

The Future Development of Limerick City



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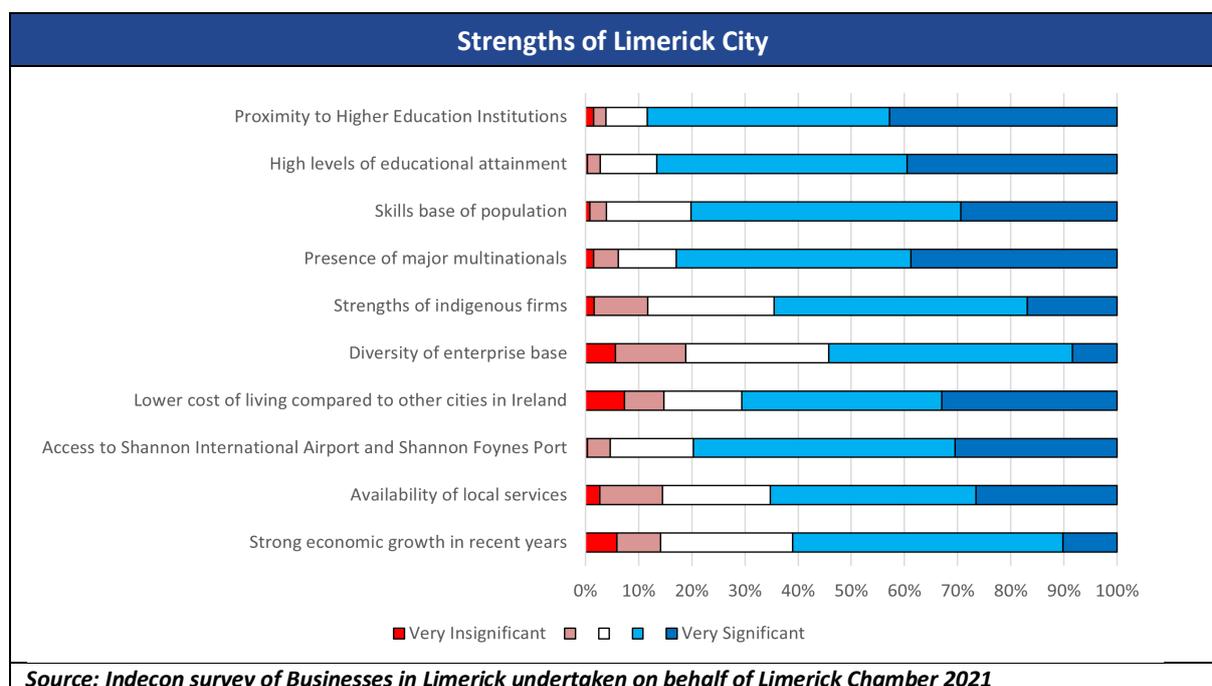
Executive Summary

INTRODUCTION AND REVIEW

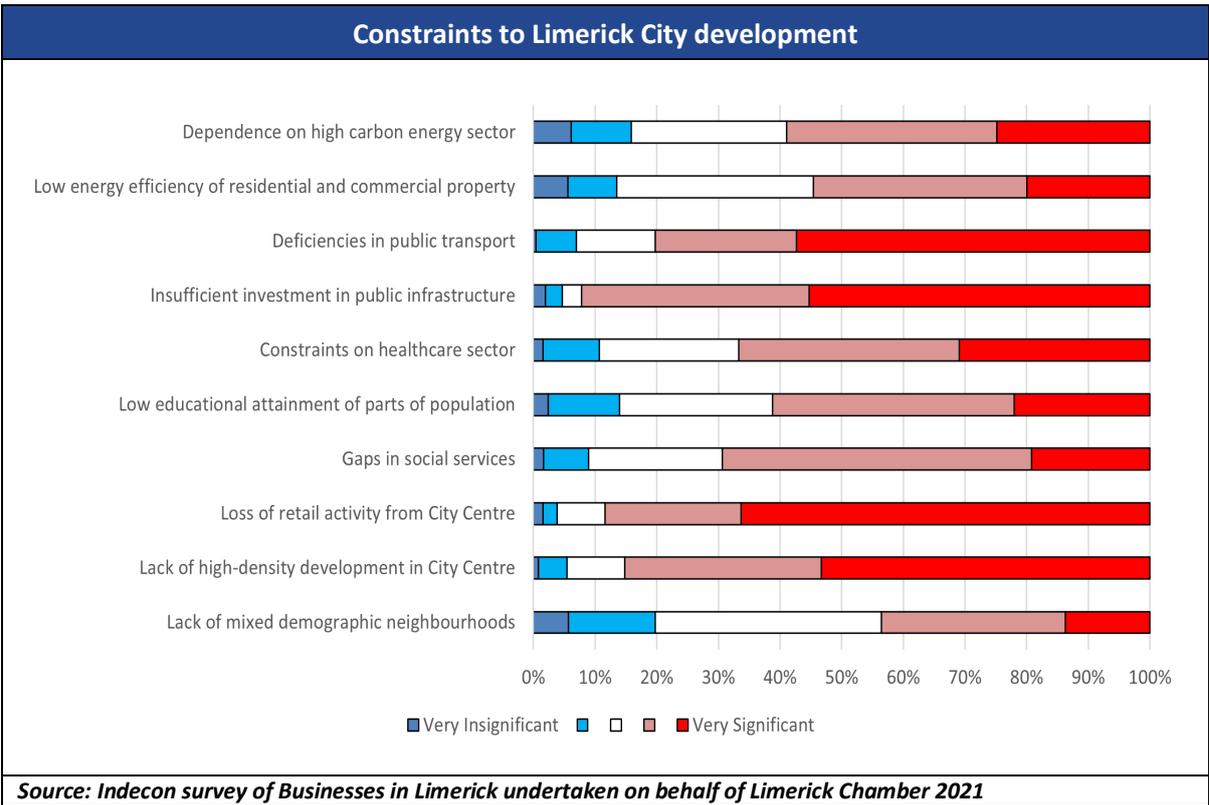
Limerick Chamber is the largest business representative body in the Mid West of Ireland, representing over 420 member organisations that support over 50,000 jobs across the region. Limerick Chamber appointed Indecon International Research Economists to undertake an independent assessment of the performance of Limerick City and to outline measures to support the sustainable development of the city. The research includes an overview of how Limerick performed compared to other leading Irish cities which highlights a number of important findings. The research has been informed by a new survey with responses from over 400 individuals including business owners, employees and others. This highlights the key strengths of Limerick city as well as the issues of most concern to the Limerick community. The analysis builds on the experience of models and approaches used in other countries to achieve the sustainable development of cities. In addition, new econometric modelling has been completed to examine the implications for skill enhancement to support sustainable development. This pioneering initiative by Limerick Chamber is designed to provide evidence-based inputs to national and regional policy. It will also enable the Chamber to input to the consultation on the draft Local Development Plan (LDP) and the review of Limerick 2030 (An Economic and Spatial Plan for Limerick), which is being undertaken by Limerick City and County Council. This will assist in ensuring that the opportunity is taken to develop Limerick city as an economic powerhouse for the region. Furthermore, the findings of this report will frame key issues for discussion in the lead up to the election of Limerick's Directly Elected Mayor, the first position of its kind in Ireland.

VIEWS OF BUSINESSES AND OTHER STAKEHOLDERS

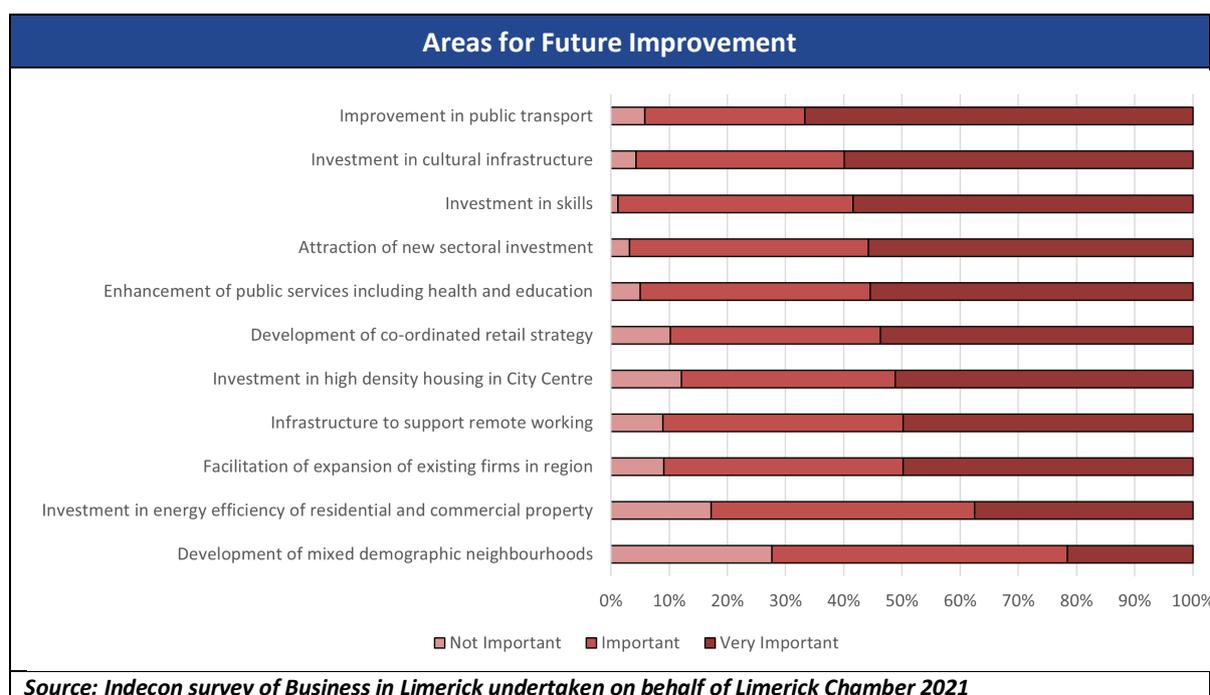
The views of businesses, employees and other stakeholders confirm Indecon's analysis which is presented later in the report of the strengths of Limerick city. Our analysis suggests that building on the existing skills strength and maximising the potential of the proximity to higher and further education institutions should be a priority for the city. The sustainable development of Limerick city should also build on key infrastructural strengths including access to Shannon International Airport and Shannon Foynes Port. The presence of multinational and indigenous firms and the cost competitiveness of living in the city are also important strengths. Investment will be required to enable these assets to realise their potential to support the city and the region. There is also a need to ensure the continued viability of local services.



In developing our recommendations, Indecon believes at the centre of the new strategy should be a commitment to meeting carbon emissions reduction targets and the achievement of a circular economy. Of note is the awareness of the business community of the challenges arising from the dependence on the high carbon sector and the low energy efficiency of residential and commercial property in the city centre. Investment is necessary to meet the requirements for future growth. Deficiencies in public transport and insufficient investment in public infrastructure were highlighted by the stakeholders consulted. In considering the future development of Limerick city the importance of sustaining the growth in the retail services sector and in ensuring high-density development will be key. The survey research suggests that the loss of retail activity and the lack of high-density development are perceived as constraints on the development of Limerick city. Indecon believes that the future model for Limerick City should place a high weight on ensuring that growth benefits all its citizens. Housing shortages and constraints on healthcare are issues for Limerick as they are for other parts of Ireland. The research presented demonstrates that a major challenge exists in addressing the levels of deprivation and social inclusion. Stakeholders consulted were aware of the challenges arising from gaps in social services, low educational attainment of parts of the population, and housing shortages.



The views of stakeholders consulted on the main areas for future development to ensure a sustainable and successful model for Limerick city are presented in the next figure.



Progress on Implementation of Limerick 2030 – An Economic and Spatial Plan

The Limerick 2030 Economic and Spatial Plan includes a number of significant projects to support economic development. The key objectives of the Plan are outlined in the table below. Indecon believes all the objectives are aligned with the requirements for the city but that additional objectives merit consideration to address climate change and social inclusion challenges. Our analysis of the performance of Limerick discussed later in this report, highlights the need to change commuting patterns and to improve the energy efficiency of the housing stock to meet environmental challenges. Our research also highlights concerns over the high levels of individuals at risk of poverty or social exclusion. These should be given greater emphasis in the proposed revisions to the Plan.

Key Objectives of Limerick 2030 – An Economic and Spatial Plan for Limerick

1. Position Limerick as a competitive knowledge economy, known for its skills base excellence in high tech sectors
2. Develop an outstanding environment for starting and growing new businesses
3. Create the conditions for long-term economic growth
4. Create a vibrant city centre economy with a new mix of economic uses and a strong education presence
5. Maximise the local employment impact from development/regeneration

In reviewing the implementation of Limerick 2030 – An Economic and Spatial Plan for Limerick, Indecon notes that progress has been made in developing specific projects, such as the Gardens International Office Development in Henry Street, the Troy Studio Film Hub, Rathkeale Enterprise Centre and the Engine Project. A challenge in reviewing the Plan, however, is the absence of quantification of a number of the objectives and gaps in data availability to monitor progress. Three important quantified targets were set for employment, gross value added (GVA) per person and the number of new houses in the city centre.

The available evidence indicates a strong performance in overall employment in the county and high numbers of job announcements. However, there is a lack of detailed evidence on the number of new jobs in the city and

its linkage to projects in the Plan. A survey by Limerick City and County Council suggests that 78% of the jobs announced were translated into actual jobs within a three-year period. However, definitive evidence is not currently available on the number of jobs created as a result of the Plan. There is also uncertainty around whether the €403m GVA gap in economic performance has been addressed. While there has been new job creation in high value-added sectors, Indecon notes that the GVA estimates for the Mid West in 2010 represented only 85% of the levels in the state. This percentage declined in subsequent years and by 2016 GVA in the Mid West was only 72.2% of the national level, suggesting the economic gap may have widened. This is likely to reflect the very fast growth in high value-added activities in Dublin.

In the Plan, a target was set for a minimum of 1,000 new housing units in the city centre. This is a key issue in achieving compact growth and in delivering increasing population density in the city centre. The evidence indicates that there were 1,044 new units built in the city and suburbs since 2016. With the targeted population increase for the city in the National Planning Framework, there will be a need to increase the target for new residential units in the city centre. The Plan also envisaged an increase in tourism and Indecon notes that revenues from tourism in Limerick increased between 2014 and 2019, however, Limerick's tourism market continues to lag behind other Irish cities. A summary of the evidence on performance against targets is presented in the table overleaf.

Performance against Targets Limerick 2030 Economic and Spatial Plan	
Target in Plan	Evidence on progress to date
<p>Potential to create 12,000 FTE jobs in the Limerick area</p> <p>Potential for approx. 5,000 new jobs for Limerick City Centre</p>	<p>Definitive data is not available on number of actual jobs created or the linkage of these with the Plan. While LCCC do not have in-depth data on this, we note that 12,791 FTE jobs were announced from 2013-2020 (see Table 3.6). We understand that a survey undertaken by LCCC suggested that firms indicated that approximately 78% of the jobs announced translated into actual jobs within a 3-year period.</p> <p>No data is available showing the split between city and county job announcements.</p>
<p>Create high-value jobs in order to close the €403m gap in economic performance</p>	<p>Job announcements recorded for Tech, Financial Services, Pharma, Medical Devices, Manufacturing. Furthermore, using the Mid West as a proxy there is evidence of growth in employment across a number of sectors.</p> <p>There however appears to have been a widening of the GVA gap in economic performance in the Mid West region in the period to 2016.</p>
<p>Drive value in established sectors: ICT, Advanced Manufacturing, Logistics, High-Value Food & Drink</p>	<p>Existing companies such as Northern Trust, Regeneron, J&J Vision Care have continued to invest in the expansion of their facilities.</p>
<p>Capture bigger share of growth sectors: Life Sciences, Business and Professional Services, Tourism, Sport & Leisure</p>	<p>Since 2014 new announcements in Life Sciences (Serosep, Edwards LifeSciences, etc); Business & Professional Services (Fundrock, AxiomSL); Tourism (Adare Manor, extensions to 5 city centre hotels).</p> <p>Figures show a significant increase in tourism revenues in Limerick which increased from €206m in 2014 to €305m in 2019. However, Limerick's tourism market continues to lag behind other Irish cities.</p>
<p>Secure investment in emerging sectors: Low Carbon Sector</p>	<p>Emerging companies/research in low carbon energy initiatives</p> <p>Nautilus – Floating Data Centre planned for Limerick Docks</p>
<p>New enterprise growth: Cultural, Creative and Digital Media</p>	<p>Troy Studios (Apple TV and NBC productions)</p> <p>Local/national productions active in this space</p> <p>LCCC secured €13.5m funding under URDF to develop a digital collaboration centre, an accelerator centre, and a Film skills academy. The contract for the construction of the digital collaboration centre will</p>

	be awarded in May 2021. CPO to commence shortly for sites for the Accelerator and Film School.
High-value jobs in key sectors and located at i.e., Medical Park at King's Island, the Opera Site, the Waterfront and the proposed Urban Science and Technology Park (former 'Cleeves' Site)	Mixed-use sites to accommodate public and private organisations (Garden International – Nordic Aviation), (Opera – Revenue Commissioners), (Cleeves - in development), (Howleys Quay – Tech & Professional Services). We understand that some organisations, such as Revenue Commissioners plan to relocate from other parts of the city centre.
Wider reinvigoration of the city centre from renovations, new development, increased activity and footfall	<p>International Rugby Experience on O'Connell Street due to be completed in 2021.</p> <p>A number of private Georgian district renovations have been completed with the support of the Living Cities Initiative.</p> <p>Reduction in fully vacant buildings in the Georgian Neighbourhood (92 in Q1 2018 to 57 in Q1 2021); 27 buildings reoccupied and 43 buildings in progress; Expected 12% residential increase by 2022 (183 additional bedspaces).</p> <p>Engine Hub & Digital Innovation Centre established in city centre in 2018 which provides remote working facilities.</p> <p>Private office development planned for Upper Catherine Street</p> <p>Major Retailers (Ali & Lidl) have announced plans for new stores in city centre</p> <p>Completion of UBER Building, Catherine Street</p> <p>New Bon Secours Medical Centre to be developed in Ballysimon</p> <p>Plans announced for UL/MIC/TUS: Midlands Midwest city centre investments</p> <p>SFPC – Dock Development Plan including the redevelopment of the Bannatyne Mill</p> <p>Rehabilitation of Gas Works site on Dock Road</p> <p>Available evidence indicates a decline in city centre footfall between 2017 and 2019</p>
Potential for a minimum of 1,000 new homes in the city centre	There were 1,044 units built in the city and suburbs (CSO boundary ¹) since 2016.
Source: Indecon analysis using information from CSO data, Fáilte Ireland and information from Limerick City and County Council	

OVERALL PERFORMANCE OF LIMERICK CITY

The recent performance of Limerick City across a number of dimensions as noted earlier indicates that the population growth in the city was relatively low in the five years to 2016. Limerick has, however, an advantage in terms of accessibility and affordability of housing compared to the other Irish cities. This represents a lever to attract additional skilled employees, particularly given the move towards remote working. Indecon's analysis also highlights the need to address a range of challenges including improving skills, tackling social exclusion and investing in infrastructure to implement sustainable policies to improve the city's liveability, attract young people and meet climate change objectives.

¹ The CSO boundary for Limerick city and its environs is shown in the Annexes.

Summary of Performance of Limerick	
Key Indicator	Evidence
Population Growth	<ul style="list-style-type: none"> - Slower growth than other leading cities in years to 2016. - Higher dependency ratio than other cities
Commuting Patterns	<ul style="list-style-type: none"> - High level of car usage and low usage of public transport and cycling.
Energy Efficiency of Housing	<ul style="list-style-type: none"> - Very low levels of A-rated housing units.
Unemployment Levels	<ul style="list-style-type: none"> - 21% in the city in 2016, clustered around the very socially disadvantaged areas. - Youth unemployment has increased from 12% to 15% as a result of Covid-19.
Employment	<ul style="list-style-type: none"> - LCCC data show 3,200 new job announcements in 2020. Definitive data on actual jobs created is not available. - Strong growth in Mid West employment figures between 2013 and 2019.
Levels of Disposable Income	<ul style="list-style-type: none"> - €24,378 in 2019 which is above the national average but lower than Dublin.
Levels of Enterprise Investment	<ul style="list-style-type: none"> - The strong base of indigenous and multinational companies is a major advantage.
Access to Airports and Ports	<ul style="list-style-type: none"> - Shannon International Airport and Shannon Foynes Port are critical infrastructure.
Education and Skills	<ul style="list-style-type: none"> - Excellent third-level and FET institutions but Limerick has a lower proportion of residents in a third-level education than some other cities. - Lower percentage of STEM graduates than other Irish cities. - Higher than average proportion of individuals classified as unskilled/semi-skilled.
Housing Density	<ul style="list-style-type: none"> - 18% of the households in Limerick City were living in apartments.
Cost and Availability of Housing	<ul style="list-style-type: none"> - €310,000 in 2020 which is lower than in Cork (€320,948), Galway (€321,593) and Dublin (€414,224). This represents a competitive advantage for the city. - Average rents are also lower in Limerick city in comparison to other urban areas. - Over 1,100 residential units needed annually over the next 20 years to meet the ESRI's projected population growth of 10% (current delivery rate is approximately 500 units).
Health	<ul style="list-style-type: none"> - Highest standardised mortality rate in the country. - High incidence of childhood asthma and obesity.
Social	<ul style="list-style-type: none"> - Estimated 10,527 individuals at risk of poverty in Limerick city. - Number of new builds for social housing below other cities. - Higher dependency on private residential market (HAP & RAS)

Source: Indecon Analysis

INTERNATIONAL MODELS OF SUSTAINABLE DEVELOPMENT

International experience has demonstrated the success of planned models of sustainable development. These models are focused on the implementation of innovative policies to improve the lives of citizen's by providing public infrastructure, improve the quality and the efficiency of the services and move towards a more skill-intensive and less pollutant approach towards economic development. This requires urban density and compact growth. Different terms have been used to refer to these models of sustainable urban development, including 'smart cities', 'eco-cities', 'compact cities' and '15-minute cities'.

While there is no one city that encompasses all aspects of best practice, there are examples of successful cities that have implemented sustainable approaches. These include Amsterdam, Eindhoven, Barcelona and Copenhagen.² There are also interesting aspects of sustainable development in a wide range of other cities including Vienna, Lisbon, Milan, Bilbao, Munich, Düsseldorf, Rotterdam and Lille and Bologna, and in a number of cities in the UK. The application of a sustainable model of development for Limerick City requires that the efficiency of traditional networks and services is improved to the benefit of residents in the city as well as businesses. This would involve the application of new technologies so that efficiency can be achieved in the deployment of infrastructure and local services. The objective should be to increase economic activity and to bring about environmental and energy efficiency improvements. In practice, continued co-operation between the third- and FET- level educational sector and enterprise in Limerick City is needed to ensure the maximum benefit of any investment.

An important issue for Limerick city is to ensure the application of a sustainable model to enable the city to be aligned with climate change objectives. This concept will require enhanced infrastructure and high-speed broadband. There is also a need to develop an urban centre with critical mass and the clustering of economic activity. Limerick city should also support the needs of high-tech businesses and attract additional investments. This is aligned with the objective of the Climate Action Plan and with the Europe 2020 Strategy for Smart, Sustainable and Inclusive Growth as well as with the focus in the *Southern Regional Spatial and Economic Strategy* (RSES) which placed an emphasis on Smart Specialisation. As part of the consideration of the application of sustainable development to Limerick city, it is of note that there are practical examples of where elements of sustainable models have been applied in various European cities. Of particular importance are measures to change the energy efficiency of the city and its buildings and to reduce car usage. Based on our international review, Indecon has identified key features of sustainable models for city development as outlined in the next table. While judgement is required on what other characteristics could be highlighted, Indecon believes that a model for Limerick city, which is characterised by the factors outlined in the next table, would represent a sustainable and successful model.

Characteristics of International Sustainable Models for the Development of the City
<ul style="list-style-type: none"> • Compact growth with high housing density. • Achievement of environmentally compatible commuting patterns. • Location of employment opportunities in proximity to residential areas. • Sustainability of energy, waste management and resource efficiency. • Presence of high skill and high-value activities. • Close integration of higher and further education and enterprise sector. • Use of technology based on broadband availability and development of digital skills. • Access to green spaces and cultural and other amenities. • Proximity to health, education, childcare and social infrastructure and services. • Excellent transport links to link with national and international markets. • Focus on reducing social exclusion and youth unemployment.
Source: Indecon

RECOMMENDATIONS

Indecon believes there is the potential for Limerick city to be transformed into an urban environment where significantly higher numbers of individuals live in the city and others are attracted to visit and to participate in cultural, hospitality, educational and other activities. The availability of daytime, evening and night-time activities will be important. This will require an integrated approach involving the acceleration of the important key projects in the Limerick 2030 Economic and Spatial Plan including residential, commercial, cultural, educational and public realm initiatives. It will however also require measures to enhance mobility within the city, reduce its carbon contribution and attract new innovative business. In addition, measures to enhance skills

² European Commission, 2017. "The Making of a Smart City – Best Practices Across Europe". Available at: https://smartcities-infosystem.eu/sites/default/files/document/the_making_of_a_smart_city_-_best_practices_across_europe.pdf

and reduce social exclusion will be critical to realising the exceptional potential of the city as a location with a high quality of living. Based on the research undertaken, Indecon has developed a number of policy recommendations for consideration by Limerick Chamber and by local and national policymakers to assist in the future development of the city. These recommendations are summarised in the table below and 66 actionable items are presented overleaf. Subsequent parts of this executive summary, as well as the main report, present the detailed research and analysis underpinning the recommendations. This includes a discussion of international models of sustainable development, a review of the policy context, an analysis of the progress in implementing the economic and spatial plan, and a review of the performance of Limerick City. Examples of international experience in relation to policy interventions relating to the proposed recommendations are included in section 9.

Overview of Key Recommendation for Future sustainable Development of Limerick City
<ol style="list-style-type: none"> 1. Implement a National Urban Future Strategy 2. Development of a framework to monitor the progress of Limerick 3. Ensure compact growth and increase the provision of high-density housing in the city centre. 4. Ensure measures support climate action and lead to transformational changes in commuting patterns and in energy efficiency 5. Support brain retention/gain and increase investment in higher and further education 6. Invest in increased public services and infrastructure to enhance accessibility and connectivity 7. Accelerate the transition to higher value-added sectors and support indigenous start-ups 8. Implement dedicated measures to increase footfall in the city centre 9. Focus on reducing social exclusion, health inequities and youth unemployment
Source: Indecon Analysis

1. Implement a National Urban Future Strategy

Indecon recommends the implementation of a national urban future strategy. A number of specific recommendations aligned with this are presented below:

- Establish Project Ireland 2040 City Delivery Boards to drive investment in urban centres.³ (Government)
- Establish an Urban Forum which catalyses stakeholders across the five city regions to engage and collaborate. (Government, Local Authorities)
- Review local authority funding to ensure that income streams are sustainable and that future income structures enable local authorities to implement compact growth and placemaking policies. (Government)

2. Development of a framework to monitor the economic and social progress of Limerick

In order to monitor the overall impact of various policies, Indecon recommends that a framework is developed to support this.

- Develop a live public dashboard with economic and social data that can be utilised to promote Limerick's development. (Limerick City and County Council (LCCC))

³ Also recommended as part of the Phase 1 Report Review on the NDP - <https://assets.gov.ie/134440/8bd02279-31f5-4b52-9591-93a08b2b3a10.pdf> and subsequently committed to in the National Economic Recovery Plan 2021

- Implement a project tracker with funding and timeline information so citizens can monitor economic and social projects across the various local authority entities (i.e. Limerick 2030 DAC; Innovate Limerick; Local Enterprise Office) in addition to external collaborations. (LCCC)
- Implement a Beta Projects web platform that allows the public to feed into proposed projects at an early stage. (LCCC)

3. Ensure compact growth and increase the provision of high-density housing in the city centre

Indecon recommends an increase in the provision of high-density housing in Limerick city to ensure compact growth. Specific recommendations to support this objective are listed below:

- The focus of policies and investments for Limerick city should be on facilitating compact growth. (Government/LCCC)
- Targets should be set (and monitored) to achieve an increase in apartment and other residential regeneration developments in inner areas of the city. (LCCC)
- Accelerate the delivery of projects within the Limerick 2030 Economic and Spatial Plan (LCCC, Limerick 2030 DAC)
- Support the utilisation of the existing housing stock. This could include evaluating the merits of potential changes and adjustments to the Living City Initiative to increase the level of take up. Any changes should however be carefully evaluated to ensure the benefits exceed the costs and minimise deadweight (Government). There is also a case to extend the vacant property planning exemption (Statutory Instrument 30 – 2018) beyond December 2021 and consider other adjustments to the timeframe (Government). Potential measures to address upper floor vacancies should also be examined. This should be done in tandem with a streamlined regulation and planning process. (Government). In addition, it is recommended that expanding the pilot Building Renovation Passport scheme to target the development of city centre stock should be considered. (Government/LCCC)
- Consider establishing the Georgian Neighbourhood ‘one-stop-shop’ on a more permanent footing (currently organised on an ad hoc basis). (LCCC)
- Strategic development areas should be identified in the city to facilitate new quality affordable residential development. This could potentially be introduced in tandem with strengthened regulation and improved access to finance for small and medium developers through the extension of the Home Building Finance Ireland which until now has only focused on sites outside the main urban areas. (Government/LCCC)
- In order to increase residential investment, prioritise increased investment in public realm areas that are eligible for the LCI. (LCCC)
- Expand green space in the city centre by supporting and encouraging collaboration across existing projects such as the ‘Limerick Georgian Laneway’ and ‘Go Green’. (LCCC)

4. Support brain retention/gain and increase investment in higher and further education

Indecon believes that there should be further investment in higher and further education in Limerick alongside initiatives to support local graduates to remain in the region. Some specific recommendations to supports these objectives are outlined below:

- Increase investment in higher and further education. In particular, ensure the provision of infrastructure to facilitate planned growth in student numbers especially in the city. As well as this, supports to increase research should be encouraged including support for EU co-funded research. (Government)
- Fast track development of the Technological University of the Shannon: Midlands Midwest. (Government)
- Expand programmes of cooperation between employers in the region and students in higher and further education. (Government/LCCC/Mid West Regional Skills/Limerick Chamber)

- Increase STEM graduates by targeting students at primary and secondary level through a coordinated response that supports and builds upon existing initiatives such as the Mid West STEM alliance, Young Innovators, Explore Engineering and BD STEM stars. Consideration should be given to how arts are embedded in STEM education (LCCC/Mid West Regional Skills/Limerick Chamber)
- Build on the innovative approach of “dual learning” by expanding the model that has been implemented for programmes such as *Immersive Software Engineering* and Manufacturing Digitalisation to other engineering and science disciplines. (HEI’s)
- Consider creating a dedicated multi-use space in the city centre to showcase real-world STEM applications and provide facilities for workshops and guest lectures for teachers, students and the general public. Opportunities also exist to utilise this space as a tourist attraction. (LCCC/Mid West Regional Skills/Limerick Chamber)
- Conduct an apprenticeship future needs assessment which considers any obstacles faced by businesses in hiring apprenticeships for the Mid West region to better understand the unique requirements of Mid West industry. (LCCC/Mid West Regional Skills)
- Implement a Mid West skills and job platform to highlight the availability of apprenticeships and upskilling/reskilling programmes. This will support ‘brain gain’ and help address the skills gap issue present in certain sectors. (LCCC/Mid West Regional Skills/Limerick Chamber)
- The Government has committed to establishing a pilot programme for guidance counsellors to ensure that school leavers have access to the same level of information about apprenticeships as those in higher or further education. One option which should be considered is that this pilot would be based in Limerick given the city’s skills profile. (Government/LCCC/Limerick and Clare Education and Training Board (LCETB))
- Consideration should also be given to developing a mobile Mid West careers fair. (LCCC/ Mid West Regional Skills/Limerick Chamber)
- Introduction of a marketing campaign to attract remote workers (digital nomads) to Limerick. (LCCC, Limerick Chamber)

5. Ensure measures support climate action and lead to transformational changes in commuting patterns and energy efficiency

Indecon recommends continued support for climate action measures which reduce the carbon footprint of the Limerick City region. This will require action from a number of public stakeholders. Specific recommendations to support these climate action measures include:

