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Future of Irish cities report

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Joined-up planning holds the key to unlocking housing delivery

Housing delivery is often treated as a standalone issue, but it should not be. New homes depend on infrastructure, which not only requires connections, but coordination. Transport, energy, and water systems make homes viable. When planned in isolation, delays can follow.

Ireland is facing one of the fastest rates of urban population growth in Europe. To meet this challenge, we must unlock land for housing. This is not just about land, bricks, and mortar. It is about how people live. Growth will provide new jobs, homes, and amenities but it must be carefully balanced to provide a high quality of life, access to services, and opportunities for all residents. The key to both speed and quality lies in how we coordinate, plan, and deliver infrastructure.

In recent years, Jacobs has worked with the Land Development Agency (LDA) on the assessment of state-owned lands across Ireland for housing. Many sites face familiar constraints: poor road access, limited transport, and ageing utilities.

There are already clear signals that integrated approaches can remove longstanding blockers. Agencies like the LDA and the National Transport Authority (NTA) are moving towards more coordinated strategies. The sites are there. Our challenge is to align the systems.

With more collaboration across agencies and the use of digital planning tools, the approach is becoming more integrated. And that is when things move faster. By aligning infrastructure development with housing needs from the outset, delays, and inefficiencies can be significantly reduced.

A well-connected home is not just defined by what is inside its four walls, but how it links to power, water, transport, and community.

Lifting the constraints: where housing delivery is gaining ground

Jacobs' recent assessments show the same pattern in cities and towns across Ireland: challenges with road access, limited or absent public transport, and constrained utility infrastructure. These are coordination issues, not dead ends.

The LDA's remit has expanded, with a goal to maximise the potential of every tool at our disposal and accelerate housing delivery to the levels necessary to meet the State's needs. The NTA and

Uisce Éireann are working more closely with planning teams. And Jacobs' long-term role has been supportive of a system-led approach.

Ireland is not alone in facing these challenges. The paths to resolving them may vary widely from one region to the next, but the common thread is coordination and strategy correlates to speed and quality.

For example, the Netherlands' *Recovery and Resilience Plan* ties housing growth directly to infrastructure investment, with mobility, decarbonisation, and sustainable urbanisation all treated as linked priorities. In Freiburg, Germany, tram routes and schools were built before the homes, matching transport infrastructure to the growth of the community with a high-quality system in place early.

Connections that accelerate delivery

Public transport is the fastest lever available to make housing work, especially in towns and smaller cities with limited rail networks, and buses will carry most of the load. They can be deployed quickly and re-routed as demand changes. But they still need the right infrastructure.

Since 2021, the NTA has committed to transition towards zero emission bus fleets. This commitment was reinforced in 2024 with the launch of its first *Sustainability Strategy 2024-2030* which outlines the transition of nearly half of its Dublin metropolitan bus fleets and 40 per cent of combined bus fleet in Cork, Limerick, Galway, and Waterford to low or zero emission vehicles by 2026.

The decarbonisation challenge creates an opportunity to deliver upgraded depots, stronger local energy infrastructure, and better support for new housing. Both the NTA and LDA recognise that transport is not separate from housing, it is what makes new communities viable. Integrated planning between the two is essential, not only to reduce emissions through modal shift, but to speed up delivery by coordinating depots, land access, grid connections, and development timelines.

The demand for more lands to accommodate modernised bus depots is likely to see an exponential upward trend across the country. National government bodies and local authorities will need to work collaboratively on land use planning for combined services required to support housing development.

An interim bus depot we designed and nearing completion at Jamestown in Dublin shows what is possible when that alignment happens early. Jacobs worked with the NTA from the outset, integrating land use planning in the identification of the site, before designing the depot, navigating statutory consents and planning gateways through close engagement with local authorities, then developing the procurement strategy. The depot is now close to delivery in under four years. This paves the way for existing depots to be upgraded as required for the expansion of the electric fleet, while also achieving combined land use and bus network goals that align with wider housing objectives.

Capacity, constraints, and local solutions

As housing demand grows and the shift to electric transport and heating accelerates, pressure on Ireland's energy infrastructure is increasing.

Current supply constraints, aging infrastructure, and the sustained reliance on imported, non-renewable energy pose significant barriers to the delivery of new housing across Irish cities and towns.

Meeting this demand will require national investment in capacity alongside smarter, more local solutions that build resilience into the system. Innovative solutions for the production, storage and transmission of energy will be the key to providing long-term resilience.

Direct current (DC) microgrids are one of the most promising options and small-scale residential projects have already been piloted across the globe. They store and distribute energy on-

site, reduce conversion losses, and cut strain on the grid. They work especially well for transport sites. Battery electric buses already run on DC power, so removing AC (alternating current) to DC converters simplifies the system and reduces cost.

Depots can be a proving ground. Their predictable demand and closed-loop setup make them ideal candidates for localised energy infrastructure.

To scale this approach, regulation and planning policy will need to evolve. Land-use frameworks should allow for mixed infrastructure. Planning should support decentralised systems. And stakeholders need clearer pathways to evaluate and implement alternatives.

Many housing delays also stem from capacity limits in water supply, drainage or treatment networks. Ireland's water infrastructure is managed nationally, but its impact is local. Digital tools like Jacobs' Digital OneWater model help planners understand how to align housing needs with water system upgrades. In New York, the same tool helped free up urban land by integrating wastewater planning into broader city design.

Data for joined up delivery

Bringing together transport, energy, and water planning is complex, but the adoption of digital tools allows a greater understanding of how to integrate the needs of housing, transport and utility infrastructure from an early stage.

These platforms offer deeper insights into complex systems and enable substantial cost savings by allowing hundreds of planning scenarios to be explored simultaneously, reducing the risks associated with these developments.

Digital models help planners and delivery agencies run hundreds of planning scenarios at once, assessing the impacts of different timelines, site choices, and capacity constraints. Modelling growth needs across infrastructure and housing helps join the dots and allow for more accurate scenario modelling to plan the cities of the future.

To assess and prioritise the best locations for bus depots, we use heat mapping tools to ensure that suitable public transport is available to meet future demand, by locating these in areas that best serve the fleet and bus routes. These tools consider key information such as population numbers, property values, bus routes served, future fleet requirements, access, safety and route widths. Modelling tools, such as Jacobs FleetMax, help planners find strategic opportunities for transitioning fleet in the early planning and design phases of infrastructure projects and programmes, ensuring that rural locations can be served by zero emission public transport vehicles.

The broader shift is about working across disciplines. Data models are only as good as the conversations they support. When planning and delivery teams use a shared view, decision-making improves.

Faster, smarter, and more human

Ambitious targets for growth have been set out in Ireland's National Planning Framework to meet escalating housing and infrastructure

"A well-connected home is not just defined by what is inside its four walls, but how it links to power, water, transport, and community."

demand. With one of the greatest projected urban population increases in Europe by 2051, time is of the essence.

Early and integrated planning of energy, transport, and water infrastructure across government departments – supported by digital tools – can be a catalyst not just for agile housing delivery, but for healthier, more connected communities. When infrastructure and housing are planned together, the result is not only more efficient development, but environments that actively support people's wellbeing and quality of life.

We can already see this approach in action. The City of Edinburgh has adopted a similar model in its public realm redesign, putting health and people at the heart of infrastructure planning. It is shown how systems designed together can support both wellbeing and movement. The way people live, travel, shop, socialise, work, and play is evolving, reflecting global trends and modern technologies. Edinburgh is recognising these changes by putting people at the heart of design.

Jacobs worked with the City of Edinburgh Council on a city centre redesign to shape vision, delivery planning and business cases for new public spaces. The changes could create wider pedestrian areas, cycle routes, greenery, seating, and traffic reduction – all aimed at creating a more inclusive, healthier public realm with better connectivity, safety, and wellbeing.

It shows that joined-up planning builds not just transport or housing networks, but better places to live.

Planning systems together allows housing and infrastructure to become mutual enablers Behind the aspirational targets for housing delivery, sits an ultimate goal – to create thriving, resilient places for people. Sequencing infrastructure from the start, with alignment across all agencies, is the essential path to that goal.

As the key influencing government organisations scale up their land activation efforts, leveraging digital tools and a systems-based approach can unlock the land, homes, and sustainable communities needed across the country. By treating infrastructure as a starting point, we will build quicker, better, and for the long term.

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What the NDP Review means for the future of Ireland's cities

The 2025 Review of the National Development Plan has allocated €275.4 billion for new infrastructure projects throughout Ireland between 2026 and 2035. *eolas Magazine* examines the ramifications of this for the future of Ireland's cities.

Housing

The 2025 review of the National Development Plan (NDP) reaffirms housing as the cornerstone of urban development. The Government's ambition to deliver around 300,000 new homes by 2030 is supported by €35.9 billion in allocations for housing, including €7.7 billion for water infrastructure to unlock capacity for growth.

