Public Document Pack

Democratic Services Section
Legal and Civic Services Department
Belfast City Council
City Hall
Belfast
BT1 5GS

25th November, 2025

SPECIAL MEETING OF THE CITY GROWTH AND REGENERATION COMMITTEE

Dear Alderman/Councillor,

The above-named Committee will meet in the Lavery Room, City Hall, and remotely via MS Teams on Wednesday, 26th November, 2025 at 5.15 pm, for the transaction of the business noted below.

You are requested to attend.

Yours faithfully,

John Walsh

Chief Executive

AGENDA:

1. **Routine Matters**

   (a) Apologies

   (b) Minutes

   (c) Declarations of Interest

2. **UP2030 Net Zero Neighbourhood Framework (Pages 1 - 150)**

3. **Presentation**

   (a) Department for Infrastructure (Dfl) Roads - Annual Report (Pages 151 - 214)

4. **International Engagement - Update on Proposed Approach (Pages 215 - 236)**

5. **Standing Order 14 - Submission of Minutes**

CITY GROWTH AND REGENERATION COMMITTEE

Belfast City Council

Subject:	UP2030 Net Zero Neighbourhood Framework
Date:	26 November 2025
Reporting Officer:	Cathy Reynolds, Director, City Regeneration & Development
Contact Officer:	Callie Persic, Development Manager, Niamh Mulrine, Regeneration Project Officer

Restricted Reports

Is this report restricted? **Yes** [ ] **No** [X]

Please indicate the description, as listed in Schedule 6, of the exempt information by virtue of which the council has deemed this report restricted.

Insert number [ ]

1. Information relating to any individual
2. Information likely to reveal the identity of an individual
3. Information relating to the financial or business affairs of any particular person (including the council holding that information)
4. Information in connection with any labour relations matter
5. Information in relation to which a claim to legal professional privilege could be maintained
6. Information showing that the council proposes to (a) to give a notice imposing restrictions on a person; or (b) to make an order or direction
7. Information on any action in relation to the prevention, investigation or prosecution of crime

If Yes, when will the report become unrestricted?

After Committee Decision	[ ]
After Council Decision	[ ]
Sometime in the future	[ ]
Never	[ ]

Call-in

Is the decision eligible for Call-in? **Yes** [X] **No** [ ]

1.0	**Purpose of Report/Summary of Main Issues**
1.1	To present the final UP2030 Belfast Net Zero (NZ) Neighbourhood Framework for approval that is based on stakeholder engagement, data, analysis, case studies and Members' feedback.
2.0	**Recommendation**
2.1	The Committee is asked to: I. **To approve** the UP2030 Belfast Net Zero Neighbourhood Framework in advance of submission of UP2030 Horizon Europe Consortium after Council ratification on 1 December 2025. II. **To note** the content and process to develop the Framework around the three main themes of Greening, Retrofit and Active Travel, and how the UP2030 project can be upscaled to help build understanding and capacity for communities about NZ III. **To consider** the opportunity to use the Framework to integrate and inform both local community plans and Council workstreams such as the area planning approach; climate-related work programmes; housing led regeneration programme and how it will fit with the Belfast Agenda Community Planning Boards Action Plans. IV. **To note** a presentation will be made on the Framework at the Special CG&R Committee meeting, 26 November 2025
3.0	**Background** Council has been involved in a three-year Horizon Europe consortium programme called Urban Planning 2030 (UP2030) that aims to guide cities through the transitions required to meet their climate neutrality ambitions. Belfast is one of 11 pilot cities within a large consortium of 47 partners from 14 countries, which has provided opportunities to engage with tool providers, learn from others as well as share our findings and insights. This project supports Council's Net Zero Roadmap and Belfast Resilience Strategy and the Climate Change Act (Northern Ireland) 2022 and the city's ambition to become net zero by 2050.
3.1	Committee will be aware that this is a joint project between the City Regeneration & Development and Climate Team, which has meant that there was an emphasis on understanding how climate action could be integrated at a local level and help address challenges in relation to the biggest emitters of carbon, buildings and transport. Therefore, the focus of the Framework is based around three thematic areas: active travel, greening and retrofit and these themes are underpinned by the UP2030 pillars of a fair and just transition, carbon neutrality and resilience. However, during the development of the Framework it became clear that communication, engagement and capacity building is another critical area that

	required additional focus and as a result there is a specific section dedicated to this within the Framework.
3.2	The geographic area of the UP2030 pilot was agreed at the City Growth and Regeneration Committee in March 2023 and covers the Linen Quarter and surrounding city centre communities of Barrack Street, Sandy Row, Donegall Pass and the Market and has a population of approximately 10,000 people. Whilst this work was undertaken within a defined boundary the purpose was to produce a Framework that provide a menu of options that could be adapted and used within other communities to support net zero approaches, attract funding and deliver climate adaption plans tailored for the uses of that specific locality. These options, called Opportunities for the Way Forward, are found in Section 7 in the Framework.
3.2	Over the project period there has been engagement with communities and wider city partners at each key stage and this has fundamentally shaped the document. Members received an update at the CG&R and Climate and City Resilience Committees January this year that outlined the stakeholder engagement, workshops, key milestones and highlighted wider alignment of the UP2030 programme with other workstreams. As the final Framework was taking shape there were follow up workshops in the local areas and Council officers held a specific sense-checking workshop for Members in June 2025 that garnered additional feedback that shaped the final content of the Framework.
3.3	The Framework is designed to support a wide range of audiences who are working toward more sustainable and inclusive urban futures. It aims to act as a guide to connect communities placemakers and decision makers to strategic climate priorities through the exploration of the transition to NZ at a local level yet also provides transferable lessons for other cities and partners who are exploring place-based pathways to net zero. The Net Zero Neighbourhood Framework is included in Appendix 1 and has been informed by data, stakeholder engagement, Members' input and the use of climate tools to support analysis, including mapping and data. A copy of the Framework and supporting documents are included in the appendices.
4.0	**Main Report**
4.1	**<u>Development of the Framework</u>** Central to the process was community co-design to shape the solutions and helped to identify the challenges, opportunities and systemic shifts required to get to net zero by 2050. The Framework was developed in three phases:

	Visioning phase: understanding the lived experience of those in the area, barriers and priorities **Action phase:** a series of action workshops with cross sector stakeholders to further develop and test ideas **Upscale phase:** a reflection on the learning and feedback and identification of opportunities to scale approaches.
4.2	The Framework is based around the following chapter outline: • Foreword • Executive Summary • Introduction of the UP2030 project • Climate Change in Belfast • The Neighbourhood • Vision, Themes, Pillars • Communication and engagement in the Neighbourhood • Belfast to Carbon emissions data study in the neighbourhood • Net Zero Enablers in Belfast • Opportunities for the Way Forward • Appendices • Bibliography • Acknowledgments
4.3	**Vision phase: Cross-sector stakeholder engagement** As detailed in January 2025, stakeholder engagement was a key feature throughout the project and at all phases of the development of the Framework. This took place within the local communities and with thematic, statutory, and citywide partners, who have a broad remit or are prospective delivery partners. A full list of stakeholders is included in the Acknowledgements but includes: Market Development Association Donegall Pass Community Forum Donegall Pass Seniors Group Belfast South Community Resources Residents of John Street and Hamill Street Belfast South Alternatives Youth Group Belfast Youth Council Local residents from the UP2030 project area that attended workshops Northern Ireland Housing Executive

	Belfast Healthy Cities Climate NI Translink Walk Wheel Cycle Trust (formally known as Sustrans) Linen Quarter BID Belfast Healthy Cities: Greening the City Advisory Group Department for Communities Department for Infrastructure Queen's University Belfast Ulster University Belfast Retrofit Delivery Hub Belfast Agenda CAST Group Department for Agriculture, Environment and Rural Affairs
4.4	Engagement took different forms and included a mix of workshops, interactive sessions and thematic meetings, where stakeholders were presented with data and information to build a shared understanding and vision for the area which was agreed through cross sector workshops and underpinned by the UP2030 pillars of a just transition, resilience and carbon neutrality: *To create a net zero neighbourhood that adapts and mitigates climate risks through increased greening, better active and sustainable transport and more energy efficient low carbon buildings and to act as a beacon of success for other neighbourhoods.*
4.5	Information and data from the UP2030 tool providers, including Mapping for Change and University of Cambridge alongside geospatial information from Council's Climate team helped create a picture of the neighbourhood that included demographics, travel behaviour and climate risks. The full detail of the UP2030 neighbourhood profile is found in Section 2 and was an essential part of the wider engagement process.
4.6	**Climate conversations** Since net zero could be perceived as something abstract and not related to everyday life, officers sought to engage in climate conversations and link net zero to quality-of-life issues and local priorities, such as cost of energy, home heating, food and transport or the lack of green space, poor air quality or flooding. Taking this approach helped to break down barriers and foster a better understanding of climate change, thus moving away from abstract ideas to everyday concerns. To further assist this approach, five personae were created based on feedback which used a storytelling, people-centred approach grounded in lived experience. For example, 'Thomas' is a climate sceptic frustrated by climate messaging and wants less talk and more solutions like better housing and transport, or there is 'Zoe', a young student who has

climate anxiety and wants to find ways to live a more sustainable life but finding it difficult to make the right choices. The five different personae were used to open conversations and stakeholders were asked, “Does this sound familiar to you?” and “What else would you add?”. This storytelling method elicited additional feedback that further helped refine the personae and fostered deeper conversations that helped to move beyond data and helped connect people to the issues and identify solutions and actions.

4.7 **<u>Action Phase: Testing Net Zero options</u>**

The second phased focused on testing options that could be included in the NZ Framework under the three themes, active travel, greening and retrofit. The exploration of solutions helped to identify and trial approaches or actions that could contribute towards the achievement of NZ whilst also providing an opportunity to engage with citizens on the key themes of the project. The piloting of these approaches helped to capture lessons learned and shaped the Opportunities for the Way Forward and facilitated better understanding of the capacity building and knowledge exchange required to help communities take forward climate action together. The detail on each of the thematic case studies below are found within the Framework in Section 3.

4.8

- **<u>Retrofit:</u>** Since 50% of Belfast’s carbon emissions come from buildings, the retrofit of public, commercial and residential is vital to supporting decarbonisation. Taking a ‘fabric first’ approach to improve the existing building fabric would improve energy efficiency and reduce costs and reduce energy waste. Convened by Council, the Belfast Retrofit Hub has over 70 member organisations and brings together key stakeholders to identify opportunities, develop projects and overcome barriers to retrofit activity. To test potentially scalable solutions at local level, a series of workshops were held to explore retrofit issues across all sectors, identifying barriers and opportunities.