- Coordination at local level of the national funding available for deep retrofitting programmes (grants/competitive loans/workshops) for private residential units in the city. (Government/LCCC)
- Accelerate supports under the Energy Retrofitting Programme for Social Housing. (Government/LCCC)
- In line with the Climate Action Plan (CAP) and the Limerick Shannon Metropolitan Area Transport Strategy (LSMATS), develop an ambitious implementation plan (with particular emphasis on cycling, walking and e-vehicles) in collaboration with relevant stakeholders in the city. (LCCC)
- In line with LSMATS work with national operators to accelerate the expansion of public transport provision with a minimum targeted increase of 15% in bus capacity and the extension of bus routes. (LCCC)
- Implementation of a co-ordinated approach to school zones which may reduce traffic congestion (LCCC)
- Implementation of technology to provide efficient means of travel. For example, a Limerick travel app that draws on the bus/rail information provided on the TFI Real Time Ireland app but also includes information on safe cycling, accessible walking routes, bike stations and e-charging locations. (LCCC, National Transport Authority (NTA))

- Establish a Limerick Energy Forum to support the development of renewable energy, particularly offshore development. (LCCC, Limerick Chamber)
- Invest in the necessary ICT and smart energy storage infrastructure so that Limerick is well placed to access any energy surpluses from Moneypoint. (LCCC)
- Work with industry and academia to plan for the long term whereby supply from offshore energy production could be used to address energy poverty. (Government, LCCC)

6. Implement dedicated measures to increase footfall in the city centre

Indecon recommends a specific focus should be applied to measures that support increasing the levels of footfall in Limerick city centre. Some recommendations include:

- Support the development and refurbishment of quality affordable residential units in the city centre. (Government/Private Sector)
- Following publication of the planned Public Realm Strategy, implement a placemaking plan (e.g., pedestrian zones; on-street dining infrastructure; disability access; child-friendly amenities; intelligent street furniture with charging facilities) for the city centre that caters for the needs of all demographics and encourages people to dwell. Engage in public consultation to best determine suitable areas for pedestrianisation. The Placemaking Plan should inform the city's 'Traffic Management Plan'. (LCCC)
- Drive the 'experience economy' by promoting the city centre as a place for leisure, entertainment and non-retail experiences with the development of a seasonal curated programme of events. (LCCC/Limerick Chamber)
- Market difference in city centre from shopping centre experience (e.g., night-time economy; waterfront experience; public space animations). (LCCC/Limerick Chamber)
- Develop and promote the night-time economy in line with the forthcoming recommendations of the national Night-time Economy Taskforce. (LCCC)
- Designate temporary street performance areas in the city centre. Furthermore, build on the success of the *Limerick Street Art Trail* by incorporating interactive art installations. (LCCC)
- Support existing and new retailers to implement a targeted programme to enhance 'curb appeal' for premises. (LCCC/Limerick Chamber)
- Facilitate more accessible parking through the establishment of Park & Stride sites on the periphery of the city centre. In addition, expand the e-parking website/app to include a real-time data for on-street parking availability in the city to reduce search traffic and vehicle emissions. (LCCC)
- Assist retailers in accessing global marketplace through the development of 'Shop Limerick' as an online shopping platform for local small businesses. (LCCC/Limerick Chamber)

7. Focus on reducing social exclusion, health inequities and youth unemployment

Indecon recommends that a particular focus should be placed on measures that reduce social exclusion, health inequities and youth unemployment. Recommendations to support this are outlined below:

- Implementing actions to target unemployment blackspots. (Government)
- Develop seamless pathways between FET (particularly apprenticeships) and higher-level institutions. (Government)
- Implement targeted access measures involving co-operation between higher education institutions and those groups most at risk of social exclusion. This should include highlighting examples of individuals who have benefitted from participation in education. It should also include

ongoing involvement by communities and employers to support skill enhancement. (LCCC, LCETB, Limerick Chamber)

- Increase investment in support services to reduce social exclusion (e.g., childcare facilities, access to healthcare, provision for the disabled). (Government/LCCC)
- Ensure that settlement patterns in the city reduce concentration of social exclusion in certain areas. (LCCC)
- Renewed focus in supporting the implementation of the Youth Guarantee which pledges that participants will receive a quality offer of education, training and/or work experience opportunity within four months. (Government)
- Facilitate the implementation in the city of national plans to address youth unemployment through the establishment of a one-stop-shop *Youth Desk*. (LCCC)
- Ensure that the aging population and high dependency ratio are factored into future planning by updating the Age Friendly Limerick 2015-2020 Plan. Older people's views should be incorporated through an extensive consultation process. Furthermore, targets should be measurable, and progress should be monitored on an ongoing basis. (LCCC)
- Establish *Health Action Zones*, similar to the South West, to target health inequalities through empowerment, involvement, consultation and participation to enhance inclusion and sustainability. (Health Service Executive (HSE)/LCCC)
- Incorporate Health Impact Assessments (HIAs) as a regular part of the planning and development process. (LCCC)

8. Accelerate the transition to higher value-added sectors and support indigenous start-ups

Indecon recommends that the transition towards higher value-added sectors should be supported. Specific measures to support sustainable economic development in Limerick City include:

- Increase availability of *Grade A* office space. (IDA/LCCC/Private Sector)
- Prioritise the delivery of the planned city centre Digital Accelerator and Digital Collaboration Centre. (LCCC)
- Develop existing clusters such as aviation and aerospace, and pharma/medtech. Encourage new clusters in the areas of finance and other international services, high tech industry (e.g., data centres), and media sectors. (LCCC, Southern Regional Assembly)
- Conduct a sectoral review of productivity that goes beyond Gross Value Added (i.e., labour productivity/total factor productivity) to identify opportunities for productivity gains. (LCCC)
- Consider empowering local authorities with the ability to utilise commercial rates to incentivise and support innovative entrepreneurial activity, particularly in the city centre. (Government)
- Foster a strong start-up and entrepreneurial environment by improving information flows on all funding sources (grants, VC, tax etc.). Set targets for start-ups and monitor draw-down of national and EU funds. (LCCC, Limerick Chamber)
- As part of the new digital accelerator, a diversity and inclusion programme should be implemented that supports individuals from minority groups and assists them in securing entry level jobs in the regions fast-growing innovation companies. (LCCC)
- Under the 'Atlantic Edge, European Embrace' brand, progress the marketing plan for the city to highlight the strengths of existing indigenous and multinational investment. The demonstration impacts of previous success would help reinforce the growth potential. (LCCC)

- Expand the number of co-working hubs within the 'Happen' network. Introduce a marketing campaign to increase visibility and create a co-ordinated online booking system through the 'Happen' website.⁴ (Government, LCCC, Private sector)

9. Invest in increased public services and infrastructure to enhance accessibility and connectivity

Indecon recommends the investment in increased public services which will enhance accessibility and connectivity in the city and its environs. Specific recommendations to support this include:

- Implementation of a funding programme to support route development to ensure the viability of Shannon International Airport post-Covid-19. Work with the airport to ensure that business routes are in line with the requirements of emerging sectors and clusters. (Government, LCCC, Shannon Airport, Limerick Chamber)
- Complete Foynes to Limerick Road Improvement Scheme to enhance linkages with Shannon Foynes Port. Undertake feasibility review of the costs and benefits of a potential rail link to Shannon Foynes and evaluate its role in ensuring the retention of its T-TEN status. (Government, LCCC)
- Consider future transport needs (e.g., Connected and Autonomous Vehicles/Electric Vehicles/Greenways) when investing further in the road network to enhance connectivity between Ireland's regional cities. (Government)
- Acceleration of rollout of broadband investment for the city. (Government)

Conclusions

The research provided in this report provides an evidence base to help Limerick Chamber input to national, regional and local policy. It is intended to assist in ensuring that the unique potential of Limerick City is realised.

Acknowledgements and Disclaimer

Indecon Research Economists would like to take this opportunity to express our gratitude to the wide range of organisations and individuals who played an important role in, or contributed to, the completion of this report. Particular thanks are due to the Limerick Chamber Steering Group who have provided valuable inputs throughout the research project. We would like to thank Limerick City and County Council (LCCC) who provided inputs on the impacts of the Limerick 2030 Economic and Spatial Plan. Thanks are also due to KPMG who is currently undertaking the review of the economic and spatial plan. We would also like to thank Limerick 2030 DAC for inputs of relevance to the review. As part of the research, we undertook a detailed consultation process which included written submissions from a number of relevant stakeholder organisations and individuals including Shannon Group, Limerick Chapter of the Georgian Society, UL Hospital Group, Brown Thomas, Shannon Region Conference and Sports Bureau/Failte Ireland, University of Limerick), Limerick Institute of Technology, Limerick and Clare Education and Training Board, Mid West Regional Skills and Tiernan Properties. We would also like to thank IDA, Enterprise Ireland and Fáilte Ireland. These stakeholder consultations provided valuable inputs to the review which we acknowledge with thanks. We would like to thank the very large number of employers and individuals who work in Limerick who took time from their busy schedules to contribute to this research, most notably by completing a detailed information request which provided valuable inputs and insights into the future priorities for Limerick City. **The usual disclaimer applies, and the views and analyses contained in this report are the sole responsibility of Indecon.**

⁴ <https://www.happenspace.ie/workspaces>

1 Introduction and Background

1.1 Background and Scope of Study

Limerick Chamber is the largest business representative body in the Mid West of Ireland, representing over 420 member organisations that support over 50,000 jobs across the region. Limerick Chamber appointed Indecon Research Economists to undertake an independent assessment of the performance of Limerick City and to outline measures to support the sustainable development of the city. The research includes an overview of how Limerick performed compared to other leading Irish cities which highlights a number of important findings. The research has been informed by new empirical survey research with responses from over 400 individuals including from businesses, employees and others. This helps to identify the key strengths of Limerick City as well as the issues of most concern to the Limerick community. The analysis builds on the experience of models and approaches used in other countries to achieve the sustainable development of cities. In addition, new econometric modelling has been completed to examine the implications for skills enhancement to support sustainable development.

This pioneering initiative by Limerick Chamber is designed to provide evidence-based inputs to national and regional policy. It will also enable the Chamber to input to the consultation on the draft Local Development Plan (LDP) and the review of Limerick 2030 (An Economic and Spatial Plan for Limerick), which is being undertaken by Limerick City and County Council. This will assist in ensuring that the opportunity is taken to develop Limerick City as an economic powerhouse for the region. Furthermore, the findings of this report will frame key issues for discussion in the lead up to the election of Limerick's Directly Elected Mayor, the first position of its kind in Ireland.

1.2 Methodology and Report Structure

To complete the project, a detailed research programme was undertaken which included the following:

- Project Inception Meeting with Limerick Chamber;
- Collation of all relevant background documentation;
- Detailed analysis of the evidence on the performance of Limerick City;
- Comparative examination of Limerick City and other leading cities in Ireland;
- Review of international research and evidence;
- Invitation for submissions to key stakeholders;
- Liaison with Limerick City and County Council on Limerick 2030 Economic and Spatial Plan;
- New empirical research with businesses and other stakeholders;
- Implementation of new econometric modelling on skills;
- GIS analysis of proximity of population to services; and
- Detailed analysis of research findings.

Our report is structured as follows: Section 2 is a review of the policy environment. Section 3 reviews progress on the implementation of the Limerick 2030 Economic and Spatial Plan. Section 4 examines Limerick's demographics in addition to the level of education and skills in Limerick. The employment

and economic performance of Limerick is discussed in Section 5, while Section 6 reviews housing, infrastructure and connectivity. Section 7 reviews health and social inclusion while Section 8 draws on international examples of sustainable development to propose a model for Limerick's future development. Section 9 outlines recommendations and actionable items for the development of Limerick City.

1.3 Acknowledgements and Disclaimer

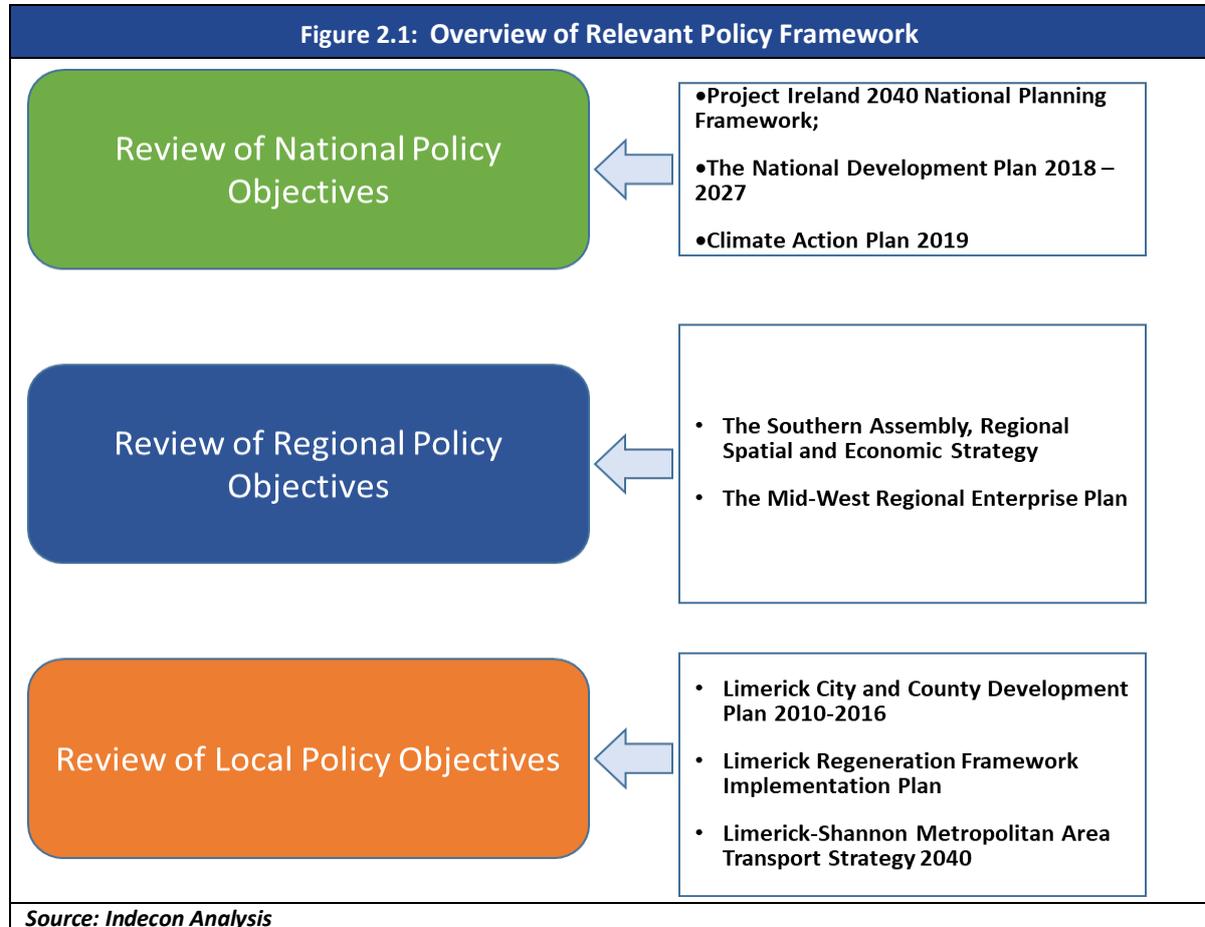
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2 Review of Policy Environment

An overview of some of the main policies relevant to the development of Limerick city is outlined in the graphic below. These are elaborated on in the rest of this section.



2.1 National Policy Objectives

In developing our recommendations Indecon has taken account of the context of the relevant policy environment. The development of Limerick city takes place against the background of the National Planning Framework which together with the National Development Plan (NDP) forms Project Ireland 2040. The goal of Project Ireland 2040 is to “make Ireland a better country for all” by facilitating growth and to respond to the projected increase in population in Ireland of one million by 2040. The framework is designed to address infrastructural deficits, environmental degradation and skewed economic growth. This will require delivery on 10 National Strategic Outcomes that promote regional parity, economic resilience and sustainability. These objectives are of direct relevance to the future development of Limerick City.

Table 2.1: National Strategic Outcomes in National Planning Framework

- Compact Growth
- Enhanced Regional Accessibility
- Strengthened Rural Economies and Communities
- High-Quality International Connectivity
- Sustainable Mobility
- A Strong Economy Supported by Enterprise, Innovation and Skills
- Enhanced Amenities and Heritage
- Transition to Sustainable Energy
- Sustainable Management of Water and other Environmental Resources
- Access to Quality Childcare, Education and Health Services

Source: National Planning Framework

The NPF strategy for the Southern Region indicates “the big challenge for this Region in the period to 2040, will be to position its cities as more significantly scaled, while also more compact and attractive, acting as metropolitan drivers for the region as a whole and as effective complements to the economic strength of Dublin.” The Limerick-Shannon Metropolitan Area is envisaged to become the key driver of growth in the Mid West Region.

Table 2.2: National Policy Objectives for the Southern Region in National Planning Framework

- Growing Our Regions: + 340,000 - 380,000 people, and +225,000 in employment
- Building Stronger Regions: Accessible Centres of Scale: Limerick City and Suburbs: +50,000 - 55,000 people (at least 145,000 total). Regional Spatial and Economic Strategy to set out a strategic development framework for the Region
- Compact, Smart, Sustainable Growth: 50% new city housing within existing Cork, Limerick and Waterford City

Source: National Planning Framework. Note: Southern Region includes Carlow, Clare, Cork, Kerry, Kilkenny, Limerick, Tipperary, Waterford and Wexford

Indecon supports the acknowledgement in the NPF that the Limerick Regeneration Implementation Framework, the amalgamation of Limerick City and County as well as the Limerick 2030 Economic and Spatial Plan, have the potential to be growth enablers and to enhance the potential of Limerick. This will require continued improvements in housing, the creation of employment opportunities and the promotion of urban residential regeneration in Limerick City. It will also require development of the retail and services sectors in addition to continued enterprise investment. Improvements in transport, broadband, tourism, enterprise and educational infrastructure are also necessary. In the table below the key growth enablers identified in the NPF are presented.

Table 2.3: Growth Enablers for Limerick in National Planning Framework

- Implementation of the Limerick 2030 economic strategy to create modern, city centre office accommodation and a series of transformational city centre public realm projects;
- Complementary further development of the Limerick 2030 plan to include measures to encourage significant inner urban residential regeneration and development, to include the city's Georgian Quarter;
- Extending the ambition of the Limerick 2030 plan to include an extension of the city centre towards Limerick Docks; Identifying infill and regeneration opportunities to intensify housing and employment development throughout inner suburban areas;
- Enabling enhanced opportunities for existing communities as development and diversification occurs, particularly through employment, learning and education support;
- Progressing the sustainable development of new greenfield areas for housing and the development of supporting public transport and infrastructure, such as at Mungret;
- The continued expansion of the city's third-level institutions and integration with the wider city and region; Provision of a citywide public transport network, with enhanced accessibility from the city centre to the National Technological Park, UL and Shannon Airport;
- Development of a strategic cycleway network with a number of high-capacity flagship routes;
- Enhanced road connectivity to Shannon Foynes Port, including local by-passes;
- Enhanced regional connectivity through improved average journey times by road to Cork and Waterford; Ensuring that water supply and waste-water needs are met by new national projects to enhance Limerick's water supply and increase wastewater treatment capacity; and
- Improving sustainability in terms of energy, waste management and resource efficiency and water, to include district heating and water conservation.

Source: National Planning Framework

National Development Plan 2018-2027

It is also useful to consider any plans for the city within the context of the National Development Plan (NDP). This capital investment strategy sets out a programme of integrated investments to deliver on the NPF's outcome objectives through a €116 billion investment package. It identifies key strategic investment priorities (see Table 2.4 below) to underpin the implementation of the NPF up to 2028. Four funds⁵ with allocated resources of up to €4 billion over the lifetime of the plan have also been established to deliver on core priorities in relation to rural and urban development, technology and climate action. NDP further stresses the need to address a number of challenges including the upgrade of infrastructure in anticipation of the population increase, and the transition to a climate-resilient society in the next ten years. Limerick City will benefit from a number of infrastructure investments outlined in the NDP. These include BusConnects in Limerick City, investment in Shannon Foynes Port, regional connectivity in terms of the M20 Cork to Limerick, and the roll-out of a National Broadband plan in Limerick City and County. There is, however, a need for ongoing targeted investment to support the development of Limerick City.

⁵ Rural Regeneration and Development Fund, Urban Regeneration and Development Fund, Disruptive Technologies Innovation Fund and Climate Action Fund.

Table 2.4: National Strategic Investment Priorities in National Development Plan

- Housing and Sustainable Urban Development
- National Road Network
- Rural Development
- Environmentally Sustainable Public Transport
- Enterprise, Skills and Innovation Capacity
- Airports and Ports
- Culture, Heritage and Sport
- Climate Action
- Water Infrastructure

Source: National Planning Framework

Climate Action Plan 2019

Limerick City, like other urban areas in Ireland and in other countries, is a contributor to greenhouse gas emissions. The Climate Action Plan sets out the Government's response for Ireland to meet 2030 targets for carbon emissions and plan its transition towards achieving a net-zero emission target by 2050. The Climate Action Plan has identified a set of policy tools and targets to be delivered across the following sectors: electricity, buildings, enterprise and services, housing, transport, agriculture, waste and circular economy. These, inter alia, involve:

- increase reliance on renewables from 30% to 70%;
- upgrade 500,000 existing homes to B2 Building Energy Rating (BER) and install heat pumps;
- make growth less transport intensive through better planning, remote and home-working and shifts to public transport;
- improvements in farming practice; and
- and strategies for plastics, food waste, and resource use reduction.

The Climate Action Plan places emphasis on the National Adaptation Framework as the main policy response to address current and future risks posed by climate change, with the Regional Assembly along with Climate Action Regional Offices (CARO) to support the development of long-term solutions to reduce vulnerability at the regional and local level. Key programmes identified in the Climate Action Plan relevant to Limerick and the Southern region include:

- the development of a cycling Implementation Plan across Dublin, Cork, Galway, Limerick and Waterford based on existing metropolitan cycling network plans, and 200km of cycle lanes under Bus-Connects; and
- zero-emission postal deliveries in Cork, Galway, Kilkenny, Limerick and Waterford by 2020.

2.2 Regional Policy Objectives

The Mid West Regional Enterprise Plan (REP)

The Mid West Regional Enterprise Plan (REP) is one of nine such plans that have the primary objective of promoting employment generation and fostering a knowledge-based economy, with the overarching goal of reducing regional disparity by maximising enterprise and job creation. The Regional Enterprise Plan is key to the delivery of national-level policies into regional and local impact, and complement the core activities undertaken by Enterprise Ireland, Local Enterprise Offices and other State bodies. Below we outline the strategic objectives envisaged by the REP in the Mid West to maintain strong regional enterprise and job creation performance.

Key actions towards the delivery of strategic objectives to be implemented over a two-year timeframe identified in the Plan and relevant to Limerick include: CONFIRM, Ireland's research centre for Smart Manufacturing that will deliver enhanced AI and data analytics; the development of a Sports Tech Cluster to promote sports technology research as well as inject 500 additional jobs by end of 2020; creation of a regional co-working Smart e-Hub network across Limerick, Tipperary and Clare; the development of a Digital Collaboration Centre to be delivered by end of 2020; and, the development of a Marine and Renewable Energy Research Centre at Limerick docklands.

Table 2.5: Strategic Objectives in Mid West Regional Enterprise Plan to 2020

- Enable a digital and innovation economy and make the Mid West Ireland's leading smart city-region;
- Achieve a step-change in progress toward a low carbon economy in the Mid West;
- Continue to develop workforce skills and talent and enhance the attractiveness of living and working in the Mid West;
- Develop the regions capacity to deliver economic growth; and
- Build a coordinated regional messaging brand for consistent communication.

Source: Mid West Regional Enterprise Plan to 2020

Regional Spatial and Economic Strategy

The Regional Spatial and Economic Strategy (RSES) is a 12-year development framework through which the NPF's vision and national policy objectives are delivered at the regional and local level. The detailed spatial and economic strategy is implemented by each Regional Assembly and includes the Metropolitan Area Strategic Plans (MASPs) for Irish cities such as Waterford, Cork, Dublin and Limerick. In view of the importance of the RSES in informing the future sustainable development of Limerick City, we focus on the RSES covering the Southern region. The RSES for the Southern Region was prepared by the Southern Assembly to ensure strategies are aligned with national objectives and deliverable within the public investment resources. It places particular focus on population and employment growth as envisaged in the growth targets set by NPF for the Southern region which will require new housing developments and building capacity for new employment opportunities. Further challenges addressed in RSES are climate change, regional disparity and connectivity. RSES' vision for the Southern region is to become Europe's most creative, innovative, greenest and liveable region. It was suggested that realising this vision would require investment in capacity building, climate action and enterprise development.

Limerick Shannon Metropolitan Area Strategic Plan

As part of the Regional and Economic Strategy for the Southern Region, the Metropolitan Area Strategic Plan (MASP) for Limerick-Shannon seeks to support the NPF's population growth target of 50% to enable Limerick City to become a city of scale. The primary objective of MASP is to strengthen the metropolitan area of Limerick-Shannon as a key driver of economic growth in the Mid West, by delivering: housing development and infrastructure projects in Limerick City (i.e. development of Opera site, Cleeves, Arthurs Quay, Limerick Northern Distributor Route (LNDR)); health care facilities; and third-level institutions. On the other hand, infrastructural requirements for Shannon supported by MASP maximise its strategic position by focusing on enhancing connectivity to Shannon International Airport via public transport, rail and road link. The Limerick Shannon MASP further continues to support Limerick 2030 and Limerick Regeneration initiatives.

2.3 Local Policy Objectives

Limerick City and County Development Plan 2010 - 2016

The Limerick City Development Plan (LDP) 2010-2016 sets out Limerick City Council's policies whose vision for Limerick City is to "grow as the centre of economic, social and cultural development for the Mid West Region." The City Development Plan takes into account a medium to long-term quantitatively based strategy underpinned by three strategic goals that aim at scaling up Limerick City as a National Gateway City by i.e., extending its administrative boundaries; facilitate the provision of employment, education, transport and housing; enhance the attractiveness of the city and its environment. The Limerick County Development Plan 2010-2016 is a six-year strategic plan for the sustainable development of County Limerick. The plan seeks to "develop and improve, in a sustainable manner, the social, economic, cultural and environmental assets of the County". The envisaged vision is underpinned by core strategic policies that revolve around promoting business and tourism in County Limerick; enhancing sustainable residential, working and recreational environments and transportation networks.

The second stage public consultation of the draft LDP 2022-28 is expected to take place this summer. When completed this will represent the first LDP since the amalgamation of the City and County councils in 2016.

The Limerick-Shannon Metropolitan Area Transport Strategy 2040

The Limerick-Shannon Metropolitan Area Transport Strategy 2040 (LSMATS) is a long-term regional-level transport plan informed by national policy objectives, and developed by the National Transport Authority, Limerick City and County Council, Clare County Council, and Transport Infrastructure Ireland. Currently, in a draft stage, LSMATS's vision aims to "deliver a high-quality, accessible, integrated and more sustainable transport network that supports the role of the Limerick-Shannon Metropolitan Area as the major growth engine of the Mid West Region, an internationally competitive European city region and main international entry to the Atlantic Corridor". The transport planning, whose objectives are aligned with NPF 2040, NDP 2018-2027 and the Regional Spatial and Economic Strategy for the Southern Region, seeks to scale up capacity to support growth from an increasing demand, enhance transport network in the Limerick Shannon Metropolitan areas, and meet requirements in relation to climate change.

Table 2.6: Guiding Principles in Limerick Shannon Metropolitan Area Transport Strategy

- To meet the demand generated by the existing and planned development;
- To support the future growth of the LSMA through the provision of an efficient transport network;
- To prioritise sustainable transport to reduce car dependency;
- To provide a high level of public transport connectivity to key destinations and within high demand corridors;
- To identify and protect key strategic routes for the movement of freight traffic;
- To enhance the public realm through traffic management and transport interventions; and
- To increase transport capacity where needed to achieve the Strategy outcomes.

Source: Draft Limerick Shannon Metropolitan Area Transport Strategy 2040

Limerick Regeneration Framework Implementation Plan

The Limerick Regeneration Framework Implementation Plan has the primary objective to regenerate areas of disadvantage in Limerick City by promoting social and economic initiatives. Particularly focused on the areas of Moyross, Southill, Ballinacurra Weston and St Mary's Park in Limerick, the Implementation Plan seeks to renew and rebuild existing public housing, provide affordable housing, and support communities with services targeting unemployed and economically inactive, with strong emphasis on youth unemployment. Limerick Regeneration Programme has currently planned the delivery of 400 new housing and the upgrade of a further 900 homes by 2023 in the areas of Moyross, Southill, Ballinacurra Weston and St Mary's Park, facilitated by public investment promoted by the NDP.

2.4 Implications of Policy Environment⁶

The review of the policy environment highlighted the central role of the National Planning Framework (NPF). This has important implications for the future development of Limerick City. The planned outcomes in the NPF, which inter alia include the need for compact growth, high-quality connectivity, a strong economy supported by enterprise, innovation and skills, the transition to sustainable energy and access to quality childcare, education and health services, are directly relevant to the future of Limerick City. Also relevant at a national level is the Climate Action Plan and the need to achieve a net-zero emission target by 2050. Within the context of the national policies, there are a range of regional and local plans which underpin the development for Limerick City. Of particular relevance to this study is the Limerick 2030 Economic and Spatial Plan, which is discussed in detail in the next chapter.

⁶ Additional policy documents listed in Appendix A

3 Progress on Implementation of Limerick 2030 Economic and Spatial Plan

3.1 Limerick 2030 Economic and Spatial Plan

The Limerick 2030 Economic and Spatial Plan for Limerick “Limerick 2030” is a long-term action plan that aims at transforming and revitalising economic, social and physical aspects of Limerick City Centre and the wider Mid West Region. More specifically, the 20-year plan works as a framework that sets the direction for public and private sector investment to create jobs, accelerate investment and deliver key strategic sites by 2030, with the overarching goal to create “a major economic force in the Irish and European economy, a leading centre for commercial investment.” The structure of the long-term plan revolves around three elements: an *economic strategy*, which seeks to promote enterprise growth, strengthen the knowledge economy and scale investment; a *spatial plan*, which focuses on the regeneration and revitalisation of Limerick City Centre; and a *marketing plan*, aiming at rebranding Limerick. In relation to its economic plan, the Limerick 2030 plan highlights the importance to diversify the economy when delivering on key objectives outlined in the table below. These include increasing employment (high-value jobs, new start-ups), and gross value added (GVA). To achieve this, Limerick 2030 envisaged a sectoral strategy based on: i) driving value on established sectors (i.e., ICT, Logistics, Advanced manufacturing); ii) capture bigger share of growth sectors (i.e., Life Sciences, Business and Professional Services etc); and iii) secure investment in emerging sectors (low carbon sector); and new enterprise growth (i.e., Cultural, Creative and Digital Media).

Table 3.1: Key Objectives of Limerick 2030 Economic Strategy

Economic Strategy	
1.	Position Limerick as a competitive knowledge economy, known for its skills base excellence in high tech sectors
2.	Develop an outstanding environment for starting and growing new businesses
3.	Create the conditions for long-term economic growth
4.	Create a vibrant city centre economy with a new mix of economic uses and a strong education presence
5.	Maximise the local employment impact from development/regeneration

In the table overleaf we also report a set of intervention areas and delivery programmes as planned in the economic strategy of Limerick 2030.

Table 3.2: Set of Delivery Programmes in the Economic Strategy

Knowledge-Based Economy: The city centre campus; Limerick Venture Capital Fund; Limerick Technology Innovation Hub; Medical Village, etc.

Outstanding Business Environment: Limerick Start-up Fund; High Growth Business Support Programmes; City Centre Service Cluster; Limerick Single Business Portal

Create Conditions for Long-Term Growth: Unified Governance; Super-fast broadband roll-out; integrated airport strategy; Local Employment Framework, etc.

In its spatial plan, Limerick 2030 sets the direction for the delivery of early projects and prioritises the following: Opera Site, Waterfront and the Arthur’s Quay area. These, considered as priorities for their location at the heart of the city centre, are part of transformational projects that seek to enhance “infrastructure and public realm to make it a ‘comfortable’ and ‘appealing’ city centre.” Enhancing the city centre offer in retail, business promotion, and residential expansion are also main pillars of the spatial plan whose key objectives are outlined in the next table.

Table 3.3: Key Objectives of Limerick 2030 Spatial Plan**New City Centre Spatial Plan**

1. To establish a 21st century city centre economy capable of competing with other European cities and leading the wider city, metropolitan area and city-region economy;
2. To reposition the city centre as the premier regional shopping destination;
3. To establish a unique tourism offer that takes full advantage of the city centre’s special heritage and environmental characteristics;
4. To make the city centre once again a desirable place to live by improving the quality of the housing offer in the city centre;
5. To create a high quality and safe urban environment attractive to investors, employers, residents and tourists which generates a sense of pride in the city;
6. To build upon the city centre’s rich historic character by fully capturing this rich heritage, protecting and enhancing it where appropriate and complementing it with world class design for any new development;
7. To create quality strategic gateways to the city centre, thereby making it a welcoming experience for visitors; and
8. To attract and retain young people by providing learning opportunities through the cooperation of the University of Limerick, Limerick Institute of Technology and Mary Immaculate College, in providing teaching and residential accommodation in the heart of the city centre.