To accelerate delivery, the plan mandates the use of standardised designs for social housing and encourages modern methods of construction (MMC). These innovations aim to lower costs and speed up delivery, particularly in urban areas where demand is highest. The adoption of MMC is forecast to reduce labour shortages in the construction sector and support the delivery of an annual average of 12,000 social homes and 15,000 starter homes.

The NDP also integrates housing development with other urban priorities, including energy, transport, and climate resilience, aiming to ensure that new communities are well served by modern infrastructure.

Transport

The NDP commits €22.3 billion to the transport sector between 2026 and 2030, placing low-carbon mobility at the centre of future urban growth. Investment in public transport, active travel, and strategic projects like MetroLink will enhance connectivity, reduce congestion, and cut emissions.

MetroLink, backed by the Infrastructure, Climate and Nature Fund (ICNF), is the flagship project of this investment cycle. Its construction is to be accompanied by continued development of walking and cycling infrastructure, including 660km of new pathways and 400km of cycling routes.

Public consultation for the review confirmed transport as the top priority for additional investment, with 77 per cent of respondents highlighting its importance. This aligns with the National Planning Framework (NPF), which promotes compact, sustainable urban development supported by integrated transport networks.

Energy and water

The NDP provides €3.5 billion in equity funding to ESB and EirGrid to expand grid capacity, while €4.5 billion is allocated to Uisce Éireann to support large-scale water projects.

These investments are critical to meeting the Government's housing targets and to supporting the electrification of cities as part of the climate transition. Enhanced grid capacity also aims to strengthen the State's competitiveness by supporting the digital economy and high-tech industries.

By prioritising renewable energy integration and sustainable water management, the NDP aims to ensure that urban infrastructure can adapt to the pressures of population growth and climate change.

Climate

Climate policy underpins every target outlined in the NDP. All projects funded under the plan are subject to climate and environmental assessments to ensure alignment with the State's statutory targets: a 51 per cent reduction in emissions by 2030 and climate neutrality by 2050.

The ICNF provides €2 billion annually to support environmental projects. Of this, €2 billion is earmarked for low-carbon transport, €500 million for renewable energy initiatives, and €650 million for water quality improvements. For cities, this focus translates into cleaner air, more green spaces, and infrastructure that can withstand the impacts of climate change.

Governance and delivery

The scale of the NDP's ambitions requires reforms to how infrastructure is delivered. Updated Infrastructure Guidelines have reduced approval stages for major projects from five to three, streamlining decision-making while retaining robust oversight.

The Build Digital Project supports innovation in the construction sector, driving adoption of digital practices to increase productivity and sustainability. The creation of an infrastructure division within the Department of Public Expenditure and the establishment of the Accelerating Infrastructure Taskforce will further address barriers to delivery.

Demographics

The State's population is projected to reach 6.1 million by 2040, with cities absorbing much of this growth. The NDP responds by aligning with the revised NPF's aim for balanced regional development, targeting a 50:50 distribution of growth between the five biggest cities (Dublin, Cork, Galway, Limerick, and Waterford) and the rest of the State.

This approach reduces the risk of urban congestion while ensuring that smaller cities benefit from strategic investment. Compact growth policies also encourage more efficient use of land and resources, supporting sustainable urbanisation.

Commentary and analysis

In his ministerial foreword, Minister for Public Expenditure, Infrastructure, Public Service Reform and Digitalisation Jack Chambers TD says: "The largest ever capital investment plan in the history of the State will create the building blocks needed to deliver thousands of new homes, provide more childcare and school places, invest in children's disability services and ensure better healthcare for all.

"The review of the NDP has considered the most important challenges facing our economy and society in terms of delivering housing, educating our young people and the next generation of workers in our economy, and supporting competitiveness through innovation. It takes account of the needs of a growing and ageing population, addressing historical infrastructure pressures, ensuring balanced regional development in line with the NPF as well as meeting our climate obligations, whilst also delivering on the commitments contained in the Programme for Government.

"This NDP, along with the spatial planning in the NPF, will be vital to delivering the infrastructure needed to respond to these challenges whilst also ensuring Ireland is in a strong position to respond to opportunities as they arise. Delivery of the Plan will be supported by the work being progressed by my department and the Accelerating Infrastructure Taskforce to identify potential reforms to remove barriers to the delivery of strategic infrastructure, while continuing to ensure value for money for the Exchequer."

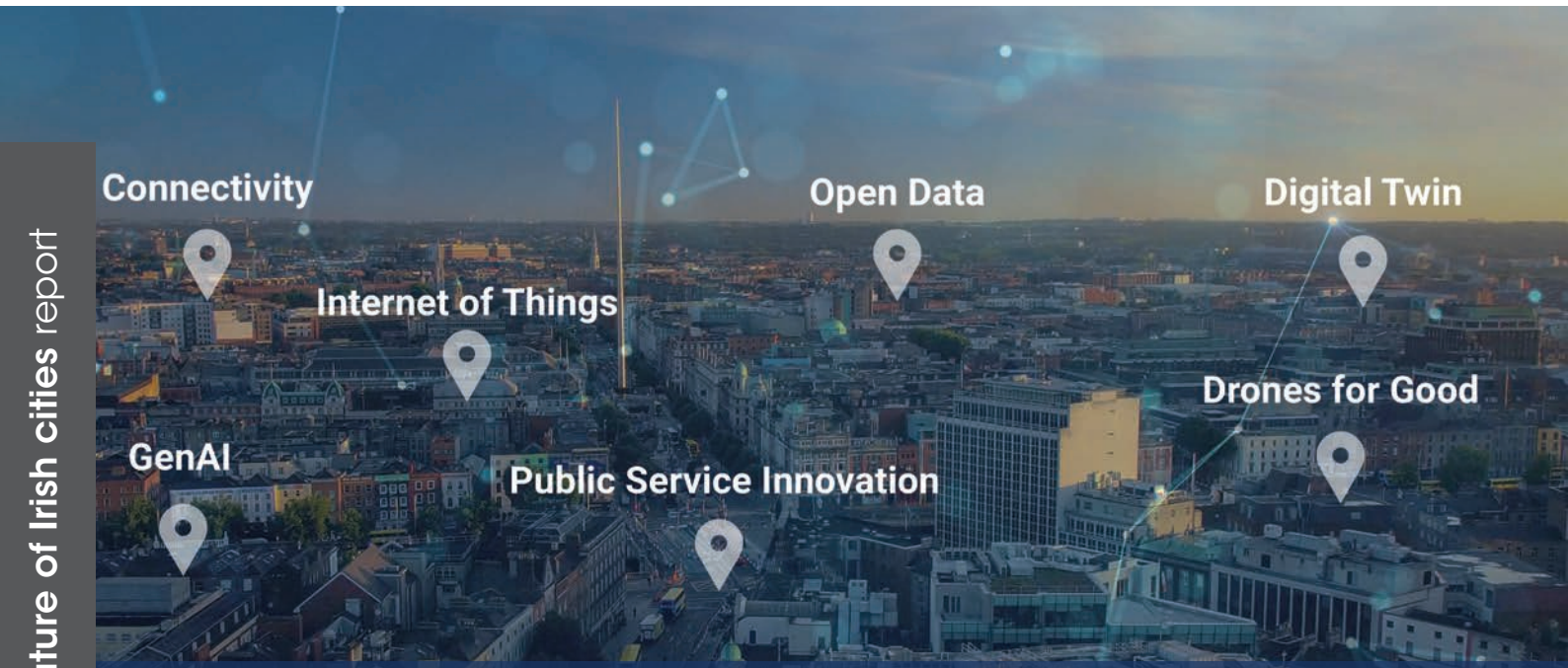
The review has been critiqued by Sinn Féin, with the party's Dublin spokesperson Mark Ward TD saying that it is "low on detail and it is lacking in ambition", adding: "This plan does nothing to reassure Dubs who have been waiting decades for the delivery of affordable housing and transport infrastructure."

Delivering on the NDP's commitments faces challenges such as labour shortages, inflation driven by supply chain disruption, and overcoming a slow panning system. The review highlights the need for an expanded construction workforce of up to 80,000 additional workers, and improved productivity through digital adoption and MMC.

Infrastructure shortfalls, including energy, water, and transport, have inhibited the badly-needed increase in housing supply, which continues to be the main challenge facing government.

If the plan succeeds, it will play an enabling role in boosting supply and lifting the State out of the housing crisis. However, with the consequences of the Government's planning reforms still to be properly observed, it remains unclear whether the infrastructure ambitions will be met and whether the Government will be able to work towards solving the housing crisis which underpins the long-term transformation ambitions of Ireland's cities.

SMART DUBLIN



Open, connected, and engaged

As regions around the world race to adapt to the challenges of climate change, population growth, and digital transformation, Dublin has positioned itself as a leader in urban innovation.

