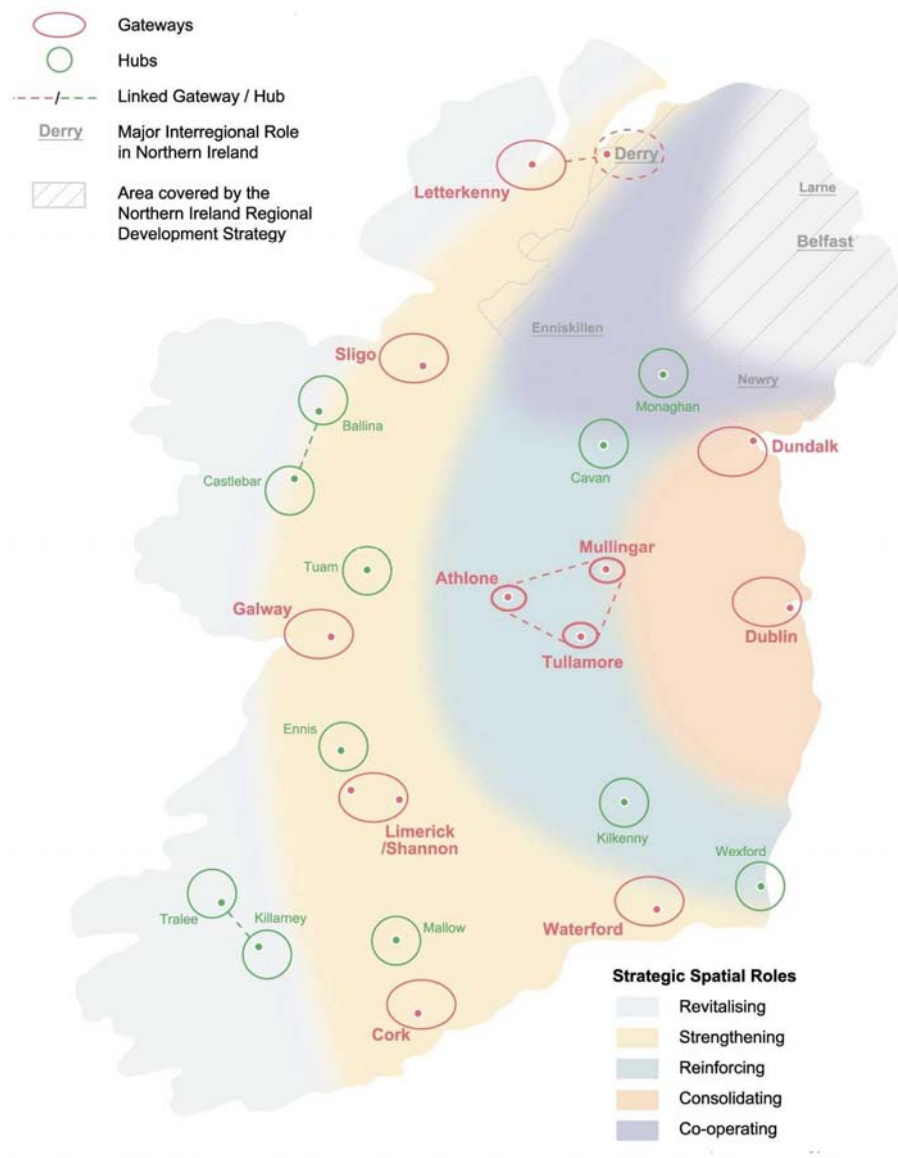
Figure 1: National Spatial Strategy: gateways and hubs (DoELGH, 2002).

1.3 Outcomes

It has been envisaged that both tangible and intangible outcomes will be achieved. One of the most important outcomes that the study team set out to achieve was to create a platform for stakeholders to meet, talk, think and act together creatively and alternatively about the future of their city or town and its region. It was anticipated that futures workshops held in each of the gateways would instigate and encourage such discussions. The more tangible results included: a set of future scenarios for each gateway and a collection of other ideas that were generated during the process which could be used by local decision-makers to future-proof their decisions and policies today; a set of national scenarios for Ireland in 2030 within which the gateway

scenarios would be framed; and a range of policy proposals and recommendations that should be implemented to prepare for future challenges and opportunities.

1.4 Project Participants

For each gateway city, a broad range of stakeholders and decision-makers was identified and invited to participate in the project. Amongst the targeted sectors were:

- local and regional government;
- built environment professionals (architects, planners and engineers);
- business community (chambers of commerce, major employers and developers);
- community groups;
- politicians;
- media;
- education;
- health;
- justice; and
- religion and the arts.

Also, a number of stakeholders and policy makers from a variety of backgrounds and institutions at the national level were invited to be involved in the study. The full list of people who contributed to the project is to be found in Appendix 1.

2 METHODOLOGY

2.1 The Need for a Futures Approach

All that is certain about the future of the Irish gateways is that they will change and these changes will be rapid, vast and unpredictable. In an environment of growing complexity, heightened uncertainty and with a quickening pace of change, planners and decision-makers face a complicated and difficult task of preparing for what the future may bring. For some time, it has been recognised that the prevailing planning approach towards the future is inadequate and a slow shift towards new ways of thinking and acting about the future of cities has been observed. Various criticisms that have been levelled at prevailing planning practice which include.

- Ineffective mechanisms to deal with the complexity and uncertainty of urban environments.
- Widespread short-term orientation of planning.
- Inadequacy of the 'predict and provide' model, which reinforces the present conditions and makes it more difficult to consider alternative future options.
- Lack of a comprehensive integration of physical planning with economic and social development.
- Limited collaboration of stakeholders from different sectors.
- Paucity of real community participation.
- Failure to provide visionary and innovative solutions.
- Being reactive rather than proactive towards the future.

The recognition of the failures of current planning practice has led to a search for and adoption of new and more imaginative future-oriented approaches. In Ireland, for example, futures methods have recently been used, in the Border, Midland and Western (BMW) Regional Foresight exercise and by the Athlone Institute of Technology. Also, over the past few years, The Futures Academy, DIT, has been promoting the use of futures methods in the urban and regional planning field, of which this project is the latest instance.

The futures approach used in this study is the 'Prospective Through Scenarios Process', developed by The Futures Academy, Dublin Institute of Technology. This process has been based on concepts and assumptions from a much larger field of inquiry - futures studies. Futures studies is a discipline that aims "*to discover or invent, examine and evaluate, and propose possible, probable and preferable futures*" (Bell, 2003). Over the past 40 years or so, futures studies has developed in both breadth and depth. It is now a globally–distributed meta-discipline which is taught in a number of universities and which increasingly has the capability to contribute to corporate strategies, policy debates, urban planning, social innovations and the like. In essence, Futures Studies enables the forward view. That is, it provides interpretative or propositional knowledge about the future, up-dates this regularly, assesses the quality of emerging understandings and uses them for a range of socially-useful purposes. The most crucial

questions usually facing those working in the futures field in the examination of an issue or policy include the following.

- What are the major continuities?
- What are the major trends?
- What are the most important change processes?
- What are the most serious problems?
- What are the new factors 'in the pipeline'?
- What are the main sources of inspiration and hope?

It provides a 'map of the future' and supplies policy makers and others with views, images and alternatives about futures in order to inform and future-proof decisions in the present.

There are a number of reasons why it is important to adopt futures methods into urban planning. These have been listed in *A Practical Handbook on Futures Workshops: Visioning the Future of Cities* produced by The Futures Academy and include the following (Gannon & Ratcliffe, 2006).

- Extending thinking beyond the conventional and fostering more forward thinking as a result.
- Forcing thoughts and stimulating conversations about the future.
- Helping to identify assumptions about the future that might require examination, testing and subsequent modification.
- Encouraging people to have regard to the positive possibilities and opportunities that tomorrow might hold, as well as the potential threats and disasters.
- Making more intelligent decisions today concerning the future by focusing the mind on the most important questions that must be resolved in order to formulate better policy.
- Inspiring people to 'think outside the box'.
- Widening perspectives and increasing the number of options available for exercising more deliberate decision-making towards positive change.
- Preparing for, and managing change better by enhancing the capacity to learn.
- Making response times to actual future events much shorter and reactions more relevant.
- Fostering active participation in strategic thinking leading to decision-making.

The adoption of futures methods into city planning offers a rigorous, comprehensive and integrated approach towards urban stewardship, relying more on intuition, participation and adaptability (Ratcliffe, 2002). Most excitingly, a futures approach can constitute an effective platform for collaborative planning. A collaborative futures process helps to develop successful solutions and ensures that the ownership of those solutions is embedded in the community so that they have a greater chance of implementation (CitiesPLUS, 2004). It also enables the development of preferred visions of urban futures through mobilisation – bringing together and facilitating the networking of key stakeholders and sources of knowledge (FOREN, 2001). A comparison of traditional planning versus futures approach is shown in Table 1.

	Traditional Planning	Futures Approach
Perspective	Partial, 'everything else being equal'	Overall, 'nothing else being equal'
Variables	Quantitative, objective, known	Qualitative, subjective, hidden
Relationship	Statistical, stable structures	Dynamic, emerging structures
Explanation	The past explains the present	The future is the *raison d'etre* of the present.
Picture of Future	Simple and certain	Multiple and uncertain
Method	Deterministic and quantitative models	Qualitative, behavioural and stochastic models
Attitude to the future	Passive or adaptive (the future will be)	Active and creative (the future is shaped)

Table 1: Traditional planning versus futures approach (Lindgren & Bandhold, 2003).

2.2 Methodology of the study

The process of imagineering the future of cities and regions can be described in three main phases:

1. Strategic Thinking
2. Strategic Planning
3. Strategic Implementation

This study focuses on the **Strategic Thinking Phase**, which can also be called the Visioning Phase. The overall methodology for this project was based on the *Prospective Through Scenarios* process, which is a systematic, rigorous futures methodology that enables the exploration of possible future alternatives and the identification of preferred future options. The methodology has successfully been applied in a number of projects carried out by the Futures Academy[3] over recent years.

This section discusses the details of the methodological framework for this study. First the overall futures approach – Prospective Through Scenarios Process - is discussed in detail. Then the main methods and techniques, and the tasks they were used to complete, are presented. Finally, the issues related to the facilitation of collaborative stakeholders are considered.

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[3] Imagine Lincoln 2020 (2005), Dublin 2020 Vision for the Dublin Chamber of Commerce (2004), The Bratislava Raca Prospective - Towards a Preferred Future (2004), Development of Future Scenarios for Dublin-Belfast Economic Corridor (2003).

2.2.1 Prospective Through Scenarios Process

Although there are many variations on a theme, the stages shown in Figure 3 are typical of a Prospective Through Scenarios process. Below, a description of each step is given with modifications of the process adopted specifically for this study included.

1. Set the Strategic Question

This might be a general examination of the position of an organisation within its external environment, the more particular identification of a key gap in an organisation's knowledge, or the interrogation of a very specific business idea. Critical to this stage is the formulation of the right question. A key to this, and to the whole prospective process, is the holding of 'strategic conversations' with key actors in and around the organisation and its sector of society. In enabling complex adaptive organisations to look ahead to the future, conversation, in one form or another, becomes a key component of strategic planning. Strategic conversations are fast emerging as a central feature of the scenario process, and scenario exercises, in turn, are becoming a prime tool of strategic planning.

Originally, building on the premise that strong growth in gateway cities will continue, the following question was asked: "what the future of the gateway towns and cities would be like if their population doubled?" Hence, the title of the project. However, answering such a question would depict only one possible future, and would defy the purpose of the exercise; therefore, two strategic questions for the project were posed. At the national level:

"What might Ireland be like in 2030?"

And, at the regional level:

"What might the gateway of ... be like in 2030?"

2. Identify the Driving Forces of Change

In practice, the driving forces of change are identified by: continuous monitoring through 'horizon' or 'environmental' scanning; in-depth interviews with acknowledged experts; targeted questionnaire surveys; and brainstorming workshops at the start of the prospective process. They are usually categorised by a technique like the 'Six Sector Approach' [Demographic, Economic, Governance, Environmental, Societal, Technological (DEGEST)], invariably used by The Futures Academy, or similar such as PESTLE or STEEP developed by others. Following popular parlance that 'everything affects everything else' one of the most important tasks is to investigate the interrelationship between various forces. Perhaps the two most challenging chores, however, are to ensure that sufficient divergent thinking takes place on the one hand, whilst common clichés are hunted down on the other. Ultimately, it is the driving forces of change that shape and propel the story lines described in a particular plot for a scenario. It is almost inconceivable to consider a scenario that does not incorporate major drivers from most, if not all, of the six sectors depicted above.

In this study, the driving forces of change were explored using a number of methods: environmental scanning, the national workshop and futures workshops in each gateway, strategic interviews at local and national level, and futures questionnaires.

3. Determine the Main Issues and Trends

It has been found, in identifying the issues and trends relevant to the strategic question posed by the client organisation, that even the most radical of forecasts are usually too conservative in the long-term, and that some organisations unintentionally foster tunnel vision by paying too much attention to current trends, simply projecting the past forwards, and ignoring the unexpected (Shoemaker, 1998).

The key elements of 'future worlds' are 'predetermined events' and 'critical uncertainties' (Wack, 1985). Predetermined events are those forces, issues and trends that are already evident and are unlikely to vary significantly in any of the scenarios. They might be slow changing phenomena, constrained situations, trends already in the pipeline or seemingly inevitable collisions. These issues and trends should be reflected, implicitly or explicitly, in each of the scenario plots. Critical uncertainties are the forces, issues and trends which are most likely to define or significantly change the nature or direction of the scenarios. They are contributing factors that will have material consequences that cannot yet be measured. For the purposes of constructing future worlds it is important to focus on a relatively small number of critical uncertainties that could fundamentally alter the environment. A critical part of this stage is the process of 'clustering' whereby the number of forces, issues and trends are grouped into a manageable number of high-level concepts.

Similarly, as with the driving forces of change, main issues and trends were identified using environmental scanning, the national workshop, futures workshops in each gateway, strategic interviews at local and national level, and futures questionnaires.

4. Clarify the Level of Impact and Degree of Uncertainty

A common approach towards determining the key areas of critical uncertainty that will form the central themes of the developing prospective is to rank the issues and trends according to their:

- level of impact upon the strategic question;
- degree of uncertainty (likelihood) of occurring within the given timeframe.

Some exercises then aim to identify the two general areas believed to have the highest impact upon the strategic question, and the highest level of uncertainty over the potential outcome, so that a quadrant matrix can be constructed using the two areas identified as axes forming dimensions, within which four possible scenarios can be built. This again involves clustering as a temporary means of handling the complexity of the 'bigger picture' encapsulated by the full set of forces, issues and trends and polar outcomes. Later, specific issues and outcomes can be reintroduced for actually constructing the scenarios.

In this case, key uncertainties were identified by the participants of the workshops and the respondents of the strategic interviews and futures questionnaires. Brainstorming sessions during the workshops aimed not only to identify the key uncertainties and the degree of their impact but also to discern possible impacts of these uncertainties.

5. Establish Scenario Logics

This stage lies at the heart of the prospective process. Here is established a logical rationale and structure for the scenarios, and it is when intuition, insight and creativity play the greatest role. The logics provide the themes for a scenario's plot or story. They connect the present to a specific scenario end-state or outcome, for any 'future history' must make sense 'today'. Put another way, they are the organising principles around which the scenarios are structured. They focus on the critical or pivotal uncertainties for the organisation concerned and present alternative theories of the way the world might work. These alternative future states are logical in the sense that a persuasive and rational case can be made for each of the outcomes.

These logics can be articulated and elaborated in a number of different ways. Most usually, by either laying-out in simple narrative form, or by using the 2 x 2 matrix approach, or by depicting the logics and their interactions or relationships diagrammatically showing causal connections. These are represented in Figure 2.

In this project, the gateway scenarios were nested within three alternative global and national scenarios developed in the beginning of the process using the material from the national workshop, a number of strategic conversations at the national level as well as the work of The Futures Academy conducted over the recent years. Participants of the gateway workshops were asked to imagine the futures for their gateway within three different national sets of circumstances.
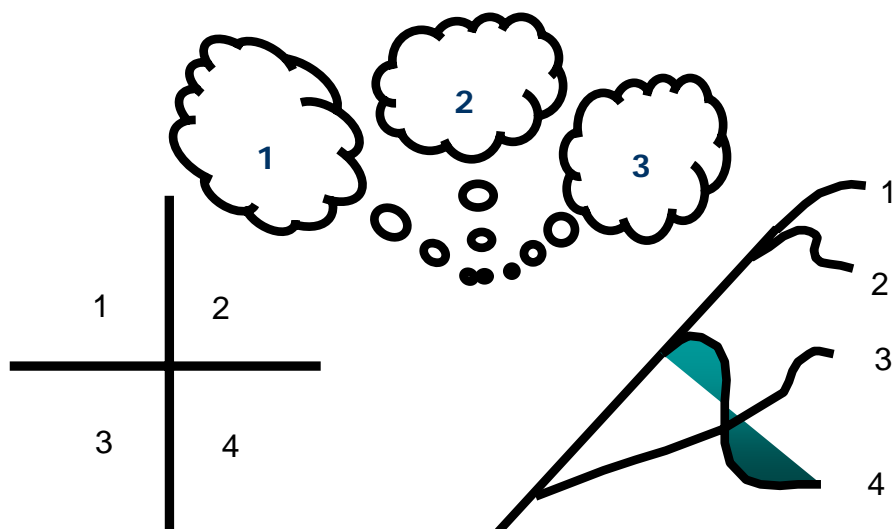
Figure 2: Scenario logics. Source: Outsights.
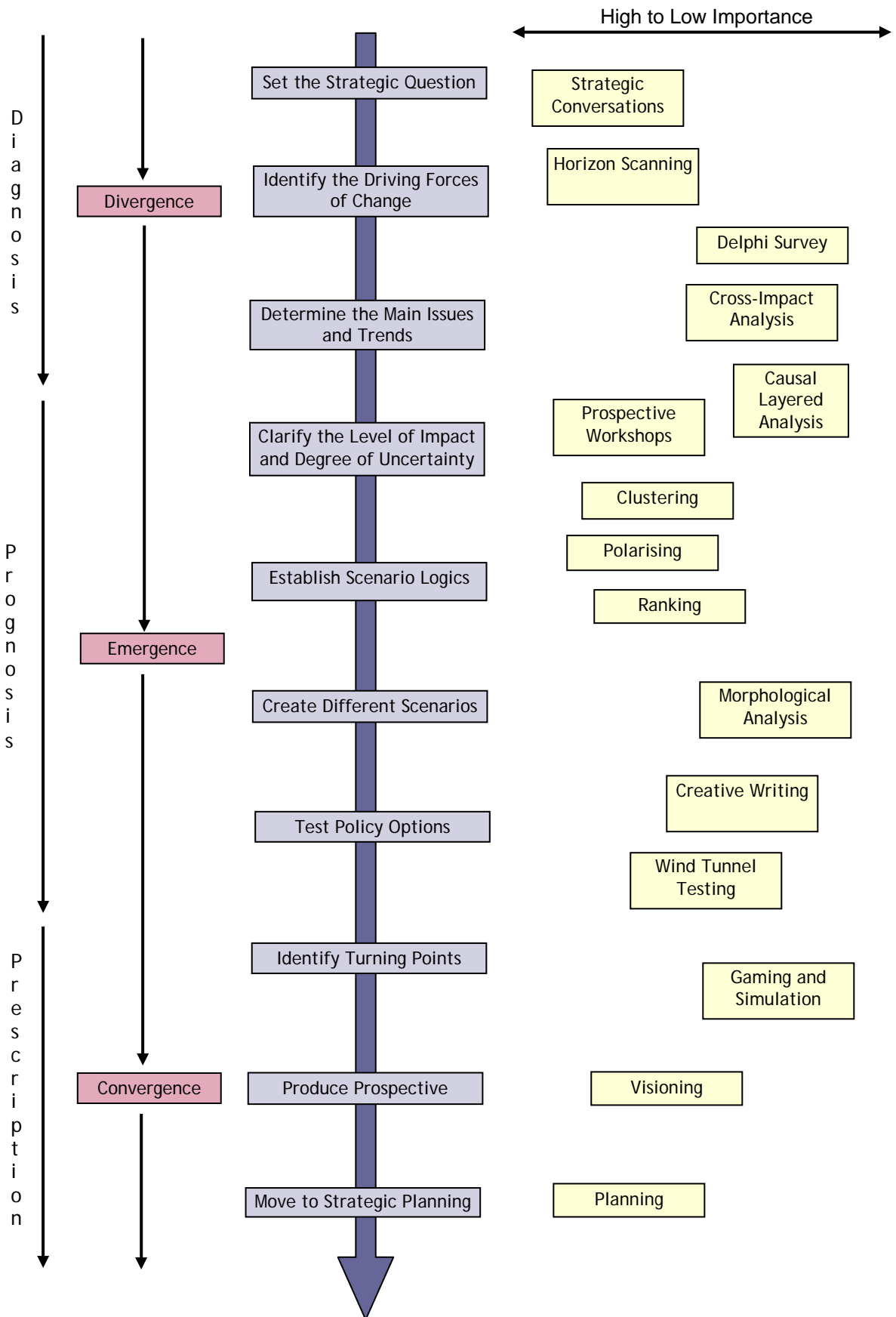
Figure 3. Prospective Through Scenarios Process (Ratcliffe & Sirr, 2004).

6. Create Different Scenarios

There is no single, correct way to create scenarios. Different circumstances, timescales, organisational cultures, facilitation methods and available resources will dictate the use of one or another approach for developing a few alternative pictures of the future. An inductive approach, conducting an open-ended debate aimed at reaching consensus, can work well in situations where there is really only one key variable that drives the difference between a few scenarios – like the price of a product or service at some future date. This is not normally the case when the built and human environment is considered.

In public policy oriented scenarios, where there are many key variables, a deductive approach, using simple principles of prioritisation to construct a quadrant matrix based on the two most critical uncertainties is preferred.

The following criteria are suggested as helpful in constructing scenarios. They should each be:

Plausible	-	*credibly capable of happening*
Robust	-	*internally consistent and coherently defensible*
Divergent	-	*structurally differentiated, not simply variations on the same theme*
Challenging	-	*testing the conventional wisdom of the organisation and providing novelty of thought.*
Useful	-	*contributing specific insights into the future that help tackle the strategic question.*

Each scenario should also have: a beginning, a middle, and an end; an approximate time-line; key events that make it happen; early indicators of change; and an evocative title. Elaborating or fleshing-out the scenario can best be accomplished by: returning to the driving forces, issues and trends; inventing an 'emblematic event' that symbolises the scenario; talking about the end-state; composing a story-line that is dramatic, forceful, logical and plausible; anchoring the scenario in the past, with the future emerging from the past and the present in a seamless way; eliciting a 'gestalt', an integrated structure that can be understood as a whole rather than as disconnected parts; letting the imagination run riot – control can come later!

7. Test Policy Options

This step poses the fundamental question of how the task, issue or decision identified as the strategic question looks in the light of the scenarios constructed. What are the strategic implications? How does the decision fit into each scenario? What options are suggested? Are any particular vulnerabilities exposed? Is the decision or strategy robust enough? Does it seem to work in only one scenario and thus qualify as high risk? How can the strategy or decision be adapted to make it more robust? In this way, what is sometimes called the 'Wind Tunnel Test', enables decision-makers turn policy options into strategy through adjustment in scenarios.

Indeed, the central challenge of this part of the process is to identify a set of robust core strategies that are capable of adoption in a wide variety of alternative possible futures. In addition to this, is the need to develop contingent strategies to combat the 'unthinkable' or 'unpredictable' future. The core strategy alone is not normally sufficient, and those contingent strategies will be necessary to face such eventualities as significant legislative changes, momentous economic fluctuation or dramatic political swings.

It should be stressed, however, that the development of an effective and robust strategic prospective requires far more than scenarios alone. Additional elements include a strategic vision, clear goals and objectives, competitive analysis and an assessment of core competencies. This stage in the prospective process does, however, permit the development of some vital strategic insights, for even scenarios that seem familiar can spring surprises.

8. Identify Turning Points

A major product from the interpretation and testing of policy options should be the ability to translate movements of a few key indicators into an orderly set of signposts or triggers which identify turning points having serious implications for the field in question. The logical coherence that was built into the scenarios should allow logical consequences of leading indicators to be drawn out of them (Schwartz, 1998).

From experience, however, this is probably the stage most fraught with difficulty. Nevertheless, it is also the stage which if properly conducted can pay the highest dividend. Sometimes the signals of impending change can be relatively weak, or the turning points to alternative futures pretty obscure. Once the different scenarios have been fleshed-out and their strategic policy implications determined, then it is worth spending some considerable time, and applying some appreciable imagination on identifying a few material indicators or triggers to monitor in a continuing way.

9. Produce the 'Prospective'

Following the adage (Handy, 1989): *"The future is not inevitable. We can influence it if we know what we want it to be"*, the 'prospective' approach is becoming more popularly applied across Europe in a variety of strategic settings. It is a quintessentially 'normative' method in that it concludes by describing a single preferred future. In the French context, from whence it originates, the prospective refers to a much wider exploration and much longer time horizon than conventional strategic planning. It comprises, moreover, not only the study of the future and an evaluation of alternative outcomes against given policy decisions, but also the will to influence the future and shape it according to society's wishes. It is similar to 'foresighting', more familiar in the Anglophone world, but can be contrasted as: foresight would be the capacity to hear, but prospective would refer to the proficiency to listen (Serra, 2001). Put another way, prospective covers the concepts of 'preactivity' (understanding) and 'proactivity' (influencing), whereas foresight concerns itself with 'preactivity', but the idea of 'proactivity' is missing (Godet, 2001). Thus, unlike many futures-thinking exercises which might have

motivated large numbers of people in a rich, collective process, the prospective takes this a stage further by proposing a path towards real, implemented action.

10. Move to Strategic Planning

Traditionally, strategic thinking through scenarios has been separated from strategic planning, and quite deliberately so. This has often been a strength, in that is has allowed creative exploration untrammelled by the need to take action. But is has also been a weakness, because it has isolated imaginative thinking and curtailed continuing 'future proofing'. In one way, the prospective provides a bridge between strategic thinking and strategic planning across which ideas and actions can continue to pass. In another, it builds a kind of 'scaffolding' within which a strategic plan can be constructed and refurbished.

In terms of 'making-it-happen', the prospective process through scenarios contributes to strategic planning and management by (van der Heijden, 2002):

- creating wide awareness of the environmental imperative requiring change;
- guiding the formation of operational plans;
- enlisting the people in the organisation who have the power to act; and
- establishing coherence in management action through development of a shared view.

2.2.2 Methods and Techniques

The *Prospective Through Scenarios* Process, outlined above, formed the overall project framework, following which a set of specific tasks was established and methods for their completion chosen appropriately. The various tasks set to complete the project include the following.

1. A desk-top 'horizon scanning' study focusing on the changes, challenges and priority areas facing spatial planning and development in Ireland.
2. A 'trend analysis' study to identify the 'key drivers of change' influencing the future of spatial planning and development in Ireland.
3. Preparation and distribution of 'futures questionnaires' to the various stakeholders to collect primary research data on the future priorities of the gateways.
4. Conducting of 'strategic conversations' with the most important players in the sector to generate qualitative opinion-based data on the perceived areas of strategic significance across a range of professions concerned with the future development of the gateways.
5. Organisation and facilitation of a series of 'futures workshops' to create a set of alternative future scenarios, a preferred future vision and a range of policy options for each of the gateway towns and cities in Ireland.

The structure of **Futures Workshops** was based on the Spatial Prospective process. Such workshops are the most efficient method for collecting an abundance of rich data in a short period of time. The process used during workshops, attended by a mixture of people

representing different sectors, organisations and views, creates conducive conditions for stimulating discussions, creative imagining and innovative brainstorming. In each workshop, the aim was to achieve a shared understanding of what the future may bring and stimulate collaboration amongst stakeholders in shaping the future. A single one-day workshop was conducted for each gateway. The attendance varied from 11 to 25 participants. The list of workshops is attached in Appendix 2.

Futures Questionnaires were employed as an additional method for collecting information about the aspirations, wishes, values and fears of participants regarding the future of the city or town in question; identifying strengths and weaknesses of that territory; and determining driving forces of change that will influence its future. The questionnaires were distributed in advance of the workshops to stimulate pre-workshop reflection on the future of a given city or town. Around 70 questionnaires were distributed to people identified as having a direct or indirect influence over the city/town development, from each gateway. The questionnaires were sent to representatives of all sectors.

Strategic Conversations, an in-depth interviewing technique, was used at two levels: **local** and **national**. At the local gateway level, the Strategic Conversations were carried out with up to five stakeholders per gateway. The interviewees were recognised as having both an impact on the development of the city/town and being renowned for their strategic and 'outside-the-box' thinking. These conversations provided valuable insights into the challenges, opportunities and possible future alternatives facing the particular gateway city/town. The Strategic Conversations at the national level were conducted at the start and the end of the study.
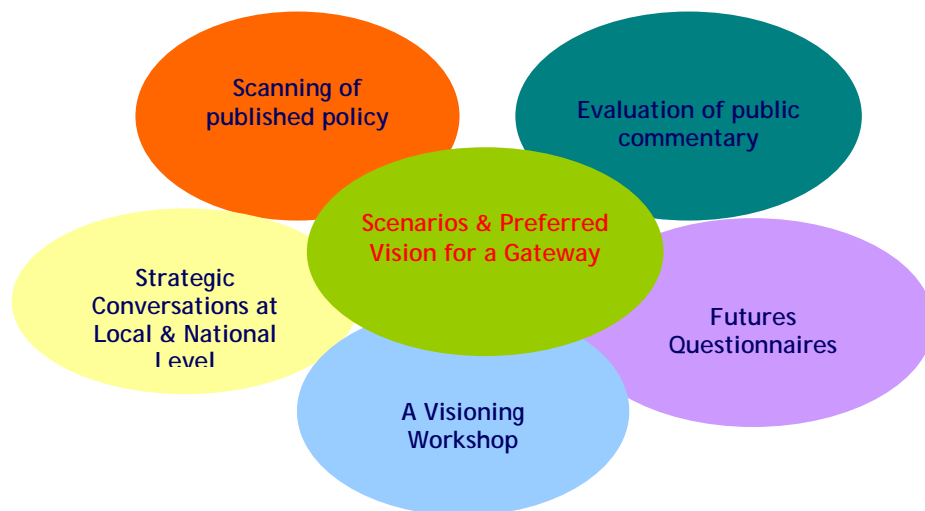
Figure 4: A combination of methods used during the study.

2.2.3 The facilitation of collaborative stakeholders

One of the key requirements for the success of such a process is ensuring that a broad range of stakeholders representing diverse sectors in the city is involved. There are a number of reasons why the collaboration of stakeholders is so important.

- Only visions developed in a process involving representatives of all sectors are seen as common visions, and therefore, having a greater chance of being implemented.
- The involvement of stakeholders, who will be charged with the implementation of the vision, helps to create a feeling of ownership.
- The Prospective Through Scenarios methodology provides a platform for discussion about the future of a given city and its region, and enables stakeholders to find a common language and shared platform for talking and acting in a concerted manner.

One of the initial steps for each gateway was the identification of three or four local champions. It is crucial for the project to gain the trust and support of local leaders, and for them to develop a good understanding of the aims of the exercise and the methodology. This was achieved in collaboration with the Urban Forum. Having 'local champions' on board helped to raise local interest in the project and foster participation.

The representatives of the sectors listed below in Figure 5 were identified and invited to participate in the study.

local and regional government	architects, planners and engineers	business community
community groups	developers	politicians
media	education, health and justice	religion and arts

Figure 5: Sectors invited to participate in the study.

Expert facilitation of the workshops is one of the key conditions in ensuring continuity, consistency and a uniform structure in developing visions for the different city-regions participating in the project. Experience gathered through previous projects shows that the level of expert facilitation can contribute significantly to the success or failure of such a project. The Futures Academy facilitators orchestrated the workshops and conducted strategic interviews. The facilitators were not only the experts in the application of the Prospective Through Scenarios methodology, but also had an extensive knowledge of issues related to urban futures. Their knowledge of the examined problem was important in ensuring that none of the important trends and aspects were overlooked throughout the project.

3 CHANGING IRELAND – THE CONTEXT

"Continuous discontinuity, constant change, is our shared condition." *(Zygmunt Bauman, 2002)*

Since the start of the 1990s, Ireland has experienced an unprecedented era of growth and has undergone profound transformations in all areas of life. The transition from being a poor nation on the periphery of Europe with a weak economy and soaring unemployment, to a country with high economic growth, full employment, continued population growth and generally regarded as being a 'success model' for the new EU member countries can be attributed to an interaction of various internal and external factors. Of particular note, however, was Ireland's laissez-faire approach to industrial policy during a period of global economic restructuring (O'Hagan, 1995). The economic transformation, largely based on the pursuit of the high-tech FDI development model, resulted in the formation of new spatial and social realities – a new geography of Ireland. In this chapter, under three headings: places, people and potential, an attempt is made to depict some of the pieces of the complex puzzle that Ireland became and provide a broader context for its journey into the future.

3.1 Places

This section discusses the most recent developments in concepts and theories in economic geography, reviews the evolution of past spatial policies and patterns in Ireland, and finally, it explores the current spatial trends in the European Union and Ireland.

3.1.1 Space and Economy

Local and regional development has become an increasingly important activity for governments at all levels across the world since the 1960s and 1970s. In parallel, the context for local and regional development has been dramatically transformed by the changing patterns of economic activity, and become far more challenging. The economic system has grown to be more internationalised, knowledge intensive and competitive. Its contemporary global form is characterised, among other things, by a deepened unevenness in the prospects for development for particular social groups and territories, and clearer geographical inequalities in prosperity and well-being.

At both global and national scales only a limited number of localities and regions seem to be reaping the benefits arising from new opportunities provided by the processes of globalisation. In general, successful regions tend to be those that have something distinctive to offer to markets that expand beyond the traditional realm of the local and regional spheres. Pike, Rodriguez-Pose & Tomaney (2006) have identified three types of 'winning regions'.

- Large metropolitan regions. Large urban agglomerations attract many high value-added service activities, such as business, financial, real estate and insurance services, as well as the headquarters of corporations (Taylor & Walker 2001). The economies of agglomeration derived from such concentration of production factors, in consequence, draw research and development, and design activities (Scott & Storper 2003).

- **Intermediate industrial regions**. This group of territories seem to be benefiting from the greater mobility of production factors. This type of places usually combine labour cost advantages with respect to core areas, with human capital and accessibility benefits relating to peripheral areas, making them attractive locations for new industrial investment.
- **Tourist regions**. Such places have built their economies on the tourist industry, which usually has developed around unique environmental and heritage qualities or a specific tourism product.

Another aspect of the contemporary economic model is the fact that localities and regions are now in direct competition with each other, both globally and nationally. In consequence, they must compete on the basis of local and regional competitive advantage in order to attract mobile investment. Camagni (2002) believes that two orders of factors and processes count nowadays. First, at a cumulative, macroeconomic level it constitutes the increasing returns linked to increasing development processes and the agglomeration of activities. Second, at a microeconomic and micro-territorial level, with which the Irish gateways can be associated, it is the specific advantages strategically created by the single firms, regional synergies and cooperation potential enhanced by an imaginative and proactive public administration, exterior prerequisites provided by local and national governments and the historical, cultural and environmental heritage of the locality.

The world's economic polarisation is also being reproduced within countries, and Ireland is no exception. The Celtic Tiger phenomenon has not affected all places equally. Some areas have especially benefited from foreign inward investment and domestic indigenous growth, while others experienced a sluggish growth at most. The regions that benefited most from the foreign direct investment in manufacturing were Dublin, Cork, Limerick and Galway. The Greater Dublin Area, like other global metropolitan regions, in addition to holding various manufacturing functions has also been a 'magnet' for producer services concentrated mainly in three sectors: software, financial services and back-office services (Bartley & Kitchin, 2007).

As the pace of globalisation increases and informationalisation burgeons, a new phenomenon, the *polycentric mega-city region,* is emerging in the most highly urbanised parts of the world. Such an entity is usually a series of anything between 10 and 50 cities and towns, physically separate but functionally networked, clustered around one or more larger central cities, and drawing vast economic strength from a new functional division of labour. The places within a polycentric urban region operate both as separate entities, in which most residents work locally and most workers are local residents, and as parts of a wider functional urban area. They are connected by dense flows of people and information carried along motorways, high-speed rail lines and telecommunication cables (Hall & Pain, 2006).

Over recent years, the concept of Ireland as a polycentric city has been emerging. Given the comparatively small size of Ireland's population (that constitutes approximately half of London or Paris's population), its present urban structure with one dominant large city and relatively short distances between different parts of Ireland that favour linking regional centres with fast

transport connections, Ireland as a polycentric city is a notion that merits serious consideration. To develop that notion a better understanding of the flows and connectivity between various urban centres in Ireland is required.

3.1.2 Evolution of Irish Spatial and Land-Use Policy

This section aims to provide a brief and concise historical background to the formulation of Irish regional and land-use planning policy that preceded the current National Spatial Strategy. Until the modernisation of the Irish economy in the 1960s, and the attendant halt to economic stagnation and longstanding emigration, there had been little progress by way of land use planning in Ireland.

The first significant land use planning legislation introduced into Ireland was the Local Government (Planning and Development) Act 1963. This Act was modelled closely on the existing Town and Country Planning legislation in force in the United Kingdom since 1947. The main provisions of the 1963 Act included the establishment of statutory planning authorities which became a key function of the existing local authorities (Norris and Shiels, 2007).

Each local authority was obliged to prepare a five year development plan, which provided land use designations by way of zoning for specific uses and an accompanying written statement of intent. In addition to preparing development plans, each local authority had the power to grant or refuse planning permission for individual development proposals which were to adhere to the objectives of the development plan. The 1963 Act went into force in 1964 and remained the principal land use planning legislation in Ireland until 2000.

As the 1960s progressed, it became apparent that the resumption of population growth and the industrialisation of the Irish economy would create pressure for significant new development in and around the main towns and cities. In order to plan for this growth, a series of studies were carried out, and, from these, a number of key reports were produced. One such significant report was the Dublin Regional Advisory Plan prepared by Myles Wright *et al.*, also known popularly as the Wright Plan.

This report, published in 1967, projected a target population for the Dublin Region of 1.3 million by 1991 and recommended accommodating the bulk of the additional population in four self-sufficient linear towns located to the West of the existing city. These new linear towns were to contain between 65,000 and 120,000 persons upon completion and be separated from each other by linear green belts. Each new town was to contain industry and commercial facilities to provide employment and retail amenities respectively for their inhabitants so as to reduce dependency on the existing Dublin city centre (Wright, 1967).

The Wright Report was never formally adopted by the Dublin planning authorities: instead it became the informal blueprint for the formulation of the 1972 Dublin County Development Plan and subsequent development plans until the 1990s. A key difference between Wright's recommendations and those of the 1972 Development Plan was the merging of two of the linear

towns into one: Lucan and Clondalkin were to come together as Ronanstown. Another key change was the abandonment of the linear structure of the new towns for a more amorphous arrangement whereby each new town was to contain a major shopping centre and a series of neighbourhood units, containing circa 5,000 inhabitants each serviced by a primary school and local shops. The lack of co-ordinated planning and sufficient investment during the main growth period of these towns led a host of severe social and economic difficulties which only began to be addressed during the 1990s.

The recognition of the need for a spatial plan to direct the growth of industry and population for Ireland as a whole was reflected in the preparation of a National Development Strategy by Colin Buchanan and Partners. The Buchanan Report, published in 1968, recommended the creation of a hierarchy of growth centres into which key infrastructure and amenities were to be channelled. Two national growth centres were to be located at Cork and Limerick/Shannon and these were to contain the highest level of services and amenities to encourage a more balanced pattern of urban growth, and reduce the pressures on Dublin (Bannon, 1989). In addition to these, a series of regional growth centres were designated at Galway, Waterford, Athlone, Sligo, Drogheda and Dundalk[4]. These centres were to contain a third-level educational facility and act as engines of growth for their respective hinterlands. Finally, Buchanan recommended smaller local growth centres situated at Letterkenny, Cavan, Tralee and Castlebar.

The principal objective behind the designation of a limited number of growth centres by Buchanan was the belief that in a small country with limited resources, the return on investment would be greatest in locations that possessed the greatest critical mass to support new growth. Therefore, the largest settlements were to receive the highest amount of investment and so forth. However, the Buchanan Report was rejected by the Government of the time, which deemed a strategy of limiting investment and industrial development into a finite number of urban areas to be politically unacceptable, given the predominantly rural nature of the Irish population and the vigorous attempt by all political constituencies to attract new development.

Industrial location policy during the 1970s and 1980s in Ireland was to disperse new investment into rural areas through the use of grants and other incentives. The rejection of the Buchanan Report meant that Ireland had no spatial policy for the country as a whole until the adoption of the National Spatial Strategy in 2002.

Formal transportation planning was introduced to Ireland during the 1970s, with the formulation of the Dublin Transportation Strategy (DTS) in 1971. This strategy foresaw a low-density and car-dependent Dublin city region by the early 1990s and recommended a series of high capacity motorways, including a C ring of the city (later built as the M50) and radial routes. In particular, there was to be a series of upgraded roads in the inner-city which would involve a considerable amount of demolition of the existing urban fabric. Due to a lack of funding, however, most of

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[4] Five of these locations designated as growth centres under the Buchanan Report were subsequently accorded gateway status under the National Spatial Strategy.

the provisions of the DTS were not realised, but parts of the inner-city did suffer destruction for the partial implementation of the Inner Tangent Route.

A land use and transportation strategy was subsequently developed for Cork city and its hinterland in 1978, which was largely implemented by the mid-1990s.

During the 1970s and 1980s, few new land-use planning strategies were put in place, largely due to the unfavourable economic environment that prevailed at the time. The ERDO (Eastern Region Development Organisation) Settlement Strategy was published in 1985 and predicted significant population growth in the Dublin Region and the three surrounding counties of Meath, Kildare and Wicklow to the year 2011 (ERDO, 1985). The strategy proposed a major expansion of the hinterland towns of Swords, Leixlip, Maynooth, Bray and Greystones, but did not envisage the potential for a population increase in Dublin inner city. Coming at a time of mass emigration and economic stagnation, the ERDO Strategy was rejected by the Government, and a revised report was published in 1988 which projected a significantly more modest amount of population growth for the Dublin region.

The most significant development in Irish urban policy during the 1980s was the introduction of the Urban Renewal Act in 1986. This legislation recognised the need to address the long-standing social and physical decay of inner urban areas. The 1986 Act provided a suite of taxation incentives and other benefits to new development in areas designated under the Act in Dublin, Cork, Limerick, Galway and Waterford (Williams, 1999). The formulation of urban renewal policy in Ireland mirrored the emergence of urban regeneration strategies in other developed countries, including the ambitious London Docklands renewal project.

Since its introduction, urban renewal policy has been modified and extended to most large towns throughout the country. It is widely considered to be a success, with the investment of several billion Euro in the areas designated for redevelopment between 1986 and 2006. However, there has been criticism about the type of development that has proceeded – mainly in the form of poorly designed small apartments with few or no amenities, employment opportunities or shopping facilities – and the lack of input by existing local communities.

A new paradigm of the 1990s

During the 1990s, a new paradigm emerged. This decade was marked by a gradual economic recovery during the first half of the decade and, after 1994, by a period of unprecedented economic growth, known in popular parlance as the "Celtic Tiger". This period of rapid economic growth was accompanied by population increase, falling unemployment, rising living standards and greater disposable wealth. These factors acted in concert to place tremendous pressure on the Irish housing market, leading to historically high house price inflation between 1996 and 2006. During this period, house prices increased in the order of 300 per cent.

Land-use planning policy developed since the mid-1990s has represented a significant shift away from earlier policies. There was widespread recognition during the 1990s of the pressures on the

natural environment by urban development which was coupled with growing public disenchantment of the planning system, perceived by many to be remote and unsympathetic to local interests. Much of the destruction of the historic fabric of urban cores and the sprawl of development and associated car dependence and congestion was blamed on the planning system.

Accordingly, a new philosophy among planning professionals in Ireland emerged, one that was driven by the need for sustainable forms of development that reduced the impact on the environment. There was recognition of the benefits of the compact city model with its increased housing density and the prioritisation of public transport. The concept of mixing different land uses into a single development also formed a part of this ideology, and recent planning policy has begun to reflect the concept of sustainable development (Williams and Shiels, 2002).

There have been a number of key planning policies and strategies prepared over recent years, the most notable of these being the Planning and Development Act 2000 and the National Spatial Strategy of 2002. The 2000 Act replaced the original 1963 planning legislation and contained a number of significant provisions including the obligation of planning authorities to prepare housing strategies where up to 20 per cent of all land zoned for residential use can be reserved for social and affordable housing. In addition, the 2000 Act provides for the creation of Strategic Development Zones, which are locations designated for major infrastructural or residential, development that are exempt from the normal planning process (Norris and Shiels, 2007).

In 2002, the National Spatial Strategy was published directing the desired form of development for Ireland as a whole between 2002 and 2020. The NSS addresses the critical lack of national spatial policy that prevailed since the rejection of the Buchanan Report in 1969. The key provisions of the National Spatial Strategy include the following:

▪ designation of Gateways and Hubs into which new investment is to be directed;
▪ each region is to prepare a set of Regional Planning Guidelines to direct its pattern of development and adhere closely with the NSS;
▪ no growth and development at entirely new locations;
▪ develop capabilities of existing settlements;
▪ importance of the role of 'critical mass', whereby settlements with the greatest range of amenities will receive the largest proportion of new growth;
▪ the NSS has identified a strong relationship between settlement size and range of service provision and the hierarchy of access to range of services;
▪ importance of consolidated and compact urban areas, limit urban growth in hinterlands of towns and cities; and
▪ achieve a balance between the need for access to major, high-level services and basic, local services.

In addition to these key objectives, the National Spatial Strategy recognises the need for a 'green' structure of urban development, which includes the following components:

- prevention of urban sprawl;
- reduction in loss of agricultural land to other uses;
- protection of rural identity;
- conservation and enhancement of bio-diversity;
- protection of existing historic built fabric and other heritage sites;
- proximity of settlements to open space and natural amenities; and
- sustainable housing densities.

Implications of recent policy developments

The National Spatial Strategy has played a pivotal role in the array of new policies and legislation that has been formulated to address the rapid population and economic growth that Ireland has enjoyed over recent years. In particular, the NSS has provided a much needed spatial dimension to recent social and economic policies. It is apparent that the emphasis is on sustainable forms of new development with a greater accent on quality in housing design and the provision of local amenities and services. There is also a closer degree of integration between housing, local services, employment and transportation – particularly with the encouragement of mixed-use developments.

3.1.3   Current Spatial Trends in the EU and Ireland

The European Union

There has been a longstanding recognition by geographers of a 'core-periphery dichotomy' within Europe. The core area of the continent has been identified as comprising locations with the greatest population density, concentration of wealth, intensity of commercial activity and, until recent decades, intensity of manufacturing industry. This core region includes Northern France, Belgium, the Netherlands, North West Germany and the South East of the United Kingdom.

Conversely, the peripheral regions of the European Union were characterised by low population density, a weak urban structure, low intensity agriculture and a disadvantageous economic position. This periphery comprises Southern Europe, Ireland and Scotland, Northern Scandinavia and the Balkans.

However, the traditional dichotomy of 'core' and 'periphery' in Europe has been challenged in recent years by the exceptional growth of the economies of Ireland, Spain and Finland, and accordingly, the relationship of a dominant core and a dependant periphery has increasingly been called into question (Brülhart, 2006).

The forces of urban growth and agglomeration have led to the merging of adjacent urban centres in a number of locations into one polycentric city region. Examples of these polycentric

functional urban regions include the Randstad in the Netherlands and the Rhine-Ruhr region in Germany (GEMACA II, 2002). In other instances, the capital city of a number of countries has dominated the country in all aspects and functions as a primate city: Paris and London are prominent examples of urban primacy.

Another spatial trend in Europe has been the emergence of 'World Cities' such as London and Paris, which increasingly operate within an interdependent network of other global centres of commerce (Hall, 1998). Major cities have been gradually decoupling their own economies from their host countries, functioning as 'city states'.

The European Union currently has no direct competency in relation to spatial planning which is a function of each of its member states. However, in 1999 the European Spatial Development Perspective (ESDP) was launched, and is a key policy document outlining the objectives of a sustainable and integrated system of land-use planning within the European Union. A prime objective of the ESDP is for adjacent member states to work more closely to ensure that their respective spatial policies and goals are complementary to each other and more closely aligned (ESDP, 1999).

Ireland

In Ireland, as with Europe, there has been a longstanding tradition of a core area versus a periphery. The core region comprises Dublin city and its hinterland, currently designated the Greater Dublin Area. The population of the Greater Dublin Area was 1.66 million in 2006, which accounts for 40 % of the population of the Republic of Ireland as a whole. Outside of the Greater Dublin area, the urban hierarchy is relatively weak, particularly in the West and Northwest of the country.

The dominance of Dublin, which functions as a primate city for Ireland, has been long recognised by policy makers, and successive solutions have been sought to attempt to counterbalance the city by channelling growth elsewhere. However, given the degree of the primate nature of Dublin, these policies have met with limited success.

Emerging spatial relationships in Ireland are currently under scrutiny and include the following:

- the expanded Dublin Commuter Belt;
- the emerging Dublin-Belfast Economic Corridor; and
- the Atlantic Corridor.

The Dublin commuter belt, which includes those settlements that act as dormitory towns for Dublin city, has grown significantly in extent and population over recent years, particularly since the mid-1990s. A key driver of this growth has been the relative under-supply of affordable housing in Dublin which has not matched demand. This demand for housing, in turn, was deflected into the commuter belt which offered more affordable accommodation (Williams and Shiels, 2002). The growth of the Dublin Commuter belt has been considered to be problematic because of the pressure on existing transport infrastructure caused by sprawling development in

an *ad-hoc* manner. In particular, the spatial mismatch between the location of new housing development, places of employment and public transportation infrastructure has led to a massive increase in private car use, which in turn generates a large carbon footprint that is environmentally unsustainable.

Another key spatial trend taking place is the emergence of an economic corridor between the two largest cities on the island of Ireland, Dublin and Belfast. The development of this corridor was hindered for decades by political isolationism and the civil unrest in Northern Ireland. However, since the mid-1990s, the peace process in the North has led to a significant amount of cross-border trade. The opening of the M1 motorway in the Republic, and the enhancement of the A1 route in Northern Ireland, has facilitated the growth in linkages between the two cities. It is expected that the main settlements along the corridor, such as Drogheda, Dundalk and Newry, will benefit economically from the corridor (McGreal, Berry & Williams, 2003).

Finally, policy makers have designated an 'Atlantic Corridor' which links the cities to the South and West of Ireland, namely Galway, Limerick, Cork and Waterford. Whether this corridor is generating a significant amount of linkages between these cities to the same extent as the Dublin to Belfast corridor is open to debate, but it is hoped that the development of the Atlantic Corridor will act as an effective counter-magnet to what is thought by many to be a disproportionate amount of development in the East of Ireland.

INSIGHT 1: LAND VALUES: CREATION AND CAPTURE
A common theme running through all the gateway workshops and associated activities was the need to find more effective, efficient and equitable ways of funding and managing urban development. At the heart of this, it was found, was what is popularly described as "the land value question".