  During these sessions data from the Local Area Energy Plan (LAEP) was reproduced on maps to help explore potential opportunities for a neighbourhood retrofit programme across all building types. Working in sectoral groups, the Retrofit Hub members considered both theoretical and practical application where retrofit could be used to development pilot projects. Community representatives brought lived experience and consumer insight that informed potential approaches. Key challenges emerging from the residential retrofit work included: lack of householder access to grant funding; shortage of capacity and information; disruption and inability to deal with the changes and inconvenience. Similarly, the public and commercial challenges centred on access to finance and funding streams, risks and return on investment, capacity and expertise to identify and implement projects and the need for clarify on future policy that would help drive change. For all building types, key aspects are financing, ensuring there is a

trained and mobilised workforce, clear information and support and a willingness to take a tailored approach to the different building types.

4.9

- **Active Travel:** Transport is the second largest source of carbon emissions with cars as the primary contributor. In Belfast over 60% of journeys under two miles are made by car but these could provide a significant opportunity for emission reduction. Aligned to the Connectivity, Active and Sustainable Travel Action Plan in the Belfast Agenda officers linked in with Belfast Healthy Cities and an UP2030 tool providers, Design Clips and Mapping for Change, to pilot a walking bus in the pilot area that would be funded and delivered by Belfast Healthy Cities by March 2025. A Walking Bus is a group of children walking to school together in the morning. They are supported by an adult at the front and at the back of the group, acting as the 'driver' and 'conductor' of the walking bus.

4.10 This pilot drew upon the expertise of Design Clips, who are an architectural practice specialising in participatory planning and placemaking with a focus on co-design with children, and with Belfast Healthy Cities, who deliver walking buses. Despite being a low cost and seemingly light touch intervention, there were significant challenges to delivering the walking bus and despite offers of support, materials and information schools in the UP2030 area were unable to take up the opportunity. However, as part of the feedback received from schools along with insights from Belfast Healthy Cities and Design Clips, highlighted the challenges of community-led active travel programme and the need for smaller steps to build capacity and confidence and to build a network of parents to support this extracurricular activity.

4.11 The key output from this pilot is the ‘Safe Routes, Healthy Places’ toolkit and teacher training materials have been developed encouraging children to ‘audit’ their route to school and considering how their neighbourhood could be cleaner, greener and healthier, creating safe routes and healthy places. This includes a Walking Bus toolkit, teaching materials and activity materials that is a free resource for any school or community in Belfast and is an example of how the UP2030 NZ approach can be scaled up in other areas.

4.12

- **Greening:** Stakeholder engagement consistently flagged the impact of the road infrastructure, air and noise pollution and the lack of green space and trees in the UP2030 area. The Tree Establishment Strategy survey identified existing tree canopy cover across the city and highlighted that the UP2030 area has only 6% compared to the city average of 18%. Planting and maintaining trees in an urban setting is

	challenging and the Donegall Pass Residents wanted to understand if a CityTree, a moss-based filter designed to capture particulate matter and cool the surrounding air, could help improve the air quality in their area, which is one of Belfast's Air Quality Management Areas.
4.12	Based on residents' concerns about air quality, we saw this as an opportunity to test whether such technology could play a meaningful role in Belfast's wider greening strategy. Using the CityTree Executive Booklet (October 2024) which claims that the CityTree product reduces the CO_2 equivalent of 44 trees, and cooling equivalent of 81 trees, we carried out a cost benefit analysis comparing CityTree with 44 real trees, looking at costs, delivery challenges and wider environmental benefits. The aim was not to position one against the other, but to understand how they might complement each other in tackling air pollution and climate impacts in constrained urban environments where space is at a premium.
4.13	The key finding from the analysis is that CityTree and real trees are different in their purpose and impact, and it is not possible to simply compare like for like. CityTree is not a replacement for real trees but are effective in spaces such as train stations, shopping malls or school yards. Real trees offer wider impacts other than carbon capture and provide benefits in terms of biodiversity, habitat creation, health and well-being and play a vital role in climate resilience.
4.14	**<u>Upscaling phase: Capturing the learning and shaping the Framework</u>** The vision, data, case studies, research and engagement shaped the final document and resource materials and offers insights into how to co-design with communities and help embed climate priorities into area planning. There are takeaways and reflections based on the case studies and real-world learning from Belfast's unique context which considers the impact of division on the urban form and how this effects the net zero journey. Belfast faces additional hurdles due to the segregated nature of the city and the duplication of resources that deepens the city's challenge to decarbonise and tackle the wider resilience issues. In practical terms, this means that there are additional or longer journeys that increase carbon emissions due to physical or social barriers. Similarly, the duplication of buildings, services or resources means that there is additional energy, carbon emissions and financial costs to operate and maintain buildings.
4.15	To support the scaling and tailoring of efforts at local level, the lessons and interventions are set out as Opportunities for the Way Forward that can be adapted and modified to address local needs and bring co-benefits through climate action in other areas. These are set out on a