Launched in 2016, Smart Dublin is a collaboration of the four Dublin local authorities (DLAs) working with public sector bodies, academia, industry, and citizens to tackle urban challenges using emerging technologies and data-driven solutions.

To accelerate innovation, Smart Dublin adopted the smart district approach, concentrating pilot projects in targeted locations across Dublin: Smart Docklands, Smart DCU, Smart D8, Smart Balbriggan, Smart Dún Laoghaire, and Smart Sandyford. Smart Dublin's innovation projects are typically led by one or more of the local authorities and piloted at a smart district.

Transforming local authority services

Your local council provides hundreds of services which support communities, infrastructure, and local development. These include social housing provision, road and transport upkeep, planning and development control, environmental monitoring, the fire and emergency response, etc. Each of these services is open to new ways of working that can leverage new technologies and insights from the corresponding data.

By transforming these public services, Dublin is becoming a 'smarter region'. Some examples of our work to transform council services includes:

- **Hyperlocal Air Quality:** We captured over 50 million street-level air quality data measurements of Dublin City over a period of 16 months. The project was delivered in partnership with Google, using their first electric Street View car equipped with Aclima's mobile air sensing platform. This data is now openly available to the public to support further research and to increase awareness of air quality levels in Dublin.

Google's car covered over 30,000kms capturing hyperlocal air quality data.

- **Play your part; alert us to rough sleepers:** The Dublin Rough Sleeper Alerts app enables members of the public to alert the outreach teams to the location of anyone sleeping rough. This enables the outreach teams to rapidly make contact and provide support. Since its launch at the end of 2020, over 6,000 alerts have been submitted by the public.
- **A Stolen Ring Buoy is a Stolen Life:** Every week, ring buoys go missing or are tampered with in Dublin. We used an innovation procurement process to explore lowcost sensor technology to provide real-time alerts when ring buoys are stolen or tampered with. Over 600 sensors have been deployed by multiple Irish local authorities.

Applying the same emerging technology in diverse ways

A big part of Smart Dublin's remit is to trial emerging technologies to understand the opportunities they may unlock. There is also a need for us to act as a custodian to ensure new technology is used in an ethical way. When a trial is successful and lessons have been learned, the technology can be scaled up and adopted by day-to-day council services. Examples of applying an emerging technology include:

- **If it is dirty, dangerous, or dull, a drone should do it:** Local authorities are now using drones for many services such as survey and mapping (e.g., hard-to-reach areas), infrastructure and dangerous building inspections, environmental monitoring, emergency response, etc. The use of drones is improving safety, cutting costs, and speeding up service delivery.
- **Digital twins and 3D models:** Can visualise, and simulate a physical environment in ways that could not be done before. Council use cases include emergency response, energy retrofits, public consultation, and much more.
- **GenAI:** We launched a Generative AI Lab to explore how AI technologies can improve the way local authorities serve their communities - while making sure AI is used responsibly and ethically. This is a collaboration with the ADAPT Research Ireland Centre and Trinity Business School.

Ring buoy: A sensor is discretely installed to indicate the presence of the ring buoy.

Championing Open Data

Transparency and data sharing are pillars of Smart Dublin's approach. Its Open Data Platform (Dublinked) hosts over 800 datasets, providing freely available information on many local services ranging from real-time bike-share information to noise pollution readings to registers of derelict sites. By making this data freely available, it fosters a culture of openness and transparency across Dublin's local authorities.

A great example of open data in action is our Active Travel Dashboard, which serves as a 'one-stop-shop' for analysing patterns of walking and cycling across the Dublin region. By aggregating data from multiple sources – census data, Google trips data, and EcoCounter sensors – the dashboard highlights the positive impact of active travel for your locality (e.g. health, fuel savings, CO_2 avoided, etc.)

Demystifying 'Smart Cities'

Smart Dublin also promotes an inclusive smart community through awareness, skills, and confidence-building. We want to upskill diverse stakeholders and demystify the term 'Smart Cities'. Examples of our education activities include:

- **Telecoms for Everyone:** Provides clear information about the telecoms infrastructure which supports digital connectivity across our region. In partnership with the CONNECT Research Ireland Centre for Future Networks and Communications, we produced a series of engaging, fact-based videos. Telecoms for Everyone highlights how advances in communication networks are transforming everyday life in Dublin.
- **'Design Your Future City':** A week-long programme delivered by Smart Docklands' Academy of the Near Future team for TY students to explore the role of technology in addressing urban challenges through hands-on workshops and creative activities.
- **IoT with Otie:** A comic strip series showcasing and demystifying the Internet of Things (IoT). The series includes five stories exploring the history, evolution, and current impacts emanating from IoT.

If you would like to stay informed on the work of Smart Dublin, you can sign up for our quarterly email newsletter- Smart Updates.

Scan the QR code to join our mailing list.

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Rejuvenating Dublin city centre

A plan to rejuvenate Dublin city centre by increasing the number of residents, making streets cleaner and safer, and creating a "healthy, vibrant, always-on city that respects its heritage" is outlined in the *Roadmap for Delivery: Dublin City Taskforce Report*, published in June 2025.

It builds on the *Dublin City Taskforce Report*, published in October 2024, which asserts that since the global financial crisis and Covid-19 pandemic, Dublin "feels less safe, is heavily littered, and is visibly rundown". The taskforce report outlines the following 10 action areas to rejuvenate the city:

1. revitalise O'Connell Street and environs;
2. prioritise regeneration of social housing complexes;
3. convert derelict sites into high-density residential with provision for essential workers;
4. make policing and security more visible and add 1,000 more gardaí;
5. deliver more targeted and better located services for vulnerable populations in the city centre;
6. implement a dedicated waste management plan for the city centre;
7. operate the *City Centre Transport Plan*;
8. offer Dubliners compelling reasons to visit the city centre;
9. create a marketing and communications function for Dublin; and
10. evolve appropriate governance for a capital city.

As outlined in the roadmap report, the rejuvenation project will be rolled out in three phases between 2025 and 2035, delivered by the Department of the Taoiseach. Phase one spans from 2025-26, phase two from 2027-30, and phase three from 2031-35. The roadmap is underpinned by five strands.

GPO redevelopment

The redevelopment of the GPO is the most significant project outlined under the roadmap. This is to be enabled by the creation of a 10-year Integrated Area Strategy. The *Report of the Interdepartmental Group on the Dublin City Taskforce*, published in tandem with the roadmap, asserts: "The future GPO should be developed as a mixed-use precinct incorporating some, or all of the following:

- public realm enhancements at street

> *"The GPO is one of the most significant places in Ireland's revolutionary history. It is disgraceful that the government intends to turn this historic building, an iconic site of our nation's struggle for freedom, into shopping units and office space for corporations."*
>
> **Sinn Féin leader Mary Lou McDonald TD**

level to encourage public use of the complex;

- retention of a post office function;
- reimagined retail components along Henry Street and in the GPO Arcade;
- a significant cultural use(s); and
- high quality office element on the upper floors to provide critical accommodation to meet ongoing and additional government requirements."

Under phase one, the title of the landmark is set to transfer to the Office of Public Works. Upon publication of the roadmap, Sinn Féin leader Mary Lou McDonald TD said: "The GPO is one of the most significant places in Ireland's revolutionary history. It is disgraceful that the Government intends to turn this historic building, an iconic site of our nation's struggle for freedom, into shopping units and office space for corporations."

During a Dáil Éireann debate on 26 June 2025, in response to criticism on the proposed redevelopment of the GPO by Sinn Féin TD Pearse Doherty, Tánaiste Simon Harris TD said: "The GPO is always going to be preserved under this plan as the historic cultural institution it is."

Culture, cleanliness, and community support

The roadmap outlines intentions to create a cultural hub in line with the GPO redevelopment. This aim will be informed by an audit of cultural landmarks, performance spaces, interactive installations, and exhibition areas under phase one. The roadmap plots ambitions to expand late opening hours in Henry Street, and weekend and evening opening of cultural institutions to deliver this.

To improve cleanliness in the city centre, the roadmap recommends that new waste collection systems be implemented under phase one. It also insists that additional cleaning and waste management services be rolled out in phase two to ensure full compliance of the commercial centre with waste prevention byelaws.

The report sets targets that Dublin city improve its ranking in the Irish Business Against Litter reports, 80 per cent of the deposit return scheme be attained, and that on-street bagged waste restrictions be imposed.

Under the heading of 'enhancing community support' the report asserts that existing services and facilities be audited, and a register of existing facilities in the core area be created. It also includes aims to relocate city centre emergency accommodation "where possible and appropriate", source appropriate areas for emergency accommodation in the Greater Dublin Area and nationwide, and introduce a moratorium for the purchase, lease, and operating of contracts for new emergency accommodation in the core area.

Phase two contains ambitions to create a central registry of new accommodation offers, and the provision of on-street services for homeless people. Phase three includes plans to "curb new emergency/temporary accommodation for vulnerable groups located in the area", while ensuring day service facilities are provided for vulnerable populations.