The Land Value Question: A Contextual Framework
To a large extent, the value of land is derived from public planning, direct municipal action and general community activity, while also being a function of prevailing economic conditions. The rationale behind policies for land value recapture is: who should benefit? Should the private landowner be allowed to keep the 'unearned increment', or should society at large reap some or all of this benefit?
Views among participants inevitably varied, but The Futures Academy suggests that any satisfactory solution to the land value question should be:
1. Permanent.
2. Acceptable.
3. A constant and continuing stimulus to investment and development in land. Not conducive to a stultification of the property market.
4. Administratively simple, understandable, enforceable, and not requiring the impossible of valuers.
5. Designed to avoid arbitrariness, inaccuracy or inequity.
6. Formulated so as to conform with the primary fiscal canons of feasibility, that is, economic neutrality and distributional equity.
7. Drawn up to facilitate planning machinery.
8. Intended to promote comprehensive development and redevelopment.
9. Conceived so as to enhance good public and private estate management.
10. Generally prepared to ensure a more effective control of land.

A Scale of Land Policies
It is possible to map-out a 'scale' of land policies as they relate to what has been described as 'plus value'. The 'scale' runs the gamut from considerable intervention in the private market to minimal intervention, as follows:
- Total nationalisation of land.
- Substitution of long-term leasehold for freehold.
- Nationalisation of development rights.
- Obligation to purchase all land fir future development (pre-emption rights).

- Land banking and reserve.
- Long-term timing controls.
- Utilisation and reparcelation.
- Betterment taxes.
- Extensive exactions.
- Land use controls, with few compensation rights
- Land use controls, with extensive compensation rights
- Indirect planning controls
- No planning controls

Goals and criteria

In similar vein, a set of goals and criteria for the evaluation of alternative policies for 'plus value' recapture can be established:
- Equity and Fiscal Goals
  - To reap the benefits of betterment for the public pocket.
  - To reduce fiscal inequity among landowners by adopting an equalising tool.
  - To reduce the costs of public purchase of land and development.
  - To reduce or control land prices.
- Planning Implementation Objectives
  - To aid in implementing 'positive planning' by promoting the desired type of development, in the preferred direction.
  - To aid in the achievement of timing control of development by stimulating earlier or delayed development.
  - To contribute to the financing of planning proposals that would otherwise not be achievable.
  - To aid in the achievement of other planning goals such as population mobility or stability.
  - To assure that planning goals, rather than fiscal considerations, prevail in decision-making.
- Additional Criteria for Selection Among Alternative Policies
  - Minimal individual hardship caused.
  - Minimum unequal treatment in parallel circumstances.
  - Minimum avenue to misuse of power by decision-makers.
  - Minimum negative urban and environmental impact of policy.
  - Minimum administrative complications and time delays.

Dimensions of Land Value Recapture

Furthermore, there are a number of dimensions within which alternative policies for plus value recapture can be designed. These include:
- Definition of 'betterment' and the tax base
  - Increase in land value due to anticipated approval of a plan.
  - Increase in land value as a result of the adoption of a plan.
  - Increase in land value due to the granting of a planning permission or variation.
  - The implementation of a plan through public works.
  - Implementation of a plan by other public actions.
  - Implementation of a plan by private and public development.
  - General rise in land value due to commodity growth.
  - General rise in value of all property.
- The rate at which betterment tax is levied.
- The occasion for levy / tax incidence point
  - After plan approval.
  - After termination of he public works.
  - Upon sale of property and presumed realisation of betterment.
  - At request for planning or building permit.
  - Upon completion of the development in question.
  - Death of owner or dissolution of company.
  - Every x years.
- Is there discretion whether to levy and at what rate?
- Is there a built-in policy regarding exemptions or varied rates?
- Who collects the tax, and who receives the funds?
- Are the proceeds earmarked?
  - For the specific expanses incurred in the preparation of a specific plan.
  - For the specific or general expenses of plan implementation.
  - For general purposes of planning and implementation.
  - For the general budget of the local authority.
  - For the general national budget.
- Relationship with compensation codes.
- Co-ordination with other taxes.

3.2 People

The study's point of departure was based on the theme of doubling the population of the Irish gateway cities and towns over the next 25 years and the impacts it could have on these territories. This section examines the current demographic trends, explores the feasibility and implications of doubling the population of the gateways, and analyses the current spatial population structure. Also, issues related to the change of values systems are investigated here.

3.2.1 Doubling of the population

'Doubling' at the national level

To double a given population in a 24-year timeframe (2006-2030) implies achieving a consistent growth rate of almost 3% per annum compound. To put this in context: during the period of most rapid growth the decade preceding April 2006 - Ireland's population grew by just under 17%, which is 1.6% per annum compound. This comprised natural growth: that is births less deaths and a slightly larger net in-migration contribution. Future birth and death predictions anticipate that natural growth, at best, will contribute about 0.7% to 0.8% per annum to Ireland's population growth. Most experts agree that Ireland's future birth rates will track those of northern European countries. This is accompanied with the caveat that forecasting so far ahead implies making a present-day judgement as to total fertility rates of birth mothers – some of whom have not yet been born! Death rates have been declining and some further falls will probably occur in the short-term. Thereafter, Ireland's ageing population together with trends in in-migration will determine a levelling out of the death rate.

For the State to achieve the target growth of 3% of population per annum, the other component of demographic performance, net in-migration would need to be running at 2.2% to 2.3% per annum, or 2.75-times the rate of natural growth. During 1996-2006, on average, net migration to Ireland, has been 27.6% stronger than natural growth, although for some individual recent years it has been higher. However, this has been exceptional and would not likely be sustained in quieter periods of economic growth.

Given the nine billion plus predicted total for world population by 2050, it is inevitable that first-world countries such as Ireland will be subjected to ever-increasing in-migration pressures. In this way, the nature of in-migration is expected to change from 'demand pull' to 'supply push'. However, it is also certain that in-migration flows will be subject to strict governmental control, evidenced by the passing of recent legislation and the newly-established institutional arrangements for 'skills' control.

Nevertheless, since 1996 the rate of net in-migration has grown to unprecedented levels. It has been driven principally by Ireland's need to supply labour in response to record job creation during the period 1996-2006. Economic commentators are unanimous in their view that we are entering a more quiescent period of economic growth. This will be a time during which Ireland

may see the commencement of supply-push as distinct from current demand-pull in-migration pressures.

'Doubling' at the gateway level

At national level, it would not be realistic to assume a doubling of population by 2030. However, that is not impossible that individual urban settlements could attain such growth. For example, over a period of 25 years, Galway city grew impressively by 74%, from 41,861 in 1981 to 72,729 in 2006. Yet, on the basis of this comparison, the rate of that city's growth would have had to be some 41.3% stronger than actually achieved, in order for its population to have doubled within 24 years. In Table 2, the current population of eight gateways and its national 'doubled' population in 2030 are presented.

Accordingly, such a doubling of population over a similar time-frame would require a specific, targeted Government growth strategy in favour of Ireland's Gateway and Hub settlements. In this, it has to be noted that, despite the thrust of the NSS in its selection of these particular settlements, government policy to decentralise the civil service away from Dublin has been directed towards a wider profile of dispersal to over 50 locations. Furthermore, it assumes that this strategy will continue to represent future strategic policy.

Since Independence, no Irish government has ever truly implemented a growth-centred policy. And given that political expediency dictates and influences the form of governance, the political focus tends to be very much 'local' and 'short-term'. In recent decades, rejection of the 1968 Buchanan and 1985 ERDO Plans both stand as evidence of such expediency. And yet, if balanced regional development as espoused by the NSS is to be achieved – on a scale that will generate the growth potential and scale size needed for urban agglomeration – a doubling of settlement population is a prerequisite to such achievement. This is especially the case because of an absence of critical mass and in particular, due to the State's absence of small to medium- sized cities in the 200,000 to 500,000 population range.

Table of Settlements ('000)	2006 population	2030 target
Cork	190,000	380,000
Limerick/ Shannon	100,000	200,000
Galway	73,000	146,000
Waterford	49,000	98,000
Athlone-Tullamore-Mullingar	46,000	92,000
Dundalk	35,000	70,000
Sligo	19,000	38,000
Letterkenny (excluding Derry)	18,000	36,000
Gateway totals:	530,000	1,060,000

Table 2: Population of gateways in 2006 and in 2030 if doubled. Source: 2006 Census. Analysis by Brian P. Hughes, Faculty of the Built Environment, DIT. Note: Populations rounded to nearest thousand.

Gateway City/Town	2002 Population	2006 Population	% Growth Rate
Cork	186,200	190,400	2.2
Limerick	87,000	90,800	4.3
Shannon	8,600	9,200	7.7
Galway	66,200	72,700	9.9
Waterford	46,700	49,200	5.3
Dundalk	32,500	35,100	7.9
Sligo	19,700	19,400	-1.7
Letterkenny	15,200	17,600	15.5
Athlone	15,900	17,500	10.1
Mullingar	15,600	18,400	17.9
Tullamore	11,100	12,900	16.5
TOTAL	504,700	533,200	5.6
State	3,917,200	4,239,800	8.2

Table 3: Rates of population growth for the gateways. Source: CSO.

The overall objective of such strategic planning is to double the population of each individual or multiple-linked centre, as indicated above. In practice, however, it is likely that individual settlement growth is unlikely to be consistent. What is perhaps of greater relevance is the feasibility of achieving such targets. Particularly over the last decade (1996-2006) there are many examples of superior growth performances, notably in the case of towns located close to Dublin. By contrast, cities such as Cork, Limerick and Waterford, together with many of the towns removed from the capital, have achieved modest levels of growth (Tab. 3); very much short of the aforementioned 3% per annum 'target'. Despite Ireland's impressive economic achievements over the past fifteen years or so, it is this very disappointing urban growth performance that is the basis for this project.

Implementation requirements

Robust implementation of specific strategic growth policies would be necessary if such projected population growth is to be achieved; especially so for a majority of the settlements listed in Table 1. This is because, *per force*, most such settlements are located away from Dublin, the principal 'engine' of settlement growth. Likewise, sustainable forms of physical development of settlements would require adherence to greatly reduced patterns of commuting: urban morphology will have to be both denser and more compact, with unified land-use and transportation policy-making. Powerful, city-based regional-level authorities would replace county-based administrations. Accordingly, the issue of governance and radical changes thereto would be critical to the process of implementing and achieving doubling of the gateway population.

3.2.2 Dublin and the Gateways – Issues of Scale

Analysis of the population distribution and densities shows a strong spatial imbalance in the allocation of people across the country. At present, 28% of the Ireland's population lives in Dublin City, which covers only 1.3% of the surface area of Ireland. If the population of the Greater Dublin Area is considered, nearly 40% of the total population lives in the GDA of which its surface area consists of 10% of that of Ireland. Again, if the Greater Dublin Area and the seven neighbouring counties that are strongly linked to Dublin are considered, more than 50% of Ireland's population lives in the 11 counties that constitute only a little more than a quarter of Ireland's land (Tab. 4a). The numbers only confirm the strong domination of Dublin over the rest of the Republic.

If we extrapolate the recent trends in population growth for different areas of the Dublin region and the rest of the country, it is clear that, unless there is a strong disruption to these trends, the growth of population in Dublin region will continue to be stronger than in other parts of Ireland, and therefore, the domination of Dublin in population concentration will continue. Tables 4b and 4c show the forecasts of population numbers in 2020 and 2030. Although, these predictions show growth of population in all parts of the country, the gap between the GDA's share of population and the rest of the Republic will increase. This is well illustrated by Figure 6.

Counties (…)	Population 2006	Share of National pop. %	Surface Area %
Dublin (1)	1 187 176	28	1.3
Mid East (3)	475 360	11	8.6
GDA (4)	1 662 536	39	10.0
7 adjacent counties* (7)	574 641	14	16.5
GDA + 7 counties (11)	2 237 177	53	26.4
Rest of RoI (15)	2 002 671	47	73.6
State (26)	4 239 848	100.00	100.00

*Table 4a: Spatial distribution of Ireland's population in 2006. Source: Census 2006. Note: * Seven adjacent counties include: Wexford, Carlow, Laois, Offaly, Westmeath, Cavan and Louth.*

Counties (…)	Population	Share of National pop. %	Population growth (over 2006)
Dublin (1)	1 565 000	29	+377 824
Mid East (3)	710 000	13	+234 640
GDA (4)	2 275 000	42	+612 464
7 adjacent counties* (7)	790 000	15	+215 359
GDA + 7 counties (11)	3 065 000	57	+827 823
Rest of RoI (15)	2 335 000	43	+332 329
State (26)	5 400 000	100.00	+1 160 152

*Table 4b: Spatial distribution of Ireland's population by 2020 (end of NSS period), assuming present trends will continue. By Brian Hughes. Note 1: * Seven adjacent counties include: Wexford, Carlow, Laois, Offaly, Westmeath, Cavan and Louth. Note 2: Growth projections are based generally on 1966-2006 trends, whilst also reflecting Dublin's urban agglomerative potential and future world demographic influence.*

Counties (…)	Population	Share of National pop. %	Population growth (over 2006)
Dublin (1)	1 875 000	30	+687 824
Mid East (3)	925 000	15	+449 640
GDA (4)	2 800 000	45	+1 137 464
7 adjacent counties* (7)	960 000	15	+385 359
GDA + 7 counties (11)	3 760 000	60	+1 522 823
Rest of RoI (15)	2 540 000	40	+537 329
State (26)	6 300 000	100.00	+2 060 152

*Table 4c: Spatial distribution of Ireland's population by 2030. By Brian Hughes. Note 1: * Seven adjacent counties include: Wexford, Carlow, Laois, Offaly, Westmeath, Cavan and Louth. Note 2: Growth projections are based generally on 1966-2006 trends, whilst also reflecting Dublin's urban agglomerative potential and future world demographic influence.*

There are number of possible events that may change the existing trends. Given that existing urbanisation processes mean that people will continue to move from rural to urban areas, a more balanced population distribution can be achieved only if future governments foster the and promote the growth of the four smaller cities. Otherwise, it is right to assume that Dublin's sphere of influence will deepen. It is also acceptable to believe that, in the case of lack of the implementation of such policies and an economic slowdown or decline, Dublin's dominant position will be strengthened even sooner.
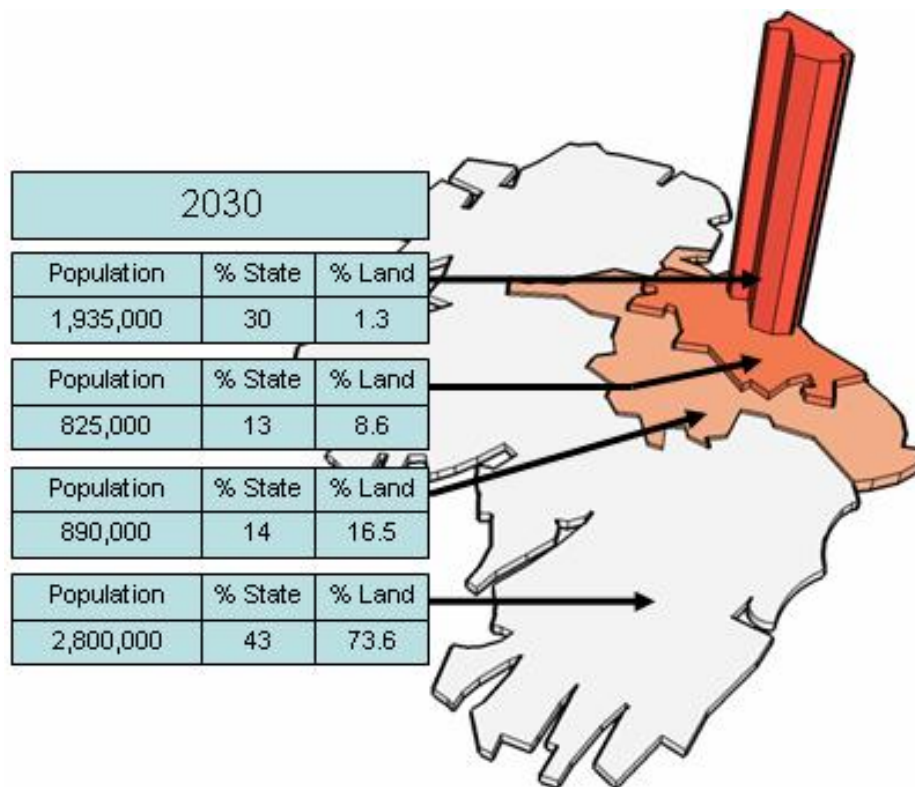
Figure 6: Population densities. By Conor Skehan.

Gateways and their catchment areas

All urban settlements and, in particular, larger towns and cities draw upon a surrounding catchment zone of commuting workers. To better understand issues of scale it is necessary to consider the size of gateways in the context of their catchment areas. The catchment zones, also known as the functional urban regions (FUR), vary in population, morphology and spatial extent due to the complex interaction of core settlement size and function, topography, transportation and land-use planning policy.

Research carried out at NIRSA, NUI Maynooth, by Walsh *et al.* (2005) has generated a series of population estimates for each of the gateways designated under the National Spatial Strategy. Table 5 below indicates that, in 2002, the FURs of the gateways collectively accounted for just under three quarters (74.2%) of the population of Ireland.

The size of each gateway catchment region closely follows the hierarchy of Irish settlement size, whereby the functional urban region of Dublin is the primate gateway, with 42% of the share of the national population and 57% of the collective population of the gateways. The FUR of Cork, by comparison, which ranks second in size to Dublin, accounts for just under 10% and 13% of the total population and collective gateway population respectively. Interestingly, the hub of Tralee-Killarney, with a FUR population of 117,000 significantly exceeds each of the gateways of Waterford, Sligo, Dundalk and Letterkenny.

Gateway FUR	Population	Size Ranking	Share of National Pop. (%)
Dublin	1,642,000	1	42.0
Cork	382,000	2	9.8
Limerick-Shannon*	261,000	3	6.7
Galway	184,000	4	4.7
Midlands (ATM)	135,000	5	3.4
Waterford	111,000	6	2.8
Sligo	68,000	7	1.7
Dundalk	63,000	8	1.6
Letterkenny[5]	60,000	9	1.5
Total Gateways	**2,906,000**	**N/a**	**74.2**
National	3,917,000	N/a	100
Rest of Ireland	1,011,000	N/a	25.8

*Table 5: Population estimates of gateway functional urban regions in 2002. Source: Analysis based on data presented by Walsh et al (2005). Note: Comparable estimates for 2006 are not yet available. *Limerick-Shannon FUR includes the adjacent hub settlement of Ennis.*

3.2.3 Values and society

Global values change

Value systems play an important role in any society. One does not often talk about how values influence and drive the change, as people tend to focus on the results of the shift in values rather than the evolution of those values themselves. In the context of Ireland undergoing a rapid period of cultural modernisation, it is important to consider how values change, and what that may mean for the future of Ireland. After all, values do provide the cultural basis for commitment to given political and economic systems. In addition, value systems interact with external economic and political factors in shaping social change. One cannot understand social change without taking these value systems into account (Inglehart, 1997).

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[5] Letterkenny is part of the Letterkenny-Derry Gateway. Because Derry is located in another jurisdiction with a separate means of collecting Census data, it was not possible to precisely estimate the combined catchments of the two settlements within the gateway.
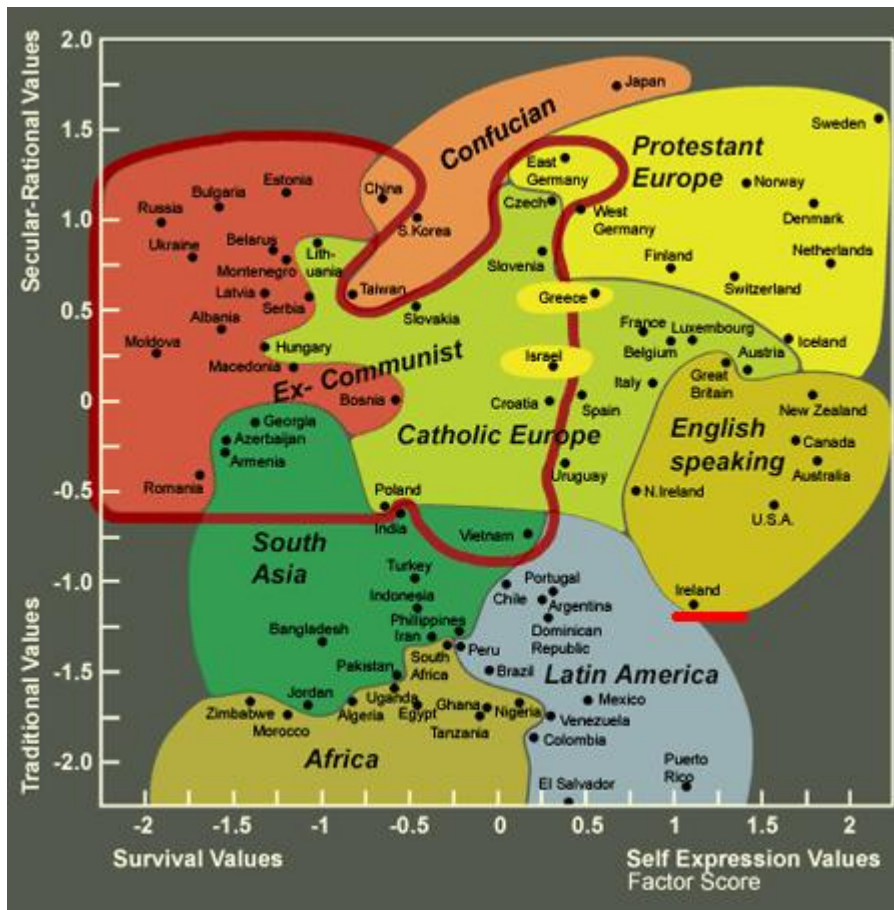
Figure 7: Inglehart-Welzel Cultural Map of the World. Source: World Values Survey (2007).

The World Values Survey, in operation at intervals since 1981, was designed to provide a comprehensive measurement of all major areas of human concern, from religion to politics to economic and social life. The analysis of specially developed indicators has shown that value systems can be quite well described by two dimensions: (1) *traditional/secular-rational* and (2) *survival/self-expression* values. The *traditional/secular-rational* aspect reflects the contrast between societies for which religion is very important and those who place strong emphasis on the secular-rational attitudes. Societies associated with the traditional values emphasise the importance of parent-child ties and respect to authority, and have very strong family and pro-life values. These societies have high levels of national pride and a nationalistic outlook. Societies with secular-rational values have the opposite views on these topics. The second dimension polarises the *survival values* with those of *self-expression.* It is linked with the transition from industrial society to post-industrial societies. The exceptional levels of wealth generated by the past generations in advanced societies have resulted in an increasing share of the population taking survival for granted. In consequence, the main concerns for people have moved from achieving economic and physical security to an emphasis on subjective well-being, self-expression and quality of life. Self expression values give a high priority to environmental protection, tolerance of diversity and rising demands for participation in decision-making in economic and political life (WVS, 2007).

On the basis of the survey, Inglehart and Welzel developed a map that demonstrates the position of various countries in relation to the two values dimensions: *traditional/secular-rational* and *survival/self-expression* (Fig. 7). Ireland's position on the Inglehart-Welzel map shows a quite unique combination of fairly strong traditional values with well developed self-expression values. While Ireland scores on the survival/self-expression axis similarly to other European countries, its position on the traditional/secular-rational axis is closer to the countries of Latin America and South Asia.
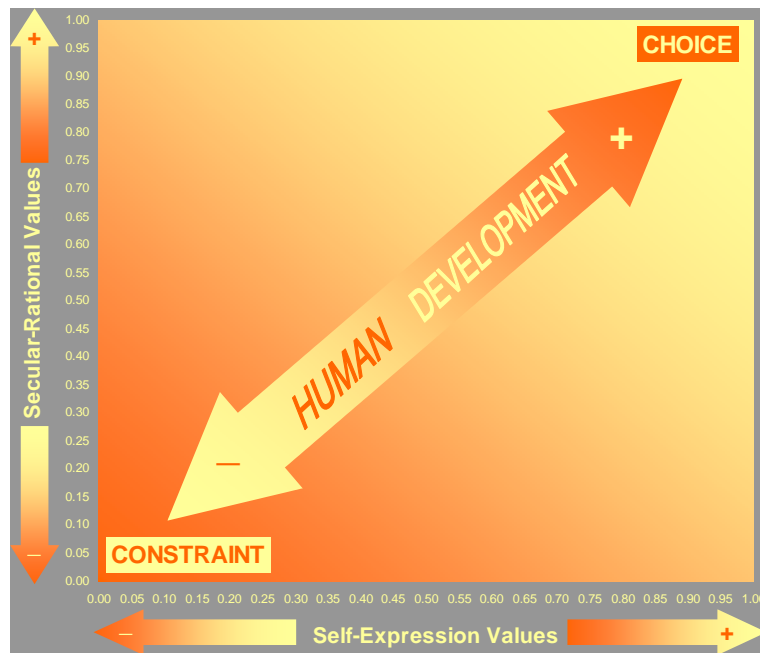
Figure 8: The Two-Dimensional Value Space in Theory (Welzel, 2006).

Inglehart and Baker's (2000) analysis of the World Values Survey found that there is a massive cultural change taking place, but at the same time distinctive traditional values persist. Economic development is associated with pervasive, and somewhat predictable, cultural changes. In almost all industrial societies the direction has shifted from traditional towards secular-rational values. The rise of post-industrial societies brings a shift towards values of trust, tolerance, well—being and post-materialist, self-expression values. Conversely, economic collapse tends to push societies in the opposite direction. Inglehart and Baker's (*op cit*) analysis shows that values do change, but they still reflect society's cultural heritage, and the influence of the traditional values system is unlikely to disappear.

Although, on a short-term basis, values change back and forth, the long-term direction of the shift in values is apparent. Human development moves away from the emphasis on **constraint**, represented by a combination of weak secular-rational values and weak self-expression values, to an emphasis on **choice**, which is represented by strong secular-rational and strong self-expression values (Fig. 8). Value change moving from constraint to choice is a fundamental

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characteristic of human development because such progression makes people mentally free, motivating them to unfold and actualise their inner human potentials. Such change creates democratic reform potential as people increasingly place more focus on democracy whilst becoming more critical of actual democratic performance (Welzel, 2006). This progression can also be described in terms of modernisation and postmodernisation. In the process of modernisation, societies progress from religious and communal values represented by traditional authority and steady-state economy to achievement and motivation values characterised by rational-legal authority and economic growth, and subsequently in the postmodernisation shift they move towards postmaterialist values represented by a weakening of authority and the maximisation of well-being (Fig. 9) (Inglehart, 1997).

Figure 9: Modernisation and postmodernisation (Inglehart, 1997).

Ireland is also on that trajectory

Irish society is undergoing a rapid period of cultural modernisation which will entail a shift away from values that emphasise traditional centralised control and concern for economic betterment towards values based on rationality and a concern for personal self-development and self-expression. During the coming decades Ireland's value systems will become increasingly driven by the need of its citizens for self-expression and rationality. Both of these have significant political implications because they give rise to pressures for increased autonomy. When combined with an increased and dominant urbanised population in the East – this will accelerate tensions with a less populous West that will seek greater control over its different destiny.

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Political implications

Since the foundation of the State, politics in Ireland has been heavily influenced by parties with strongly rural values. As a large part of the population migrated to urban areas and also concentrated in the East there was also be a concentration of wealth and power in these areas. A map showing the regional distribution of disposable income per person as a percentage of national average (Fig. 10a) closely follows the boundary of the Border Midlands West Region (Fig. 10b), which is recognised as the region in Ireland that is most in need of support and intervention.

(a)   (b)
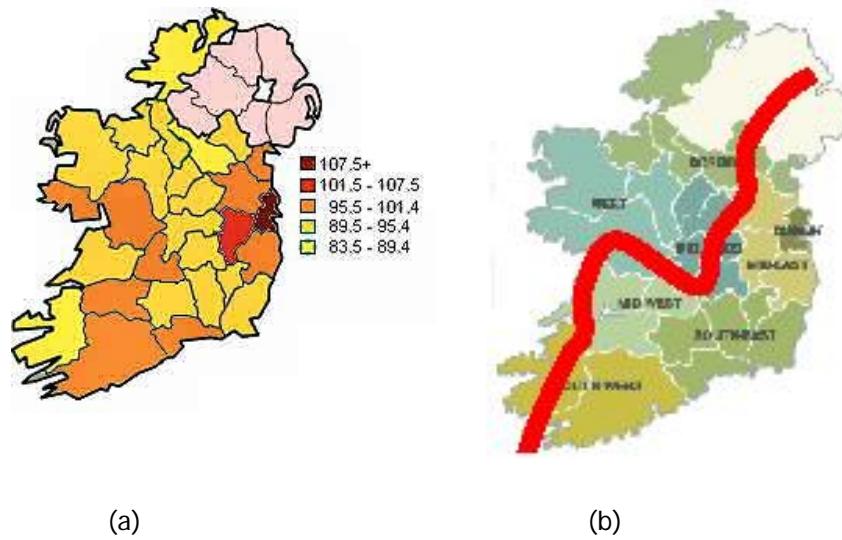
Figure 10: (a) Disposable income per person as a percentage of national average; (b) regions in Ireland. By Conor Skehan.

The majority of political representatives and votes will move Eastwards and policies will begin to become increasingly focused on reflecting the values of an urbanised, Eastern majority. This spatial pattern will mean that the changes in values – mentioned above - are also likely to have a spatial pattern. This will accelerate and deepen the divergence between the political expectations in each of these regions – the Western regions seeking to preserve the *status quo*, while the Eastern regions will seek more autonomous and responsive, rational and effective politics and governance. This will lead to conflicts between the emergence of a series of new increasingly urban, non-traditional values and the older rural values held by an increasingly small proportion of the population – who will still own and control the majority of the land in the State.   The main conflict will arise from an urbanising population and their associated political structure - viewing rural areas primarily as recreational, aesthetic, cultural and ecological resources – during a period when agriculture and rural societies will be highly vulnerable due to the restructuring of post-CAP farming.

INSIGHT 2: MECHANISMS FOR URBAN DEVELOPMENT FINANCING

As part of the discussions surrounding "the land value question" several innovative mechanisms for raising finance to promote desirable urban management and development were identified. A brief description of some of these is provided below.

1.   Land Value Taxation

It is argued that the taxation of land only, and not of buildings, sometimes, called 'site value taxation', could improve the efficiency of land use as well as clawing back development value, or 'plus value, as public revenue. The International Union for Land Value Taxation goers so far as to claim that a land tax would curb speculation and private profiteering of the world's common heritage, as well as mobilise financial resources for service provision by local authorities. With an annual levy on site values, the owner has a continuing incentive to develop and maintain land to its most profitable use. There is also a distinctive to hold or board land

In Denmark, Land Value Taxation has been working successfully for about 80 years, and is currently set at 2%of land values. Owners pay an annual 1% tax on the market value of their houses. Danish statistics suggest that land rent ranged from around 5-10% of GDP from 1965 to 1995. Revenues generated, have been used to find new infrastructure like the Copenhagen tram system.

2.   Tax Increment Financing [TIFs]

Tax Increment Financing (TIFs) works by capturing part of the gain generated by rising land values in the immediate vicinity of a major infrastructure development. It allows the city to capture the taxes in a designated TIF district, on the difference between the current and the original tax capacity for that district. Cities can finance the up-front development costs related to tax increment financing projects in a variety of ways: general obligation bonds of the city or the development authority; revenue bonds; internal city financing; and pay-as-you-go financing arrangements (Ratcliffe *et al*, 1999).

The Urban Land Institute (2004) maintains that TIFs are relatively low risk, and send positive signals to the private sector. Many European countries and major cities are looking to the potential afforded by TIFs recognising that the best way of funding large-scale renewal is tapping the uplift in land values that results from investment in infrastructure.

A TIF regime allows Chicago to reinvest property tax dollars generated from designated districts over a 23-year period. There are 130 TIF districts in Chicago, comprising nearly 30% of the city's land area. TIFs in Chicago are almost 100% developer-identified and driven, with the incentive paid in the form of an up-front loan or bond to the developer. However, in recent cases, the mechanisms has been 'pay-as-you-go'. Chicago, since 1992, has been able to invest over $7 billion in neighbourhood improvements as well as public facilities. Downtown Chicago is changing into a 24-hour city, with a dramatically improved image and enhanced development interest. "TIF is freely acknowledged as being a prime reason for substantial investment coming back into central Chicago" (McGreal et al, 2002).

3.   Business Improvement Districts [BIDs]

Business Improvement Districts (BIDs) are an organising and financing mechanisms used by property owners and businesses to determine the future of their retail, commercial and industrial areas. They permit property owners and businesses to band together to use the city's tax collection powers to assess themselves. These funds are collected from the State and returned in their entirety to the BID from which they were collected. The funds are then used for purchasing supplemental services such as: maintenance, sanitation, security, promotions, and special events. They can also be sued for capital improvements beyond those provided by the city, including: street furniture, landscaping and planting, signage and special lighting (Ratcliffe *et al*, 1999).

Philadelphia has one of the largest and most successful commercial BIDs in America – known as the Centre City District (CCD). It covers 80 blocks in the downtown area. Before the formation of the BID, merchants wanted to increase the aesthetic appeal of the area, and decrease the amount of actual and perceived crime. With insufficient funds to deal with security and visual improvement projects, property owners banded together to form the BID. Six years after its creation, the CCD has a 21% increase in police foot patrols and a drastic decrease in crime. In addition, re-paved footpaths, decorative furniture, daily footpath cleaning, and landscaping projects, have created an environment pleasing to both business and consumer alike.

4. Public Private Partnerships [PPP]

Public Private Partnership (PPP) is an umbrella name for a range of initiatives, which involves the private sector in the operation of public services. According to the United Nations Institute for Training and Research, a fully functioning infrastructure and efficient provision of social services are the foundation of sustained urban development, and public private partnership have been an effective tool for achieving improved performance in this area (UNITAR, 2002).

The British Government launched their PPP development policy in 1992, under the label 'Private Finance Initiative' (PFI). The Private Finance Initiative is a procurement mechanisms by which the public sector contracts to purchase quality services on a long-term basis, so as to take advantage of private sector management skills incentivised by having private finance at risk. This includes concessions and franchises, where a private sector partner takes on the responsibility for providing a public service, including maintaining, enhancing or constructing necessary infrastructure. Many public sector bodies throughout Europe are now looking to the UK-PFI model as a potential way of procuring much needed municipal services and securing the effective delivery of urban renewal.

PriceWaterhouseCoopers maintain, in their report Developing PPP's in the New EU (2004), that for most European Countries in the future, the reality is that some form of PPP/PFI is likely to emerge as the principle means of providing public services in the absence of adequate public sector funding.

5. Land Pooling

The process known as land pooling, land readjustment or land consolidation is used to effect land assembly in many parts of the world where simple public sector compulsory purchase powers are unacceptable alone. There are a variety of models of land pooling (Connellan, 2002):

- Entirely voluntary, achieving land assembly by agreement amongst owners.
- Public authority inspired, controlled and compulsorily affected: (German model).
- Voluntary but having recourse to an authorised framework: (French model).
- Authorised framework designed on majority rules, where you can override dissenters and enforce participation: (Japanese model).

Land pooling does not have to involve land acquisition, nor does it require huge funds for compensation, and is argued to be a more effective way of delivering land assembly needs in urban regeneration or large scale development. It is a process whereby landowners combine their interests in order to participate in land assembly, servicing and disposal in accordance with a plan.

The origin of land pooling is considered to be from Germany, where it was first practiced in the late 19th century. The country has a well-established method for implementing land-pooling projects and it developed 5000 hectares of land through these techniques in the late 1980s. The German model operates through the formal procedure of land readjustment known as 'Umlegung'.

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Ratcliffe, J., Branagh, S. & Williams, B. (1999) *Fiscal Incentives and Urban Regeneration*. Bolton Street, Dublin Institute of Technology, Dublin.

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Urban Land Institute (2004). *Tax Increment Financing in Chicago*. Available: http://www.uli.org

3.3   Potential

"The full extent of Ireland's potential is massive, particularly given the size of Diaspora and of current world migration flows. As far as Ireland is concerned, we are at the end of the beginning, not the beginning of the end." (Coleman, 2007:4)

Ireland's potential for the future may be considered from multiple perspectives. Marc Coleman, in his newest book *The Best is Yet to Come* (2007), argues that Ireland's comparatively low population density (Fig. 11) means that Ireland is rich in a resource that is becoming scarce elsewhere – habitable land located in a part of world where prosperity, the rule of law and free and fair government are strong. This combined with the supply-push pressures being the consequences of the high rate of the global population growth, means that Irish population will continue to grow in the future.

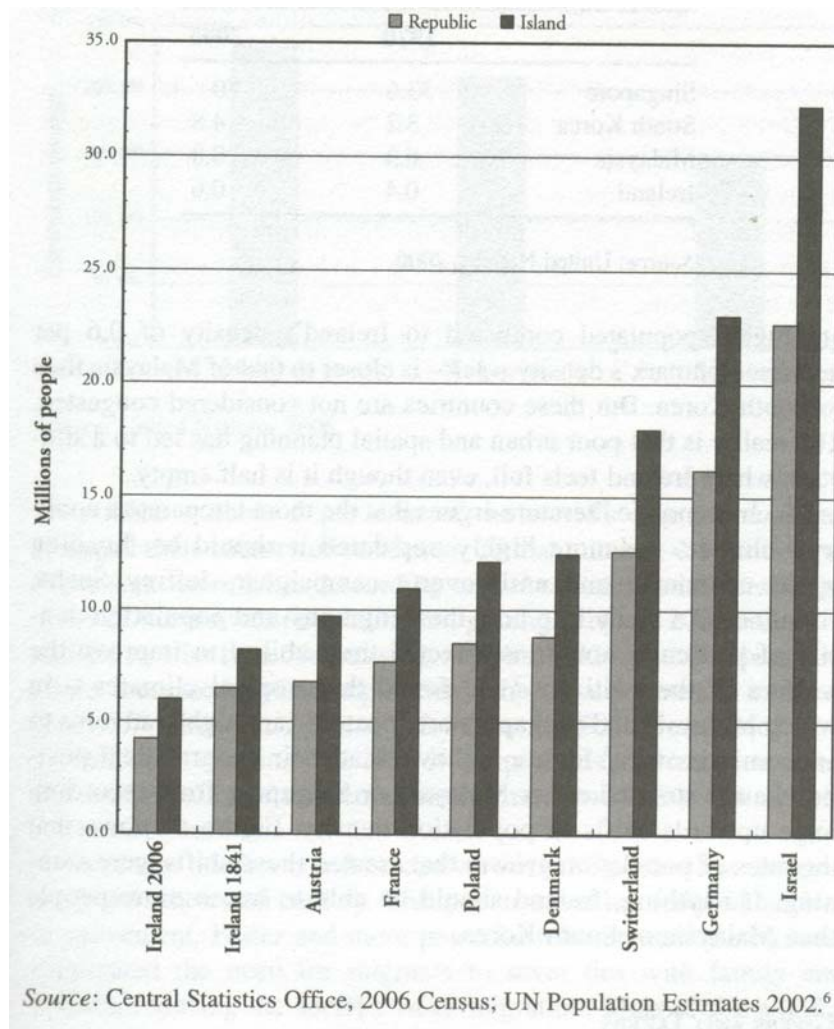*Source*: Central Statistics Office, 2006 Census; UN Population Estimates 2002.[6]

Figure 11: What if Ireland was as Densely Populated as …? (Coleman, 2007)

The NCB economists, Eunan King and Dermot O'Brien, came up with the idea of the demographic dividend - as Ireland's population rises, demand for a wide range of goods and services also rises, which in turn increases economic output (NCB, 2006). The recent increase in

population and a relatively young society leads to greater rates of spending, as demand for goods and services increases. Assuming that these trends will continue, King and O'Brien predicted that by 2020 the population of the Republic of Ireland will reach 5.3 million; that over a million people living in Ireland will be immigrants; the number of cars will double to three million; 700,000 new houses will be built, and the economy on average will grow by over 5 per cent per year. Essentially, the predictions are that the transformation of Ireland during the past 15 years will continue for another 15 years (NCB, 2006).

However, to date, there has been little if any public strategic policy focus on what is likely to be a robust and accelerating external pressure, to rectify Ireland's current defective population density. The question begs to be asked: what is Ireland's current population potential and what does it mean for the economy and other aspects of Irish life? Land size and external migration pressures constitute only a part of the answer; other determinants include public governance, urban planning and economic productivity (Coleman, 2007). Future strategic spatial and social policy must be aligned so as to enable Irish cities and towns to accommodate rapid demographic expansion and, at the same time, facilitate integration of immigrants in a way that will ensure cohesive but diverse society.

Potential of the regions provides another angle for consideration. A report produced by the Rural Ireland 2025 Foresight Perspectives Working Group (2006), predicts that Ireland's economy will continue to grow. However, the patterns of growth will be characterised by an uneven geographical distribution and across the sectors. It is foreseen that rural areas will decline, especially in the Northwest and North Midlands; at the same time many foreign owned manufacturing companies will move to lower cost economies and the new economic sectors will not benefit rural areas outside the commuting zones. It is very likely, that with a lack of adequate policy provisions, people in rural areas will loose out. This supports the argument presented in the previous section that the gap between urban and rural Ireland will deepen in the future.

Summarising the current speculations on the potential for Ireland's future - it is likely that Irish population and economy will continue to grow; however, at the same time the spatial disparities will continue to widen. As Marc Coleman stated "Ireland's potential is massive", but without a comprehensive understanding of what that potential is and without a clear vision how to develop it, it may be wasted.

**INSIGHT 3: TEN PRINCIPLES FOR SMART GROWTH ON THE SUBURBAN FRINGE**

1. Create a Shared Vision for the Future...and Stick to it: Make sure the vision is inclusive and reflects the desires of those who live and work in the community.
2. Create and Sustain Green Infrastructure: Designate open space to be saved in perpetuity.
3. Realize that the Right Design in the Wrong Place is not Smart Growth: Determine the appropriate location based on infrastructure investment, proximity of jobs to housing and transit options.
4. Protect Environmental Systems and Conserve Resources: Minimize disturbance to nature and use climate as a major factor in design.
5. Provide Diverse Housing Types and Opportunities: Offer a mix that appeals to different demographic groups and households, resulting in greater neighborhood diversity.
6. Build Centers of Concentrated Mixed Use: Offer a blend of commercial, retail, entertainment and recreational space.
7. Use Multiple Connections to Enhance Mobility and Circulation: Provide a network of vehicular, pedestrian, cycling, park and open space connections.
8. Create Sustainable Transportation Choices: Stage development of real estate and transportation facilities to ensure availability of a variety of alternatives to driving alone - walking, cycling, transit, car pooling, and telecommuting.
9. Preserve Community Character: Draw on local culture, heritage and history to create a unique sense of place.
10. Make It Easy to Do the Right Thing: Make local regulations more flexible to encourage mixed-use, compact development and other smart growth practices.

ULI 10 principles adapted to an Irish (EU) context:

1. Achieve consensus by collaborating on solutions with a broad spectrum of interest groups;
2. Ensure environmental elements form an integral element of all new and existing development;
3. Conduct pre development place audits to identify barriers and opportunities for smart growth;
4. Opt for brownfield and infill development in advance of greenfield conversion;
5. Ensure development caters for a wide range of incomes;
6. Design developments to reduce the spatial mismatch of where people work, live and shop;
7. Where possible, direct development towards existing infrastructure;
8. Try to achieve/attract critical mass needed to provide multi-modal transit options;
9. Use place making strategies and branding to enhance community identity;
10. Reward developments that manage to accommodate growth in a manner that is economically viable, friendly to the environment and is socially responsible.

PART II

EXPLORING THE FUTURE
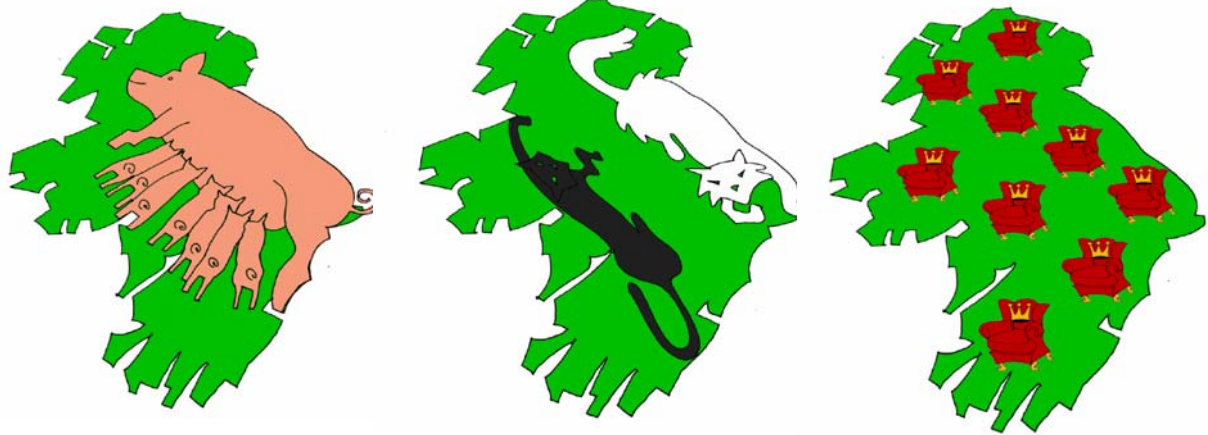
4 THE STRATEGIC QUESTION

The strategic question set for this project at the national level was quite broad and all embracing. It was:

"What might Ireland be like in 2030?"

This question guided the exploration of the future of Ireland at different levels and through different methods.

5 DRIVING FORCES OF CHANGE

5.1 21ˢᵗ Century Challenges

There is widespread recognition that we live in an era of rapid change in which new discoveries, philosophies and technologies play an ever more prominent part in shaping social and economic development. The world is becoming increasingly complex, more competitive and better connected. There is economic internationalisation on the one hand, yet cultural decentralisation on the other. Society has shifted from an industrial base to an information and knowledge orientation. Advances in genetics, materials, energy, computing, robotics, miniaturisation, medicines, therapies and communication proceed apace. The developed world is getting smaller, older and wealthier, whilst the developing world grows bigger, younger and relatively poorer. A blurring of boundaries between disciplines, industries and social enterprises is taking place. And, as those boundaries fade, the lines connecting the constituent parts become more critical, so that networks, systems and holistic thinking are more meaningful. Moreover, crucial issues on a global level - demographic, natural resources, the environment and human culture - have to be addressed. All in all, a veritable transformation, or great disruption, is occurring. Something old is coming apart at the seams, and something new is emerging.

Why the 21ˢᵗ century is different

Until relatively recently humankind retained a simplistic view of the world. Back in the 1960's, and early 1970's, it seemed possible to keep an overview of development, take future changes into account and make five to ten year planning proposals based on ten to twenty year forecasts. It was a period of trend projection, time series, network analysis and mathematical modelling. Above all, perhaps, it was an era with a belief that tomorrow would mostly resemble

today. The future was a given, and planning of all kinds sought to adapt current trends to meet that predestined condition. During the 1970's, and into the 1980's, however, the view of the future changed. With sudden and significant economic disruptions and social upheavals the future did not seem as predictable as had previously been imagined. Indeed, it became recognised as uncertain. There was no longer only one likely future path of development, but several different and possible futures. All these futures, moreover, would be shaped by a number of **critical challenges**.

- *Too many people.* As the world's population grows to about 9 billion around 2050, global tensions will climb as a result of dropping water tables, rising and changing consumer demand, uncontrolled migratory movements, demands for equality in healthcare, pollution, famine, congestion, unemployment, poverty, disease, starvation, social violence and the like. *The challenge is to determine and achieve a stable and sustainable population for the earth.*

- *Not enough resources.* Conflict over valuable resources – and the power and wealth they confer – is fast becoming a prominent feature of the global landscape. International security experts argue that in the early decades of the new millennium, wars will be fought not over ideology, but over dwindling supplies of precious natural commodities. *The challenge is to shift economic thinking from an emphasis on human productivity to a radical increase in resource productivity through the concept of natural capitalism.*

- *It takes time.* Many, if not most, of the major 'momentum trends' for the 21st Century are long-term in their formation, impact and necessary control. We need to 'stand in the future' and create a strategic view that is unrestricted by the exigencies of the present – imagine ahead and plan backwards. Whilst we cannot predict the future in detail or with surety, we can study the alternative directions it might take and how to influence them over time. *The challenge is to learn how to handle long-term, intergenerational, lead-times.*

- *There will be new technologies.* With 20th Century technology, there was a massive gulf between natural systems and man-made systems. At the dawn of a new century we are witnessing new discoveries, innovations and adaptations that combine living and non-living systems. There are new forms of medicine and farming. There is also the prospect of new forms of 'artificial life'. *The challenge is to decide how to use these technologies responsibly and harness them to create a better world.*

- *What's the risk?* Risk in the future could reach magnitudes of harm unimaginable hitherto in modern times. Due to the interdependence of economics and societies, risks in one country can spread rapidly to others, so the notion of risk needs to be broadened and precautions put in place at global, regional and national scales. Vital systems need greater protection and citizens need to be more fully involved as partners in decisions. *The challenge is to build trust and share the burden between the public and those in charge.*

- *Redefining the enemy.* Increasingly we are at war not with enemy states or foreign armies but with small groups of people or specific individuals: fugitive terrorists, drug traffickers, warlords, dangerous dictators, rogue scientists, villainous zealouts and the

like. The needs of safety, security and defence are different. Yet powerful institutional barriers to fundamental change remain. *The challenge is to alter radically how we organise to defend and to fight.*

- *Economics are complex.* When viewed in out-of-equilibrium formation, economic patterns are all too often simplified into the facile equilibrium of standard economic models. In reality, economics are ever-changing, showing perpetually novel behaviour and emergent phenomena. *The challenge is to portray the economy not as deterministic, predictable and mechanistic; but as complex, process-dependent, organic and continually evolving.*

- *Détente with dilemma.* Well-schooled in solving problems, governance at all scales needs to re-educate itself in the art of acting intelligently, and also compassionately, in situations that have no solution. Agencies and organisations of all kinds will have to find tools and processes for teasing-out the first-, second-, and third-order dilemmas in these situations. They will also have to reconcile multiple stakeholders and design processes that generate new values out of apparent conflicts of interest. *The challenge is to reach some kind of détente with dilemma in a world with no externalities.*

- *Running the show.* There will be a redistribution and relayering of power and governance at all scales and across all sectors of society. Representative government is fine in theory, but frequently fails in practice. Why? Three reasons are suggested. First, populations tend to elect the average. Second, elected representatives tend to be members of short-sighted, self-serving political parties. And third, large numbers of people in the' democracies' feel alienated from the political process. *The challenge is to promote more effective leadership, bring about a step change in the degree of collaboration between key players in a process, and foster a deeper engagement between local people and large organisations.*

- *There will be surprises.* Wildcards or jokers will be played from time-to-time. Some of these might be totally unexpected – some could be unlikely yet predictable. Leaders in organisations at all levels, and in all situations, need to collect the information, study the signs and confront the issues surrounding the degree of probability and scale of impact of macro-uncertainties that might impinge upon their areas of responsibility. *The challenge is to avoid tragedy by both anticipating and preparing to mitigate damage done by 'predictable surprises'.*

Perhaps the main difference that distinguishes the 21st Century from those that proceeded it is *the need to develop a mindset that can tackle the conscious design of large systems* – cities, communities, corporations, countries, cultures, domains and the earth itself.

5.2 Driving forces of change, issues and trends

All the dimensions of change – frequency, magnitude, complexity, rapidity and visibility – are happening at an ever-accelerating pace. In the past, there has been a discernible pattern to change. This time, however, it is different, for change is far less sequential and certain, showing much greater discontinuity and unpredictability.