The key expected outputs and benefits of the Limerick 2030 Plan are discussed in the next section, where we review progress on the implementation of the Plan. This outlined three key quantified targets concerning employment, GVA per person, and the number of new houses to be established in the city centre.

3.2 Performance Against Key Targets

Table 3.4 illustrates some of the key development projects as identified by the Limerick 2030 Plan and investigates their current status of operations. Limerick has seen an expansion in business space capacity with more than 100,000 additional sq. ft created in the city centre. This encompasses Gardens International Office and the Limerick Innovation Hub. The purchase of the former Anderson factory (now Rathkeale Enterprise Centre) created 100,000 sq. ft of enterprise space with an additional 130,000 sq. ft also created in Limerick County through the purchase of Kantoher Enterprise Centre by Innovate Limerick. In 2020, the major redevelopment project of the Opera site commenced. When completed, this is expected to add an additional 340,000 sq. ft and more than 700 jobs. By 2026, Limerick could see additional enterprise space totalling 1 million sq. ft. The redevelopment of the Colbert station, a key strategic site at the master planning stage will see the construction of 2,000 to 3,000 units (80% residential, 20% commercial).

Table 3.4: Current Status of Key Development Projects

Project	Description	Stage
Gardens International Office	Capacity: 112,000 sq. ft Jobs: 500+	Completed and operational
Troy Studios Film	Capacity: 340,000 sq. ft, 700+ jobs	Completed and operational
Opera Site	Major site for new business activity and job creation (capacity for up to 3,000 employees across a 450,000 sq. ft campus accommodation)	Commenced in November 2020 with demolition and enabling works programme – up to six years to complete
Arthur's Quay area	Major shopping centre at the heart of the city	Marks & Spencer secured as the anchor tenant in 2019 (to take up residency following planned redevelopment). LCCC secured funding under the Urban Regeneration Development Fund (URDF) to appoint a design team for the AQ public realm at the end of 2021.
Colbert Station	Capacity: 2,000 to 3,000 units (80% residential, 20% commercial)	Master-planning - Draft Design Review Document published in 2020
Cleeves Riverside Project	Capacity: 10-acre site Jobs: up to 1,500 jobs	Master-planning (Stage 1 Master Plan to be completed by June 2021, after which Project Team will move onto formal design stages for the project) LCCC awarded €34.5m under URDF for development and enabling works.
Mungret	Residential projects with capacity for up to 850 residential units	Master-planning followed by a planning permission application. Completion: 200 units Phase 1 in 2021.
Cruises street	Shopping street in the city centre	Ongoing - LCCC secured funding under URDF for installation of a street canopy
Limerick Technology and Innovation Hub	A high-quality facility in a visible city centre location the Innovation Hub would provide 35,000 sqm of business and innovation space	Completed and operational
Rathkeale Centre	Capacity: 130,000 sq. ft	Completed and operational
Kantoher Enterprise Centre	Capacity: 30,000 sq. ft home to Strand Foods Ltd.	Completed and operational
ENGINE	Located in the Georgian Innovation District, Upper Cecil Street, and home to tech companies.	Completed and operational (opened in 2018)
World Class Water Front	Revitalisation of Limerick's entire waterfront	LCCC awarded €36.38m under URDF for Bishops Quay to Cleeves Bridge, Flood Defence Public Realm and Arthurs Quay Road
Limerick Cultural Centre	An iconic destination building on waterfront	No update
Great Streets	Transform O'Connell Street, Catherine Street (upgraded to strengthen pedestrian connection to station) and Henry Street	O'Connell Street revitalisation works began in April 2020. In progress - Junction improvements at the intersection of Catherine St and Roches St completed No change to traffic flow on Henry Street
New City Square/Plaza	To define the focal point or heart of the city centre	No update
City Centre Higher Education Campus	The creation of a multi-versity combining facilities from LIT, UL and MIC in the heart of the city centre	UL purchased Dunnes Stores site in 2019 LCCC awarded €2.52 million under URDF for site planning
Renewal of the Georgian Quarter	Concentrated programme to restore the Georgian part of the city	In progress – LCCC operates a one-stop-shop to assist individuals with renovating/refurbishing Georgian buildings by bringing together internal planners and conservation officers to give advice. The number of fully vacant buildings in the Georgian neighbourhood has decreased from 92 in 2018 to 57 in 2021. Living Georgian City Project awarded €9.76m under URDF for Smart-Aging Homes and Co-Housing Demonstrators. Schemes to be submitted for planning mid 2021. LCCC currently developing preliminary design for Limerick Georgian Laneway Project

Source: Indecon analysis of Limerick 2030/Limerick CCC data

The targeted outputs and benefits of the plans are listed in Figure 3.1.

Figure 3.1: Outputs and Benefits of Limerick 2030 Economic and Spatial Plan	
<ul style="list-style-type: none"> • Potential to create 12,000 new FTE jobs in the Limerick area. • Create high-value jobs in order to close the €403m gap in economic performance; in this regard: <ul style="list-style-type: none"> – Drive value in established sectors: ICT, Advanced Manufacturing, Logistics, High-Value Food & Drink – Capture bigger share of growth sectors: Life Sciences, Business and Professional Services, Tourism, Sport & Leisure – Secure investment in emerging sectors: Low Carbon Sector – New enterprise growth: Cultural, Creative and Digital Media • Potential for approx. 5,000 new jobs for Limerick City centre: <ul style="list-style-type: none"> – High-value jobs in key sectors and located at i.e., Medical Park at King’s Island, the Opera Site, the Waterfront and the proposed Urban Science and Technology Park (former ‘Cleeves’ Site). • Wider reinvigoration of the city centre from renovations, new development, increased activity, footfall • Potential for a minimum of 1,000 new homes in the city centre; activity will extend across the Georgian Quarter beyond the target pilot initiative block. 	
Source: Limerick 2030 – An Economic and Spatial Plan for Limerick	

In reviewing the implementation of Limerick 2030 – An Economic and Spatial Plan for Limerick, Indecon notes that progress has been made in developing specific projects, such as the Gardens International Office Development in Henry Street, the Troy Studio Film Hub, Rathkeale Enterprise Centre and the Engine Project. A challenge in reviewing the Plan, however, is the absence of quantification of a number of the objectives and gaps in data availability to monitor progress. Only three quantified targets were set for employment, gross value added (GVA) per person and the number of new houses in the city centre.

The available evidence indicates strong performance in overall employment in the County and high numbers of job announcements. However, there is a lack of detailed evidence on the number of new jobs in the city and its linkage to projects in the Plan. A survey by LCCC suggests that 78% of the jobs announced translated into actual jobs within a three-year period. However, definitive evidence is not currently available on the number of jobs created as a result of the Plan. There is also uncertainty on whether the €403m GVA gap in economic performance has been addressed. While there has been new job creation in high value-added sectors, Indecon notes that the GVA estimates for the Mid West in 2010 represented only 85% of the levels in the state. This percentage declined in subsequent years and by 2016 GVA in the Mid West was only 72.2% of the national level, suggesting the economic gap may have widened. This is likely to reflect the very fast growth in high value-added activities in Dublin.

In the Plan, a target was set for a minimum of 1,000 new housing units in the city centre. This is a key issue in achieving compact growth and in delivering increasing population density in the city centre. The evidence indicates that there were 1,044 new units built in the city and suburbs since 2016⁷. With the targeted population increase for the city in the National Planning Framework, there will be a need to increase the target for new residential units in the city centre.

⁷ This is based on the CSO definition of Limerick City and its Environs (excluding the Clare part). A map of this area is included in the annexes

The Plan also envisaged an increase in tourism and Indecon notes that revenues from tourism in Limerick increased by around €100 million between 2014 and 2019. A summary of the evidence on performance against targets is presented in the next table.

Table 3.5: Performance against Targets Limerick 2030 Economic and Spatial Plan	
Target in Plan	Evidence on progress to date
<p>Potential to create 12,000 FTE new jobs in the Limerick area</p> <p>Potential for approx. 5,000 new jobs for Limerick City Centre</p>	<p>Definitive data is not available on number of actual jobs created or the linkage of these with the Plan. While LCCC do not have in-depth data on this, we note that 12,791 FTE jobs were announced from 2013-2020 (see table 3.6). We understand that a survey undertaken by LCCC suggested that firms indicated that approximately 78% of the jobs announced translated into actual jobs within a 3-year period.</p> <p>No data is available showing the split between city and county job announcements.</p>
<p>Create high-value jobs in order to close the €403m gap in economic performance</p>	<p>Job announcements recorded for Tech, Financial Services, Pharma, Medical Devices, Manufacturing. Furthermore, using the Mid West as a proxy there is evidence of growth in employment across a number of sectors (see Table 3.8).</p> <p>There however appears to have been a widening of the GVA gap in economic performance in the mid and west region in the period to 2016. (see Table 3.9)</p>
<p>Drive value in established sectors: ICT, Advanced Manufacturing, Logistics, High-Value Food & Drink</p>	<p>Existing companies such as Northern Trust, Regeneron, J&J Vision Care have continued to invest in the expansion of their facilities.</p>
<p>Capture bigger share of growth sectors: Life Sciences, Business and Professional Services, Tourism, Sport & Leisure</p>	<p>Since 2014 new announcements in Life Sciences (Serosep, Edwards LifeSciences, etc); Business & Professional Services (Fundrock, AxiomSL); Tourism (Adare Manor, extensions to 5 city centre hotels).</p> <p>Figures show a significant increase in tourism revenues in Limerick which increased from €206m in 2014 to €305m in 2019. However, Limerick's tourism market continues to lag behind other Irish cities (see Table 3.10).</p>
<p>Secure investment in emerging sectors: Low Carbon Sector</p>	<p>Emerging companies/research in low carbon energy initiatives</p> <p>Nautilus – Floating Data Centre planned for Limerick Docks</p>
<p>Source: Indecon analysis using information from CSO data, Fáilte Ireland and information from Limerick City and County Council</p>	

Performance against Targets Limerick 2030 Economic and Spatial Plan (Continued)	
Target in Plan	Evidence on progress to date
New enterprise growth: Cultural, Creative and Digital Media	Troy Studios (Apple TV and NBC productions,) Local/national productions active in this space. LCCC secured €13.5m funding under URDF to develop a digital collaboration centre, an accelerator centre, and a Film skills academy. The contract for the construction of the digital collaboration centre will be awarded in May 2021. CPO to commence shortly for sites for the Accelerator and Film School.
High-value jobs in key sectors and located at i.e., Medical Park at King's Island, the Opera Site, the Waterfront and the proposed Urban Science and Technology Park (former 'Cleeves' Site)	Mixed-use sites to accommodate public and private organisations (Garden International – Nordic Aviation), (Opera – Revenue Commissioners), (Cleeves - in development), (Howleys Quay – Tech & Professional Services). We understand that some organisations, such as Revenue Commissioners plan to relocate from other parts of the city centre.
Wider reinvigoration of the city centre from renovations, new development, increased activity and footfall	<p>International Rugby Experience on O'Connell Street due to be completed in 2021.</p> <p>A number of private Georgian district renovations have been completed with the support of the Living Cities Initiative.</p> <p>Reduction in Fully vacant buildings in the Georgian Neighbourhood (92 in Q1 2018 to 57 in Q1 2021); 27 buildings reoccupied and 43 buildings in progress; Expected 12% residential increase by 2022 (183 additional bedspaces).</p> <p>Engine Hub & Digital Innovation Centre established in city centre in 2018 to provide co-working facilities.</p> <p>Private office development planned for Upper Catherine Street.</p> <p>Major Retailers (Ali & Lidl) have announced plans for new stores in city centre.</p> <p>Completion of UBER Building, Catherine Street.</p> <p>New Bon Secours Medical Centre to be developed in Ballysimon.</p> <p>Plans announced for UL /MIC/TUS: Midland Midwest city centre Investments.</p> <p>SFPC – Dock Development Plan including the redevelopment of the Bannatyne Mill.</p> <p>Rehabilitation of Gas Works site on Dock Road.</p> <p>Available evidence indicates a decline in city centre footfall between 2017 and 2019.</p>
Potential for a minimum of 1,000 new homes in the city centre	There were 1,044 units built in the city and suburbs (CSO boundary ⁸) since 2016.
Source: Indecon analysis using information from CSO data, Fáilte Ireland and information from Limerick City and County Council	

⁸ The CSO boundary for Limerick City and its environs is shown in the Annexes.

Since 2013 more than 20,000 new jobs have been announced in Limerick County. However, as noted earlier, while a survey indicated that 78% of jobs announced translated into actual jobs within a three-year period, definitive data is not available on the number of actual jobs created. Table 3.6 presents a sectoral analysis of new jobs announced in Limerick since 2017. This shows that there is significant annual variance in the importance of new job announcement by sector. Indecon believes that monitoring number of jobs created as well as announced and their location is critical in developing a framework to monitor the progress of the city.

Table 3.6: New Jobs Announcements in Limerick County by type				
	2017	2018	2019	2020
IDA / FDI	900	1,335	295	812
Indigenous	275	478	190	297
Retail	249	366	484	244
Hospitality/Services/ Other	547	593	921	237
Construction*	1,355	300	580	410
Total	3,326	3,072	2,470	2,000
<i>* Construction Jobs relate to temporary employment created during the construction of new facilities</i>				
<i>Source: LCCC</i>				

While specific data for employment in Limerick beyond 2016 is not available, data for the Mid West can provide a useful proxy. Indecon notes that a target of 12,000 new jobs was set in the Plan. As shown in Table 3.7, employment in the Mid West has been increasing steadily since 2013 and there is evidence of convergence in the unemployment rate over time. More specifically, unemployment has decreased at a higher pace in the Mid West region compared to the national average from 2013 and the initial gap of 3.4 percentage points has been reduced to 0.2. However, as noted above definitive data on jobs created in the city and their linkage to the projects in the plan are not available.

Table 3.7: Employment in the Mid West Region and the State 2013-2020							
	Total employed (000s)				Unemployment rate (ILO)		
	2013	2016	2019	2020	2013	2019	2020
Mid West Region	192	207	217	209	18.1%	6.1%	5.3%
National	1,926	2,127	2,300	2,223	14.7%	5.4%	5.1%
<i>Note: Individuals in receipt of PUP or TWSS are not included in calculation for 2020</i>							
<i>Source: CSO</i>							

An analysis of the share of employment by sector in the Mid West is presented in Table 3.4. This shows an increase in some high value-added sectors such as professional, scientific and technical activities and in financial services.

Table 3.8: Share of Employment by Sectors (Mid West Region)			
	2013 Share	2019 Share	2020 Share
Agriculture, forestry and fishing	7.9%	6.4%	5.3%
Construction	4.9%	6.5%	6.0%
Wholesale and retail trade, repair of motor vehicles and motorcycles	13.4%	13.4%	13.0%
Transportation and storage	3.8%	3.5%	3.5%
Accommodation and food service activities	6.9%	6.8%	7.2%
Information and communication	2.8%	2.5%	2.6%
Professional, scientific and technical activities	4.3%	5.1%	4.7%
Administrative and support service activities	3.5%	3.6%	4.3%
Public administration and defence, compulsory social security	4.2%	5.8%	6.2%
Education	7.9%	9.8%	9.5%
Human health and social work activities	13.1%	12.7%	12.0%
Industry	16.6%	14.2%	14.4%
Financial, insurance and real estate activities	2.4%	1.2%	2.8%
Other NACE activities	5.9%	5.0%	5.1%

Source: CSO

The expansion of high value-added enterprises is instrumental to the target of bridging the existing gap in the economic performance with respect to the rest of the country. Existing data on the gross value added per capita suggests that this gap increased between 2010 and 2016. This is despite the strong increase in GVA in the Mid West however the national growth rate was higher than the one experienced in the Mid West region. As a result, as shown in Table 3.9, the gross value added in the Mid West was 85% of the average in 2010 and only 72% in 2016. Indecon notes that there are caveats associated with these figures and GVA statistics for the Mid West region have not been published since 2016.

Table 3.9: GVA per person at Basic Prices			
	Mid West	National Average	Mid West as % of National Average
2010	28,442	33,455	85.0%
2011	27,906	34,336	81.3%
2012	29,092	34,961	83.2%
2013	29,706	35,789	83.0%
2014	29,368	38,400	76.5%
2015	38,109	52,461	72.6%
2016 ⁹	39,446	54,637	72.2%

Note: The CSO have stopped publishing GVA figures for the Mid West region due to confidentiality. The figures above are the most recent available

Source: CSO

⁹ <https://www.cso.ie/en/releasesandpublications/er/cirgdp/countyincomesandregionalgdp2015/>

Tourism is an important strategic sector for Limerick. The revenue generated by tourism in Limerick has grown significantly between 2014 and 2019, from €206 million to €305 million. However, despite this growth, certain other counties outperformed Limerick including Dublin, Cork and Galway.

	2014		2019	
	Revenue (€m)	Number of Tourists (000s)	Revenue (€m)	Number of Tourists (000s)
Limerick	206	703	305	951
State	4,689	13,800	7,665	20,556
Limerick (% share)	4.4%	5.1%	4.0%	4.6%
Dublin (% share)	35.5%	41.7%	32.7%	40.9%
Cork (% share)	15.0%	17.0%	11.0%	12.9%
Galway (% share)	11.0%	14.6%	9.7%	13.5%

Source: Fáilte Ireland estimates

Recent evidence examined by Indecon notes that the levels of footfall in Limerick City have decreased slightly between 2017 and 2019. Developing a model of compact growth and increasing residential investment in the city will be needed to expand levels of footfall.

2017	2018	2019	% change (2017-2019)
1.326	1.335	1.318	-0.6%

Note: based on footfall counters positioned at O'Connell St., Thomas St., Cruises St.
Source: Draft Limerick Development Plan 2022-2028

3.3 Implications of Review of Progress

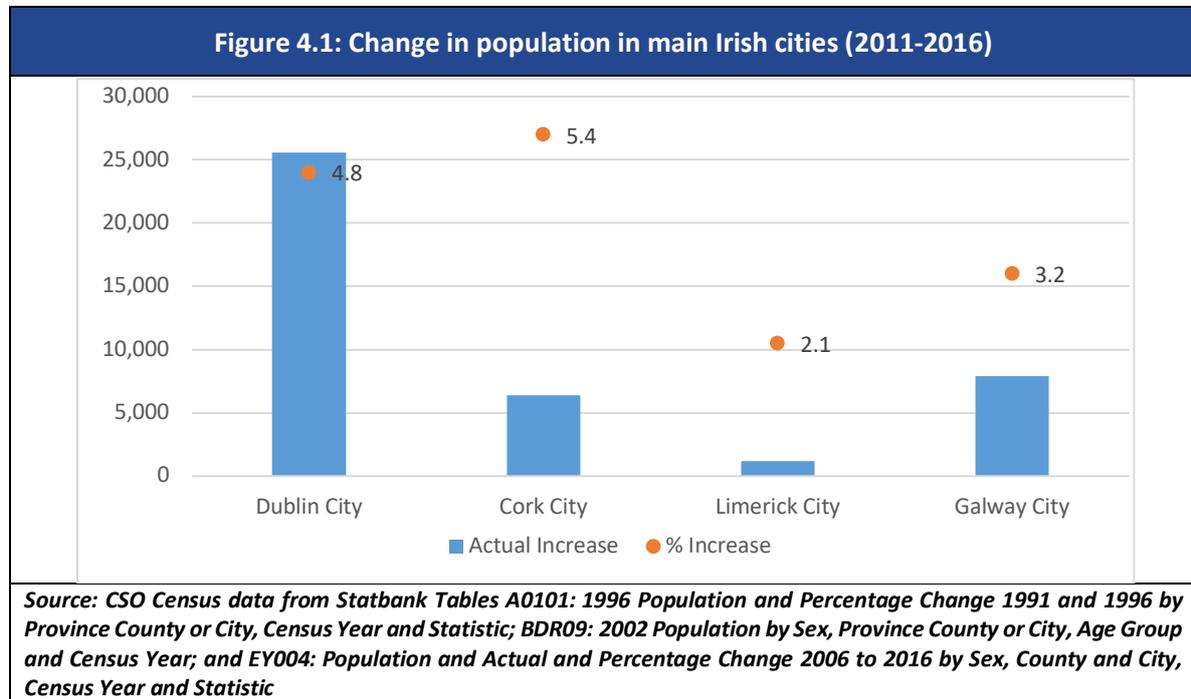
The analysis of the Limerick 2030 Plan indicates that progress has been made with regards to the development of specific sites. Several projects are however still at the early development stage but Indecon notes that LCCC has been successful in securing funding under the URDF for some of these developments. A key issue in the review of the Limerick 2030 plan is the gaps in data needed to monitor recent performance against a number of the quantified targets. The available evidence, however, shows strong growth in overall employment in Limerick City and County but definitive data is not available on the number of actual jobs created or the linkages of these in the Plan. There is uncertainty on whether the €403m gap in economic performance has been addressed. The research indicates that the target for a minimum of 1,000 new houses in the city centre has been met and there were 1,044 new units built in the city since 2016.¹⁰ With the targeted population increasing for the city in the National Planning Framework, there will be a need to increase the target for new residential units in the city centre (see Chapter 6 for more detail). The Plan also envisaged an increase in tourism and Indecon notes progress in this sense, as the revenues from tourism increased between 2014 and 2019. However, Limerick continues to lag behind other Irish cities. Footfall in the city centre has declined in recent years and this will undoubtedly have implications for traditional city centre retail which is already in decline as a result of strong growth in online shopping.

¹⁰ This is based on the CSO definition of Limerick City and its environs.

4 Demographics, Education and Skills

4.1 Population and Demographics

Limerick City's population was estimated to be 58,269 in 2016. The number of individuals living in Limerick City had recorded significant growth in the years to 2011. However, the more recent evidence shows that Limerick City had a lower percentage increase in population than other leading cities in Ireland in the five years to 2016.



In examining demographic developments, it is useful to consider the age profile. The percentage of the population in the working age groups is a key issue in terms of the labour force. The evidence shows the demographic structure of the population in Limerick City is similar to the rest of Ireland.

Table 4.1: Population Age Structure in Irish Cities (2016)

Age Category	Limerick	Dublin	Galway	Cork	State
Under 15	10,399 (17.8%)	83,213 (15.0%)	13,239 (16.8%)	17,940 (14.3%)	1,006,552 (21.1%)
15-24	8,331 (14.3%)	73,265 (13.2%)	13,480 (17.1%)	20,643 (16.4%)	576,452 (12.1%)
25-64	31,141 (53.5%)	325,721 (58.7%)	43,101 (54.8%)	67,347 (53.6%)	2,541,294 (53.4%)
65 and over	8,388 (14.4%)	72,355 (13.1%)	8,848 (11.2%)	19,727 (15.7%)	637,567 (13.4%)
Total	58,259	554,554	78,668	125,657	4,761,865
Dependency Ratio*	47.5%	40.0%	39.0%	42.8%	52.7%

Source: Small area population statistics (SAPS)
*calculated as those under 15 and over 64 as a proportion of those aged 15-64

Limerick's dependency ratio is below the national average but higher than the other cities. The age cohort of 65 or over has been growing rapidly in Limerick reflecting the growth nationally in old age groups. This has implications for investment in health and other public services. In addition, the cohort of 25-64 has been falling at a higher rate than the state average possibly pointing to a brain drain issue.

Age Category	City	Limerick		Limerick City and	State
		Metropolitan District	County	County	
Under 15	1.6%	4%	1.3%	1.4%	2.8%
15-24	-8.0%	-6%	-2.7%	-4.5%	-0.7%
25-64	2.8%	2%	-1.6%	-0.3%	1.9%
65 and over	11.5%	16%	20.5%	17.6%	19.1%

Source: Small area population statistics (SAPS)

4.2 Skill base of Labour Force in Limerick

The US Nobel Prize Winner, Professor Kenneth J. Arrow, from Stanford University, in an analysis of economic growth policy for Ireland, highlighted that the quality of the labour force is of great importance to economic development and especially in determining per capita output. Arrow also pointed out that "universities are now moving into a more important role in increasing labour productivity than they have in the past."¹¹ Against this background, it is critical to examine the level of education and skills in Limerick.

Limerick has many strengths in terms of education and skill levels. The evidence examined by Indecon on the level of education of the population in Limerick City shows that despite the progress which has been made, there is a lower proportion of people with at least a third-level qualification in Limerick City compared to some other cities. For example, Galway City has a very high proportion of people with at least a third-level qualification with over 41% of the population possessing a bachelor's degree or above. This compares with 25.2% in Limerick.

Education Level	Limerick City	Galway City	Cork City	Dublin City
No Formal Education	1.8%	1.4%	1.8%	1.5%
Primary	11.6%	6.5%	11.8%	11.3%
Secondary	35.5%	24.8%	33.5%	26.3%
Technical or Vocational qualification	14.9%	13.0%	11.8%	10.3%
Higher Certificate	4.9%	5.1%	4.1%	3.8%
Bachelor's degree	17.0%	24.1%	17.6%	20.4%
Postgraduate Diploma or Degree	7.3%	14.7%	10.0%	13.9%
Doctorate (Ph.D.) or higher	0.9%	2.4%	1.6%	1.5%
Not stated	6.1%	8.0%	7.8%	10.8%

Source: Small area population statistics (SAPS)

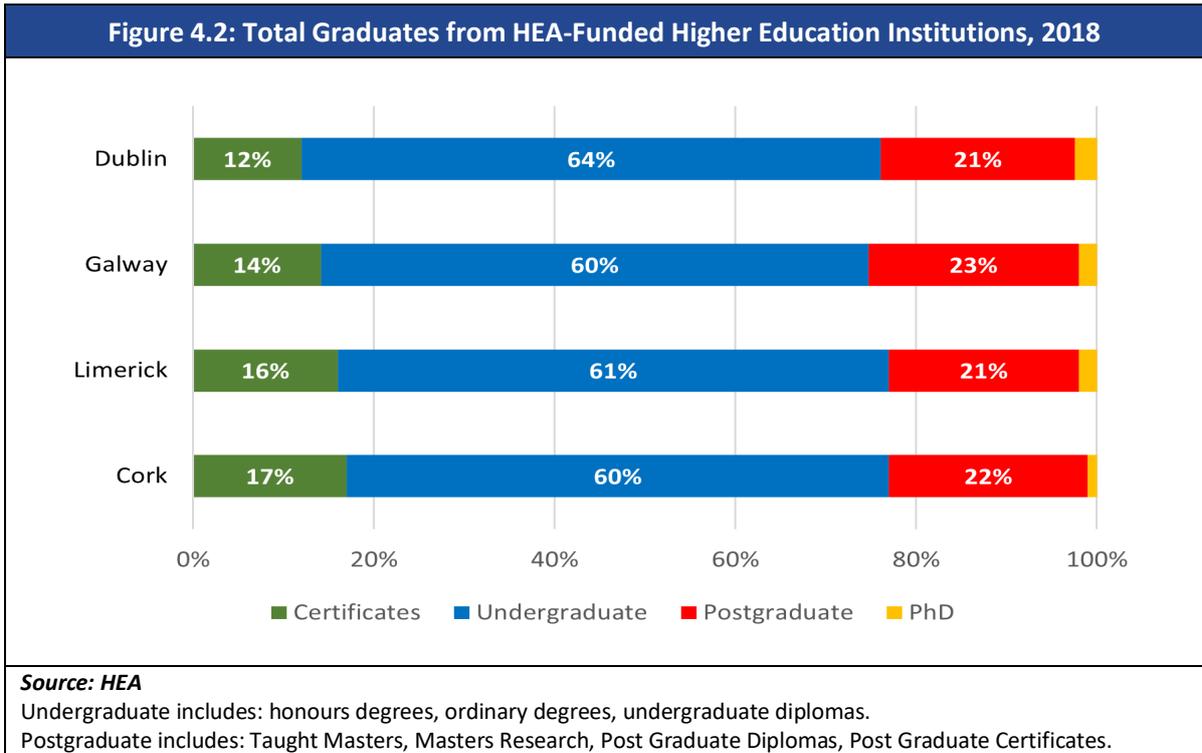
¹¹ Arrow, J.K. Economic Growth Policy for a Small Country, in Gray, A. W., (1997), *International Perspectives on the Irish Economy*, ISBN 0953131807

The proximity and access to third-level and further educational institutions represent an important asset for the region. Indecon notes that as well as the impact on skills, the third-level sector has a wider impact on the development of Limerick City. For example, the UL Campus and the expansion of the TUS: Midlands Midwest in the city centre will be critical to revitalising the city centre and the local economy. The largest institution in terms of full-time enrolment in higher education is the University of Limerick. TUS: Midlands Midwest and Mary Immaculate College also represent key institutions in building skills for the city. The ETBs and other Further Education bodies are also of critical importance in addressing skill requirements.

The University of Limerick has announced details of its plan to develop a campus in the heart of Limerick city. This campus will be on the old Dunnes Stores site in the centre of the city. This site has been derelict for a number of years and will facilitate UL's expected student growth. UL expects to grow its student numbers by around 5,000 over the next 10 years with several thousands of these additional students being based in the new city centre campus. This will have positive impacts on the vibrancy of Limerick City. TUS: Midlands Midwest also forecasts significant student growth and has committed to €150 million in capital investment between 2018-2022 to support growth of 21% over this period. The most recent evidence indicates that the number of TUS students will increase further in the next few years with around 8,600 students present for the 2024/2025 academic year. Combined with UL, this suggests a significant student cohort within the city centre environs.

Table 4.4: No. of Full-Time Students in Higher Education (2020)	
University of Limerick	15,164
Technological University of the Shannon: Midlands Midwest	6,896
Mary Immaculate College	5,137
TOTAL	27,197
<i>Source: HEA</i>	

The distribution of qualifications achieved by graduates in 2018 was very similar across Limerick, Dublin, Galway and Cork, as shown in the next figure.



The percentage of higher education Science, Technology, Engineering and Mathematics (‘STEM’) graduates across the various cities in Ireland are shown in Figure 4.3. This shows that Limerick is below other leading cities examined.