	thematic basis in Section 7 and are framed by five core elements that could guide placemakers and practitioners seeking to better connect communities and climate action: • **Engage –** Understand the lived experience and identify opportunities for climate solutions to address social challenges by meeting people where they are at. • **Educate –** Raise the awareness and profile of the importance of this work through knowledge sharing. • **Elevate –** Disseminate the learning; upskill and upgrade placemaking approaches. • **Enable –** Build capacity and enable communities to bring forward climate priorities in area planning. • **Embed –** Upgrade existing governance systems and partnerships, as well as current and future work streams and projects
4.16	**<u>Next steps</u>** The NZ Neighbourhood Framework must be submitted to the UP2030 Consortium in December 2025 and will be made available online. However, central to this project is how the learning is embedded and supports Council, and partners, adapt and prepare for climate change. It is hoped that the Framework will help diverse audiences both locally and further afield, to understand what a transition to net zero could look like through the three themes of retrofit, greening and active travel, and the urgency of sequenced actions required. In terms of oversight and governance, and as a mechanism for embedding in future work programmes there are a number of existing structures in place, including the Climate and City Resilience Committee the Belfast Agenda's Our Planet Board, Strategic Oversight Group, as well as the Net Zero Delivery Group, Data Group, Retrofit Hub and the Sustainable Food Partnership. They all ultimately support the reduction of emissions and the establishment of a sustainable, nature positive, low carbon climate resilient economy for the city. A key opportunity for Council is how climate action is enabled and embedded in local communities and bring co-benefits that improve the quality of life of residents. Within area planning there is the chance to ensure there is a climate 'lens' applied to help communities understand and prepare for the impact of climate change and to bring forward climate related priorities for action, helping to develop resilient, low-carbon communities.
5.0	**<u>Financial and Resource Implications</u>** The project completes in December 2025.
6.0	**<u>Equality or Good Relations Implications/Rural Needs Assessment</u>** Officers will carry on an Equality Screening on the final NZ Framework and will incorporate within the emerging proposals.
7.0	**Appendices**

	• Appendix A – Belfast Net Zero Neighbourhood Framework • Appendix B – Safe Routes Healthy Places Belfast Toolkit (Framework Appendix 2) • Appendix C - Belfast UP2030 Project Area: Carbon Accounting Findings (Framework Appendix 3) • Appendix D - The Role of Data in Net Zero and Climate Change (Framework Appendix 4)

Belfast Net Zero Neighbourhood Framework

Belfast's Inner South Pilot: Creating liveable, low-carbon places through retrofit, greening and active travel

December 2025

Innovate UK
Co-funded by the European Union
Belfast City Council
UP2030

CONTENTS

KEY TERMS

To support clarity and consistency throughout this document, this section outlines key terms that are frequently used. While not an exhaustive glossary, these definitions are intended to help readers better understand the concepts and language central to the discussion.

Climate change	The long-term shifts in the temperatures and weather patterns of our world, primarily caused and accelerated by human behaviour.
Climate action	The steps we take to address the activities and behaviour that contributes to climate change such as reducing emissions, as well as preparing for the impacts of climate change.
Carbon emissions	Greenhouse gases (including carbon dioxide, methane, nitrous oxide etc.) released into the atmosphere from activities like burning coal, oil, and gas for energy, transportation and manufacturing. These emissions contribute to the greenhouse effect, trapping heat and causing the climate to change.
Sustainable	Balancing present need with environmental protection, economic development and social equity to create a healthy, equitable and prosperous world, now and in the future.
Net zero	Achieving a balance between the amount of greenhouse gases produced and the amount offset or removed from the atmosphere, so the net effect is zero additional emissions.
Climate adaptation	Helps us to deal with the unavoidable effects of climate change: Adjusting systems, communities and economies to cope with the current and future effects of climate change e.g. flood defences.
Climate mitigation	Addresses the cause of climate change: actions taken to reduce or avoid greenhouse gas emissions and enhance carbon sinks to limit the severity of future climate change e.g. switching to renewable energy, planting trees.
Climate justice	The principle that climate change solutions should be fair and equitable, recognising that vulnerable communities are disproportionately affected by climate change despite contributing least to the problem, and often having the least resources to reduce the impact.
Placemaking	The collaborative process of shaping public spaces to maximise their shared value, focusing on community needs, local identity and creating a vibrant, liveable environment that people want to use and be in.
Climate-led placemaking	Putting climate considerations at the centre of placemaking, ensuring that new developments and urban improvements are designed with climate in mind, helping to address environmental challenges, reduce emissions, improve resilience, while still creating great places for people to live and thrive.
Blue and green infrastructure	Planned networks of natural and semi-natural green (land) and blue (water) features. Green infrastructure includes parks, woodlands and street trees. Blue infrastructure includes rivers and wetlands. Together, they manage flood control, support biodiversity, provide recreation and improve overall quality of life.

FOREWORD

Belfast's Net Zero Neighbourhood Framework establishes a foundation for decision making, policy development, engagement and future placemaking to support Belfast's transition to net zero.

The purpose of the Framework is both a strategic guide and a call to action, connecting communities, urban practitioners, and decision-makers to climate priorities through a lens of lived experience, cost of living, and quality of life at the local level.

It is designed to support a wide range of audiences, both locally in Belfast and internationally, and offers transferable insights for those who are working toward more sustainable, inclusive urban futures and the approach, engagement process, and insights offer transferable lessons for those exploring place-based pathways to net zero.