To get a vision of Ireland and its preferred spatial form in the future, it is first necessary to gain an understanding of and prospective for society, globally and locally, in the future. This requires an insight into the forces - demographic, economic, governance, environmental, societal and technological – that are driving change. Throughout 2007, members of The Futures Academy at DIT and participants in the Twice the Size project worked to identify the major drivers of change, issues and trends that will shape the world of 2030 and determine the nature, needs, and orientation of spatial strategy for Ireland within a national development planning framework.

The driving forces that follow can be thought of as 'clusters' of related issues and trends. Trying to address each issue or trend independently is too difficult, as there are too many, but by grouping them into half-a-dozen general categories, the collective effort of the related trends is much easier to comprehend. In this way, the driving forces provide an overview to associated issues and trends.

In examining these drivers, several points should be borne in mind:

1. No single driver will dominate.
2. Each driver will have varying impacts at different times and in different locations.
3. The drivers are not necessarily mutually reinforcing; in some cases they will work at cross-purposes.

Taken together, however, these drivers, issues and trends intersect to create an integrated picture of the world of 2030, from which we can construct alternative scenarios of the future that help to determine the essential elements for national spatial planning strategy now.

DEMOGRAPHIC CHANGE

The world's population is growing, moving and getting older. For the developed world there is the onset of stabilisation in population size and the ageing of the population, especially the 'active' population. In the developing world there is the surge in numbers of young people in the crowded cities casting envious eyes at standards they can never hope to attain. Then there is the unpredictability of migration and the intermixing of peoples with different backgrounds and cultures.

Global Context

The most significant *global demographic trend drivers and issues* have been identified as follows.

1. The *world's population growth* will probably see the 8 billion mark exceeded by 2030. Urban populations will grow fastest, rising from around 3.3 billion people in 2007 to almost 5 billion by 2030, while the rural population will remain stable at about 3.3 billion throughout. During the scenario period, therefore, it is urban areas which will absorb all the growth of the world's total population.

2. *Migration* is likely to increase rapidly over the next few decades, giving rise to burning social, economic and political issues in many receiving and sending countries alike.

3. Demographics will strongly shape the various *patterns of demands* on pension and health systems, as well as more generally on economic and social conditions including such intangibles as entrepreneurship, attitude towards authority and appetite for change.

4. *Gross inequalities* between rich and poor nations will continue to grow in a world of around 4.5billion poor people, 25 billion aspirants and something over a billion citizens of wealthy nations. The first group creating less than 1% of world product, while the last creates over 85%.

5. The stunning size and scale of *megacities* (cities with more than 10million people) will rise and proliferate over the next 25 years, with almost 400 million people having homes in the biggest 25 cities, and well over 300 cities in the developing world boasting a populations of over a million.

6. People in the development world will *live longer,* not least because there will be numerous improvements in the prevention of disease through more effective means of preventing strokes, heart attacks and cancer, with customised gene therapy, prosthetics, regenerative medicines, nanotechnology and other advances in gerontology providing hitherto unimaginable cures. Transhumanism is here.

7. Generally, there will be *intergenerational instability*. For, with increasing global influences, notions of obligation and loyalty among generations are shifting, with new attitudes, social contracts and uncertainties emerging.

8. In particular, the phenomenon known as '*the global teenager*' will become a powerful demographic force. Connected, communicating, concerned, cyclical, idealistic, ambitious, global youth could exercise enormous social, economic and political power – but in what direction?

9. Most developed nations will face a 'grey future' as their populations age and elderly *dependency ratios* rise.

10. In both the developed and developing world *family structures* are becoming more and more diverse, and the next couple of decades could well witness the issue of 'family' becoming central in all aspects of public policy.

Prospects for Ireland

Changes in the size, age, distribution and profile of the population play a vital role in determining the social character and economic performance of the state. For Ireland, such change has been the crucial factor explaining the sustained pace of growth and comparative resilience of the economy over the past fifteen years. The very title of this project, 'Twice The Size', demonstrates the strategic significance of Irelands demographic dividend. Demography is indeed destiny, and the impact of demographics on national development scenarios is a function of both the direct physical pressures of quantitative change and the flux in the underlying qualitative structure of the population. Some twenty of the most significant *demographic issues and trends* identified for Ireland are listed below.

1.   The *population of the Republic of Ireland* now stands at over 4.2 million – its highest for over a century. The country also has the fastest growing population in Europe, rising at a rate of 2.5% per annum, and is estimated to increase to a total of around 5.5million people by 2020 and as high as 6 million or even 6.5 million by 2030.

2.   In terms of *fertility,* the rate has fallen sharply from a little over four in 1965 to a current rate just below two, but Ireland still has one of the highest rates of birth in Europe at around 15.5 per thousand.

3.   The *life expectancy* of males has risen to just over seventy five years and that of females to a little over eighty years. These are expected to rise further by 2030 to about eighty three years and eighty seven years respectively. *Mortality rates* have fallen to seven per thousand currently, and are estimated to fall further to almost six per thousand in 2015, from whence they will rise to almost eight per thousand by 2030.

4.   The population is *getting older* with an average age of over thirty five years, expected to rise to over forty years by 2030. Currently, the over sixty five's account for slightly more than 11% of the population, which will probably rise to around 20% by 2030, giving an absolute rise from 460,000 now to about 1 million then.

5.   Following a persistent decline since the 1950's *marriage rates* have stabilised at around five per thousand, while the average *age of mothers* continues to increase to a point now just over thirty years. Almost a third of all births are to unmarried mothers whose average age also continues to increase.

6.   The *dependency ratio* has declined over recent years due largely to the fall in birth rate, but seems set to rise in the future, unless immigration and retirement policies balance things out.

7.   With regard to *migration,* the mid-1990's marked an important sea change in Ireland's demography, when, for the first time in its eighty year history as a sovereign state, *non-indigenous in-migration* became a crucial factor contributing to accelerated growth. It is estimated that such immigrants will account for well over half the growth in total population between now and 2030, from a figure of about 30% now, going from 7% of the population now to well over 20% by then. Returning emigrants currently account for about half as much again, so that total net

immigration accounts for more than half of population growth. Future migration rates will, of course, depend upon such factors as job opportunities, house prices, cost of living, levels of inflation, quality of life and attitudes towards multi-culturalism.

8. Given the potential danger of *social problems* associated with immigration, it is vital that a *policy framework* is constructed which minimises the possibilities for racial disharmony.

9. The outlook for the population in the *active age* groups – fifteen to sixty four years – is of central importance to the economic prospects for the scenario period. In particular, the *baby boom generation* of the 1970's and early 1980's outweighs any other segment of the population, and has a critical impact on both the demand and supply sides of the economy. As the bulge moves through the age groups, and gradually ages, there will be consequent impacts on developments in the future as its needs, preferences and priorities change.

10. Unsurprisingly, there has been a *boom in housing* to meet the burgeoning population of recent years, as well as other major changes in social and family life. This housing and population growth has manifested itself in massively *increased suburbanisation*, a complex phenomenon which has resulted in the decline of town and city centre populations and a sprawling growth of population in county areas.

11. Another dimension of Ireland's new urbanisation is the *domination of Greater Dublin*, with the province of Leinster now accounting for 54% of the country's population. The policy of *decentralisation* through the relocation of public service offices to address the 'Dublinisation' of Ireland has had mixed reviews and very limited success. The creation of a new major urban centre – with a similar pulling power to Dublin – along the lines of the Government's Atlantic Gateway project, is heralded in some quarters as the most attractive solution. Great care should be taken, however, not to kill the capital goose that lays the golden eggs for regional distribution.

12. A major consequence of population growth occurring in the 'wrong places' is the *pressure on infrastructure* placed upon the outer suburbs – especially water, sewerage and social facilities - and the related decline in demand for schools and other facilities in the inner urban areas. There is also increased pressure on urban landscapes, whereby insecure public ownership, reduction in parklands, and inadequate sporting facilities all contribute to a poorer quality of urban life. Densification of development with concentration of population is a key challenge for future demographic settlement patterns.

13. Present and projected population changes due to immigration are determined by both 'push' and 'pull' factors. The *push factors* include: per capita difference in income; differential employment opportunities; political issues generating refugees and asylum seekers; past Irish 'missionary' activities; and EU enlargement. Correspondingly, the *pull factors* includes: on-going sectoral labour force shortages; expanding of the base of non-indigenous communities; lack of a clear official Irish immigration policy; low population density; English as the main working language; and sustained high economic growth.

14. This study by The Futures Academy and participating parties is based on a projection of national population of 6million by 2030 and estimates that each Gateway in the National Spatial Strategy needs to *double its population* in order to hold Dublin to 40% of the total 6 million. Even then, Dublin would witness a population growth of 700,000.

15. Projected population growth needs urgent *regional planning,* and planning horizons require to be placed at least fifty years ahead, extended perhaps to 100 years in respect of such resource provision as water, energy and major transportation facilities.

16. Notwithstanding the declared policy for balanced regional development, serious consideration has to be given to the *urban agglomeration effect* demonstrated worldwide that would allow, and facilitate, the growth and development of the Greater Dublin Area as a sustainable competitive city in European and global terms.

17. Another consequence of the country's suburbanisation is the growing *car and oil dependency*, with the average car in Ireland travelling, on an annual basis, 24,400km per year – 70% more than France or Germany, 50% more than Britain, and even 30% more than in the US. Ireland has also become the fifth most oil-dependent country in the EU, and ninth in the world, at a time when oil is becoming an ever scarcer and more expensive resource.

18. There is an *imbalance in transport investment,* with the government proposing to spend almost five times more on road than on rail, despite the fact that Ireland has only 3,300km of railway compared to over 95,000km of roads.

19. It is argued that the present *sprawling settlement pattern* causes serious health problems for many people in the form of increasing obesity levels and rising rates of social isolation. Ireland could be facing epidemics of chronic illnesses such as diabetes, depression, osteoporosis and cancer, partly caused by demographic distribution.

20. Knowledge creation and diffusion are at the core of all modern economic activity. An ever more *educated population* is, therefore, a continuing imperative for Ireland. While education has always been an integral and successful part of the country's cultural, social and economic identity since the foundation of the State, increasing challenges are faced in the global knowledge economy. The *participation rates* for the 5-15 years age group is one of the highest in the OECD, and Ireland is ranked 5th in terms of literacy skills of fifteen year olds, with more than 50% of school leavers going on to higher education. But for mathematical and scientific literacy, both of which will be crucial to the future growth and prosperity of Ireland, it is ranked 9th and 16th respectively in the OECD, and participation in adult education is poor.

Wild Cards

Some potential 'wild cards' are:

- Collapse of the sperm count.
- Europe and Japan fail to cope with the challenges of an ageing population.
- Massive migration from the developing world to the developed world.
- Vaccine resistant influenza pandemic.
- Collapse of the nuclear family

ECONOMIC CHANGE

The networked global economy will be driven by rapid and largely unrestricted flows of information, ideas, cultural values, capital, goods and services, and people. Hopefully, this globalised economy will be a major force towards increased political stability in the world of 2030, though its reach and benefits will not be universal. Compared to the industrial revolution, the process of globalisation is considerably more compressed, and its evolution will likely be marked by chronic financial fluctuations and a widening economic divide.

The Global Context

The ten most significant *global economic trend drivers and issues* have been identified as follows.

1. The whole vexed question of *energy* is becoming a metaphor for the future economic health and performance of the world. Global demand for energy could well have outpaced supply by 2030 unless new sources are found to support global growth.
2. While *capitalism* is the only economic system that has been seen to work anywhere, its foundations are shaking with the speed and force of change, so that the eternal verities of capitalism – growth, full employment, financial stability, rising real wages – are threatened. A movement towards 'natural capitalism' could provide a restorative.
3. Although the outlook for the global economy seems sanguine, the attainment of broad and sustained high levels of productivity will be contingent on avoiding several potential *brakes to growth* such as: Europe and Japan failing to manage their demographic challenges; the US economy suffering a major and prolonged downturn; China and/or India failing to maintain high growth; and global energy supplies experiencing a serious disruption.
4. In a knowledge based economy the prerequisite for survival will be global *competitiveness,* not just in the traditional sense of market leadership, but increasingly in the discovery and exploration of new uncontested markets.

5. As a direct corollary, *creativity and innovation* are imperatives towards maintaining competitiveness, so that experimentation, research and development in radical, and increasingly multi-disciplinary and trans-disciplinary, directions is the only way forward.

6. Five factors arguably will combine to promote widespread economic *dynamism and growth:* political pressure for higher living standards; improved macroeconomic policy management; rising international trade and investment spurring world GDP; even greater diffusion of information technology; and increasingly dynamic private sectors, accompanied by further deregulation and privatisation.

7. The growth of *large emerging markets,* such as Brazil, Russia, India and China will exercise a growing influence on the global economic and political stage over years to come.

8. A maturing knowledge economy will require an enhanced and extended *educational infrastructure* addressing such pressing issues as the nature of childhood, extended adolescence, personal and social foundations, inequality and exclusion, changing family and community life, and life-long learning.

9. There will be a movement towards the adoption of *cooperative strategies* on the part of business, whereby the traditional business model organised around competition will be complemented by other models based more on collaboration, open source access and new forms of human and machine interactions and relationships concerned with managing complex business dilemmas.

10. The *democratisation of finance* will continue leading to even greater investment opportunities, and the free flow of money could herald significant change to come as it impacts on currencies, on inflation and deflation rates, and on long-term savings and pension schemes.

Prospects for Ireland

The dominant theme that emerges from this and other studies in exploring the economic prospects for Ireland going forward is the importance of competition in boosting future productivity. As a small, open, trade-dependent economy the country has experienced a veritable transformation from its traditional agricultural base to one founded increasingly on high-technology and an internationally traded services sector. This has been accompanied by unprecedented economic growth, low unemployment and a healthy set of public finances. Over recent years, however costs have risen, skills are less plentiful and the global market for mobile direct investment has become much more competitive. Ireland undoubtedly has achieved sharply higher living standards, but to retain and enhance them the economy faces a number of challenges. Some twenty of the most significant *economic issues and trends* identified for Ireland are listed below.

1. *Competitiveness* is clearly the key. Competition stimulates innovation as firms invest in the development of new products or production methods. It encourages efficiency improvements as firms strive to reduce costs to compete for customers. And it promotes the diffusion of technology as firms seek to improve productivity by

adopting processes or products that may have been developed by market leaders. Competitiveness in Ireland is now threatened by the double blows of rising costs and falling productivity.

2. Critical to the Irish economy, therefore, is *cost competitiveness*, which has seriously declined over recent years partly due to domestic price inflation and exchange rate movements. Vital to restore Ireland's cost competitiveness is a set of coordinated actions across a range of policy areas including fiscal policy, infrastructure and land use planning.

3. The other crucial ingredient to competitiveness is *productivity,* which is not about working harder, but about working smarter. Government can influence a country's productivity growth rates by ensuring its institutional structures and policy settings are supportive of investment, entrepreneurship, competition and innovation. It should also try to maintain a stable macroeconomic environment with well-managed public finances and price stability, as well as a regulatory environment that promotes competition on a flexible labour market which minimises red tape. At the level of the firm, productivity improvements centre on product innovation, use of technology and management practices.

4. The development of a knowledge intensive workforce is a key long-term source of competitive advantage. A changing world, moreover, requires a flexible response to the *development of human capital,* and Ireland has benefited from the inward flow of skilled migrant labour. A number of actions, however, would contribute to the goal of nurturing and expanding the pool of knowledgeable human capital. These include: more investment in pre-school education; long-term investment in primary education; increasing the proportion of part-time students; strengthening career guidance in schools; promoting growth in the number of students studying science, mathematics and technology at second and third level; and devising a flexible suite of responses to encourage lifelong learning, training at work, adult literacy and practical options for adult leavers. Continued reforms and additional funds are also essential if Ireland's higher education system is to rank among the best in the world in teaching, learning, research and development.

5. With regard to *fiscal policy and public finances* Irelands' low taxation strategy has been central to the economy's performance over the past decade or so, but the corporate climate has recently become much more competitive. Public finances for the immediate future must adjust to more moderate growth in tax revenues, and Ireland's taxation regime will have to wrestle with tax harmonisation proposals at EU level so as to remain competitive in the face of tax reform measures across a range of countries worldwide.

6. Ireland's declining competitiveness has meant that exporters have lost considerable market share over recent years. *Restoring the traded sectors* is paramount. For a small island economy, the ability to sell goods and services abroad remains crucial to future prosperity. There is a pressing need, therefore, to develop sales and marketing expertise in international markets.

7. Lurking around all economies is the *portent of inflation.* All sectors across the Irish economy have a responsibility to constrain demands and restrain concessions so that

wages and prices are kept in balance to ensure continued productivity and sustained real growth.

8. With increasing turmoil and churn in worldwide markets the challenge is to *manage globalisation* so that appropriate labour market supports are put in place to help those made redundant become re-integrated into the labour market. Globalisation, of course, also brings greater opportunities for Irish firms to compete in more and more international markets. Furthermore, increased capital and labour mobility enhances Ireland's ability to secure foreign direct investment.

9. Despite a decade of record investment levels, substantial *infrastructure gaps* needs to be addressed. For example: the transportation network remains under pressure; communications technology is inadequate and incomplete; and congestion continues to limit the efficiency of the economy and reduce the quality of life. There is also the need for increased passenger and freight capacity at airports, seaport capacity expansion, improvement of market access corridors and logistics and supply-chain optimisation.

10. A competitively priced and secure *supply of energy* is a vital ingredient for competitiveness. As a small island economy with limited indigenous energy reserves, such as hydropower, there is an excessively high dependency on imported fossil fuels. This dependence is exacerbated by the adoption of patterns of transportation, spatial development and electricity generation that are carbon intensive. Overall, there is a need to evaluate all energy technologies, including the potential of nuclear energy.

11. The development of an *all-island economy* represents an opportunity to enhance competitiveness and raise a shared standard of living through the existence of greater economics of scale, the development of a larger and more competitive marker for consumers, and deeper pools of knowledge and skills, particularly in border areas.

12. It is argued that Ireland will only achieve its full potential when all parts of the country can contribute fully to the economic, social and cultural strength of the nation through *balanced regional development.* Ireland must be progressive and strategic in planning for both hard and soft infrastructure irrespective of location.

13. Unlike other sectors of the Irish economy, the *agri-food industry* is multi-faceted, with a large number of growers and producers at farm level complemented by primary processor and added value processing industries. Food security and safety issues are paramount, which, coupled with the multi-national trade profile of the industry, make it a heavily regulated sector. The Enterprise Strategy Group argued that if appropriate policy initiatives are taken, then by 2015 Ireland will be internationally recognised as an important location for the production of high value-added products such as: prepared consumer foods; functional foods and beverages; food ingredients; and speciality foods.

14. *Creativity,* it is said, is the precursor of innovation. And, if innovation is a prerequisite to Ireland's future as a competitive modern economy, creativity should be nurtured and developed at all levels and across all sectors. Too narrow a view of creativity and innovation is often taken, equating them mainly with science and

technology advances. It should equally apply to all other sectors of the economy. Ireland really needs to survey the entire innovation landscape and identify areas in which it can apply the strong Irish tradition and global network of creativity to occupy unique positions of competitive advantage.

15.   The Irish *manufacturing sector* faces enormous challenges – not necessarily of its own making, nor within its control to rectify. Wage costs are now wildly out of line, and costs of energy, waste, water treatment, environmental management, regulatory compliance, municipal and utility charges are experiencing significant rises. Skill shortages also abound. High costs and high prices, therefore, must be matched by high productivity and high quality. Of necessity, the manufacturing sector is highly innovative, driven by investment and the need to be cost competitive. Its survival is under severe threat, and there is a need for government, business, employees and trade unions to tackle the problem coherently. The long-term effects of further neglect could be fatal to the prosperity of the Irish economy.

16.   In making the transition to a creative, knowledge-based, innovation-driven economy, the design and delivery of the *workplace of the future* will play a significant role. The National Partnership Forum suggested that the key characteristics for such a future workplace are that is should be: agile, customer centred, knowledge intensive, responsive to employee needs, networked, highly productive, involved and participatory, continually learning and proactively diverse.

17.   While Ireland has undoubtedly benefited from a series of *national agreements,* which started in 1987, it will demand considerable responsibility, sense of reality and responsiveness by all the social partners to maintain and sharpen the competitive edge of the economy going forward. Indeed, the principal conclusion of the government report *Ahead of the Curve* was that the capability profile of *enterprise* in Ireland is unbalanced and the next phase of entrepreneurship will require a single-minded focus on planning, exceptional partnership across multiple groups and excellence in execution.

18.   There is an urgent need to reposition *agriculture* as part of a sustainable and competitive rural economy. Over a quarter of the rural population is employed in agriculture and the building industry, where long-term contraction can be expected. However, the contraction of these industries could be off-set if rural regions could share in the overall growth in the export-oriented service sector. The outcome of the World Trade Organisation's Agreement on Agriculture, and the reduction in protection of the EU market and consequent worldwide competition, will be a major concern for the future of agriculture and the rural economy.

19.   Participation in industry *clusters and networks* is widely recognised as being of growing importance for innovation and international competitive advantage at the level of the firm. Such cluster and network development in Ireland remains limited compared with other advanced economies. Greater coordination among the agencies and departments of government that support industry, including the third-level sector of education, is required so that existing industrial strengths can be reinforced and emerging business opportunities exploited.

20.   *Small business* in Ireland is big business. Over 97% of businesses in Ireland are 'small' (employing fewer than fifty people) and they employ 777,000 people. In many ways, the health of the small business sector is both an indicator of the condition of the whole economy and a determination of that condition. A number of issues face the small business sector including: burdensome and costly administrative regulations; rising local authority charges; poor access to information and advice; inadequate infrastructure; difficulty in accessing finance; weak management capability; lack of innovation; under-exploitation of ICT; and the lack of a systematic approach to entrepreneurship. The small business sector in Ireland is the potential engine for growth for the future of the Irish economy.

Wild Cards

Some potential 'wild cards' are:

- Emerging markets fail to reform their financial institutions.
- Worldwide stock market crash.
- Collapse of a giant global corporation.
- China and India fail to sustain high growth.
- Internet disintegration.

GOVERNANCE CHANGE

In that virtually all the other major drivers of change are influenced by the decisions of people, for good or bad, governance, in all its dimensions, is perhaps the overriding driver of all. States might continue to be the dominant players on the world stage in 2030, but governments will have less and less control over flows of information, technology, diseases, migrants, arms and financial transactions, whether licit or illicit, across their borders. Non-state actors, ranging from commercial corporations to voluntary organisations, will play increasingly larger roles in both national and international affairs. The nature and quality of governance, globally and locally, will substantially determine how well communities at all scales cope with future global change.

Global Context

The ten most significant *global governance trend drivers and issues* have been identified as follows.

1.   Governmentally, the degree of direct influence that *national governments* exercise over people's actions, social problems, economic performance and corporate power will lessen. Power will pass upwards to supra-national bodies and downwards to subsidiary authorities at regional, federal, provincial, state or city level.

2. Corporately, the *power of business* is very different to the power of government. Corporations are concerned with markets, profits, growth, survival, competitive battles and the very complex issues of global management. They are far too busy to deal in a meaningful way with the issues governments wrestle with -- social and cultural matters, education, health and welfare, and collective safety and security. Nevertheless, in advanced economies, corporations, taken together, probably have more impact on people's lives than government as the prime providers of goods and the principal source of employment. In this context, the trend over recent years towards increasing corporate social responsibility will grow and grow.

3. Fiscally, global monetary policy will increasingly be determined by the *world's financial markets,* through perverse subsidies, protectionist policies, and inappropriate measures of growth will continue to plague progressive governance.

4. The concept of *sustainable development* will permeate policy making at all levels, and peace, non-violence and human security will increasingly be viewed as 'public goods'. The issue of securing and sustaining both energy and water supplies is one which is certain to tax governance at all levels and in all sectors over the scenario period.

5. There will be a constant progression towards *democracy* and away from authoritarianism, but the threat of theocracies through widespread fundamentalist thinking will be ever-present.

6. Between now and 2030, *transnational criminal organisations* will become increasingly adept at exploiting the global diffusion of sophisticated information, financial and transportation networks. A real risk being that organised criminal groups will traffic in nuclear, biological or chemical weapons.

7. Individual communication and computing capabilities will be coordinated and combined to produce a new form of social power in the shape of *smart mobs,* whereby groups of people will develop novel ways of organising their interactions and exchanges just-in-time and just-in-place.

8. There are likely to be successive *waves of distrust* by citizens towards global, state and corporate governance which could result in a new world order where integrity emerges as a significant accountable and competitive factor for global agencies, countries and companies alike.

9. The legitimacy, influence and success of *worldwide agencies of governance* such as the United Nations, the World Trade Organisation and the World Health Organisation will be central in the long-run to the efficacy of global governance; though in the short-run the role, nature and attitude of US policy makers will affect the form and function of international conduct.

10. There are a set of *value changes* in terms of beliefs, aspirations, pursuits, ideals and the like, that are contributing significantly to transformations in society and the way in which it governs itself.

Prospects for Ireland

In so many ways, with greater wisdom, growing maturity and grateful prosperity, Ireland has *come of age* and taken its place among the nations of the world. The massive budget deficits, crippling taxation and debilitating emigration have gone. Corruption, seemingly endemic at several levels in society, has been exposed to public scrutiny. Abuse by those in authority has been laid bare. And hostilities in the North appear to be at an end. The State is a highly respected and fully participative member of the European Union and a well-regarded peacekeeper and caring nation in the international community. There is also plenty of evidence that many people are having a thoroughly good time resulting from the boom years of the Celtic Tiger. Nevertheless, there is an alarming *lack of respect* for society's institutions and a pervasive cynicism about politics and the agencies of government. Where is Ireland going? and how will it be led? are common questions of the moment. Some twenty of the most significant *governance issues and trends* identified for Ireland are listed below.

1. With regard to *quality of governance,* which is widely recognised as the prime determinant of a country's position and potential, Ireland boasts a well-developed interlocking system of parliamentary, judiciary and press scrutiny, clear lines of responsibility and accountability, EU oversight, an independent Competition Authority, a series of independent regulators and a meritocratic civil service. Agents of government, however, are having to cope with expanding complexity, increased uncertainty and an accelerating pace of change. There are more things to manage, with more constraints; more levels and connections in the decision process; and more voices and more expertise to capture. Order and stability through abode, occupation, employment, and networks of family and friends is giving way to a condition of almost constant mutation described by individualism, diversity, mobility, choice, opportunity and risk -- the 'Mosaic Society'. To address this, Ireland needs to maintain a system of flexible, effective and agile government.

2. The formation of a devolved Northern Ireland administration is a truly historic event which brings with it the hope of a peaceful and prosperous outlook for the whole island of Ireland, and the possibility of *all-island governance structures* at some time in the future. Business across the island, for example, would gain from better and more integrated transport, energy and communications infrastructure, an improved primary road and rail network, and better harmonized energy and broadband markets.

3. Unlike its predecessors, the *National Development Plan 2007 - 2013* will be financed almost exclusively by Irish revenues. Balanced regional development is generally accepted as essential to the nation's prosperity, but there is a lack of suitable governance structures and mechanisms for coordination, coherence and control in the regions. A given geographic area may have many different regional or statutory bodies, each covering particular areas of activity, but none having overall responsibility for the implementation of the plan. Unsurprisingly perhaps, the Gateway workshops conducted as part of this study were as one in calling for *city*

regional governance with appropriate powers and resources to effect the aims and objectives of the NDP.

4. There is an urgent need for the preparation of an updated *National Spatial Strategy* (NSS) together with a set of *Regional Planning Guidelines* (RPG's). The population is growing at a much higher rate than was projected when the original NSS was prepared, so a new NSS and fresh set of RPG's are imperative.

5. A central objective of any updated NSS should be support for something along the lines of the *Atlantic Gateway Initiative,* promoting the planned growth of a second major conurbation centred on Cork, Limerick and Galway as a counter-balance to the growth of Dublin.

6. Of equal, if not more importance, is the creation of a *Greater Dublin Authority* to take responsibility for planning and implementing strategic policy for the country's capital city and most powerful engine of the economy.

7. At the very least, there is a need to establish a permanent *Local Government Commission* to examine the cases for the extension of the boundaries of the main towns and cities, especially the Gateways, where administrative areas of counties and cities are overlapping, outdated or anomalous.

8. Again, the Gateway participants were unanimous in their call for *elected mayors* for all the major town and cities in Ireland, and certainly for the Gateways. These executive and accountable figures would give their vision and authority to all the endeavour that a city or city region requires and determines, and be held responsible for both their successes and their shortcomings.

9. Current *structures for the planning and delivery of infrastructure and settlement* are less than optimal. Indeed, some would say they are dysfunctional. These problems stem, on the one hand, from an overemphasis at national level on the micromanagement of public projects, even those of primarily local significance. On the other hand, by apparent lack of responsibility and accountability at local level for working towards national policies and priorities.

10. The *strange planning horizon* should be pushed out to at least fifty years, and often a hundred or more, for key infrastructure projects. The design and operational life of such facilities as ports, roads, railways, airports, bridges and the like, is generally of the order of 120 years. Even housing, schools, hospitals and town centres are likely to have a useful life well in excess of fifty to seventy five years. In any event, the *horizon for tactical plans* such as the NDP's should certainly be extended from six to twenty years.

11. There is a need for more *'joined-up thinking'* in government at all levels. Planning processes within the various arms of central and local government appear to take place with little reference to each other. Public projects of all kinds should be conceived, designed and implemented with all the stakeholders in mind. This demands that a much more holistic approach should be taken towards long-term planning. The problems of governance, however, are pervasive, and it has been stated that whilst not all happy cities resemble each other, every unhappy city is at least partly unhappy for a single reason -- misgovernment.

12. While the NDP is committed to carry out a *cost-benefit analysis* (CBA) for all projects with a capital value in excess of €30million, the current methods for conducting such exercises are almost exclusively financial. There are many other social and environmental factors that must be evaluated in assessing the overall costs and values to society from any particular project. The notion of measuring the wider impact of social costs and benefits can be extended to most areas of public service provision, and a 'balanced scorecard' approach can give greater transparency and acceptability.

13. The influence of *single issue lobbies* will grow, representing specific cultural, faith, environmental, social or economic interests. Similarly, different *intergenerational agendas* will appear across the State as the youth, the 'grey', the well-off workers and the disadvantaged collide in deciding who gets what, and how it is paid for.

14. Irish political structures are characterised by their *localist and clientalist* nature. Though difficult to change, formally or informally, the present national electoral system produces many detrimental effects. The brokerage style of politics all too often produces a kind of 'prisoners dilemma' solution to issues whereby people pursue individual rational short-term interests at the cost of collective, longer-term public good. Nevertheless, countries elsewhere have moved away from similar single transferable voting systems to more 'mixed systems' combining national lists alongside local constituency representation to address the problem of localist strangleholds. Too often, the present, partial and parochial interests of selected sections of society prevent longer-term radical decisions designed for the good of the public at large being made and implemented.

15. Somehow, there is a need to engender greater appreciation of, and *participation* in the political process, as well as attract a higher calibre of person to engage in it and assume *leadership* roles. Such civic leadership is all about articulating a vision, harnessing the power of ideas and mobilising municipal energy. The effective civic leaders learn from failure, accept mistakes, and take risks, as necessary, to promote creative and collaborative problem solving. In addition to understanding the issues and seeing the big picture, they must follow through on good ideas, and have the courage and persistence to stand their ground. Not always easy in the Irish political context.

16. The *private sector* must be harnessed in the pursuit of good governance. *Public private partnerships* are beginning to help deliver national infrastructure and quality public services on a long-term value for monies basis. And the introduction of *business improvement districts* as a form of collaborative urban governance will greatly enhance the vitality and viability of Irish towns and cities.

17. There is a fundamental dichotomy in the desired direction of Irish society and its preferred form of governance between that of *social democracy* along the lines of certain European social market economies, and the more *liberal open market* economies espoused by the likes of America and the United Kingdom. The model of *social partnership* could also be called into question as providing a cosy club where trade union leaders, civil servants, politicians and businessmen plot the course of the country in a less than democratic way.

18. Over the next decade or so, *transnational criminal organisations* will become increasingly adept at exploiting the global diffusion of sophisticated information, financial and transportation networks. Irish police and security services will have to develop strategies and tactics to foil this expansion in the scale and scope of criminal activities and alliances.

19. Governments throughout Europe are increasing their investment on rolling-out information and communications services to advance the application of *e-government,* but, while Ireland is relatively sophisticated in the types of services developed, it still faces a major challenge to make on-line services accessible to the general public.

20. Self-serving though it may appear, the Twice The Size study revealed great enthusiasm for adopting a *'Prospective Through Scenarios'* approach towards all levels and sectors of Irish governance. Foresight exercises are becoming more popular in the public realm, but there is little experience or expertise in conducting them, so that they tend to become reduced to a fairly conventional and constricted form of longer-term planning, devoid of imagination, integration or ideas. The overriding aim of the scenario approach being to get participants to think, talk, plan and act, creatively and differently, together.

Wild Cards

Some potential 'wild cards' are:

- Trade wars and embargos cripple the global society.
- Africa implodes.
- Collapse of the Middle East.
- Breakdown of relations between Europe and the United States.
- Formation of an alliance between China, India and Russia.

ENVIRONMENTAL CHANGE

Sustainability is likely to be the next defining era in the same way that technology defines the present. It is becoming pervasive through all driving forces and a source of speculation in most issue and trend analyses. Nevertheless, despite a growing awareness of the sustainable development imperative, there is still a tendency to underestimate the nature of environmental problems, under-appreciate their complexity and postpone timely action. Few deny the ideal, the difficult bit comes in trying to reconcile the 'sustainable' bit with the 'development' bit. There is, however, a growing acceptance that a balance between concern for the environment and concern for the economy must be struck.

Global Context

The ten most significant *global environmental trend drivers and issues* have been identified as follows.

1. Anxiety about the degradation of the *natural environment* is fast becoming foremost in everybody's lives. Indeed, there is now a recognition that the most dangerous consequence of our activities may be that we upset the very way in which the planet regulates itself. The stewardship of the earth's natural capital will be a rising priority towards 2030 as we witness falling water tables, shrinking crop and pastureland, declining soil quality, diminishing fish stocks, disappearing forests, worsening air quality and growing climate instability.

2. Similar, and related, concern exists regarding the quality and performance of the *built environment* through the movement towards 'smart urban development', with the emphasis on mixed use, higher density, public transport based, pedestrian friendly and quality landscape policies, which is being progressed in the developed world. The pressure of urbanisation and city growth in developing countries, however, will rise inexorably over the next twenty five years.

3. The reality of *climate change* is now recognised, due to both natural causes and mankind's industrialisation ethos. It threatens health, life, property and security, and demands constant and progressive attention by governments, businesses and consumers throughout the scenario period and beyond. Ecological disasters, on a scale not seen before, remain likely as climate change becomes the global public policy issue.

4. A concomitant concern besets the issue of *energy futures* where huge uncertainties and great contention surround the competing and sometimes complementary prospects for oil, coal, gas, nuclear, solar, wind, tidal and biomass sources. The future condition of the natural environment, and the immediate policy framework for the built environment, will largely be shaped by how energy issues are tackled.

5. It is suggested that an impending crisis over *water resources* during the scenario period threatens to dwarf the energy crisis in significance and severity. Water use is already showing signs of being a major feature of foreign policy decisions across the globe and the prospect of 'water wars' looms large.

6. In theory, overall *food production* will be adequate to feed the world's growing population, but, in practice, poor infrastructure and distribution, political instability and chronic poverty will lead to malnourishment in certain distressed regions. Paradoxically perhaps, water again is the key, for its scarcity and salination threatens tables and topsoil, whilst the 'blue revolution' through aquaculture and hydroponics offer prospects of great productivity.

7. Though the problems of effective *waste management* will continue towards 2030, one of the key insights of modern environmentalism is that waste material is a sign of inefficiency. Such inefficiency can either be reduced by introducing more thrifty processes, or by using that waste as a component in another process. As we move

into a world that embraces both sustainability and technological innovation so waste products will be lessened and reused.

8.   The command-and-control approach towards environmentalism, founded on the adage 'mandate, regulate and litigate', will be matched with a rise in the application of *market-based solutions* using the price mechanism and fiscal policy.

9.   Towards 2030 it is probable that a *new economics,* based on the principles of natural capitalism, will start to emerge, internalising the externalities of the production process as well as ensuring that the polluter pays.

10.   One of the single most important issues entwined in the environmental imbroglio is the *power of large corporations* to shape the future of the planet with the debate raging around those twin concepts of 'sustainability' and 'corporate social responsibility'. Both palpably are now becoming mainstream business imperatives.

Prospects for Ireland

The environment is a key resource for Ireland. The basis of a healthy society and a thriving economy depend upon its continued protection and improvement. Largely as a result of EU legislation and its consequent implementation, protection and management in Ireland over the past couple of decades. These have driven environmental improvements and protection measures across a broad range of areas including water and air quality, protection of species and habitats, waste management and the environmental licensing of industry. A further suite of EU thematic strategies to address specific topics such as environment and health and the sustainable use of resources are also in place, and Ireland has a range of international obligations and commitments on the environment, most notably in relation to climate change and the Kyoto Protocol. Some twenty of the most significant *environmental issues and trends* identified for Ireland are listed below.

1.   With Ireland's green image used as an important international promotional tool, achieving *sustainable development* is a necessity.   The intrinsic value of an unpolluted natural environment and its associated economic value, particularly in agriculture, tourism and resource-based industry, is now clearly recognised. For sustainable development solutions to be successful, however, they must permeate all sectors, constitute the foundation of national policy development and integrate with key strategies such as the NDP and the NSS.

2.   The *National Climate Change Strategy* has set a range of targets to be attained progressively by 2020. These include a target of 12% renewable energy share in the heating sector, achieving a 10% penetration of biofuels in road transport, accomplishing 33% of electricity consumption from renewable energy sources, installing 500 MW ocean energy capacity and getting 800MW from combined heat and power. Overall, Ireland has committed under the *Kyoto Agreement* to limiting the increase of greenhouse gases to 13% above its 1990 levels by 2012. Currently they are 25% above, and Ireland's per capita emissions remain among the highest in Europe.

3.   By international standards the *air quality* in Ireland is very good. The relatively low density of urban areas, prevailing winds, geographical position and island status all contribute positively to this quality. Apart from the difficult challenge of meeting the EU emission limits, the biggest threat to the goal of clean air is the emission of particular pollutants from road traffic, industrial and waste facilities, power plants and livestock slurries. There is also the local scale issue of *environmental noise* which can negatively affect living and working conditions.

4.   Although Ireland has an abundant supply of fresh water, there is a widespread threat to *water quality,* and it is estimated that more than half of the surface water and groundwater bodies in Ireland are at risk of failing to meet EU water quality objectives. Bringing water resources up to standard, eliminating contamination of drinking water supplies and implementing conservation measures are key priorities for Ireland. The provision of urban wastewater treatment for all inland receiving waters is also a challenge. Generally, there is a need to begin to plan more radically for future water usage and wastewater treatment needs, and move beyond a system of catch-up infrastructure.

5.   Ireland has significantly fewer contaminated land problems than most European countries, but a prime environmental goal is that the *soil of Ireland* will be protected from contamination and loss and will support dependent plants and animals. Further, that the natural *biodiversity* will be conserved for future generations to enjoy.

6.   Currently, natural resources are used inefficiently and create too much waste. Another environmental goal, therefore, is the *sustainable use of resources* (water, energy and materials). Waste must be prevented and minimised with the balance safely collected, recycled or recovered, and final disposal completed in a way that does not harm the environment. *Waste management* in Ireland, however, remains a serious issue. It has exceptionally high municipal waste generation per capita and per employee; a poor recovery rate for industrial waste, with over-dependence on landfill solutions; exhorbitant waste management costs; inadequate waste treatment capacity; and almost non-existant municipal involvement in monitoring and managing waste collection.

7.   As issues such as climate change and fossil fuel depletion take hold in the minds of an increasingly aware Irish public, the consequent demand for *sustainable construction* is leading more and more builders, developers, suppliers, professionals, tradespeople, investors, owners and occupiers to educate themselves in sustainable principles, technology, materials and techniques.

8.   In terms of the *National Development Plan,* the six year time-frame is crucial and contentious. Many of the trends threatening sustainable development in Ireland, such as poor spatial planning and unbalanced regional development, result from past choices in patterns of land use and infrastructure investment, which are difficult to reverse in a short time-frame. The NDP, together with the National Spatial Strategy, cannot in themselves deliver sustainable development, but they must set out clear long-term objectives and identify the mechanisms of delivery. A more formal longer-term strategic planning horizon really is required.

9. Two of the key environmental protection challenges in Ireland are to *improve enforcement* of environmental legislation, and to *better integrate* environmental considerations into the policies, plans and actions of all sectors of government, business and the rest of the economy. Responsible environmental behaviour should be the norm across Irish society, and those who flout environmental laws will be held to account.

10. The *built environment* has a huge impact on the health of the nation. At macro level this includes spatial planning, land use mix and transportation infrastructure. At local level, the design, maintenance and use of buildings, public spaces and transport networks are all important. Design of street networks, the availability of open spaces, and the perceived and actual safety of an area, as well as personal resources, are important environmental and social influences.

11. The difficulties faced by a country almost completely dependent on imported energy supplies have been highlighted by successive government reports. They rightly describe the 'three pillars' of *energy policy* as security of supply, environmental sustainability and energy market competitiveness. Too many of the proposals, however, are based on unproven technologies and aspirational targets. It was interesting to note, moreover, that participants in the Twice the Size exercise, representing a broad cross-section of stakeholder groups, were far less resistant to the exploration of *nuclear fuel* as a viable source of energy for Ireland towards 2030.

12. One of the most noticeable changes over future years urged for Irish planning during the study was the *disappearance of the plan* as it is currently perceived – definitive, specific, fixed and agreed -- and its replacement with a more open-ended land use control system employing a 'preferred option' path nested within a series of plausible contingency options that are continuously reviewed and updated.

13. Dramatic changes in *Irish housing* have caused many anxieties over the past decade or so: the stability of the residential market; the degree of inequality in the opportunities and difficulties experienced during the housing boom; and the sustainability of the settlement patterns and neighbourhoods developed in recent years. Estimates of future *housing market demand* suggest that a significant level of additional output will be required over the next decade, and various policy strategies and guidelines propose five clear principles upon which new development should be provided: sustainable urban densities; consolidated urban areas; compact urban satellites; rapid communication networks; and sustainable rural development. Given the state of the market, and its future outlook, there is a need for *social and affordable housing* through: an expanded and more flexible stock of accommodation available at a social rent to ensure an adequate safety net for vulnerable households; a wider range of graduated supports for 'intermediate' households; and a more effective policy towards active land management and betterment-sharing.

14. Climate change researchers have detected the first signs of a *slowdown in the Gulf Stream* that keeps Ireland and Europe from freezing. This could herald a series of momentous repercussions over the decades ahead.

15. The intensification of agriculture and the removal of farm subsidies will accelerate the decline of agricultural populations removing more and more marginal lands from traditional farming so that the *unfarmed countryside* is left as a vacuum to be filled by tourism, rural settlement, ecological and heritage designation, resource protection and leisure pursuits.

16. Around the world there is a movement towards a form of *'new urbanism'* which seeks to develop neighbourhoods, towns and cities that are economically sound, environmentally responsible and socially supportive of community liveability. The first initiatives towards creating such positive, attractive new models and visions for urban development are emerging in Ireland with projects like Adamstown –- with more surely to come.

17. The advent of *sustainability impact assessment* [SIA] provides a mechanism to ensure that all major policy proposals include an evaluation and report on the economic social and environmental impacts of the project or measure, along with a range of options.

18. The *organisational and administrative structure* for effective spatial planning and efficient environmental resource management relies upon many local authorities that are not only too big to solve the little problems at local level and too small to solve the big ones at the regional scale, but also lack the managerial, communication and technical skills needed to make environmental planning work.

19. On the basis of existing patterns of economic growth and urban settlement, taken together with certain inherent natural features, a picture emerged during the study of divergent futures unfolding for *two different parts of Ireland* which respectively will require an increasingly distinctive and dissimilar array of policies and implementation measure. The *North, West, and South-West* are likely to more and more be seen as the focus for extensive, low-intensity, resource utilisation and protection. Cultural, educational, residential and amenity values will become the principal drivers. The *East, Midlands and South-East* will become organised around an increasingly intensified urban corridor between Belfast, Dublin and the South East. In this area, there will be growing capital investment, employment and intensive land-use.

Wild Cards

Some potential 'wild cards' are:

- Major disruption in global energy supplies.
- Massive environmental disaster leading to extensive and long-term pollution.
- Ice caps break up – oceans rise 20 feet.
- The Atlantic 'conveyor' convection current stops.
- Bee populations collapse worldwide.

SOCIETAL CHANGE

A tidal wave of cultural modernisation is washing around the world where the basic tenets for current cultures -- including equality, personal freedom and self-fulfilment -- have been eroding the domains of traditional societies that value authority, filial obedience and self-discipline. Most people in the West regard the basic institutions of modernisation, such as universal education, meritocracy and civil law, as benchmarks of social progress, while the defenders of more traditional cultures see them as serious threats to social order. This clash of cultures could provoke widespread political unrest, psychological stress and social tension. Alongside this, there is a general sense of the world getting smaller, and a growing awareness of the interconnectivity of issues, events and peoples. This had led to a complementary set of value changes which are contributing significantly to transformations in society.

Global Context

The ten most meaningful *global societal trend drivers and issues* have been identified as follows.

1. Twin forces - *homogeneity and diversity* - are at play in transforming society into something new and unexpected. On the face of it contradictory, but in fact mutually supportive, the first leading to an awareness of the second. Overall, however, there will be a growing acceptance of cultural diversity, subject to local interruptions and regular reversals.
2. As is being witnessed, the greatest threat to future world order and peace is the potential *clash of civilisations* or societal groups, not of countries, with prospective flashpoints lying not along national boundaries, but where different civilisations or communities meet. It can be said that 'tribalism' is fast becoming the most powerful force in the world.
3. The 21st century will see the culture of *universal education* for all people, worldwide, and throughout their lives. Education and learning will be available anywhere, anytime, for almost anyone, raising levels of literacy and skills, but also raising aspirations and expectations.
4. A new *business culture* is emerging - one that is based as much on principle-centred leadership as it is on the pure profit motive. But the craze of 'consumerism' will continue, impelled by an ever more integrated global economy, but inspiring social unrest in quarters where small producers and retailers have a strong political present.
5. Perceptions, attitudes and allegiances will increasingly be shaped by the *global communications,* media and entertainment industries. Youth worldwide, as a result, will place ever greater importance on economic success, and find it difficult to cope with cyclical downturns.
6. There is a changing culture of *healthcare* stemming from such issues as new medical discoveries, alternative or complementary treatments, the duties and rights of patients, and the roles and responsibilities of providers.

7.   Demands for greater scrutiny, transparency and accountability across all sectors of society will endure. At the same time, advances in *information technology* raise cultural questions about security, surveillance, control, access, privacy, crime, taxation, propaganda and social colonisation.

8.   Changing *communal identities and networks,* whether religious, political, interest or ethnic, will pose a range of challenges for governance, using opportunities afforded by globalisation and the opening of civil society. Concurrently, increasing deferment from politics and institutions will persist, though the influence of special interest groups will grow.

9.   We are witnessing the start of a *mobility explosion* which exposes people to new places, relationships and ideas. It both sparks and diffuses creativity and innovation, with little respect for traditional social, economic or national barriers. New mobile populations will not only include the more affluent global elites, but also the rural poor, less wealthy migrants, and those displaced by environmental, political and economic pressures.

It is possible to discern a movement in society towards a rediscovery of certain *fundamental values.* A shift away from materialism towards more enduring philosophical and spiritual values. Ethical business, more cynically, is now good business.

Prospects for Ireland

The Ireland of today is culturally very different from the Ireland of yesterday, and likely to be different again in the world of tomorrow. Society has been transformed over the past fifteen years or so. They country is now one of the wealthiest in the world and the standard of living of its inhabitants has improved significantly. Business has flourished and Irish entrepreneurs are at the cutting edge of global enterprise. Ireland had become a modern and forward looking nation, confident to compete on the world stage across all aspects of business and society. Despite the recent prosperity, however, many challenges remain. Most especially, perhaps, all agencies and organisations in society must grasp the challenge of addressing an important range of quality of life issues. All members of society, moreover, must be provided with the opportunity to share fully in the benefits of Ireland's deserved success and good fortune. Some twenty of the most significant *societal issues and trends* identified for Ireland are listed below.

1.   For many people today, income prosperity has not been translated into an improved *quality of life.* Chronic congestion, inadequate housing provision and poor quality of public services often mean that although people have more material wealth than a decade ago, their daily routines are more difficult. Quality of life issues, it is agreed, make Ireland for a less attractive place in which to live and work.

2.   Nevertheless, in broad terms, more people see themselves as being generally *very happy* now than they did in the 1980's, and the popular view is that quality of life has improved since then. Spending time with *family* is seen as the primary driver of quality of life, with emphasis also placed on having enough money to do the things desired. Membership of *voluntary organisations* has increased over the past twenty

years, but three out of four people feel people are less willing to help each other or moreover, people are less likely to say that fellow citizens can be *trusted* now than they were twenty years ago. And one in three are concerned that when children today in Ireland grow up, they will be *worse off* than people are now.

3. The planning and provision of high quality *public services* must be a priority for the years ahead. The various agencies responsible must ensure that the transport system works more efficiently; housing is more affordable and available where people work; the education system matches the needs of a modern and affluent society; and health services are accessible and efficient.

4. On the basis that a civilised society is essentially a just society, policies aimed at the eradication of *poverty and social exclusion* must be matched by actual performance as Ireland becomes notorious for displaying the widest gap in Europe between the have's and have not's.

5. The movement towards a more open, democratic and honest society will continue, and assist in fostering *greater tolerance* in an ever more diverse and multifarious communities.

6. Inexorably, though excruciatingly, the *peace process* will progress towards a more socially, economically and even politically integrated island of Ireland. The workshops in Dundalk and Letterkenny during this study demonstrated the very rapid movement towards collaborative thinking and planning for the future.

7. Worryingly, the long-held and much-prized *qualities and values* of Irish culture are in serious danger of being *eroded* by an increasingly selfish, greedy, materialistic, unequally, uncaring and even violent mindset. The demise of older traditional values, customs and beliefs, and the absence of newer ones to replace them, leads to a growing feeling that the *social fabric* of the state is torn and in urgent need of repair.

8. *Public service,* be it in health, environment, enterprise, education, transport, communications or justice, needs to be instilled with a new *pioneering spirit* on the part of legislators and administrators alike. Public policy should be framed with greater benefit of *foresight* so that government agencies think, consult, act and plan about complexity, uncertainty and change in a more structured and imaginative way.

9. The close, historic, and almost loving relationship with *alcohol* now poses a most serious threat to personal health and communal welfare as consumption reaches alarming rates with dire consequences. Statistics also show that the extent and prevalence of *drug misuse,* particularly by the young, is high and rising, requiring an innovative search for a set of solutions backed by adequate resources and the right attitude. Sadly, the national figure for *suicide,* especially among young men, has been on the increase for the past decade, and shows few signs of abating.

10. Maintaining the *agricultural way of life* as a cornerstone of Irish society by ensuring that farm families enjoy increased living standards in line with the norm in the growing economy. The key measure necessary would aim to: develop and support a core of full-time farms; increase opportunities for sustainable off-farm income; ensure an improved farmer age structure; move the produce of the agricultural

sector up the value chain; promote an increased emphasis on the highest environmental, food and safety and animal health standards; and provide efficient and effective State services to farmers.