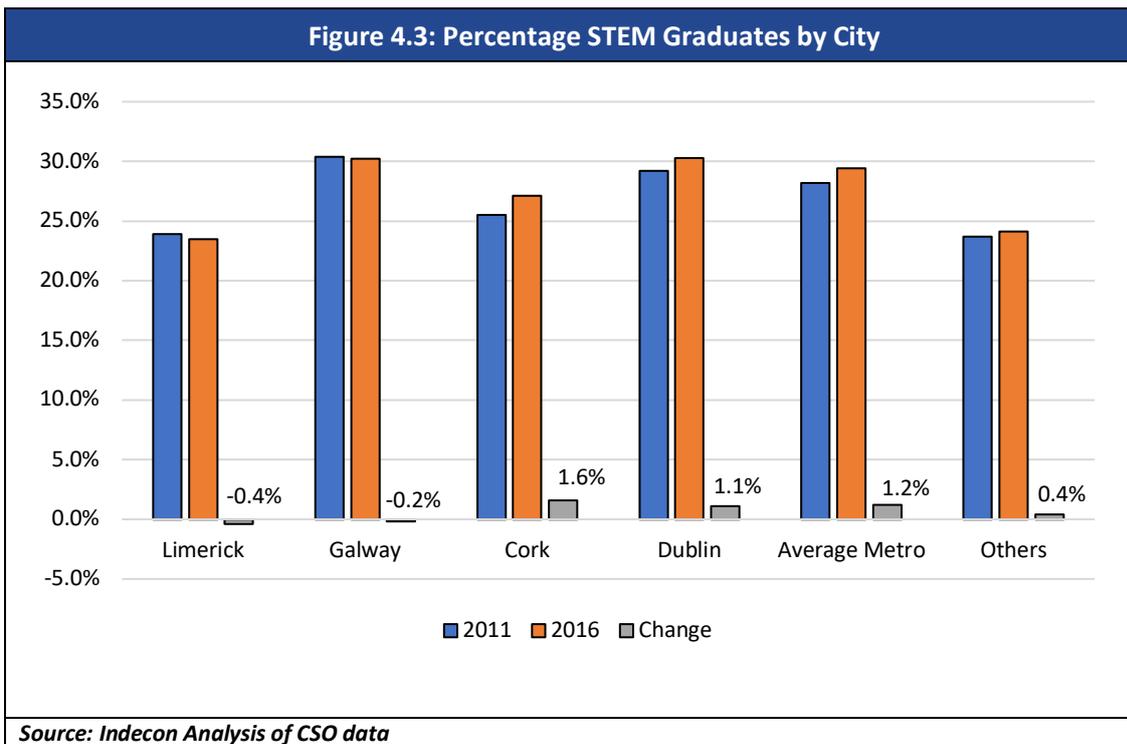
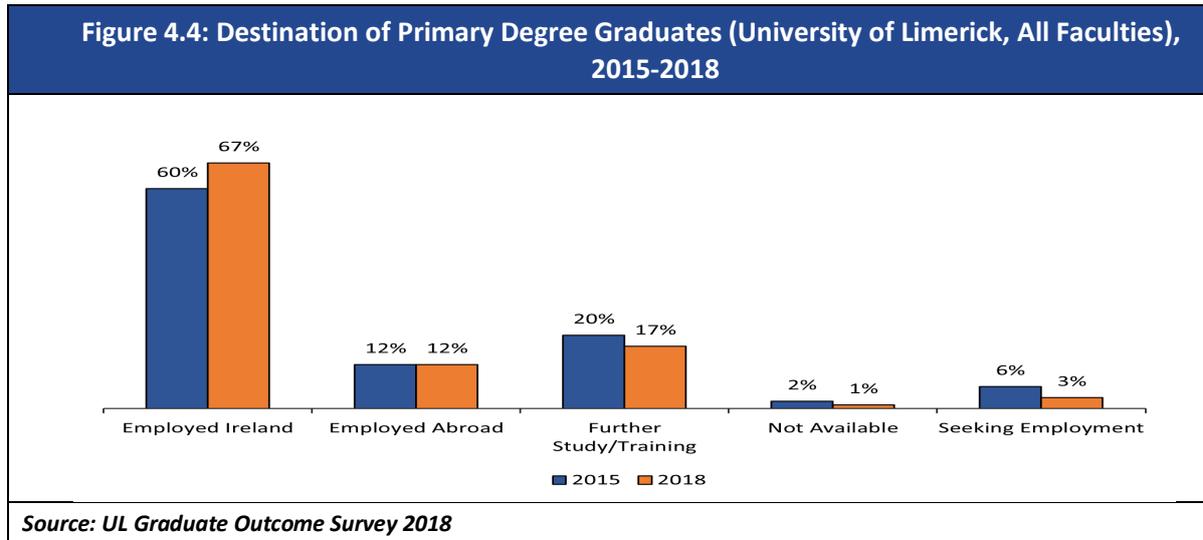
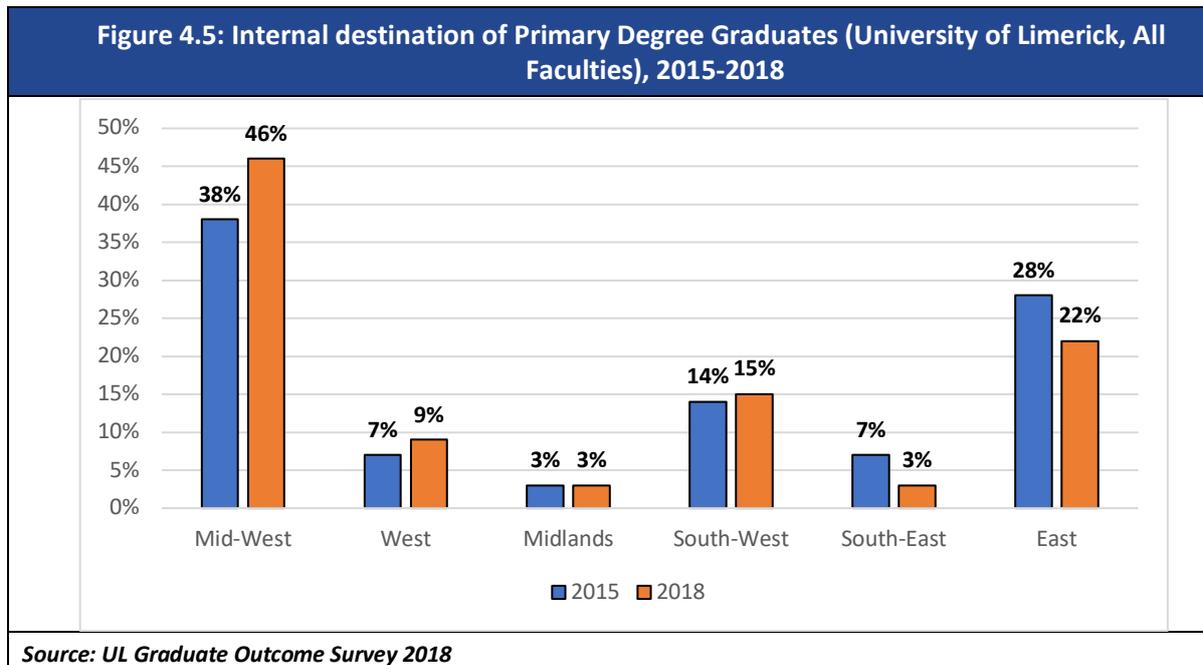


Figure 4.4 examines the destination of graduates from the University of Limerick. The UL Graduate Outcome Survey 2018 finds that 96% of surveyed graduates of 2018 were in employment (in Ireland or abroad) or engaged in further study, a four-percentage point increase from 2015.



Related to the above is the brain drain from the region in terms of graduates from the University of Limerick. The share of the graduates from UL who stayed to work in the region after their degree increased from 38% to 46% between 2015 – 2018 and this is a positive development. The comparable figure for TUS: Midlands Midwest was 62% in 2018. As national institutions, it would not be realistic or appropriate to assume that all or even the majority of UL/TUS graduates would initially remain in the region. However, ensuring that there are suitable employment opportunities for graduates and developing measures to attract graduates subsequently to return to Limerick should continue to be a priority objective. This will require increased collaboration with enterprises in the region.



In examining the overall skill base of the population in Limerick City, of note is the significance of professional, managerial, technical and non-manual workers. While only 5% of the population are unskilled, it is critical that these individuals are not left behind as a result of emerging changes in the economy which are likely to see a continuing decline in demand for low skills.

Table 4.5: Population of Limerick City by Social Class (2016)

	Limerick City						State
	Men	% of all Men	Women	% of all Women	Total	% of total population	% of total population
Professional workers	1,945	7%	1,426	5%	3,371	6%	8.1%
Managerial and technical	5,258	18%	5,619	19%	10,877	19%	28.1%
Non-manual	3,736	13%	6,197	21%	9,933	17%	17.6%
Skilled manual	4,760	17%	2,837	10%	7,597	13%	14.1%
Semi-skilled	3,765	13%	3,285	11%	7,050	12%	10.5%
Unskilled	1,365	5%	1,504	5%	2,869	5%	3.6%
All others gainfully occupied and unknown	7,884	27%	8,678	29%	16,562	28%	18%
Total	28,713	100%	29,546	100%	58,259	100%	100%

Source: Small area population statistics (SAPS)

A comparison of the social class characteristics for other cities in Ireland is shown in Table 4.6 which shows that Limerick has broadly similar levels of unskilled workers as other cities. However, it is significantly higher than the state average of 3.6%.

Table 4.6: Distribution of social classes by city, 2016

	Limerick	Cork	Dublin	Galway	State
Professional workers	5.8%	9.5%	11.3%	12.4%	8.1%
Managerial and technical	18.7%	13.1%	18.0%	14.9%	28.1%
Non-manual	17.0%	22.7%	24.5%	22.7%	17.6%
Skilled manual	13.0%	10.2%	8.6%	6.1%	14.1%
Semi-skilled	12.1%	11.5%	8.7%	11.8%	10.5%
Unskilled	4.9%	5.7%	5.1%	4.0%	3.6%
All others gainfully occupied and unknown	28.4%	27.2%	23.9%	28.0%	18.0%

Source: Small area population statistics (SAPS)

In planning for the development of skills, Indecon also notes the importance of further education and training. Limerick and Clare have a high number of ETB learners.

Table 4.7: Student and Staff numbers in ETBs (2018)		
	Total Learners	Staff
Limerick and Clare	36,107	2,494
Galway and Roscommon	25,180	1,942
Cork	41,187	3,990
Dublin City	65,840	3,178
<i>Source: Various ETBs Annual Reports (2018)</i>		

The analysis presented above demonstrates the strengths of Limerick in terms of its education institutions, the levels of educational attainment and the skill base of the population. This is confirmed by the judgement of businesses and others surveyed which demonstrated that the educational institutes and infrastructure were seen as important strengths of the city. However, some educational gaps (in terms of educational attainment and STEM graduates) will need to be addressed.

4.3 Future Skill Requirements for Limerick

To inform an assessment of the future skill needs of Limerick, Indecon developed a new econometric model for Limerick Chamber to estimate the quantitative impact of STEM education (percentage of the population with a degree in sciences and engineering) and generic higher education (percentage of the population with a bachelor's degree) on employment. More specifically, the model takes the form:

$$\text{employment rate} = \alpha + \beta_1 \text{percentage STEM} + \beta_2 \text{percentage graduates} + e$$

Where β_1 and β_2 are the two parameters we are interested in estimating and quantifying the impact of STEM and higher education on employment.

The model is estimated using data on employment rate and the percentage of graduates at the electoral district level using data from the 2011 and 2016 censuses. This results in 3,409 data points over two years: a sufficiently high sample size to estimate the coefficients. The model is estimated including metropolitan area fixed effects in order to control for systematic and time-invariant differences across regions that would otherwise bias the estimates.

The regression results are shown in Figure 4.6 which show that estimates of β_1 and β_2 are 0.208 and 0.178 respectively and are statistically significant at any conventional confidence level. *They suggest that a percentage point increase in the share of the population with a STEM degree results in an increase in employment of about 0.21 percentage points, and that a percentage point increase in the share of the population with any bachelor's degree increases employment by 0.18 percentage points.* This implies that over time there is a potential for employment in Limerick to increase significantly if the educational gap (in terms of the number of graduates and the share of degrees in STEM subjects) with other metropolitan regions is addressed. Efforts to increase the share of graduates living in Limerick and, in particular, graduates in the STEM subjects would support sustainable growth in the city.

Figure 4.6: Results of econometric model (Employment and Education)

```

. xtivreg lnemp_rt (lnscieng_edu_rt lnedlevelhi_rt =lnprofman_rt
lnhealthedu_edu_rt lnindustry_profserv_rt )

G2SLS random-effects IV regression           Number of obs   =    6,818
Group variable: geoid                       Number of groups =    3,409

R-sq:                                       Obs per group:
  within = 0.2912                           min =          2
  between = 0.3249                          avg =          2.0
  overall = 0.3184                          max =          2

corr(u_i, X)      = 0 (assumed)             Wald chi2(2)    =   2687.03
                                                         Prob > chi2     =    0.0000

-----+-----
      lnemp_rt |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-----+-----
lnscieng_edu_rt |    .20821   .0226321    9.20  0.000    .163852   .2525681
lnedlevelhi_rt |    .1775961 .0111065   15.99  0.000    .1558279   .1993644
      _cons |   -.0996783 .0194854   -5.12  0.000   -.1378691  -.0614875
-----+-----
      sigma_u |   .12043298
      sigma_e |   .06327308
      rho |   .78368423   (fraction of variance due to u_i)
-----+-----
Instrumented:   lnscieng_edu_rt lnedlevelhi_rt
Instruments:   lnprofman_rt lnhealthedu_edu_rt lnindustry_profserv_rt
-----+-----

```

Source: Indecon

According to these estimates, the employment rate in Limerick city could increase from 43.7% to 49.1% if the educational gap with other metropolitan regions highlighted previously was bridged. This suggests that an effort to increase the share of graduates, and of those particularly in the STEM subjects, should be made in order to guarantee sustainable growth in employment in the area and to catch up with the rest of the country. Evidence presented in the previous chapter shows that Limerick has a relatively high dependency ratio and measures to increase the general employment rate will help alleviate the burden.

Applying this new Indecon model to the projected levels of population growth for Limerick as outlined in the National Planning Framework indicates that there could be around 13,000 additional people in employment if the level of education attainment Limerick converges to other leading cities in Ireland. This modelling suggests the importance of increasing the levels of educational attainment as part of any sustainable model of development.

Table 4.8: Forecasts of Employment based on Different Education levels

	Limerick Population Levels	Employment Levels (No Change)	Employment Levels (Convergence to other cities)
National Planning Framework (2031)	251,000	109,687	123,241
ESRI (2040)	225,000	98,325	110,475
Current population levels (2016)	195,000	85,215	95,745

Source: Indecon analysis

Apprenticeships

The social structure of unemployment in Limerick city indicates the need to provide educational opportunities that are outside of the third-level system and traditional classroom settings. Indeed, the move to greener technologies will also require more skilled manual workers, with the statistics showing a lower-than-average concentration of these types of workers in the Limerick city area (Table 4.5). The recent five-year action plan by the Minister for Further and Higher Education, Research, Innovation and Science, Simon Harris, is a welcome development which provides a mechanism for upskilling in Limerick city. The programme for government argues that “...apprenticeships need to be a much larger part of the education landscape in Ireland and play a role in taking us out of the Covid-19 crisis and in tackling climate action.”

Table 4.9: Objectives of Action Plan for Apprenticeship 2021-2025

1. A High Quality and Innovative Approach

Apprenticeships will deliver the highest quality of work-based learning, supporting and demonstrating innovation to empower apprentices and employers to meet current and emerging skills needs.

2. Employer-driven Responses

Apprenticeships will be recognised and valued by employers across all sectors of the economy as a key mechanism for building a highly skilled workforce, contributing to productivity and sustainable growth.

3. Apprenticeship for All

The profile of the apprenticeship population will more closely reflect the profile of the general population.

4. A Valued Option

Apprenticeships will be available and recognised as a work based learning opportunity, providing sought after qualifications across the tertiary education and training sector.

5. A Single, Coherent System

There will be a single apprenticeship system underpinned by a clear governance framework with strong stakeholder input

Source: Action Plan for Apprenticeships

The recent evidence indicates there are currently 1,748 people undertaking apprenticeships in the Limerick and Clare area. However, it must be noted that there are close to 3,000 unskilled and 7,000 semi-skilled individuals in Limerick city. This highlights the continued need for skills development, especially outside the traditional higher education pathways.

Table 4.10: Apprenticeships taken up per year – Limerick and Clare

	2019	2018	2017	2016	2015	2014/13
No. of Apprenticeships	1,748	1,436	1,258	1,011	624	Phase 2 (294)

Note: 2019 figures include 2016+, Phase 2,4,6 & 7

Source: Limerick and Clare Education and Training Board Annual Reports (2013-2019)

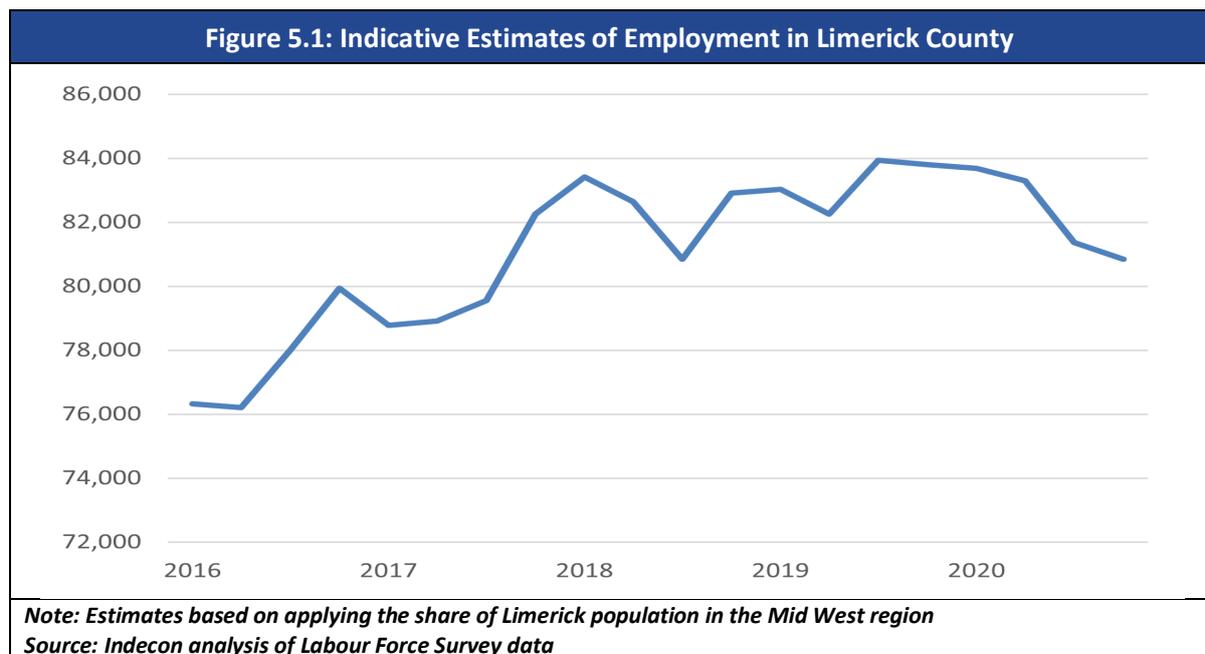
4.4 Implications of Analysis of Education and Skills

The apparent slowdown in the relative population growth of Limerick City compared to other leading cities in the five years to 2016 is of note for the future development of the city. The analysis of education and skills indicates that the higher and further education institutions in Limerick are a key strength for the city. However, of potential concern is the brain drain and the need to ensure that there are suitable employment opportunities available to attract graduates back to the city. The relatively low overall levels of educational attainment compared to the best performing cities in Ireland is an issue. There is also a need to ensure that low-skilled individuals are not left behind.

5 Employment and Economic Development

5.1 Employment performance of Limerick

The employment performance of Limerick reflects the overall success of the city and county in developing its economic base and is an important indicator of economic and social performance. This is particularly significant as employment not only provides the basis for generating per capita incomes but is a key determinant to address poverty and social exclusion. While county data is only available to 2016, this indicated that there were significant improvements in the period 2011 – 2016. Indecon notes that employment trends in part reflect national labour market changes and the remarkable improvement in employment numbers in Ireland in the years prior to the Covid-19 pandemic. More up-to-date indicative estimates suggest that the Mid West region showed strong growth in employment since 2016.



Data on the labour market in Limerick is available by examining the number of people included on the Live Register. As shown in the figure above, the number unemployed has declined significantly in recent years. This trend however has been reversed as a result of the pandemic. Of particular concern is the impact on low-skilled and youth unemployment in Limerick City. **Table 5.1** highlights the impact of Covid-19 on youth employment and shows that people under 25 are more likely to be on the pandemic unemployment payment (PUP). There has also been a significantly larger percentage increase in the numbers on the Live Register in this age group. Limerick has seen a higher percentage increase in the numbers of under 25s on the Live Register than the state average.

Table 5.1: Impact of Covid-19 on Youth Employment				
	Under-25		Over-25	
	Limerick	State	Limerick	State
Live Register (April 2021)	882	19,625	6,190	158,344
PUP (April 2021)	3667	95,459	9,795	289,752
Live Register (Pre-Covid (end 2019))	762	18,469	5,997	163,527
% Increase	15.7%	6.3%	3.2%	-3.2%
Ratio of PUP: Live Register	4.2	4.9	1.6	1.8

Source: Indecon analysis of Live Register data

As shown in Figure 5.2, the reduction in the number of people on the Live Register in the last decade has been more pronounced in Limerick City and County than in the rest of the country, indicating a marked improvement in the labour market in Limerick. Building on this success and responding to the post-Covid-19 impacts particularly on youth unemployment should be a key objective for the city. Of concern, however, is that recent evidence suggests the share of under 25s on the Live Register has increased from 12% to 15%.

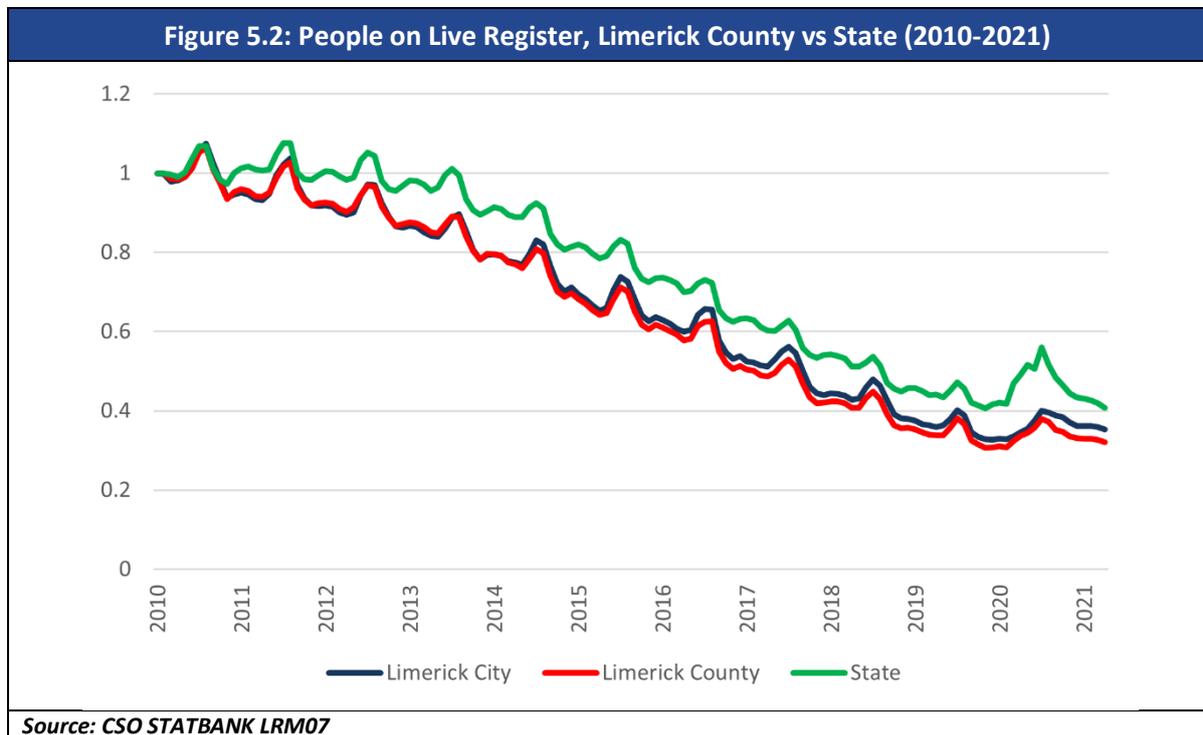


Table 5.2 presents an analysis of the population aged 15 or more in Limerick City by principal economic status. The figure indicates that 12% were unemployed or looking for their first regular job.

Table 5.2: Population of Limerick City Aged 15+ by Principal Economic Status (2016)						
Population by Principal Economic Status	Men	% total men	Women	% total women	Total	% total
At work	11,154	47.6%	9,624	39.4%	20,778	43.4%
Looking for first regular job	434	1.9%	266	1.1%	700	1.5%
Unemployed having lost or given up previous job	2,958	12.6%	2,064	8.5%	5,022	10.5%
Student	3,102	13.2%	3,160	12.9%	6,262	13.1%
Looking after home/family	273	1.2%	3,594	14.7%	3,867	8.1%
Retired	3,532	15.1%	3,806	15.6%	7,338	15.3%
Unable to work due to permanent sickness or disability	1,773	7.6%	1,742	7.1%	3,515	7.3%
Other	231	1.0%	147	0.6%	378	0.8%
Total	23,457	100%	24,403	100%	47,860	100%

Source: Small area population statistics (SAPS)

5.2 Standard of Living

A measure of economic performance is per capita disposable income. While data is only available at a county level, the evidence indicates the disposable income per person in Limerick exceeded the national average but was still lower than in Dublin. Measures to assist Limerick to gain increases in per capita incomes should continue to be an objective of future plans for the city. Indecon, however, notes that a sustainable model of development should focus on more than standard measures of income.

Table 5.3: Estimates of Disposable Income Per Person, by County (2009-2019)								
	2009	2011	2013	2015	2016	2017	2018	2019 (Provisional)
Limerick	19,030	19,779	19,493	19,941	21,306	22,518	23,302	24,378
Cork	19,399	17,584	18,084	18,441	19,073	20,166	21,280	22,648
Galway	19,489	16,760	16,802	17,334	18,186	19,148	19,226	20,162
Dublin	21,039	19,322	20,152	21,592	22,592	23,621	24,969	27,045
State	19,365	17,546	17,921	18,743	19,429	20,578	21,270	22,519

Source: CSO

5.3 Economic Development

In examining economic development, Indecon notes that the existence of a strong base of indigenous and foreign firms is a key strength of Limerick City and in surrounding areas including developments around Shannon International Airport. (The tourism businesses in the city also report this as a significant strength.) The previous record of attracting mobile investment is an example of the benefits of demonstration effects.¹² In the case of multinationals and indigenous firms based in Limerick City and Shannon, this represents an advantage for Limerick in its ability to attract additional investment. This concept has been referred to by the US Nobel Prize Winner, Paul Krugman, as “a process of reinforcement of initial advantage.”¹³ It reflects first-mover advantage which was previously referred to by Professor Dermot McAleese¹⁴ and discussed in the book by Gray, Swinand and Batt on Ireland’s Comparative Advantages for Foreign Investment.¹⁵

The evidence examined by Indecon indicates there are currently 67 companies supported by the Industrial Development Agency (IDA) in county Limerick. As shown in Table 5.4, per capita figures indicate that the number of IDA assisted companies is similar to Cork and Galway county but half the levels in Dublin. Highlighting the range and diversity of existing enterprises should be an important element of marketing plans for the city.

	No. of IDA companies	No. of IDA companies per 1,000 of population
Limerick	67	0.35
Dublin	814	0.61
Cork	186	0.34
Galway	83	0.32

Source: Indecon Analysis of IDA data

Exporting indigenous companies is also a critical source of employment income generation and innovation. There were approximately 267 indigenous exporting companies in Limerick in 2020. In per capita terms, the number of Enterprise Ireland assisted companies in Limerick at 1.38 per 1,000 of population is higher than in Cork or Galway, but below the levels in Dublin. These companies employed around 10,000 in 2020.

¹² For example, Krugman, P., in a review of Ireland’s performance noted that firms considering investment in other countries face uncertainties and in “these circumstances, firms have a strong incentive to observe each other’s decisions, and where possible experience, even if there is no direct linkage between those decisions. And these mutual observations can cause a tendency for investment to concentrate in few destinations”. Krugman noted this is over and above the usual external economic arguments”. See Professor Paul Krugman, MIT, Views from Ireland: A Geographical Perspective, in Gray, A. W., International Perspectives on the Irish Economy, 1977 ISBN 953131807

¹³ Krugman, P. (1992), p35

¹⁴ McAleese, D. (1997) p.14

¹⁵ Gray, A. W., Swinand, G. P., Batt, W. H., Economic Analysis of Ireland’s Comparative Advantage for Foreign Investment.

Table 5.5: Number of Enterprise Ireland Assisted Companies (2020)

	No. of EI Companies	No. of EI Companies per 1,000 of population
Limerick	267	1.38
Cork	541	0.99
Galway	236	0.91
Dublin	2,012	1.51

Note: Data for Cork, Galway & Dublin is for 2018
Source: Indecon Analysis of EI data

Indecon also notes the significance of retail and other services activities in the city and would emphasise the importance of strategies to underpin the viability of these businesses which are major employers as well as attracting investment in internationally traded sectors.

The economic profile, in terms of employment size, of the enterprises that operate in Limerick is shown in the table below. The size profile of enterprises operating in Limerick is similar to other cities in Ireland. The analysis below shows the importance of small and microenterprise which represent nearly 60% of employment in the region. This is significantly higher than Dublin (34%) but broadly similar to Cork (53%) and Galway (57%). Between 2013 and 2018, employment growth by large companies contributed to 38% of overall employment growth. SMEs have contributed around 62% of this employment growth. For comparison, nearly 50% of the employment growth in Dublin was attributable to large companies.

Table 5.6: Enterprise Profile (2016)

	Micro	Small	Medium	Large
Limerick	91.3% (31.8%)	7.4% (27.5%)	1.1% (18.8%)	0.2% (21.9%)
Cork	92.1% (30.2%)	6.6% (23.3%)	1.1% (20.6%)	0.2% (26%)
Galway	92.5% (32.3%)	6.2% (25%)	1.2% (23.7%)	0.2% (19%)
Dublin	90.6% (16.7%)	7.3% (17%)	1.7% (19.3%)	0.4% (47%)

Figures in parentheses represent the employment share
Source: Seanad Public Consultation Committee

Microenterprises¹⁶ are very important to the national and local economy. The latest available data indicates there has been modest growth in the number of microenterprises in Limerick. This is lower than some other cities. However, the microenterprises that operate in Limerick have shown positive employment growth with over 1,300 additional jobs created between 2013 and 2018. The percentage increase in employment for microenterprises in Limerick is similar to other cities in Ireland.

¹⁶ Microenterprises are defined as companies that have less than 10 employees

Table 5.7: Microenterprises by county						
	Number of Enterprises			Number of Persons Engaged		
	2013	2018	% change	2013	2018	% change
Limerick	8,194	8,611	5.1%	14,126	15,443	9.3%
Cork	24,981	27,477	10.0%	43,594	47,477	8.9%
Dublin	70,482	80,028	13.5%	107,488	118,700	10.4%
Galway	12,605	13,286	5.4%	20,090	21,786	8.4%

Source: CSO BRA08

5.4 Implications of Employment and Economic Development

The employment performance of Limerick reflects the overall success of the city and county in developing its economic basis. The expansion of employment resulted in a marked decrease in numbers unemployed. This trend however has been reversed as a result of the Covid-19 pandemic. Of particular concern is the impact of this on low-skilled and youth unemployment in Limerick City. The existence of a strong base of indigenous and foreign firms is a key strength of Limerick City. This should be highlighted as part of the plan to facilitate growth in the city.

6 Housing, Infrastructure, Connectivity and Services

6.1 Housing

Population density is important in ensuring a sustainable economic base and in realising the benefits of economic and social externalities. This is fundamental to meeting climate change objectives and in supporting a vibrant retail and local service economy. The population density in Limerick City and suburbs is higher than Cork but is lower than Galway and Dublin. Increasing the population density in Limerick City is an important challenge for the future development of the city. This is essential to meet the requirements of a model of sustainable compact growth.

Table 6.1: Population Density (2016) – Metropolitan Areas				
	Limerick City and suburbs	Galway City and suburbs	Cork City and suburbs	Dublin City and suburbs
Persons per KM ²	490	622	370	671
Total Population	104,952	94,075	304,169	1,275,912
<i>Note: as per the NPF, the Limerick Metropolitan area also includes some of Clare which is not included above</i>				
<i>Source: National Planning Framework (CSO Census of Population)</i>				

Recent county level population forecasts are shown in the table below. These highlight the significant likely population growth in all parts of Ireland. These population forecasts drive the housing demand figures that are described in this section.

Table 6.2: Population Forecasts (2021-2040)				
	2021	2026	2031	2040
State	5,032	5,239	5,400	5,666
Limerick	204	211	217	225
Cork	574	598	618	650
Galway	269	278	284	294
Dublin	1,446	1,515	1,559	1,608
<i>Source: ESRI (2020)</i>				

There is a need to ensure that housing supply expands to meet the population growth in Limerick. ESRI estimates forecast that the population in Limerick city and county is expected to grow by 10% by 2040. Indecon notes that this rate is lower than the national average and would fail to meet the targets of the National Planning Framework. However, even with this lower population growth, there will be a requirement for approximately 1,100 new houses each year over the next 20 years.

Table 6.3: Additional Housing Demand Per Annum

	2021	2026	2031	2040
State	30,852	27,398	27,821	24,291
County Limerick	1,263	1,110	1,101	892
County Cork	3,545	3,159	3,204	2,736
County Galway	1,441	1,305	1,294	1,028
County Dublin	10,473	7,786	7,175	6,419

Source: ESRI (2020)

New dwelling completions in Limerick city and county increased over the period 2015 to 2020. The evidence suggests that over 2,500 new dwellings have been built in Limerick County since 2015. However, to meet required demand there will be a need for a significant acceleration in residential construction. As noted previously in this report, it is estimated that there were 1,044 residential units built in the city region since 2016.

Table 6.4: New Dwelling Completion by County, 2015 - 2020

	2015	2016	2017	2018	2019	2020
Limerick	212	278	476	514	552	513
Galway	389	511	645	674	1,044	1,053
Cork	778	967	1,392	1,742	2,138	2,451
Dublin	2,117	3,572	5,575	6,857	6,920	6,064

Source: CSO Statbank NDQ05

The total number of social housing new builds since 2015 are shown in the table below. The number of new builds developed in Limerick is significantly below other cities.