The Framework builds on Belfast's Resilience Strategy, Net Zero Carbon Roadmap, Local Area Energy Plan, the Local Development Plan and A Bolder Vision for Belfast to deliver place-based interventions in the pilot area. To ensure a fair and just transition, the UP2030 pilot focused on a diverse part of the city centre in the Linen Quarter business district and the surrounding residential communities of the Market, Donegall Pass, Sandy Row and Barrack Street.

This enabled a holistic exploration of interrelated issues: severance caused by road infrastructure, lack of green open space, poor air quality, and the cumulative impact of these on residents and businesses. By focusing on retrofit, active travel, and greening, the Framework identifies low-carbon approaches that will contribute to liveable, sustainable neighbourhoods that act as catalysts for climate action.

Developed in partnership with city stakeholders, communities, and global peers, the Framework aims to create scalable approaches that can be adapted anywhere. A crucial part of this task is helping people understand why action is necessary, and how climate change is already impacting the health, wellbeing, and the economic realities of our lives.

Belfast Net Zero Neighbourhood Framework 2025

We can no longer justify public investment in projects that lack resilience or fail to decarbonise. Every intervention must deliver dual benefits: advancing climate action while creating flourishing communities for today that endure for tomorrow. This is our moment to reimagine how we build, move, live, and thrive in a net zero Belfast.

Let this Framework be a standard-bearer that places climate action, equity, and future readiness at the heart of every decision. Advancing to net zero can no longer be an afterthought and must be embedded in the foundations of placemaking and regeneration, permeating every aspect of community building and future planning. The responsibility belongs to us all.

Councillor Ian McLaughlin, Chair of the City Growth and Regeneration Committee

Councillor Micheal Donnelly, Chair of the Climate and City Resilience Committee

EXECUTIVE SUMMARY

Belfast declared a climate emergency in October 2019 and has since committed to becoming net zero by 2050, this means taking action to balance the amount of carbon emissions we add to the atmosphere with the amount we remove. The action required is urgent, and the call to address this action will become more pressing as policy, social, economic and environmental drivers put increasing pressure on our 'business as usual' system.

Introduction and purpose of the Framework

Through Horizon Europe's UP2030 project, Belfast explored what a transition to net zero would look like at the neighbourhood level with the aim of producing a framework that would support the application of learnings at scale across the city and beyond. To enable a local focus, a pilot area was selected which includes the Linen Quarter and surrounding communities of the Market, Donegall Pass, Sandy Row and Barrack Street. Working with communities and cross-sector stakeholders in a contained geographic area offered an exploration of the challenges and opportunities to achieving net zero across a range of typical city uses and spatial typologies.

This framework is designed for placemakers both locally and internationally. It offers practical guidance on co-designing with communities, embedding climate priorities into area planning and delivering healthier, more liveable neighbourhoods.

In Belfast, buildings contribute towards 50% of our emissions and transport accounts for 20%. As the economic driver for the region with ambitious targets to significantly increase the residential and employment population in the coming years, the city's projected growth could add 100,000 daily vehicle trips. At the same time, resources and infrastructure are under growing pressure from extreme weather events like flooding, as well as from cold, inefficient homes. There's also an increasing risk of 'stranded assets' as commercial properties fail to meet tightening energy performance standards. This is why the project focused on three themes that could achieve the greatest impact: Retrofit (upgrading buildings to become energy efficient), active travel (walking, wheeling and cycling), and greening (nature-based climate solutions).

This diverse pilot area, which is home to approximately 10,000 residents and over 1,200 non-domestic buildings, including offices, retail units and hospitality venues, faces unique challenges. It's location within a heavily trafficked part of the city centre, as well as its proximity to and segregation by major road networks, creates barriers to connectivity and accessibility. This also contributes to the area's exposure to environmental stressors, such as flood risk, air pollution and urban heat island effect, with vulnerabilities further exacerbated by the lack of green space and low canopy coverage within the area. These pressures are compounded by social inequalities and all together, make the area a valuable pilot for exploring a fair and just transition to becoming a net zero neighbourhood.

Our approach:

Community co-design to shape solutions was central to both the process and our core learning from the project. Our methodology involved three phases:

Belfast Net Zero Neighbourhood Framework 2025

(1) Visioning Phase – an analysis of needs and geospatial data, combined with engagement to understand the lived experience of those in the area, barriers and priorities through visioning workshops with communities and stakeholders to imagine a net zero neighbourhood (2) Action Phase – further analysis, action workshops and testing of ideas (3) Upscale Phase – reflecting on learnings, identifying opportunities for scaled approaches and sense checking our conclusions.

What we learned:

Section 1: We first set out to explore the relationships between climate action in urban design and the role of cities in achieving net zero, specifically in the Belfast context. This included reviewing the unique challenges for the city and the policy ambitions in place to support sustainability and resilience in the urban and built environment.

Section 2: We then sought to gain a more detailed picture of the UP2030 pilot area and considered a range of data including an analysis of demographics, behaviours, climate vulnerabilities and projected risks, carbon emissions and the energy efficiency of building stock within the area.

Section 3: As part of the vision phase, we reflected on the engagement and learning from the geospatial analysis and through extensive stakeholder engagement, developed the overarching vision for the framework: "To create a net zero neighbourhood that adapts and mitigates climate risks through increased greening, better active and sustainable transport and more energy efficient low carbon buildings and to act as a beacon of success for other neighbourhoods".