11.   To address *rural poverty* and social exclusion in a comprehensive and sustained manner, ensuring that access to key public services, including education, transport and healthcare is improved. Likewise, to tackle the spatial concentration of unemployment, poverty and exclusion in *disadvantaged urban communities,* with particular regard to helping those affected acquire the skills and supports necessary to avail of employment and development opportunities. Overall, to provide every person in the State with *sufficient income* to live life with dignity and achieve economic independence.

12.   Promoting the mergence and consolidation of the *social economy,* generating employment that is sustainable and of high quality.

13.   To improve access to quality *healthcare services* with special attention to specific areas such as smoking, healthy eating, drug abuse, travellers health, mental health, women and children, the disabled and lifestyle changes. Government still has to tackle some of the tougher proposals made by the Brennan Committee with regard to health services which reported that in every single aspect of the service they found low standards of accountability and a complacent and casual attitude from the public servants in charge of taxpayers monies.

14.   A major priority is to have a responsible and efficient *pensions system* that encourages individuals to supplement a decent state system.

15.   In education, it is possible that student's heads are being filled with irrelevant data to the detriment of enriching their lives and preparing them, through *civics at school,* to be parents, workers and voters, as well as thinking, participating and caring individuals.

16.   Preserving and promoting the *Irish language* should continue to be a prime priority in cultural affairs. Interestingly, in the context of language and culture, one inspired proposal emerged during the Limerick workshop for the setting-up of a global village for the study of international languages which would provide an iconic enterprise to attract an extra million visitors to Limerick each year.

17.   Moderating the *rise of managerialism,* with its colourless and neutralised language of process, and the dominance of *economic rationality,* which are together stifling the role of creativity, individual initiative, wisdom and judgement in organisations, especially university level institutions. It is fast becoming a *risk averse* society.

18.   Harnessing *cultural heritage* and facilities to further social and economic development and enhance Ireland's international image and national identity.

19.   Create a *secure environment* for all citizens through efficient, effective and equitable policing.

20.   Build a society based on the great cardinal *civic virtues* essential to a well-functioning democracy and the common good, being: the generous impulse, the readiness to be compassionate, the facility to modulate self-interest, the sense of fair play and the assumption of duty.

Wild Cards

Some potential 'wild cards' are:

- The end of intergenerational solidarity.
- Growth of religious environmentalism.
- First unambiguous contact with extraterrestrial life.
- A new multi-faith force for good arises.
- Global healthcare and pandemic control.

TECHNOLOGICAL CHANGE

Life in 2030 will be revolutionised by the burgeoning impact of multidisciplinary science and technology across all dimensions of the public and private realms: social, economic, political and personal. The continuing diffusion of information technology and new applications in the biotechnology field will be twin forces of global significance. The results of this global scientific and technological revolution could be astonishing. Two general tendencies discerned, however, are worthy of special note. First, the integration of existing disciplines to form new ones, with the blending of information, technology, biotechnology, materials sciences and nanotechnology generating a dramatic increase in innovation. And second, the lateral development of technology, so that older established technologies will continue a 'sideways' evolution into new markets and applications.

Global Context

The ten most meaningful *global technological drivers and issues* have been identified as follows.

1. Technology will be a major *enabling force for business* towards 2030 transforming supply chains, value nets, business models, work styles and opening up new global markets for expansion.

2. Discoveries in *nanotechnology* will lead to an unprecedented understanding of, and control over, the fundamental building blocks of all physical things, to such an extent that developments in this field are likely to change the way almost everything is designed and made.

3. Breakthroughs in *materials technology* will generate widely available products that are smart, multi-functional, environmentally compatible, more survivable and customisable.

4. Everything will get 'smarter' through *embedded technology* allowing unobtrusive devices and systems to monitor and react to operational actions, reducing the need for human intervention in 'routine' activities.

5. Highly repetitive work, or work in difficult, extreme or unsafe environments, will increasingly be undertaken by *robotics and micro-robotics*, which will become smaller and smarter, and take on even more tasks.

6. The field of *synthetic biology* will equip society to develop an array of applications in the future that can scarcely be thought of today by assiduously assembling genes into networks designed to direct cells to perform almost any task. In particular, the medical community will use genetic profiling to develop more effective mechanisms for diagnosis and treatment. Genetic modification will improve the construction of organisms to increase food production and quality, broaden the scale of bio-manufacturing and provide cures for certain genetic diseases. Biomedical engineering will produce new surgical procedures and systems. And DNA identification will continue to improve law enforcement capabilities.

7. The *next generation internet* will merge telephony, video and other communication media into a vibrant, interactive, aware, adaptive, sensory experience that will shape and transform industries such an entertainment, retail, healthcare and education, as well as the world of business and finance. The convergence of computers, networks and wireless technologies, however, will create both opportunities and threats. The internet, for example, could advance the movement towards democracy and devolution, but could also permit abuse by more extreme groups in society.

8. Looking ahead towards 2030, a new *physical-digital landscape* will emerge linking people, places and spaces to unprecedented amounts of information. The intelligent city is nigh. The infrastructure that will enable this new landscape is actually a rich ecology, including technologies, policies, data repositories and skill-sets. Wireless location-aware devices, novel geospatial software, global location services and online geodata repositories are all eroding the limitations to human perception, making accessible a rich spectrum of digital information in real time and in real place. Implicit information will become more explicit; extensions of the body will be the new interface; and the landscape itself will become sentient and aware.

9. Continuing controversy will rage around *issues in biotechnology* such as eugenics, cloning, gene patents, genetically modified organisms, the use of stem cells, concern over animal rights, privacy of genetic profiles, the danger of environmental havoc and an increased risk of engineered biological weapons.

10. Assuredly, technological innovation will promote the development of *alternative energy sources*, not only in the renewable energy field, but also in the efficient and effective use of non-renewable energy, and the design and development of more viable and acceptable means of producing nuclear fuel.

Prospects for Ireland

Ireland is justly proud of its performance in the information and communications technology [ICT] and biotechnology sectors. Twenty years of prowess in building world-class software and producing pharmaceuticals, however, is not enough to keep pace, let alone take a lead, in the new world order of scientific and technological discovery and exploitation. As that world order moves towards new frontiers in biotechnology, nanotechnology and combined spheres like digital genomes, the country should continue to examine what it has to offer from an

educational, industrial and governmental support perspective. Again, some twenty significant *technological issues and trends* identified are listed below.

1. Recent *investments in science and technology,* especially the Strategy for Science Technology and Innovation [SSTI], and the funding announced in NDP<u>II</u> are a welcome major step forward in building an innovative and competitive economy. There now needs to be a concerted effort to deliver on these initiatives, and to continue striving towards a vision of an Ireland internationally renowned for its *excellence in research.*

2. With regard to innovation, the SSTI makes little mention of *innovation policy* and equates innovation with research and development. Scant attention is paid to innovation in the *public sector,* an area which will be of growing importance over the lifetime of the NDP, and beyond, as increased value for money is sought. There is a need for a comprehensive national innovation policy encompassing both the public and private sectors.

3. *Detailed work programmes* in the areas of science and technology are vital if all of the money earmarked for investment is to provide the tangible outcomes that will progress the economy over the scenario period. There is the serious danger that simply spending vast sums of money on research and development, especially on *scattered doctoral programmes,* will not produce the results aspired to in the Strategy. Like all investments, a proper business case for investing in specific areas of science and technology should be a pre-requisite.

4. There is a need for an investigation into the *teaching of mathematics and sciences* in schools to be conducted to identify the structural difficulties within the education system if the future of Ireland as a knowledge economy is not to be imperilled.

5. The concept of *cluster development* should be nurtured, bringing together a strong academic base, skilled pools of labour, innovation oriented commercial companies, high levels of service infrastructure, protection of intellectual property, availability of finance and a positive local and central government policy towards the complementary group of industries and other contributing organisations.

6. In the *agri-food industry* there is the need to build-up strategic management, marketing, scientific and technological capabilities to ensure competitiveness in farm production and in the manufacture and marketing of *innovative food* products and processes.

7. Lack of awareness in the value of marine resources has made Ireland a late-starter in the development of a *marine technology sector* focused on sustainable harvesting, sensor development, wave energy, specialist food processing, inter-modal maritime transport and biotechnologically related acquaculture.

8. For the *construction industry,* there are huge technological opportunities, some of which already are successfully being exploited, in such areas as integrated building protection, off-site prefabrication, on-site mechanisation, smart buildings and materials, virtual design, and the application of IT in all aspects of the construction, manufacture, procurement, management and maintenance processes.

9. With the onset of *e-governance,* the aim must be improving the relationships between the citizen, the state and other involved institutions and agencies, in the context of technology-enabled transformation. However, another aspect of 'smart governance' is in the field of *transport and logistics* where the principal challenge is devising a set of 'intelligent' solutions which will enhance the capacity and capabilities of the public transport network and reduce dependency on the private car.

10. The *ICT industry* in Ireland is positioned at a relatively low point on the value chain dealing in mature technology that has been developed elsewhere, and needs to increase the value-added component in its ICT products and services.

11. Scientific and technological industries in Ireland need an enlarged cadre of world class *professional researchers* who can not only innovate but also contribute *original marketable ideas* that can form the nucleus of new globally competitive companies which can attract multinational investment.

12. There is a need to build *enterprise capability* to develop products and services by ensuring that both national research and enterprise agendas are aligned. This should be facilitated by developing *strategic technology platforms,* as well as encouraging greater collaboration between academe, enterprise and industry.

13. State investment in research is still significantly lower than in most developed economies, and, as the Irish economy moves more and more to one based on knowledge and expertise, so the level of funding must grow. As an example, a *Centre for Advance Informatics* should be established, with an independent identity and location, to conduct internationally recognised research and development relevant to industry.

14. In the universities and institutes of technology there is a need to promote a flexible *'fast follower' approach* in emerging strategic areas of technology where Irish graduates can adopt and adapt the learning and skills necessary to compete in a fast-moving and competitive environment.

15. Access to the world's best avenues of *venture capital investment,* and recourse to first-class international *strategic marketing,* are both vital in order to foster further growth in the science and technology sectors.

16. Ireland needs to become a *thoroughly wired country* with pervasive, high-speed, low-cost access to information and communications systems, but, in doing so, it needs to avoid the creating or widening of a *digital divide* between those who are plugged-in and those who are not.

17. In the swiftly changing world of technological development it is important to maintain and improve a *rapid response* attitude of mind to ensure that Ireland is perceived as one of the most favourable locations in the world in which to meet stringent national and international regulatory requirements.

18. In terms of *energy technologies* there is a need to explore and exploit new and renewable sources especially ocean wave energy, hybrid energy systems, energy storage systems, distributed energy systems and environmentally friendly transport systems. There is also a need to put *nuclear energy* back on the agenda by developing an Irish technological capability in this carbon free energy field. In the

same context, there should be immediate, substantial and continued tightening of *energy efficient* requirements throughout all sectors of the economy, with resultant technologies exported internationally.

19. Ireland is well-placed, with appropriate investment in research and development, to compete in the fast-expanding field of *genomics*, and has the potential to occupy a leading international position.

20. Having such a strong software industry, Ireland could capitalise on the huge synergistic opportunities available through combining its expertise in *health and life sciences* with its expertise in information technology.

Wild Cards

Some potential 'wild cards' are:

- Internet anarchy.
- Viruses immune to all known treatments.
- Sweeping medical breakthrough is perfected.
- Self-aware machine intelligence.
- Foetal sex selection becomes the norm.

INSIGHT 4: SUSTAINBILITY INDICATORS

Environment
Household waste generation
 Traffic congestion
Quality of life
Polluter pays principle
Percentage of greenfield conversion
Percentage of brownfield development
Energy rating on buildings

Governance
Greater Dublin Authority
Local government income

Technology
Infrastructure transport coordinated land-use and provision
Number of children walking school
Number of people using public transport
Number of public transit options

Economy
Housing design
Housing location
Developer contribution-upgrade to pay for local amenities
Percentage of land in privately owned landbanks

Demography
Level of education achieved in society
Degree of urbanisation
Degree of low-density peripheral growth

Cultural
Amount of time spent commuting
Number of reported cases of crime per 1,000 of population

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5 SCENARIO LOGICS

Analysis of the driving forces of change, trends and issues in respect to the degree of their uncertainty and level of impact allowed us to identify nine scenario logics, around which the scenarios are structured. The scenario logics around which the scenarios present in the next section are organised are depicted in Figure 12.

Globalisation
European Cohesion
Irish Stability
Values
People
Spatial patterns
Competitiveness
Sustainability
Learning

Figure 12: Scenario logics.

6 SCENARIOS FOR IRELAND IN 2030

SCENARIO 1: THE SOW OF LIBERTY

"Market forces on the march"

This scenario is based on expanding globalisation and growing libertarianism. It assumes steady economic growth, the further opening-up of markets and rapid technological advances. There is a diminishing role for national government, and a growing emphasis upon international collaboration, largely aimed at facilitating global competition and enhancing market efficiency. Social and government institutions, however, generally are weakened at both national and international level. Developed nations are fragmented into many differentiated and competing sub-national regions and interests. The accent overall is on the individual, and the prime motivation materialistic.

100

Global

It is a *"market world"* in 2030, where the American model of capitalism has finally achieved global dominance, having weathered the international financial maelstrom of 2009 and the storms of 'Chindian' protectionism and market-dumping during the period 2010 to 2020. An extended economic boom during the 2020's has shown that free market policies, corporate restructuring and enlightened entrepreneurship offer a paradigm for growth leading to increased global market integration, unprecedented technological innovation, pressure for independence of thought and action, and rising standards of literacy in most parts of the world.

Free market reforms have moved governments everywhere to downsize, deregulate and privatise. The pace of innovation breeds new opportunities at astonishing speed. The thesis throughout is: *let markets work*, turn loose the private sector, breakdown the barriers to free trade, and all will be well. Sooner or later, rapid economic growth and increasing prosperity will happen or 'trickle down' in virtually every region of the earth. The rising tide floats all boats.

In this world of 'Liberty' diverse players join-in *ad hoc* alliances to solve social and environmental problems in the most pragmatic way possible. The keynote of this scenario is *'dynamic reciprocity'* – giving and taking in a climate that is closely attuned to the opportunities of the moment whilst, at the same time, alert to ways of incorporating long-term values into strategies for commercial success. This is a world of social and technological *innovations*, experimentation, rapid adaptation, much voluntary interconnectedness, fierce competition, and a powerful, ever-changing global market. *Transparency* in everything is high, and the widespread availability of information allows free market entry to new actors.

The growing *connectivity* of national economies and transnational business, however, does not occur smoothly. Multiple players with varying values and differing objectives vie for power and position in a global milieu of swiftly shifting, fluid alliances. What role environmental regulations and social welfare should play is a constant source of dispute. The arguments are intensified by the increased interest of media in reporting on *environmental degradation* and *social inequity,* especially the growing gap between rich and poor countries. *Accelerating migration* from the poorer parts of less developed countries and regions, moreover, is seen as a serious threat by many in the more developed regions of the world.

Europe

For Europe, this is a world that has witnessed the *"triumph of trade over war"*. Europe in 2030 has largely been shaped by *constant economic growth* driven by the continuing processes of globalisation, privatisation and the liberalisation of key markets, including technology, energy, air transport, pharmaceuticals, and financial services. *E-commerce* has become embedded in the fabric of European business, with explosive developments in mobile communications, short-range wireless, digital intelligence, and voice and language technologies. Europe has become a

world leader in *software solutions* and *biotechnology,* paving the way for future medical and scientific breakthroughs.

Successive *waves of enlargement* continued EU expansion eastwards, offering a wealth of new business opportunities, each providing cheap and well-educated workforces, and stepping-stones to larger markets to the East. In 2017, Switzerland, Norway and the Ukraine gained membership, to be followed in 2021 by Turkey. This last period of enlargement was based on the concept of a free trade *multi-speed Europe* where different coalitions of member states have been able to pursue different initiatives at their own pace. Turkey, with one of the fastest growing economies in the world during the 2020's, as well as a dynamic youthful population, was able to cushion the pension crisis across an otherwise mostly ageing continent. In addition, Turkey's geographical location, culture and religion have made it a bridge to the wider Muslim world.

During the period 2010 to 2020, Europe managed to break away from the tradition, long-held in many countries, of extravagant social expenditure and strong public intervention. It was the development of the world economy, in general, and the success of President Hilary Clinton during her second term in modernising supposedly untouchable sectors such as health, education and social assistance, in particular, that swept away Europe's uncertainties. The principles and practices of the New Democratic Party in the US quickly spread to Europe, favouring entrepreneurship, innovation and individual responsibility.

Overall, the European economies have emerged well from the vagaries of the first part of the 21st Century - *more competitive* and *more flexible*. There has been rapid growth in small businesses and increasing openness to world markets. Indeed, the whole European economy has been reorganised in a more mutable manner, in line with technological innovation and the concentration on *higher added value* sectors.

Economic change, however, gives rise for social concern. European societies are more fragmented than ever; individualism and relativism are dominant; and consumerism is over-ridingly the big idea. Europeans are now limiting their desire for solidarity to their immediate entourage, particularly their family. And generally, the public distrusts collective action, especially by governments and public service.

IRELAND

Always popular for its picturesque scenery and its unique culture, Ireland, that small island at the edge of Europe, has become a large player on the global stage, mainly through its world-class advances in **science and technology**. Although geographically Ireland is part of the continent of Europe, and a long-standing and staunch member of the erstwhile European Union until its virtual demise after 2020, it is proving to have more in common with its nearest neighbour to the West – the United States of America.

The Eastern region of Ireland is home to some of the richest cities in Europe. With an American-style focus on trade and technology, and social and political policies to match, these quasi-autonomous **city regions**, led by US style elected mayors, have contributed to Irelands pioneering status in medical research and nano-technology development.

To the Western side of the island the **heritage industry** dominates the economy. Much to the chagrin of true lovers of Irish culture – its art, its crafts, its music and its oral tradition – the customs of yesterday have been packaged, promoted and presented for the tasteless consumers of today.

People

In the world of "The Sow of Liberty" **materialistic attitudes** are dominant, and the widening gap between rich and poor is a source of much civil unrest, rising crime and growing drug dependency. Though, for many, the standards of living are high, the **quality of life** is rather low. The populace has little time for public affairs and concept of citizenship, and scant regard for the fading European ideal.

Everything is for sale that can be sold in the Ireland of 2030. Intrinsic cultural, architectural, archaeological, social and environmental values have long been eroded in the face of the onslaught of **mass consumerism**. The road from Dublin to Belfast, for example, has effectively become one long chain of strip-mall.

In terms of community, **the family** still plays a very important role, especially among the poorer sections of society. And community spirit is thriving in small villages. **Religion** is also important for many people, although Christian Evangelism and the Muslim faith attract more devout congregations than the quietism of the Roman Catholic church.

With regard to **demographics**, the sustained growth of the Irish economy up to 2030 has led to continued high net migration levels, averaging 29,000 a year from 2010 to 2020 and 20,000 a year from 2020 to 2030. The total population for the island of Ireland now stands at 7.4 million, 5.45 million of which is to be found in the "Old Republic", and 5.2 million lives in the Eastern Conurbation. The Greater Dublin Area, with a population of 2.3 million, is now home to an immigrant population of 80,000 Turks, 50,000 Sri Lankans and 120,000 Indians. One in five "Dubliners" are Irish by descent. The age structure of the population has almost reached parity in terms of old and young, with 0.95 million children in the 0-14 age bracket and 0.97 million persons in the 65+ age bracket, leaving a dependency ratio of around 35%. A significant rich-poor divide has produced contrasting fertility figures, with the better-off tending to have their families in their 30's, and the less well-off in their 20's, but the overall fertility rate stays at around 1.95 with an average of about 65,000 births a year. Life expectancy now stands at 78 for males and 83 for females, disappointingly low due to increasing deaths from obesity, heart disease and cancer.

In the context of **health**, it is unwise to fall ill in the Ireland of 2030 unless you carry good private health insurance. Facilities for the un-insured are available but are invariably understaffed and poorly equipped. Generally, while the Irish are living longer, there is much greater dependency on drugs, therapy and replacement surgery. A number of small private 'state of the art' clinics located in the West coupled with the natural beauty and cultural attractions draw **rich retirees** mainly from Europe to settle down in the vibrant towns and villages of the West.

Notwithstanding that the **arts and culture** have largely been commercialised, there still exist pockets where the traditional Irish way-of-life survives, albeit as a tourist attraction in its own way. Mainly to be found in small towns and villages in the northwest and southwest, and designated as heritage zones, comparatively large concentrations of musicians, artists, actors, dancers, singers and writers keep the old customs such as sean-nós singing and céilí alive.

The creed of individualism, coupled with a sharp divide between the have's and have not's, have led to a **rise in crime** of quite alarming proportions over the past 15 years. There are parts of Dublin, Cork and Limerick where the guards frankly admit they have no real authority. Furthermore, organised crime of international dimensions finds a relatively safe haven for conducting its global operations in permissive and libertarian Ireland.

Additionally, while Irish leaders are proud of boasting that in this new liberalised, meritocratic society anyone can get to the top who is good enough, an Internet poll recently revealed that 80% of the workforce suffer regularly from **stress-related illness**, and only 16% are optimistic about the future. On top of this, there is still a core 6% of the population who are unemployed – and in the eyes of many, unemployable. But there is little room for technophobes in this society. In this ruthless, electronically driven market economy anyone who cannot keep-up with technological advance is likely to be thrown on the scrapheap. Intolerance and even contempt towards such marginalized people makes it politically feasible to keep social welfare low.

Places

Over the last 25 years, the seeds of a large urban metropolis that at the time was the Dublin – Belfast corridor has grown into a huge polycentric city region, often called the **Eastern Conurbation**, which stretches from Belfast and Armagh to Waterford and is home to 70% of Ireland's population. The region is a dense weave of intensive and **highly profitable agriculture**, based on GM foods and feeding the functional food research; **services** and very **large-scale industries**, such as IT, bio- and nano-technology. Dublin's role as centre of gravity was replaced by a gravitation towards 'plug-in' connection to the corridor – dramatically reducing perceived peripherality of many midland and Western areas.

The Eastern Conurbation developed as the **market forces coupled with demographics** led to the establishment of the critical mass necessary for an urban agglomeration of sufficient scale to be able to compete as a European city region. The scale of internal markets for goods and services supported the emergence of domestic innovation which resulted in the establishment of

a new strong cluster companies, often described as the Irish Power. These companies became **major exporters** and over time have replaced the reliability of Irish economy on the Foreign Direct Investment. This means that sustainable wealth could be generated from the **indigenous innovation**. At the same time, the political centre of gravity moved eastwards as an increasing share of the population was drawn to the Eastern region, which accelerated the urbanisation of values and priorities.

The Eastern Conurbation has developed a **world class infrastructure**. A **four-lane railway corridor** from Larne to Duncannon is used for both goods and passengers and is paralleled by a dedicated infrastructure corridor and a motorway. The fast lane allows journeys from Belfast to Waterford to be completed in 2 hours. The dense network of commuter and fast rail lines complemented by roads connects most of the centres in the Conurbation and stretches out to the West allowing an easy access to the main recreational and leisure hubs in the West. The isle of Ireland is served by **three main airports**: Belfast, Waterford and Dublin West. The Dublin West airport was completed in 2017, located near Mullingar, quickly became the main airport serving the areas from the mid-East to mid-West. There are very few places in Ireland that are more than two hours away from one of the main airport s. The Duncannon Europort, completed in 2019, is now a major national **deepwater import and transhipment port** for high-speed large transatlantic vessels (HLTVs).

The West of Ireland in 2030 is quite the opposite of its Eastern regions. After long years of lagging behind, abandoned villages and towns are coming back to life again. Creativity, beautiful landscapes and the feel of the 'old Irishness' became attractive again when the East lost its identity and distinctiveness. However, it is not such a paradise as it seems. The West, **designated out of its existence**, became a **playground for urban people**. Tourism, leisure and cultural activities create employment prospects, but most of the benefits drift back to the East.

High land prices and generally inflated costs of living allow the best quality of life in the West only for the very rich.

Politics

Progressively, throughout the first three decades of the 21st century Ireland adopted the formula made so successful by a pre-eminently powerful **United States of America** – privatise, liberalise, deregulate, reduce public spending and generally unleash the forces of the open market. The centre-right coalition that governed between 2010 and 2020 embraced the global market by dropping tariffs, promoting exports and welcoming further foreign direct investment. A backlash in 2020 returned a Social Democratic party whose fortunes failed after only four years, and, since 2024, there has been a Progressive Liberal Party in office, which has consciously reduced the role and influence of central government, whilst introducing a succession of budgets aimed at promoting enterprise and fostering a risk-taking environment.

In common with most of the rest of Europe, the principal unit of political power is the **city region**, and the most powerful political figures are their directly elected mayors. Competition between these "city-states" is ruthless, with investment incentives and skilled labour the prime lure. Co-operation through complementary clusters, however, also pays dividends for all. One beneficial consequence of a weakened national government, and a dispersed municipal power structure though, is that the boundaries between the North and South – physical, psychological and political – have become increasingly blurred and largely irrelevant. The rewards of economic collaboration now far outweigh the old cultural and constitutional tensions.

Competitiveness

By so whole-heartedly embracing the **technological revolution**, Ireland in 2030 has consolidated its position as one of Europe's wealthiest countries – but it is also one in which market forces have been allowed to run wild, leading to vastly inflated property prices, stifling traffic congestion and an overworked population. The government's hands-off approach, moreover, has had its drawbacks. Multi-nationals have taken away many things the Irish thought they would have forever – their telecommunications companies, their airlines, and their financial institutions. To most observers, it seems that the state has abdicated almost all responsibility, allowing the market to determine just about everything.

Ireland's main industries are located along the Eastern Conurbation, home to most of the transnational corporations, many of which have Irish origins, which dominate and control so much of the country's everyday life. Irish industry, of course, is based on a **knowledge society**, and little manufacturing remains. One of the areas in which Ireland excels, however, has developed from the oldest productive activity of all – agriculture. **Functional food** research and development has seen Ireland emerge as a world leader. Cork has also become the centre of 'pharming' for Europe – that is the clinical research, product development and ethical testing of medical merchandise.

For the prosperous cities of the Conurbation, the Cork node, and especially the new "science city" of Tara in Meath, Ireland's concentration upon **information technology** and **biotechnology** has paid-off handsomely. World-class researchers, attracted by super-salaries, have led to the race to achieve biological programming of proteins and the integration of nano-materials. A new nano-technology centre of excellence, driven by AIT, starts to emerge in Athlone and other Midlands cities. The result has been a 'human-body-repair' capability, transforming traditional notions and functions of hospitals, doctors and nurses. Technological supports to human performance – so long limited to the likes of hearing-aids, blood-pump boosters and prosaic prosthetics – took a giant leap with 'humorphing'. When e-technology finally could match the electro-chemical processes of the brain, the advent of **machine synthesis** had dawned, and now the future for the artificial manipulation of human knowledge is truly awesome – and its potential commercial exploitation seemingly limitless. In addition to all this, the long-established Mayo Clinic near Castlebar is now leading the world into the research and development of human cloning and cryogenics, resulting in mass protests by ethical groups and high levels of commercial security.

Money has become completely digital and **intelligent systems** are everywhere. This 'digitisation' of the economy and 'wiring' of society has deepened social exclusion as advanced communication systems benefit the better-off. Likewise, **leisure time increases** for the professional classes, as working-hours have steadily declined over the past 15 years, and leisure itself is characterised by high levels of consumption, more active life styles and greater mobility. A number of very attractive leisure/cultural hubs attracts the population - Dundalk, Wicklow and Wexford within the Conurbation and Sligo, Kerry and Galway in the West. **Home-working** is prevalent, and many skilled workers telecommunicate their work from rural abodes that are technologically 'smart' but environmentally expensive.

Computers, as such, have just about disappeared as most information and communications technologies have become embedded in their functional artefacts responding to speech, touch and gesture. **Consumer behaviour** has also been revolutionised, and the e-tail and the virtual arcade have replaced the traditional shopping centre; though specialist shops offering exclusive goods and services, as well as a shopping experience, flourish.

Sustainability

Rapid economic growth, combined with regulatory neglect, has brought rapid worsening levels of pollution and congestion to the country's centres of population. There is, however, a strong movement towards the **'marketisation'** of the environment, with explicit monetary values ascribed to a wide range of resources and environmental services. Access to these services is limited through charging, or by allocating rights that can be traded. The rise of **corporate social responsibility**, moreover, has raised the level and degree of self-regulation and accountability in the market.

General apathy persists in Ireland towards **climate change**, though the situation dramatically worsens worldwide, and a market-based regime fails to reduce greenhouse gas emissions.

Similarly, little thought is given to **biodiversity**, except in the heritage zones, where tourist taxes support an environmental protection policy on a highly selected basis. **Urban planning** is often left to junior planners from abroad on short-term contracts who are generally unwilling to refuse applications for commercial development. Attractive urban form and places with good quality of life, although desirable by all in the East, can be attributed to only a small number of Eastern cities.

With regard to **energy** sources, the milestone marking a fundamental reversal of policy came in 2015 with the construction of a pebble-bed high temperature nuclear gas reactor near Dundalk. Ironically, EDF, the massive French utility company is building the first experimental **nuclear fusion** plant in Westmeath, with hopes of actually exporting electrical power to the U.K. In the West, wind and wave power production predominates, and Ireland boasts a world-class reputation for research in developing these **alternative sources** of energy.

Learning

In an economy driven by commercial enterprise, third-level institutions are required to be almost completely **self-financing**, and are, therefore, forced to manage their affairs like a business. Education is no longer viewed in the traditional sense as a constitutional right available to all, but rather as an expensive, though high-quality commodity. Universities consequently have forged a variety of **partnership** arrangements with the private sector and other overseas academic institutions. Many companies respond imaginatively and generously, recognising the worth of investing in the next generation of leading-edge **knowledge workers**.

Globalisation has ensured that the student body represents an ethnically diverse and **multi-cultural** community. Teachers and researchers are exceptionally well-paid, but regularly reviewed as to their performance. All this creates a virtuous cycle at the upper-end of Irish education, which attracts worldwide acclaim for excellence. It has to be recorded, however, that the emphasis of course provision rests heavily upon those disciplines providing a ready workforce for international trade and global industry. **Science and technology**, with management and marketing, are strongly favoured over the humanities.

In the secondary sector, **private services** run by global providers have become widely available, especially along the lines of the American charter schools model. State provision is largely confined to the very poor and the most disadvantaged.

Lifelong learning has developed into an industry all of its own, and several leading Irish universities, though slow to take the field, have fast established leading global positions in the provision of continuing education at advanced levels in such areas as energy resource management, biomedical research and nano-technology development.

Valediction

The Ireland of 2030 in the "The Sow of Liberty" scenario is one which has acquired an international reputation for being economically healthy – but socially infirm.

PROSPECTS

- Irish *identity* becomes stronger; the process of European unification slows down; and an all-Ireland government assumes more responsibility for social, economic and political affairs.

- The Irish people are once again withdrawing from *public life*, having become increasingly suspicious of politicians, civil servants and collection action.

- There is a strong emphasis on *self-reliance;* single-issue non-governmental organisations emerge; law and order politics prevail; materialism and consumerism rule; a widespread feeling of insecurity predominates; and residual family solidarity strengthens.

- The gap between rich and poor widens, yet there is a growing acceptance of *social exclusion* and the demonisation of 'idleness'.

- Commercial returns to new Irish products and services swiftly become eroded through *'commoditisation'* by which global resources are deployed to converge on international best practice.

- Supply chains throughout Ireland and beyond become *supply webs* which can be reconfigured rapidly in response to changing events.

- *Intellectual property* becomes ever more valuable, and defending it becomes a central concern for Irish industry, commerce and research institutions.

- Trans - and multi-national *corporations* increasingly determine Irish economic policy, and Gateway chambers of commerce exercise greater influence on the political agenda.

- Irish society tends to resemble a *disassembled machine*, with each part working to fit a particular purpose, but operating less and less as a whole.

- There is greater *transparency,* with much more informed judgements of performance.

- Regulation is concerned with special issues of governance such as accountability and access to data, so as to provide the *leadership and information* that markets, policy-makers and analysts require in order to avoid crude mistakes and economic disruption.

- Innate Irish *creativity and enterprise* generate enough wealth for communities to cope with most welfare problems.

- *Competitive positioning* between Gateway towns, cities and their regions becomes ever more evident, with local facilities and capabilities nurtured to meet these needs.

- High standards of *education* are available in Ireland, at all levels, but at a price.

- Commercial and community *security* is increasingly provided by private operators.

- Concern about *social and environmental issues* is slow to emerge.

- The *'greying'* of the Irish population is just starting to happen, with consequent intergenerational problems.

- Wide scale *in-migration* leads to a polarisation of Irish society and the formation of ghettos in the Gateway towns and cities.

- A *new political elite* is just appearing, willing to take a longer-term perspective on social responsibility and environmental issues.

- The *downsizing* of the public sector and *outsourcing* of municipal services is almost complete with the private sector having taken over many traditional civic functions.

"Harnessing the knowledge economy"
This scenario is founded on a system of shared values, a fair distribution of opportunity and a desire for sustainable development. It is held that these are best attained through a strong framework of public policy under the aegis of a forceful European Union. There is the assumption of a worldwide metamorphosis with commercial and institutional renewal accelerating across the developed world, with policy-making and decision-taking having become increasingly delegated and expert. The emphasis throughout is on collective, collaborative and consensual action, shaped by commonly held attitudes and aspirations.

Global

It is a *"transformed world"* in 2030, where social and economic change gives rise to enlightened policies and voluntary actions that shape or supplement market forces. Civic society has the power to frame social and political agendas: there has been the *'greening'* of a growing number of global corporations; and the imaginative use of new technologies has expanded communications networks and services worldwide.

There is a trend towards a more peaceful, equitable and environmentally stable world. Greater access to information exists, power is more widely shared, new grass roots coalitions shaping the actions of governments and institutions have sprung-up, and the *form of governance* has generally been broadened. Communities make use of market forces with social and environmental goals, accepting economic competition but not losing sight of the need for making deliberate social choices and meeting basic human needs.

This is a world of highly co-ordinated environmental and social initiatives in which the resources and persuasive powers of a number of groups are harnessed for specific actions on a global scale. Founded in 2025, the most influential institution is the Global Ecosystem Agency. Created to promote sustainable development, the GEA serves as the organisational centre for the development of worldwide policies and standards, and, with the WTO, acts as enforcer of those policies. Over the past twenty years, indeed, governance itself has slowly been transformed through the widespread embedding of the sustainable development concept in business, civic and government institutions.

During the first two decades of the 21st century, Asian economic growth continued at a rapid pace. By contrast, growth in Europe and North America was relatively slow as a result of the demands of an ageing population and half-hearted attempts at social and economic

restructuring. By 2020, however, burgeoning growth had placed enormous strains on local environments and social fabric in urban Asia. The physical infrastructure of many cities had not been able to keep pace with the transformation, and serious problems of air and water quality emerged. Demand for energy, moreover, was outrunning the capacity for emerging nations to sustain growth.

One of the unexpected by-products of the formation of the GEA, with its emphasis on technocratic efficiency, has been the effect on national governments. An emerging consensus in this "Equality" world about the necessity for sustainable development has resulted in a new understanding about the role of the government. The conventional understanding, that governments are merely required to provide security and the legal framework fro markets to operate successfully, was seen to be too simplistic. Also rejected were the old discredited "dirigiste" attempts to direct economic growth through centralised command and control. What has emerged, instead, is a fresh understanding of how governments interact with markets in order to improve economic performance by providing a clear framework supporting necessary public goods.

Europe

For Europe in 2030, this is a world of *"shared responsibilities",* where unparalleled economic growth is enjoyed as a result of legal certainty and market transparency. A sustainable and high quality of life is enjoyed by all, and the integration of Europe has dramatically altered the global political and economic landscape.

While power remained mainly in the hands of nation states following the enlargement of 2004, by 2015 the EU government had taken great strides towards replacing national governments as the *overarching authority* in most realms of society and the economy – often by default or by disguise. National governments made few attempts to undermine centralised decisions thereafter, and the majority of citizens see themselves as increasingly European.

Member states are continually learning from each other, which facilitates the *convergence of ideals.* Concepts such as sustainable development, corporate social responsibility, and active citizenship, have gradually crept into all policy agendas within the EU. European leadership, in fact, is seen as important for achieving broad international co-operation in areas such as trade and sustainable development.

During the past fifteen years, since about 2015, Europe has undergone a profound change. In a favourable global economic climate, it has found a way of reconciling its ideals of solidarity and respect for the individual with technological innovation and the pursuit of economic efficiency. At the root of this change undoubtedly lies the *transformation of the public sector*, which, after a decade of ambitious reform, has become a facilitator or partner in society. Government agencies, at all levels, aim to help individuals, firms and civic associations assume their share of responsibility for the life of the community. On top of this, due to extensive debate and reform, Europeans have embraced integration. This has conferred greater legitimacy on the EU,

and, as a result, substantial progress has been made in such areas as social affairs and environmental protection.

What is known as the "partner state" approach has also changed the attitude of the public authorities to the world of business. A strongly proactive approach towards investment in research and development has been most beneficial to Europe's competitiveness, especially in the knowledge-related industries. Judging by the steady growth in foreign investment, the "European Way" of a higher involvement of the state and reliance on consultation and consensus building, is well perceived from outside as its leads to "win-win" solutions not otherwise attainable.

Costs, however, are rising again, and complacency setting-in. A federalised China now competes aggressively in high-value markets, as does India in technology and biomedical sectors. The US is developing a more multi-lateral and co-operative approach to world affairs. And Russia is making a strong comeback to the international stage. Europe will need imagination and energy to maintain its position in the world economy, and its 36 members will have to ensure that increasing bureaucracy does not stifle competitiveness.

IRELAND

Stable economic conditions, founded on a commitment to innovation and international competition in most sectors, have enabled the Irish to enjoy a good standard of living ever since the turn of the century, despite greater policy intervention in both civic affairs and the market. Technological development is driven by user needs and geared towards **eco-efficiency**. While agriculture and resource intensive sectors have declined, there has been a strong growth of services and high-tech industries offering low environmental impact and high social value.

Nevertheless, there are **two distinct societies** living side-by-side – the "knowledge" society of the towns and cities, and the "wisdom" society of the rural areas. The former is characterised by a high mobility of labour, collaboration with European systems of education and training, and great connectivity with the world's commercial networks and financial markets. The latter is renowned for its access to nature, leisure pursuits and healthy living, as well as the state supported communities of scholars, poets, artists and musicians. Irish people provisions for variety of lifestyle and economic opportunities for all.

As part of a commitment to **balanced economic and social development**, major flows of capital, technological expertise and aid in capacity building lean Ireland towards the south of the globe.

People

While the period from 2010 to around 2020 witnessed intermittent clashes between the two main ideologies in Ireland – colloquially called the "tekkies" and the "chartists" – there has always been a common agreement throughout society that the prime civic priority should be **good order** in public life. "Efficient" and "effective" pull the majority of votes at any election.

And, though the strong state control of citizens' lives is often criticised, there is an underlying appreciation of what it brings, especially the reduction of anti-social behaviour so prevalent during the first decade of the century.

Above all, Irish society is **practical and pragmatic**. Road networks, public transport systems and utility services are all very efficient. Spatial planning is well organised. Excellent healthcare provision exists and education at all levels is first-class. Overall, the populace is well cared for form cradle to grave. There is, of course, a price, and taxes are high.

Culturally, Ireland has seen a resurgence of interest in its history, arts, music, dance and literature. Heritage, however, is subject to the same "managerialism" as pervades all other aspects of civic life, and suffers from a surfeit of standardisation and quality control. Society is now unashamedly "worthy", if, by former behaviour, a little dull. Dublin, in particular, is no longer the party-town it once was, through many breathe more easily as a result.

Despite the decline of the **role of the family** over recent times in many Western societies, it still plays an important part in Irish society. Nevertheless, families are smaller than they used to be a few decades ago, and in 2028 the census showed that 35% of families were formed by a lone parent, a quarter of these being father and child or children. In addition, the strong **community spirit**, so characteristic of Ireland in the 20th century, has gradually weakened over the past 30 years. Today, most "communities" are based on non-family and non-geographical links such as interest groups, professional associations and voluntary organisations.

In the world of "Wild Cats of Equality" **organised religion** in Ireland has been disappearing. The Catholic faith never recovered from the loss of confidence at the turn of the century, and the growth of a strong and active Muslim community during the 2010's was severely curtailed when immigration was strictly controlled and repatriation introduced around 2020. There has, however, been an upsurge of small spiritual movements, based on lifestyle, over the past ten years to replace the part played by formal religious groupings.

In terms of **security,** a general climate of law and order prevails. Citizens are, on the whole, dutiful and honest. This, in part, is credited to the emphasis placed on mandatory civic studies courses in schools, as well as the community welfare oriented policies proselytised by the popular parties of the centre-left that now dominate Irish politics. Notwithstanding this broad mood of good civil behaviour, there is a growing underground movement of anti-State protesters, the "Orwellians", who regularly yet unpredictably, conduct a series of "smobbing" activities on government websites.

The total **population** of the state in 2030 is 5.13 million, of which about 2.0 million live in the Greater Dublin Area, and the expected demographic bulge has occurred as Ireland's populace gradually aged, so that the number of "old" now exceed the number of "young", and there is a dependency ratio fast approaching 40%. **Fertility** rates, however, remain at the top of the European league; **mortality** rates have slowed to 35,000 a year, with improved life expectancy of 81 years for males and 86 for females; **marriage** rates have declined significantly, and more

than two thirds of all weddings are by civil ceremony; and **participation in education** has expanded, so that 96% of all school leavers have the international baccalaureate and well over half go on to third level education.

The wholesale reform of the **healthcare** services in 2010 has seen a staggering reversal in fortune. Health care is free at the point of delivery, and the world-class standards achieved by hospitals, clinics and surgeries are the envy of Europe.

Places

Ireland of 2030 has finally achieved a **regional balance**. The threat of the Dublin Region's emergence as the demographic centre of gravity prompted the formation of a Western political alliance under the championship of a group of business leaders that put differences aside to form an integrated, coherent platform to promote and support the development of 'A Western Way of Living'. Strong lobbying of the alliance and the successive governments' commitment to a balanced regional development, have led to creation of a new National Spatial Strategy II (NSS II) and National Development Plan II (NDP II) of 2014 and 2015 respectively, both drafted and implemented by the Pan European Strategic Planning Alliance.
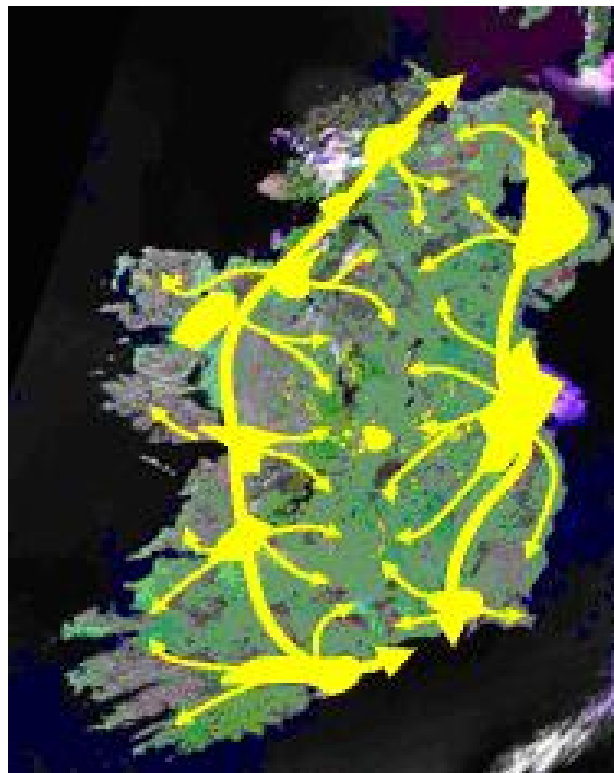
The island has two parallel cultures and economies that are different but highly integrated. The **Western Corridor**, also sometimes called *Switzerland of the Atlantic*, consists of a 'necklace' of seven well developed, cultured urban centres and their rural hinterlands which support some of the highest quality of life communities in Europe. It stretches from Letterkenny and Derry in the North to Cork in the South. The Western Corridor economy is a classical example of the **modern knowledge economy** based on science, culture, marine administration, education,

high-technical medical and bio-pharma industries. The urban centres are integrated into a high quality rural settlements and wilderness management areas. The **high quality of life**, **choice** and **diversity** offered in the West continually attract skilled labour and the investment follows.

The **Eastern Corridor** contains almost 50% of island's population and stretches from Belfast to Dublin and Kilkenny. The corridor consists of two metropolitan regions (Dublin and Belfast) and a number of larger cities, and more continuous large-scale infrastructure to support intensive agriculture, agri-business and 'traditional' electronic and nano-tech industries. Although, the East's economy performs well, the cracks start to appear, as the best people increasingly are on the move to the West.

One of the key projects outlined by NSS II was connecting Letterkenny and Derry with Cork by **rail.** The line was completed in 2021, and now, two north-south corridors of transportation and infrastructure exist. As a result, no part of Ireland is more than 50 minutes away from a major urban centre. Furthermore, access to the four main airports (Dublin, Belfast, Derry and Shannon) is very easy. **Shannon Airport** has also successfully developed its strategic advantage of having a of capacity for long-haul flights and is the real "Atlantic Gateway".

Although Ireland achieved a regional balance, a high price is to be paid in terms of increased environmental foot-print, competition reducing efficiency and frequent political and policy conflicts.

Politics

The concept of **solidarity** has become pre-eminent in the Ireland of 2030, largely due to a growing recognition that the creed of individualism which prevailed until the mid-2010's had sapped the country's civic soul. By 2012 mounting pressure had been placed upon politicians of all persuasions to do something about the widening poverty gap, and **social inclusion** became a central plank in the platform of most successful political parties. Every government since 2015, moreover, has increased **national spending** on social services, public transport and affordable housing. They have also sought to develop human capital by investing heavily in education and research. Of special note, was the major drive in 2016 to improve significantly childcare facilities allowing more women to enter the workforce, and the thoroughgoing reform of pension funds in 2018 encouraging older people to continue working.

A strong and cohesive Europe, with greater political power and central authority, has led to a *de facto* rather than a *de jure* **unification** of the island of Ireland. The principle of **subsidiary** has meant that most legislation is enacted in a relatively uniform manner at national level, and regional differences are accommodated within a broad European and National umbrella. **Immigration**, however, is tightly controlled, and gives rise to political tension among European partners.

In 2017, a **new Irish constitution**, strongly endorsed by referendum, introduced compulsory voting, slimmed-down the Oireachts to 100 TD's, established an All-Ireland Forum and greatly

increased the power of local government. Rural areas have been rejuvenated as a result of effective regional development, and privatisation has completely fallen out-of-favour as government at all levels of society is seen to work. The implementation of NSSII demonstrated the effectiveness of the **Social Democratic** approach which has held sway over the European Parliament and the Irish Dáil for the past fifteen years. They were admired and emulated widely.

Competitiveness

Ireland is regularly in the **top five** of Europe's thirty states for levels of GDP, productivity and personal income. It also frequently tops the **tax** table. Overall, however, the past decade has witnessed a **period of prosperity**, based largely on high levels of innovation and resource productivity.

Nevertheless, some **tempestuous times** preceded this. By 2012 the Euro was in trouble, caused by contention over EU expansion, and the commercial sector was left exposed to sterling and the dollar. The European Central Bank allowed the Euro exchange rate to fluctuate, causing particular difficulties for Ireland as Great Britain continued to drag its heels over entry into the EMU. On top of this, increased competition from Asia and South America also hit the Irish economy hard and the country was bedevilled by inflation.

Since about 2018, however, Ireland has adapted to the **global market**: distaining protectionism; focusing on knowledge creation; pursuing internationalist and communitarian values; and placing great attention on the provision of a high quality of social infrastructure. **Intangible** goods and services, such as consultancy and financial services, generate a large part of economic value. **Organic farming**, in terms of research and advisory services, as well as production itself, also plays a significant role in the economy. But by far the most important field of promoting Ireland's economic competitiveness has been that of **neo-fabrication** in such sectors as: the cloning and growth of human organs; the production of bio-pharmaceuticals; the development of virtual software; and the breeding of genetically modified animals, exemplified by the notorious look-alike racehorses of Kildare.

The **built environment** has been transformed by a combination of cutting-edge innovations in off-site construction and a high level of investment in the rapid replacement of old and low quality buildings and infrastructure. Ireland's construction industry, together with some of its academic institutions, now export this experience and expertise to the rest of Europe and the world at-large.

Not all, however, is rosy. Whilst Ireland has become as technologically advanced and adroit as anywhere in Europe, there is a groundswell of feeling moving away from the "wired world" of modern economies in 2030. For many, the Celtic genes are more suited to a **conceptual age** of words, music and similar forms of artistic and scholarly expression other than numeracy, electronic connectivity and computer logic. The boxing of individuals into ever more restricted technological specialisms should give way, in their view, to a greater freedom of spirit,

awareness and wisdom of community. Only time will tell if such a **spiritual renaissance** can be converted into a fresh form of economic inspiration and societal well-being one built perhaps on the adage of 'better-not-more'.

Sustainability

Reconciling growth and sustainability lies at the heart of "Wild Cats of Equality" world. Ideological concerns about the environment have been translated over the past fifteen years to 2030 into **practical action**. Sustainability is seen from a global perspective, including the maintenance of biodiversity, the protection of global commons (the atmosphere, the oceans and the wilderness areas), and fair access to environmental resources. Policy, in fact, is increasingly **co-ordinated** at international and EU levels, and Ireland is a willing acolyte.

In fact, Ireland's attitude to the environment experienced a sharp turnaround in the second decade of the 21st century. The country's **neglect of environmental quality** was one of the main causes behind the collapse of the tourism industry around 2011, and further contributed to the fall-off in foreign direct investment and multi-national relocation at around the same time. Since then, environmental issues have come to exert a strong influence on the progressive policies of pro-active administrations determined to reduce the conflict between business and the community.

One of the boldest environmental regeneration projects was the planting of vast areas of **forest,** mainly in the midlands and the West, starting in 2012 and continued thereafter, so that some 15% of Irish land is now covered by managed woodland. Ireland also has just over 600 large farms, almost half of which produce high-quality **organic food,** and the other half, well separated, grow genetically modified crops across a wide range of **functional food** products.

Conserving existing resources and funding alternative and renewable energy sources have been central to Ireland's progress over the past couple of decades. Following difficulties with water supplies in different parts of the country and Dublin Water Crisis of 2013, the NSS II identified **water** as one of the island's most threatened resources, and, over subsequent years, ways to ensure long-term protection of quality water availability have consequently been given high priority, making it in plentiful supply, unlike so many other parts of Europe and the world. In similar vein, Ireland has become one of Europe's biggest providers of **clean energy**. It boasts the largest offshore windfarm, and, thanks to its Atlantic location, wind and wave power account for almost 5% of gross net income. In addition, domestic and commercial recycling is widely practised, and all new homes built since 2009 have been energy efficient. Controversially, at the outset, almost half of the country's energy is nuclear in origin, being provided by eight small HTGR reactors located in relatively remote parts of the island. Of the other half, some 35% is provided by renewable sources and about 15% comes from thermal waste disposal.