Table 6.5: Total Social Housing New Builds

All Build Total	2015	2016	2017	2018	2019	2020
Cork	649	406	301	587	936	761
Limerick	167	75	140	122	121	107
Galway	136	95	159	100	278	313
Dublin	1,592	1,094	1,901	1,957	1,665	1,061

Source: LCCC

Another potential way to increase the supply of housing in Limerick is to consider vacant buildings. The latest evidence collected by Limerick City and County Council indicates that there are 308 vacant buildings in the city centre. These are made up of commercial and residential units. There may also be vacancies within partially occupied buildings. The analysis below highlights that the vacancy rate varies considerably by floor. For example, the vacancy rate for ground floor commercial property is lower compared to second- and third-floor units.

Table 6.6: Vacant Commercial City Centre (December 2019)

Floor	No. of vacant commercial properties	% Vacancy (calculated as a % of the total commercial properties)
Basement	42	28%
Ground Floor	344	26%
First Floor	221	30%
Second Floor	171	38%
Third Floor	106	40%
Fourth floor	7	18%
Total	891	30%

Note: This does not include buildings categorised as Public service, Religious service, Storage & Warehousing, Carpark surface & multi storey & other buildings
Source: LCCC

A similar analysis is also undertaken for residential units that were vacant in the city centre in December 2019. The vacancy rate is much lower for these units. Indecon understands that these vacancy figures were compiled by Limerick City and County Council but we note the difficulty in measuring vacancy and there are many legal, social, property specificity and other factors determining vacancy.¹⁷

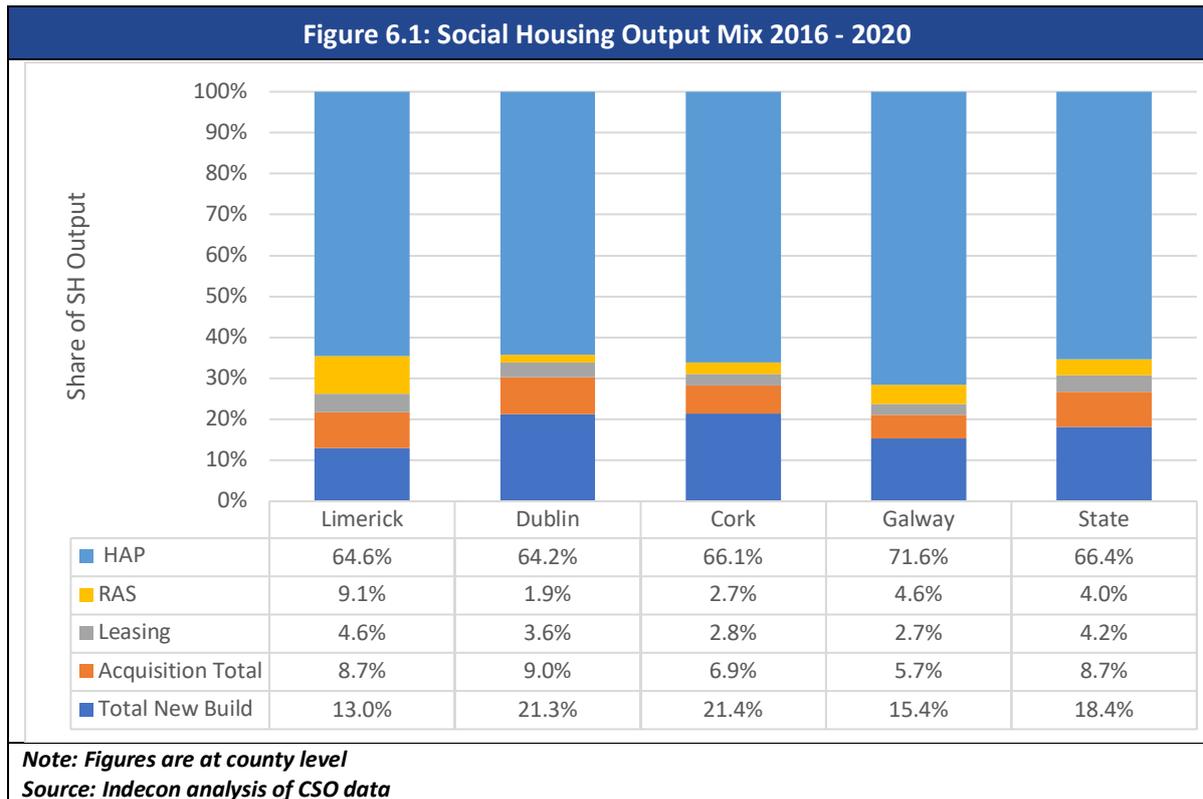
Table 6.7: Vacant Residential City Centre (December 2019)

Floor	No. of vacant commercial properties	% Vacancy (calculated as a % of the total commercial properties)
Basement	32	19%
Ground Floor	103	7%
First Floor	121	7%
Second Floor	91	12%
Third Floor	48	11%
Fourth floor	0	0%
Total	395	8%

Source: LCCC

The current output mix of social housing across different cities is shown in the figure below. This shows that Limerick has relatively lower levels of social housing that is classified as new build compared to the state average. Furthermore, Limerick has a higher than average dependency on the private market for the provision of social housing through the Housing Assistance Payment (HAP) and the Rental Accommodation Scheme (RAS)

¹⁷ See Indecon Report on the Taxation of Vacant Residential Property. Available at <https://www.gov.ie/en/publication/055675-vacant-property-tax-indecon-report/>



Indecon notes that new house prices are more affordable in Limerick city than in Cork, Galway and Dublin. This represents a competitive advantage for Limerick. This is also reflected in median house prices as presented in the table below.

Table 6.8: Median House Prices

	2015	2019	2020	% change (2015 – 2020)
Limerick City	€105,000	€165,000	€185,000	76%
Cork City	€165,000	€247,500	€250,000	52%
Galway City	€180,000	€270,000	€275,000	53%
Dublin City	€280,000	€360,000	€362,000	29%
National	€175,000	€259,000	€260,000	49%

Source: CSO (HPA05)

The lower house prices are also evident in rental costs with average monthly rental costs in Limerick city being lower than other cities examined and lower than the National Average.

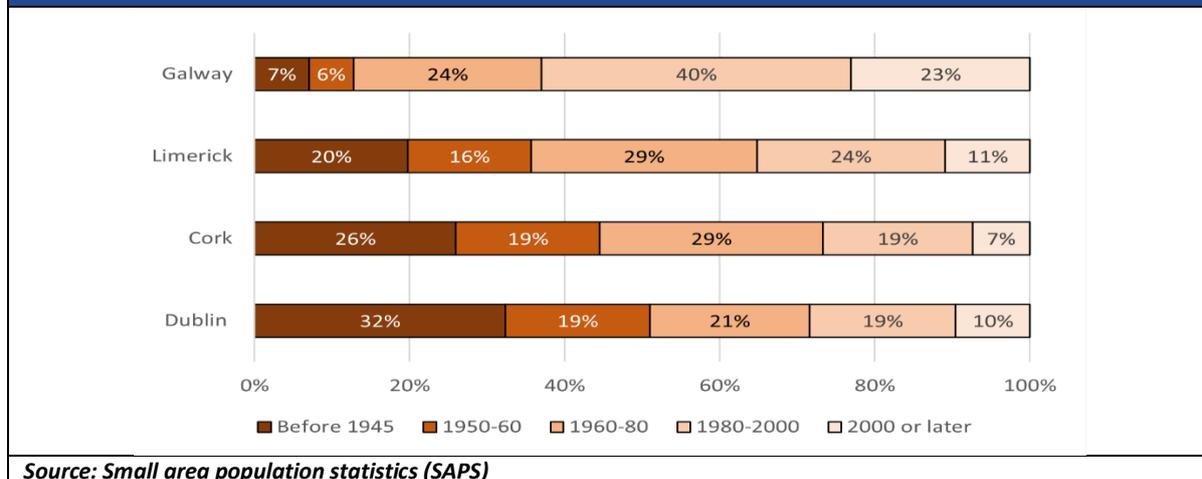
Table 6.9: Standardised Average Rental Prices

	2015	2019	2020	% change (2015-2020)
Limerick City	€674	€968	€1,018	51%
Cork City	€887	€1,172	€1,220	38%
Galway City	€890	€1,166	€1,219	37%
Dublin City	€1,281	€1,675	€1,720	34%
National	€931	€1,222	€1,256	35%

Source: RTB

A key issue for Limerick and for any review of the Limerick 2030 - an Economic and Spatial Plan, is that cities in Ireland and in other countries are significant contributors to greenhouse gas emissions. In meeting climate change objectives, the energy efficiency of the housing units has been identified as a key area where potential gains can be made.¹⁸ This is related to the age profile of the building stock. Only 11% of housing in Limerick and suburbs was built post-2000. As older buildings tend to have much lower levels of energy efficiency, this suggests the potential value of a retrofit programme for housing in Limerick city.

Figure 6.2: % of Permanent Private Households in Permanent Housing Units by Year of Construction



An analysis of housing stock by energy rate shows that there were only 3% of housing in Limerick city with A rating. The fact that around 45% of housing had a D, E, F, or G rating highlights the need for a major retrofit programme as part of the strategy for sustainable growth in Limerick city.

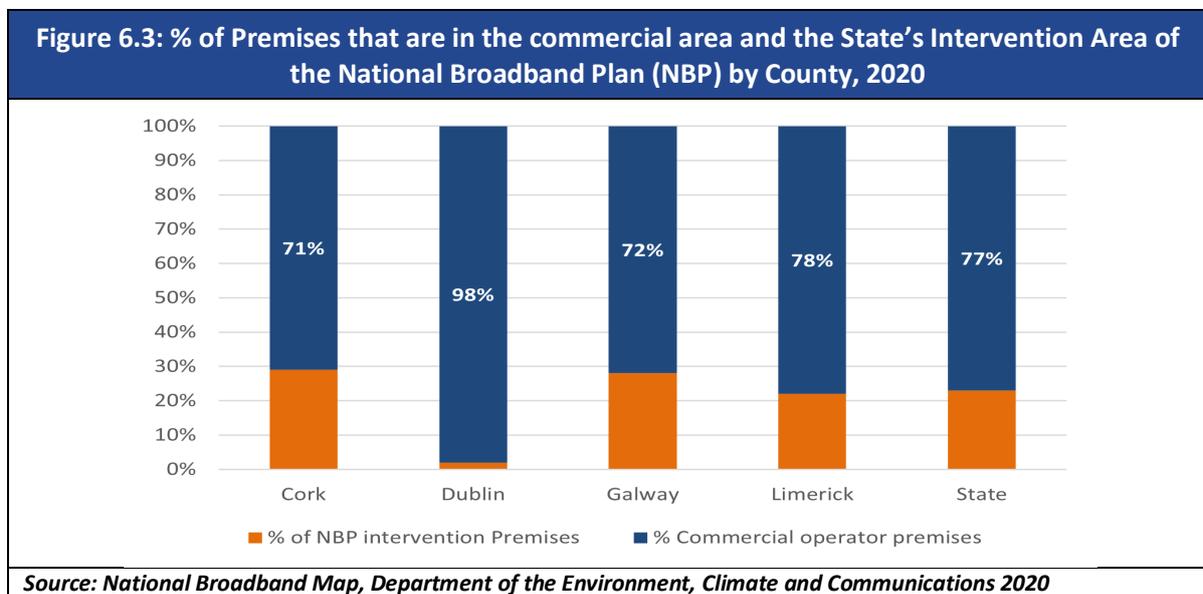
¹⁸ See Indecon's Needs Analysis to Inform Priorities for ESF+ and ERDF for 2021-2027

Table 6.10: Housing Stock by BER Energy Ratings (2009-2021)						
	A	B	C	D	E	F-G
Limerick City	3%	10%	41%	24%	10%	11%
Cork City	3%	15%	35%	23%	13%	13%
Galway City	4%	9%	39%	28%	12%	9%
Dublin City	8%	12%	32%	23%	13%	12%

Note: the figures only include houses where a BER inspection has been undertaken. This data is based on all BER inspections that have undertaken since 2009.

Source: CSO

The ability of Limerick to capitalise on its cost competitiveness in housing is also influenced by supporting services such as the availability and speed of broadband services. Figure 6.3 presents data on high-speed broadband coverage across the state and the three counties by providing an overview of target areas (also called State's intervention areas of the National Broadband Plan (NBP)) and areas where commercial operators are already delivering (or have planned to deliver) broadband services.¹⁹ Limerick has a 78% broadband coverage, which is significantly below the levels in Dublin.



6.2 Commuting Patterns

The connectivity of the population base in Limerick city and the means of travel are fundamental in ensuring that Limerick city can meet climate change objectives. Evidence on the commuting patterns of the population in Limerick city examined by Indecon indicated that more than half of the population in Limerick city rely on a car to travel to work or school or college. Ensuring that the infrastructure and services are available to reduce this percentage, is an important challenge for the

¹⁹ <https://www.gov.ie/en/publication/5634d-national-broadband-plan-map/>

city. This has informed our recommendations and we note that ensuring environmentally compatible commuting is a key feature of sustainable models in other countries.

Table 6.11: Population aged 5 years and over by means of travel to work, school or college in Limerick County (2016)

Means of Travel	Work	School or College	Total
On foot	9.3%	22.7%	14.4%
Bicycle	1.5%	1.6%	1.5%
Bus, minibus or coach	2.5%	14.5%	7.0%
Train, DART or LUAS	0.2%	0.2%	0.2%
Motorcycle or scooter	0.3%	0.0%	0.2%
Car driver	64.2%	7.3%	42.8%
Car passenger	4.7%	48.9%	21.4%
Van	6.5%	0.2%	4.1%
Other (incl. lorry)	0.7%	0.0%	0.4%
Work mainly at or from home	5.1%	0.1%	3.2%
Not stated	4.9%	4.5%	4.8%

Source: Small area population statistics (SAPS)

Comparable figures for the various cities in Ireland are shown in the table below. The figures highlight the low levels of public transport usage in Limerick city as well as a high reliance on private car transport.

Table 6.12: Population aged 5 years and over by means of travel (Cities)

Means of Travel	Limerick	Cork	Galway	Dublin
On foot	19.6%	20.0%	16.1%	19.9%
Bicycle	3.1%	3.7%	5.6%	10.2%
Bus, minibus or coach	5.7%	10.7%	7.6%	15.5%
Train, DART or LUAS	0.3%	0.5%	0.2%	6.7%
Motorcycle or scooter	0.3%	0.4%	0.3%	0.6%
Car driver	51.3%	47.2%	53.2%	32.3%
Car passenger	6.4%	5.5%	5.0%	2.2%
Van	3.2%	3.4%	3.0%	2.2%
Other (incl. lorry)	0.2%	0.2%	0.2%	0.1%
Work mainly at or from home	2.3%	2.2%	2.8%	2.0%
Not stated	7.5%	6.0%	6.0%	8.2%

Source: Small area population statistics (SAPS)

The availability of an effective network of public transport will be essential for the city. There were nearly 4 million bus passengers in Limerick and the numbers have increased significantly in recent years. There will, however, be a need for further expansion to ensure a more sustainable commuting pattern and to accommodate the expected growth in population.

Table 6.13: Number of yearly bus passengers and bus fleet

	2015	2016	2017	2018	2019	% change (2015/19)
Limerick Passengers (million)	2.8	2.9	2.8	3.5	3.9	39.3%
Limerick Fleet	22	35	36	40	32	45.5%

Source: CSO/ Bus Eireann

Nearly 40% of the population faces a daily commute of less than 15 minutes and about 80% of the respondents reported a commuting time of less than 30 minutes.

Table 6.14: Commuting times for population over the age of 5 in Limerick City (2016)

	Total	Percentage
Under 15 mins	11,296	38.4%
1/4 hour - under 1/2 hour	12,297	41.8%
1/2 hour - under 3/4 hour	4,196	14.3%
3/4 hour - under 1 hour	735	2.5%
1 hour - under 1 1/2 hours	568	1.9%
1 1/2 hours and over	353	1.2%
Not stated	3,240	-
Total	32,685	

Source: Small area population statistics (SAPS)

Table 6.15 indicates that the average time to work in Limerick is lower than in Galway and Dublin. The level of traffic congestion as measured by hours lost is also low compared to Galway and Dublin. This represents a comparative advantage for the city.

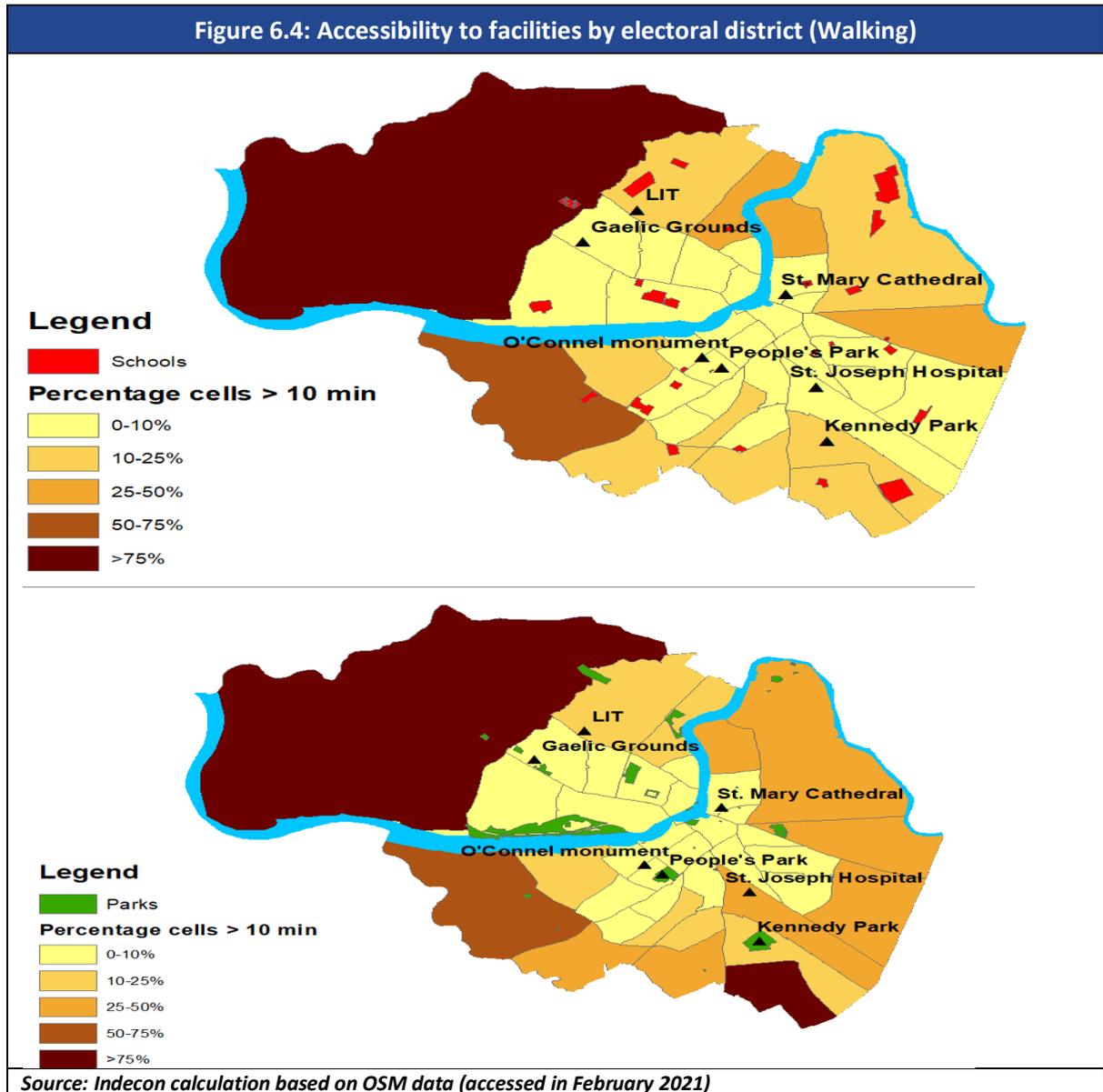
Table 6.15: Traffic Congestion and Commuting Times

	Limerick City	Cork City	Galway City	Dublin City
Hours lost in congestion (Inrix 2019 Rank)	88	85	107	154
Average travel time to work in minutes (Census 2016)	24.2	22.1	29.3	28.9

Source: CSO Census 2016; INRIX 2019 Rank

As part of this project, Indecon has used Geographic Information System (GIS) techniques to analyse the accessibility to essential facilities within the Limerick Metropolitan Area. These estimates are based on dividing the metropolitan area into a grid of 10 square meters and computing for each the time to walk to the closest facilities. The results of this new evidence are shown in the following figure

for schools and parks. The figures show that accessibility to services by pedestrians is particularly high in most of the electoral districts of the metropolitan area, where it is possible to reach these facilities within 10 minutes from virtually every point. Utilising the strength of proximity with Limerick city should be a core element of a future sustainable strategy. Indecon would caution against placing too much emphasis on the precise number of minutes to services in developing a plan for the city. For example, a slightly longer time may be feasible within sustainable models for access to employment and some services if adequate public transport and cycling infrastructure is provided. The figures, however, suggest that the city has the characteristics to facilitate a significant shift in commuting patterns. The analysis also highlights the justification for compact growth and development within the existing built-up area due to the existence of services.



Data for the metropolitan area shown in Table 6.16, confirms the accessibility to services particularly for those living in more densely populated areas.

Table 6.16: Accessibility of services to pedestrians		
Average time (minutes) to:		
	All Metro	High density areas*
Schools	12.9	5.6
Parks	13.2	8.7

Source: Indecon's calculations based on OSM data (accessed February 2021)
**Note: High density areas are identified using the Corine Geocover dataset (2018).*

In considering connectivity and infrastructure and services in Limerick city, Indecon notes that connectivity to social and amenity infrastructure is needed to drive sustainable settlement patterns and to achieve increased population density. We believe that infrastructure and transport planning should be used as a disruptor to encourage settlement patterns that align with compact growth. This in turn has consequences for the sustainability of the retail and services sectors and for commuting times.

6.3 National and International Connectivity

Connectivity between Limerick and the rest of Ireland and internationally is also critical. This requires investment in infrastructure including road, rail, ports and airports. The significance of Shannon International Airport in connecting Limerick to international tourism and export markets is of particular importance. Ensuring the viability and development of Shannon International Airport post-Covid-19 should be a priority as well as the development of Shannon Foynes Port. Investment in road and rail infrastructure, including the M20 project, will be a requirement for the future expansion of the city. There is also a need for investment in broadband to support businesses and to facilitate increased home working. Given the importance of Shannon International Airport as a key strength of the Limerick city region, of note is that there were over 13,200 commercial flights at the airport during 2019. The number of passengers using Shannon Airport amounted to over 1.6 million before the Covid-19 pandemic.

Table 6.17: Shannon Airport Statistics		
	2013	2019
Number of Commercial Flights (000s)	12.6	13.2
Number of Freight (000s Tonnes)	13.9	12.7
Number of Passengers (000s)	1,308	1,616

Source: Indecon analysis of CSO data

As a city, Limerick is critically dependent on external trade and investment to support its successful development. As well as Shannon International Airport, Shannon Foynes Port plays a key strategic role in supporting the economic development of the city as well as for the wider region and nationally. This is reflected in the fact that the Port handled over 9.6 million tonnes in 2019. Its status as a Tier 1 Port of National Significance and an EU Ten-T port is exemplified by the fact that it is Ireland's second-largest port in terms of volume of throughput. Previous Indecon research, undertaken on behalf of Shannon Foynes, estimates that the economic contribution of Shannon Foynes Port, based on the value of the trade it services, is likely to be over €7.7 billion annually, based on figures for 2019. The research indicates that this trade, in addition to the direct and indirect impacts of port-

related operations, is estimated to support a total of 96,308 full-time equivalent jobs directly and indirectly across the Irish economy.

Table 6.18: Shannon Foynes Port Statistics

	2013	2019	% change
Shannon Foynes (000 Tonnes)	10,290	9,622	-6.5%
% Share of total Trade	22%	18%	-4%

Source: Indecon analysis of CSO data

Ireland has invested significantly in the renewable energy sector in recent years with renewables accounting for 36% of the electricity generation fuel mix in 2019 (SEAI 2020). Wind generation (mostly onshore wind) is a significant component of this representing 32% of all electricity generated. The first Climate Action Plan (CAP) was published in 2019 and set an ambition of at least 3.5 GW of offshore wind by 2030. The recent Programme for Government increased this target to 5 GW which will require significant investment. A recent report by GDG²⁰ found that SFPC's "current facilities generally meet the port requirements for various areas of offshore wind construction." The report concludes that the port will need investment in new dedicated facilities. As such, "overall development is required to ensure SFPC has new dedicated facilities." This development could easily be facilitated as SFPC has an existing 250 ha landbank with an additional 1,200 ha zoned for port related activity. This is important in the context of the future decommissioning of the Moneypoint power plant which has significant links with the Shannon Foynes Port.

6.4 Implications of Analysis on Housing, Infrastructure and Connectivity

There is a need to ensure that housing supply expands to meet the population growth in Limerick. Even to meet a population increase of 10% which is lower than the targets in the National Planning Framework will require approximately 1,100 new housing units per year. To achieve compact growth a significant percentage of these should be in Limerick city. A key issue for Limerick in meeting climate change objectives is the age and low levels of energy efficiency of the housing stock. There is a need for a major retrofitting programme to improve the energy efficiency of housing in Limerick city. The connectivity of the population base in Limerick and the means of travel are important in ensuring that Limerick city can meet the climate change objectives. Currently, there is a high reliance on car transport. Ensuring that the infrastructure and services and other measures are available to reduce this percentage is an important challenge for the application of a sustainable model for the city. One of the advantages of Limerick city is the proximity to essential services such as parks and schools. Utilising the strength of the proximity to build a sustainable strategy should be given high priority. Commuting between Limerick and the rest of Ireland and internationally is also critical. This requires investment in infrastructure including road, rail, ports and airports.

²⁰ Gavin & Doherty Geosolutions (2020) "Shannon Estuary: Offshore Wind Potential Study"

7 Health and Social Inclusion

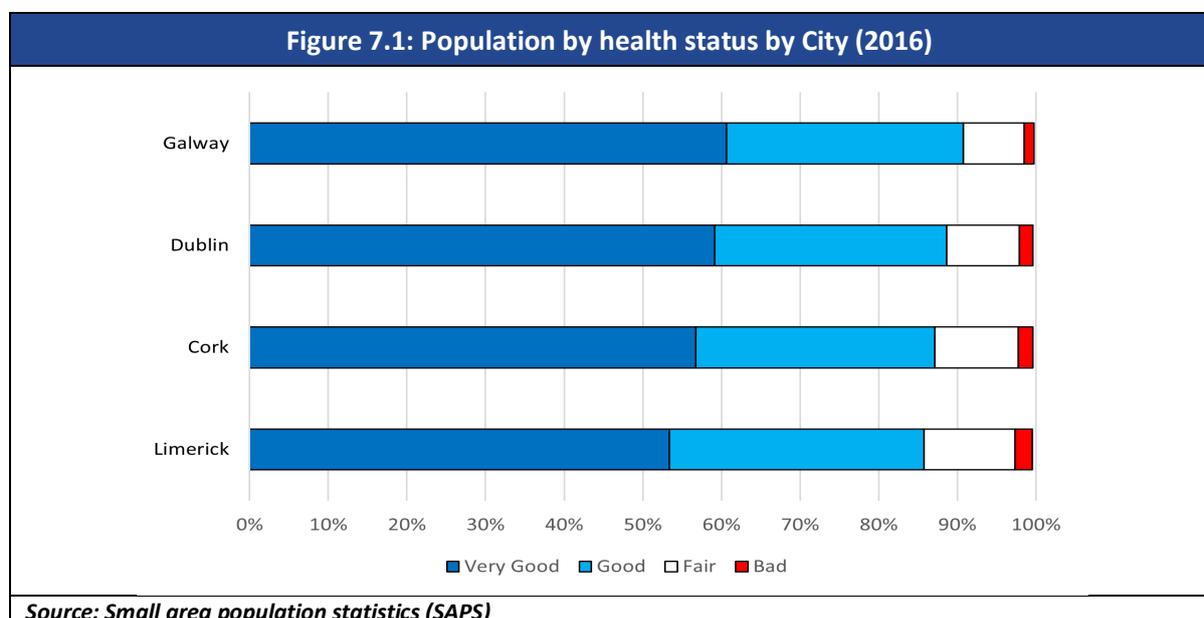
7.1 Health

There has been investment in health infrastructure in Limerick in recent years.²¹ The largest investment projects include University Hospital Limerick (€17 million) and a palliative care unit (€11 million). The HSE 2019 Annual Report²² also indicates capital investments on an acute medical assessment unit and OPD reconfiguration at the University Hospital Limerick.

Table 7.1: Inpatient hospital beds by hospital			
	Average Beds in 2009	Average Beds in 2014	Average Beds in 2019
Limerick			
University of Limerick Hospital	420	367	434

Source: Open beds report (2019)

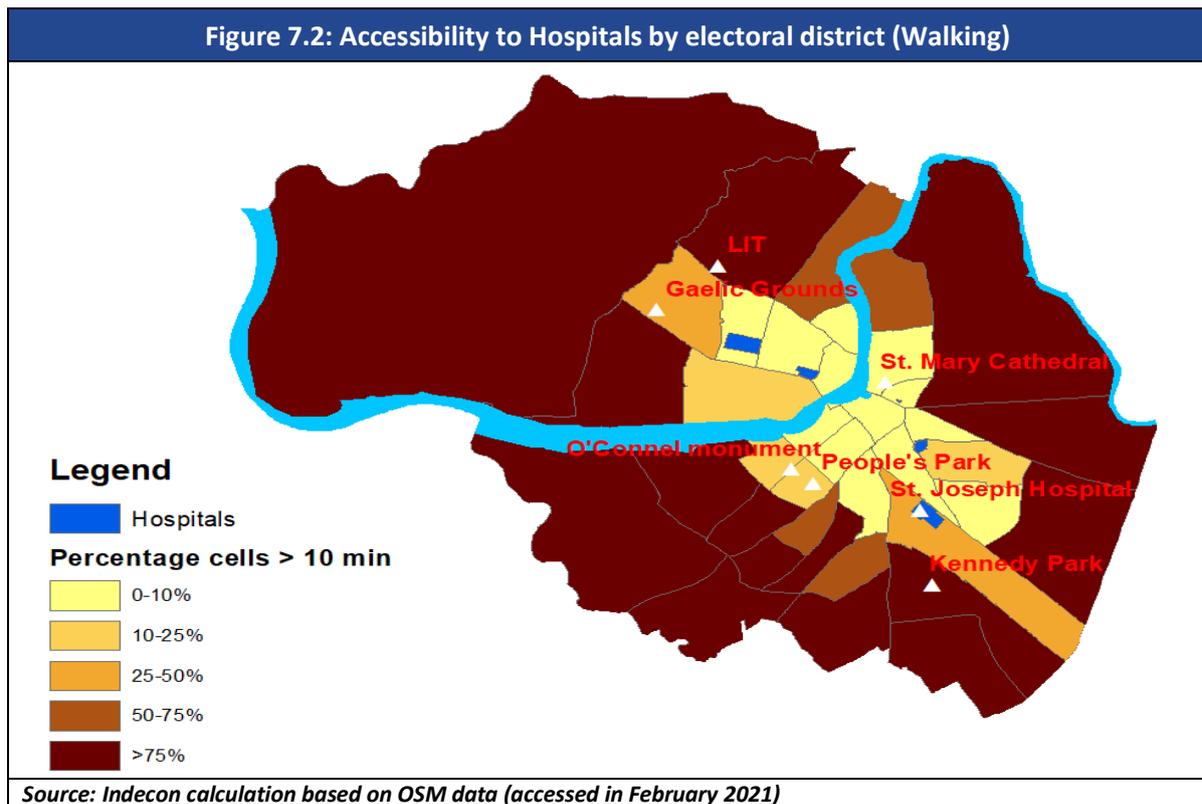
Table 7.1 compares the self-reported health status of the population in Limerick, Cork, Dublin and Galway cities. Encouragingly, a majority of the population represented good or very good health in Limerick although this was slightly lower than in the other counties examined.



As well as the overall level of investment, a key issue in responding to the health status of the population is the accessibility for people living in the Limerick Metropolitan area in relation to hospitals. Similar to the case in our research on proximity to schools and parks, we estimate the time to walk to the closest hospital for each 10 square meters in the city. This is shown in Figure 7.2 The existence of a major University Hospital in Limerick is of importance and represents a strength for the city.