The thematic sections of retrofit, active travel and greening present learning from the project, including further insights gained from case studies where we tested a selection of concepts developed in the vision phase, and concludes with process tables showing how to move from understanding needs, co-designing visions and establishing resources to implementing and sustaining interventions. The reflections in this section emphasise that strong cross-sector collaboration, shared resources and sustained commitment will be required to transition to net zero.

Section 4: A critical piece of this work both in the project and for success going forward is addressing the challenge of engaging and communicating with people on the concept of net zero and the relationship between climate change and the economic, social and environmental impacts it will have on our lives. A co-design engagement process was fundamental to an impactful exploration of these issues and the development of community-led and owned climate interventions. Our findings highlight the importance of shaping communication and engagement that responds to identified community needs and ensures that net zero approaches do not add burden but achieve co-benefits that improve quality of life through climate action.

Section 5: To build our understanding of the carbon emissions data in the neighbourhood we worked with the University of Cambridge to estimate the carbon footprint of the area to see what it would take to make it carbon neutral.

Section 6: Net zero enablers outline the supporting infrastructure that will mobilise change at a strategic level, including governance,

data, area planning and the requirement for knowledge sharing and upskilling.

Section 7: To support momentum and scalability, we provide Opportunities for the Way Forward, a menu of lessons learned and targeted thematic interventions designed to guide and inspire other communities. These options are multiple problem solvers that could bring co-benefits across climate and quality of life issues.

Taking a place-based approach to the transition means that the approaches and learning from this pilot could be adapted to unlock climate action at a local level. Through the project, five interconnected actions emerged as essential for scaling and achieving net zero at a neighbourhood level:

Engage – Understand the lived experience and identify opportunities for climate solutions to address social challenges by meeting people where they are at.

Educate – Raise the awareness and profile of the importance of this work through knowledge sharing.

Elevate –Disseminate the learning; upskill and upgrade placemaking approaches.

Enable – Build capacity and enable communities to bring forward climate priorities in area planning.

Embed – Upgrade existing governance systems and partnerships, as well as current and future work streams and projects.

Appendices: We provide supporting materials or 'tools' developed through the project, including 'Safe Routes Healthy Places' resources, emissions data analysis from University of Cambridge, engagement resources and retrofit data mapping, all freely accessible for further learning and dissemination.

In conclusion, the UP2030 process has enabled us to envision what a Net Zero Neighbourhood in Belfast could look like by 2050 and to identify the barriers, opportunities, and systemic shifts required to get there. Climate action at the local level has multiple entry points and must draw upon the diverse skills, powers, finances, and resources of a wide range of stakeholders and partners. Framing climate action as a cross-cutting, horizontal priority - embedded across all plans, policies, and projects - is essential to shifting from business as usual to transformative change.

The Northern Ireland Executive holds ultimate strategic responsibility for ensuring that Northern Ireland meets its climate obligations under the Climate Change Act (NI) 2022. The forthcoming Climate Action Plan will outline the policies, proposals, and sectoral pathways required to reduce emissions and meet statutory targets. As a local authority, Belfast City Council will align its climate plans and priorities with these pathways, ensuring that local action contributes meaningfully to regional outcomes. While some constraints (such as legislation and funding) lie beyond our control, we are committed to leading by example through robust governance structures, innovative approaches, cross-sectoral partnerships, and embedding climate action through Area Planning to accelerate change on the ground and deliver a low-carbon, healthier, and more equitable city.

Belfast Net Zero Neighbourhood Framework 2025

Image: Belfast looking towards the cranes, David Blaikie

Image: Belfast from above

Introduction

UP2030 PROJECT

UP2030 is a European initiative that empowers cities to achieve climate neutrality by 2030 through innovative urban planning and design strategies. It focuses on shaping neighbourhoods, influencing everyday behaviours, and guiding long-term decisions that embed climate action into placemaking. Central to its approach are inclusive, community-driven strategies that ensure spatial justice and citizen engagement.