Engines and enablers

The report identifies the establishment of a Legal Implementation Body by Dublin City Council as key to deliver the aims. It does not state when this body will be put in place but asserts that an interim PMO will need to be appointed until then. Other immediate actions to be taken include the establishment of an Oversight Board, and preparation of a scoping paper to outline options for the Legal Implementation Body.

The *Dublin City Taskforce Report* states that the plan will require between €750 million and €1 billion in capital funding, as well as between €100 million and €150 million in annual operational funding. Over the 10-year of the roadmap, this would amount to between €1.75 billion and €2.5 billion.

Electrification for tomorrow's net zero cities

Cities are responsible for up to 70 per cent of carbon emissions globally. As Ireland's urban areas have grown in lockstep with our population in recent decades, this puts cities at the frontline of efforts to deliver on national climate targets.

Against this background, electrification is emerging as the cornerstone of sustainable urban living. By replacing fossil fuels with clean electricity from renewable sources, cities can not only reduce their carbon footprint; they can minimise harmful pollutants in the air, becoming healthier, more pleasant places to live.

Energy providers have a big role to play in making the all-electric city a reality, and ESB is at the forefront of this transformation in Ireland, supporting electrification across sectors while empowering customers and communities to tap into the benefits it offers.

Smart buildings: Rethinking the urban fabric

According to research from the C40 global cities' network, buildings are responsible for an average of 60 per cent of the emissions in urban areas, with heating and cooling the main culprits. Tomorrow's buildings will not just consume energy however, they will generate, store, and share it – a change being driven by electrification in tandem with improved energy efficiency.

For new-build houses, airtight insulation, and electrified heating in the form of a heat pump generally come as standard. Cities, however, are a patchwork of dwellings from all eras and in varying state of repairs. Transforming these homes into low-carbon, energy-efficient buildings usually requires deep retrofits. One-stop-shops such as Electric Ireland Superhomes, a joint venture of ESB and Tipperary Energy Agency, are making this possible by upgrading properties with heat pumps, advanced insulation, and even rooftop solar – allowing them to generate their own electricity.

The rise of microgeneration in cities is not limited to residential properties. There is huge untapped potential for solar PV to be integrated into rooftops and facades of office buildings or commercial enterprises. ESB's Smart Energy Services (SES) works with businesses to unlock these opportunities: for example, delivering a rooftop PV installation for the Pavilions Shopping Centre in the

Dublin suburb of Swords, which has reduced the centre's carbon footprint while lowering energy costs.

As for commercial property, ESB's Fitzwilliam 27 office in Dublin stands as an example of what is possible when urban buildings are designed for 'sustainability-first'. Ireland's first large fossil fuel-free office building, it operates at near-zero energy consumption: it has no fossil-fuel heating, utilising geothermal energy, heat pumps and solar PV.

Transport: The electric revolution rolls on

Electrification is also transforming how Irish city-dwellers get from A to B. Electric vehicles (EVs) are becoming a natural choice for urban driving where short hops are the norm. In cities, however, not everyone has access to a private driveway to install a charger, making the public EV charging infrastructure crucial. ESB's ecars network has been steadily expanding to meet this need, now offering over 1,600 charging points across the island of Ireland. ESB is also helping urban public transport go electric: ESB SES designed and built Ireland's first fully electric bus depot in Athlone, where up to 18 EV buses can charge at once, supported by a dynamic load management system to optimise on-site energy use.

Rethinking transport for tomorrow's cities also means going beyond simply replacing petrol cars with EVs, and embracing new solutions like shared mobility and vehicle-to-grid. To this end, ESB's innovation team is working with partners in industry and research to trial a new kind of e-mobility hub or 'eHub' in urban centres around the country. These one-stop locations with charging facilities give people access to shared EVs, e-bikes or e-cargo bikes, which can be rented directly from a smartphone, and have the potential to provide support to the grid.

The digital backbone of the smart city

Behind the scenes, the electrification of our cities requires an energy grid that is robust, resilient and increasingly digital and data-driven. ESB Networks is working to ensure a net-zero ready electricity distribution network by 2040, which is foundational for a net-zero Ireland by 2050. Looking ahead to the upcoming Price Review 6 (PR6) period (2026-2030), it is proposing to invest over €13 billion in the network infrastructure that serves cities, towns and rural communities across Ireland.

In the first instance, this investment is needed to help expand, upgrade, and future-proof the physical network infrastructure required to support the huge increase in demand as sectors like heat and transport electrify. At the same time, the all-electric city will call for a new kind of flexibility on the network to be accommodated.

In a decarbonised system powered by variable renewables and where energy generation is increasingly decentralised, a range of smart solutions will be deployed by network operators to forecast demand, manage energy use in real time and empower customers to become active participants in the electricity market. ESB Networks has been developing and trialling such solutions through initiatives like the National Network, Local Connections programme, and plans to accelerate investment and innovation in advanced digital infrastructure in PR6.

Collaboration holds the key

To fully unlock the potential of electrification to decarbonise our cities, collaboration between energy providers, public bodies, and local businesses and residents will be key. As an industry partner in UCD's Next-Generation Energy Systems (NexSys) research programme, ESB works with researchers and peer organisations to explore pathways to a net-zero energy system, with cities as a key focus. Communication with customers will also be vital, listening closely to their needs and giving them the tools to embrace an all-electric lifestyle; whether heating their homes, getting around their city, or taking control of their electricity use.

Far from a vision from the distant future, the electrified city is already being built today – one retrofit, one EV charger, one smart meter at a time. And it is not only urban dwellers who will reap the benefits, as the changes underway bring Ireland as a whole closer to our net-zero goals.

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Energy for generations

The promised land

Ireland was in the midst of an existential crisis 70 years ago but the quiet determination and sheer brilliance of TK Whitaker played a pivotal role in establishing the groundwork for Ireland's transformation, writes David Gavaghan.

In 1958, the Republic's population, which had been declining at an alarming rate – 400,000 leaving Ireland in the 1950s – was less than three million, whilst Northern Ireland's was less than 1.5 million.

Today there are over seven million living on the island; nine million people might be living in Ireland by 2050. In July 2025, the *Financial Times* published a fascinating article on the decline of rural populations across Europe; Ireland however was once again the outlier with a completely different anticipated population profile to the rest of the EU. This will present Ireland with a very different challenge but like the rest of Europe, we share the accelerating challenge of climate change.

Although Ireland may be a major beneficiary from the impact of climate change due to our more temperate climate, rising sea levels will have enormous implications for Dublin, Belfast, and Cork and all populations along the coastal regions of Ireland (and in some areas further inland).

> *"It would be well to shut the door on the past and to move forward energetically, intelligently, and with the will to succeed, but without expecting miracles in a short period of time."*
>
> **TK Whitaker, *Economic Development 1958***

Economically and socially, the partition of Ireland has not served the fortunes of the two principal cities in Northern Ireland well. A century ago, Belfast was the acme of Irish cities with the northeast generating 80 per cent of the island's wealth. Today the position is the reverse with Dublin now the powerhouse and Cork, Limerick, and Galway all making positive contributions to the Irish economy whilst Belfast and Derry, although now significantly improved, have yet to become sustainable economically.

Both cities have not seen the population growth that is being witnessed elsewhere in Ireland with Belfast city centre still to reach the much-heralded target of 400,000 people (currently 300,000 albeit there are 10 years still to run) and Derry city has remained broadly stuck with a population of under 100,000 for decades.

With potentially nine million people on the island in 25 years, what might be the configuration of the urban centres? Dublin will undoubtedly remain the pre-eminent city and, with a concerted effort to tackle the enormous challenges it faces including how to address rising sea levels, the population could be two million. Belfast too should see significant growth and, once partition leaves us, I believe there is a real prospect of it growing to more than one million people. It is worth remembering that in the 1950s Belfast's population was 0.5 million.

To make this a reality for Belfast, it will require an extraordinary transformation in every aspect of its activities. One major contributor would be to travel between Belfast and Dublin in an hour or less by train (proponents of AI driven cars dream on!)

As night follows day, this will lead to an exponential growth in Belfast's population. This trend has been seen across the world but closer to home once two similar sized cities and broadly equivalent distance – Milan and Turin – were able to avail of a high-speed train service just over a decade ago, the growth in numbers travelling between the two cities was exponential. To deliver such a major infrastructure project will require a sea-change in thinking and the abandonment of incremental snail like pace that has permeated decision making and investment. Our political masters and local government leaders need to tackle such projects with the same steely determination shown by the County Down man in the 1950s.

In terms of the other major conurbations across Ireland, there will ideally be a handful of cities that rise to the challenge of increasing their populations to 0.5 million or so. Cork is likely to be the leading candidate. But Galway, Limerick, Athlone, and Derry are all contenders. Many doubters suggest that I have a Panglossian view, but it is worth recording that in 1800 Belfast had some 20,000 inhabitants. A century later, the population had grown to some 350,000. Perhaps there was a vastly different attitude permeating society then – not all of it for the best of reasons. Only this week I read whilst waiting to board the train to Belfast in the decrepit designated zone of the famous Enterprise Express (then properly named and not the oxymoron it is today) ran for a period between Belfast to Cork.