²¹<https://www.limerick.ie/sites/default/files/media/documents/2018-07/Economic%20Profiling%20Report%20for%20Limerick%20City%20and%20County.pdf>

²²<https://www.hse.ie/eng/services/publications/corporate/hse-annual-report-and-financial-statements-2019.pdf>



There are also other health issues that are important for Limerick and other parts of Ireland. Recent research²³ undertaken in conjunction with UL highlighted the significance of childcare obesity in the Limerick region. The research showed that nearly 34% of children aged 6-12 were overweight or obese. The comparable figure was 33% for older children. Another health issue that is important to consider in urban centres relates to air quality. Poor air quality may lead to significant levels of asthma. Statistics produced by the HSE indicated that around 470,000 people in Ireland have asthma which is one of the highest prevalence levels in the world. Urban areas typically have the highest incidence rate and research based on a global study published in the Lancet²⁴ shows that in Limerick, 220 children in every 100,000 were diagnosed with asthma. The comparable figures for Dublin (170), Cork (188) and Galway (170) highlight the importance of air quality and removing traffic congestion from urban centres.

A recent study by the Health Information and Quality Authority found a significant association between deprivation and respiratory mortality in the Mid West. The report noted that “Limerick city is the most deprived local authority area in Ireland and contained 21 of the 24 electoral divisions in the HSE Mid-West that were found to have significant elevated respiratory mortality rates”.²⁵ Limerick city also has the highest standardised mortality rate in the country.

²³ Flinn et al. (2012) Children in hospital in Ireland - what do they eat and what do they weigh: a cross-sectional study

²⁴ Global, national, and urban burdens of paediatric asthma incidence attributable to ambient NO₂ pollution: estimates from global datasets

²⁵ <https://www.hiqa.ie/sites/default/files/2020-12/Spatial-patterns-of-respiratory-mortality-in-the-HSE-Mid-West-region.pdf>

7.2 Social Inclusion

It is crucial for a development plan to consider not only the needs of businesses but also those of regular citizens, so that people are not left behind and the benefits of economic growth can be shared by a large share of the population. The relatively high proportion of people receiving welfare payments in Limerick is a notable concern from this point of view. Indecon's analysis also shows that a significant share of the population in Limerick city is at risk of poverty and we estimate the number to be of the order of 10,527.

Table 7.2: Welfare payments by county (2016)				
Proportion of the population receiving Social Welfare Payments by County				
	Limerick	Cork	Galway	Dublin
One-Parent Family Payment (%)	1.06	0.7	0.51	1.08
Family Income Supplement (%)	1.26	1.13	1.07	1.01
Jobseeker's Allowance & Benefits (%)	5.49	4.1	4.94	4.59
Respite Care Grant (%)	2.42	1.98	1.95	1.41

Source: CSO STATBANK G0104

In the next figure, we show unemployment blackspot areas in Limerick city using 2016 Census data. We find that areas where unemployment rate was higher than 20% in Limerick city included: John's A (58.3%), Galvone B (45.0%), Ballynanty (43.6%), Abbey C (Pennywell, 41.9%) and Prospect B (40.7%), which also made the top 10 areas in Ireland with the highest levels of unemployment.²⁶ Most of the unemployment blackspots areas are concentrated within the city. Across Limerick County, we find Rathkeale Urban (31%), Bruree (24%), Askeaton East (23%), and Abbeyfeale (23%).

²⁶<https://www.paulpartnership.ie/wp-content/uploads/2019/08/Limerick-Metropolitan-Area-Profile-Census-2016.pdf>

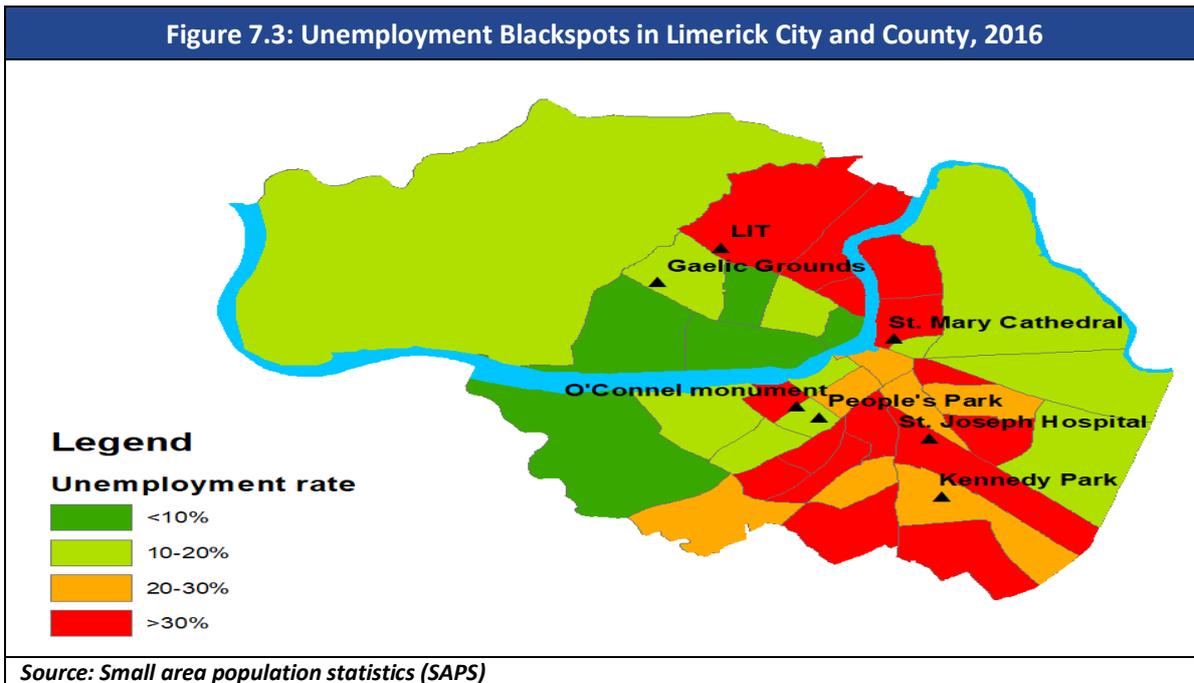
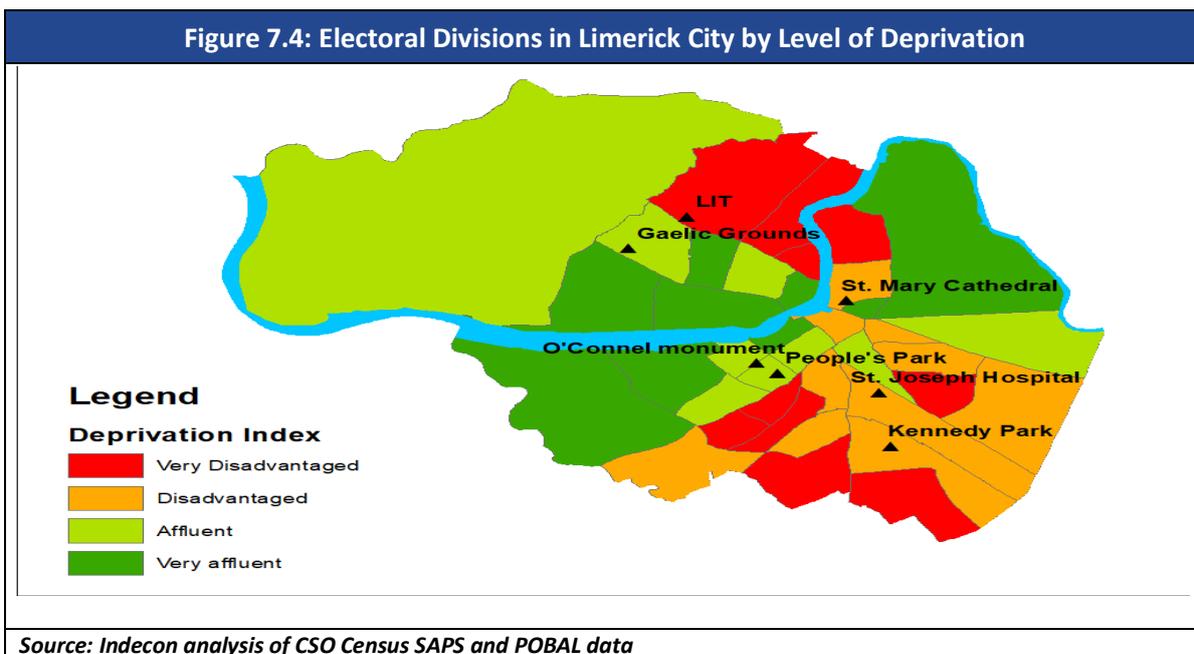


Figure 7.4 examines the level of deprivation across electoral divisions in Limerick city by using the HP Pobal Deprivation Index. The most disadvantaged areas are highlighted in red after having assessed their educational level, labour market situation as well as the skill/occupational profile. We find that extremely and very disadvantaged areas mirror unemployment blackspots as shown in the figure below.



In developing a sustainable plan for Limerick, it is important that account is taken of addressing individuals and families at risk of poverty. The evidence shows that despite significant improvement in the years to 2019, there were high percentages of the population in the Mid West Region in poverty or experiencing social deprivation.

Table 7.3: Indicators of Poverty/Social Deprivation		
	Mid West	
	2013	2019
At Risk of Poverty Rate (%)	16.0	12.8
Deprivation Rate (%)	24.3	16.8
Consistent Poverty Rate (%)	8.0	5.4
<i>Source: CSO</i>		

While data on the numbers in poverty in Limerick is not available, Indecon has prepared indicative estimates based on the share of Limerick County in the overall Mid West population. These suggest that there may be over 25,000 individuals at risk of poverty.

Table 7.4: Analysis of the Numbers in Poverty in Limerick and Mid West region				
	Mid West		Limerick*	
	2013	2019	2013	2019
At Risk of Poverty Rate	75,312	62,080	30,878	25,564
Deprivation Rate	114,380	81,480	46,896	33,553
Consistent Poverty Rate	37,656	26,190	15,439	10,785
<i>*Estimated based on population shares</i>				
<i>Source: Indecon analysis of CSO data</i>				

An analysis based on the share of the population in the city suggests an indicative estimate of 10,527 at risk of poverty.

Table 7.5: Analysis of the Numbers in Poverty in Limerick City and County				
	Limerick*		Limerick City*	
	2013	2019	2013	2019
At Risk of Poverty Rate	30,878	25,564	13,166	10,527
Deprivation Rate	46,896	33,553	19,228	13,817
Consistent Poverty Rate	15,439	10,785	6,330	4,441
<i>*Estimated based on population share</i>				
<i>Source: Indecon analysis of CSO data</i>				

This analytical approach has also been applied to estimate the numbers in poverty in other cities. This analysis is shown in the table below.

Table 7.6: Analysis of the Numbers in Poverty in Irish Cities								
	Limerick City		Dublin City		Cork City		Galway City	
	2013	2019	2013	2019	2013	2019	2013	2019
At Risk of Poverty Rate	13,166 (16.0%)	10,527 (12.8%)	50,122 (9.5%)	61,561 (11.1%)	20,622 (17.3%)	10,810 (8.6%)	14,194 (18.8%)	12,120 (15.4%)
Deprivation Rate	19,228 (24.3%)	13,817 (16.8%)	147,200 (27.9%)	91,509 (16.5%)	34,449 (28.9%)	19,861 (15.8%)	19,479 (25.8%)	14,087 (17.9%)
Consistent Poverty Rate	6,330 (8.0%)	4,441 (5.4%)	27,963 (5.3%)	29,948 (5.4%)	8,940 (7.5%)	4,274 (3.4%)	6,795 (9.0%)	4,486 (5.7%)
*Estimated based on population share. Rates in parentheses Source: Indecon analysis of CSO data								

7.3 Implications of Analysis of Health and Social Inclusion

There has been investment in health infrastructure in Limerick in recent years. The existence of a major university hospital is of importance. However, ensuring ongoing investment and access to services should continue to be prioritized. In developing Limerick city so that it meets the needs of the citizens it is critical that people are not left behind. Of concern is the relatively high percentage of individuals receiving welfare payments and the concentration of those at risk of poverty in certain areas.

8 Model of Sustainable Development

8.1 Impact of Sustainable Models on Economic Development and Quality of Life

New empirical analysis has been completed by Indecon for this study for Limerick Chamber to highlight the potential impact of developing a sustainable city model for Limerick. This utilises data from the Smart City Index and the Global Human Centre Data Centre. The Smart City Index was developed by the Institute for Management and Development in collaboration with the Singapore University for Technology and Design and is computed for 115 cities. The aim of the index is to capture the residents' perceptions on the effectiveness and availability of technological applications and other issues. These include a diversity of areas such as local governance, traffic congestion and accessibility to the local government's decisions.

Indecon has utilised three variables that capture key features of sustainable models including the economic and environmental performance of each city, namely: the GDP per capita, the concentration of air pollution (PM2.5) and the share of the population with access to green spaces. The purpose of this new Indecon regression analysis is to analyse the extent to which cities will pursue sustainable models of development outperform their counterparts. As part of our analysis, we attribute to each city in the sample a score from 1 to 10 matching their 2020 smartness index (D to AAA) and regress it on the three outcomes of interest. More specifically, we estimate a simple univariate regression model for GDP per capita, concentration of PM2.5 and access to green, taking the form:

$$\text{Outcome}_i = \beta_0 + \beta_1 \text{Smart Score}_i + \epsilon_i$$

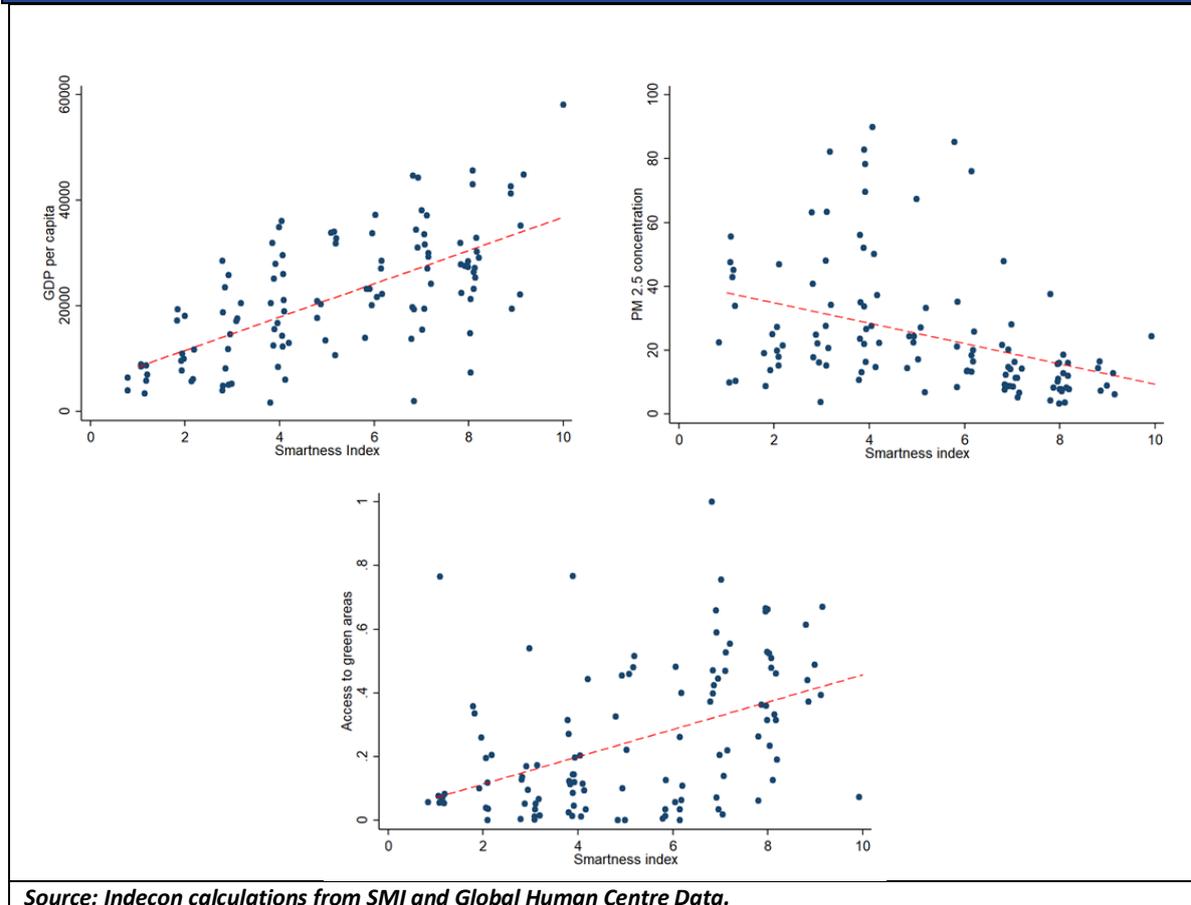
The estimates of the parameter β_1 indicate the expected change in the outcome of interest that a unit increase in the "smartness" rate would imply. The results are shown in Table 8.1.

Table 8.1: Impact of "Smart" Cities			
	GDP per capita	PM 2.5	Share green
β_1	3,300	-3.18	0.04
R-squared	0.24	0.14	0.21
Mean variable	22,734	24.75	0.25
Unit	PPP 2007 \$	$\mu\text{g}/\text{m}^3$	% inhabitants
<i>Source: Authors' calculation from SMI and Global Human Centre Data. All the β_1 are statistically significant at every conventional level.</i>			

These findings suggest that cities which follow a sustainable model are likely to have higher income and are less polluted and greener than their counterparts. Such results are statistically significant. These results can be visualized in Figure 8.1, which clearly show that higher indexes of "smartness" correlate with higher income per capita, lower pollution levels and more access to green spaces.

Although further research and econometric analysis on the impact of sustainable models may be warranted, Indecon believes that the results presented here support a model of sustainable development. Such a model is aligned with national policy and with the experience of other cities internationally.

Figure 8.1: Scatterplots Smartness Index



8.2 Models of Sustainable Development

International experience has demonstrated the success of planned models of sustainable development. These models are focused on the implementation of innovative policies to improve the lives of citizens by providing public infrastructure, improvement in the quality and the efficiency of services and a move towards a more skill-intensive and less pollutant approach to economic development. This requires urban density and compact growth. Different terms have been used to refer to these models of sustainable urban development, including 'smart cities', 'eco-cities', 'compact cities' and '15-minute cities'. Indecon believes that it is much more important to ensure that key features of the sustainable models are implemented than which is the best terminology to use.

While there is no one city which encompasses all aspects of best practice, there are examples of successful cities that have implemented sustainable approaches. These include Amsterdam,

Eindhoven, Barcelona and Copenhagen.²⁷ There are also interesting aspects of sustainable development in a wide range of other cities including Copenhagen, Vienna, Lisbon, Milan, Bilbao, Munich, Dusseldorf, Rotterdam and Lille and Bologna, and in a number of cities in the UK.²⁸ The application of a sustainable model of development for Limerick city requires that the efficiency of traditional networks and services is improved to the benefit of residents as well as businesses in the city. This would involve technology being embedded so that efficiency can be achieved in the deployment of infrastructure and local services. The objective should be to increase economic activity and to bring about environmental and energy efficiency improvements. Continued co-operation between the third-level and FET-level educational sectors and enterprise in Limerick city is needed to ensure the maximum benefit of any investment. Within each of these areas, there is a need for supporting investment.²⁹

An important issue for Limerick city is to ensure the application of a sustainable model to enable the city to be aligned with climate change objectives. This concept will require enhanced infrastructure and high-speed broadband. There is also a need to develop an urban centre with critical mass and the clustering of economic activity. Limerick city should also support the needs of high-tech businesses and to attract additional investments. This is aligned with the objective of the Climate Action Plan and with the Europe 2020 Strategy for Smart, Sustainable and Inclusive Growth. This is consistent with the focus in the Southern Regional Spatial and Economic Strategy which placed an emphasis on Smart Specialisation.

As part of the consideration of the application of sustainable development to Limerick city, it is notable that there are practical examples of where elements of sustainable models have been applied in various European cities. Of particular importance are measures to change the energy efficiency of the city and its buildings and to reduce car usage. Based on our international review, Indecon has identified a number of key features of sustainable models for city development as outlined in the next table. While judgement is required on what other characteristics could be highlighted, Indecon believes that a model for Limerick, which is characterised by the factors outlined in the next table, would represent a sustainable and successful model.

Table 8.2: Features of a Proposed Model for Sustainable City Development

- Compact growth with high housing density.
- Achievement of environmentally compatible commuting patterns.
- Location of employment opportunities in proximity to residential areas.
- Sustainability of energy, waste management and resource efficiency.
- Presence of high skill and high-value activities.
- Close integration of higher and further education and enterprise sector.
- Use of technology based on broadband availability and development of digital skills.
- Access to green spaces and cultural and other amenities.
- Proximity to health, education, childcare and social infrastructure and services.
- Excellent transport links to link with national and international markets.
- Focus on reducing social exclusion and youth unemployment.

Source: Indecon

²⁷ European Commission, 2017. "The Making of a Smart City – Best Practices Across Europe".

Available at: https://smartcities-infosystem.eu/sites/default/files/document/the_making_of_a_smart_city_-_best_practices_across_europe.pdf

²⁸ See Appendix 1 for a selection of international case studies

²⁹https://www.cse.org.uk/downloads/reports-and-publications/policy/insulation-and-heating/energy-justice/renewables/behaviour-change/building-performance/Bristol_net_zero_by_2030_study_CSE_26_Feb_2020.pdf

9 Recommendations for the Development of Limerick City

9.1 Views Expressed by Stakeholders during Consultation Process

As part of the consultation process, Indecon undertook a detailed consultation programme and extensive new survey work. A number of specific areas of potential opportunity were identified as outlined below. Indecon has assessed these views and other comments made by stakeholders and combined these with detailed analysis of the evidence of international models of sustainable development. Understanding the priorities of the business community and other stakeholders is important context for this report. In section 9.2, Indecon's independent recommendations for consideration are outlined. The table below presents areas of sectoral opportunity for the city suggested by stakeholders.

Table 9.1: Views of Key Sectoral Areas of Opportunity for Limerick City

- Opportunity to pedestrianise parts of the city and increase outdoor seating areas
- Need to increase people living in the city core
- Provision of high-quality housing in the Georgian Quarter
- Opportunity to build on significant sporting reputation
- Continued development of the film industry
- Further development of the tourism sector
- Capitalise on opportunities associated with the proposed UL city centre campus
- Opportunity to develop as Air and Sea Logistics Hub
- Re-design of public outdoor spaces for cultural events/performances

Source: Indecon Analysis

Competitiveness is fundamental in determining the location of foreign and domestic investment and in ensuring the expansion of growth in Limerick city. A number of issues were highlighted in our consultations for consideration to increase the competitiveness of Limerick. These are summarised in the next table and include investment in education and skills, transport and other measures to attract and maintain investment. These would reinforce the overall competitive strength of Limerick due to its cost competitiveness of housing.

Table 9.2: Views on Measures to Enhance Competitiveness of Limerick City to attract investment

- Further investment in Higher Education and training in the region
- Improved transport connectivity
- Digital skills development
- Investment in infrastructure to increase R&D
- Provision of high-quality affordable housing (including high-density units)
- Provide incentives to locate in the city centre
- Increase availability of Grade A office space to attract FDI
- Improve liveability of the inner city and surrounding rural areas which will attract younger demographic to highly diversified inner-city life
- Increase green space and access to cultural amenities

Source: Indecon Analysis

The decline in retail activity in the Limerick city region has been highlighted as a weakness of the city and an area where there is a need for attention. This is critical in planning the post-Covid-19 recovery of the city. A summary of views on the elements of an effective retail strategy suggested as part of our consultation, are presented below.

Table 9.3: Views on Requirements for an Effective Retail Strategy

- Look for more diverse retail to get more footfall into the city
- Pedestrianise areas and provide street infrastructure (such as roofs)
- More accessible parking (i.e., Park & Stride sites)
- More middle to high-end retail
- Improved public transport into the city
- Consider the feasibility of reducing rates to encourage small retailers
- Encourage arts and crafts sector by providing affordable rents
- Differentiate from Shopping Centre experience
- Address unused derelict buildings at prominent locations in the city
- More people need to live in town otherwise any retail strategy will fail. Footfall and community building and cohabiting in the space is required

Source: Indecon Analysis

There is a need for improved public services in Limerick city to account for the projected significant increase in population and to address existing gaps in services. Views of the key priorities for improved public services suggested in our consultations are summarised in the following table.

Table 9.4: Views on Key Priorities for Improved Public Services and Infrastructure

- Investment in Healthcare facilities
- Improve Cycle lanes and expand the bike scheme to UL
- Affordable high-end city centre accommodation
- Better Cycling infrastructure
- Extended bus routes
- Fast-track UL city campus and development of LIT
- Improve connectivity between Limerick city and Shannon Airport
- Utilise older buildings in the city for social housing
- Development of high-density quality housing in the city centre is key with green spaces

Source: Indecon Analysis

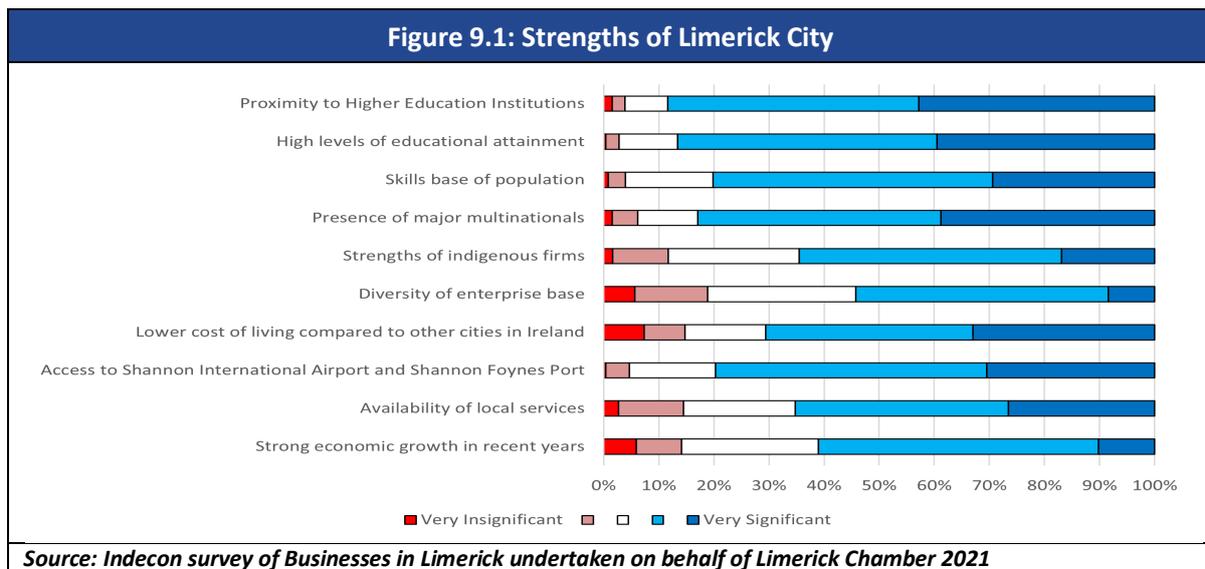
The consultations confirm Indecon's view that in developing a sustainable model for Limerick city, there will be an ongoing need for investment in economic and social infrastructure. Several potential infrastructure investments were also highlighted by stakeholders. These included investment in public transport in the city, higher education facilities, housing and infrastructure to support the attraction of businesses and event tourism to the city. There were also views expressed on the need to ensure the potential is realised for Shannon Airport and its catchment area, as well as Shannon

Foynes Port. Indecon notes that specific investment proposals should be subject to a formal cost-benefit appraisal to ensure the best use of scarce resources.

Table 9.5: Views on Need for Economic and Social Infrastructure	
-	Improved public transport in the city
-	Better public transport access to Shannon Airport
-	Evaluation of potential investment in a light rail service
-	Prioritising expansion of the TUS: Midlands Midwest Moylish and Coonagh campuses and support UL's city centre development
-	Cycle and bus lane development in tandem with planned road and rail investment.
-	Multi-purpose Events Centre in the city centre
-	Targeted housing developments

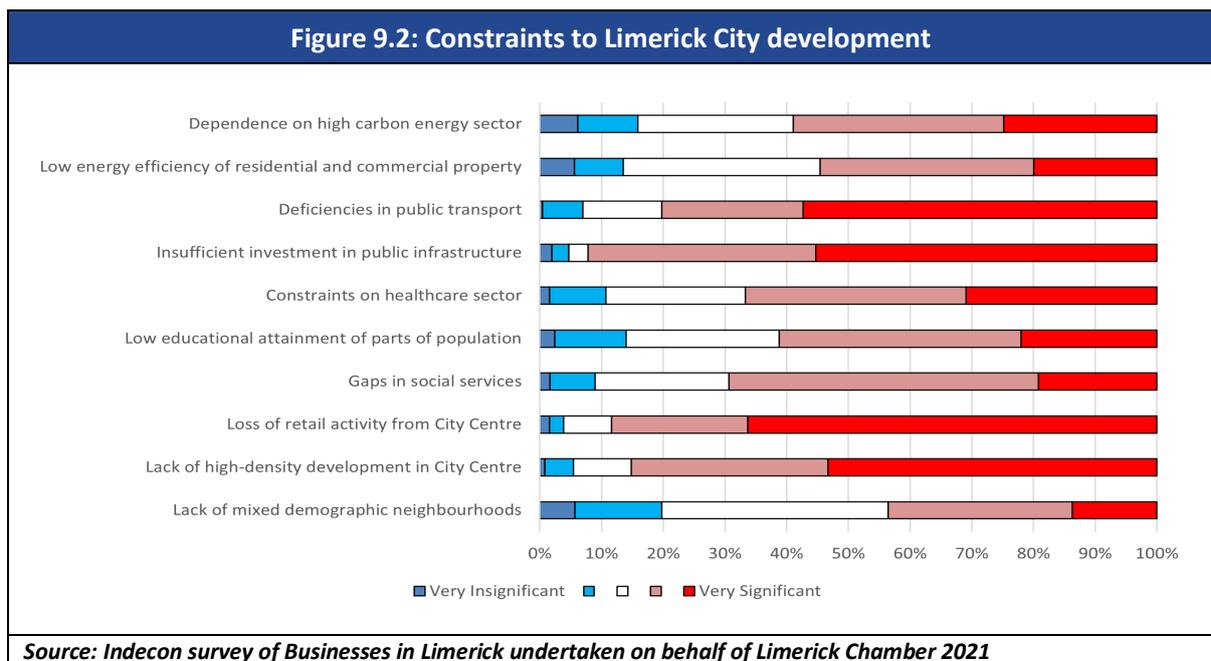
Source: Indecon Analysis

The views of businesses, employees and other stakeholders confirm Indecon’s analysis of the strengths of Limerick city. Our analysis suggests that building on the existing skills strength and maximising the potential of the proximity to the higher and further education institutions should be a priority for the city. The sustainable development of Limerick city should also build on key infrastructural strengths including access to Shannon International Airport and Shannon Foynes Port. The presence of multinational and indigenous firms and the cost competitiveness of living in the city are also important strengths. Investment will be required to enable these assets to realise their potential to support the city and the region. There is also a need to ensure the continued viability of local services.