The EU has imposed a range of **eco-taxes** and **environmental levies** that has ushered in an age in which individual polluters face stringent financial penalties. All businesses, since 2017 have

had to submit an annual recycling programme to their local authorities, which, with other similar compliance requirements, has led to complaints of over regulation and excessive bureaucracy.

With regard to **spatial planning**, the twin concepts of the compact city and smart development have led to the containment of sprawl and the reduction of traffic movements.

Learning

The education system is heralded as the flagship of a new socially democratic Ireland. Access to primary and secondary education is guaranteed, and the standards are high. Emphasis is placed not on necessarily nurturing the best, but on trying to ensure that each and every student, at all levels, achieve their optimum. Third level education is free, and due to the respect of learning in society, drop-out rates are low. The government has invested heavily in universities over the past fifteen years, following a long period of comparative neglect. There are also a group of specially selected **research centres**, not attached to universities, which have produced world-class results in such fields as human cloning, sustainable development, functional food and nano-technology. Throughout the sector, however, teaching curriculum and research programmes reinforce social and environment values.

Valediction

The Ireland of 2030 in the "Wild Cats of Equality" scenario is one which has achieved an exemplary balance of social, economic and environmental imperatives, but stands at a point where growing bureaucracy, rising costs, international competition and domestic complacency threatens the continued prosperity and stability of the country.

PROSPECTS

- There has been considerable *reform* of EU institutions; further *enlargement* to an additional dozen countries; *strengthening* of new common policies towards foreign and security policy, justice and home affairs; *devolution* in implementation; an increase in the *EU budget;* and the *Council reformed* on a 'collegial' principle.
- EU enlargement is accompanied by a forceful neighbourhood policy based on 'partnerships' with adjoining countries; the development of a pan-European security umbrella addressing soft-security concerns; and a reinforced bilateral relationship with Russia – all fostered with the full involvement of Irish diplomacy.
- Reform of the *public sector in Ireland* has occurred according to the principles of decentralisation, transparency, responsibility and subsidiarity.
- *Central government* in Ireland becomes a *many-layered concept* with the primary task of using knowledge management to seek harmonisation among expert agencies, in process design, spotting issues in the longer-term and posing the major questions around which national debate takes place.

- *Knowledge management,* in fact, is king; research and strategy departments in successful Irish organisations are replaced by a concentration on building interactive flows of process and teamwork, so that relevant knowledge is defined, configured, refined and deployed.

- The agencies of the state are locked together in a web of *mutual scrutiny* and *task-setting;* fast change takes place, but with cadres of informed and active organisers of events supervising the *managerial machinery* in order to see how best to make use of it; and in both public and private sector managers seize on mechanisms for *transferring knowledge* from individual expert domains to systems-related policies.

- *Technology* enables almost anything to be done; deciding what to do becomes the critical question.

- There is increasing concern about the development and spread of *dangerous technologies.*

- *Power* is more widely shared; the form of governance has generally been broadened; *public participation* in decision-making has increased; and new *grassroots coalitions* shaping collective action have sprung up.

- The Irish population is rapidly *ageing* and a pensions time-bomb has been ticking for some time.

- *Irish neutrality* has been renounced as relatively wealthy nations in Europe feel that their own well-being depends upon a hegemony of military as well as economic and political power.

- There is the rise of *'competitive corporatism'* in Ireland, together with *Irish trade unions* reaching out to non-core workers and international organisations; employers renouncing individualisation of industrial relations; government implementing labour market and welfare *reform* with employment subsidies and personal social insurance accounts: and everyone promoting local confidence and employment pacts.

- The Irish business community has adopted a positive approach towards *corporate responsible behaviour* as companies came to realise that it was in their own best interests to invest in local communities and help meet local needs.

- *Resources wars* rage globally, regionally and within Ireland.

- A recognition exists that *sustainable development* requires further institutional growth and continuing modernisation.

- *Migration* pressures build up on Gateway towns and cities.

- Education in Ireland is more accessible and affordable, but arguably lacks the necessary *'creativity'* that was so distinctive in the era of the Celtic Tiger.

- *Tax reforms* favour ecologically benefical industries and punish polluters.

- The threat remains of *urban eco-terrorism.*

- A growing movement exists towards a discovery, or rediscovery, of certain *fundamental values.*

"Social reaction to over rapid change"

This scenario assumes there will be a socio-political backlash against the forces of change leading to regressive developments in institutions, a failure of cohesion among the wealthy nations of the world and a dislocation in developed economies. The scenario is built upon the desire to preserve personal independence within a distinctive national identity. Patriotism dictates that political power remains with the nation state in an increasingly fragmented world. Most weight is attached to the furtherance of individual freedom, protected by state security, and conscious of cultural difference. But overall, the world moves towards greater instability.
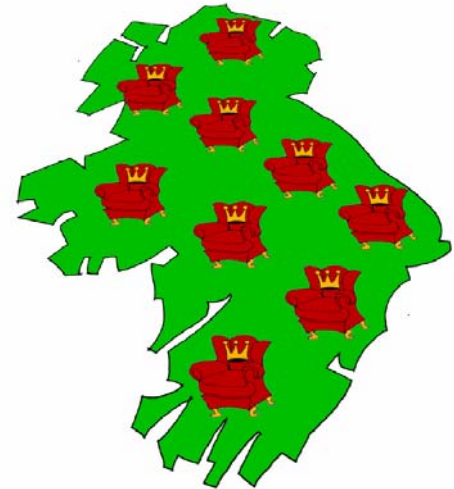
Global

It is a *"fortress world"* in 2030 where the global market boom remains highly concentrated. Fewer than two dozen developing nations benefit to any significant degree from global private investment, while in more than seventy countries incomes are lower than they were in 2000. Islands of prosperity co-exist within an ocean of poverty and frustration.

Economic stagnation spreads as wealthy enclaves devote ever more resources to maintaining security and stability. Inevitably, there is a growing conflict between rich and poor, with a future threat of escalating violence and social disorder. Coupled, with this, a rising tide of *illegal immigration* washes around the world. Furthermore, the *dark side of capitalism* is all too evident in the sweatshops and horrendous pollution of industrialising Asia, and in the expanding popularity of *gated communities* in the United States.

At first glance, however, this world in 2030 looks much like the world of the 2000's, except perhaps, that in Ireland Celtic Tiger has given way to Celtic Sloth. The business focus is on growth and financial returns; and societies in general, whether East or West, North or South, emphasise commercial opportunities and the *global competitive challenge.* Sustainable development is acknowledged to be important, but not enough to warrant top-priority. Indeed, from 2010 to 2020 improvements in such areas as local air quality, solid waste management, clean water, alternative energy production and environmental education led to a perception that the environment was in much better shape than it was in the early 2000's. At global level, however, there was a different picture. Greenhouse gases had risen alarmingly, and since 2020 there has been a growing awareness and increased evidence that the darkest predictions about global warming are much nearer to the truth than the more sanguine ones.

Unfortunately, international cooperation is limited largely to the traditional domains of defence, trade and immigration. In fact, there is a discernible movement away from the sharing of information and power in other domains. And, whilst economic globalisation continues with growing international investment, it is constrained by the protection of national monopolies in such key sectors as infrastructure, utilities and media. Framework treaties that are agreed, furthermore, are constructed in a way that allows for a considerable degree of flexibility to assert national interests.

In this world of 'Celtic Fragility' the habitual reliance on technology has not been sufficient to solve longer-term problems of either environmental or social health. Globalisation and liberalisation of markets, along with the pressures of rapid urbanisation, have raised the degree of social inequity and unrest to a level that threatens the basic survival of both human and environmental ecosystems.

Europe

For Europe, this is a *"turbulent and insecure world"* which has predominantly been shaped by long periods of global economic instability, technological development and international competition. Forty years after the end of the Cold War, *political caprice* is contagious the world over, and there is little indication that the situation will improve in the near future. Circumstances in Europe are particularly precarious.

The European Security Council has deployed troops on four major occasions to restore or maintain order in its own backyard. There is also a recurring series of terrorist outrages. Safety and security, thereby, become a preoccupation with everyone in all aspects of life.

Europeans tend to exhibit a fearful view of the world beyond their borders and an anxiety about what the future holds for them. This siege mentality goes a long way towards explaining the stagnation in domestic policy.

Governments have tried repeatedly to cut unemployment and social security benefits in a bid to stimulate recruitment and reduce labour costs. As a result of international recession and budget overshoots there have been a number of austerity measures, which have resulted in widespread trade union unrest and violent clashes in many European cities.

In this world, economic globalisation has not brought all the benefits to Europeans promised by its most enthusiastic prophets: monetary instability is increasing; growth still slowing; and the rewards are unequally distributed. Twenty five years of political tension around its borders; intractable illegal immigration pressures from the South and East; US preference for bi-literalism; the rise of Turkish nationalism; intolerance fuelled by Islamic fundamentalism; and a lack of coherent foreign security policy, have all conspired to weaken the EU and strengthen the role of nation states. Europeans have become accustomed to zealous law-and-order policies, largely without protect, as they see it as an answer to the worrying situation in which they find themselves.

Preoccupied with security issues, politicians across Europe have postponed painful domestic and EU policy decisions, in particular the reform of the welfare state. Having failed to reform soaring community expenditure and excessive intervention by the Commission in all aspects of life, the EU is viewed with growing disillusionment and mounting discontent. The lack of vitality apparent on the social front is also affecting the European economy. Sluggish economic growth is partly the result of a slow-down throughout the developed world; corporate resistance to liberalisation in certain industries; and the rise of protectionist pressures by developed and developing countries across the world. In the EU, the widespread use of the Euro has increased economic transparency; but national governments have no qualms about helping selected domestic companies protect their captive markets.

Many believe the EU is living on borrowed time. Economic integration is virtually abandoned. *Political fragmentation* proceeds apace, with what is left of a collective framework collapsing into a loose arrangement of separate treaties and bilateral agreements. And social cohesion disappeared in the early 2020's with a series of anti-immigration measures. Europe is again dividing into power blocs, threatening peace and leaving the European Dream in tatters.

IRELAND

The Irish people value the freedom to do as they choose, but very much within the context of a closed and **independent Ireland**. Business is focused primarily on domestic markets, the UK, and to a lesser extent Western Europe, in the light of greater instability and trade barriers in other parts of the world. But there is a boom in those industries which provide a measure of escapism and distraction, including the movies, music and the arts.

Dublin has for long been one of the most expensive locations in the world, and displays wide disparities in wealth between rich and poor. It remains, however, the **economic engine** of the country, being the only part of the island to attract a diminishing flow of direct inward investment.

People are proud to be Irish, and keen to preserve their **culture and heritage**. The accent, though, is on personal responsibility, and over the years, the government has pulled progressively back from the provision of healthcare, education and many other social services. Nevertheless, local communities have been strengthened and more people are starting to take part in politics again as fears for the future grow.

People

One of the main priorities for Irish society is the **quality of life.** People enjoy their relatively short working hours and having more time for family, friends and their favourite leisure activities. They engage less in the public life of the state, preferring to concentrate on their local communities and family circles. **Family,** of course, has always been highly valued throughout Irish history, borne by cultural and economic needs, but the loss of several hundred

Irish UN troops in Saudi Arabia in 2012 on so-called peace keeping duties somehow reinforced the desire to cherish kith and kin.

Heritage has also always been highly prized by the Irish. Whereas such heritage had increasingly been viewed largely as a lure to attract tourists, since about 2015 it has become seen by all sections of society as something personal and precious – birthright. People, especially the young, see themselves as Irish first, and as Europeans a long way behind, if at all. Only one person out of five under 25 has ever lived abroad, even if only for a few months.

There are quite **strong disparities** in income, wealth and spatial placement. The poor tend to live in the cities, while the countryside is for the richer classes. The shorter working hours and decent salaries for some mean much longer hours and a minimum wage or less for others. **Employment legislation** is more honoured in the breach than in the observance. And though, in theory, the law generally provides the same rights for Irish citizens and for immigrants, lack of enforcement, and the proverbial turning-of-the-blind-eye to questionable practices, lead to frequent exploitation of workers, particularly those from abroad.

Due to an influx of immigrants during the first two decades of the century, Ireland has become a country of **many religions**. Until the 2020's, most native born Irish still regarded themselves as Catholics, but for many it was a reference to tradition and family loyalty rather than belief. Over the past ten years, however, there has been a strong revival of faith through the emergence and growth of Celtic Catholicism, a blend of historic Irish legacy and modern evangelism, particularly popular among the young.

Crime is a problem at all levels of society in Ireland. Despite a decade, and more, of tribunals and inquiries at the turn of the century, and a period of zero tolerance during the 2010's the seeds of dishonesty, corruption and lawlessness have once again been sown over the past ten years. The embracing of a free market economy, coupled with greater centralised control of authority has somehow conspired to create fertile ground for criminal activities of all kinds. Violence, however, is not that common, but brutal when it happens, and frequently racial in nature, provoked invariably by the savage action of an ultra-nationalist group known as the Warriors.

The total **population** in 2030 is 5.6 million, with around 2.0 million people living in the Greater Dublin Area. **Immigration** ran at about 40,000 a year throughout the second decade of the century, but in the period since 2020 the figure has fallen to around 25,000 a year due to tighter controls and a less dynamic economy. The **fertility** rate, however, is up to 2.3, representing almost 65,000 births a year, and the highest in Europe.

The **health** of the nation is mostly provided for by the State. Private facilities do exist but are far outnumbered by state hospitals, community health centres and local general practitioners. While such services are not of a very high standard, they are numerous, and offer a comprehensive spread of cover and dedicated level of care for the nation's aged and ageing population.

Places

Ireland is one of few European countries that escaped the homogenising effects of globalisation. As a consequence, Ireland's richly vibrant and distinctive society still exhibits strong continuity with its **rural origins**, though much of the population lead highly urbanised lives, often in a rural setting. Beside Dublin and Belfast, there are 12 vigorous self-sufficient **regional centres** on the island, all closely linked with their rural hinterland. Economic success of these centres is usually linked to the dynamic activities of their local entrepreneurs. However, on the grand scale of things, Ireland is gradually losing touch with global leaders in industrial production.

Over the past two decades, the dominance of the Dublin region has been halted by economic contraction and a **resurgence of organised rural politics**. Slower economic growth combined with the instability of global and European relations stalled the deepening of North-South links. Political and economic regionalism saw the emergence of many vibrant regional centres – each with strong and often unique identities, and fierce regional and local pride. Local markets for products and services expanded and witnessed a surfacing of a new breed of local business leaders who became the backbone of a modern conservative, regionalised system of local governance – with high degrees of local autonomy.
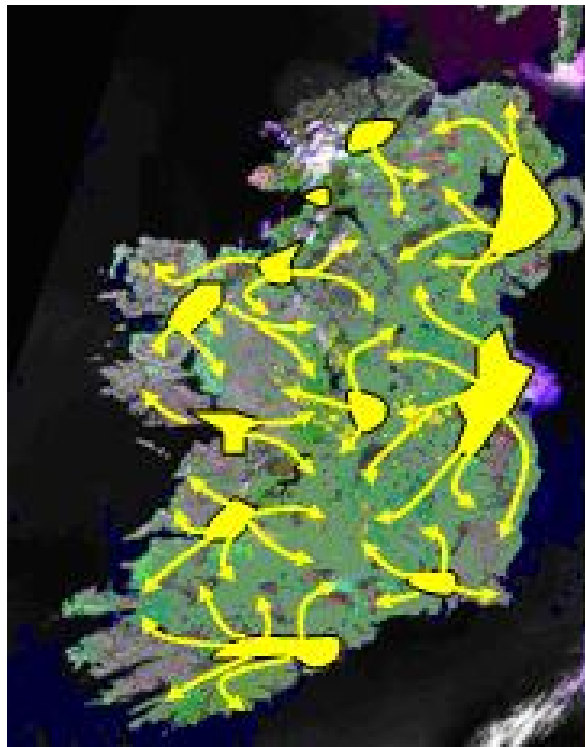
Increased congestion in the Greater Dublin Area and other major urban centres like Galway and Cork, coupled with the cultural preference for rural living, weakened economy and lack of effective and integrated land-use planning, resulted in an unabated continuation of **urban sprawl**. Due to growing congestion in the main urban centres people and business move out, creating 'edge city' employment and industry nodes along the main transport corridors. All of this, combined with a growing number of one-off housing spread around the countryside, led to a decline in many small villages, the slow growth of towns and a resulting weak urban structure.

These **highly unsustainable** patterns support the car dominant mindset, which is again reinforced by Ireland's very poor rail network. Such spatial arrangements also leave various social groups, such as the elderly, excluded.

But, there is also a flip-side to this coin – with people taking their own responsibility and using creativity and innovation in adapting to such patterns. Since the late 2010s a new movement of **eco-living** has been sweeping the country. Eco-villages, with carbon neutral houses, producing their own energy from renewable sources and self-sufficient food production, have been springing-up around the country. Working from home, the emergence of a new concept of community centres as hubs for working, learning and socialising, bus lanes on motorways, and number of other initiatives show how **good ideas** and **collaboration** can alleviate money problems.

Politics

Looking back from 2030, it is easy to see how Ireland has **retreated** into what is seen as a relative safe haven of nationalist, insular, state-centred government where political power is vested in the hands of a few ill-famed politicians who collude closely with commercial interests. By 2020, following a golden age of growth during the 2000's, Ireland had drifted back into **instability**, with a volatile and confrontational political system. Since the last dying days of the Celtic Tiger when the international scene changed drastically, successive governments had signally failed to cope, their average lifespan being little more than two years, and the consequent lack of continuity led to economic drift and stagnation.

In 2024, however, a new political force emerged in the form of the **Ireland First party**. The IF party's central tenets are patriotism, protection and political autonomy. While centralised chauvinism and commercial collusion are also hallmarks of their conduct of state affairs, the IF regime has produced a greater degree of national stability, higher levels of community confidence, and a growing pride in being Irish. Conspicuous conflicts of interest on the part of those in power at national level, combined with a growing concern about rising rates of criminality has, however, invoked a flowering feeling of strong, local, participative politics at the **community scale.** More and more people are beginning to take part in politics within their communities, and the evolving ethos is one of **quality of life,** rather than economic growth at all cost.

Competitiveness

Over the opening decades of the 21st century Ireland has become one of the world's leaders in developing and exploiting the concept of **virtual reality.** E-lifestyles, made possible by unimagined technological advancements and applications, allow people to live, work, learn and take their leisure at, or near home. These developments spurred the resurgence of rural areas, reduced the length of the working week and generally fostered the freedom to follow a more easy-going, fiesta lifestyle.

But all has not been good news. To quote a leading observer of the times: "*The Technology Rubicon was nearly a Styx*". Ireland went off the high-board during the 2010's into the **knowledge revolution**. It carried out all the twists and somersaults to perfection. The pool metaphorically, however, was full of acid. The exponential explosion of information was simply too great to manage. **Commercial expediency** resulted in data being exploited before it became knowledge. Wider perspectives were never sought, or were otherwise unavailable. The 'bio' industries experienced one catastrophe after another, and medicines released as wonder drugs were discovered to have transmissible, hereditary effects. Crop genetic engineering was another near disaster, both in terms of species corruption into useless mutations and uncontrollable contamination of the environment in the wild. Irish agriculture products were caricatured as "green but gross", and huge international lawsuits emanated from almost every importing nation.

Nevertheless, for the past five years or so, the emphasis has switched to an economic policy based on **localist and cooperative values,** favouring low-growth, low innovation, modular and sustainable practices. The fast-growing sectors of the economy are small-scale manufacturing, the arts and crafts, slow food, organic farming and heritage tourism. Services remain the most important area of the economy, but the sector has undergone significant change. As average household income is comparatively low, and people are tending to turn away from the materialistic, the demand for services is oriented increasingly towards fulfilling **basis needs.** Services targeted to high-income brackets, international markets and business-related services (marketing, corporate finance and management consultancy) tend to suffer. **Personal services,** such as health care, tourism, retailing, hospitality and leisure become increasingly localised. In the manufacturing sector the stress is on **customisation, quality, service and reliability**. The construction industry continues to be dominated by small firms, with a predilection towards traditional housing, but with a skill base that is greatly enhanced, leading to efficiency gains and high-quality products. Much of the manufacturing sector as a whole, however, remains labour-intensive, with a fragmented supply chain and low investment.

Sustainability

Over recent years, the Irish have become increasingly resource conscious and **environmentally aware.** Two prior decades of despoliation and degradation are the prime reason why. Attitudes changed dramatically around 2020 when something of a **crisis point** was reached. The world oil peak and consequent price escalation; a succession of coastal floods; and the outbreak of disease due to poor bio-medical and genetically modified farming controls, all converged to convince a concerned populace of the need to change towards a more conservationist and sustainable approach.

A brief interlude during the period 2021 to 2023 saw a Green Party led coalition government introduce successive legislation aimed at securing a path towards **sustainable development.** Idealistic, ambitious and autocratic, these measures were made moribund in their format at the time, being un-fundable from existing budgets and unrealisable in terms of promised time-scale. They did, however, mark a milestone and point the way. From 2024 onwards, the reforming

nationalistic government has set about profoundly shaping change in a more realistic manner. Policy initiatives, political processes and social values are all geared towards encouraging individuals, organisations and communities to integrate environmental concerns into everything they do. A key focus is on using simple and **transferable technology,** together with inherent **native ingenuity,** to optimise the use of local and regional resources, without compromising long-term conditions and reserves. The capacity of different localities and regions to achieve this balance varies greatly, and leads to diverse, and sometimes perverse, outcomes. Global and European environmental problems receive considerably less attention.

Energy systems similarly have been shifted away from a centralised scheme of generation and distribution, and restructured around an array of local fossil and non-fossil fuels. Increasingly, a wide range of small-scale renewable energy technologies are exploited, particularly wind, wave, biomass and photovoltaics. Combined heat and power systems flourish. Much of this transformation is paid-for through funds raised by substantial **energy taxes,** and the consequently high energy process encourage further adoption of energy efficient measures and an overall fall in energy demand.

Learning

The past ten years have witnessed a startling **metamorphosis** in Irish education. Up until 2020 the overriding emphasis had been upon advanced science, high-technology and international business. Globalisation, and the unbecoming scramble for external funds, had seen a massive influx of foreign students, with very mixed results. Gradually to begin with, but more rapidly since about 2025, the accent has increasingly been placed on alternative technologies, local enterprise and heritage craft skills. The Irish language is also in the ascendancy, as are traditional cultural activities in the field of music, dance and literature.

There is **open and fair access** to education in Ireland, but poor economic growth and low levels of public funding have precluded much investment in research. For years there has been a brain-drain of the brightest and the best, but signs are just appearing of an inflow of scholars in the arts, humanities and environmental sciences who are seeking a change of lifestyle and a fresh challenge.

Valediction

Ireland is on the cusp between a failing, open, modern, industrialised and connected economy, and a renewed, patriotic, localised and introspective nation-state seeking a modest yet comfortable future.

PROSPECTS

- Ireland takes a lead in seeking *limited reform of EU institutions*: the establishment of a European Security Council; agreement as to a common border; the reduction of powers of the Commission and the European Court of Justice; and the introduction of regulations restricting the freedom of movement and in-migration.

- As a result of China reneging on a series of social, political and economic agreements, the Euro devalues against the dollar, trade barriers develop, and Ireland contemplates *joining the sterling currency* mechanism.

- Political policy centres around *'grey power'* as Ireland ages.

- Teenage *anarchists* proliferate in Irish society, subverting previous societal protocols and policies through *internet activism.*

- The IFSC faces meltdown as waves of *hot money* flow around the world's capital markets, seeking better returns, but moved in ignorance of the risk entailed.

- *Organised crime* grows throughout the Gateway towns and cities, and criminal fraternities control several, municipal authorities and chambers of commerce.

- Different local authorities throughout Ireland seek *different civic solutions* with different administrative frameworks and regulations, creating a new range of fracture lines.

- *Fortress communities* are established around and within the Gateways as law and order is threatened in inner urban areas.

- Incomes and living conditions decline in *rural Ireland,* and health conditions deteriorate in the most deprived areas.

- Severe *flooding* is experiences in low-lying coastal regions.

- Trade Unions *strive to limit the power of the government and the market, and build economic and social trust, but little progress is made and Irish industry moves inexorably into a state of disarray.*

- *Transnational corporations* clash with the remnants of national government, and seek to exercise influence at local level through corruption.

- The *media* encourage fear of diversity.

- There is a rollback of public sector reform, with the *needs of security* prevailing over those of accountability, transparency and efficiency.

- *Information* is increasingly sparse and unreliable, with communications networks spasmodic and unsound.

- There is a massive upsurge in the 'culture industry', with a rising demand for Irish art, crafts, music, dance and literature.

- Self-sufficient *sustainable communities* start to be established along the South and West coasts of Ireland.

- Growing *risk aversion* prevails, with a fear of the future, and a 'back to roots' intolerance, manifesting itself in a gender backlash, intergenerational conflict and creeping racism.

- *Disenfranchised* and *disadvantaged* voices grow louder, but there is no one to listen.

- Some signs of a *renaissance* in social and ecological awareness are just beginning to show, with a belief in personal responsibility and civic solidarity, and a tolerance towards cultural diversity.

PART III

PROSPECTIVE AND RECOMMENDATIONS

8 THE EMERGING TERRITORIAL FUTURE

8.1 Eastern Corridor – the Trend Scenario

Ireland has a population size that is equivalent to that of one global city at most. It should, therefore, not come as a surprise that the most plausible future spatial model of Ireland will be based on a single city serving the entire island. Such a city is likely to be located in the north Eastern quadrant of the country and would be based initially on the Dublin-Belfast Metropolis but could ultimately extend to a continuous linear urban form along the entire Eastern seaboard. Ireland would thus become a city-state, with the Eastern corridor forming an urbanised corridor ultimately stretching from Waterford and Rosslare to Belfast. It could be called the Eastern Corridor.

Compelling drivers of change can be identified that could steer us towards such a future. These key drivers include for example: (a) the political and economic integration of the two parts of Ireland, (b) the weak urban structure outside the Dublin-Belfast conurbation, and (c) the economic strength of the Greater Dublin Area with availability of infrastructure and proximity to the UK and Europe. This vision of a future Ireland is a change from the radial model that has been the dominant pattern over the last 40 years. This radial model, which focused on Dublin, could change to a linear structure based on the dynamics of the Dublin-Belfast corridor. It is also a radical change from the current policy ideal expressed in the NSS. [6]

8.2 Testing the Spatial Options

As the population of Ireland grows, it will be heavily influenced by physical and environmental factors – such as the presence of mountains, lakes, bogs or very poorly drained soils. The urbanisation of an expanding population might be directed by such patterns to form distinctive patterns: continuous along much of the East and forming discrete and self contained individual pockets along the West. Three possible spatial scenarios that correspond to the general national scenarios have been loosely identified.

East-West Divide (The Sow of Liberty)

In this scenario the development of the Dublin Belfast corridor will increase momentum in terms of urban growth and population concentration aided by the increased political, economic and cultural integration between Northern Ireland and the Republic. Increases in infrastructure capacity (Dublin Airport, relocated Dublin Port) will drive this process coupled with improved

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[6] It is perhaps interesting to note that the NSS did not look at the Dublin-Belfast corridor in the way that this study seems to conclude it as a compelling driving force in Irish spatial development. The reason for this may be quite simply that Northern Ireland, while it was considered in the preparation of the NSS, did not form part of he NSS itself. Belfast therefore escaped gateway city designation.

rail and road connections between Dublin and Belfast. In addition, Waterford/Wexford is able to increasingly capture growth in sea trade. The result is that none of the Gateway cities other than Dublin and Belfast are able to achieve sufficient critical mass to attract significant economic development.

Atlantic Gateway (Wild Cats of Equality)

In this scenario the Atlantic Gateway concept of achieving critical mass by combining the cities of Cork, Limerick, Galway and Waterford has achieved success and is able to provide a counterweight to the Greater Dublin Area. This is assisted by increasing congestion in the GDA and a disappointing economic integration between Northern Ireland and the Republic. Improved infrastructure, including rail and road connections between the cities (Western Rail Corridor, Atlantic Corridor), has succeeded in reducing actual and perceived distances between the Gateway cities. Shannon Airport has successfully developed its strategic advantage of capacity for long haul flights.

Urban Sprawl (The Fragility of Mé Féin)

In this scenario urban sprawl continues unabated. This is encouraged by increased congestion in the Greater Dublin Area forcing more and more people to live at greater distances from the city centre although commuting times are reduced by the 'edge city' of dispersed employment nodes, such as City West/Naas Corridor, Cherrywood/Bray and Dublin Airport/Swords. The pattern of sprawl is further encouraged by policies to allow one-off housing particularly in the West of Ireland. This has resulted in a decline of a number of small villages, slow growth of towns and a resulting weak urban structure. Energy consumption rates are out of line with targets based on climate change policies.

8.3 Risks Associated with the Current Policies

Examination of external uncertainties suggests that any national spatial policy based on the Eastern Corridor vision, would be less vulnerable to uncertain factors in the future and more robust as a consequence, than possible alternative models such as Atlantic Corridor or Urban Sprawl. In relation to the Atlantic Corridor model, for example, it is likely that in a situation of economic decline it may be vulnerable as it is essentially a policy that requires strong public investment. Equally, the Urban Sprawl model (continued low density housing, edge city development patterns and unabated rural one-off housing) is vulnerable if energy shortages make low density lifestyles prohibitively expensive in the future.

What does the East Corridor City model mean for the eight gateway cities outside Dublin? Apart from Dundalk and Waterford (which would operate as urban centres within the East Corridor), a continued policy based on the radial model as exemplified in the current national road and rail infrastructure plans for example, may be ill conceived. A better approach might be to develop

'transversal' links running in an West-East direction linking potentially all parts of Ireland to the Eastern corridor within a 40 minute travel time.

Based on a strong linear urban corridor along the East coast, all of the population centres in the remainder of Ireland could have a shorter travel distance from a city that forms part of this corridor than currently achieved in relation to Dublin. It would require transversal connections. Instead of attempting to shorten travel times from gateway cities in the West of Ireland to Dublin by improving the radial transport network, transversal infrastructure links would be developed that result in a 40 minute travel time to the corridor. For example: Sligo to Dundalk, Cork to Waterford and so on.

There is also a serious concern that planning policies that 'fight trends' are often doomed to fail. It is plausible, for example, to suggest that a continued policy to support urban growth that is based on the Balanced Regional Development argument (counterweight to Dublin) carries a degree of risk if it fails. For a start, the political support to divert resources from the East to the West that is seemingly taken for granted, may not always continue in the future. It takes approximately ten years before changed population patterns are reflected in voting patterns. An increased political concentration of voters towards the Eastern urban corridor is likely to result from current population growth patterns (Box 1). A significant shift of population from a rural based Ireland to an urban based Ireland will therefore more than likely result in different loyalties and priorities. Also, there may be dwindling political support for policies that prevent successful urban centres growing where such growth initiatives are contrary to official NSS policies. As so often shown in the past, planning policies that have the effect to frustrate entrepreneurial activity are usually doomed to fail in the long run. In a sense it could be said that the gateway policy in the NSS has concentrated on the 'weak pupils in the class' thereby reducing the rate of return on public investment. Of all the counties, between 2002 and 2006 the counties that grew fastest were the counties without gateways and counties with gateways grew slowest (Box 2).

Box 1 - The Constituency 'Time Bomb'

Despite the GDA's (Dublin, Kildare, Meath and Wicklow) 2006 census population share of 39.2% of State, both the main political parties' first preference regional vote in the recent General Election reflect a markedly lower share: Fianna Fail obtained 34.5% and Fine Gael got only 28.2%. Such level of support reflects their rural-centricity focus of strategic policies; for parties that have never espoused the cause of cities, especially that of Dublin. The 2006 census also confirmed that two Dublin constituencies had breached the 30,000 upper population limit. Furthermore, the GDA as a whole is underrepresented in the number of TDs. Consequently, there is an in-built time lag of 5 to 10 years before population growth is reflected in like parliamentary representation. Inevitably, this will likely result in a sea change with a sudden 'flip' towards urban-infused values.

8.4 Implications for the Gateways

The future vision described here may be seen by many as 'not pretty' and constituting a 'sucking out' of population from large parts of Ireland into a relatively confined area along the Eastern seaboard. In particular, the suggestion that Ireland (including Northern Ireland) has really only space for one city, will be a change from current perceptions. However, the statistics are compelling. The National Spatial Strategy designated nine gateway cities of which eight were outside Dublin. However, there is a significant problem of scale if one relates all of the gateway cities outside Dublin with the Greater Dublin Area or if one relates the smaller gateway cities with a city like Cork. All of the eight gateway cities combined make up 523,728 population, exactly half of the population of Dublin. The four smaller gateway cities combined (Sligo, Letterkenny, Midlands Gateway and Dundalk) make up a population size that is less than that of Cork.

Also, while the development of one dominant (perhaps congested) city seems a horror vision to many, it may turn out to be more 'environmentally benign' than any of the other scenarios that have been considered. After all, a large city allows for large scale investment in infrastructure that is good for the environment and is not feasible elsewhere (e.g. high quality public transport systems).

Gateways outside the East Corridor can function in 'niche markets' serving the demands from an increasingly urban and demanding population in terms of leisure activity, quality of environment and cultural identity. Perhaps one word: 'distinctiveness' could summarise it. Although this is

not the intention of the policy makers in Dublin, it is possible that Dublin may loose its distinctiveness as a uniquely Irish city and that it will not be able to retain its unique character. That vision represents an opportunity for the other gateway cities. Cork - a city based around water. Galway - a city based on performing arts. Sligo - a city based on literature and landscape. There may also be opportunities for gateways to specialise as locations for specific economic functions. For example, the Midlands Gateway could function as a strategic location for 'back office' type economic activities. It is even possible that the West of Ireland, and perhaps in particular the North West, would become the 'Switzerland' of Ireland.

The West and particularly north-West may loose much of its agriculture and have little employment growth in other sectors to compensate. However, as other parts of Ireland continue to grow, particularly along the Eastern seaboard, and as population growth and increased affluence create demand for leisure and recreation activities, it is quite possible that the towns in these Western regions can become 'niche markets' for leisure and recreation based on environmental quality and availability of living formats. For example, cultural tourism products, local cuisine, hill walking and other activities can lead to the area becoming the picture postcard type destination; the Switzerland of Ireland.

From radial to transversal

Does this vision mean that we should change our current policies? The preferred vision that is sketched out here is not a plan. It is a sketching of a possible and perhaps highly likely future pattern of spatial development of the country. In terms of current actions, it would be wrong to draw conclusions from a vision that is not a strategy. However, there is one area where action and change in policy may seem appropriate. This is the transport infrastructure. It would make sense for example to plan for two parallel transport corridors to form the backbone of the East corridor: the coastal one, reflecting the existing infrastructure; and a new corridor in parallel and more inland. In addition, it would seem sensible to make provision for short direct routes from urban centres in the rest of Ireland to the East corridor to achieve the '40 minutes' concept (Fig. 13).

Figure 13: Potential for transversal transport network.

Another important point of attention must be 'governance'. The regional level is seen as critical for any of the gateway centres outside the East corridor to develop 'distinctiveness' and strong and clear spatial policies. The current administrative system of cities with their surrounding county structure is completely inadequate. The future of the eight Gateway cities outside Dublin could be very different if each of these cities represented the core of a regional body with directly elected Regional Senators and Regional Mayors. The elected representatives at county council level would obtain meaningful functions at local level rather than the role they currently have which is often meaningless in reality because funds are directly determined by central government. While the regions would be based on the existing boundaries of regional authorities, the bodies could be renamed according to the name of the gateway city. This would create a more urban and dynamic image. One could imagine an Ireland with the following governance structure: National Federal, including European and all-Ireland axis (Dublin/Belfast), Cork City Region, Limerick/Shannon City Region, Galway City Region, Waterford City Region, Dundalk/Drogheda City Region, Sligo/Letterkenny/Derry City Region, Midlands City Region.

What does this mean for the 'twice the size' challenge? After all, this was based on the premise that the gateway cities should prepare for much more significant population growth and move away from incrementalist policies. The main lesson from the study appears to be that growth is not always necessary and that growth is not always required for a town or city, to become successful.

The preferred vision can be summarised as follows:

- The critical mass argument of Balanced Regional Development may need to be reviewed.
- All spatial planning and infrastructure policies should be tested against the possible development of a single urban centre along the Eastern seaboard.
- Gateway cities outside the East corridor should be encouraged to develop 'distinctiveness' instead of population growth. The 'twice the size' exercise of strategic long-term visionary planning should take this distinctiveness as the starting point.

9 PREPARING IRELAND FOR POSSIBLE ALTERNATIVE FUTURES

9.1 Policy Testing

The analysis of the scenarios shows that some underlying drivers and outcomes are common to all scenarios. It is clear that some actions will help to reinforce outcomes that are generally desirable while other actions will retard such developments. A set of desirable and undesirable outcomes and reinforcers and retardants, presented in Table 6, can be used to test emerging plans and policies by asking whether the intervention will reinforce or retard desirable outcomes.

Desirable Outcomes
- The emergence of an urban critical mass capable of sustaining economic and cultural activity in competition with comparable areas elsewhere in the globe – and in particular in Europe.   - The availability of opportunities to participate in a range of types of lifestyles in the pursuit of the development and expression of the individual.   - The protection and enhancement of the distinctive natural and cultural heritage of Ireland.   - The efficient provision and maintenance of physical, economic, social and cultural infrastructure necessary to maintain other outcomes.   - Appropriate protection, allocation and use of natural resources.

Undesirable Outcomes
- Loss of distinctive natural and cultural heritage.   - Deterioration of environmental resources.   - Inequitable access of opportunities for self-development.   - Inefficient or ineffective provision of appropriate infrastructure – in terms of location, timing or specification.   - Lack of collaborative leadership, planning and management.

Reinforcers (actions likely to facilitate, promote or accelerate desirable outcomes)
- Facilitating the development of economically productive and culturally vibrant urban areas.   - Mediating between environmental protection and social betterment.   - Increasing the range and accessibility of opportunities for economic and cultural development.   - Facilitating and encouragement of innovation in locally responsive administration, regulation and allocation of resources.   - Promoting civic engagement across all sectors of society and fostering the emergence of leaders and champions in all stakeholder groups.

Retardants (actions likely to obstruct, delay or diminish favourable outcomes)
- Hindering the emergence of urban critical mass.   - Hindering the emergence of responsive regional specialisations.   - Reducing the availability of a range of types of lifestyles.   - Inappropriate provision of infrastructure.   - Reducing access to opportunity.

Table 6: Desirable and undesirable outcomes, reinforcers and retardants.

9.2 Policy Actions and Recommendations

The exploration of the future through the identification of driving forces of change and the development of alternative future scenarios serves one aim – **to understand what the future may bring and better prepare for it today**. In order to do this, a range of policy themes and actions agendas were identified. These enable decision-makers to exploit positive opportunities and prepare for the threats that the future may bring.

Five policy themes emerged during the early stages of the project. These include:

1. ECONOMIC DEVELOPMENT
2. GOVERNANCE
3. PEOPLE AND QUALITY OF LIFE
4. BUILT AND NATURAL ENVIRONMENT
5. CREATIVITY AND INNOVATION

The feedback from the gateways workshops, and the analysis of the material gathered from workshops, the futures surveys and strategic conversations, overwhelmingly point to **GOVERNANCE** as **the key area of concern for the way forward**. Governance embraces a number of various issues. The main problems detected in the current governance system by the project participants relate to the following.

- A deficiency in the balance of powers between central, regional and local tiers.
- The lack of regional government structures with executive powers and adequate levels of funding to implement strategic policy and tactical decisions.
- Inefficient competition between City and County authorities due to ineffective and inappropriate boundaries.
- No democratic representation at the regional level.
- Little cohesion or coherence between planning and politics, especially in the long-term context.
- Poor processes and practices regarding effective and meaningful citizen participation in planning for the future.
- Widespread lack of vision and leadership in setting the future direction.

Throughout the project, an extensive list of 'action agendas' that should be implemented within each policy themes was identified. Five of the most significant have been selected and are listed in the Table 7 below.

Economic Development

- **Excellent education at all levels.** Strengthen and enhance the current education system in order to provide world-class education at all levels: primary, secondary, tertiary and fourth-level.

- **Agility, flexibility and speed.** Provide, and continuously develop agile, flexible and transparent support structures for various types of economic activity.

- **World-class infrastructure.** Ensure the provision of effective and efficient transport, municipal, information and social infrastructure and improve physical and virtual connectivity.

- **Indigenous industry and services.** Promote and support indigenous industry and services in order to decrease the risk attached to FDI. Facilitate the development of links between companies and educational institutions.

- **Local strengths.** Identify and build upon the distinctive local strengths in order to create comprehensive, complementary and polycentric economic structures on the island of Ireland.

Governance

- **Regional government with executive powers.** Strengthen local and regional governance allowing for directly elected representative to hold executive functions and have appropriate budgets.

- **Collaboration.** Encourage and foster coalition, collaboration and co-operation internally and externally and amongst multiple actors.

- **Vision and leadership for the future.** Identify the preferred long-term direction for the future of Ireland and its regions and take leadership and ownership for achieving it.

- **One size does not fit all.** Allow for regional differences in the way key stakeholders interact and regularly revise their visions and strategies.

- **Strategic national policy.** Prepare and implement a national strategy that would deal with the development and location of strategic infrastructure (i.e. ports and airports), accordingly to national needs and without duplication and diseconomy.

People and Quality of Life

- **Social inclusion.** Close the gap between rich and poor, build a society of equal opportunities for all, and foster an attitude of tolerance to all.

- **Living - variety and choice.** Plan adequately to provide for high quality living spaces in urban areas and the countryside for different types of residents.

- **Healthy society.** Provide high-quality health service accessible to all, develop facilities that will encourage healthy active living, promote work/life balance and support family living.

- **Heritage and culture.** Protect and promote Irish heritage and culture, and develop a wide range of cultural facilities.

- **Values and attitudes.** Promote and foster tolerant and open, socially and environmentally responsible, forward-looking and flexible attitudes and values.

Built and Natural Environment
High quality urban environment. Create high quality urban environments by promoting distinctiveness and innovative and people-friendly urban design, as well as providing good accessibility to education, health, sport and recreation facilities, culture and transport.   **Management of resources**. Develop and implement an efficient national sustainable resource management system that would ensure security of energy provision, efficient management of water resources, and effective control and proper restoration of other natural resources.   **Vision for the countryside**. Build and implement a long-term cohesive vision for the development of the countryside and rural areas.   **'Golden circles'**. Provide public transport accessible for all within 10 minutes walking distance.   **Climate change**. Test all plans against the possible implications of climate change and adopt adequate strategies to mitigate its consequences.

Creativity and Innovation
Collaboration in education. Foster collaboration between Irish third-level institutions, and promote links with global centres of excellence. Encourage cooperation instead of competition so as to strengthen the existing centres and eliminate overlaps.   **Developing new attitudes**. Construct a new curriculum for primary and secondary education that would promote creativity and innovation, the development of flexible and complexity-friendly mindsets that would be geared to developing individual skills.   **Strengths in distinctiveness**. Build upon the existing cultural and artistic traditions of the Irish nation, as well as on unique local strengths in developing new types of economic activity and creative clusters.   **Innovative society**. Develop mechanisms to harvest the innate innovativeness and creativity of individual citizens and communities in the search for imaginative and inspired solutions across all areas of public life.   **Commercialisation of R&D**. Facilitate collaboration between universities and industry in order to create an environment in which a high commercialisation of research can be achieved.

Table 7: Policy themes and action agendas

10 CONCLUSION

The study's original proposal was based around the notion of doubling the population of the Irish gateways, the implications such an increase of population would have on these territories and issues that needed to be addressed in order to effectively prepare for such changes. However, that was only a point of departure. Through the use of Prospective Through Scenarios methodology, the scope of the study has broadened. In effect, it led to the consideration of the overall future of the individual gateways as well as an exploration of the future of Ireland with special emphasis on its spatial development. Simply, one cannot be considered without the other.

While reflecting on the results of the study one can recognise three main issues that will have profound effects on Ireland's future development and its success in ensuring economic, social and environmental sustainability.

1. A critical need to radically revise the National Spatial Strategy reflecting the vital and dominant role of the Greater Dublin Area in securing the future of Irish society and the continued prosperity of the national economy, as well as the progress towards spatial and economic cohesiveness with Northern Ireland.
2. A pressing need for fostering collaborative visionary leadership at all spatial levels and across all sectors.
3. And, last but not least, a fundamental requirement for a major reform of local and regional structures of governance to be conducted based on the concepts of sustainable city regions, subsidiarity and integrated policy formulation, decision-making and implementation.

Analysis of the three scenarios of possible spatial futures for Ireland has shown that strengthening and further development of already existing critical mass on the East coast, centred around the Greater Dublin Area, is the most sustainable way forward. The current National Spatial Strategy appears to be flawed in that it tries to impede and offset further development of the Eastern region, through underinvestment and devolvement of resources to other centres. The Eastern urban region is the only area that already has the ability, and will be able in short- to medium-term future, to sustain sufficient critical mass needed to compete with other city- regions in Europe and globally.

It is necessary to provide all Irish cities and regions with ample development opportunities, but in a way that will reinforce and strengthen the already existing critical mass on the East coast, not impede it. The success of the East is and will be the success of the whole country if the future of these places is to be viewed in the context of complementarity with the East and not competition. In order to achieve that goal it is necessary to recognise the uniqueness of various regions in Ireland, especially the differences between the East and West. Sustainable growth and prosperity can be ensured for individual territories through the formulation of development objectives and policies specific to each that will acknowledge their diversity and reinforce their strengths. Using the same set of policy objectives will boost some regions and impede others.

A radical rethinking of the National Spatial Strategy is also necessary to ensure a cohesive development of the island of Ireland. The continuation of peace process in recent years has benefited both sides of the border in various ways. To strengthen and reinforce these benefits, especially from an economic perspective, both governments should move towards developing a cohesive All Island spatial strategy. Addressing this objective should go far beyond the identification of cross-border linkages. After all, the Dublin – Belfast corridor, is a widely known cross-border region and often compared to others, such as Øresund Region or Alpine Diamond, however, it is a cross-border region that is yet to be recognised by appropriate spatial policy provisions.

Almost all participants recognised leadership, vision and collaboration as the main ingredients of the future success of their territories. An interesting observation, made by the study team, was the increasing role of the private sector and especially business communities, often represented by Chambers of Commerce, in providing vision and leadership. However, without the involvement of other sectors such visions can be seen as 'tainted'; therefore, there is a strong need for collaboration of all stakeholders in thinking, planning and acting for the future of their territories to ensure a broad ownership of visions and strategies that would lead to their implementation.

And, finally, the strongest message coming from this study is a fundamental need for the reform of the current local and regional governance system. Without that, the gateways and the other territories will not be able effectively prepare for their future. A strong need has surfaced for a tier of regional administration that would fill the existing gap between the remit of the central government and the city and county councils. It is proposed that such structures will be city-named[7] and based, and would be responsible for providing strategic vision, planning and implementation at a regional level. They would have executive powers and adequate funding and be accountable to the public. This would address some of the administrative boundary constraints that several gateways are facing. The review of the governance system should also create space for effective collaboration of stakeholders and meaningful citizens' involvement. And ultimately, it should promote long-term thinking, discussion and planning for the future.

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[7] For example: Limerick City Regional Authority or Cork City Regional Authority etc.

five minute city — An Introduction

The concept arises from a concern that both planning and urban design have become overly concerned with 'place-making' at the expense of animating the fabric of the whole city.

This is problem all over Europe. We visit city centre showcase set pieces after journeys from the airport through places that are formless and dull at best or traffic-blighted and bleak at worst.

Why can't we allow ourselves to have the same ambition for the whole city that we have for the special places? Why can't everyone expect to have animation, convenience and amenities within a short walk from their homes?

There is strong evidence that people will rarely walk for more than five minutes to reach public transport, shops or other urban facilities – in new and existing settlements. Increasing the walkability of the city has the potential to significantly improve the performance of urban areas in terms of energy, pollution, noise, accidents, health and social cohesion.

The *five minute city* concept aims to maximise pedestrian and cycle access to urban facilities to make practical contributions to meeting targets for the sustainability of the urban environment.

This documents describes the Urban Initiatives, Indicators and Agendas that will achieve this.
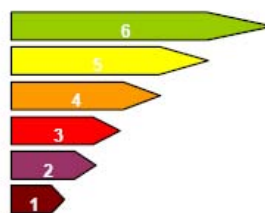
Measuring 'Walkability' - the Pedestrian Service Level
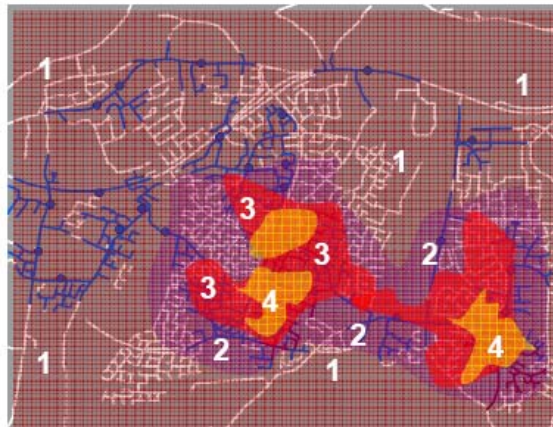
Mapping the Pedestrian Service Levels of an area is the fundamental instrument of the *five minute city*. Using methods developed by Siobhan O' Dea, this allows a graphic assessment to be made of how well—or poorly—the residents of an area are connected to the urban facilities and amenities in their area.

The Charter of Civic Rights [see p 4] establishes the basic criteria that are measured to determine the level of service. These range from levels of service that are only fit for Subsistence, through Utilitarian to those that facilitate Expression.

The development of Urban Initiatives and Urban Indicators that are necessary to support this concept are described in the following pages.

Areas and neighbourhoods can be assessed and 'rated' for their walkability—like the energy rating of appliances. This would define the pedestrian Service Level of an area

Rate	Pedestrian Service Level
6	Pedestrian access to all levels of urban amenities within five minutes of home
5	Pedestrian access to all levels of urban amenities within five to ten minutes of home
	Pedestrian access to urban subsistence and utilities within a five minutes of home
4	Pedestrian access to urban subsistence and utilities within a five to ten minutes of home
3	Pedestrian access to subsistence levels of public transport, shops, education or amenities within five minutes or less of home
2	Pedestrian access to subsistence levels of public transport, shops, education or amenities within five to ten minutes of home
1	No pedestrian access to public transport, shops, education or amenities within ten minutes of home

SCHOOL OF SPATIAL PLANNING

five minute city

Urban Initiatives
An introduction

The concept is to increase the awareness among different types of stakeholders about the degree of pedestrian accessability within their functional area. Thus neighbourhoods, retailers, educators, transport providers and parks managers, for instance, can all be empowered to identify and ameliorate barriers to 'walkability' in their area. The basis for these ratings arises from the Charter of Civic Rights described at the end of this document.