Too often in Ireland, we fail to appreciate global trends and what is required to make us both globally competitive but also environmentally sustainable. Many global corporations will not even consider making an investment unless the population is more than a million people. The 15-minute city that has regained traction once again are a beacon of offering a sustainable future. The need to invest heavily in our biodiversity is a sine qua non in both urban areas as well all areas across the island of Ireland. It is shameful how we have destroyed one of the greatest natural gifts that our beautiful island had bequeathed us.

Peripheral rural areas of Ireland also face an exciting future, but political intervention that chooses to ignore how global capital is drawn to major conurbations is destined to failure. The need to ensure that throughout Ireland that we have detailed resilience plans will dictate whether we can weather the vicissitudes of climate change.

In the next decade, we will all face the full onslaught of climate change with millions of people seeking refuge on our little island. The will to succeed we saw 70 years ago should inspire us to redouble our efforts. There is no time to lose.

Limerick Twenty Thirty:
Shaping Ireland's first city of the future

In the global race to reimagine urban working and living, the conundrum facing cities is not only which lane to take but what type of course lies ahead.

In this prevailing environment, where change is perhaps the greatest certainty and one being rapidly accelerated by AI, Limerick is shifting gears, becoming better than it has ever been before, and is ready to compete with all others.

That vision is *Limerick 2030: An Economic and Spatial Plan*, launched over a decade ago. A first-of-its-kind roadmap in Ireland, laying out a clear, actionable vision for the city's transformation, the strategy was not merely aspirational; it was a pragmatic blueprint, grounded in revitalisation, economic rebalancing, and urban reinvention.

And it was from that blueprint that Limerick Twenty Thirty DAC emerged, created as Ireland's first 'special purpose vehicle' (SPV) for city transformation. A development body with a singular focus: to deliver landmark infrastructure that would elevate Limerick onto the European investment radar.

And as cities worldwide grapple with the demands of the future – climate resilience, liveability, digital integration, and competitiveness – Limerick Twenty Thirty is a strategic implementation vehicle that is driving an innovation-led transformation of what the city looks and feels like, and, critically, how it delivers economically and socially, setting it apart as a beacon of what a 'future city' can be.

What makes Limerick Twenty Thirty extraordinary is its origins in innovation. Formally established in 2016 from the *Limerick 2030 Economic and Spatial Plan*, from its inception, Limerick Twenty Thirty has embodied entrepreneurial leadership. With innovators and business leaders at the helm, and a dynamic team, the organisation fused public sector purpose with private sector agility, introducing a new model of urban delivery in Ireland.

Rather than merely overseeing development, it has actively curated and catalysed change, identifying opportunities not just for regeneration, but for urban reinvention.

This innovation-first philosophy has been evident step-by-step in how it gathered its team and then brick-by-brick in how it delivered its developments.

The Gardens International project on Henry Street – a revitalisation of a derelict city centre site – was the first significant development undertaken by the company and one that set a whole new standard for office space in Limerick. It was a multi-award-winning statement of intent, blending historic preservation with sustainable design, delivering a high-specification commercial space that retained Limerick's character while turning it to the future with stunning new sustainability standards and architecture, to enhance the city's global ambitions.

Now, the Opera Square project is raising the bar again, delivering on Limerick's 21st century ambition and future-facing ethos. Currently under construction, Opera Square is the largest commercial property development project outside of Dublin, and one of the most advanced in

Europe in terms of design, sustainability, and scale.

From carbon targets to digital integration, the project is being delivered to world-class environmental and smart city standards, redefining the benchmarks for regional urban development in Ireland.

The development spans across 3.7 acres in a prime city centre location. The project includes the One Opera Square building, which is nearing completion and is due for launch in September, a 106,000ft^2 Grade A office space designed to accommodate up to 1,000 workers.

And, in keeping with Limerick Twenty Thirty's story so far, the One Opera Square project has attracted an innovative investment partnership, with the subsidiary company developing this stunning commercial space, 'Treaty Stone Partnership' a coming together of Limerick Twenty Thirty with the Ireland Strategic Investment Fund (ISIF), driven by investment from the latter's €500 million regional cities programme.

This public-private partnership is emblematic of the strategic thinking underpinning the entire Limerick transformation effort: leverage visionary planning to unlock capital, scale, and long-term impact.

The wider Opera Square development aims to be a regional and national exemplar of innovation and sustainability, delivering significant economic and social impact. It will support up to 3,000 jobs across a vibrant mix of office, retail, and public spaces, including a landmark 14-storey building, a hotel, a new world-class city library, and the redevelopment of the public realm. The scheme also includes the preservation and sensitive redevelopment of 16 heritage buildings, enhancing the amenity of the city and creating an attractive destination for residents and visitors alike.

And there is more on the horizon. Across the river, on the northern banks of the Shannon, the 10 acre Cleeves Riverside Quarter is urban regeneration in motion. Cleeves – planning permission for which will be lodged later this year – is poised to become a mixed-use urban quarter, linking the city's historic core with its expanding digital and innovation districts. Already, it is underpinned by a €35 million commitment from the Urban Regeneration and Development Fund (URDF), reinforcing confidence in Limerick's ability to deliver at scale.

The development will harmonise public realm, culture, business, educational, and residential elements – creating a model for human-centred city design that is increasingly vital to retaining and attracting young, mobile talent in a competitive European landscape.

It also reflects how Limerick Twenty Thirty is evolving to meet needs. Whereas Opera Square was primarily commercially focused to act as an economic catalyst to attract investment and people to work in the city centre, Cleeves Riverside Quarter leans heavily into 'housing', with 500 residential and student accommodation units.

What distinguishes Limerick Twenty Thirty is its fusion of origin, ambition, innovation, and execution.

It was born from an innovative vision; it has recruited and empowered entrepreneurial leadership; and it is delivering projects that are not just large-scale, but transformative, changing how the city sees itself and how it is seen nationally and internationally.

In many ways, Limerick Twenty Thirty is a template for other cities. Indeed, the greatest tribute to it is that other urban centres are now seeking to replicate its formula. That formula is creatively navigating the complex challenges of post-pandemic urban development, regional rebalancing, and climate transition. Its mix of 'first-of-its-kind governance', world-class project execution, and future-focused strategic planning makes it not just an Irish success story, but a European one.

Critically, its projects are more than real estate investments. They are strategic assets that will attract foreign direct investment, create high-quality employment, delivering sustainable, inclusive urban environments. And position Limerick as a serious competitor in the race to be a European leader in working and living.

Limerick is not waiting for the future; it is building it. With bold vision, innovative leadership, and transformative projects, Limerick Twenty Thirty is lighting the way forward.

W: www.limerick2030.ie

LIMERICK TWENTY THIRTY DAC

Integrated planning of climate neutral cities

Aura Istrate, Assistant Professor in Urban Planning and Sustainable Urbanism at University College Dublin tells *eolas Magazine* how the C-NEWTRAL doctoral network is looking at new approaches to integrated planning of climate neutral cities through citizen engagement and city governance decision making.

C-NEWTRAL doctoral network stands for "smart comprehensive training to mainstream new approaches for climate-neutral cities through citizen engagement and decision-making support for innovative governance and integrated planning".

The network is rising to the challenge of creating climate neutral cities, Istrate says: "To become climate neutral by 2030, cities require enhanced capacity and ongoing support to implement climate neutral solutions and assess how this may impact different sections of society.

"Our approach encompasses integrating pillars of urban nature, urban mobility, build-form, energy, and circularity."

"The aim of the project is to provide highly skilled, highly trained interdisciplinary researchers and professionals for this task of achieving climate neutral cities."

The European Commission have designated 100+12 climate neutral and smart cities by 2030, under the so-called Cities Mission. Istrate explains that "C-NEWTRAL aims to align with the EU's City Mission enablers, particularly with participative city governance and integrated urban planning".

A pan-European project

Six universities, the University of Bologna, University of Girona, Heidelberg University, University of Helsinki and Queen's University Belfast, with University College Dublin (UCD) as the coordinating institution, act as host institutions.

Between them, there are 12 individual doctoral projects under the umbrella of climate neutral cities.

Throughout each project, researchers undergo a secondment while completing a PhD, Istrate says: "We invited several associated partners to provide network wide training on either citizen engagement tools or decision-making support for city governance.

"We have a high number of partners from industry, NGOs or local authorities across Europe to provide a secondment to our researchers. For three months, our researchers should work with

> *"We are excited to be bringing forward a new perspective on climate-neutral cities, we will keep moving forward with our contribution and further pushing the boundaries of knowledge."*
>
> **Aura Istrate, University College Dublin**

associated partners on a common project sitting under the climate neutral city vision."