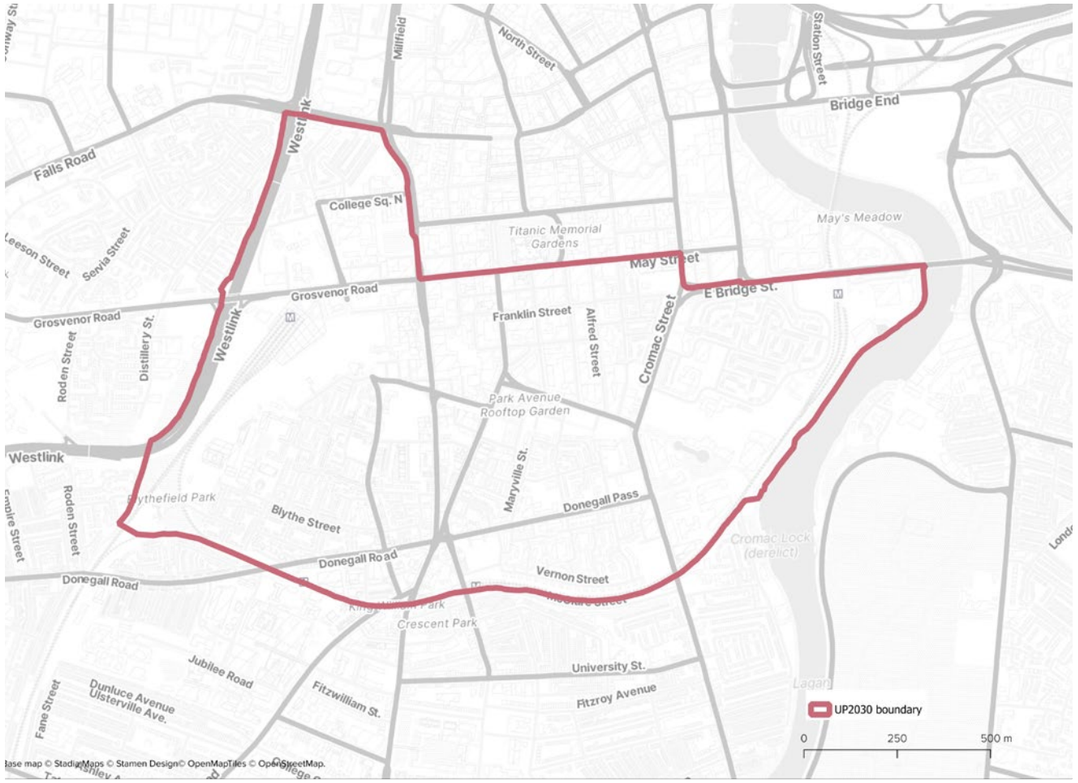


Fig 1: UP2030 Boundary Area

To speed up climate action and scale effective solutions, UP2030 proposes a place-based methodology using the 5UP-approach which supports cities and stakeholders through interconnected steps, unlike traditional models that test single innovations.

5UP Approach:

UPDATE:
Planning and design approaches, standards, codes and policies for urban transformations.

UPSKILL:
The city's stakeholder ecosystem to co-develop urban planning and design enabled transformation pathways.

UPGRADE:
Our neighbourhoods using built and natural environment prototypes, supportive models & tools for planning and design.

UPSCALE:
Governance arrangements, financial mechanisms, policy development & decision-making for urban planning.

UPTAKE:
Activities to raise awareness and transfer knowledge across European cities and beyond.

By focusing on neighbourhood-scale prototyping, UP2030 encourages cities to enhance liveability and spatial justice while empowering citizens to adopt sustainable behaviours. Belfast was one of eleven participating pilot cities and through the project, had access to 'tool providers'. Tool providers are a range of business, research, academic and other organisations that are developing cross-cutting solutions that enable cities to plan, implement, and scale their climate neutrality efforts, across critical drivers including data governance and digital planning, emissions reduction, spatial justice and replication. The project also supports cities in building policy frameworks, governance models, and institutional capacity to scale climate innovation city-wide, guided by the core values of equity, resilience, neutrality, and sustainability.

> Belfast set out to develop a net zero neighbourhood framework that would help place-makers and communities to further their understanding of how the design and development of our neighbourhoods can help us achieve our climate ambitions and be more informed in our approach.

For the purpose of the project, a pilot study area (otherwise referred to as the 'UP2030 project area', 'pilot area' or 'neighbourhood'), within the city was agreed by Elected Members which includes the Linen Quarter and surrounding communities of the Market, Donegall Pass, Sandy Row, Barrack Street.

Belfast City Council's City Regeneration and Development and Climate Teams joined together to develop an integrated approach that links urban planning and placemaking with the goals of achieving net zero, climate resilience, and environmental sustainability. This approach is shaped through engagement with key stakeholders, including young people, families, and businesses.

Project Aim:

To develop a framework for creating a net zero neighbourhood that can be scaled across the city and beyond. The framework considers the transition to net zero through the themes of greening, active travel and retrofit and is underpinned by the pillars of decarbonisation, resilience and supporting a fair and just transition to net zero. The project methodology involved engagement with communities, city partners and expert advisors to review challenges and opportunities for climate-led placemaking, with the aim of creating a place-based approach for the project area that can inform approaches to a city wide transition to net zero and beyond, based on the steps outlined below: The core approach involved three phases:

The core approach involved three phases:

01

Vision Phase

Conducted a needs analysis to identify priorities and barriers to achieving net zero from the perspective of communities as well as key strategic stakeholders.

Undertook geospatial analysis to assess the area's infrastructure, demographics, and both existing and projected climate impact risks.

Held visioning workshops to imagine what a net zero neighbourhood could look like, and to identify the actions and pathways required to achieve it.

02

Action Phase

Facilitated action workshops to unpick specific challenges.

Tested concepts in partnership with local stakeholders and partners within the wider UP2030 cohort. The latter contributed knowledge and transitional tools for cities to test against their specific challenges.

03

Upscaling Phase

Evaluated learning and assessed the scalability of approaches.

Carried out sense-checking with communities.

Developed a framework and supporting resources to guide future action.

Who is this document for?

This framework is designed to support a wide range of audiences, both locally in Belfast and internationally, who are working toward more sustainable, inclusive urban futures. While we recognise the complexity of creating a resource that speaks to everyone, this document will be made publicly available online, accompanied by accessible materials, to spark climate conversations and action in community spaces.