A series of initiatives are proposed to provide a basis for the evidence-based planning and reclamation of pedestrian capacity in non-central urban areas.. This section provides outlines of these potential initiatives in six fields, namely;- Neighbourhoods, Transport, Shopping, Education, Amenities and Health

Initiative 1   Neighbourhoods

Establish an initiative to raise awareness of neighbourhood and residents groups about the 'walkability' of their area by providing access to a product that would;-

Identify and assess the extent of the five minute pedestrian catchment around each neighbourhood or area

Identify and assess the extent of the five minute cycle catchment around each neighbourhood or area

Identify interventions that would maximise the extent of that catchment

Raise awareness of the inhabitants of that catchment of the 'walkability' of that neighbourhood or area

Identify and assess the existence [or absence] of adequate and appropriate urban facilities [for subsistence, utility and expression –in accordance with the Civic Charter – for instance]

Identify initiatives that would increase and/or improve the access to urban facilities to target

Initiative 2   Transport

In partnership with transportation authorities and providers – establish an initiative to;-

Identify and assess the extent of the five minute pedestrian catchment around each transportation stop/station/node

Identify and assess the extent of the five minute cycle catchment around each transportation stop/station/node

Identify interventions that would maximise the extent of that catchment

Raise awareness of the inhabitants of that catchment of the 'walkability' of that transportation stop/station/node

Prepare mobility management plans for areas and neighbourhoods

Initiative 3   Shopping

In partnership with retail franchisers for neighbourhood shops establish an initative to;-

Identify and assess the extent of the five minute pedestrian catchment around each store

Identify and assess the extent of the five minute cycle catchment around each store

Identify nterventions that would maximise the extent of that catchment

Raise awareness of the inhabitants of that catchment of the 'walkability' of that store.

Initiative 4   Education

In partnership with crèches, national and secondary schools and third-level colleges – establish an initiative to;-

Identify and assess the extent of the five minute pedestrian catchment around each educational premises

Identify and assess the extent of the five minute cycle catchment around each educational premises

Identify interventions that would maximise the extent of that catchment

Raise awareness of the inhabitants of that catchment of the 'walkability' of that educational premises

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Initiative 5   Amenities

In partnership with parks departments, gyms, sports clubs and providers, – establish an initiative to

Identify and assess the extent of the five minute pedestrian catchment around each amenity

Identify and assess the extent of the five minute cycle catchment around each amenity

Identify interventions that would maximise the extent of that catchment

Raise awareness of the inhabitants of that catchment of the 'walkability' of that amenity

Initiative 6   Health

In partnership with agencies with a remit in the areas of aging, disability and other mobility impaired groups– establish an initiative to

Identify and assess the extent of the five minute pedestrian catchments around existing nodes that contain high concentrations of urban facilities and amenities

Identify and assess the extent of the five minute assisted-mobility catchment around each node

Identify interventions that would maximise the extent of that catchment

Raise awareness of potential inhabitants of the existence, location and extent of such catchments and their 'walkability'

Urban Indicators
Measuring progress

Urban indicators can designate Pedestrian Service Levels. Areas with a rating of 2 or less need remedial treatment to increase the 'walkability' and hence the sustainability of the area. The indicator has potential application in the following fields

SEA*	Mobility management	Retail Planning
Open space planning	Awareness raising	Local Area Planning

*Strategic Environmental Assessment

Agendas for Ambition
Changing expectations

Creating the conditions in which there will be acceptance and support for the interventions that will be necessary to create and sustain the *five minute city* will require an investment of resources and time in raising awareness of issues and potential benefits of developing more 'walkable cities'.

Creating a broadly supported ambition will require actions such as these;-

Resource campaigns for civic empowerment, awareness and assessment

Prospect, secure ad prepare landbanks for future intensification and growth

Establish Rolling Funds to establish Connectivity Corridors

Define and determine urban boundaries and rural transition zones

Develop a plan-led public transport connectivity network of radial and orbital routes as an agenda for procuring services

Regulation of scale divergence

Development and application of Urban Indicator including;

Development of diagnostic tools for scale conformity

Development of design models for layered living and vertical zoning

Innovative regulatory conformance for heath and safety without separation

Development of connectivity indicators

Development of commodity indicators

Development of criteria for community mobility and accessibility

Linking connectivity/accessibility/commodity models to energy & sustainability as an indicator for urban SEA

Development of a sustainability rating system for existing and proposed urban areas [Mapping]

Development of a sustainability rating system for new developments

Development of an area-based age and viability-mapping system for urban areas

Development of area and economic scenario-systems for urban area temporal transitions

Identification of types of temporary urban lansuses

Development of Guidelines for temporary and transitional urban landuses

Quantification of Latent Landbanks

Development of Intensification criteria, methods and models

Development of use and management criteria for public space networks

Development of criteria for evaluation of optimum size of sustainable units of development, use and management

Development of indicators for integration and diversity of use, management and development of lands in urban areas.

Development of Guidelines, models and practices for the control management of use monopolies in urban areas

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RIGHTS

Assessment of the 'walkability' of urban area needs to refer to criteria. A Charter of Civic Right is proposed that identifies the right to three basic tiers of access to urban facilities, as follows;-

Tier 1 Urban Subsistence

FUNDAMENTAL: to guarantee access to the basic conditions necessary to live, work and rest.

Tier 2 Urban Utilities

FUNCTIONAL: to guarantee access to the facilities that maintain life with efficiency, convenience and amenity

Tier 3 Urban Expression

DESIRABLE ; to guarantee reasonable access to opportunities for self-development and self-expression

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Agendas for Learning
Evidence for change

Evidence to support the introduction of the *five minute city* will need to be gathered by inter-agency collaboration, innovation in practice as well as by traditional academic research.

Learning by collaboration

This work should be carried out in collaboration with agencies and departments with responsibility for transportation, energy, health, economic development and finance.

Its objective should be to prepare the basis for agreed Cost/Benefit standards for use in devising and implementing policies, strategies and actions associated with Urban Reclamation Initiatives .This work should also quantify earnings and savings of benefits arising from the application of the *Five Minute City* Charter in terms of;-

Avoided direct expenditure on energy, construction and operation of transportation projects and indirect expenditure on health arising from avoided pollution and accidents and increased health arising from exercise and social cohesion.

Increased direct and indirect earnings due to improved efficiency arising from better mobility, reduced congestion losses and improved efficiency of the utilisation of infrastructure with associated costs of deferred or avoided expenditure.

Optimal ratios of local taxation to expenditure due to concentration and multiple use of installed infrastructure and utilities.

Learning by doing

Establish structures, circumstances and places for urban innovation and experimentation

Devise temporary and transitional landuse zoning

Acknowledge, anticipate and accommodate 'urban overwriting' of land-uses

Establish mechanism for area-based and targeted delivery of collaborative multi-agency agendas

Establish and achieve development land price targets through market interventions using strategic landbanks of zoned and serviced public lands.

Learning by research

Develop methodology for predictive mapping of future patterns of urban land availability

Establish spatial and quantitative carrying capacity of Urban Sustaining Facilities – including public transportation capacity catchments and micro-retail catchments

Define minimum and desirable types and scales of urban Sustaining Facilities and Functions

Define minimum and desirable ranges of facilities required to develop and sustain local identity through self-development & eself-expression

Survey, assess and prioritize concerns and aspirations on an area basis in connection with measures to intensify and improve existing urban facilities.

Charter of Civic Rights
Every citizen of every settlement in excess of 5,000 persons has the right to expect;

Urban Subsistence

Within a five minute walk from home very citizen has the right to have direct access to public Transport and direct access to Urban subsistence facilities

Urban Subsistence Facilities consist of;a place to-

-shop for basic supplies
-exercise and play
-meet and socialise
-get childcare
-experience nature

The minimum capacity of such Urban Subsistence Facilities shall be in proportion to the Population served within a five minute walking catchment

Urban Utilities

Every citizen should have the opportunity to choose, by a ten minute walk, a five minute cycle or a minimum public transport fare to reach;-

- Functional facilities that maintain life with efficiency, convenience and amenity
- Alternative Urban Subsistence Facilities
- Alternative public transport routes

Functional Facilities consist of Basic community facilities and service providers for education, health, welfare, and religion Supermarket and specialist retail, such as pharmacy, hardware, laundry, stationers, etc.
Structured amenities, sports and leisure facilities

Urban Expression

Within 2km [20 minute walk or A 10 minute cycle] every citizen has the right to have;-
Opportunities for self development and self expression through local a access to Intermediate-level Community facilities and service providers for education, health, welfare and religion
Areas of natural and cultural heritage
Entertainment and cultural facilies
Opportunities for economic activity, employment or gainful activity
Comparison shopping
Direct onward connections to regional, national and international transportation systems

PART IV

THE FUTURE OF THE GATEWAYS

This section presents the main results of the study for each gateway. In Part II of the report, the global and national driving forces of change and the main issues and trends arising from them were listed. Each of these drivers will affect the future of the gateways to a greater or lesser extent, and will have different implications for some gateways than for others. However, it can be assumed that the set of global and national drivers is common to each of the gateways. Conversely, in this section, the focus is placed on each gateway's unique drivers, but the most important ones at the same time.

Similarly, the national scenarios, presented in Chapter 7, form a framework of reference for the gateway scenarios. The gateway scenarios depict how a given town or city could develop within a given national scenario, this is, in Ireland of "The Sow of Liberty", "Wild Cats of Equality" or "The Fragility of Mé Féin".

For each gateway the following findings are presented:

- ten most important driving forces of change;
- five pivotal uncertainties;
- a selection of ideas for the development of the preferred future; and
- a set of three alternative scenarios.

The selection of ideas for the development of a preferred future was arrived at as a result of a detailed analysis of the material generated during the futures workshops, from the strategic interviews and the futures questionnaires. These ideas are not ultimate elements of the preferred future vision, but rather proposals that have emerged from the project and, perhaps, they can be used by the gateway stakeholders in creating their future strategies.

It is hoped that the material presented in this section, especially the scenarios, will be useful for the gateways' stakeholders in their planning and decision-making processes. A set of questions that can help in future-proofing of policies and decisions against the alternative futures described in the scenarios is listed below.

- What are the strategic implications of a policy or decision?
- How does a policy or a decision fit into each scenario?
- What options are suggested?
- Are there any particular vulnerabilities exposed?
- Is the decision or strategy robust enough?
- Does it seem to work in only one scenario and thus qualify as high risk?
- How can the strategy or decision be adapted to make it more robust?

A. CORK

MAIN DRIVING FORCES OF CHANGE

1. Location supporting Cork's position as one of the Atlantic Gateway cities.
2. Decline in rural population in West Cork and Kerry.
3. Co-operation between Cork City Council and Cork County Council within the Cork Area Strategic Partnership (CASP).
4. Existing collaboration initiatives between Cork City Council, UCC and CIT.
5. Decline of the traditional manufacturing sector.
6. Strong bio-technology/pharmaceuticals economic cluster.
7. Strong food and drink sector.
8. Major rejuvenation programme for Cork Docklands.
9. Consequences of global warming, such as flooding, impact on agriculture and biodiversity.
10. River Lee and the harbour as the potential backbones for development of the city.

KEY PIVOTAL UNCERTAINTIES

1. Success of Docklands development.
2. Achieving the regional balance on national scale (success of NSS).
3. Ability to retain and attract Foreign Direct Investment.
4. Provision for unified governance system for Cork.
5. Flooding – extent and response.

POTENTIAL IDEAS FOR PREFERRED VISION FOR CORK

Brand	City of Water	Stronghold of Irish Culture	Modern Industries
Assets	▪ River Lee ▪ The harbour ▪ The Docklands	▪ Cultural and recreational facilities ▪ Strong GAA spirit of the county ▪ Urban heritage and natural beauty	▪ Existing pharmaceutical and food sectors ▪ Third level educational institutes
Potential	▪ Recreational use of Lough and the harbour ▪ Water sold as a resource ▪ Tidal barrages ▪ Advanced water technologies ▪ Water based energy generation ▪ Stop for cruise ships	▪ Capital of Irish culture and sports ▪ Musical centre of the West ▪ Tourism sector strengthened through development of unique tourism product	▪ High-value added employment in pharmaceutical and food sectors around the strong R&D base

FUTURE SCENARIOS FOR CORK

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SCENARIO 1: Pandora's Box (National scenario: THE SOW OF LIBERTY)

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Interview with Former Mayor of Cork (2017-2022), Mr Sean O'Sullivan, for *CORCAIGH CEARTLÍNE*, the first Cork video-zine.

By Martha KURSKA

Martha Kurska (MK): Mr O'Sullivan, you were Mayor of Cork City between 2017 and 2022. It would be a common view that many of the decisions you and your predecessor, Mr John Murray[8], took while in office have led Cork to be what it is today. In your view, what does Cork stand for in 2030?

Sean O'Sullivan (SOS): Well, that's an interesting question. I would describe the city by three words: 'bi-', 'opportunism' and 'water'.

MK: That's an intriguing answer?! What is 'bi-'?

SOS: Let me explain. Bi- represents dualism, both in a positive and negative sense. Let's look at our economy. The two main sectors are: first, biotechnology, including medical industry, the food and drink industries; and second, broadly speaking the whole heritage industry. These two sectors are fundamentally different; one is perceived as modern, cutting edge, while the other builds upon values and traditions of the past and responds to the needs of identity and belonging. Yet, both seem to complement each other very well, as they represent 64% of Cork's revenue!!

MK: Yes, they may be different, but both operate on the same principles of market economics, and their main aim is to make money, so are they really 'bi-'?

SOS: Well, it is necessary to operate according to the principles of current market economics to be successful in this highly globalised, competitive and connected world. However, the real challenge is to be able to create new sectors of the economy within that framework, to spot and use the opportunities that open up. I think Cork has been quite successful at that, hence the opportunism. For example, the results of the research exercise conducted by ESRI in 2014 indicated that Ireland has rapidly been loosing its traditional values, culture and traditions as a result of globalisation. This had strong implications for the tourism industry – the more globalised the world became the more people were searching for national distinctiveness and different cultural experiences. In 2015, seizing the opportunity to build upon Cork's culture and traditions, the Cork Metropolitan Authority teamed up with a group of investors to develop a 'cohesive heritage' industry for the city. One of the first steps was the building of the 'Famine Centre' – a very successful multi-media modern museum. An extensive international marketing

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[8] John Murray became the first Mayor of Cork, after the positions of directly elected Mayors were introduced in late 2011.

campaign put Cork on the global map as a historic culture city with a modern twist and rare vibrancy. Today, the 'Famine Centre' and other heritage attractions bring to Cork four million tourists annually.

But coming back to 'bi-s'. Another 'bi-' is the bi-polar society both in Cork and in the other Irish cities. The gap between rich and poor, although already noticeable at the beginning of the century, just kept widening over the years. This is something we have failed to tackle over several decades, and now it is one of the biggest threats, along with climate change, on the near horizon. My worst nightmare for Cork would be social unrest arising from the poverty and frustration of people pushed to the margins. And this can easily be triggered by climate change effects. Can you imagine that out of 450,000 people living in Cork city today approximately 40,000 live on less than half of the minimum monthly wage, and 150,000 below the accepted poverty threshold? It is something we dare not talk about much these days, but for me, it's one of the biggest threats for Cork and other Irish cities. It's a 'Pandora's box' waiting to be opened, a time-bomb waiting to explode. We all know where the no-go areas and ghettos are. We avoid them, as we avoid talking about the whole problem of social exclusion.

MK: You mentioned climate change… Are we prepared for what is to come?

SOS: Time will tell, but I wouldn't think so. We were lucky that the flooding in 2012 did not do too much damage. Indeed, on the contrary, it mobilised us to act, and act quickly. The barriers built in 2013-14 have been keeping waters away from the Docklands, the Harbour and, of course, the city centre so far. They even enabled us to utilise the waterfront of the city for leisure, residential and commercial usage to its full capacity. Are the barriers enough to keep the waters away in the future? I don't know. The Metropolitan Authority is reviewing the situation at present. But as well as flooding, I would be worried about water and food supplies in the future. Droughts in recent years, especially in the South East and South West of the country became quite severe, and the price of food is now being pushed up. I know that for many wealthy people it is not a problem, but what about the 150,000 Cork men and women living on the verge of poverty?

MK: Well, many believe that GM crops are the solution.

SOS: I am not so sure, the scandals related to GM crops in the area of Mallow and Mitchelstown in early 2020s have undermined people's trust in the whole industry, at least in this part of the country. You could say that Cork County has become one of the national centres of organic agriculture in recent decades, but only 30% of that production is consumed locally, and,

of course, prices of organic products are quite high. So it's a solution only for some.

MK: You paint quite a depressing picture of Cork's future. But people say: "Cork is thriving! The economy is strong, we have great quality of life, Cork is a well known brand in the world."

SOS: That's true. We do have many successful stories to tell. One of them is setting up a joint research centre in 2014 on tidal energy technologies between UCC and CIT that was essential to the success of Ireland's first tidal energy plant built on the shores of Castletownbere in 2018. Another was back in 2009 with the collaboration between Cork City and Cork County on the strategic spatial plan that envisioned the development of Metropolitan Cork around the so-called Outer Harbour and the Airport Ring. This strategic plan was essential to cope with the developmental pressures of late 2010s, when Cork's economy started to grow rapidly again. Owing to this visionary plan, the urban sprawl has never become as severe as exists in the Eastern Corridor. Development of the "retirees villages" in West County Cork was another smart idea of local businesses. As I said before, Cork has been really good at seizing the opportunities. Do you know that at present 30% of the County's and 28% of the Metropolitan's regional revenue is generated by the retirees villages and the services associated with them? And, the fact that many celebrities have their second homes there adds to Cork's tourist attractions.

MK: This is fascinating! I understand the 'bi-'and the 'opportunism' now, but I am still intrigued by the 'water'?

SOS: Water is an essential part of Cork's brand. It stands for the quality of life achieved using the waterfront of the city. It's the theme of the whole Metropolitan region – Atlantic Ocean, River Lee, the Harbour, the Docklands – water connects it all! It's also an important commodity. Clean, good quality of water is a key for the many spas located in the region, and the biotechnology industries. My predecessor and myself treated the management of water resources as our priority. Between 2014 and 2024 we renovated the whole sewage and water supply network in the city. We also made provisions for setting up a network of private community based biological sewage treatment plants to enable greater circulation of water. I believe that we are the only region in the country that hasn't experienced water shortages over the last 15 years. However, water already is, and will be even more so in the future, the critical resource, so we need to ensure that Cork can be associated with the "rivering waters", "hitherandthithering waters" for generations to come.

MK: Sean, thank you very much for this so interesting conversation. And on behalf of *CORCAIGH CEARTLÍNE,* I wish you the best of luck in your new position of the Director of the National Gaelic Sports Centre[9], which you have helped bring to Cork.

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[9] The National Gaelic Sports Centre was established in Cork in October 2029 with the aim to support GAA efforts in sustaining interest in the Gaelic sports and to promote the games amongst the immigrant communities.

It is the year 2030 and the people's Republic of Cork is being accused of "fiddling while Rome burns". A city, once reputed for its dogged mindset, Cork has more recently assumed a complacent attitude towards its economic, political and social responsibilities. In an Ireland that is generally lauded for its endeavour towards the 21st century ideals of equality, solidarity and sustainability, Cork will be the cause of its own downfall if it does not avoid the potentially destructive path that it is set to follow. As such, "Nero" is a scenario that calls for a re-examination of the concept of Cork, before it is too late.

Cork Perspective

Cork has been identified as one of the main culprits guilty of riding too recklessly the Post-Celtic Tiger wave that swept across the country during the 2010s. Given its inward looking mindset and emphasis on protecting local interests, Cork never truly achieved its goals of becoming a unified entity and the thriving capital of the South West region as set out by the Cork Area Strategic Plan 2001-2020.

In fact, the task became significantly more difficult throughout the 2020s as Cork continued to assume a noticeably blasé attitude towards its future role within an increasingly competitive Ireland. A radical shift in thinking is, therefore, urgently required if Cork is to drive the Atlantic Gateway Corridor forward in acting as a counterbalance to the economic engine of the Dublin-Belfast Economic Corridor.

Economy

Cork's economic situation has remained stable, albeit sluggish, ever since the national economic downturn in 2012, following the global oil crisis that same year. Having slipped behind Dublin, Galway, Limerick and Waterford in disposable income and investment levels, Cork currently runs the risk of losing its counter-weight pull to the Eastern corridor through complacency and a lack of innovative, joined-up thinking. Enterprise development is badly needed to revamp Cork's economy and to help the city pull away from its dependency on the state. Partnership between all sectors will be crucial in helping Cork achieve a more competitive position in a merciless "glocalized" marketplace that is at once global and local. What is needed is a new economic

framework to deliver the basic motors of creativity, productivity and innovation to ensure future progress throughout the 2030s and to reverse the current stagnation of the city's economy. Feeding off the fat of the land is no longer a viable option for the future. As Post-Tigerland syndrome dies a slow death, Cork must attract smart business and high-end commercial activities to ensure a good spatial distribution of job opportunities in the metropolitan core and the Greater Cork Area (CGA), much like the situation was at the turn of the century. This has become a top priority for all Irish cities in tackling the emerging trend of "slowflation", whereby the current state of the Irish economy is characterized by growth that is too slow and inflation that is too high for comfort.

Urban Planning and Development

Throughout the 2010s, Cork was continually playing catch-up with quick-fix solutions to the planning and development woes of the previous decade. This was at a time in Irish history when finance meant power, and when green-field sites across the country were rendered fertile spawning grounds for unsustainable, irresponsible development. The spate of office and residential blocks and industrial parks that mushroomed on the outskirts of Cork city caused many people to beg the question, "If you build it, who will come?" The disillusionment with failing planning structures at this time led to a meeting in Cork in 2015 of the country's elected mayors and other public representatives to address the gaps in national and regional spatial planning. This represented an important staging post for city governance in Cork, following which efforts were made in earnest to consolidate metropolitan Cork and the surrounding areas. In particular, transport played a crucial role in helping to achieve sustainable development patterns, with land use being planned more proactively around existing public transport nodes. The rise in energy costs throughout the 2010s 'encouraged' people to end their long-standing romance with private transport, and by 2020, 36% of total car trips within the city centre were shifted to public transport, a 7% increase on the CASP projections made for that year. Throughout the 2010s, considerable emphasis was placed on the importance of value-led development, rather than infrastructure-led development, in line with the pressing need for "green urbanism" in order to transform Cork into an internationally recognised sustainable eco-city. The implementation of the Public Realm City Guidelines in 2018 encouraged this shift in development patterns towards more high quality, innovative, contemporary design characterised by a vibrant land-use mix. The Docklands soon led the way in realising this type of development, particularly on the outer harbour and along the two main transport routes. However, the major challenge facing Cork in the 2030s is in avoiding the emergence of an irreversible socio-economic divide between the prosperous and fashionable harbour area and the more traditional age-old city quarter, which has to a large extent, fallen out of favour with the 'bourgeoisie'.

Culture and Heritage

Ireland in general, and Cork in particular, underwent a significant cultural revolution during the early 2010s, when the Irish identity began to evolve and reinvent itself, modifying its early 21st century materialistic values. As a result, traditional ideals were rekindled and there was a

palpable shift in Cork from the "wired world" to the "conceptual age" of words, music and art, which some might say occurred in retaliation against the insidious web-styles permeating almost every other aspect of life. Building on past projects such as the European Capital of Culture in 2005, Cork successfully harnessed its creative resources throughout the late 2010s and 2020s. During this period, tourism became one of the city's most important sources of inward investment, with significant increases in airport passenger volume. Cork City Council was partly credited with the surge in tourism for its role in increasing the number and quality of Areas of Special Character (ASC) and Protected Structures in the city, as well as making major streetscape improvements with the provision of walking and cycling tour routes along the docks and throughout the old city quarter. Cork was named Europe's number one city break destination in 2013, and, in 2016, it was given the prestigious "Eco-Trail Destination of the Year" award. The opening of the Spike Island Heritage Centre in 2015 further boosted local tourism. However, Cork's Slow Food Movement was also accorded due credit for instigating an increase in tourist numbers to both Cork city and county. With the rise of ethical consumerism at a time of deepening eco-anxiety, Cork North West capitalized on the growing niche market of the new demographic known as "ethical eaters".

Having gained a worldwide reputation as a number one producer of added value, quality, organically grown food and humanely raised meat and poultry, perhaps Cork's future competitive edge will be largely reliant on the surrounding towns of Charleville, Kanturk and Coachford to cater for the emerging appetites of the "moral economy".

Society and Technology

Building a livable city became a central tenet of city planning and development in Cork during the 2020s. To some extent, this was achieved with Cork coming second on the 2018 City Happiness Index (CHI) list, which measured the three most important drivers of national happiness: health, wealth and education. However, an undercurrent of social unrest is increasingly felt within Cork, and there are growing fears that a social crisis looms. Social dynamics at the local level have given rise to public concern as a shift from former patterns of community identity towards individual identity has taken place. Nationalisms and ethnicities are pulling people apart in the city, and ethnic communities are increasingly being polarized and segmented in the workplace, in education, and in networks and norms, thereby rendering Cork a socially divided city with growing disparity levels between the 'haves' and 'have nots'. Although

the psychological aspirations of identity, affluence, wealth and happiness have been fulfilled for the majority of middle-class people in Cork, the symptoms of stress, depression and alienation are increasing for the ethnic minority underclass. As a result, it is increasingly evident that radical social reforms are necessary. An inter-agency response is urgently required to address the current phenomenon of social exclusion, particularly if scenes such as those witnessed during the 2022 London riots are not to be repeated in Cork and other Irish cities. The people of Cork will need to question their innate resistance to change, which is stifling the emergence of social cohesion and rendering future ethnic conflicts a given, rather than a probability.

Although global networking technology has pulled the majority of Cork people together throughout the 2020s, the dark side of the technological boom is being felt by the digitally disconnected. The emergence of "informational black holes" has resulted in a widening of the digital divide, and as Manuel Castells, Professor of Sociology at Berkeley University, once warned, in the networked society, if you are outside the network, you simply don't exist. The disconnected in Cork are increasingly feeling this type of alienation and represent another demographic being excluded from the city. These cultural battles represent the most important challenges for the future of Cork in the 2030s, for business, for people and for politics. However, if Cork is able to connect the logic of networks with the logic of culture and identity, a dynamic equilibrium might be reached. In sharp contrast to the significant levels of state capital invested in science and technology at the turn of the century, calls are now being made

for investment in the social sciences, and particularly in emerging geophilosophy studies, in an attempt to better understand how this equilibrium might be reached. There is a realisation now that trans-disciplinary education that links across, not between, the disciplines will be pivotal in understanding the processes transforming society in the 2030s.

Education

At a time when education is the number one international economic and social priority, competition is rife in attracting professional learners and intellectual consultants to Ireland and indeed to Cork. In order to compete with the emerging market of just-in-time, individualized learning, where learners can "dial a tutor" anywhere in cyberspace, CIT and UCC together launched the "Learning a Living" strategy in 2012 that aimed at promoting Cork as a vital wheel

in the knowledge economy and as a "city of learning", mirroring the sentiments of the *Cork 2002-2012 - Imagine our Future* publication. The message is straightforward: those with a high level of learning are likely to have a bright future ahead of them, while those lacking will have a very difficult time. At secondary and primary level, educational priorities have been front-loaded and "e-learning through edutainment" promoted as the future of childhood learning. Significant investment in school building and technology, and teacher training, has occurred in an attempt to reverse the trend of home schooling that emerged in the late 2010s. Free pre-school education was introduced in 2012 and community-based childcare providers are the norm, particularly to help the children of foreign nationals who are heavily represented in Cork's young demographic.

Energy

Energy concerns dominated the environmental agenda in Cork, and indeed nationally, throughout the 2010s and the early 2020s. Securing a cheap, clean and renewable energy supply was deemed essential to the future competitiveness of all Irish cities. Following the oil crisis in 2012, Cork was proactive in capitalizing upon the need for applied research and development into energy technologies. Wind farms, as well as wave and tidal energy projects in West Cork, were well placed during the crisis years to benefit, rather than suffer, from rising oil and gas prices, and strategic policy reforms were introduced in 2013 to remove obstacles from the Irish energy market for the proliferation of renewable energy sources. Cork has since turned into a centre of excellence in wave energy, with the location of the headquarters of the Irish owned Finavera Renewables to West Cork in 2015 signaling the marked level of progress made in this respect.

Governance

Although the city picture of Cork has, in general, changed for the better, the need has arisen for it to re-think, re-learn, re-direct and re-mange itself. The processes of social change calls for a consideration of the values and ideologies governing everyday affairs and, therefore, new frames of reference are necessary to understand what this might mean for the future in the 2030s and beyond. The undertow of discontentment and disillusionment with political decision-making throughout the early years of the 21st century highlighted the need for a pragmatic response to address the potentially colossal social pressures emerging within Cork. The hunt for an appropriate model to adopt continues. Perhaps the non-plan angle is one to consider, requiring a willingness to take risks. In any case, what is evidently required in this scenario is leadership at the city level; otherwise, Cork will soon pay the price. The "Nero" scenario signals a time of social change.

John Doyle's oriental passenger settled back comfortably in his seat, placing his offcom (electronic office and communications unit) and suitcase on the seat beside him as the roof dome closed and the elegant water-taxi eased away from the pier. Applying power to the semi solar motor, John took a glance around, and after an additional check of the TP (Traffic Proximity) screen let the craft move gracefully out into the open waters of Cork Harbour. The surface of Lough Mahon ahead gleamed goldly in the early morning sun as he navigated past Blackrock Island, where he had lived before the floods, when it was part of the mainland and a prosperous Eastern suburb of Cork City. He could never pass this point of his route without being saddened at the thought of the old hospital and all the houses of Beaumont and Ballinure that were concealed beneath the beauty of the waters lapping the island bund.

The second decade of the 21st century had been a black period in Ireland's history, made all the worse in Cork by a series of horrendous winters during which the might of the Atlantic ocean had asserted itself, inexorably eating up the lowland shores of the Harbour, inundating first the shore-line roads, and then street by street, the houses proudly built by a prosperous populace. The oil crisis only added to the misery of the thousands evicted by the waves. There had been little preparedness: the governing political parties dithered, unwilling to dictate the radical measures that would have been necessary to at least lessen the impact of the rising waters. For a couple of years before Cork began to feel the effect of global warming many other places in Europe had already suffered such inundations, but government metaphorically kept its head in the sand until it was too late.

As the climate deteriorated, and low-lying lands all over Ireland were swamped, the authorities lost control, as homelessness on a wide scale, and widespread public alarm, soon led to a dark age of riots and lawlessness. The gradual disappearance of economically priced oil led to chaos in terms of heating and lighting.

In Cork three or four children to a bed, and two or three families to a house, which had been a characteristic of the Ireland of a hundred years before, became the norm again, as did high unemployment, as large industrial concerns were reduced to a series of cottage industries.

But by 2020 when climatic change had ameliorated, there was a new spirit in Ireland, well represented in Cork. Friends and families had rallied around and taken in the dispossessed, and through the testing times when even electrical power, for so long taken for granted, failed, friendship and selflessness and neighbourliness were reborn. In the absence of oil, waste materials, trees and hedgerows were harvested to warm the hearths as in the old days. What electrical power remained was devoted to the cyber world. Here, driven by dire necessity, it was widely utilised by many small but brilliant cottage businesses to develop software solutions to many human problems, generations beyond what was the norm. Ireland in general, and Cork in particular, became a world centre for digital innovation, and students flocked to UCC and CIT from all over the world. As a new breed of energetic and visionary politicians and business leaders began to emerge and re-establish political and economic stability, the opportunities provided by the disaster were seized. The loss of so many houses gave the impetus for the replacement with new energy efficient, low maintenance, user-friendly homes and neighbourhoods. In the county that had the first yacht club in the world, digital solutions produced not only the designs for the first solar powered liners to take the place of aircraft, but the software to run them, and by 2029 the newly shored harbour of Cork became again a major trans-Atlantic terminus.

Life in Ireland had a new, easier pace to it, born of disaster and disruption. It was a pace that was enjoyed by visitors like John's passenger, who was from one of the many states that China had fragmented into, as had India, during the hard times. They now were major buyers of Ireland's radical software, and contributors to Ireland's new prosperity.

John brought his craft gently into the embarkation deck of one of the great solar liners that were moored in the harbour. His passenger paid the fare, and John bid him a safe journey as he stepped on board. Within the hour he would be on his long and leisurely voyage East. As he returned to shore he mused on the idea that there was a new meaning to the old phrase 'A Slowboat to China'.

B. DUNDALK

MAIN DRIVING FORCES OF CHANGE

1. Location in the Dublin-Belfast Corridor.
2. Border location with Northern Ireland.
3. Issues related to image and perception of Dundalk as a 'small border town'.
4. Access to excellent national transport infrastructure and international airports in Dublin and Belfast.
5. Low population growth in comparison to other towns in the region and nationally, especially Drogheda.
6. Poor social partnership and lack of visionary leadership.
7. Existing cluster of indigenous medium size companies.
8. Creating a creative media cluster at Dundalk Institute of Technology.
9. Development of renewable energy sector by DkIT in alliance with local stakeholders.
10. Excellent quality and attractiveness of the natural environment.

KEY PIVOTAL UNCERTAINTIES

1. Return of troubles in Northern Ireland.
2. Ability to change the negative image of Dundalk.
3. Levels of integration between the Republic of Ireland and Northern Ireland.
4. Gaining its own identity rather than just being a commuter town in the Dublin-Belfast Corridor.
5. Capability to retain and attract a well educated and highly qualified population.

POTENTIAL IDEAS FOR PREFERRED VISION FOR DUNDALK

Brand	Vibrant and Modern City	Clean and Green Technologies	Recreation, Sport and Leisure
Assets	▪ Collaboration of local business in '*Dundalk - feel the energy*' initiative ▪ Existing cluster of indigenous and foreign firms	▪ 'Concerto' programme - renewable energy cluster ▪ Research centres at DkIT in renewable energy & fresh water studies	▪ Range of leisure, sport & recreational facilities ▪ High quality of natural environment (sea and mountains)
Potential	▪ Development of new identity for Dundalk around its existing strengths: natural environment, possible twinning with Newry, high quality of life & hard working people	▪ Development of renewable energy and clean technology sectors	▪ Recreational & leisure hub within the Dublin-Belfast Corridor based on the high quality of natural resources & wide range of facilities

FUTURE SCENARIOS FOR DUNDALK

Dundalk in 2030 has asserted itself as an important economic player and one of Ireland's fastest growing cities. In the highly competitive, but volatile economic corridor, Dundalk, having become an autonomous and self sustaining growth centre and the third largest Eastern corridor city after Belfast and Dublin, is the centre of industrial activity and energy production. The city regions of Dublin, Belfast and Dundalk have become the most powerful units of governance in the country. Over the previous decade Dundalk, in particular, has managed to establish a strong portfolio of Foreign Direct Investment (FDI) and indigenous industries capable of significant future growth. As a local government centre and economic hub for County Louth, Dundalk's main economic activities comprise of electronics and tourism. Population has grown from 34,000 in 2007 to 70,000 people by 2030 exacerbating transport problems as Dundalk's infrastructure struggles to cope with increased demand. Gridlock in the city centre has become commonplace. The gap between rich and poor has been exacerbated along the corridor and isolation of prosperity along the East coast of the country served only to intensify the East-West divide. Social costs and welfare demands, in general, are high as were third level educational fees, following the re-privatisation of higher education in 2012.

Looking back olitical unification and economic integration continued to dominate policy agendas in the BMW region up to 2010. The climate of political stability led to the joining of Newry and Dundalk as a twin 'mini-metropolis' in 2012, with a regional catchment area of almost a quarter of a million people. By 2014 the negative "border town" image of Dundalk had already changed for the better due to the success of the Peace process. Dominating multi-nationals set seed and mushroomed in clusters around the two urban centres, as Dundalk's prime location offered cost and lifestyle advantages to companies and employees. Both Dundalk and Newry absorbed a significant increase in population over the next few years, mostly owing to the mass exodus from Dublin, now cited as the 'Dark Edge of Ireland'. But by 2015 Irish competitiveness was confronted with major challenges, as further EU integration and the rising tide of emerging markets to the East, offered attractive alternatives for investment. Establishing Dundalk as a major education centre was crucial in transforming the cultural and social life of the town.

Dundalk's labour market witnessed growth of over 3.2 percent per annum over the past decade, with Eastern European immigrants filling most of the jobs. However, from 2020 onwards, in a reversal of the Ireland's immigrant history, the region witnessed a mass exodus of Polish due to Poland's booming economy. Over the next few years the constant flow of immigrants to the region slowed to a trickle, and by 2023 had dried up altogether. Unemployment rates in 2025 were modest at 3.5%, as the problem was more concentrated within the major metropolitan centres such as Dublin and Belfast, but the increasing lack of skilled labour is already starting to have an affect on the region's economic output.

While the city had high hopes, at the turn of the century, of becoming a leader in sustainable development, insufficient attention had been given to environmental degradation and increasing

old age poverty and by 2013 sustainability pressures were at an all time high. The East coast of the country had been disfigured with concrete and no longer resembled the once rich and fertile plain it was so famous for during the 20th century. Energy consumption levels doubled in less than a decade and increasingly waste production called for a major rethink of environmental policy. In order to increase Ireland's international competitiveness the budget in 2014 saw government holding back on introducing carbon taxes and increasing fossil fuel subsidies in some areas. It was clear that investment in renewable sources would only take place if it made economic sense to do so. The movement towards sustainable development had regressed almost 20 years. A growing sense of disillusionment prevailed among Dundalk inhabitants who had embraced the shift away from unbridled capitalism. As Dundalk City Council continued to crawl into the pocket of big business, Dundalk's dreams of holding the environmental crown were fading fast.

By 2015 Dundalk was faced with glaring inequality across all spectrums: socially, economically, educationally, and also in terms of opportunity. Addiction to 'growthism' had led to mass segregation of society and extreme disintegration of community spirit. Survival of the fittest prevailed. Huge immigration in both historical and comparative terms caused serious social and racial tensions as immigrant ghettos surfaced around the fringes of Dundalk's town centre. Pockets of poverty and deprivation emerged as the drug culture in housing estates reared its ugly head once again. Reactive urban sprawl has overshadowed the once green belt between Dublin and Belfast. Little control exists over the development of the area. The incapacity of the transport infrastructure of the early 2000s to facilitate the present trend of increasing car ownership has led to the demand for the development of the M15 multi-lane motorway stretching from Waterford to Belfast. With increased revenue, local people were encouraged to set up small business in proximity to the Odyssey arena, injecting dynamism to areas outside of the town centre. The redevelopment of Market Square in 2015 greatly enhanced the heart of Dundalk town. Investment in roads and rail infrastructure continued into 2016, with significant development along the Eastern Inner Relief Road.

Increased investment and further collaboration between the public and private sector over the next 3 years facilitated major landmark developments within and around Dundalk, the most ambitious of which was unveiled in 2019, as Dundalk witnessed one of the biggest investments in tourism the town had ever seen. The 'Odyssey' closed-top sports and event arena, seating over 80,000 people, and hosting high profile concerts and sporting events enabled Dundalk to become the centre for events based tourism in Ireland. Over 500 houses were built around the arena, calling for improved transport links and the building of extra roads. With a journey time from both north and south destinations taking less than 40 minutes, and close proximity to airports in Dublin and Belfast the stadium was set to become a major driver of tourism in the region. By 2030 the arena had become an immense tourist attraction and major contributor to the local economy, competing effectively with Dublin's Point Theatre. However with Dundalk's unspoiled, clean, green and safe image long gone, future development is plagued by unsustainable development. A cautious approach in the future must be employed in order for Dundalk to develop in an environmentally sustainable fashion.

Interim Speech at the Regional Investment Conference, March 2030.

Colleagues, we meet today to reflect and take stock of the powerful physical and cultural metamorphosis that Dundalk has undergone over the last 30 years. Despite a general slow down of our Celtic Tiger economy since 2010, we have witnessed a reawakening of indigenous industry and business along the East coast. Our mid position in the Dublin to Belfast corridor has enabled us to enjoy increasing economic and social prosperity. Situated at the cutting edge of the global economic framework, we have managed to tap into the information and knowledge-based artery pulsing up the coast. Over the past decade Dundalk has become a more peaceful, equitable and environmentally stable place to live and work. Public participation in decision-making is at an all time high, as power is more widely shared. North/South cooperation is strong both politically and economically, having overcome the teething problems of the new power sharing arrangement brought in during 2007.

The following five years marked a turning point in Anglo/Irish relations, as slowly but surely, faith and trust began to surface as fundamental priorities within the political system. And By 2012 longstanding fears of being 'eclipsed' by the growth strategies of Ireland's metropolitan zones have been replaced with hope for the sustainable growth potential of Ireland's second-tier city. Although wealth and prosperity have taken hold, the gap between rich and poor is no longer unforgiving.

Quality of life is high for the majority, and social issues dominate our political agenda. While the negative border town image that had prevented Dundalk from becoming economically competitive for almost half a century, still lingers in some parts, we are one step closer to realising our dream of becoming Ireland's new '*21st century city*' .

As the pendulum continues to shift away from the materialistic values that dominated Ireland in the previous century, a new civil ethic has emerged, one that is based on growth in knowledge, human capabilities and social capital. To counteract the destructive side effects of Ireland's Celtic Tiger boom era, sustainable development is widely embraced in business, civic and government institutions. Spatial planning and regional development have emerged as central to the region's continued progress in tackling urban sprawl and unsustainable development. Smart growth has become the key decision making mantra of the 2010's. However, high levels of policy

intervention and investment in public services in areas such as housing, health, and education have resulted in increasing the cost of living.

The trajectory of change in the BMW region gathered real momentum in 2015, with the UK finally entering the Euro zone. Given that the north and south of Ireland could now enjoy the same currency and tax rates it sparked the virtual disintegration of the North/South border, and increased external investment. In 2016 the final preparations were in place for Dundalk to join forces with her 'umbilical cousin' in Newry. This land mark development was to create the first 'bi-polar' city in Ireland, giving both towns the critical mass needed to attract investment, serve the need of the cross border region, and become a destination in its own right. Local government funding was increased to concentrate on integrated planning, education and health service improvements. The success of this initiative paved the way for Dundalk and Newry to thrive as major urban centres within the Dublin Belfast Corridor, and gave new impetus to the process of integration. Dundalk's population has increased at a steady 8 percent growth rate over the last decade bringing the total number of people to 64,000. During 2016-2020 Dundalk experienced a mass movement of young Polish families to the region, wishing to create a work-life balance. Having identified the North East coastline with improved quality of life, immigration continues at a steady pace. Despite slow integration into the region, the Polish are generally welcomed, as adding value rather than taking away from the region.

Stable economic conditions along the 'competitive economic highway' have enabled the Irish to experience high standards of living in the East, where almost 50 percent of the population have settled. Since the turn of the century, economic development has been based on science, education, and high tech medical and bio-pharma industries. Continuing advances in Dundalk's information and communications technology infrastructure have stimulated an information revolution, with far-reaching consequences for other sectors, such as science, engineering, medicine, business, manufacturing, the environment, transportation and lifestyle. Graduates from the privately funded Institutes of Technological Excellence (ITEs) at Dundalk and Newry feed into a highly technologically skilled and youthful workforce. Virtual mobility has become a pre-requisite for the knowledge-based lifestyle and by 2020 more than 80 per cent of Dundalk's households have WiFi access at competitive speeds.

Financial services took off after 2020 with the development of the Dundalk Financial Services District in 2021 situated on the newly completed East Coast Harbour. This development had at last enabled Dundalk to become the prosperous, vibrant, and thriving urban centre that was once possible only in distant dreams. But while the city experienced an unparalleled surge in economic growth, the economy is managed under the guidance of strong political leadership both in the Republic and the North, whose central aim lies in finding a balance between 'bureaucratic socialism and entrepreneurial capitalism'. By the mid 20's the corporate world it seems has taken advantage of its position in local affairs by adopting more responsible behaviour. Funded by public-private partnerships, clusters of self-sustaining communities mushroom in the region, most notably with the Mullagharlin project completed by 2025. In close proximity to the new financial services district, the community is served by cultural quarters to cater for the increasing multi-national population. By 2025 a mixture of well developed urban

centres and high quality rural hinterlands running from East to West, enabled the region to merge two distinct societies built on 'urban knowledge' and 'rural wisdom'. The benefits emanating from Dundalk as an 'urban centre' include exceptional labour mobility, links to global financial markets and a highly educated workforce. Similarly, rural eco hotspots in and around the region not only add to the cultural and social fabric of the area but play a pivotal role in the much needed regeneration of tourism.

The near collapse of the Irish tourism industry back in 2010, due to the country's widespread neglect of the environment, marked a major decline in visitors to the area. At that time, illegal dumping uncovered in the Mourne Mountains and the visible pollution of inland rivers and lakes, caused a notable decline in visitors. In an attempt to prevent disaster in the region the concept of sustainable development dominated the formulation of policy over the next 15 years. For Dundalk, with a history environmental awareness, the transition to sustainability was not a difficult one and by 2025 Dundalk could pride itself as having become a model of sustainable urbanisation and rural development, setting the trend for Ireland's 'green future'.

Over the next ten years Dundalk's focus remained on the creation of new sustainable energy technologies, and set about building its reputation as world leader in alternative energy research. Through a series of aggressive and ambitious awareness and efficiency campaigns Dundalk, most notably the Power of One initiated back in 2007, Dundalk overturned the NIMBY attitude that prevailed in Ireland since the turn of the century.

Organic farming and ecotourism prospered around the Carlingford Lough, although local battles and tensions had to be overcome between rivalry sites competing for their status as gems of the Cultural and Heritage landscape of Ireland. Widespread green activism, combined with highly subsidised environmental initiatives, ensured sustainable development became enshrined as the key to success of the BMW region.

By 2030 almost 30 percent of electricity and heat requirements for an entire zone in Dundalk were generated from renewable sources and today, a mere ten years later, almost 50 % of the entire towns energy requirements are being met by sustainable resources. As a result of such achievements Dundalk is fast becoming the envy of Ireland and indeed Europe.

Thank You.

Headline Article in the Carlingford Chronicle reporting on the demise of the BMW region..., 29th October 2030.

Headline: 'BMW in need! Region in need of most support and intervention'

Failure of the Northern Ireland peace process in 2010 sparked a major resurgence in terrorist activity, reaffirming the significance of the north-south border. Security emerged as the highest social priority with policing on alert and commonplace. Belfast quickly became isolated from the rest of the island, as the Irish Government retracted its involvement in the Northern political process. Feelings of mistrust, fear and resentment developed within society with little or no cross-border relations. Growth and development is primarily confined within the Republic as economic links between Dundalk and Belfast are severed. As foreign investment dried up after 2012 it has left a high percentage of the population unemployed and desolate.

Major job losses following the closure of Dundalk's ABB's manufacturing plant are a bitter blow to a region that has seen a steady decline in its economic fortunes over the past decade. This was followed by a serious downturn in farming, which was traditionally the big employer in rural areas. By 2016 a number of smaller scale production plants had followed suit, leaving local politicians and business people fearing the worst for the local economy. By 2020 the north East region has been thrown into turmoil.

For many, emigration was the only option. By 2030 population growth reaches an all time low, as the majority of the youthful and educated population migrate southwards. With less than 40,000 people, the knowledge drain of graduates out of the region has had severe economic and social impacts.

While vast outward expansion from Dublin between 2010 and 2020 endowed Dundalk with an abundance of human resources, particularly highly skilled immigrant workers, failure to develop a strong integrated immigration policy resulted in ethnic marginalisation, as immigrant ghettos mushroomed around the town. Modest attention was paid to emerging social issues, and as a result, the quality of life was poor. Unemployment was high, and a strong dependence on welfare began to emerge. Safety on the streets was non-existent and Dundalk, in particular, had entered a time of deprivation. While political and economic regionalism over the previous two

decades had facilitated the emergence of strong autonomous regional centres throughout Ireland, infrastructural deficits in the BMW region served as a major disincentive for inward investment, leaving Dundalk limping behind other gateway cities. As large regional and rural communities developed, the Dublin-Belfast corridor began to lose its appeal as Ireland's competitive economic highway. The appeal of the West rose dramatically.

Coming into 2015, Dundalk is beset with a number of challenges, not least the over dependence on resource-based industries such as forestry, agriculture and fishing. Attracting foreign investment remains fundamental to Dundalk's economic growth potential but as emphasis is now placed upon innovation and R & D, Dundalk faces an uphill battle to secure enough interest to sustain its wilting economy. Focus turns to two economic sectors: information and communications technology (ICT), and biotechnology. Heavy investment in research and development opens new social and economic opportunities, helping people to learn new skills, of supporting an agricultural base and spreading the wealth an opportunity more equally throughout the country.

The lack of development beyond and around the border, however, resulted in little environmental degradation. The Irish Sea is once again blue and open as a sustainable but competitive resource to the fishing industry. Drogheda emerges as the capital city of the industry, focusing its activities predominantly upon speciality and holiday fishing. The coast is considered the island's ultimate natural resource and is protected legally and co-operatively on both sides of the border by stringent costal management regulations. The underutilisation of the corridor's natural resources led to the collapse of the tourist industry.

Over the next two years a policy of sustainable tourism was devised to minimise the impacts on local communities, heritage, landscapes, and to maintain Dundalk's image as a scenic, spacious and friendly region. By 2030, Dundalk begins to capitalise on its prehistoric legacy and mythology, attracting tourists far and wide.

However securing political stability in Northern Ireland remains the single most important factor to future prosperity and international competitiveness of the tourism sector in the border region. By 2030, a sense of social and cultural determination is born, and traditional ideals are rekindled. An era of awakening towards an appreciation for the greater common good transpires.

MAIN DRIVING FORCES OF CHANGE

1. High population growth in recent years.
2. Location within the Atlantic Corridor.
3. Strong image linked to arts, culture and vibrant student population.
4. High quality of natural environments as part of location on the West coast.
5. Pressure on natural amenities and agricultural land arising as a result of overdevelopment.
6. The development of the Greater Harbour and Docks area into a commercial cultural and residential flagship focal area.
7. Development of the creative industries sector.
8. Existing strong medical and ICT sectors.
9. Amalgamation of tourists attractions in the city and the region.
10. Existing research strengths into the generation of renewable ocean based energy.

KEY PIVOTAL UNCERTAINTIES

1. Ability to retain ICT and medical devices sectors.
2. Planning's ability to provide high quality urban environments to cater for high rates of growth.
3. Risks associated with impacts of climate change, especially flooding.
4. Possibility to become a centre for ocean-based energy.
5. Ability to retain and foster Irish speaking communities.

POTENTIAL IDEAS FOR PREFERRED VISION FOR GALWAY

Brand	The City of Talent and Creativity	Smart Partnerships	Green Capital
Assets	- Strong brand linked to arts, crafts, festivals and vibrancy - Pool of young & talented people in universities & magnet for artists	- Strong ICT and medical devices sector - Two third level institutes: NUI Galway and GMIT	- High quality local natural environment - Combination of wind and wave resources
Potential	- Development of indigenous industry based on arts, creative sector & multicultural population - Using creativity in developing innovative solutions to ensure high quality of natural & built environments	Further development of high value added services in ICT, life sciences and medical devices sectors upon collaboration of NUI Galway & GMIT with industry	- Strengthening of tourist industry through provision of unique products linked to water and wind - Potential for generation of renewable energy – ocean based

FUTURE SCENARIOS FOR GALWAY

Radio Interview with **Simon Appleby**, city expert extraordinaire and author of the masterpiece "The Evolution of the Functional City", conducted by Galway Bay FM's Ivan Hope.

Ivan Hope (IH): Simon, as someone who has studied and articulated the art of explaining what a good city is, do you think Galway is a functional city in the year 2030?

Simon Appleby (SA): Thank you for your kind words, Ivan. As Ireland's third largest city and the capital of the West, unfortunately, Galway does not meet the criteria that would categorise it as a high level functional city, particularly in terms of urban planning and development.

IH: Really, how so?

SA: Well, if we look at the national picture for one moment, 70% of the Irish population lives on the Belfast to Waterford Eastern corridor. National focus is there. The East of the country boasts a world class infrastructure, a thriving competitive agri-business and the economy remains in the in top 25% of the world. Nevertheless, negative impacts have been felt strongly in the West of Ireland, particularly in Galway. Resentment and anger is at an all time high as the West's agenda is left on the back burner.