The basis of the methodology is formed by participative methods alongside governance and planning tools while digital technologies and AI are briefly touched on.

Twelve researchers are positioned on different themes, all of which lead to different perspectives to inform a climate neutral city.

Istrate gives an overview of preliminary results expected from the project: "Falling under the citizen engagement pillar, one of the projects led by the University of Helsinki will first produce a comprehensive literature review of citizen science tools to integrate nature-based solutions for urban regeneration, that will further inform the research design and methodology of the respective PhD project. Furthermore, our colleagues from the University of Bologna will deliver a matrix of building energy solutions organised based on performance levels. Likewise, one project at Queen's University Belfast will research effective pathways for user-centred implementation of energy efficient policy in neighbourhoods. Another PhD project at Heidelberg University will look into mobility justice.

"We also must deliver results under the city governance decision making pillar, and these include a digital water policy, to reveal and create a methodology for the negative externalities that are brought in when using AI for green and digital water transformation, to be delivered by the University of Girona.

"In UCD, we must provide comparative theoretical as well as empirical understanding of coupling active mobility with blue-green infrastructure. There will also be a framework for effective decision support systems for renewable energy communities, alongside a framework for digital tools optimisation for urban water management to be delivered by partner universities in C-NEWTRAL".

Increasing participatory planning

Within the 12 individual projects, Istrate exemplified project DC6, concerning data-driven participatory planning to integrate nature-based solutions in cities. The assistant professor contextualises: "The gap is that research on data-driven methodologies for stakeholder involvement in integrating nature-based solutions in urban planning remains limited.

"DC6 project therefore aims to address this current lack of data driven tools, in order to allow stakeholders and citizens to evaluate, visualise or understand the impacts of different urban initiatives on nature and biodiversity."

The overarching research question is, how can digital tools facilitate integrating nature-based solutions through participatory urban planning?

With such a broad question, Istrate explains: "We broke this overarching research question into several subquestions such as: What are the difficulties in adopting nature-based solutions in urban planning? How do we integrate and assess the performance of nature-based solutions in cities? How do we increase public interest? What kind of digital platforms or tools would serve to involve a large number of stakeholders in this aim?"

Augmented reality is one of the solutions considered. This would involve, for example, a phone or tablet showing potential plans through its screen in real time, portraying an estimation of what the future might look like. "We are considering how to get citizens to use the tools developed, how to make it a more interesting experience for them because it is difficult otherwise to engage citizens in participatory planning processes, unless these tools are more interactive, or more playful."

While this PhD project is primarily carried out under Istrate's supervision at UCD in the context of Dublin, as the project evolves, it is hoped to incorporate more European cities into it, such as the city of Heidelberg.

Other topics are also being explored, as Istrate asks: "How do integrated active mobility and blue-green infrastructure reinforce each other? Is blue-green infrastructure encouraging more users to cycle to work or school? Is this only psychological or does it have an impact in terms of physical health as well? These are some of the questions we are going to address under DC7 at UCD."

Concluding, Istrate says: "We are excited to be bringing forward a new perspective on climate-neutral cities, we will keep moving forward with our contribution and further pushing the boundaries of knowledge.

"We hope to present some of our specific results in the years ahead."

How Payzone is shaping the future of mobility in Ireland

As Ireland's towns and cities face the dual pressures of climate targets and growing urban populations, the way we move around is evolving, writes Jim Deignan, CEO of Payzone.

Addressing challenges such as traffic congestion, carbon reduction, and accessibility demands a more connected, intuitive, and sustainable transport experience.

Payzone Ireland, the State's largest consumer payments network, is playing a pivotal role in that evolution, redefining what is possible in the smart mobility space. With over two decades of experience delivering payment and service innovation, Payzone is now empowering local authorities, mobility providers, and commuters alike to reimagine how we navigate and interact with our urban environments.

One app, many services

Payzone was the first company in Ireland to integrate a broad range of mobility services into a single, unified mobile application. This includes on and off street parking, bike and car sharing, and tolling. This 'one app, many services' approach is a significant departure from fragmented legacy systems, ensuring users have consistent, accessible experiences regardless of location.

Today, Payzone operates cashless parking solutions across 17 counties in Ireland, including Dublin, Cork, and Galway; three cities central to the EU's Climate-Neutral and Smart Cities Mission. By reducing reliance on multiple platforms and delivering a seamless user journey, Payzone not only simplifies the day-to-day experience for motorists but also helps councils eliminate costly inefficiencies caused by operating in silos.

As Ireland continues its transition to cleaner, more compact cities, the case for integrated digital mobility has never been stronger. Through a single, scalable application, Payzone is facilitating greener travel choices, improving accessibility, and laying the digital foundation for next-generation transport systems.

Powering better planning with data for local government councils

The Department of Transport's *Economic Cost of Congestion* report paints a stark picture of the consequences of inaction. From lost productivity to reduced air quality and increased emissions, poorly optimised transport systems are costing Irish cities dearly.

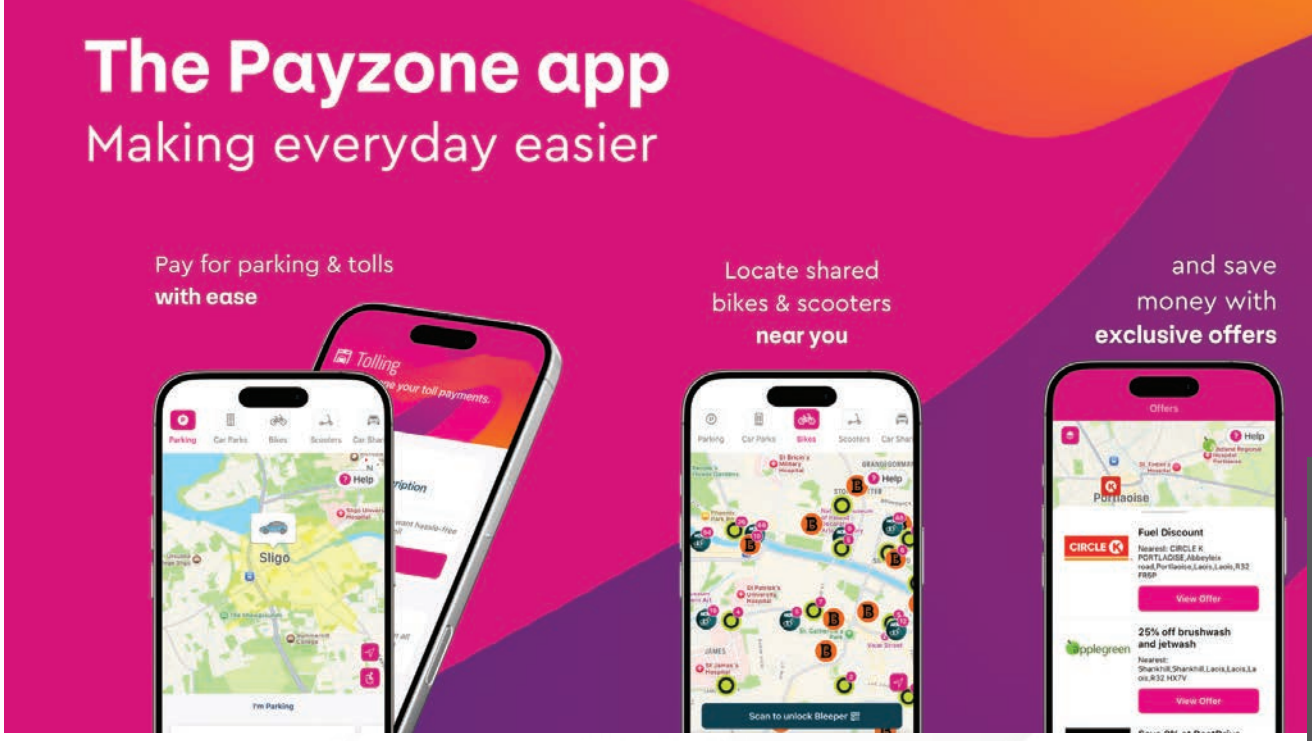
That is where Payzone's mobility ecosystem becomes a strategic asset. By capturing anonymised behavioural data from hundreds of thousands of daily mobility interactions, Payzone generates valuable insights into how people move across and within towns and cities. This includes travel patterns, peak times, dwell zones, and adoption of alternative transport options.

These insights can support local governments in designing infrastructure that responds to real-world needs. Whether it is adjusting traffic flows, enhancing cycle lanes or planning EV charging infrastructure.

Payzone does not just support mobility for end users, it enables smarter, more data-driven planning for local governments.

Supporting accessibility through unified design

With the implementation of the European Accessibility Act (EAA),



digital inclusion is now a core obligation. The EAA reinforces the importance of consistent user experience, intuitive interfaces, and accessible design for individuals with disabilities or access needs.