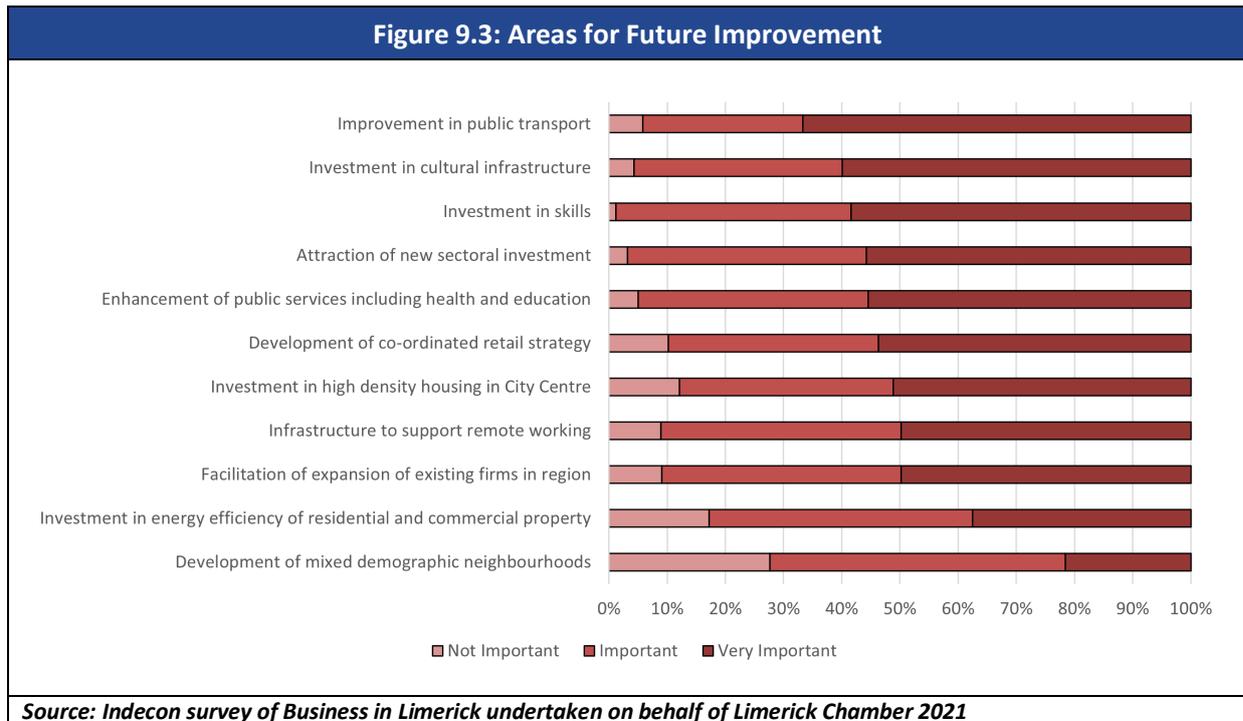


In developing our recommendations, Indecon believes at the centre of the new strategy should be a commitment to meeting carbon emission reduction targets and the achievement of a circular economy. Of note is the awareness of the business community of the challenges arising from the dependence on the high carbon sector and the low energy efficiency of residential and commercial

property in the city centre. There is also a need for investment to meet the requirements for future growth. Deficiencies in public transport and insufficient investment in public infrastructure were highlighted by businesses consulted. In considering the future development of Limerick city the importance of sustaining the growth in the retail services sector and in ensuring high-density development will be important. The new survey research suggests that the loss of retail activity and the lack of high-density development were seen as constraints on the development of Limerick city. Indecon believes that the future model for Limerick city should also place a high weight on ensuring that growth benefits all its citizens. Housing shortages and constraints on healthcare are issues for Limerick as they are for other parts of Ireland. The research presented subsequently has demonstrated that a major challenge exists in addressing the levels of deprivation and social inclusion. Stakeholders consulted were aware of the challenges arising from gaps in social services, low educational attainment of parts of the population, and housing shortages.



The views of stakeholders consulted on the main areas for future development to ensure a sustainable and successful model for Limerick city are presented in the following figure.



9.2 Recommendations for the development of Limerick City

Indecon believes there is the potential for Limerick city to be transformed into an urban environment where significantly higher numbers of individuals live in the city and others are attracted to visit and to participate in cultural, hospitality, educational and other activities. The availability of daytime, evening and night-time activities will be important. This will require an integrated approach involving the acceleration of the important key projects in the Limerick 2030 Plan including residential, commercial, cultural, educational and public realm initiatives. It will also require measures to enhance mobility within the city, reduce its carbon contribution and attract new innovative business. In addition, measures to enhance skills and reduce social exclusion will be critical to realising the exceptional potential of the city as a location with a high quality of living.

Based on the research undertaken, Indecon has developed a number of policy recommendations for consideration by Limerick Chamber and by local and national policymakers to assist in the future development of the city. These recommendations stem from the proposed model of sustainable development in Chapter 8 and are summarised in the tables overleaf, with 66 actionable items. These actionable items are informed by the research and analysis undertaken and by our examination of international models of sustainable development. They are also supported by an independent review of the policy context, and our analysis of the progress in implementing the economic and spatial plan, and of the performance of Limerick city. Examples of policy interventions that have been applied in other cities are also outlined in the section below to support the various recommendations.

Table 9.6: Overview of Key Recommendations for the Future Sustainable Development of Limerick City

1. Implement a National Urban Future Strategy
2. Development of a framework to monitor the progress of Limerick.
3. Ensure compact growth and increase the provision of high-density housing in the city centre.
4. Ensure measures support climate action and lead to transformational changes in commuting patterns and in energy efficiency.
5. Support brain retention/gain and increase investment in higher and further education
6. Invest in increased public services and infrastructure to enhance accessibility and connectivity
7. Accelerate transition to higher value-added sectors and support indigenous start-ups
8. Implement dedicated measures to increase footfall in the city centre
9. Focus on reducing social exclusion, health inequities and youth unemployment

Source: Indecon Analysis

1. Implement a National Urban Future Strategy

Indecon recommends the implementation of a national urban future strategy. A number of specific recommendations aligned with this are presented below:

- Establish Project Ireland 2040 City Delivery Boards to drive investment in urban centres.³⁰ (Government)
- Establish an Urban Forum which catalyses stakeholders across the five city regions to engage and collaborate. (Government, Local Authorities)
- Review local authority funding to ensure that income streams are sustainable and that future income structures enable local authorities to implement compact growth and placemaking policies. (Government)

2. Development of a framework to monitor the economic and social progress of Limerick

In order to monitor the overall impact of various policies, Indecon recommends that a framework is developed to support this.

- Develop a live public dashboard with economic and social data that can be utilised to promote Limerick's development. (LCCC)
- Implement a project tracker with funding and timeline information so citizens can monitor economic and social projects across the various local authority entities (i.e. Limerick 2030 DAC; Innovate Limerick; Local Enterprise Office) in addition to external collaborations.

³⁰ Also recommended as part of the Phase 1 Report Review on the NDP - <https://assets.gov.ie/134440/8bd02279-31f5-4b52-9591-93a08b2b3a10.pdf> and subsequently committed to by Government in the National Economic Recovery Plan 2021

- Implement a Beta Projects web platform that allows the public to feed into proposed projects at an early stage.

Some examples of cities that have adopted similar approaches are outlined in Table 9.7. These approaches have typically involved the use of open data.

Table 9.7: Examples of international programmes utilising data to support city centre development	
Antwerp³¹ (Belgium)	Since 2012, the city of Antwerp has made data sets available free of charge. Anyone may use or publish the data without restrictions.
Arhaus³² (Denmark)	Provides an open data portal for citizens with information on economic development, energy, population and society.
Bristol³³ (England)	Open Data Bristol is a site for exploring, analysing and sharing data about the city. Bristol City Council, through the 'Our Data Programme' fund research projects by local stakeholders that utilise the data.
<i>Source: Indecon Analysis</i>	

3. Ensure compact growth and increase the provision of high-density housing in the city centre

Indecon recommends that the provision of high-density housing in Limerick city should be increased to ensure compact growth. A number of specific recommendations to support these objectives are listed below:

- The focus of policies and investments for Limerick city should be on facilitating compact growth. (Government/LCCC)
- Targets should be set (and monitored) to achieve an increase in apartment and other residential regeneration developments in inner areas of the city. (LCCC)
- Accelerate the delivery of projects within the Limerick 2030 Economic and Spatial Plan. (LCCC/Limerick 2030 DAC)
- Support the utilisation of the existing housing stock. This could include evaluating the merits of potential changes and adjustments to the Living City Initiative to increase the level of take up. Any changes should however be carefully evaluated to ensure the benefits exceed the costs and minimise deadweight (Government). There is also a case to extend the vacant property planning exemption (Statutory Instrument 30 – 2018) beyond December 2021 and consider other adjustments to the timeframe (Government). Potential measures to address upper floor vacancies should also be examined. This should be done in tandem with a streamlined regulation and planning process. (Government). In addition, it is recommended that expanding the pilot Building Renovation Passport scheme to target the development of city centre stock should be considered. (Government/LCCC).

³¹ <https://www.antwerpen.be/nl/overzicht/open-data/over-opendata>

³² <https://www.opendata.dk/>

³³ <https://opendata.bristol.gov.uk/explore/?sort=modified>

- Consider establishing the Georgian Neighbourhood ‘one-stop-shop’ on a more permanent footing (currently organised on an ad hoc basis) (LCCC).
- Strategic development areas should be identified in the city to facilitate new quality affordable residential development. This could potentially be introduced in tandem with strengthened regulation and improved access to finance for small and medium developers through the extension of the Home Building Finance Ireland which until now has only focused on sites outside the main urban areas. (Government/LCCC)
- In order to increase residential investment, prioritise increased investment in the public realm in areas that are eligible for the LCI. (LCCC)
- Expand green space in the city centre by supporting and encouraging collaboration across existing projects such as the ‘Limerick Georgian Laneway’ and ‘Go Green’. (LCCC)

There are a number of examples of cities that undertaken various policy interventions to increase the supply of residential properties in their cities. Some examples of cities and their associated policy intervention are outlined in Table 9.8.

Table 9.8: International examples of housing interventions	
Aberdeen³⁴ (Scotland)	The city has developed a masterplan for development which includes targeted refurbishment of public listed and unlisted buildings. Measures include increasing the attractiveness of street facing properties, repairs to historic buildings, and the promotion of proposals that maximise the quality of ground floor uses and utilisation of basement and upper-level floors for residential uses.
Barcelona³⁵ (Spain)	The city has enabled the Right to Housing Plan 2016-2025 aiming at increasing the number of affordable housing and facilitating its access, especially among young people increasing current stock of public housing. A key priority is public participation where public meetings are organised to find out first hand the problems detected by the neighbourhoods local resident.
France (All cities)³⁶	The French government introduced a vacant property tax that was responsible for a 13% reduction in vacancy rates between 1997 and 2001. The rate was tripled in 2017.
Germany, France and Belgium³⁷	The Building Renovation Passport is an important measure to increase renovations by giving clarity to building owners on information, economic and regulation instruments. As part of this, the iBRoad logbook provides a default database supporting a generic techno-economic assessment of renovation measures with information on costs.
Munich³⁸ (Germany)	The Munich Model is a social funding programme that promotes housing affordability for middle and low-income groups through subsidised and privately financed housing building. The initiative enhances affordability by providing public land at a reduced price for appropriate development. As part of the model the local authority aims to attract middle-income families into the city centre and encourage them to purchase a property.
Pittsburgh (US)	The Vacant Upper Floor Project is part of the Pittsburgh Downtown Living Initiative. The aim of the project was to provide: (a) a technical guide for building owners who were part of project; (b) encourage other building owners by demonstrating the economic benefits.
Source: Indecon Analysis	

³⁴<https://www.gov.scot/binaries/content/documents/govscot/publications/factsheet/2018/06/aberdeen-city-council-planning-authority-core-documents/documents/city-centre-masterplan-delivery-programme-2015-pdf/city-centre-masterplan-delivery-programme-2015-pdf/govscot%3Adocument/City%2BCentre%2BMasterplan%2BAnd%2BDelivery%2BProgramme%2B2015.pdf>

³⁵ <https://sustainabledevelopment.un.org/partnership/?p=34116>

³⁶ <https://ideas.repec.org/p/pramprapa/85508.html>

³⁷ http://bpie.eu/wp-content/uploads/2017/01/Building-Passport-Report_2nd-edition.pdf

³⁸ <https://repository.tudelft.nl/islandora/object/uuid%3A052d1c7f-0f83-4108-839c-b5b784ef2ec6>

4. Support brain retention/gain and increase investment in higher and further education

Indecon believes that there should be further investment in higher and further education in Limerick alongside initiatives to support local graduates to remain in the region. Some specific recommendations to support these objectives are outlined below:

- Increase investment in higher and further education. In particular, ensure the provision of infrastructure to facilitate planned growth in student numbers especially in city. As well as this, supports to increase research should be encouraged including support for EU co-funded research. (Government)
- Fast track development of the Technological University of the Shannon: Midlands Midwest. (Government)
- Expand programmes of cooperation between employers in the region and students in higher and further education. (Government/LCCC/Mid West Regional Skills/Limerick Chamber)
- Increase STEM graduates by targeting students at primary and secondary level through a coordinated response that supports and builds upon existing initiatives such as the Mid West STEM alliance, Young Innovators, Explore Engineering and BD STEM stars. Consideration should be given to how arts are embedded in STEM education (LCCC/Mid West Regional Skills/Limerick Chamber)
- Build on the innovative approach of “dual learning” by expanding the model that has been implemented for programmes such as *Immersive Software Engineering* and *Manufacturing Digitalisation* to other engineering and science disciplines. (HEI’s)
- Consider creating a dedicated multi-use space in the city centre to showcase real-world STEM applications and provide facilities for workshops and guest lectures for teachers, students and the general public. Opportunities also exist to utilise this space as a tourist attraction. (LCCC/Mid West Regional Skills/Limerick Chamber)
- Conduct an apprenticeship future needs assessment which considers any obstacles faced by businesses in hiring apprenticeships for the Mid West region to better understand the unique requirements of Mid West industry. (LCCC/Mid West Regional Skills)
- Implement a Mid West skills and job platform to highlight the availability of apprenticeships and upskilling/reskilling programmes. This will support ‘brain gain’ and help address the skills gap issue present in certain sectors. (LCCC/Mid West Regional Skills/Limerick Chamber)
- The Government has committed to establishing a pilot programme for guidance counsellors to ensure that school leavers have access to the same level of information about apprenticeships as those in higher or further education. One option which should be considered is that this pilot would be based in Limerick given the city’s skills profile. (Government/LCCC/Limerick and Clare Education and Training Board (LCETB))
- Consideration should also be given to developing a mobile Mid West careers fair. (LCCC/Mid West Regional Skills/Limerick Chamber)
- Introduction of a marketing campaign to attract remote workers (digital nomads) to Limerick. (LCCC, Limerick Chamber)

The importance of skills and education is well understood across well developed economies and a number of cities have undertaken specific policy interventions to improve outcomes relating to education and skills. Some examples of these interventions are summarised in Table 9.9.

Table 9.9: International examples of measures to promote education and support 'brain gain'

Finland (10 cities)	LUMA Centre Finland is a catalyst for science and mathematics education , promoting the collaboration of schools, universities, and the business sector. Through its 10 regional centres it motivates children and youth to study STEM subjects. In 2018 its StarT programme won an international award as Europe's best programme for bridging the gap between working life and STEM educations at schools.
Barcelona (Spain)	22@district was developed as an ambitious project to become a city centre hub for innovative technology companies . It began as a government initiative to transform the dilapidated historic cotton district of Sant Martí into a booming knowledge centre. The district also includes residential areas, green zones, and amenities. As part of the development several universities and educational facilities opened branches near the city centre of Barcelona. The district has experienced a 23% increase in residents since its establishment.
Copenhagen³⁹ (Denmark)	" Ambitious talent strategy for the Copenhagen region " was launched in 2014. It aims at keeping the region as a leading metropolis in northern Europe and at contributing to higher regional growth by attracting and retaining international young talents. Between 2014 and 2017, the strategy is directly linked to the creation of 5,392 direct jobs and attracted 926 international talents.
Montpellier⁴⁰ (France)	The ' School-Companies Club ' helps build relationships between local VET schools and local SMEs. Students are brought in through apprentice-type schemes or other work-based training arrangements to experience the real working world. Apprenticeships have increased significantly since the implementation of the scheme in 2013.
Plymouth⁴¹ (England)	Conceived in direct response to addressing skills gap identified by regional development plan. A regional centre of excellence for STEM was established in the city centre , offering a comprehensive portfolio of training (apprenticeship, higher level) in addition to core English and maths skills, and management training).
Norway⁴²	In Norway firms that train apprentices receive a state grant of approximately €15,000 per apprentice to cover the 2-year training period.
Algeria	In Algeria the government covers the first 6-12 months of the apprentices' wages .
Tulsa⁴³ (US)	Tulsa Promote is a programme that awards \$10,000 grants to digital nomads to stay in the city for a year. Access to a co-working hub is provided as part of the programme.
Minnesota⁴⁴ (US)	Offering remote workers cash rebates towards the purchase of a home
Italy⁴⁵	Tax break is provided for those who have lived outside Italy for two years and who transfer their tax residence to the country with a 70 per cent tax-free income for five years , approaching 90 per cent for those who decide to live in central-southern regions.
Source: Indecon Analysis	

³⁹[https://internationalcommunity.dk/Admin/Public/Download.aspx?file=Files%2FFiles%2FPDFer%2F2014-Copenhagen+Capacity+\(2014\)+Strategy+for+attracting+talented+internationals+14-17.pdf](https://internationalcommunity.dk/Admin/Public/Download.aspx?file=Files%2FFiles%2FPDFer%2F2014-Copenhagen+Capacity+(2014)+Strategy+for+attracting+talented+internationals+14-17.pdf)

⁴⁰ https://www.cedefop.europa.eu/files/good_practice_examples_for_round_tables.pdf

⁴¹ <https://www.cityplym.ac.uk/info-advice/facilities/regional-centre-excellence-stem/>

⁴² https://unevoc.unesco.org/pub/financing_wbl.pdf

⁴³ <https://nomadaboveandbeyond.com/a-digital-nomad-guide-to-tulsa/>

⁴⁴ <https://www.euronews.com/travel/2021/03/19/digital-nomads-you-can-get-paid-to-move-to-one-of-these-towns-america/>

⁴⁵ <https://www.loc.gov/law/foreign-news/article/italy-legislation-on-economic-growth-enters-into-force/>

5. Ensure measures support climate action and lead to transformational changes in commuting patterns and energy efficiency

Indecon recommends continued support for climate action measures which reduce the carbon footprint of the Limerick city region. This will require action from a number of public stakeholders. Specific recommendations to support these climate action measures include:

- Coordination at local level of the national funding available for deep retrofitting programmes (grants/competitive loans/workshops) for private residential units in city centre. (Government/LCCC)
- Accelerate supports under the Energy Retrofitting Programme for Social Housing. (Government/LCCC)
- In line with the Climate Action Plan (CAP) and the Limerick-Shannon Metropolitan Area Transport Strategy (LSMATS), develop an ambitious implementation plan (with particular emphasis on cycling, walking and e-vehicles) in collaboration with relevant stakeholders in the city. (LCCC)
- In line with LSMATS work with national operators to accelerate the expansion of public transport provision with a minimum targeted increase of 15% in bus capacity and the extension of bus route. (LCCC)
- Implementation of a co-ordinated approach to school zones which may reduce traffic congestion (LCCC)
- Implementation of technology to provide efficient means of travel. For example, a Limerick travel app that draws on the bus/rail information provided on the TFI Real Time Ireland app but also includes information on safe cycling, accessible walking routes, bike stations and e-charging locations. (LCCC, NTA)
- Establish a Limerick Energy Forum to support the development of renewable energy, particularly offshore development. (LCCC, Limerick Chamber)
- Invest in the necessary ICT and Smart Energy storage infrastructure so that Limerick is well placed to access any energy surpluses from Moneypoint. (LCCC)
- Work with industry and academia to plan for the long term whereby supply from offshore energy production could be used to address energy poverty. (Government, LCCC)

As discussed previously, the focus of many modern cities is on sustainable development and reducing the carbon intensity of the city. These interventions often avail of modern technology to support implementation. This involves policies relating to settlement patterns, transport and energy use. A summary of various interventions that have been adopted in various large cities is summarised in Table 9.10.

Table 9.10: International examples of environmentally compatible transport and property interventions

Nantes⁴⁶ (France)	The mySMARTLife strategy aims to retrofit all public buildings and housing stocks with a specific focus on low-income households. Targeted private sector retrofitting schemes have been identified in multi-owner complexes with local authorities supporting the initiative through funding for audits, project management studies, energy-impact work and post-work evaluation.
Helsinki⁴⁷ (Finland)	As one of the pioneering “Lighthouse” cities for sustainable development, Helsinki has implemented the 4 P’s approach (Public-Private-People Partnership) in the retrofitting of its city properties due to the need for a holistic approach to development. It is noted that the upfront costs associated with retrofitting is a barrier to increased energy efficiency in private homes and the co-ordinated approach aims to reduce costs by streamlining the processes, as well as providing direct funding for projects.
Copenhagen⁴⁸ (Denmark)	Bicycle Strategy 2011-2025 aims at enabling a safe and comfortable environment for cyclists by: adding more e-bikes and an intelligent traffic system (i.e., sensors that register the number of cyclists to adjust the traffic lights); widening existing cycle tracks and creating alternative routes; launching PLUSnet for “social cycling”; using a co-ordinated traffic light system, “Green Wave”, to minimise cycle congestion during peak times; eliminating missing links on main roads, and reducing the number of one-way streets for cyclists. The strategy has resulted in an increase in cyclists’ safety and the share of cyclists’ commuters had increased to 49% by 2018.
Vienna⁴⁹ (Italy)	In 2012, the introduction of the “ Viennese Model ” consisted of a price reduction in monthly/annual public transport tickets, with the goal to cover 80% of the trips via public transport (Wiener Linien), and non-motorised private transport. Passenger demand increased by 8%. The model is funded by subsidies from the city and government. <i>Note: In the context of Limerick, local bus provision (along with pricing structures) is currently the responsibility of national operators. However, the increased devolution of power to the DEM may provide opportunities in this area over time.</i>
Lisbon⁵⁰ (Portugal)	The 2020 European Green Capital adopted a set of smart solutions, such as: mobility credits for companies/employees that use bicycles/transport passes and e-vehicles (Corporate Mobility Pact); use of sensors/IoT platforms for i.e., parking demand, traffic management (Smart Open Lisboa Programme); additional micro-mobility services (i.e., e-scooter and e-bike companies); introduction of Europe’s second electric vehicle car-sharing scheme, “emov”; price-cap on monthly travel fares for public transport; better infrastructure projects to improve cycle lanes, public squares, cross-walks; cheaper fares and easier payment (i.e., Viva smart card).
Amsterdam⁵¹ (Netherlands)	The city has launched the Maas app which advises on the most efficient way to travel without using personal transport. The launch of the app followed the pilot project Zuidas Mobility Experience , that allowed individuals to travel freely by train, subway, bus, e-bike, taxi etc., on a personal budget of €250 in exchange for not using the car for two months; one-third of participants gave up their cars at the end of the experiment. The city has also planned to ban the sale of all gas/diesel powered cars in the city by 2030. The use of cars was also discouraged by closing of certain streets.
Santiago de Compostela⁵² (Spain)	Tropa Verde started in 2015. The idea behind the practice is to encourage environmentally responsible behaviour and to support local retailers. Tropa Verde is a game-based web platform . Citizens can earn recycling vouchers and exchange them for rewards at Santiago’s City Council and participating local retailers. The website connects the following elements; The locations where citizens can dispose of waste and get their rewards: green points, civic and local social centres, recovery points, Santiago’s City Council; Local businesses that provide gifts or discounts: retailers, restaurants, outdoor activities, shops and other businesses. Citizens who have recycled using this waste disposal network or at green points, get points which they cash in online on the platform. This platform shows what deals or discounts can be collected with those points and at which retailers. Citizens can then visit to the local businesses or local services for their reward. The involvement of citizens in recycling has increased, with a higher volume of visitors at the waste collection points.
Source: Indecon Analysis	

6. Implement dedicated measures to increase footfall in the city centre

⁴⁶ <https://www.mysmartlife.eu/cities/nantes/>

⁴⁷ <https://www.sciencedirect.com/science/article/pii/S0301479719309491>

⁴⁸ <https://handshakecycling.eu/resources/city-copenhagen%E2%80%99s-bicycle-strategy-2011-2025>

⁴⁹ <https://ioki.com/en/the-vienna-model/>

⁵⁰ <https://www.sustaineurope.com/lisbon-european-green-capital-2020-20201228.html>

⁵¹ <https://www.iamsterdam.com/en/business/news-and-insights/news/2020/amaze-app>

⁵² <https://urbact.eu/how-does-tropa-verde-works>

Indecon recommends a specific focus should be applied to measures that support increasing the levels of footfall in Limerick city Centre. Some particular recommendations include:

- Support the development and refurbishment of quality affordable residential units in the city centre. (Government/Private Sector)
- Following publication of the planned Public Realm Strategy, implement a placemaking plan (e.g., pedestrian zones; on-street dining infrastructure; disability access; child-friendly amenities; Intelligent Street furniture with charging facilities) for the city centre that caters for the needs of all demographics and encourages people to dwell. Engage in public consultation to best determine suitable areas for pedestrianisation. The placemaking plan should inform the city's 'Traffic Management Plan'. (LCCC)
- Drive the 'experience economy' by promoting the city centre as a place for leisure, entertainment and non-retail experiences with the development of a seasonal curated programme of events. (LCCC/Limerick Chamber)
- Market difference in city centre from shopping centre experience (e.g., night-time economy; waterfront experience; public space animations) (LCCC/Limerick Chamber)
- Develop and promote the night-time economy in line with the forthcoming recommendations of the national Night-time Economy Taskforce. (LCCC)
- Designate temporary street performance areas in the city centre. Furthermore, build on the success of the *Limerick Street Art Trail* by incorporating interactive art installations.
- Support existing and new retailers to implement a targeted programme to enhance 'curb appeal' for premises.
- Facilitate more accessible parking through the establishment of Park & Stride sites on the periphery of the city centre. In addition, expand the e-parking website/app to include a real-time data for on-street parking availability in the city to reduce search traffic and vehicle emissions. (LCCC)
- Assist retailers in accessing the global marketplace through the development of 'Shop Limerick' as an online shopping platform for local small businesses. (LCCC/Limerick Chamber)

Revitalising cities centres has been identified as an important element of improving the sustainable development. This will support compact growth and lead to a more efficient usage of public services. A number of particular programmes have been implemented in various cities to support these objectives. Table 9.11 provides a summary of various measures that have been implemented in other cities.

Table 9.11: International examples of measures to support city centre footfall & revitalise vacant units

Roeselare⁵³ (Belgium)	Roeselare has implemented several measures to improve retail activity including: the development of shopping and parking apps; offering grants for businesses and entrepreneurs to move into the core shopping centre; creating living space above shops; introducing play incentives for families; refurbishing shop fronts and revitalising streets; monitoring the inoccupation rate; and creating an owner / manager forum.
London⁵⁴ (England)	#startupmall launched in March 2019. It is a new concept startup programme in Kings Mall. Formerly vacant units within the mall are being offered to entrepreneurs, makers and technologists who want to test new ideas. The units will host experimental pop-ups, outlets and an incubator programme.
Folkestone⁵⁵ (England)	Creative Folkestone is a visionary arts charity dedicated to transforming Folkestone through collective creative activity , making the town a better place to live, work, play and visit. The Creative Foundation currently owns 90 properties, split into 240 business and residential units. Except for premises providing food, drink or educational facilities, the majority are rented out to creatives, and a small percentage are offered at subsidised rents to encourage arts graduates setting up fledgling businesses, while the majority are rented out at commercial rates.
Kanjaani (Finland); Wolverhampton (UK); Nuremberg (Germany); Strasbourg (France)⁵⁶	Implemented programmes of pedestrianisation and traffic management to deal with excessive car traffic and urban decline. Initial negative reactions from some local groups became more favourable as the benefits of the schemes (cleaner, safer and more attractive city with better access) became more apparent. No retailer's reported reduced income in the aftermath of the projects (some retailers reported an increase in sales).
Source: Indecon Analysis	

7. Focus on reducing social exclusion, health inequities and youth unemployment

Indecon recommends that a particular focus should be placed on measures that reduce social exclusion, health inequities and youth unemployment. Recommendations to support this are outlined below:

- Implementing actions to target unemployment blackspots. (Government)
- Develop seamless 'top-up' pathways between FET (particularly apprenticeships) and higher-level institutions. (Government)
- Implement targeted access measures involving co-operation between higher education Institutions and those groups most at risk of social exclusion. This should include highlighting examples of individuals who have benefitted from participation in education. It should also include ongoing involvement by communities and employers to support skill enhancement. (LCCC, LCETB, Limerick Chamber)
- Increase investment in support services to reduce social exclusion (e.g., childcare facilities, access to healthcare, provision for the disabled). (Government/LCCC)

⁵³ <https://www.propertyweek.com/features/the-belgian-city-showing-how-high-street-regeneration-should-be-done/5101748.article>

⁵⁴ <https://kings-mall.co.uk/startupmall/>

⁵⁵ <https://www.creativefolkestone.org.uk/>

⁵⁶ https://ec.europa.eu/environment/pubs/pdf/streets_people.pdf

- Ensure that settlement patterns in the city reduce concentration of social exclusion in certain areas. (LCCC)
- Renewed focus in supporting the implementation of the Youth Guarantee which pledges that participants will receive a quality offer of education, training and/or work experience opportunity within four months. (Government)
- Facilitate the implementation in the city of national plans to address youth unemployment through the establishment of a one-stop-shop Youth Desk. (Government, LCCC)
- Ensure that the aging population and high dependency ratio are factored into future planning by updating the Age Friendly Limerick 2015-2020 Plan. Older people's views should be incorporated through an extensive consultation process. Furthermore, targets should be measurable and progress should be monitored on an ongoing basis. (LCCC)
- Establish Health Action Zones, similar to the South West, to target health inequalities through empowerment, involvement, consultation and participation to enhance inclusion and sustainability. (HSE/LCCC/UHL)
- Incorporate Health Impact Assessments as a regular part of the planning and development process. (LCCC)

In the aftermath of Covid-19, policies that improve social inclusion and youth employment will be particularly important. Some policies that have been attempted in other jurisdictions are summarised below.

Table 9.12: International examples of measures to support social inclusion and Youth Employment	
Minden⁵⁷ (Germany)	The ' Seniors help seniors ' primarily directs its efforts in helping elderly people with reduced mobility and who cannot participate without assistance in the social life of the neighbourhood. The objective of the initiative is to enlist the active participation of as many senior citizens as possible in planning and holding the events. The contribution of this project to reducing the risk of social exclusion can be seen mainly in a wide range of skills orientated activities preventing isolation and offering a wide range of opportunities for mutual help and support. Social integration is realised and accompanied by positive health effects and maintaining skills and competences.
London⁵⁸ (England)	Spacehive is an online, crowdfunding, platform that facilitates grassroots regeneration through the engagement of individuals, local authorities and businesses. It gathers diverse sources of funding and project ideas to improve local communities. Spacehive has so far enabled 255 projects worth £6 million.
Athens⁵⁹ (Greece)	" Curing the Limbo " is a programme that aims at socially integrate refugees via community engagement, such as participating in public events or engaging with active citizen groups. Beyond the risk of segregation, the programme also addresses the housing issue by assigning affordable living spaces in exchange for a job in the local community. Refugees also benefit from a number of other services such as language learning and psychosocial support.
Riga⁶⁰ (Latvia)	Riga's job creation programme for socially excluded groups is based on grant provision to social enterprises, foundations and NGO's (€7,000 for 12 months). The grant supports job creation for vulnerable unemployed people (due to poverty or discrimination) in additions to helping them stay in work through training and up-skilling programmes.
Rotterdam⁶¹ (Netherlands)	The Social Impact Bond uses private funding to solve social issues by using employment support resources (i.e., professional coaches) for the youth. Investors get the maximum rate of return if the goal of reducing youth unemployment among the beneficiaries is achieved. The city has also set up a one-service (Youth Desk) where young people can easily get access to youth-focused services. The desk finds

⁵⁷ https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1055en.pdf

⁵⁸ <https://www.spacehive.com/>

⁵⁹ <https://curingthelimbo.gr/en/home>

⁶⁰ https://eurocities.eu/wp-content/uploads/2020/08/EUROCITIES_report_Cities_delivering_Social_Rights-1.pdf

⁶¹ https://apolitical.co/en/solution_article/rotterdam-gets-young-people-off-benefits-social-impact-bond

	a placement either in education, or both professional placement and education or in a reintegration pathway.
Lille⁶² (France)	The Regional Support Plan for the Future of Young People (Partaj) is a programme that prevents young people dropping out of school (or in apprenticeships/vocational training) by mobilising local authorities in education/training, public employment services and local business representatives. The programme is supported by State and the National Education Service and run through regional authorities.
Birmingham⁶³ (England)	The Youth Promise Plus Project aims at supporting young people not in education /employment/training through personal support; a “work first” approach by encouraging professional experience; support employees to create environments that meet young people’s needs; mental health services. More than 4,000 young people moved into education, training or jobs across Birmingham through the success of this programme.
Bologna⁶⁴ (Italy)	Bologna has implemented a network created by and for young people, Flash Giovani (Flash Youth), which has the goal to increase awareness on youth issues (i.e., transition from education to work or health questions). The project differs in its bottom-up approach, where young people produce the information, and enables the acquisition of practical work experience.
Source: Indecon Analysis	

8. Accelerate transition to higher value-added sectors and support indigenous start-ups

Indecon recommends that the transition towards higher value-added sectors should be supported. Specific measures to support sustainable economic development in Limerick city include:

- Increase availability of Grade A office space. (IDA/LCCC/Private Sector)
- Prioritise the delivery of the planned city centre Digital Accelerator and Digital Collaboration Centre. (LCCC)
- Develop existing clusters such as aviation and aerospace, and pharma/medtech. Encourage new clusters in the areas of finance and other international services, high tech industry. (e.g., data centres), and media sectors. (LCCC, Regional Assembly)
- Conduct a sectoral review of productivity that goes beyond GVA (i.e., labour productivity/total factor productivity) to identify opportunities for productivity gains. (LCCC)
- Consider empowering local authorities with the ability to utilise commercial rates to incentivise and support innovative entrepreneurial activity, particularly in the city centre. (Government)
- Foster a strong start-up and entrepreneurial environment by improving information flows on all funding sources (grants, VC, tax etc.). Set targets for start-ups and monitor draw-down of national and EU funds. (LCCC, Limerick Chamber)
- As part of the new digital accelerator, a diversity and inclusion programme should be implemented that supports individuals from minority groups and assists them in securing entry level jobs in the regions fast-growing innovation companies. (LCCC)
- Under the ‘Atlantic Edge, European Embrace’ brand, progress the marketing plan for the city to highlight the strengths of existing indigenous and multinational investment. The demonstration impacts of previous success would help reinforce the growth potential. (LCCC)

⁶² https://nws.euocities.eu/MediaShell/media/Report_Lille_FINAL.pdf

⁶³ https://www.birmingham.gov.uk/info/20143/young_people/1157/birmingham_and_solihull_youth_promise_plus/4

⁶⁴ http://nws.euocities.eu/MediaShell/media/127_EUROCITIES-youth-final.pdf

- Implementation of a funding programme to support route development to ensure the viability of Shannon International Airport post-Covid-19. Work with the airport to ensure that business routes are in line with the requirements of emerging sectors and clusters. (Government, LCCC, Shannon Airport, Limerick Chamber)
- Complete Foynes to Limerick Road Improvement Scheme to enhance linkages with Shannon Foynes Port. Undertake feasibility review of the costs and benefits of a potential rail link to Shannon Foynes and evaluate its role in ensuring the retention of its T-TEN status. (Government, LCCC)
- Consider future transport needs (e.g., Connected and Autonomous Vehicles/Electric Vehicles/Greenways) when investing further in the road network to enhance connectivity between Ireland's regional cities. (Government)
- Acceleration of rollout of broadband investment for the city. (Government)

Conclusions

The research provided in this report provides a unique evidence base to help Limerick Chamber input to National, regional and local policy. It is intended to assist in ensuring that the unique potential of Limerick city is realised.