Galway's urban form remains weak. Urban sprawl has extended the city limits as far out as Spiddal, Moycullen and around by Athenry. Dreary, bland housing estates, with little innovative designs, have popped up around the city with little invested financial support. Developers have continued to build privatised shopping space with the same chain of stores, Starbucks and McDonalds, undermining the diversity of the city. This urban stagnation was initiated during the late 1990s and the early 2000s, with a lack of forward planning.

Up to now, the planning of the city has been almost entirely dependent on the private car with public transport poorly utilised. There is an immediate need for a sustainable networked transport infrastructure; however, it is still at the planning stages. You must realise that land-use and transportation planning greatly affects the individual's option, regarding both transportation in particular and lifestyle in general.

IH: You mentioned urban sprawl, what do you believe were the drivers behind this?

SA: Following the Celtic Tiger period, a growing population and high levels of immigration were experienced. Galway was seen as an attractive place to live. Environmental and cultural awareness was high on the agenda. By 2012, it won the prestigious title of Culture Capital of Europe and was given the opportunity to showcase its cultural life and cultural development at an international level. People from all parts of the world flocked to the city who welcomed everyone. Demonstrated in 2027, when a radical move was made to facilitate the most popular religion in Galway at the time, Islam. The Roman Catholic cathedral, located in the centre of the city, was transformed into a mosque and became known as the 'Green Dome'.

IH: Did these drivers encourage social problems to appear in the seams of our society?

SA: Yes, despite these cultural attributes, an undercurrent of social segregation was exposed as the region's biggest threat. In 2019, following the bribery scandal of a number of high-profile members of the county council and the mismanagement of the cultural centre, the city began to struggle. It seemed that the authenticity of the cultural quarter had long gone, as the over-directed barrio tried to cope with accommodating increasing numbers of different ethnic groups without proper planning. Ghettoisation became a common occurrence. Chinatown, the Polish quarter and the Spanish Free Zone ghettos were established, leading to pockets of poverty and an upturn in racial tension and street violence as these groups continued to feel isolated and threatened. One positive outcome from all this, was the establishment of non-denominational schools across the city in an attempt to curb ethnic segregation at an early age. Furthermore, youth community groups were established throughout the 2020s, to encourage harmony and healthy rivalry amongst groups through sports and art. Knowledge is the key to success in life across all sectors of society.

IH: That is quite a negative picture you are painting Simon, surely there are some positive aspects to this gateway. What about Galway's environmental agenda, has that remained intact?

SA: Yes it has. The environmental agenda is the key to the survival of the city's economic development. What I mean by this is that Galway has strong marine, tourism and energy industries and the focus must remain on the environmental agenda in order for these industries to progress and compete in a highly globalised, competitive world. In 2007, still in its infancy, it was realised, at last, that the West of Ireland was well positioned to play a significant role in the development of the wind and wave industries. The Galway region took full advantage of their position and by 2015 there were 12 wind farms producing energy for Ireland and another five at the planning and construction stage. In economic terms, the various energy projects brought back life to villages and towns long drained of people and jobs. Consequently, by the time peak oil had reached tipping point in 2016, the region had gone from producing one per cent of Ireland's electricity to eight per cent of Ireland's electricity. As a result of this, the security of supply and peak oil issues had minimum impact on the Galway region.

Also, tourism and heritage is a very strong indigenous sector of the economy in this region. Galway is the gateway to the surrounding natural environment of Connemara, The Gaeltacht and Galway Bay.

Tourism earnings in this region are extremely high and environmental destruction would have an extremely detrimental affect on this economy. Legislation has been put in place in order to protect the surrounding hinterland of natural beauty. Severe penalties are imposed on anyone who seeks to damage or pollute the environment in this region.

IH: Was it just economic implications that kept environmental awareness alive?

SA: No not at all. In 2025, a very influential institution, the Irish Ecosystem Agency, was established to promote and enforce policy measures to ensure the development of the sustainable imperative. It was based in Galway for many reasons. Firstly, because of Galway's strong position on sustainable development, and secondly, most of the sustainable activity and protected environmental and heritage sites are based in the West. This is due to the lack of interest the East, in terms of sustainability. In their eyes, profit and planet do not mix well.

IH: Do you think collaborative leadership plays a role in improving the city of Galway?

SA: Oh, yes I do. It is clear that Galway is not on the same path as the Eastern corridor. It should take this opportunity to establish a task force whose leadership can ensure that Galway take advantage of its unique position which is founded on a desire for sustainable development. Bad planning and leadership has brought Galway to this point. It is time now, for the Western Guild for Sustainable Development to take hold of the reigns and to harness a strategic vision for Galway. Strong focus should be on collective, collaborative and consensual actions to build community, safety, prosperity and physical, mental, emotional, social and environmental well being.

IH: Simon Appleby, thank you very much.

Galway Mayor Daithi Glynn, hosted the Irish Mayors forum on October 15th 2030. This summit brought together mayors from all over the Irish Isle to engage in dialogue on key urban topics. Daithi Glynn gave the opening address on the development that has taken place in Galway.

When you are privileged to live in a city like Galway, you understand why cities are in ascendancy today. This city known as the "Venice of the West", seduces you with its the surrounding hinterland of natural beauty, captures free-spirited, artistic and bohemian expressions, while encouraging a uniquely cosmopolitan way of life. It is a city built upon the following principles: it is clean and safe; it provides access to learning and job opportunities; it has a networked transportation system; it is generally affordable; it is rich in the arts and it is a great sports town, too.

Great cities like this don't just happen. They are deliberate and carefully planned. Great leaders build them. That is why the Western political alliance 'Western Union' was established in 2010 and still exists today. It inspires great leadership from all sectors of society and industry and it provides leaders with innovative ideas and action agendas on how to make successful cities thrive. As a result of this, Galway has become known as a well-governed and equitable city, where it has support and trust of the local community, ensures socially responsible and equitable business, is committed to the provision of local services, while having a transparent land use and planning system, but which is also committed to visionary planning.

The Galway miracle was powered by a new model of growth, premised upon the "Three T's" of economic development – talent, technology and tolerance.

Talent – There was a time when it was just Dublin competing against the United States for the global talent pool, nowadays it is Galway also, with a combination of, inarguably, effective factors: improved quality of life, a competitive workplace culture and a knowledge focussed, diverse, tech-savvy workforce. Galway has become multicultural and tolerant. How Galway copes with the tensions brought on by recent national immigration scandals is the key to its future. The universal dimension, competition, exacerbates the global battle for talent. Nevertheless, a clear advantage will stand to those who embrace the threats of other countries, such as the US who continue to restrict talent inflows.

Furthermore, Galway has invested in its higher educational system which simultaneously bolsters its ability to generate and attract top talent. This was fuelled further through the construction of the biggest building project ever undertaken in an Irish university. In 2017, NUI Galway designed and built an innovative, iconic structure on the shores of the River Corrib. It has now become home to 1000s of students in the discipline of engineering, commerce and journalism. This project was just one of many projects to develop the 'Campus of the Future'.

Other features of the campus included the development of a sports centre containing a 50m swimming pool and a cultural centre with cinema, theatre and art gallery.

Technology – Under the savvy leadership of the Industrial Development Authority, Galway worked aggressively to attain foreign direct investment and promote its workforce to attract leading high-tech companies through a policy of 'industrialisation by incentivisation'. This became apparent by 2015, with the celebrated opening of the Science and Technology Park in Athenry, coupled with a smaller development in Oranmore. A number of international bio-pharmaceutical companies placed the region on the map and over time, these areas formed the Galway region economic corridor, which provided employment and a sense of belonging.

Tolerance – Both of these more traditional economic development efforts would not have worked if Galway and its environs did not support and reinforce them with the third T, tolerance. Long a conservative city, Galway has built upon its legacy of culture, art and music to become a centre for bohemian expression and diverse milieu of scenes, lifestyles and people. Today the streets are teemed with a mixture of people – from "cool" corporate chaps and "geeky" tech savvy leaders to "edgy" alternative artists and musicians. In a remarkable fusion of history and progressiveness, Ireland has turned cities like Galway into lifestyle Mecca's for dynamic creative people and those who want to be around such amenities.

From the three T's model of growth, 'Sustainable Employee Villages' were set up. For those unfamiliar, these villages were created to promote economic development and regeneration, preserve open space and encourage a greater sense of community.

By 2021, Galway city and a number of leading corporate villages, such as the Western Financial Services Centre and the SME (small-medium enterprises) forum found innovative solutions to planning, development and maintenance issues of Galway city. Consequently, this led to helping to coordinate and facilitate the movement of the less-well off into regenerated areas and provided support centres, called Priory Centres, for the unemployed and the homeless. Also, there were renovations and reuses of existing, old and run-down buildings and rehabilitation of historic buildings for loft, office and innovative retail uses. Additionally, another urban park was built in 2016, a beautiful garden with a waterfall.

As these 'Employee villages' financially supported themselves, this gave the local government the opportunity to focus its time on the transport issues of Galway city. The city reaped the benefits of the final development by 2018 , of the N6 and the Galway city outer bypass, as well as a fifth bridge over the river Corrib which has relieved traffic pressure ever since, encouraging drivers not to enter the city centre. A light rail system, the 'T' was developed. All of these changes contributed to the dynamic fabric of Galway city.

However, this success has not come without a price. Two of the most important topics which have failed to top the Western regional agenda have been the Environment and the Elderly. In trying to reach new economic and social heights, the environment remains in an extremely vulnerable state. The local government shelved the green agenda which meant that international agreements such as the Kyoto Protocol and 2012 Montreal agreement relating to water conservation were ignored and forgotten about. By 2020, cryptosporidium had infected Galway's water supplies for the second time, demonstrating a clear need to encourage and legislate environmental policy through collaborative action. The concept of short-termism is still widely used in this sector and this must be changed immediately to incorporate Galway's long-term vision.

Furthermore, as members of society in the Western region enjoy a good standard of living owing to the stable economic conditions, high levels of innovation and resource productivity, the older sector of society seem to have been left behind. Over the years, as the population in the region increased, there has also been an increase in old age poverty. It is an issue that is not generally addressed. The elderly feel they are not connected to the world and thus feel marginalised owing to their lack of choice or preference to remain steeped in tradition.

So, how can we achieve the right balance between the social, economic and environmental imperatives? I want you to think long and hard about this and I would like to end on this note, in the words of Charles Mulford Robinson (1909):

"It is no small matter to recast a city – readjusting it to its higher density, and shaping it for a greater trade and industry and larger population than had been foreseen. But the very need of so doing is inspiring and calculated to give courage; and today, in the competition of cities for a wholesome living, the city that dares is the city that wins."

At 4.00pm, on an icy but crystal clear winter's afternoon, I was interrupted in my quiet reading by the ceili band that began to bellow out the tune, "*the green, green grass of home*". The warm, cosy pub was filled with people sitting, chatting and singing in high spirits. Gone were the days of flashing lights and miniskirts. Nowadays, it was a few pints and a friendly chat. It was electric feeling the community spirit gather momentum with the music. I sat there soaking up the atmosphere and wondered how it had come to this, the feeling of closeness and similar shared values. How did it all happen? What was the turning point when quality of life was made a main priority? Why did people start enjoying shorter working hours, spending more time with their families and engaging in their favourite leisure activities?

As far as I can remember, during the early 2000s, people lived to work and worked to live. However, this was not to last and in 2007 the first signs of the Celtic Sloth appeared, by way of the closure of Abbott Vascular in Galway, with the loss of 500 jobs. More and more international companies based in Ireland began to downsize due to market conditions and they began to move their investments out of Ireland to regions with a lower paid workforce. Incidents like this led to a downturn in the economy in 2009. Galway and the rest of the region felt the brunt of it. Unemployment rose and resources became scarce. However, communities in Galway seemed to band together and come to terms with what had happened, by focusing on the opportunities that emerged from the disaster. Galway communities felt that globalisation had started to reduce the city's cultures and roots, turning history and culture into a tourist image and ploy. So, Culture and Creativity became the buzzwords in the quest to create innovative strategies to tackle the Celtic Sloth.

The city, in terms of economic growth, changed direction dramatically: from a 'bio' industries hub to a niche market that feeds into the services, cultural tourism and organic lifestyle sectors. By 2012, Galway adopted a ten year plan to guide the city's cultural development. "Cultural County Living" was the campaign that initiated the ten year plan and promoted Galway as a brand. A national marketing campaign was launched and the city organised a number of events that would provide strong visuals and resound the message to promote the cultural sector across the country and out to the world. By 2025, a cultural Renaissance had begun with the opening of a new iconic, one of a kind, art gallery called Birth that held the largest collection of modern art pieces in the world.

Entrepreneurialism was strongly advocated in this region which led to the development of the Western Dragon's Den in 2015. This den was established to support the avid entrepreneur and investor, and to equip them with the knowledge to help Irish companies grow and sustain positions in global markets by producing innovative high-value product and services. One example of an innovative entrepreneur was Ian McBride of Oranmore, who set up a company called "Built Smart" in 2015 that changed the face of our home and workplaces. He caught on to his idea by capturing thoughts through the evolution of the knowledge economy. He identified that people were beginning to exploit e-working and e-learning and were changing the ways we lived and worked. Smart homes were developed to facilitate people working from home and on the road. He integrated technology into new homes using central cabling systems for communication and entertainment.

COMMENTS

Re: the fairest county of them all

posted at October 2nd 2030 by Brendan....

Galway continues to promote itself as the bilingual capital of Ireland and the European centre of Gaelic and Celtic culture.

Re: the fairest county of them all

posted at October 15th 2030 by Fionn

The pub has a tremendous significance in Irish culture, and nowhere more so than in the West of Ireland. It is here that you will find the truest representation of contemporary Irish life as it is embodied in its people, which are Galway's greatest asset. The pub is not just considered to be a social outlet but it is seen as a worthwhile pastime especially in a place like Galway, which makes no apologies for its pub culture and, in fact, thrives on it.

Re: the fairest county of them all

posted at October 16th 2030 by Robert

What about the gated communities around Galway who don't go to the pub? Since the evolution of the knowledge economy people are becoming more and more socially isolated and moving away from public life adopting a more individual approach to daily life as a result of e-working and e-learning. What about those who don't have the social interaction at work? Who works from home?

Re: the fairest county of them all

posted at October 17th 2030 by Robert

To add to the point above, does anyone notice the resentment and anger amongst the disadvantaged? The gap between rich and poor is growing further and further apart because there are no jobs for those people who lost them when Abbott *et al* closed down. What is the government doing about this? I have nothing but mistrust and disillusionment towards the current political party, First Party. I believe as a result of the government's neglect, crime is on the increase and law and order has become an issue of personal responsibility through the surveillance of Galway city using ID cards, electronic tagging, CCTV tracking and GPS tracking.

Re: the fairest county of them all

posted at November 5th 2030 by David...

You all like to talk about how great Galway is in terms of cultural activity but what about our lagging economy, our weak national transport infrastructure and our local physical infrastructure, where the housing stock and affordability are major issues of concern. By 2020 there was a turning point in Ireland, where it was each for our own, but what about national sovereignty and everything that stands for togetherness and collaboration? We have a weak economy, barley scrapping by on what is brought in from our tourism sector. We need to start thinking big otherwise we are sure to end up in further turmoil.

Re: the fairest county of them all

posted at November 30th 2030 by Ruth...

Born and bred in Dublin and frequent visitor to Galway, culturally speaking, there are times I miss and pine for the city because of the events that it hosts. These include the Galway Synge Fringe festival and the Free Art Gallery of Life weekly exhibit of masters from around the world. The Synge's fringe festival will be on in Galway next month. There will be a plethora of events, exhibitions and performances, running in the city to celebrate the playwright's legacy.

Those of you living in Galway should seize the opportunity to attend some of the events in the festival - I would if I were living there. And those of you who aren't take this as a chance to get away from the hustle and bustle of life to explore your cultural roots.

Re: the fairest county of them all

posted at December 2nd 2030 by Lee...

According to the other posts, Galway has a declining stagnant rural economy, but this is not the case at all. For instance, the Irish have become increasingly resource conscious and environmentally aware, particularly in the West. Galway is driving this in terms of renewable

energy production. By 2020, Galway was producing enough renewable energy to cater for more than half of its population. By the time the energy crisis consumed the rest of the country, the Galway energy hub had already capitalised on the need for security of supply, in terms of innovative design and production of wind, bio-fuels and wave.

Re: the fairest county of them all

<u>posted at December 12th 2030 by Mary...</u>

You must not forget that this cultural renaissance in Galway at the time, which included the expansion of some mighty cultural facilities created a vibrant street life, promoted ethno-cultural and intellectual diversity and space for critique and discussion and support for the all important social bond. Consequently, there is a higher density of people living in the city centre and not in the suburbs. This has changed the entire face of the city and how it works, as well as added to social segregation. In other words, the wealthier people can choose where they want to live and are reaping the benefits of this cultural boom while the less-well off have no choice but to stay in the suburbs.

Re: the fairest county of them all

<u>posted at August 12th 2030 by Hilary...</u>

The service industry also helped to stabilise the regional economy within the health sector. By 2018, two more hospitals were built in Galway to cater for the West coast of the country. This provided employment and much needed healthcare services in the region.

D. LETTERKENNY

MAIN DRIVING FORCES OF CHANGE

1. Relationship with Derry and Northern Ireland.
2. Significant non-national population (15%).
3. People relocating to Donegal for quality of life reasons.
4. Existing collaboration between local stakeholders.
5. Letterkenny Institute of Technology as one of the main drivers in the region.
6. Prime conditions for tourism and renewable energy generation.
7. Decline of manufacturing sector in the region.
8. Letterkenny serving as services hub (shopping, entertainment, education, healthcare and professional services) for the region.
9. A need to improve access to the region, mainly roads, rail and digital connectivity.
10. Transforming the energy and vibrancy of the town into confidence and vision.

KEY PIVOTAL UNCERTAINTIES

1. Securing good access to Dublin and other destinations in Ireland, Europe and globally.
2. Retaining good quality of life in period of pressures arising from high growth.
3. Derry and Northern Ireland growing at the expense of Letterkenny.
4. Ability to develop stable employment base.
5. Return of violence in Northern Ireland.

POTENTIAL IDEAS FOR PREFERRED VISION FOR LETTERKENNY

Brand	'We are Different Up Here'	Heaven of the North	Northern Alliance
Assets	▪ Strong identity and uniqueness characteristic for Donegal ▪ Existing vibrancy, community spirit & partnerships	▪ Beautiful scenery and natural resources ▪ High quality of life ▪ Arts and crafts traditions	▪ Close location to Derry and other parts of Northern Ireland ▪ Existing relationship with Derry
Potential	▪ Development of a distinct brand around quality of life and good work-life balance ▪ People and environment as the key focus for the brand ▪ Attracting people & investment by offering a different way of doing things	▪ Development of specific tourism products based on natural beauty, heritage, culture and sports ▪ Establishment of eco-communities and educational programmes ▪ Renewable energy production	▪ Development of synergy with Derry and other towns in Northern Ireland in order to improve infrastructure and attract investment and skilled labour

FUTURE SCENARIOS FOR LETTERKENNY

Article in the "Letterkenny Link" newspaper published on 27th November 2030.

The year 2030 sees Letterkenny win the healthy and convivial city award for the third year running. When asked what has been the key to its success, Letterkenny City Councillor, Sean McBride stated that "we recognised that cities are all different. We also realised that all towns and cities are at different stages, with different resources and geographies as well as having different foresighting strategies". He added that Letterkenny recognises diversity, and has come up with solutions that go along with economic grain in this particular region. Throughout the late 2000s, local and Border, Midland and Western (BMW) policy makers began to realise the value in truly embracing the sustainability ethic as opposed to continually advancing the concept as political rhetoric.

Whilst the Dublin and the South Eastern region in general have been dominated by commercial and materialistic values, Letterkenny has taken an alternative stance to the prevailing wind of materialism and individualism that has swept across the State. Indeed, the entire county of Donegal is reputed across Europe for its orientation towards quality of life luring professionals to the North West and promoting the best in work and life balance as well as providing a green alternative way of living.

Letterkenny serves as the national gateway to one of the most beautiful and unspoiled parts of the world. People no longer flock to Donegal to visit but to live. However, as a result of this fact a number of problems have arisen and the rural environment has become a contentious debate. By 2015, Western Europeans and wealthy Asians started purchasing homes in the Letterkenny area and surrounding environs and this led to tension between this 'money spinner' for locals and the cap on one-off rural housing. The contentious debate surrounding the rural environment begs the questions? What should its 'function' be? A post-productivity commodity to wealthy business men and tourists or a national jewel to be treasured? Who owns the Northwest?

Another major issue at this time was the one-off rural housing contesting the Sustainable Rural Planning guidelines. Even back in 2007, the contentious debate was in place, be it positive or negative. Some aspects of the sustainable guidelines were welcome, for example, the drawing of a distinction between urban and rural housing and the development needs of rural areas were based on the desire to sustain rural communities. However, on the negative side, there was an increase in the building of individual one-off houses in rural areas with an individual septic tank. Such housing developments increased car use and ownership. Other concerns included the potential loss of distinctive rural conditions, cultural traditions, and heritage in the built form. All these arguments were voiced by the Irish planning Institute. This in turn became a political centre stage hot potato.

Letterkenny is a relatively late bloomer in the Irish urban transformation, but it is now, in 2030, rapidly making up for lost time. The county of Donegal is undergoing significant urban growth, including rising demand for housing, water supply, health services, infrastructure, education and employment. Professionals are attracted to lower property prices, commuting times and a lower cost of living, but also because of its proximity to the coast and countryside as well as to a number of available outdoor activities and amenities. The most vibrant areas of employment have become the pharmaceutical and financial services as well as professional services. However, this was not always the case. During the late 1900s and early 2000s there was a slow emergence of a palpable division of Letterkenny into a town of two halves, the old and new halves, which rendered Letterkenny a confused (lack of identity) and lifeless town, hindering growth. At the core of this division lay the usual suspects - the car, social exclusion, poverty, pollution, which exacerbated the division within the town and took away the sense of togetherness and civic ownership and pride. Communities felt dislocated from their urban environment. Who ran and owned the city? The car or the civilian? Lack of environmental awareness became frightening, however, this mindset was rekindled and active citizenship became the norm. In terms of societal reflections, the impact of IT was huge in Letterkenny and created a digital divide resulting in an increase in social isolation.

During the 2020s, it was the era of awareness. The problems relating to the city division mounted during the early 2010s in Letterkenny. The only way to achieve any sustainable form of city regeneration was through creating a new heart for the town. And sustainable transport was the key to achieving this vision. The people of Letterkenny desperately needed a town centre or a core to relate to and the redevelopment of the city centre cultural quarter (pubs, restaurants, cultural services i.e. cinema, theatre, leisure centre) served as a starting point of the regeneration of the entire town in general.

With the deployment of funding from the sustainable development task force fund and regional authority in 2018, work began on the cultural quarter, resolving the division of Letterkenny in its development. Connectivity was a core guiding principle of the 2018 Development Plan (modelled on the Eyre Square development in Galway) and work focused largely on embracing and capitalising upon the natural/green environment. The park in the city opened up a civic space for the people of Letterkenny with its orchards and trees, cycle tracks and family-friendly pathways. Furthermore, although the shift from private transport to public, sustainable and integrated multi-modal transport was a long drawn out and challenging process, it was a worthwhile investment priority. A rail link around the town that served the park and was facilitated across the river by majestic bridges ensured a safe, highly efficient transport system for commuter in the area.

Alongside Letterkenny's cultural quarter, commercial activities have flourished. The science and technological hub was developed which is connected to Letterkenny Institute of Technology (LIT) and the University of Ulster in Derry, sustaining cross-border co-operation on research and educational issues as well as sustainability issues. These colleges became national centres for sustainable energy, including wind, wave and tidal, placing Donegal on the map of research and development.

Letterkenny has learned to view its position on the hill as an advantage, rather than as a disadvantage, and has been the first gateway to develop a local tram network. The project took eight years and was an endeavour supported by the EU Climate Agenda funds in an attempt to help achieve national and European climate change/Kyoto II targets. The town developed accordingly over the river. Connectivity was the answer to everything, not just bridges, cycle lanes and footpaths, but trams and rail as well. An efficient public transport system was essential to link all the fabulous areas of Letterkenny. Furthermore, linking all the services within the city (theatre, arts centre, leisure centre, and library) served to further maximise their use. Also, the development of rail links between Sligo, Letterkenny, Derry and Dublin were initiated. "Connected Letterkenny" became the nickname for the gateway as it excelled at providing and promoting sustainable transport systems in the Northwest.

Rural Economy

In 2008, the European Commission put forward legislation in order to reform the Common Agricultural Policy due to the growing nature of the European Community. These reforms were heavily criticised by the Irish Farmers Association because Irish farmers would lose €100m a year in EU handouts. Huge ramifications occurred within the agricultural sector during the next five years and changed the face of farming in Ireland, especially in Donegal. By 2013, urban sprawl was created out of this as the farming sector downsized and farmers sold off their land to small developers. However, with the agricultural sector starting to diminish, other uses for the rural environment were looked at and considered. Organic farming, forestry and fishing emerged as the strong activities at the fore of the emerging rural economy.

However, the local economy took a knock when in 2020, the traditional fishing industry went into rapid decline following the major oil spillage of the North Sea oil tanker, the Mary Rose, as well as a dwindling supply of fish. This had a serious impact on the development of Letterkenny. As the sustainable ethos took off all over the country, Letterkenny seemed to get left behind. Its local economic structure continued to be driven by a large extent, on low-value added activities in traditional sectors such as textiles, agriculture and forestry. With inertia to change, Letterkenny has not yet realised the opportunity the knowledge based sector can offer, and in 2030 economic stability and sustainability will only appear in time upon the creation of essential conditions, such as infrastructure, management capability, cost competitiveness, innovation and entrepreneurship, as a way to compete as a magnet for indigenous and foreign investment.

Northern Ireland

Interest groups in Donegal and other Northern counties felt that as rural areas, something had to be done to support low capacity, disadvantaged and excluded groups in these areas and in 2007 a venture was set-up to tackle these issues and create stronger relations in cross border rural economic development. Initiatives were launched with the British authorities in developing complementary projects and marketing campaigns for the Donegal/Derry Region. The

implementation of the Derry Donegal Regional Partnership forum in 2012, recognised the contribution of the arts, culture and tourism to the local economy and became a good example of how local solutions could be applied to local issues. This link also established the critical mass necessary to drive forward development in the North Western part of the island.

However, one of the major issues Letterkenny faced at this stage was that the Irish national government left the Northwest on the back burner in terms of promoting economic development and infrastructure, whilst Derry was provided with everything it needed by the British authorities. Letterkenny was being left behind.

The only thing that comforted the locals of Letterkenny was tourism had started to generate huge earners for the people in the towns of Donegal. By 2030, due to a changing mindset in the major cities, people began to holiday locally, as the aviation industry got hit hard by the oil crisis of 2012.
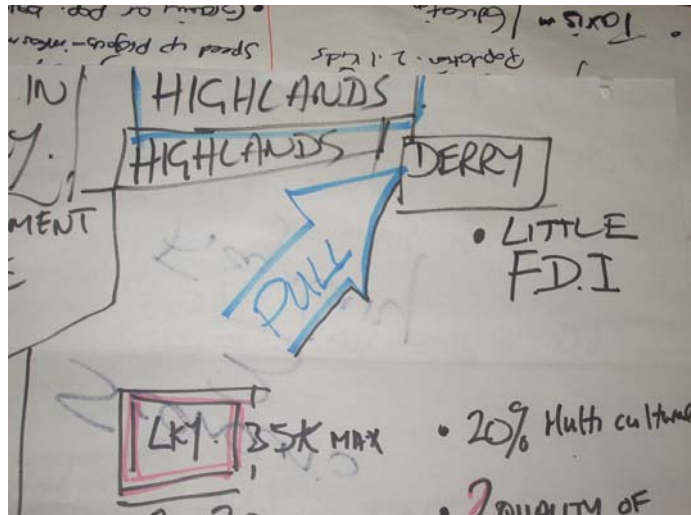
Urban Planning and Development

Throughout the early 2000s, the urban form of Letterkenny's town was weak due to the wide dispersal of development, under investment in infrastructure and the volume and capacity of undeveloped land. Due to bad planning in 2012, Letterkenny was nearly destroyed by a consistent neglect of the river Swilly where development on the banks exacerbated flooding and added to the destruction of the local landscape and wildlife habitat.

Following this crisis, there was a need for real collaborative leadership and awareness and in 2014 a leading light in urban town planning, Gerry McGuirk, from the Urban Imperative Forum, took the reigns for the strategic vision of the town. One of the major problems Gerry faced was the development of residential housing stock both in terms of ensuring the continued supply of private housing to a high standard of quality and improved levels of affordability, as well as the adequate provision of services (water and sewage treatment), particularly following the outbreak of cryptosporidium in the town's drinking water in 2015.

During the 2010s, regional grants for developments were slow to come about, however a developer in 2015 burst on to the scene, a local man himself, Frank O'Aoide, to take advantage of the fiscal incentives for the redevelopment of derelict buildings, in order to redevelop rundown areas within the town. The two men faced an upward battle, but by 2025, Letterkenny boasted an ice-skating rink, horse-racing course and a marina, as well as creating the river

Swilly as a significant amenity, recreational resource and natural wildlife habitat. They also managed to turn the town centre into a safe, accessible and attractive centre through the introduction of new traffic management and car parking measures as well as the creation and maintenance of new public spaces, thus reinforcing Letterkenny's role as the principle settlement in County Donegal, and a location for economic and industrial growth for the northwest: a growth centre.

Society

Unlike the rest of the country where community spirit and organised religion has declined, Letterkenny has continued to pride itself on its traditional albeit conservative values and lifestyles. Generally, the people of Letterkenny have a good standard of living due to the growing population and high levels of immigration experienced in the Post-Tiger years. Integration is key. Huge investment was secured to promote Letterkenny as a fully integrated model of social inclusion, keeping its own identity and remaining unique in this way. Classes or workshops have allowed immigrants to be introduced to the language and into 'our way of thinking, our culture'. This gateway has become more of an integrated model rather than a multicultural model of immigration policy.

A cultural recognition of "who we are in Letterkenny" has emerged and the role of the Irish language has remained firm and stable whilst declining in other parts of the country. Even road and transport infrastructure has continued to play a pivotal role in the regeneration of gaeltacht areas combined with incentives for businesses to set up in these areas.

Energy

Following the peak oil crisis of 2011, Ireland was facing an energy problem much worse than was generally recognised. However, Letterkenny saw this as an opportunity to bring economic as well as environmental dividends to the region. It became a model for the rest of the country in its development of its own supply of renewable energy and its promotion of more efficient homes by 2030. Under the Letterkenny Urban Design Framework all houses built after 2009 were energy efficient.

Letterkenny also became the gateway to another industry in the county's most wild and scenic areas. In 2007, the first prohibition of mining the hills of Donegal for the nuclear fuel uranium came into effect, however this decision was called into question after legislation lifted the ban to develop nuclear reactors on Irish shores. Uranium mining licences for the region of Donegal were granted to two major corporations, Oretec and Mine Inc, which brought economic growth and employment to the region.

In terms of the sustainable energy resources, such as wind and wave, Letterkenny in conjunction with the Letterkenny Institute of Technology became the leading hub in the development of wind and wave technology. Following the first successful launch of Ireland's wave power project off the coast of Donegal in 2015, Letterkenny started to reap the benefits

of this success by restoring competitiveness to the region and attaining a security of supply throughout Ireland.

Education

Following the closure of many textile manufacturing firms and diminishing farming services in Letterkenny in the early 2000s, Letterkenny was left with a lack of skills training among the unemployed workers where their skills became redundant, leading to a high degree of social exclusion and social welfare dependency in the area. By the mid 2010s to counteract this problem, there were significant educational, training and retraining facilities, up to and including third-level institutions available within Letterkenny and the surrounding county.

In 2015, Letterkenny launched the new "multimedia classroom" strategy. Grants were given to people who wanted to up skill or who found it difficult to get to institutions; they could sit at home and get their training. These grants provided the pupils with free broadband modems and laptops and access to all the course material they required. This strategy took a while to take off because of the human inertia to change but by 2030 the increase in highly skilled employees for the knowledge based economy was on the increase.

Governance

Letterkenny has emerged as a gateway city that has begun its quest to deliver successful social, environmental and economic change by engaging in collaborative leadership with Derry as well as promoting awareness of change through a forum called Best Leadership that encourages a broad range of perspectives and experience. Participants have been able to address opportunities and challenges with increased skills, commitment and cohesion within their workplaces and communities in this region. Long gone are the days where decisions on the development of Letterkenny are left on the back-burner and salutations to the days of conversation around leadership and critical issues affecting their communities.

Business Improvement District Blog for Letterkenny

The year is 2030 and there is a transition in the national economy which is reflected in the local economy of the Northwest, particularly in Letterkenny, which has developed the concept of Business Improvement Districts (BIDs). In 2007, cities had become too similar as global commercial patterns became visible. Cities and towns were becoming competitive in 'a race to the bottom', trying to attract footloose global business by offering the least restrictions on the companies' operations, low taxation and lax environmental laws. 2010 became the year that Letterkenny took measures to improve how they looked. It took on the aims and aspirations of the Business Improvement District (BID). BIDs are characterised by having their own quasi governments and are defined by the services they provide.

The Letterkenny district and a number of major organisations in this area, Bank of Ireland, Letterkenny Institute of Technology, Dunnes Stores/Tesco, realised a partnership with the local government and made a very clear and transparent agreement that the local council would provide some oversight authority otherwise Letterkenny BID controlled the purse strings and provided the best services possible, available to everyone. The Letterkenny BID branched out into economic and community development activities that enhanced the quality of life of the entire neighbourhoods, a goal which ultimately brought benefits both locally and on a more regional level.

One of the outcomes was a blog which captures people's thoughts and comments about Letterkenny's business improvement district, challenging and optimising city centre revitalisation and demonstrating urban life in all its glory.

<u>Tuesday, November 27th 2030</u>

Is there light at the end of this tunnel?

Earlier posts have examined the continuing controversy around Iarnrod Eireann's plans to route the extension of the Galway-Letterkenny route through the south end of the new town centre. The route through this area is part of a larger plan, developed in 2010, to extend commuter rail service between neighbouring urban areas of Donegal town and Letterkenny to boost jobs, transport, investment and housing. This extension was originally scheduled to be finished in 2025 but has been delayed again until early 2031. This is due to people opposing the plans because they believe it will lead to an increase in urban sprawl and the environmental landscape around the town will go into decline as well as effect local businesses in a detrimental fashion. An example of this can be seen with the closure of Bertie's Barbers on Pearse St. Forced to relocate because new tracks were going down through his old building, the business found it difficult to cater for its client base as well as attract new customers in its new location. Fear is in the air as businesses set to throw a punch in terms of relocating and profit loss. Those opposing the extension through the town, have also called for an extended public

process, which they believe will bring out better ideas for what will be a "once in our lifetimes" decision.

<u>**Friday, November 23rd 2030**</u>

Golden Falcon Sightings along the River Swilly?

Letterkenny today celebrated the opening of the ulchabhan sneachtuil (snowy owl) wildlife sanctuary by the Minister of the Environment, Heritage and Local Government, Seamus O'Loughlin. This is a far cry from what the river looked like twenty years ago, when it was in an extremely vulnerable state. Environmental awareness was of little interest. However, this mindset began to change particularly with the levelling off of economic activity and the downturn of 2012, where people began to notice their surroundings more, and realised that they depended on natural ecosystems for providing many valued resources and services. "Natural wealth" (the value of goods and services that nature provides to people) has become a key phrase in the region today.

<u>**Sunday, September 15th 2030**</u>

Am I loud enough?

A number of community members have expressed concern regarding the impact of noise pollution on the health and welfare of the community. Furthermore, according to sources in the police department, an undercurrent of anti-social behaviour is ready to surface again unless tackled immediately. It has been suggested that the city curfew be put in place again to regulate the activities of juveniles between the hours of midnight to 6am. Successful before, communities and local authorities managed to introduce the curfew back in 2021 to tackle anti-social behaviour of youths. This action was necessary as hooded gangs of kids went about terrorising up-standing citizens of the community, but were also caught drinking and stealing. The Lord of the Flies scenario demonstrated how the youth were taking some sort of control over the city through fear but this behaviour provoked the people of Letterkenny to take a stance and the curfew was an absolute success.

<u>**Tuesday, August 8th 2030**</u>

Demand remains high for Letterkenny office space

How did this happen? Well, Letterkenny became a leading light in the creative industries sector. In line with the cultural and economic development strategies, Letterkenny's economy became diverse, fuelled by creative and grass-roots entrepreneurial flair. The city promoted this new creative hub, which included broadcasting, journalism, cultural production and filmmaking, with the opening of the Letterkenny Letters festival. This festival began in 2010 and each year, audiences and businesses were drawn to the Northwest to explore the convergence of art, film, and technology. As time went on, by 2015, TG4 relocated its head office to Letterkenny in order to capture the language and ideas of the natives in the Gaeltacht areas and around.

Furthermore, in 2017, Letterkenny celebrated the opening of the county's first arts centre in conjunction with Letterkenny Institute of Education (LIT). The LIT always encouraged and supported economic development through knowledge transfer initiatives. The centre became a forum providing creativity, dialogue, performance, publication and exhibition, as well as establishing the first opera house in the region. Letterkenny had positioned itself as the hub of the creative industry in Ireland, which attracted other indigenous small-medium enterprises to develop and flourish here. However, the downside to this development was the decline of the traditional industries such as textiles, fishing, and farming. In addition, businesses were taxed at high rates which led to complaints that the local government were promoting the BIDs in an attempt to push over the maintenance of public spaces to the business community. Nevertheless, economically Letterkenny became self-sufficient and needed very little foreign direct investment.

Thursday, June 12th, 2030

What city leaders heard…

Yesterday was a day for stakeholders to sound off on a number of issues that will drive Letterkenny's future development. Since the Ireland First party came into power in 2015, emphasis was placed on the delivery of services on a more autonomous basis. However, plans, issue and opportunities had to be heard by the directly elected mayor, John McGrath, which became a problem in itself. The BID is now calling for an impartial board to advocate on behalf of business and residents allowing them to communicate a unified vision that presses local government on issues that help's the city regeneration, as well as to improve social access and civic duty.

Also, on the agenda was the matter of the proposed detention centre. The inevitable protests that will shut down the centre of the new town and businesses will be affected on that day. Nevertheless, we want to send a clear message out to the local and national authorities, that the citizens of Letterkenny do not want a detention facility anywhere near their community. Since first coming into power, the Ireland First Party has continued to neglect it social cohesion policy. Crime rates are on the rise and employment is in decline. This does not mean Letterkenny has to pick up the pieces by facilitating them with a detention centre in our vicinity. No Thank You!

MAIN DRIVING FORCES OF CHANGE

1. Location between Galway and Cork and within the Atlantic Corridor.
2. Shannon airport as good point of access to the region.
3. Negative image of Limerick city.
4. River Shannon as a valuable resource.
5. Strong third level education sector – UL and LIT.
6. Over reliance on Foreign Direct Investment and shortage of new investors coming to the city.
7. High proportion of non-nationals.
8. Need for regeneration of highly deprived areas.
9. Physical and social rejuvenation of the city centre.
10. Tensions on the boundary between Limerick City and County Councils.

KEY PIVOTAL UNCERTAINTIES

1. High reliance of Limerick's economy on FDI companies, such as Dell.
2. Success of regeneration of highly disadvantaged areas.
3. Review and change of boundaries between Limerick City and Limerick County.
4. Change of the image and rejuvenation of the city centre.
5. Major development of Shannon Estuary.

POTENTIAL IDEAS FOR PREFERRED VISION FOR LIMERICK

Brand	Campus City	River City	From the Past to the Future
Assets	▪ Collaboration between University of Limerick & Limerick Institute of Technology ▪ High student population	▪ River Shannon as a physical and social resource ▪ Shannon as a symbol – the longest river, division of East and West	▪ Interesting history of the city ▪ A number of remarkable heritage sites and districts ▪ Modern industries
Potential	▪ Building of a 'campus city' known worldwide for its multicultural learning environment, arts & sporting facilities, as well as centre for languages studies ▪ Creation of open and friendly atmosphere	▪ Developing a new cluster of the city around Shannon, based on quality of life, sports and leisure ▪ Protection of Shannon as a source of clean water ▪ Development of clean water technologies	▪ Restoration of historic sites ▪ Successful social regeneration of disadvantaged areas ▪ Development of centres of excellence in cooperation with universities

FUTURE SCENARIOS FOR LIMERICK

The high concentration of immigrants in the capital forced policy makers to focus on repopulating the relatively empty countryside, particularly so in the West. Limerick, on the brink of an extraordinary physical and cultural renaissance, was more than ready to receive the influx. Once renowned for its unemployment, mass emigration, urban decay and rising crime, the Limerick region by 2030 has managed to claw its way out of its economic and social rut. Ireland's fastest growing city on the back of a booming economy, with a population of almost 400,000, is now in pole position to compete with neighbouring urban centres throughout Ireland. The face of Limerick has morphed into an unrecognisable form and walking through the streets of the city today it is difficult to imagine what came before.

In a conversation with the newly elected Mayor Kowalski, I attempt to trace the trajectory of change in one of Ireland's most exciting cities, and find out what the plans are for the future.

Q. In your opinion Mayor Kowalski, what have been the key factors in putting Limerick back on the economic map?

When I arrived in the city almost 25 years ago, one of the major problems facing the future prospects of Limerick was the fragmented process of governance. With three different authorities responsible for public services and planning, attempts to develop a cohesive, integrated, and inclusive vision for the gateway, particularly in terms of land use and transport, were failing miserably. Disjointed urban renewal projects, sprawling estates and poorly coordinated infrastructural developments did more to highlight the inadequacies of local government than raise the profile of Limerick in any meaningful way.

The period between 2007 and 2010 was a difficult time for the region. FDI hit an all time low as Limerick failed to develop an adequate industrial cluster to match the south and west, which had attracted a heavy concentration of investment from the pharmaceutical, healthcare and biotechnology industries. Looking back, reactionary policies were to blame. The tipping point came in 2007 following the announcement that Aer Lingus was to drop the Shannon-Heathrow slots. The region had two choices: sink or swim. For Limerick to break out of the 'cycle of negativity' the city had to run leaps and bounds to maintain its status as key economic driver of the mid-West region and anchor for the Atlantic Technology Corridor. Over the next 10 -15 years, Limerick embarked on a system of 'Open Governance', involving the business sector, community groups, academia and local and regional government. The question, that for the previous three decades had not been asked, was this: what type of city do we want to create?

Immediate re-branding of the city took place. The redevelopment of the docklands as Ireland's Biotech R&D cluster has been hailed as one of the most successful dockland projects worldwide, creating over 3000 jobs and drawing tourists from far and wide. In retrospect, the location was eminently suitable for this type of industry with its close proximity to electricity, water and the

new city treatment works. Over the last 15 years the docklands have played host to several leading international bio-research companies. The cultural quarter at Arthur's Quay, the business district with high rise and mixed development buildings, and the building of the Opera Centre, are shining examples of the massive economic and cultural metamorphosis. The completion of Thomand Park in 2010 brought new impetus to our great sporting heritage, while the new education centre set up in 2010 to cater for the rising influx of migrants has increased levels of an educated and highly skilled work force. In 2014 a national centre for software engineering research was opened in UL, attracting leading researchers to the region.

In terms of infrastructure, the completion of the Western rail corridor in 2016 marked a series of public transport feats connecting Limerick to surrounding gateways, making job creation and population growth in rural areas more feasible. Greater access to and from the city has also facilitated the establishment of a joint local authority between Limerick and Clare to run the city's regeneration of St Mary's Park. The Limerick Tunnel, unveiled in 2010 brought considerable benefits in terms of regional development, promotion of tourism, congestion relief, and greater access to and from Galway, Sligo and Limerick-Ennis-Shannon. There is a climate of confidence in Limerick that has never been seen before.

Q. I heard concerns that Limerick's development has been based on commerce and urban regeneration at the expense of social inclusion and sustainability. Do you feel this is fair?

If you asked me that question 20 years ago I would have agreed with this statement but today this in not entirely relevant, at least not in terms of social inclusion. The problems in the likes of Moyross and Southill were among the worst I had encountered in nearly 30 years of working in disadvantaged areas around the world. Whole parts of the Limerick community were abandoned out of fear that the challenges were insurmountable. But look at these places now. Through a series of extensive projects, funded by public private partnerships over the last 15 years, we have managed to remove the 'corridor of disadvantage' which ran from Moyross in the northwest, through King's Island in the centre, to Garryowen, Prospect / Weston and Southill on the south side. In Moyross and Southhill alone, over 1000 houses were demolished to increase the capacity for redevelopment. What we have here now are mixed development urban areas, with strong city centre neighbourhoods. Spatial development in Limerick city and the hinterlands has improved dramatically since the boundary extension and with a more balanced population structure throughout the mid West region; social polarisation is no longer possible. Inevitably pockets of violence and crime will exist in any city but as far as Limerick is concerned suburban ghettos have been eradicated.

In terms of the sustainability of redevelopment in the region, there is still much to do. Our focus over the past 20 years has been to secure Limerick's competitive advantage, eradicate suburban ghettos and improve our infrastructure to cater for the needs of this generation rather than looking to the future. We are in now in a position to promote sustainable economic growth and community development. We see Limerick as a compact city, a public transport city, a people city – a city where people choose to live and work. In the future we will add sustainable to this list.

By 2030 after more than two decades of social and economic development Limerick has gained status as an elite Irish city, having become the focus for the greatest investment in the urban and social fabric of a city ever experienced in Ireland. People of Limerick have grown accustomed to the changes in their city. While the principles of sustainability lie at the centre of development, environmental policies run in direct conflict with the increasing demand for air, road and sea transport. The challenge now is to discover new and innovative ways to decouple demand for travel with energy demand. Limerick has made considerable strides in terms of having become self-sufficient with regard to energy. Sustainable energy supply for the city has become a real and affordable possibility, owing largely to innovative developments in finding new ways of delivering infrastructure. Hydrogen and wood emerge as the preferred sustainable energy sources. The establishment of a centre of technological excellence in Limerick in 2026 inspires a new generation of scientists and technologists working in areas of vital strategic importance.

Renewable energy, biotechnology and nano-technology take centre stage, as Ireland fosters what is now called 'social-technical dynamism'. However, uncertainty about the negative aspects of breakthrough technologies has led to societal resistance, requiring a change in mind-set and accepted ethical standards.

Since 2015, the city witnessed a significant shift towards more sustainable spatial planning and modes of transport, which serves the entire population in a more equitable manner. The radical development of Colbert Station and the establishment of a city financial district emphasises the extraordinary levels of leadership and vision used to halt the decline of the region. The river as a focal point within the urban centre was established to give the City of Limerick and its hinterland a new focus and has served as a catalyst for a host of future developments. Mixed use areas such as live/work spaces and 24-hour pedestrian-scale neighbourhoods have facilitated the creation of a dynamic local community life. Innovative modern architecture has started to creep into neighbourhoods once reserved for classical Georgian facades. The pedestrianisation of Limerick's centre and the concomitant development of the Limerick Orbital give pedestrians and cyclists greater access to quality public spaces, while the canal boat service connecting UL has worked wonders for students previously isolated within an outer city campus.

Following the elimination of the compulsory North American stopover in 2008, Shannon airport gradually recovered from the slump, with the development of a major European air freight hub where people, goods, information and services can now be moved quickly between Ireland and global markets. By 2012 the Western seaboard has become a dynamic national and international economic growth zone. Now a global leader in supply chain management, Limerick is at last changing from a peripheral region to a connected part of Europe. After challenging times the tourism industry in the Shannon region is showing signs of recovery. Having overcome significant challenges caused by a major Foot and Mouth outbreak in 2014, followed by a difficult economic period, a window of opportunity has opened for Shannon to promote sustainable tourism. With the acceptance of the Cliffs of Moher as an international geological heritage site, funding has been made available through the European Geopark Network. Over the past decade the Forestry sector is growing at over 10 per cent per annum and by 2015 the industry is worth over €600 million.

Further difficulties hit the mid West region in 2015 in the wake of the relocation of Dell's manufacturing plant to the central city of Lodz in Poland. Within 2 years Dell's manufacturing plant pulls out of Limerick, taking with it over 7000 jobs. Within 10 years manufacturing has all but moved to countries with cheaper labour and Ireland is forced to move up the value chain. With the imminent collapse of foreign direct investment in the region, Limerick is forced to re-think the basis for future growth. Having woken up to the fact that an over reliance on FDI is entirely unsustainable, emphasis is placed on redeveloping indigenous sectors. Over the next 5 years Ireland gradually moves from internationally traded goods, to internationally traded services and from manufacturing to knowledge based industries. Investment in lifelong education is seen as a key catalyst for sustaining national and international growth. Limerick becomes a city of learning, easily facilitated by the city's considerable educational infrastructure. Under the leadership of the Shannon Consortium, the city set about re-branding Limerick as a campus city. Over the next 10 years several centres of excellence mushroomed around the city, catering for the increasingly diverse needs of a growing cosmopolitan city.

To facilitate the growing number of non-national's in the region, foreign language capabilities of Irish citizens have dramatically improved. By 2018 Limerick is being hailed as a global city of languages and technological innovation. Having sufficiently excelled in the area Limerick forms an export sector in educational specialisation to fill the gap in the declining export industries. Further endeavours to highlight Limerick's competitive edge saw the development of a conflict resolution department in the UL in 2020, with the aim of becoming a model of social conflict resolution. The success of research in this area led to extensive developments in Limerick's disadvantaged areas. After decades of neglect, two of the most infamous communities in Limerick city undergo a major revamp. By 2025 criminality in the region is significantly reduced, and slowly but surely the black cloud of negativity that had descended on the city is lifted. Limerick shines.

The traditional lack of leadership and vision in the city has made it impossible for Limerick to compete with other regions. Having failed to take advantage of significant NSS infrastructural investment during 2002-2007, the city in 2010 is deteriorating rapidly. Major projects are put on hold due to a lack of a unified planning and development framework. The city has failed to absorb the burgeoning foreign workforce. City centre populations are in decline as suburbs continue to sprawl and grow. The Inner city is left for the elderly and immigrant population. Travel demand has almost doubled within and around the city, significantly increasing traffic congestion in the urban core. Limerick is in desperate need of a high quality bus-based transport system in the city, supported by park and ride facilities on the north and south of the river. There is a strong potential for public transport to double its existing modal share in the City by 2030 but this is a complex project that requires an innovative and bold approach, using both public and private sector finance to bring it to fruition. Questions arise as to whether Limerick can meet the challenge. Prior attempts to develop cross city public transport corridors were shelved owing largely to mismanagement.

The region suffers a further blow in 2012 as multinationals start pulling out due to rising labour costs. Dell absconds to Poland, and the Americans go home. According to CSO figures published in 2013 Limerick has one of the worst unemployment rates of the country.

Crime rates have risen, as gang warfare has edged its way from the suburbs and into the city centre. Social inequality and racial conflict are on the rise, as immigrants have failed to integrate fully into society. With no employment opportunities, and no prospects of returning to their native land, resentment rises, as Irish blue collar workers are in direct competition with the immigrant population. Extreme nationalism surfaces leading to a revival of Irish culture such as music, languages, and traditional story telling. Sport becomes a major player with the unveiling of the expanded Thomond Park in 2015, having been delayed almost half a decade.