Payzone's application is built to support universal design. Users shouldn't have to re-learn interfaces or navigate inconsistent payment methods simply because they cross from one local authority to another. Yet this is the reality many face with fragmented apps and services.

By consolidating services under one roof, Payzone provides a streamlined, Web Content Accessibility Guidelines (WCAG) compliant experience for all users including older populations and those with visual, cognitive, or motor impairments. We are actively working with partners to test and refine our digital platforms to ensure ongoing compliance, and most importantly, usability.

A single app does not just support users, it eases the compliance burden for councils by offering an out of the box, all-in-one solution.

A trusted partner to councils and communities

Payzone's reach spans across Ireland; from cities to regional towns. We have supported numerous councils in launching and modernising their cashless parking infrastructure, enabling motorists to pay using our retail network, website, or through the mobile application. We also provide flexible back-end solutions for enforcement officers and parking operations teams. With in-house engineering teams, a dedicated local helpdesk, and ISO certified systems, we are proud to be the trusted payments and mobility technology provider for Ireland's evolving towns and cities.

As a founding member of Mobility Partnership Ireland (MPI), Payzone is also championing industry-wide collaboration to reduce fragmentation and support a coherent national strategy for shared mobility. Together with partners such as Bleeper, Moby, GoCar, and Aircoach, we are building solutions to support Ireland's future mobility landscape.

Innovation that scales

As cities prepare for the first revision of the National Planning Framework and respond to the climate resilience recommendations outlined by Trinity College Dublin professors, scalable solutions are essential.

Whether you are launching new parking facilities, preparing for expanded EV adoption, or supporting behavioural shifts away from car dependency, Payzone's solutions are built to grow with your town or city. Our roadmap includes greater insights for transport modelling, deeper integration with multimodal transport networks (e.g., cycling, bus, rail), and further expansion into services that align with future smart city standards.

Empowering Leap Card transactions since 2011, Payzone is now supporting Indra and the National Transport Authority (NTA) in delivering the next generation of ticketing infrastructure, bringing seamless integration across bus, rail, and other transport services.

With a clear understanding of how public services need to function in the digital age, Payzone is delivering mobility solutions that are both progressive and pragmatic.

Smarter cities and towns

The future of towns and cities in Ireland is not just about building more roads or adding more transport options; it is about creating systems that are coherent, connected, and citizen-first. It is about harnessing data to plan better, using technology to enable inclusion, and ensuring that every step we take aligns with our national climate and infrastructure goals.

Transport should be at the heart of a modern, connected Ireland and Payzone very much welcomes the Government's recently revised National Development Plan, committing over €24 billion to transport infrastructure build. This critical funding extends to public transport, roads, electrification, and active travel and includes key low carbon transport projects such as Metrolink.

As the conversation continues around compact growth, 15-minute cities, and the future role of digital infrastructure, Payzone remains ready to support Irish towns and cities on their journeys; offering the tools, insight, and innovation needed to build smarter, more liveable spaces for all.

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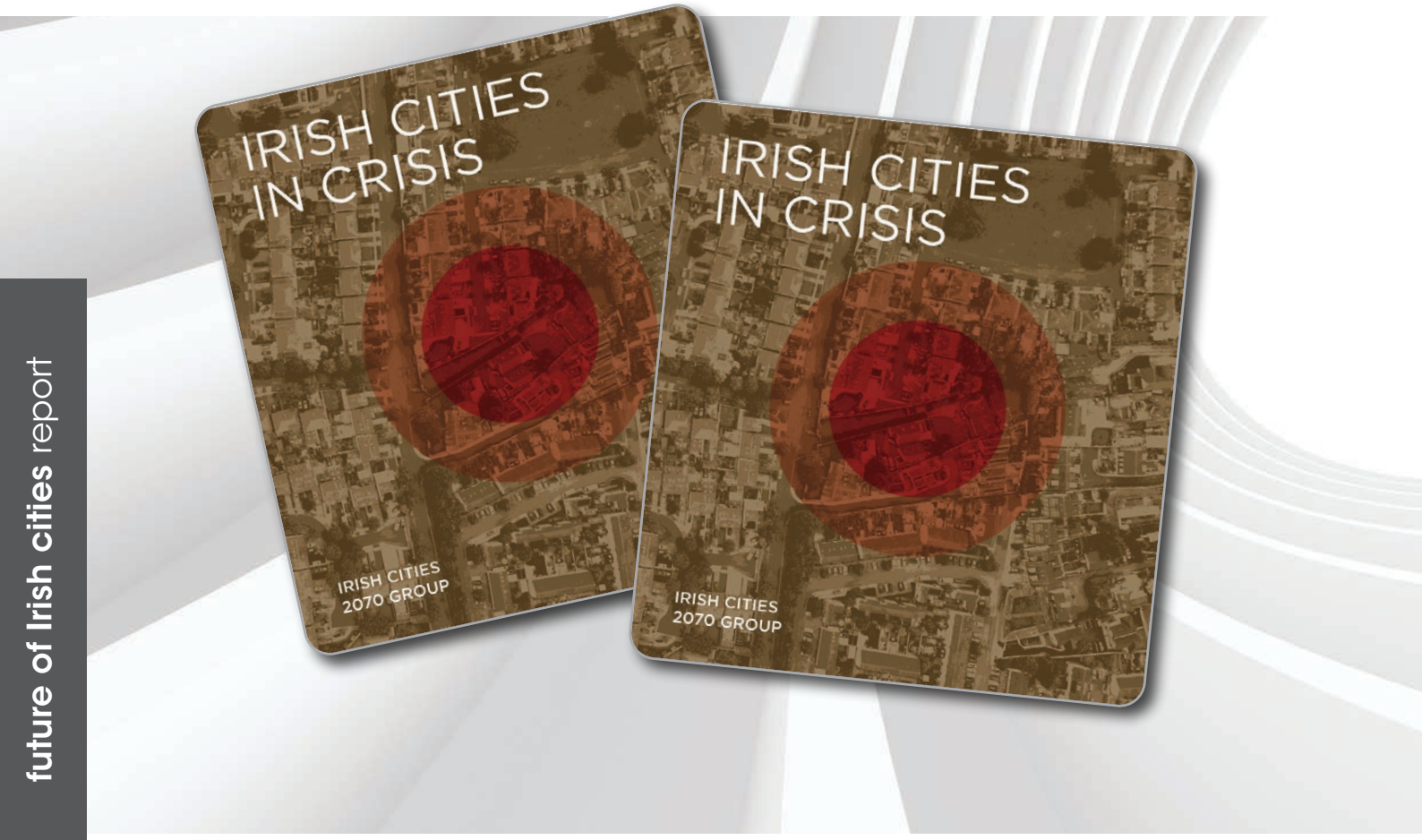

City edge, field-by-field, urban expansion in Dublin.

Irish Cities in Crisis

Irish Cities in Crisis is a call to arms. The essays in this book describe the changes needed across government, particularly regional and local government reforms, and the transformations required in town planning and urban design, write authors David Browne and Jim Coady.

We the authors are issuing a call for unanimous active engagement in reaching a consensus on development solutions through both top-down and bottom-up approaches. It is crucial that the common good, anchored by sound planning principles, succeeds over individual or corporate agendas.

Irish Cities in Crisis sets out a clear vision for the compact and sustainable growth of Irish towns and cities over the coming 50 years. Resourcing and implementation of that vision must start now.

Recognise the crisis

The contribution of cities to our way of life and economy is poorly understood. We have a successful economy and a burgeoning population but, unless we change how we design our cities, Ireland will not be the very attractive place it should be in which to live, work and invest. There is a crisis. Our planning and development systems cannot provide the well-designed living and working environment needed for the future, and we cannot continue with land-hungry, low-density urban expansion.

Change will not be easy. Courage and great leadership are needed from all levels of government to develop across Irish society a vision of how Irish cities must transform to meet the challenges of population growth and climate change, and then implement the changes needed.

"Without healthy cities, Ireland will not retain and continue to attract domestic and foreign investment."

Potential population growth, consequences, and opportunities

Our population could grow from 7.2 million to 11 million by 2070. For decades we have underestimated population growth and set targets for infrastructure, housing, and development that were too low. Our ports, airports, transport networks, piped and wired infrastructure, public services, and housing must get ahead of the already 'baked-in' population growth.

What has gone wrong?

Too little autonomy is devolved to regional and local authorities. There are too few planning and urban design staff across all levels of governance, particularly in local authorities, to properly design our urban areas, and the reaping of windfall profits from rezoning or intensification of permissions bedevils implementation of projects.

Our planning system facilitates low-density suburban expansion, with little creation of 'place', the streets, squares and green spaces that underpin public life and wellbeing. Competition between cities and counties is also detrimental to proper planning as it frequently draws development into the countryside which should be in towns and cities.