Annex 1 Policy

Limerick Local Economic and Community Plan 2016-2021

The Limerick Local Economic and Community Plan (LECP) sets out a strategy for promoting and supporting sustainable development at the local and community level in a six-year time frame (2016-2021), with the overarching goal to “promote the well-being and quality of life of citizens and communities.” The LECP is not a detailed plan, but a strategy whose actions revolve around two pillars: i) Economic plan, developed by the Strategic Policy Committee (SPC) for Economic Development and Enterprise; and ii) Community elements, developed by the Local Community Development Committee (LCDC). LECP’s strategy is also intended to influence directly and indirectly the action of an intersection of different bodies, such as IDA, Enterprise Ireland, SOLAS, Local Authority etc. The primary objective of the Economic plan is to “promote a more integrated, inclusive and sustainable approach to economic development in the local authority area”. It focuses on job creation in the local authority area by promoting investment that generates economic growth. It also places an emphasis on diversification to build on economic resilience. On the other hand, the primary objective of the Community plan places a strong emphasis on social inclusion and deprivation reduction, with the vision “to promote quality of life for local communities across Limerick city and county, promote social equality, embrace diversity and improve social integration and community cohesion.”

Limerick City and County Council’s Corporate Plan, 2019-2024

The Limerick City and County Council’s Corporate Plan is a five-year framework for action that puts forward a vision for both city and council built on organisational activity, governance and business architecture, with the ambition to “make Limerick the driver for the Mid West through positive disruption and innovative citizen engagement.” The plan promotes investment, connectivity through major infrastructural projects and businesses as well as places a strong focus on community and housing development. It is based on four pillars: economic, community, housing development, water and fire emergency service, physical (connectivity). The Corporate Plan is further supported by Annual Service Delivery Plans that provide detailed activities to be accomplished to deliver on the strategic goals of the Plan outlined overleaf.

Strategic Goals in Limerick City and Council's Corporate Plan

1. Maintain a City and County Council that is recognised as ambitious and innovative for the people of Limerick
2. Grow our economy and create opportunity in Limerick
3. Invest in Limerick's infrastructure, protect its natural and built environment and unique heritage mix
4. Transition to an environmentally sustainable carbon neutral economy
5. Promote a socially integrated, healthy and safe Limerick Water Infrastructure
6. Actively engage with our communities
7. Work with our colleagues across the public sector and our partners in the private and voluntary/community sector to deliver on a shared commitment to Limerick as set out in the Limerick Charter
8. Be effective and committed to providing services that will underpin an innovative Limerick

Source: Limerick City and County Council's Corporate Plan, 2019-2024

Local Enterprise Development Plan 2017-2020

The Local Enterprise Development Plan (LEDP), developed by the Local Enterprise Office (LEO) Limerick, has the objective to promote local enterprise, innovation and spur job creation, in line with NPF's National Outcome Objective 6 of A Strong Economy Supported by Enterprise, Innovation and Skills. More specifically, LEO's vision seeks to "promote entrepreneurship, foster business start-ups and develop existing micro and small businesses to drive job creation and to provide accessible high-quality supports for your business ideas." The envisaged key priorities concern: the development of the first stop shop information service; maximising business potential of micro-enterprises; building on capacity for start-ups in Limerick; and providing assistance to businesses that address uncertainty such as Brexit. LEO sets out as a growth target the injection of a further 150 net new jobs facilitated through a €1.3m investment in the small business sector. Below we outline the four overarching strategic objectives: Business Information and Advisory Service; Enterprise Support Services; Entrepreneurship Support Services; Local Enterprise Development Services; and their associated key upgrade goals identified in the LEDP.

Key Upgrade Goals in the Local Enterprise Development Plan 2017-2020

- Business Information & Advisory Services: First stop shop enterprise information points located throughout the city and county in key Customer Service Centres and libraries
- Enterprise Support Services: Based on an analysis of the client portfolio of LEO Limerick it is intended to shift the balance of Measure 2, training and development activities, to business expansion and growth potential companies
- Entrepreneurship Support Services: Develop a new “pilot” enterprise programme for Primary level schools in Limerick city and county in conjunction with Mary Immaculate College and nominated teachers in the area.
- Local Enterprise Development Services: To carry out a research project to examine the demand, supply and availability of quality enterprise space in Limerick city and county

Source: Local Enterprise Development Plan 2017-2020

Annex 2 International Case Studies

Vienna

Vienna was placed 5th in the ARCADIS 2018 Overall Sustainability Index for its effort to promote the sustainable development of the city⁷⁰. The recently adopted Smart City Wien Framework Strategy⁷¹ 2020-2050 (Framework Strategy), the future sustainable development of Vienna in the long-term and is built upon the goals to: i) enhance the quality of life by focusing on social inclusion and life satisfaction; ii) reduce local per capita greenhouse gas emissions and material footprint of consumption; and iii) focus on innovation and become Europe's digitalisation capital. In achieving its overarching goals, the Framework Strategy provides orientation for more short-term sectoral sub-strategies, such as the Digital Vienna Strategy 2025, Innovate Vienna 2020, Urban Mobility Plan Vienna, and Urban Development Plan 2025.

Within the Framework Strategy, Urban Innovation Vienna⁷² was established as an interdisciplinary knowledge incubator for future urban issues to be addressed by innovative strategies and coordinates activities to meet the objectives set out in the Framework Strategy. Among these activities, "DigitalCity.Wien",⁷³ Vienna's ICT hub and lighthouse project of Vienna's Digital Strategy 2025, has the scope to transform the city into Europe's digital hotspots. The ICT hub is envisaged as a "networking platform" for innovation drivers, that is going to digitally support the start-up ecosystem, enhance digital trade exhibition of ICT companies ("Digital Days"), offer solutions for IT skills shortages by continuing training and education in the field of digitalisation, and bring IT skills to educational institutions.

Urban Innovation Vienna also comprises the "Energy Centre"⁷⁴ which aims at bridging the gap between climate objectives and energy sources for individual enterprises and sectors. The Centre has implemented the Municipal Energy Efficiency Programme (SEP), through which it advises large-scale construction projects and urban development areas on energy efficiency solutions. The Energy Centre has also been testing e-mobility in the city by equipping residents of a selected district with electric vehicles for six weeks and providing them with charging stations. The project, by gathering energy supply data, aimed to demonstrate the feasibility of operating electric charging stations in residential buildings at a large scale. Other projects undertaken at the Energy Centre are: the RenoBooster project, a co-ordinated effort between local administrators, real estates, and energy consulting companies, aims at facilitating more energy-efficient house renovations by establishing a one-stop-shop offering comprehensive advisory and funding services; part of the Green Energy Lab, Vienna's spatial energy planning for heat transition plans to facilitate the transition to renewable energy and decarbonisation of heat supply by incorporating energy planning and climate objectives into urban planning; Urban MoVe,⁷⁵ on the other hand, aims at examining the role and suitability of private-law contracts, mobility contracts and funds in the mobility planning, municipal programming and sustainable development of Vienna.

⁷⁰ Citizen Centric Cities, The Sustainable Cities Index, 2018, ARCADIS (https://www.arcadis.com/media/1/D/5/%7B1D5AE7E2-A348-4B6E-B1D7-6D94FA7D7567%7DSustainable_Cities_Index_2018_Arcadis.pdf)

⁷¹ <https://smartcity.wien.gv.at/site/en/approach/framework-strategy/>

⁷² <https://www.urbaninnovation.at/en>

⁷³ <https://www.digitalcity.wien/>

⁷⁴ <https://www.urbaninnovation.at/en/Energy-Center>

⁷⁵ <https://www.urbaninnovation.at/en/Urban-MoVe>

Lisbon

Lisbon, capital of Portugal and with a population of more than 500,000, shares with Limerick the south-east coast location with port access. Lisbon was recently granted by the European Commission a €350,000 Green Capital award as “an inspiration and role-model for cities across the EU, demonstrating clearly that sustainability and economic growth go hand in hand.” In this regard, the city has been particularly focused in the areas of sustainable urban mobility, sustainable land use, green growth and eco-innovation.

In the area of sustainable urban mobility, Lisbon has been prioritizing public transport, walking (Pedestrian Accessibility Plan) and cycling. For instance, in 2017, the bike-sharing system GIRA was introduced, providing e-bikes to be used in the hilly areas of the city. Moreover, the city embraces the use of micro-mobility (i.e., e-scooter and e-bike companies) with private providers; whereas Carris,⁷⁶ Lisbon’s transport company has planned to increase electric vehicles in its public transport system, as well as target “to shift 150,000 motorists to more sustainable modes of travel by 2030.”

Furthermore, Lisbon counts the world’s largest number of charging points for electric vehicles and was the first European city to adopt the Mobility Data Specification (MDS), a data sharing system which allows data comparison and analysis from mobility service providers (i.e., bike-shares, e-scooters). This is a clear practical implementation of the concept of smart city. Moreover, the Smart Open Lisboa Programme⁷⁷ is an open innovation programme that finds innovative solutions (i.e., smart cars, e-payment, AI and biometrics) in the areas of road and infrastructure management, urban mobility services, public transportation, parking management etc. Other smart solutions that have been implemented in the city include the Corporate Mobility Pact, that offers mobility credits for companies/employees that use bicycles/transport passes and e-vehicles for their commute.

With regards to sustainable land use policies,⁷⁸ Lisbon has been committed to enhance the access to its natural areas by linking the city’s cycle and walking paths to its natural amenities (i.e., Monsanto Park, Tagus River) to improve the accessibility to local outdoor recreational space. Besides providing greater access to its existing green areas, Lisbon has also planned to create new green space with focus on biodiversity and wildlife protection.

Lisbon’s sustainable development policies are incorporated in the “Programa Operacional Regional de Lisboa 2020”,⁷⁹ Lisbon’s urban development strategy, whose main objectives and priorities are to increase research and development and innovation; enhance SMEs competitiveness; facilitate the transition to a low-carbon economy; focus on environmental protection and efficient use of resources and improve the life quality in the city by providing smart solutions for energy efficiency, mobility and social cohesion. Lisbon has also received €74 million of EU funding for the sustainable urban development of the city.⁸⁰

⁷⁶ <https://cities-today.com/how-lisbon-is-reshaping-its-mobility-landscape/>

⁷⁷ <https://smartopenlisboa.com/mobility/>

⁷⁸ <https://ec.europa.eu/environment/europeangreencapital/winning-cities/2020-lisbon/>

⁷⁹ <https://smartcities-infosystem.eu/scis-projects/demo-sites/sharing-cities-site-lisbon>

⁸⁰ <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/policy-document/lisbon%E2%80%99s-regional-operational-programme-2014-2020>

Manchester

Manchester, in the northwest of England with a population of more than 550,000, ranked 29th in the ARCADIS 2018 Overall Sustainability Index⁸¹ for its effort to promote the sustainable development of the city. This is the result of the City Council commitment to “a liveable and low carbon” and “a thriving and sustainable” city (Manchester Strategy⁸²). This is in line with an ambitious target set⁸³ to become carbon neutral by 2038, and all new housing and commercial buildings to have a zero-carbon footprint by 2028.

The Smart City agenda of Manchester included an initiative whereby, Manchester is home to the UK’s Internet of Things (IoT) Smart Cities demonstrator, CityVerve,⁸⁴ that aims “to build and deliver a smarter, more connected Manchester, creating a city that uses technology to meet the complex needs of its people”. CityVerve tests innovative ideas and technologies in the areas of health and social care, energy and environment, transport, and public realm. In the area of energy and environment, CityVerve focused on connecting existing buildings by adopting retrofit measures such as on-demand response equipment, sensors and cloud services; and implementing a building management system (BMS) to get real data from heating, cooling, energy and water systems from a smart grid.⁸⁵ In parallel, Manchester is also part of the EU-funded Horizon 2020 “Triangulum”,⁸⁶ a green growth demonstrator project to be implemented in the selected district known as the “Corridor”, which plans to create a smart grid able to supply the entire district and where only the use of electric vehicles and bicycles is allowed.

Manchester City Council, through the Zero Carbon Action Plan 2020,⁸⁷ has pledged £33 million to replace 56,000 light units with LED lighting using a centrally controlled lighting system operated using a Wi-Fi; and envisaged a carbon reduction programme to improve the energy efficiency of 13 council buildings. Transport-related measures that have been adopted or are being piloted under CityVerve include a “talkative bus system”, which seeks to use technology to create a more responsive public transport system that allows “checking-in” at the bus stop by letting bus operators know users are waiting for the service; smart traffic monitoring and smart parking, which encourages drivers to continue their journey with public transport by notifying them with available parking spaces close to buses or trains.

With regards to the sustainable economic development of the city, Manchester City Council has promoted an open-data ecosystem since 2010, “Open Data Manchester”,⁸⁸ that seeks to “enable an intelligent and efficient data environment for the benefit of businesses, citizens and the public sector.” In a similar fashion, the Centre of Digital Innovation⁸⁹ at Manchester Metropolitan University (MMU) brings together research, businesses, and teaching aiming at getting graduates into work as well as providing business spaces for SMEs to access the assets of the University.

⁸¹ Citizen Centric Cities, The Sustainable Cities Index, 2018, ARCADIS (https://www.arcadis.com/media/1/D/5/%7B1D5AE7E2-A348-4B6E-B1D7-6D94FA7D7567%7DSustainable_Cities_Index_2018_Arcadis.pdf)

⁸² https://secure.manchester.gov.uk/info/500313/the_manchester_strategy

⁸³ <https://www.greatermanchester-ca.gov.uk/what-we-do/environment/>

⁸⁴ <https://cityverve.org.uk/>

⁸⁵ <https://cityverve.org.uk/project/energy-and-environment/>

⁸⁶ https://www.manchester.gov.uk/site/custom_scripts/smarter_city/case_studies.php?id=138652

⁸⁷ https://secure.manchester.gov.uk/info/500002/council_policies_and_strategies/3833/climate_change/2

⁸⁸ https://secure.manchester.gov.uk/info/100004/the_council_and_democracy/4840/manchester_city_council_open_data

⁸⁹ https://www.manchester.gov.uk/site/custom_scripts/smarter_city/case_studies.php?id=138636

In addition, the transformation programme of Manchester Airport, as envisaged by the City Council, will bring “growth in the south of the city, creating a number of jobs and driving Manchester as a global centre for logistics and advanced manufacturing.”^{90, 91, 92}

The Sustainable Urban Development Plan (2020), seeks to transform the Greater Manchester into a “world-leading” urban green city region by spurring innovation and new technologies, and energy efficiency. This includes innovative demonstration projects for testing new technologies (i.e., the testing of new ideas for low carbon products is currently being undertaken by the University of Salford’s Energy House, Manchester Metropolitan University (Hydrogen Partnership) and University of Manchester (Manchester Energy)); integrating new technologies at the building or community scale (i.e., the NEDO project is a smart community demonstration project where carbon reduction is realised by replacing gas systems with heat pump technologies in public housing, as well as by implementing other types of retrofit measures).

Leeds

Leeds is in Northern England and has a population of nearly 800,000. Included in the 2018 Sustainability Index by ARCADIS, economic development in the city has been planned and delivered through the Leeds Growth Strategy 2017-2020.⁹³ The City Council focussed particularly on the thematic areas of innovation and connectivity to spur economic growth. In this regard, the City Region pledged over £1 billion on a Growth Deal with the goal to improve its transport connectivity, housing stock, and regenerate the city centre.

Leeds, at the centre of the Northern Powerhouse, sees stronger links to Northern England as a crucial growth enabler that will enhance business networks, labour markets and supply chains. The strategy adopted includes projects on a major rail infrastructure that comprises a modern high-speed rail (HS2), as well as the construction of an inland port to enable transportation of freight into Leeds and thus reducing congestion on roads.⁹⁴ Other major infrastructural projects include the revitalisation of its docklands (Leeds South Bank), considered to be one of Europe’s largest regeneration projects; and an ambitious house building plan, that will deliver an additional 1,000 homes by 2021.

As part of the plan to strengthen connectivity for people to better access jobs, Leeds has designated an Enterprise Zone,⁹⁵ whose most notable advantage is its strategic location at the heart of the motorway network, but also within a few minutes from Leeds city centre. Leeds Enterprise Zone includes manufacturing, logistics and distribution; provides new business floor space, and will soon host the Institute for High-Speed Rail and System Integration that is going to boost “the ability of UK to export globally in rail and infrastructure.”

⁹⁰ <https://www.investinmanchester.com/media-and-events/industry-news/2020/11/4/manchester-named-uk-s-second-most-attractive-city-for-tech-investment-a2830>

⁹¹ <https://www.investinmanchester.com/sectors/advanced-manufacturing/industry-4-0>

⁹² Our Manchester Industrial Strategy, 2020

⁹³ <http://www.leedsgrowthstrategy.co.uk/wp-content/uploads/2018/06/Leeds-Inclusive-Growth-Strategy-FINAL.pdf>

⁹⁴ <https://www.westyorks-ca.gov.uk/projects/infrastructure-for-growth/leeds-inland-port/>

⁹⁵ <https://www.leeds.gov.uk/leedsenterprisezone/home>

Annex 3 Outline of Potential KPIs

Indecon believes that setting key performance indicators is critical to any plans for Limerick city. Within the context of sustainable development and urban systems, the use of indicators is contingent on the definition of sustainable development and serve different purposes, such as decision-making and urban planning; encouraging changes and sustainability awareness; monitoring progress towards goals and sustainable development targets.⁹⁶ Overall, indicators vary by the approach used to measure sustainability, selection criteria, context and urban size to which they are applied (i.e., at national or city or county level).

There are two approaches for measuring sustainability: a “goal-oriented approach”,⁹⁷ which uses indicators in the function of a set target (i.e., a value or a range) to measure the current situation of sustainable development; and a “relative approach”, which uses indicators to conduct a performance assessment in relation to i.e., other cities. Most of indicators are grouped into sustainability aspects (i.e., the popularised four sustainability pillars, i.e., economic, environmental, social and governance)⁹⁸, and revolve around a set of goals/targets set by government organizations or by a local sustainability plan. The approach becomes “integrated” if relevant stakeholders were to value the complexity that resides in the interrelation of the sustainability areas being examined, out of which a sustainability framework is constructed.

Indicators should be representative of the context examined.⁹⁹ For instance, by tailoring indicators to local sustainability issues, one avoids under or over-representation in selected aspects of sustainable development and better evaluates the reality of the urban system. Furthermore, to measure the effectiveness of an indicator, the latter should be:

“meaningful, easily measurable and understandable, sensitive to a varying space or time, coherent with other selected indicators, concise in summarising complexity, reproducible, reliable, calculable for smaller spatial contexts (i.e., neighbourhoods), economically convenient (collection of data should be easy and cheap).” (Ramieri et al., 1998).

Since one indicator cannot satisfy all selection criteria, it is commonly agreed that an indicator needs to be locally relevant and measurable (contingent upon availability of data). It is also worth noting that indicators should be frequently verified and updated; update ability is, in fact, important in the sense that sustainability aspects are variable and existing issues might be solved over time. A report from the European Commission¹⁰⁰ further highlights the necessity of standardised indicators for performance assessment. In this way, indicator sets can be validated and improved”. However, the use of standardised or universal indicators in some cases might not be representative of small urban systems¹⁰¹. In addition, universal sustainability frameworks developed by government agencies might have little consideration for data availability, becoming also unsuitable to smaller contexts.

Further technicalities to be considered when using sustainability indicators concern the type of measures to be used. A baseline is usually established at the beginning of measurement, and one could use absolute measures (i.e., annual carbon emissions) or relative measures (i.e., % improvement on carbon emissions from reference year) to make comparisons against the baseline.

⁹⁶ Klopp, Jacqueline & Petretta, Danielle (2017). The urban sustainable development goal: Indicators, complexity and the politics of measuring cities (<https://doi.org/10.1016/J.CITIES.2016.12.019>)

⁹⁷ Anderson, L. (2013). Measuring Sustainable Cities: An approach for assessing municipal-level sustainability indicator systems in Sweden.

⁹⁸https://ec.europa.eu/environment/integration/research/newsalert/pdf/indicators_for_sustainable_cities_IR12_en.pdf

⁹⁹ Ramieri, Emiliano & Cogo, Valentina. (1998). Indicators of Sustainable Development for the City and the Lagoon of Venice. SSRN Electronic Journal. 10.2139/ssrn.135588.

¹⁰⁰https://ec.europa.eu/environment/integration/research/newsalert/pdf/indicators_for_sustainable_cities_IR12_en.pdf

¹⁰¹ Anderson, L. (2013). Measuring Sustainable Cities: An approach for assessing municipal-level sustainability indicator systems in Sweden

In the table below, we summarise important considerations for in developing performance indicators to monitor the performance of Limerick city.

Table A2.1 Important Considerations for Using Indicators
<ul style="list-style-type: none"> • Without good data, based on monitoring, it is not possible to develop indicators; • Performance measures imply that targets need to be set; • Sets of indicators evolve over time; • Sets of indicators are seldom, if ever, complete; • Measurement of indicators tends to reduce uncertainty, but does not eliminate it;
<p><i>Source: Indicators for Sustainable Cities (European Commission, 2015). Pressure-State-Response Framework and Environmental Indicators (Food and Agriculture Organization of the United Nations, 2002).</i></p>

We next explore a sample list of indicators taken from three sustainability frameworks:

1. The European Reference Framework for Sustainable Cities (RFSC)¹⁰² uses an integrated sustainable development approach where indicators¹⁰³ are grouped into five dimensions (spatial, governance, social, economic and environmental), and each revolve around 10 objectives¹⁰⁴ to be tailored to the individual context.
2. The EU Sustainable Development Goal (SDG) indicator set from Eurostat adopts a “goal-oriented approach” and serves as a mean for Eurostat to monitor progress towards EU SDGs across member states. Multi-purpose indicators (MPIs) are also developed to account for overlapping aspects of SDGs and track progress towards more than one goal.
3. The International Standard on city Indicators (ISO 37120),¹⁰⁵ developed by the Sustainable Development in Communities, adopts a more “relative approach” by measuring the social, economic, and environmental performance in relation to other cities, using standardised and comparable data.

¹⁰² <http://rfsc.eu/>

¹⁰³ Selection of indicators in RFSC comes from global datasets (European Common Indicators, Sustainable Development Indicators, Global City Indicators (World Bank), Urban audit, Aalborg Charter indicators, etc) as well as European Commission, Member States and test cities, according to relevance criteria to the European targets, data availability and updateability.

¹⁰⁴ <http://rfsc.eu/wp-content/uploads/2016/03/30-objectives-1.pdf>

¹⁰⁵ https://www.iso.org/files/live/sites/isoorg/files/archive/pdf/en/37120_briefing_note.pdf

Each framework covers the environmental, economic and social dimension of sustainability in which a sample list of indicators is chosen according to its applicability and relevance to Limerick. We align indicators with excerpts from local (i.e., Limerick 2030) and national policy objectives (i.e., Project Ireland 2040); and wherever possible, we propose indicators in line with overall objectives. We select indicators from the sustainability frameworks whose flexibility has been tested (they can be applied to both entire urban system or specific initiatives);¹⁰⁶ and propose absolute measures to facilitate comparison across different urban sizes.¹⁰⁷

In the table below we present environmental indicators covering areas such as i.e., mobility, energy efficiency and water quality. The objectives shown in the table have been considered as growth enablers for Limerick in the National Planning Framework (NFP), and these encompass enhancing connectivity and improving sustainability in terms of energy, waste and resource efficiency. Indicators include testing mobility and public transport capacity (i.e., % of each mode of transportation; % of commuters using a travel mode to work other than a personal vehicle; % of population living within 0,5 km of public transit running at least every 20 minutes during peak periods). With regards to a better and sustainable use of resources, traditional indicators have also been used such as, % of total energy consumed in the city that comes from renewable sources; as well as indicators that value efficiency in the public realm, i.e., energy consumption of public buildings per year (kWh/m²).

Table A2.2 Possible List of Indicators (Environmental/Transport)			
Sustainability Dimension	Objective	Indicator	Source
Environmental	-Progressing the sustainable development of new greenfield areas for housing and the development of supporting public transport and infrastructure (NFP) -Enhanced regional connectivity through improved average journey times (NFP)	% of green space (public parks) coverage in relation to city area and/or population size	Reference Framework for Sustainable Cities
		Transportation mode split (% of each mode of transportation, i.e., private, public, bicycles, pedestrians)	
		Annual Number of public transport trips per capita	ISO 37120
		% of commuters using a travel mode to work other than a personal vehicle	Sustainable Development of Communities
		Km of bicycle paths and lanes per 100,000 population	
		% of population living within 0,5 km of public transit running at least every 20 minutes during peak periods	
		Share of busses and trains in total passenger transport	Eurostat
	- Improving sustainability in terms of energy, waste management and resource efficiency and water (NFP) -Ensuring that water supply and waste-water needs are met by new national projects to enhance Limerick's water supply and increase wastewater treatment capacity (NFP)	Total amount of GHG emissions per city and per capita	Reference Framework for Sustainable Cities
		% of total energy consumed in the city that comes from renewable sources	
		Total amount of water availability; Proportion of population with access to adequate and safe drinking water	
		Recycling rate (% diverted from waste stream); Volume of solid waste generated	Eurostat
		Share of renewable energy in gross final energy consumption (% all sectors, transport, electricity, heating and cooling)	
		Exposure to air pollution by particulate matter ($\mu\text{g}/\text{m}^3$)	
		Total residential electrical use per capita (kWh/year)	ISO 37120
		Energy consumption of public buildings per year (kWh/m ²)	
% of city population with potable water supply service			
	% of city population served by wastewater collection	Development of Communities	
Source: Reference Framework for Sustainable Cities; ISO 37120*; Eurostat			
*We select only standard ISO 37120 indicators that are publicly available.			

¹⁰⁶ Winter, A.K. Review of the European reference framework for sustainable cities. Int. Journal of Com. WB 1, 83–86 (2018). <https://doi.org/10.1007/s42413-018-0007-z>

¹⁰⁷ Thorpe, D. (2017). What are the Best Indicators for Measuring the Sustainability of Cities?

In the table below we present indicators in the economical dimension of sustainability. Indicators are chosen according to the overall vision to “strengthen the knowledge economy”, creating “an outstanding business environment” and “the conditions for long-term growth”. Potential indicators include (employment/unemployment/underemployment rates) and educational indicators (i.e., average professional education years of labour force; human resources in science and technology). In relation to Limerick, the potential sample list includes monitoring office floor space (i.e., share of office vacant premises) and workplace occupancy (% of workplaces already occupied and active); as well as employment density in areas to be regenerated (employment density in regeneration area).

Table A2.3 Possible List of Indicators (Economic Development)			
Sustainability Dimension	Objective	Indicator	Source
Economy	- Create city centre office accommodation and transformational city centre public realm projects (Limerick 2030) -Encourage employment development throughout inner suburban areas capacity (Limerick 2030)	Underemployment/employment/ unemployment rates	Reference Framework for Sustainable Cities
		% of green jobs in the local economy	
		Average professional education years of labour force	ISO 37120 Sustainable Development of Communities
		Value of Commercial and industrial properties as a % of total assessed value of properties	
		Number of businesses	Eurostat
		Jobs-housing ratio	
		Human resources in science and technology (% of active population aged 25 to 64)	Other proposed indicators
Share of office vacant premises; sq.m. of office space; Workplace occupancy: % of workplaces already occupied and active**; Employment density in regeneration area (employees/ha)**			
Source: Reference Framework for Sustainable Cities; ISO 37120; Eurostat			
*We select only standard ISO 37120 indicators that are publicly available.			
** Balaban, O. (2013). The Use of Indicators to Assess Urban Regeneration Performance for Climate-Friendly Urban Development: The Case of Yokohama Minato Mirai.			

In considering the social dimension of sustainability this concerns urban residential regeneration and community development. Potential indicators in this area include measures of quality of life (i.e., basic service proximity; sq. m of public indoor/outdoor recreation space per capita); overall neighbourhood satisfaction (access to local/ neighbourhood services within a short distance); and improvement in infrastructure and community participation in areas to be regenerated (% of infrastructure renewed or rehabilitated in project area; and involvement of community in preparation of regeneration project).

Table A2.4 Possible List of Indicators (Social Inclusion)			
Sustainability Dimension	Objective	Indicator	Source
Social	- Encourage significant urban residential regeneration (Limerick 2030) - Compact City (NFP) - Enabling enhanced opportunities for existing communities through employment, learning and education support (Limerick 2030)	Access to local/ neighbourhood services within a short distance	Reference Framework for Sustainable Cities
		% of social/ affordable/ priority housing	
		Breakdown of housing sector by property type (owner-occupied/ rental, single-occupant/couples/family/multifamily etc.)	ISO 37120 Sustainable Development of Communities
		Basic service proximity	
		Sq. m. of public indoor/outdoor recreation space per capita	Other proposed Indicators
		% of infrastructure renewed or rehabilitated in project area**; Involvement of community in preparation of regeneration project**;	

Source: Reference Framework for Sustainable Cities; ISO 37120
 * We select only standard ISO 37120 indicators that are publicly available.
 ** Balaban, O. (2013). The Use of Indicators to Assess Urban Regeneration Performance for Climate-Friendly Urban Development: The Case of Yokohama Minato Mirai.

Based on the analysis undertaken, Indecon believes that there is a wide range of potential KPIs which could be considered. However, we believe it is important to focus on the main indicators relevant to monitoring progress and these should reflect the key objectives set for the city. Indecon believes that key performance indicators which should be considered include:

- 1.1 Increase in housing density to support compact growth.
- 1.2 The number of people living in the city centre and the proximity to the location of employment.
- 1.3 The numbers employed arising from the projects implemented.
- 1.4 Aggregate number of new jobs created in the city.
- 1.5 The increase in broadband coverage and the speed of services.
- 1.6 The reduction in the numbers at risk of poverty.
- 1.7 The percentage of population using environmentally compatible commuting options.
- 1.8 The percentage of the housing stock with improved energy ratings.
- 1.9 The increase in housing units in the city centre, and the decline in the percentage of vacant properties.
- 1.10 The increase in tourism revenues.
- 1.11 The increase in the national share of specified high-value sectoral employment in the city.
- 1.12 The increase in footfall in the city centre.

Annex 4 Map of Limerick City and its Environs (CSO definition)



Local Electoral Area Boundary Committee No. 1 Report 2018

Limerick Metropolitan District