Having hit rock bottom, Limerick City and County Council finally acknowledge the need for a new system of governance to right the wrongs of the past three decades. Despite low levels of funding from central government, the city begins a major infrastructural and cultural revamp. By 2020, with the help of PPP investment, urban regeneration is well underway. High profile architects with a vested interest in creating a vibrant city, collaborate with environmental engineers to develop a vision for a sustainable city that balances urban and rural and that will cater for changing lifestyles, a city where non-motorised modes of transport, such as walking and cycling, are prioritised.

The completion of the Orbital route, linking employment, residential and educational facilities, meant the former derelict upper reaches of the Shannon are no longer isolated as city regions extend their boundaries, bringing shops, libraries and entertainment to more rural areas. Could Limerick be going back to the future?

The renewable energy sector has grown rapidly. Citizens are increasingly more resource conscious and environmentally aware. Overall, renewables produced 16% of energy in the Mid West region by 2025. Hydropower is generally accepted as the main source of energy, combined with wind, biomass and solar. By 2035 the general consensus is that while alternate energy sources will mitigate the problems, they will never be able to replace oil and gas. Nevertheless, solar and wind slowly grow in importance as energy sources, while the use of bio fuel grows exponentially. It is this group of technologies that take off in the coming decades, making renewables a significant and potentially majority share of Ireland's energy.

Over the next 5 years Limerick Council focuses on expanding the commercial core within the city centre. A policy of controlled suburban development is closely adhered to in an attempt to restore Limerick city into a dynamic thriving city centre. Development of Arthur's Quay, the creation of interesting apartment complexes and the multicultural atmosphere of the riverfront cafés and pubs in Limerick's docklands begins renewed interest in the city as a prime residential location. By 2030 Limerick is showing signs of recovery.

MAIN DRIVING FORCES OF CHANGE

1. Location in the middle of Ireland.
2. Three different towns in two counties – developing Midlands identity and collaboration.
3. Athlone Institute of Technology – cluster of adjacent medical devices and ICT industries.
4. Competition from Galway and Dublin in attracting population.
5. Bogs as a potential energy source.
6. Environmental qualities.
7. The network of canals in the area that is an underdeveloped resource.
8. High levels of student drop outs between second and third level.
9. Lack of sufficient rail and road connections between the three towns.
10. Impacts of CAP reform.

KEY PIVOTAL UNCERTAINTIES

1. Ability to retain population and encourage its growth.
2. Development of an airport (moving Dublin's airport to a different location).
3. Provision of renewable (cheap) energy for potential investors.
4. Effects of improved transport links.
5. Achieving critical mass and competitive advantage to sustain economic growth.

POTENTIAL IDEAS FOR PREFERRED VISION FOR MIDLANDS

Brand	Excellence in Rural Living	'Back Office' for Eastern Engine	Centres of Excellence
Assets	▪ Areas with good environmental quality ▪ Network of canals, heritage sites and villages	▪ Location in the middle between Dublin & Galway ▪ Proximity to the Eastern Economic Engine	▪ Athlone Institute of Technology as a key driver for the local economy
Potential	▪ Creation of variety of options for rural living through creation of unique rural settlements, niche activities and sports ▪ Development of excellent educational facilities at primary & second level	▪ Development of various 'back office' type services, such as logistics, waste management and treatment, water processing, energy generation etc. ▪ Managed forests	▪ Creation of new centres of excellence at AIT in collaboration with industry ▪ Establishment of National Administration Hub

FUTURE SCENARIOS FOR MIDLANDS

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SCENARIO 1: Fields of Gold (National scenario: THE SOW OF LIBERTY)

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Article in the "Midlands Leader", 15th July 2030

During the past two decades, globalised industrialisation has spearheaded the drive towards a new era of privatisation, deregulation and integrated market forces in Ireland. However, a legacy of smoke-belching, sewage-spilling plants has been left behind. Looking over the sheer size of the legacy, a realisation is materialising in which awareness and positive action becomes paramount to divert this massive threat against humanity. Indeed, who becomes the forerunner and innovative leader in environmental economics? Surprisingly, during the mid 2010s, the Midlands gateway emerges as the founding region of the agri-industrial revolution, exploding onto the commercial scene in Ireland. The region finds a completely different way of taking, making, using and consuming in the world.

At the beginning of the 21st Century, the Midlands are lagging behind the rest of the country in terms of innovative, industrial and environmental development. Employment is at an all time low as citizens of the Athlone-Tullamore-Mullingar (ATM) gateway flee to the East to benefit from better job opportunities and higher salaries and a better quality of life. Clustering of activities and businesses is seen as the right solution to create knowledge networks and attract industries to this region. The Border, Midlands and Western (BMW) Regional Authority, later to be replaced, begins to realise the value of truly embracing the sustainability concept as opposed to continuing the ideal as political mantra and consequently, goes on to promote the creation of a sustainable economic "cash cow" model which would ultimately give rise to improvements in the area.

The neo agri-industrial era begins with the sharp decline of the areas' natural resources, in 2012. A sobering reality at the time is that it is necessary to create an alternative solution to what could possibly turn out to be a major catastrophe. By 2013, a farmer, Joe Brown, and a chemist, Dr. Martin Smith with the financial support of Enterprise Ireland, join forces to design a new and greener-economic agenda for the Midlands. What happen next is to change the face of the Midlands forever. The development of their latest patented technology in bio-fuel manufacturing with innovation and security of supply being their core guiding principles, leads to the explosive economic development of the region. What cemented this expansion further was the opening of four major 'Biomill' facilities in the region by 2015.

The company 'Biomill' becomes the global market leader in the bio-fuels sectors, producing bioethanol and biogas while competing in an extremely globalised and charged marketplace. The resultant global success of the company leads to a highly advanced logistical infrastructure being developed by 2015, where industrial pipes are laid down in the region and extend straight to the national ports of the East, West and South of the country in order to export their fuels around the world. Subsequently, carbon credits are now being exported across Europe, and a cluster of energy research and development agencies begin to appear throughout the Midlands.

Wind and nuclear energy capabilities also surface as a force to be reckoned with. The Midlands is now the energy and technology hub of Ireland in 2030.

The development of this new dynamic economy in the Midlands during the mid 2010s, leads to a sharp rise in employment and people begin to return to the region, albeit in a very different manner to normal migratory patterns. Commuting from the Greater Dublin Area becomes the norm, consequently, leaving the ATM region with a low density, ageing demographic. The area starts to attract retiring rich industrialists to its neo-industrial zone, while the middle class cannot afford to even consider this as an option. This is due to the fact the land and housing stock in the region is excessively expensive, which encourages a revered rural way of life for the wealthy supported by excellent amenities, thus leaving the poorer classes to dwell in the urban centres on the periphery of the gateway. As a result, the population becomes stagnant. Furthermore, a palpable divide emerges between the rich and the poor and this social separation renders the Midlands an affluent and seemingly elitist society.

By 2021, the Midlands have become one of the most prosperous regions in Ireland. It boasts beautifully maintained garden squares, an array of private boarding schools, affluent marinas on the river Shannon, an untouched landscape between towns, sustainable urban design in all buildings and housing developments and civic spaces longed for by other cities in the country. Additionally, the ATM region has become known for its effective transport planning, since it developed and promoted its major inter-modal sustainable transport system and links between the three major towns, to cater for the rising number of workers and commuters into the region.

The transport system includes the Dublin West airport, completed in 2017 and located near Mullingar, more railway and bus routes and heli-pad facilities to cater for the heli-boom that occurs in the region by 2019 subsequently leading to the ATM region having more helicopters per capita than anywhere else in Ireland.

 Responsible for the success and the perfectly executed planning of the area is the first CEO of the Midlands, Michaella O'Leary. The post of CEO is created in 2018 following a spate of BMW regional authority scandals regarding the misappropriation of funds, bribery and a number of incidents regarding medical negligence. In the spirit of the flexible economic-driven capitalist era, the national Government, The Progressive Liberal party, under the pervasive influence of the industrialists and transnational corporations around the country, agrees to the strengthening

of the regional government led by a directly elected CEO. The person elected is required to have a vision to design, develop and implement the strategic plan for the area in the most cost effective and time efficient manner, while being responsible for developing business plans for the long-term future of the region. However, the CEO's role becomes extremely self-serving in addition to having right wing tendencies and policies.

Despite these positive outcomes, by 2021, problems relating to the social divide in the area mount. Social segregation rises sharply and those living on the periphery of the region feel isolated and neglected. They are desperate to collect the crumbs from an influx of multinational corporations who want to profit from low-wage costs. In this region the poor pay higher taxes while the rich pay less and the burden of the state services are left to the lower classes and are neither efficient nor satisfactory, as more and more public health services deteriorate following the discovery and outbreak of an advanced mutation of the MRSA bug, causing death and despair in 2021. And yet, the Midlands is the Mecca for private healthcare in Ireland. Owing to an ageing wealthy population, there is an increase in private nursing homes and convalescent homes, in 2021 and the region becomes the innovative research and market leader into Alzheimer's research and genetic engineering. The Athlone Institute of Technology's excels in science, engineering and medicine and becomes an award winning university with the majority of European funding for research and development in medicine being deployed to this facility, thus becoming the medical science hub of the world by 2030.

The exclusion of the peripheral towns surrounding the region gives rise to a preponderance of social issues. High crime levels, ghetto communities and drug dependency. In an effort to stop these issues from escalating, a social strategic development zone is established and the green light is given to start construction by 2024. Upon completion in 2029, the zone now provides a proper transport system, with the provision of amenities, facilities and services, such as two schools, a railway station and a number of shopping centres on the periphery of the Midlands region.

Finally, above all else, the most detrimental side-effect of the ongoing economic progression in this region is their declining cultural identity. By 2030, community life and civic spirit is replaced by focus on family life and fulfilment of individual needs. Attitudes dominated by commercial and materialistic values continue to govern the citizens of the Midlands. Traditional ideals remain hidden away as the value for profit and price emerges gradually creating a new urban fabric across this region. Here lays the contentious debate surrounding the Midlands gateway, is it a soulless suburb or wealthy boom town?

A letter to Mary O'Hanlon, Quebec, Canada

15th August 2030

Dear Mary,

I hope this letter will find you in a good health and even better mood. It occurred to me only recently that I must be the only person on this earth, who still sends personal letters by post!! I really don't understand why nobody does it anymore?! It is a much more sophisticated form of communication than these modern technologies. I suppose, old habits die hard...

I sincerely apologise for not writing to you for the past few months. Your video call last week made me think - you must have been worried sick! I do have a good excuse though. I spent the last few months travelling. My daughter got me a ticket to Ireland for my 70th birthday. It has cost her the earth, with the prices of flights these days... But, she knew how much I wanted to see the places where we grew up once again. This may have been my last chance...

I know that your family situation and now health has not allowed you to travel back home for the last 16 years. You wouldn't believe how the place has changed since we left it in 1987 and our last visit together, in 2007. All together I spent four months in Ireland, and a month just visiting people and places closest to my heart in the Midlands. I even managed to track few old colleagues from our Department at UCD. Did you know that your student, Ronan O'Mahony, became a Professor at MIT few years ago?

Do you remember, in 2007, the place was booming, new homes and shopping centres mushrooming around the bigger towns and villages? More cars, more flash and more cash, but less time to enjoy life. However, I recall you telling me after your last visit that something has changed and the wind was blowing in already a different direction in 2014. I spoke to many people trying to understand what has happened and found out fascinating things! I wish you could see the Midlands now!

The government introduced a new National Spatial Strategy II in 2014, and believe it or not, Midlands wasn't on it! Well, that's what some people say, mainly those who were in favour of high economic growth, quick urbanisation and modern industry development. Also, the idea of Athlone, Mullingar and Tullamore as a Midlands gateway was abandoned. Two reasons were given. The first was that the allocation of resources had to be concentrated in the centres that had the best capacity to develop critical mass. Some people believed that Western Alliance representatives had much stronger arguments than the Midlands delegates. The second one, and I am inclined to believe that a bit more, was the lack of sufficient links and flows between the three towns and no distinct identity for the region ever emerged. Apparently, there was no real collaboration between the two county councils and a strong, at first, business alliance of the Midlands Chamber faded away after a while.

In fact, NSS II designated most of the Midlands as the area of special environmental protection, strictly limiting urban development to already existing centres. New residential development was allowed only in eco-villages that were serving the needs of protected areas. Do you remember, you were saying, after your trip in 2014, that you have seen large pockets of newly planted forests in Westmeath. The reforestation already started back then. I always thought it was only to meet the demand for wood products. I know now it was essentially to counterbalance the CO_2 emissions.

I was told that a mismatch of government policy with Midlands' aspirations has left the region in some sort of limbo for few years. More energetic people started to move away mainly to the prospering Atlantic Corridor region and to a lesser degree to Dublin-Belfast Corridor, others stayed accepting the limited possibilities or commuted to work, which wasn't really that difficult with the excellent train connections. Only with time did people start to see the NSS II policy as a good thing.

Around the early 2020s, people began to flow back into the Midlands, after the decline in population over previous 6-8 years. You wouldn't believe it! The combined population of Offaly and Westmeath fell to 140,000 in 2016. Now it is around 200,000. Many started to appreciate the way of life that developed here. I think they call it "the wisdom society" (people who appreciate their close access to nature, leisure pursuits and healthy living, as well as the State-supported communities of scholars, poets, artists and musicians). Although, it only offers a modest standard of life, the richness and diversity of non-material experience is increasingly attracting more people to the area.

New ideas and creative solutions started to flourish. The local environmental institutes in collaboration with the Athlone Institute of Technology developed new educational tourism packages. Children from all over Ireland and increasingly other countries come to Midlands to observe birds, evolution of peat lands, geological exposition and have a good time at the same time.

I went on three tours: the Castle necklace, Canals drifting and Wild mushroom picking. I loved it! I wish you were there with me! And, there is so much more to do, even for the old people like us.

But, you know what people start to appreciate more and more about the NSS II? The designation of Midlands aimed to preserve water resources in Ireland, and that it did very well! I was

thinking about it this morning, when I was trying to have a shower and there was no water again! I love Argentina, but living here can be sometimes a difficult experience.

Oh, and they have this new cool thing - communication free zones! It's ironic when I think about it… Athlone used to be a centre for communication technologies back in early 2000s, and now 150 ha of land around the lakes and forests of Westmeath is communication free zone!! I heard they are going to set up more of these in other places too. Special screens block out all the waves. You can rent a little wooden cottage for a retreat. They also have places where you can live the same way our grandparents lived – without modern technologies and comforts. I was going to go to such a retreat, but my budget wouldn't allow it. I did visit loads of small shops with crafts and food, attended music sessions and galleries. By the way, did you receive the little gift I sent you from Ireland?

Oh, and I almost forgot to tell you about the food! I had the best meals of my life while visiting Midlands. The taste, the texture and the smell brought me straight back to your mother's vegetable garden… mmm… With the development of these modern food technologies that make sure food is nutritious and for all, we lost its taste and smell. I yearn for times when I could go stealing strawberries from your garden…

That's why I love writing letters – they help me to remember! I better finish, my daughter is calling me for my treatment.

I am sending you all my love!

Tom

Transcript of an interview with the director of Athlone Institute of Technology, Dr Siobhan Higgins, for "Nationwide" programme, aired on 15th December 2030.

Tom Murphy (TM), Nationwide: Dr Higgins, we learned only yesterday that the Eco-Polymer Research Gr*oup (EPRG*), at the Athlone Institute Technology*,* won the *Irish Inventor of the Year Award* again this year. Isn't the fourth Award in the last 10 years?

Dr Siobhan Higgins (ST), AIT: Yes, it is.

TM: What is the EPRG's secret? The group is one of the brightest stars, if not the brightest one, on the Irish technology sky, and is also well know globally. Irish companies haven't been so competitive in years…

SH: I suppose, to answer that, we need to move back to the past. In the late 2000s, AIT was very concerned with the prospects for its future – you know, with the declining numbers of students and increasing global insecurity, we felt that there was very little that was going for us. We didn't want to just drift into the future, but we needed to take steps to prepare for it. A futures study, undertaken in 2007, helped us to get some insights into the future and through a debate within the Institute identify the best way forward. As one of the aims, we decided that we are going to be the best centre for plastic and polymeric technology, both in teaching and research. The EPRG was established in 2011, and by 2018 we were already recognised globally as a centre of excellence of global importance. At present, the Group employs 130 highly qualified engineers and scientists and we have about 2500 students learning about various aspects of the plastics field. They come from all over the world.

TM: But still, how did you get from just having few courses in plastics and polymer engineering to becoming one of the global leaders in that field? There must have been other factors to your success than just the identification of your future direction.

SH: Well, the key was and still is the attraction of the best people. And, in my opinion it was one of the hardest things. High wages were much too little for people to move to a little place in the middle of Ireland. We needed to offer them and their families something different, but of the highest quality. With the help of local and central government, business community and sponsors with very deep pockets, we built a 'knowledge village' near Glasson, where the researchers would live. The village had the best facilities – residential, educational, health, sport, recreation and cultural. The already existing urban hub in Athlone and high quality of natural environments around it were real asset. In my opinion that was the key; however, there were other important factors as well - already existing plastics sector, strong leadership of AIT and collaboration with local companies, and often knowing the right people in the right places. The field on which we wanted to focus was after all identified through long discussions with people from the industry and experts worldwide.

TM: What was the role of Mullingar and Tullamore in all of that?

SH: Very limited really. Initially, there were grand plans involving the two towns and a lot of enthusiasm from all sides, but with the economic slowdown and lack of money in government coppers, the provision of infrastructure that was needed to bring the towns closer never materialised. Also, a strong mobilisation of business community around the Midlands gateway has weakened after few years of rather fruitless lobbying. By 2020, we all forgot about the Midlands gateway concept.

I have recently been reflecting on the underlying reasons for this failure, I don't think that Tullamore or Mullingar had a vision for their future; they just, sort of, went with the flow… People wanted more shopping centres and houses, they provided it, but never really managed to develop a competitive advantage. We all knew well back then that manufacturing and even knowledge economy were on its way out and innovation on its way in.

TM: Athlone is one of the most progressive and dynamic regional centres in Ireland today. With 80,000 people, many of whom earn well above the national average and good quality of life in general, it seems like Irish heaven…

SH: Not quite. Looking at Ireland today, it definitely is one of the winning urban centres. However, as many other places, we have a huge divide between the poor and the rich, the city has sprawled damaging many of its environmental assets and high crime levels are very worrying. The racial attacks in recent years were terrifying! Two Ghanaian engineers from EPRG were very badly beaten up two years ago. Some of our foreign staff and students, especially of African and Asian origin, are being hassled almost anywhere. This is actually a real threat to the future of the Group, as it becomes increasingly more difficult to employ foreign scientists. Congestion in the Athlone area is suffocating the city. As people here are better off than in other places, car is the dominant mode of transport and we haven't developed public transport initiatives like other places. Actually, to be honest I would be terrified going on public transport. I was told recently by a friendly shopkeeper that the business has been really slowing down in the last two years. Increasingly, people prefer to go shopping and meet their needs in Tullamore, Mullingar and Dublin because it is easier to get there, and it is also safer.

TM: Is Athlone a victim of its own success?

SH: To some degree. Unfortunately, our problems reflect the situation in other urban centres around the country.

TM: I have done a programme about new tourism initiatives in the Midlands some time ago. People I met were saying that finally, after over 10 years of stagnation and slump, things are changing for the better.

SH: Yes, very much so. A lot of new initiatives have been coming out of that area in the last few years, especially from the two towns. Mullingar has been trying to develop a sector around bio-fuels using their natural resources. Also, we have been approached recently about setting up a

research centre to investigate a possibility to use peat for medical purposes. As Athlone is facing increasing pressures, they try to develop complementary services and attract our population to their towns. As I already said, people increasingly shop, socialise and recreate in Mullingar and Tullamore. The strong community policing and change in people's attitudes towards a more socially responsible ones helped to eradicate some types of crimes.

TM: Athlone could set up similar initiatives…

SH: Of course it could, but it is more complex. Tullamore and Mullingar's social structures are more homogenised and the disparities between different classes are not as bluntly obvious. If you walk in the city centre of Athlone and some of the disadvantaged areas, the poverty is appalling. It's not much better than Limerick's worst areas.

I have been speaking to some of my colleagues, who recently relocated to Mullingar. They told me that community links and spirit are much stronger there than in Athlone. Social solidarity is on the rise there. Athlone's population is more transient and more ethnically diverse, which in the present Ireland is not always a good thing.

Actually, we are discussing move to a village around Mullingar ourselves. My family lives near Athlone West Corridor and the traffic becomes unbearable. Twice longer distance from the Mullingar side would take me half less time to travel. Also, the development of new tourism and leisure activities around the canals, lakes and forests has been very attractive to my family and friends.

TM: Siobhan, it was a pleasure talking to you. Once again, congratulations on the success of the Group and I wish AIT many successes in the future.

SH: Thank you.

G. SLIGO

MAIN DRIVING FORCES OF CHANGE

1. Remote location with respect to Dublin and the rest of Europe.
2. Levels of integration with Northern Ireland.
3. Attractive location for tourism and people looking for good quality of life.
4. Decline in population and ageing population profile.
5. Development of cultural quarter around the Model Gallery.
6. Strong cultural and literary traditions.
7. Impacts of climate change, especially threat of flooding.
8. Potential development of organic agriculture.
9. Existing collaboration of Sligo Institute of Technology with local businesses.
10. Seeds for development of pharmaceutical and medical devices sectors.

KEY PIVOTAL UNCERTAINTIES

1. Integration between Northern Ireland and the Republic of Ireland.
2. Dependence on the multinational companies in pharmaceutical and medical devices sectors.
3. Improved accessibility to the rest of Ireland and Europe.
4. Consequences of agricultural transformation.
5. Government commitment to regional development.

POTENTIAL IDEAS FOR PREFERRED VISION FOR SLIGO

Brand	Cultural Centre of North West	Garden of North West	Creative industries
Assets	▪ Literary traditions of the Yeats Country ▪ Plans for cultural quarter around the Model Gallery	▪ Outstanding natural scenery ▪ Seeds of organic agriculture	▪ Sligo Institute of Technology ▪ Growing number of artists and talented people moving to Sligo
Potential	▪ Fostering initiatives based on culture and creativity ▪ Development of specific tourism products around literary traditions, natural beauty and dynamic multicultural atmosphere	▪ Development of 'eco' image based on renewable energy, organic farming and green tourism ▪ Promoting the image of the highest quality of life and slower pace of life ▪ Establishment of protected areas	▪ Creation of the creative industries cluster upon the collaboration of Sligo IT with local industries and diverse, talented artists' community ▪ Role of Sligo IT in fostering innovative learning & entrepreneurship

FUTURE SCENARIOS FOR SLIGO

SCENARIO 1: An Irish Clone (National scenario: THE SOW OF LIBERTY)

Sligo flourishes in 2030 as the corporate agenda has well and truly swept across the County. Over the last two decades Sligo has promoted itself as a competitive and congenial city for long-term investment. The opening of the Sligo relief road back in 2005 served as a major catalyst for growth in Sligo and the northwest and Sligo's positioning between Galway and Donegal has encouraged creative industrial clusters along the West coast. With balanced regional development in the northwest as the economic and political imperative, major investment in the National Transport Corridor, funded through PPP's and the European Regional Development Fund, marked the decade between 2007 and 2017. A series of upgrades to national and primary routes facilitated the expansion of Sligo, particularly southward to parts of Mayo and Roscommon, via the N17 and N4, and north to Donegal, via the N15. Improvements to the N16 enhanced connections to Enniskillen and the Trans-European Network cross-border route improved links to Belfast and Northern Ireland.

While Sligo IT has been an integral part of regional growth and development, sustained growth depended on further expansion. 2017 witnessed substantial investment in Sligo IT enabling a greater response to emerging needs of Ireland. In particular a major revamp of the Science faculty was completed, offering a greater number of courses to students wishing to excel in the science and technology sector. The movement away from labour-intensive manufacturing industries to the skilled service sector had significant policy implications for the provision of infrastructure, particularly the provision of telecommunications. In 2020 Mavericks Technology in collaboration with Sligo IT embarked on a bold 5-year project, to engage in a far-reaching, forward-looking alliance to create the future of nano-technology.

The alliance set a new standard for industrial-academic partnerships in the region, with many SME's joining forces to engage in knowledge transfer between the sectors and to ensure that experts have closer involvement with the local and regional economy. By 2030, two centres of excellence are up and running, further strengthening the region's R& D capabilities. With a combination of home grown manufacturing, retail and service industries on the one hand, balanced with state of the art educational facilities on the other, Sligo by 2030 is breeding the intellectual property and entrepreneurial fair needed to drive the vibrant economy of a modern city region.

But not everyone is entirely satisfied with Sligo's transformation with many fearing that the acceptance of big business in the region is merely serving to erode cultural identity. In an interview for the Sligo Business Post, one Sligo citizen voiced his concerns about Sligo's future. 'We are in danger of becoming just another clone of the many towns and cities throughout Ireland. It is unfortunate that our local mayor is little more than a front man for big business - a corrupt power junkie with no respect for the land or its people'. The unquestioned development of Sligo as gateway capital of the North-West region is in danger of wiping out what that inherent 'something' that gave Sligo it's beauty.

One of Sligo's most valuable assets is its multi-layered accessibility. Few places have such choice and accessibility within such a compact area. Expansion outward has removed protection from some of the problems associated with other major cities.

Development of major shopping centres across the city has put pressure on existing infrastructure, having sparked the development of new roads. Traditional communities fragment as the distinctiveness that gave them their identity is gradually erased and replaced by a homogenised city culture, a place where crime and violence is on the rise, where civic pride is relegated to history, a place where climate change is causing the unprecedented loss of biodiversity. The north-West Atlantic as a source of income for local communities is a thing of the past, fish abundance is no longer a given. Between pollution and multinational trawlers, local fishermen have been displaced. The garden of Ireland has been lost. Survival of natural heritage and biodiversity is paramount to those who have grown up in the North-West. The challenge for the future is to anticipate how Sligo will be affected by environmental, economic and social change, and to formulate plans to minimise the negative effects.

By 2015 Irish emissions are over 35% higher than just two decades previous. Having failed to adopt measures to reduce greenhouse gas emissions and to adapt agriculture and economic activity to flooding and temperature change, the country is left vulnerable to potential catastrophic environmental disasters, particularly along the West coast of the island. North Sligo in particular has suffered exponentially as a result of coastal flooding. But with the help of regional allies it is not long before Sligo becomes a prime destination once again. Economic and political cohesion between regions is extremely good and this has a strong influence on workforce mobility within the region. New technology, new industries, new architecture, new urbanism, new creative and cultural forms have mushroomed in the region. By 2017 Sligo has been given city status, having successfully reinvented itself over the previous decade and a half.

2015 marked the formation of the Western Political Alliance, with its overarching aim to cultivate a 'Western Way of Living', to equal that of its counterpart on the East. Over the following five years, Ireland underwent a gradual dispersion of its population Westward, as the pulling power of the West coast gateways began to attract growing numbers of people, in search for a better quality of life.

Sligo by 2030 has been transformed into a thriving tourist gateway capital for the north-West, and a prime residential location. Governance has been broadened to regional as well as local level and public participation in decision-making is at an all time high. Local employment and economic development is encouraged, and access to facilities and services has become more equitable.

With a 120 percent increase in population over the last 20 years, the total number now living in the city and surrounding hinterlands has reached 80,000. Increasing demand for resources, space and transport, put severe pressure on existing infrastructure presenting enormous challenges for city planners, designers and builders. Up to 2012 residential development in Sligo had been largely unsustainable, with emphasis on suburban sprawl and one off housing. With a disturbingly high reliance on car usage, long commute times had become a regular feature of life in Sligo, and as the city coughed its way to 2015, Sligo City Council had two choices: to either continue down the path of poor planning or come up with a new spatial vision.

In partnership with Sisk Construction an ambitious regeneration project to make more efficient use of land and infrastructure got underway in 2016. Rather than focusing on the urban centre as the hub of activity, outward expansion - as far as Roscommon to the South and Leitrim to the East - indicated the rising importance of a rural way of life to complement that of the towns and cities. Regional government funds, no longer limited to building up the urban core, were reallocated to build the necessary infrastructure to link the city with surrounding areas.

By 2020 two distinct societies were emerging in the region, highlighting the interconnectedness of urban and rural. Sligo's city centre housed the modern 'knowledge' society while the rural hinterlands became home to the more traditional 'wisdom' society.

This landmark demographic transition enabled Sligo City to become fully sustained by a thriving rural hinterland, servicing its leisure, food and energy needs, while the reduced population in the urban core eliminated the urban underclass that had begun to emerge.

In line with rural development initiatives, Sligo's new 'urban core' was created between 2010 and 2013. A pedestrianised civic square emerged with new residential, retail and recreational opportunities to attract investors to the region. The problem that now faced Sligo was the sheer lack of streets to accommodate such a dramatic diversion in traffic. Without additional infrastructure, pedestrianisation was bound to amplify traffic congestion in Sligo's narrow clogged streets, rather than alleviating it. The subsequent widening of Hughes Bridge accommodated the increased traffic on the Inner Relief Road, temporarily easing the gridlock in the city. Nevertheless such quick fix solutions would not solve Sligo's transport problems in the long-term.

Following the upgrading of Sligo IT to University status in 2014, several high density mixed use developments were erected to cater for the growing Irish and foreign student population. The high proportion of elderly living in the urban core was not seen as a problem, owing to improved health and quality of life as well as the higher proportion of students during the academic year. People in general are more active. Ageism has been eradicated as the younger population begin to acknowledge that the older population are a necessary link between the past and future.

As Sligo's long-term manufacturing industries pack up and move to low cost countries, Sligo's focus turns towards the tourist and the service industries. With the designation of Sligo as heritage town of Ireland in 2015, the region witnessed a revival of tourism, beating Waterford and Limerick to the post. Boasting over 5000 years old archaeological sites, making it one of the richest concentrations of prehistoric monuments in Western Europe, Sligo had at last begun to capitalise on its emotive status as 'garden of Ireland'. In this same year, the Yeats Society Sligo in collaboration with the International Association for the Study of Irish Literature hosted the 50th international summer school, drawing thousands of over-seas students to honour Yeats in the town in which he grew up. The success of the event in terms of increased revenue sparked a spate of regeneration in the region to cater for the renewed interest. Over the next 10 years no matter where you turned towering cranes punctured the skyline. Expansion to Sligo Airport went ahead, despite mass protest. Transport infrastructure is greatly improved offering faster travel times to the rest of Ireland and mainland Europe. The completion of the outer orbital route in 2020 - enclosing services for public transport, park and ride, and local logistical needs and enhancing ICT networks – has created more flexible options for remote work. This has radically changed the pattern of daily life, increasing time spent with family and significantly reducing traffic congestion.

The region by 2025 is made up of strong interconnected community networks clustered in and around Sligo. A new hub of technological growth emerges, facilitated by an excellent ICT infrastructure. During this period the agri-food industry thrived following vast improvements in business, technological and innovative capacities and the development of rural agricultural clusters. Over the next few years a host of organic farms mushroomed within and around the

region, facilitated by the REPS Organic Grant Aid scheme. This was followed by what was hailed as the one of the boldest ecological regeneration programmes ever to hit Ireland: the mass planting of forests in the north-West. Once renowned for having the least amount of native woods in the EU, by 2027 almost 15% of Irish land was now covered by privately managed woodlands.

By 2030 Sligo is renowned as a European leader in eco tourism. The integration of county and city has established strong cultural centres relative to the heritage strength in each area. Sligo boasts a superior quality of living compared to the East, connections to the sea, rivers, and lakes, and a highly developed educational system generating research and development, SME and major indigenous industry opportunities. The future of Sligo is to be built on a well developed knowledge-based bio-economy, with foundations in the comparative advantage of Ireland's natural resources. The redevelopment of Sligo hospital and the opening of a centre of medical excellence for the North West Region, specialising in breast cancer, has earned Sligo its title as 'healthy, wealthy and wise'. While Sligo's dark days of emigration, high unemployment and general economic depression have not long passed, Sligo today is a cultural gateway, a region of relaxation and recreation. Quality of life is the 'quintessential crusade'. As WB Yeats was compelled to write 'It is a land of hearts desire'.

The continued marginalisation of the North West of Ireland forced local governments as early as 2012 to re-evaluate their competitiveness as a gateway region. Sligo had experienced significant growth and expansion up to now but was still nowhere near capable of competing on a regional, national or global level. Infrastructure, car parking and an attractive town centre have not been adequately developed. For Sligo to become self sufficient and maintain its status as gateway capital, a major rethink of economic and spatial policy was essential. Focus turned to the development of Irish owned SME's, specialising in the food technology industry. Emphasis on Functional Food indicates a growing market for people wishing to remedy poor dietary habits and unhealthy lifestyles.

A co-ordinated biotechnology programme was initiated in 2015 to forge links between academia, industry, agriculture and the financial and service sectors, as exploiting R & D was seen as the only means of moving up the value chain and away from a reliance on FDI. Mass recruitment of top-class Irish biotechnologists resulted in the development of a strong biotechnology infrastructure and laid the foundation for Biotechnology Clustering along the West coast. By 2030 over 35 Indigenous start up companies had set up in the region, ensuring sustained competitiveness. The completion of the Western Rail corridor in 2016 linking Ballymote, Ballysavine, Colloney and Buncrana was another landmark development that was to pull the North West out of its coma. Despite thelack of State subsidies to invest in developing the renewable energy sector, Sligo harnessed its potential for wind and wave energy, aiming to sustain the local rural economy, and drive up home grown exports. By 2015 there was evidence that global climate change has intensified at a faster rate than predicted at the beginning of century.

For Ireland the effects are catastrophic. Several incidents of flooding in are reported in low-lying coastal areas in the North West and places near river basins. Extreme winters plague the region and hot summers are having a devastating effect on local agricultural businesses.

A series of hurricanes in 2016 wreaked havoc along the Western Corridor, requiring a major reallocation of government funds. Huge disruption to Sligo town, and neighbouring local economies, cause mass migration out of the worst effected areas. Sligo town's water supply has been infected by the E-coli bacteria, reminiscent of the Kilsellagh reservoir disaster in 2005.

The region's economy has also been hit, as tourists are now shunning the area. From 2017 onwards Sligo faces an array of uncertainties. Sligo tourism remains the bread and butter of the small business community in the North-west. Significant work is needed to protect the regions heritage against future environmental disasters.

In the immediate aftermath, urban/rural tensions are exacerbated, as more and more people are opting to move away from the urban core to adopt a more rural way of life. Sligo town quickly becomes dull and lifeless – a city without a spine. Plans to make Sligo the cultural gateway of Ireland are scrapped, as politicians and businesses begin the clean-up. Half completed pedestrianised walkways that were to link the city and the river are destroyed and massive flooding to the newly refurbished Model Art and Niland Gallery has forced the centre to close for the foreseeable future. Social inequalities are exacerbated, as a high portion of the population, are wiped out by the flooding. The centre of Sligo has become a no-go area, as the risks of being assaulted or intimidated are too high. Drink and drug-fuelled violence are reported on a daily basis. Murder, serious assault, rape, domestic abuse, suicide, injuries, and deaths through drink driving have become so familiar as to almost taken for granted. Immigrants and the elderly populate town houses, while young families have moved to the safe rural settlement clusters in the Sligo countryside.

Broadband connectivity was the first to be restored as whole communities have become dependent on virtual networks for income. Investment in technology is driven by the need to be less dependent on resources outside of the region. The benefit for families is that they no longer have to commute to the city to work. By 2020 clusters of vibrant, localised economies are developed, giving greater scope for people to exercise ingenuity and skill. In this era of mass market shopping, what makes Sligo consistently attractive and distinctive is the individualised small business.

Cottage industries thrive as local entrepreneurs come up with new and innovative ways to live the dream. Those who own land develop on-site wind energy farms, selling electricity back to the National Grid. The growth of e-businesses as a source of income has replaced traditional manufacturing, capable of trading goods and services at the flick of a button, broadband has quickly become an economic and social necessity, rather than a luxury. E-terrorism is the new cause of fear and trepidation among virtual surfers and although its likelihood is low, the potential impact for families and communities in the region could be devastating.

In the midst of all this chaos a good relationship between Donegal, Leitrim and Roscommon is fostered. Over the next 10 years the North-West, under the leadership of the Western Co Op, a developmental framework was created to drive the economy forward at a regional level. With a critical mass of highly skilled labour (over 250,000 within an 80 km radius) the region competes for IDA investment and government funding to improve infrastructure and build on the strengths of region. By 2030, the €70 million outer relief road is finally under way, which upon completion will greatly improve the prospects for the future of Sligo.

H. WATERFORD

MAIN DRIVING FORCES OF CHANGE

1. Development of the port.
2. Location at the end of the Eastern Corridor.
3. Regional centre for South-East region.
4. Waterford as a transport node for rail, sea and air transport.
5. Competition with Cork.
6. Drain of young and education population outside the region.
7. Boundary tensions between Waterford City and Kilkenny County.
8. Improvement of accessibility to Dublin and other parts of the country.
9. Possibility of turning Waterford Institute of Technology into a university.
10. Waterford being in transition between manufacturing and service economy.

KEY PIVOTAL UNCERTAINTIES

1. WIT achieving University Status.
2. Development of the airport.
3. City expansion and repositioning of the city centre.
4. Ability to attract high-value added employment.
5. Integration of non-national population.

POTENTIAL IDEAS FOR PREFERRED VISION FOR WATERFORD

Brand	Old-New City	Water Garden City	Regional Centre for South East
Assets	▪ Existing features: Viking origins, Waterford Crystal, Tall Ships and other amienities	▪ High quality of natural environment around Waterford ▪ River and sea location	▪ Already functions as services, education & health regional centre
Potential	▪ Development of a new brand for the city by merging old with new	▪ Vibrant city centre with exposed water features ▪ High quality of life, supported by outer lying towns and villages for energy, food production, tourism products and recreation	▪ Strengthening of its position as a regional centre for the South East by providing education, health and professional services ▪ Southern gateway to the Eastern Corridor (proximity to Southern England)

FUTURE SCENARIOS FOR WATERFORD

SCENARIO 1: An Elephant in the Kitchen (National scenario: THE SOW OF LIBERTY)

By 2030 Waterford has managed to pull itself out of the economic slumber that prevented the city from developing its role as the main economic driver in the South-East region since the 1970's. Having undergone the first stage of a major infrastructural revamp between 2006 and 2012, access to Waterford City has been greatly improved. Attracting and maintaining investment and development in Waterford City remained a priority in the belief that a strong city would be a strong region. The twin goals of mobility and local and international economic development were pursued relentlessly during these crucial years of development, with substantial investment in road and broadband infrastructure.

Keeping in line with the National Development Plan 2000-2006, and the National Spatial Strategy 2002-2020, 2009 marked the completion of the *Waterford City Bypass*, followed by the *Outer Ring Road* in 2010. By 2012, the motorway running from *Waterford to Dublin* was unveiled, ensuring fast access to and from the region. The country's main industries, comprising mainly of agriculture, IT, tourism and fishing - are located within in the Eastern 'city region' that now stretches from Belfast to Waterford. Waterford in 2015 boasts a strong entrepreneurial culture and has become the focal point for foreign investment between most of the large towns in the south East, including Clonmel, Kilkenny, Wexford, Carrick on Suir, New Ross, Dungarvan, and Tramore. A high proportion of the declining manufacturing industry in the South-East Region is now foreign owned. Waterford Crystal's manufacturing plant moved out of the city, leaving behind only its headquarters and visitors museum.

The main focus on the northward extension of the existing City centre, with emphasis on retail, office, leisure and high density residential community complexes was aimed at utilising existing infill opportunities in previously desolate areas, rather than scoping out new sites. The hype around the development leading up to its completion in 2020 had managed to transcend regional boundaries, and the North Quay development was fast becoming the envy of the nation. Comprised of a 30,000 seat GAA grounds as the centrally located landmark, the development was drawing crowds into the thousands, attending the inter-county hurling matches - a dream come true for a place that was once known as the forgotten county. With a covered arena it enables hurling to be played all year round, as well as a host of other sporting and cultural activities.

Apart from the arena, the development also comprised of retail and office developments to cater for the increasing interest in the area as a viable commercial district. Access to the development from the south is via the newly built downstream City Centre Bridge, built exclusively for pedestrians and cyclists, and to link the increased employment and residential activity on the North Quays with the existing City Centre on the South. The development was funded through a public private partnership between Waterford's local authority and a number of businesses with vested interest in the area.

The elevation of the Waterford Institute of Technology to University status in 2013 represented the next landmark achievement for the Southeast's capital. With the continued decline of traditional manufacturing jobs in the south East region, the move, aimed at plugging the 'brain drain' from the region and facilitating the creation of knowledge based jobs in the future, could not have come at a better time, and actually did far more to boost the morale and perceived image of the city than any other initiative in the history of the city's development. By 2020 the University of the South East (USE) has established itself as one of the top places to study archaeology in Ireland. This centre of excellence, developed in close proximity to Waterford's Viking site, laid the foundations for Waterford to capitalise on one of the most significant archaeological finds in the world. By 2020 The South-East University was attracting a student population of 30,000 and growing.

With the influx of students and inward investment, the city has grown to over 100,000 people, by 2025. With the sheer scale of development, the city is facing a considerable challenge to accommodate such levels of growth in a sustainable manner. Waterford is on the cusp of becoming a fine, vibrant city, but by modernising at such a rapid pace, it runs the risk of losing the intangibles that has given the city its unique identity. In contrast to this view the ESRI published a major report in 2017 stating that the gloomy view of the social consequences of prosperity - such as greater social inequality, loss of identity, looser community ties and a rise in materialism - was completely unfounded. The reality was that the social impact of economic progress in Waterford has been broadly positive, resulting in a decline in poverty rates, increased social mobility and improvements in the health of the city. What the report did not touch on however was the state of the city's environment. In Waterford city alone, travel demand has increased at unparalleled rates. Traffic congestion in the city centre has doubled commute times, and air quality leaves much to be desired.

By 2025 there is evidence that global climate change has intensified at a faster rate than predicted at the beginning of century. In Europe, the effects are catastrophic. Several incidents of flooding are reported in low-lying coastal areas and places near river basins. Extreme winters plague Northern Europe, hot summers cause droughts in rural France and the first signs of locusts appear in Southern England. Hurricanes wreak havoc in Western Europe. The risks of coastal flooding along the south East coast are significant yet Ireland continues to ignore the elephant in the kitchen.

Key Events

- Major infrastructure developments – City Bypass, Outer Ring road, Waterford-Dublin Motorway.
- Significant North city commercial and residential expansion – 30,000 seat covered arena.
- Re-designation of WIT to University status.
- Major inward investment.
- Lack of sustainable planning – potential for environmental disaster.

Stable economic conditions prevail in the South East Region enabling the people of Waterford to enjoy good standards of living. Heritage, culture and tradition are the key hallmarks of appeal in the South East region. Climate change and high oil prices have forced environmental concerns to the top of political and corporate agendas. Business leaders have begun to take advantage of their position in regional and local affairs by adopting more responsible behaviour. Major investment in high tech industries since the turn of the century has been driven by the need to sustain competitiveness as traditional manufacturing industries abscond. Centres of excellence in several fields of technology have located in the new Technology District, bringing together top scientists from academia, government, and private organisations. Extensive developments in Climate Technology have given Waterford the leading edge over competing gateways and bringing Ireland one step closer to delivering sustainable, secure and competitive energy.

The speed of change in daily life is high as old traditions are replaced by new concepts of lifestyle. The arrival of Ireland's first high-speed rail network and the Luas like tram system along the 453 km coastline has greatly enhanced Waterford's connectivity, reduced the need for car usage, and attracted investors from across the country. Following plant closures of several manufacturing companies in Waterford between 2006 and 2008 - Waterford Crystal, Bausch and Lomb, Hasbro to name but a few – investment in the region's intellectual and social capital became crucial. The upgrading of WIT to university status in 2009 meant that Waterford could now ensure that the right people, skills and capabilities were developed to build a competitive advantage in the region as a whole and to enable Waterford to compete at a national and global level. Developing a critical mass of knowledge workers, mainly in the IT service industry, was seen as the only way to offset the decline in other more traditional sectors. By 2020 the looming grey dawn was calling for an injection of dynamic new workers into the region's rapidly ageing economy, but Ireland's new 'closed door policy' to immigration gave rise to considerable labour shortages.

Demographic patterns in Waterford City had begun to change, as the desire for people to put more time into family and leisure activities increased during the 2020's. The growing magnetism of the West's superior quality of life gained the attention of increasing numbers of families wishing to escape the chaotic city life. Fear of mass migration to the West forced city planners to devise an Eastern alternative. To counter rising suburbanisation, a new model of development was explored and tested to cater for those wishing to move out of the increasingly congested city centre. The 'Super-Rural' concept coined by FKL Architects back in 2007 took flight in 2015 as city planners, architects and builders joined forces to come up with a new vision for the south East.

Rather than replicating Dublin's suburban sprawl model, clusters of compact mini cities, with adequate economic and social infrastructure to sustain local communities, were designed. Extending from the old St. John's College Woodland, to South Kilkenny, the sustainable, compact urban-to-rural centre had, by 2018, become a thriving, progressive municipality, providing attractions for inhabitants and tourists, locally and across the entire South East

region. The roll out of broadband was been crucial to the smooth transition from urban to rural, while also encouraging local business and enterprises that had a strong reliance on the internet to relocate. Businesses have responded to employee pressure for more workplace flexibility as people seek more control over balancing work, family and personal life. Visionary companies

embrace this and support employees by providing the corresponding environment to allow remote working, including flexi-time, pushing up reliance on broadband and mobile services. Designed as mixed use, condensed and connected communities, with its rural character maintained, what emerged was hailed as nothing short of a spatial planning miracle - a blue print for further countryside development to alleviate inner city pressures.

Expenditure on the upkeep and improvement of the National Road network, funded from national grants, included the N25 Waterford City Bypass, maintenance to Rice Bridge, as well as the upgrading of non-national roads. Both served to effectively link the city to its hinterland. A series of traffic calming initiatives were implemented to transform the urban and rural centres into low speed areas. By 2030 suburban sprawl in the South East had been reversed as the region witnessed an end to the 'erosion of rural space'. Because of its compact and efficient design, the development accommodated large numbers of people in very small areas. Pressures on Waterford City's housing stock were immediately relieved as the over-spill student population began to relocate to the rural hubs, which were catering for up to 5,000 inhabitants.

While focus had turned to the hinterlands, Waterford city centre had witnessed a sharp decline in activity, following a noticeable exodus of businesses from the city centre to radial and ribbon business parks. As a result a large number of former retails units lay vacant, giving a poor impression of the city to visitors, damaging the local tourist industry and serving as a disincentive for locals to come into the city centre. By 2025 the intrinsic dynamism of Waterford's business district had all but disappeared. Without high levels of connectivity between Waterford and surrounding towns and cities – access to greater regional, national and international expertise was cut off, making it impossible for Waterford to remain the financial capital of the South East.

Building a vibrant urban core became the central tenet of city planning and development over the next 5 years. The riverside development, followed by the north quay commercial and residential regeneration project helped to inject new life into the region, but tackling the problem of some of the city's housing estates was proving difficult. Anti social behavior, ghettoized estates, drug trafficking and a general rise in crime and lawlessness called for new leadership to rethink Waterford's future.

In light of this current situation, the only businesses likely to survive are indigenous industries, who can adapt to local conditions. The South East as a region, having failed to perform in line with other regional gateways during boom times has borne the brunt of the slump, and hopes of being transformed into a vibrant regional centre, similar to its counterpart gateways, are dashed.

Waterford people and the people of the South East in general have become increasingly dejected over the unacceptable level of neglect in the region, particularly in the north. On the cusp of becoming an attractive location for development, the city has been left to fend for itself as other regions increasingly focus on their own development. Stagnant employment growth coupled with age old deficiencies in the region's transport infrastructure, impact negatively on Waterford's competitiveness. While Ireland's rich regions get richer Waterford staggers behind, unable to exploit its growth potential. Locally, Waterford people have little pride in the area; regionally, Waterford is still in competition with other regions for just about everything; nationally, Waterford lacks the reputation and profile of other regions; and internationally Waterford is known more for a particular product than for the merits of the place. Frictions and social conflicts have begun to surface around the northern fringes as citizens are beginning to recognise the isolation of prosperity on the south. Increasing disparities between the rich and poor are highlighted as plans for northward expansion of the city are shelved as regional purse strings are tightened in the wake of a national economic slump.

While the South of the quays, having benefited enormously from the elevation of Waterford Institute of Technology to University status in 2010 and the subsequent creation of its ICT centre of excellence, has the potential to adapt, the north side of the city is in a bad way.

The ambitious plans for northern city expansion over the last decade have failed to come to fruition. Waterford is a divided city. Concentration of the population on the south side is wreaking havoc on infrastructure and environmental supplies. The provision of housing is inadequate, waste treatment services do not have the capacity to sustain the growing population, and water supplies are being affected. Congestion in the city is becoming a major issue, as road projects remain incomplete. The Waterford Bypass due to be completed in 2012

has been abandoned due to inefficient funds, and only the first leg of the Waterford to Dublin motorway has been given the go ahead.

Continued investment in technology is driven by the need to be less dependent on resources outside of the south East region. As a result, in the midst of all this chaos the renewable energy sector thrives. Dependence on non-sustainable forms of energy is reduced as the south East taps into its massive hydro-electric potential. The indigenous industrial sector gradually strengthens, as the local economy attempts to capitalise on what it has rather than what it doesn't have. Marine tourism grows as the South-East's 34 kms of coastline are developed.

The three main ports in the region join forces to support the fishing industry, as well as serve the growing sea transport industry. The agriculture sector comes out of decline as farms begin to produce locally required foods. An outbreak of Blue Tongue disease in the Midlands in 2018 sparked fear in farmers throughout the country who have come to heavily rely on the industry. Despite the potential for disaster, the case was contained in the region of origin. But while this may have been an isolated case, farmers are increasingly becoming helpless at the mercy of nature. Changing weather patterns could leave Ireland prone to dangerous new livestock diseases. On a positive note this has increased environmental awareness, of climate change issues and carbon emissions.

By 2020, unemployment rates are high in the region, following the mass exodus of foreign owned business. Waterford's heavy reliance on multinational businesses up to the slump had a detrimental effect on the city's economy. By transferring this reliance to the tourism industry, the local economy by 2025 is starting to show signs of recovery. Primarily based on the region's unspoiled, green image, the tourist industry booms - bringing with it substantial revenue to the region. Dreams of transforming Waterford into a garden city are potentially becoming a reality as the increasing costs of keeping cars on the road is forcing the city to look to more sustainable modes of transport. By 2030 community spirit in Waterford has been ignited as people are beginning to realise their capacity to engineer reform.

Key Events

- Oil Shock.
- Economic Downturn.
- Major Infrastructural Projects Shelved.
- Focus of Local Development – Agricultural Industry Comes out of Decline.
- Huge Developments in Renewable Energy Centre.

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APPENDICES

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LIST OF WORKSHOPS

NATIONAL LEVEL

- Briefing Workshop, 16th Oct 2006
- National Spatial Scenarios Workshop, 7th Sept 2007
- Urban Forum Colloquium, 17th Oct 2007

GATEWAY LEVEL

- Dundalk Workshop, 8th Dec 2006
- Cork Workshop, 21st Feb 2007
- Limerick Workshop, 29th May 2007
- Waterford Workshop, 6th Jun 2007
- Sligo Workshop, 19th Jun 2007
- Letterkenny Workshop, 21st Jun 2007
- Galway Workshop, 5th Jul 2007
- Midlands Workshop, 12th Oct 2007