Recognise the contrast with European cities

Successful European cities have much greater autonomy and resources devoted to urban design and project development than we do. They collect up to 40 per cent of their capital through local taxes and the uplift in land values from rezoning accrues primarily to the public purse. They design and manage urban development: top-down and bottom-up planning is the norm: the common good is their touchstone: infrastructure and public services are provided before building development commences in new areas: compact neighbourhoods are the 'building blocks' of their cities; and they install high-frequency public transport linked to 'active travel' as they adapt to a carbon-free future.

Respond to climate change and destruction of the planet

All our cities occupy coastal estuaries and are increasingly vulnerable to flooding as weather events intensify and seas rise, integrated planning and investment are needed to avoid catastrophe.

Cities must decarbonise, conserve land, protect the natural world, and enhance biodiversity as they respond to population growth and diminishing household size. We must densify new and existing suburbs and plan the net zero places in which to live and work, with green infrastructure linking residents to the natural world and public transport systems offering frequent services.

Training and research for a plan-led future

There are too few town planners and urban designers in our regional and local authorities. Training in these and other urban management disciplines must be widened to guide a plan-led future.

Good governance and urban design needs co-ordinated research focussed on near-term issues and long term national goals. A publicly funded body should co-ordinate this work.

Planning compact, healthy, sustainable and resilient urban growth

Transformative city planning and urban design can be delivered by:

- dismantling the silo cultures in local, regional, and national government and facilitating collaboration;
- resourcing regional and local authorities to enable them envision, design and manage their regions, cities and towns effectively;
- equipping planners and urban designers with the leadership to guide the densification of existing suburbs, design the new ones, and facilitate bottom-up and top-down planning;
- ensuring future city plans include 3D models and digital twins, and express the design parameters of future neighbourhoods, easing planning approval for compliant developers;
- strengthening the form of our cities with urban growth boundaries, designed urban development zones, small blocks, streets, active streetscapes and a pedestrian friendly public realm; and
- developing the public and active transport networks, and demanding high quality architectural design.

IC70 Galway City Study

Galway is growing fast, with a dynamic economy and manufacturing sector, 25,000 third-level students, a significant cultural scene and a thriving tourism industry. For visitors, it is also the gateway to the west of Ireland. It is surrounded by an exceptional landscape and has a strong city centre, but its suburbs display sprawl and car dependence and lack a sense of place. Given its size and the ubiquity of its problems, it is ideal for demonstrating the principles IC70 promote – finding the genius loci of the place, developing a vibrant centre, creating richly textured districts and neighbourhoods by densifying suburbs, connecting green infrastructure elements together, and creating a city of 'short distances' based on active movement – pedestrian, cycle, and public transport – rather than the car.

In Freiburg, one of Europe's most sustainable cities, small four storey walk-up apartment buildings, built by the city, co-ops, and private developers, enclosing common gardens and accessed along shared lanes, are the building blocks of new neighbourhoods. These apartments are sometimes interspersed with three- and four-storey terraced townhouses.

The IC70 study demonstrated how Galway, and all Irish cities and towns, may be enabled to grow successfully. How we must embrace their role as the engines of our society and economy and resolve the false urban/rural divide that often impedes good policymaking. We have been profligate in the use of land. Urban creep must be stopped and existing suburbs infilled to sustainable densities. There is hardly a town or city whose development envelope actually needs substantial expansion while accommodating anticipated growth over the next 50 years if we adopt sustainable, compact urban growth.

The Galway study also demonstrated how our mono-use suburbs must be transformed into mixed use neighbourhoods, with all the facilities needed for successful living and working close to our homes, with beautiful open spaces, playgrounds and parks, and connections to a city-wide green infrastructure than links residents to the natural world.

Shift in mindset

Radical change is needed in how we view our cities, and how they will be financed, governed, and planned. Cities must be recognised as the engines of our social, economic, and cultural lives. Without healthy cities, Ireland will not retain and continue to attract domestic and foreign investment. Great cities and towns are our future.

Such change demands collaboration between national, regional and local governance, civil society, and private sector actors. It also needs considerable investment in planning for our future and the construction of infrastructure and public buildings to deliver effective public services in support of communities.

There is much to do, and we hope *Irish Cities in Crisis* helps chart the way.

***Irish Cities in Crisis* is available in bookshops and from the RIAI.**

Irish Cities 2070 Group

The Irish Cities 2070 Group (IC70), supported by the RIAI and the Academy of Engineering, has expertise in town planning, urban design, architecture, engineering, economics, property and quantity surveying, and demography. Its purpose is to foster a debate about an holistic, sustainable urban future for Ireland and its cities and towns.

Irish Cities in Crisis: Abridged

In October 2024, *Irish Cities in Crisis* was published by the RIAI. Authored by IC70, this compendium of essays examines the role of cities in the economic, social and cultural life of Ireland. We suggested how, by 2070, approximately 11 million people could be accommodated in more compact urban settings, able to compete with the best cities in retaining and attracting people and investment. We reviewed the roles of national, regional, and local governance, population growth, transport between and within cities, and the role of ports and airports. We also suggested approaches to city centre renewal, the densification of suburbs and how our cities might grow compactly and with resilience to provide healthy, safe, and enjoyable places in which all citizens might blossom.

Athlone to be Ireland's first 'green city' by 2040

The €5 billion plan identifies Athlone as the remedy to Ireland's growing population and includes the redevelopment of 5,000 hectares of land.

The plan could see the town of 22,000 people more than quadruple its population to 100,000 through a "transformative approach to sustainable urban development". Developed by the Ballymore Group, the blueprint seeks to transform the midlands town into a "new, sustainable city".

Details of the plan have been shared with government ministers, opposition spokespeople, and senior figures from industry, state agencies, and the education sector alongside a range of local commercial and political representatives.

The masterplan

The plan proposes the expansion of the Technological University of the Shannon (TUS) from its current 14,000 student body to 25,000 students, with a focus on green technology. This will be accompanied by a 5,000-bed eco-friendly student village. To enable population growth, 20,000 new zero-carbon homes will be built alongside new schools, arts and sports facilities, and a new hospital.

To encourage decarbonised transportation, infrastructure for electric driverless buses, pedestrians, bikes, and electric cars will be provided.

The plan would see Athlone transformed into "a city of green spaces, active travel, and self-sustaining neighbourhoods", with natural habitats being restored and infrastructure designed to adapt to the changing effects of climate change.

Ballymore is hoping to secure private and public investment for the plan which it describes as a "credible blueprint for addressing Ireland's demographic and environmental challenges".

In a statement, the company explained that Athlone was "identified as the ideal pilot" for Ireland's green transition.

"It has all the fundamental building blocks in place including the university, a town centre with room to expand and enable green transport, and the natural resources to allow 90 per cent of its energy to be generated from renewable sources and to support the national energy transition."

The property developer hopes that the plan for Athlone is "one that could be replicated to provide regionally balanced growth".

Not a 'crazy idea'

Sean Mulryan, founder of the Ballymore Group, told *The Business Post* that he had to convince others that the Athlone masterplan was not a "crazy idea", explaining that "there is nothing here that has not been done before… It is just that it is time Ireland did it, and we have an opportunity".

He stated: "This is for Ireland and for the grandchildren and great-grandchildren of Ireland."

Irish Green Data Summit 2025

ENERGY IRELAND®

Meeting Ireland's data centre energy demand sustainably

Tuesday 14 October 2025 • Gibson Hotel, Dublin

Data centres now account for 21 per cent of all electricity consumption in Ireland, rising from 5 per cent in 2015 amid exponential growth in cloud computing. Given the mainstreaming of AI and advent of quantum computing, energy consumption in data centres is set to increase significantly again, with the European Commission forecasting a sixfold increase over the next decade.

The summit will take a wider focus through the lens of the circular economy and investigate how Ireland can continue to benefit from the growth in data centres sustainably.

Key themes of the 2025 summit will be as follows:

- Current energy use in data centres in Ireland;
- Outlook for energy demand from data centres to 2030 and beyond;
- Regulatory framework for very large energy users;
- Legislative context for very large energy users;
- Role of indigenous renewable energy sources;
- Future electricity grid development;
- Case study: the net zero carbon data centre;
- Future role of renewable gases;
- Battery storage and data centre back up;
- Waste heat utilisation in district heating schemes;
- Visiting speakers on European policy, data centre evolution, and emerging energy technologies.

Expert speakers include:

Paul Deane
University College Cork

Padraig Fleming
Gas Networks Ireland

Lisa Foley
Cornwall Insight

Michael McCarthy
Ibec

John O'Shea
Codema

Sponsorship and exhibition opportunities available

There are a limited number of opportunities for interested organisations to partner with the Irish Green Data Summit 2025. This is an excellent way for organisations to showcase their expertise and raise their profile with a key audience of senior policy and decision makers from across Ireland's energy sector. For further information on how your organisation can benefit, contact Olivia Ross on +353 (0)1 661 3755 or email **olivia.ross@energyireland.ie**

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