This framework will be particularly valuable for urban practitioners, policymakers, and city and regional stakeholders, and community organisations. While rooted in Belfast's unique post-conflict context and spatial divisions, the approach, engagement process, and insights offer transferable lessons for UP2030 and other global partners exploring place-based pathways to net zero.

This framework aims to act as a guide to connect communities, placemakers and decision makers to strategic climate priorities through exploration of the transition to net zero at a local level. To support and guide the next steps, the framework sets out the process based on each theme and 'Opportunities for the Way Forward' that will encourage a multi-stakeholder, place-based approach.

Belfast Net Zero Neighbourhood Framework 2025

How the net zero neighbourhood framework should be used:

- Educate and shape policy and interventions regarding climate action in shaping the urban environment.
- Inform strategic planning, placemaking and community engagement processes.
- Support decision-making in urban development and placemaking projects.
- Spark climate conversations in communities and workplaces to elevate and embed carbon neutrality into everyday life and professional practices.

It offers:

- Insights for placemakers on how to co-design with communities and embed climate priorities into area planning.
- Guidance for shaping initiatives around engagement, retrofit, greening, and active travel to build healthier, more liveable neighbourhoods.
- Takeaways and reflections based on case studies and real-world learning from Belfast's unique context, with lessons and interventions set out as Opportunities for the Way Forward that can be adapted and scaled by other cities.
- Free access to tools developed with project partners supporting practical initiatives and data-driven insights that can be scaled and applied across Belfast and beyond.

01

CLIMATE CHANGE IN BELFAST

The effects of climate change present the greatest economic, social and environmental risks to the city of Belfast in our lifetimes and requires focused immediate attention to protect future generations. **The city's future growth must therefore be inclusive, sustainable and low-carbon.**

1.1 Context

> "The economic cost of flooding could be profound. Belfast is predicted to be the most economically impacted, with aggregated average damages of approximately £16m"
>
> Belfast Resilience Ambitions: A Climate Plan for Belfast 2020

Belfast must be 'climate ready' i.e. prepared for changes to the city's weather patterns, hydrology systems and biodiversity arising from climate change. As a harbour city, its proximity to water leaves it exposed to rising sea levels and patterns of more extreme weather. Pockets of poor air quality, high dependence on cars as a form of transport, and the dominance of hard infrastructure throughout the city highlight a series of interconnected challenges which, if left unaddressed, will leave the city exposed. To prevent economic shocks, and to avoid a widening of inequality, the city must build community resilience and ultimately, transition to a net zero emissions economy.

The ability to respond to a changing climate will directly shape Belfast's future prosperity. The prevalence of extreme weather events demands additional resources; the design, development and siting of future developments will be influenced by climate risks; and the city's attractiveness as a place to live, work and enjoy will depend on how well it prepares for, responds to, and recovers from climate related shocks and stresses.

The Climate Challenge and Opportunities

> "Belfast is emitting **1.5 million** tonnes of carbon a year. At this rate, we will have used up our budget by 2030"
>
> Net Zero Carbon Roadmap for Belfast 2020

The Intergovernmental Panel on Climate Change (IPCC) warned in 2018 that cities have twelve years to make rapid, far-reaching and unprecedented changes in all aspects of society to limit global warming to 1.5°C.
The Net Zero Roadmap, Belfast's Mini Stern report, which was produced

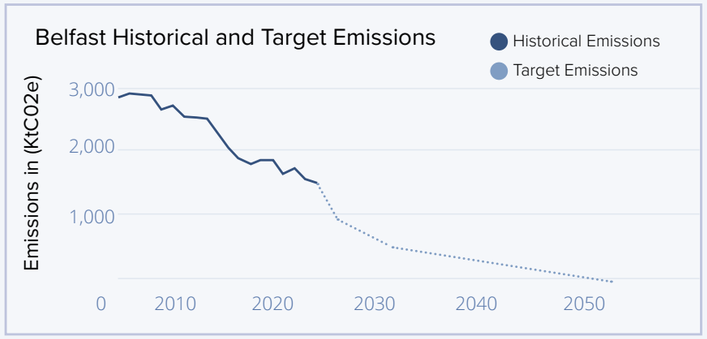
in 2020 demonstrated the scale of the city's long-term economic dependence on fossil fuels, estimating that Belfast will spend **c.£466 million** per year by 2050. The city therefore needs to rapidly decarbonise by reducing energy demand and by moving to low carbon energy sources, challenges which offer significant security and long-term economic benefits. According to the Net Zero Carbon Road Map for Belfast, cost-effective low carbon options around housing and transport could close the 2030 carbon emissions gap by 35%. In terms of financial returns, these measures would reduce Belfast's energy bill by **£263m** per year and would create nearly 4,779 years of extra employment. Opportunities also lie within resilience, with the UK National Audit Office estimating that every **£1 spent on protecting communities from flooding can prevent around £8 in property damage and wider impacts can be avoided.**

Fig 2: Belfast City Council's Emission data. Source: UK local authority and regional greenhouse gas emissions statistics - GOV.UK

Latest Emissions	Total Emissions Change from Baseline	Percentage Change in Emissions	Emissions Reduction Per Year
1,561 ktCo2e in 2023	-1,347 ktCo2e in 2023	-46% From 2005 to 2023	-75 ktCo2e to 2023

	2025	2030	2050
Emission Reduction Targets	-66%	-80%	-100%
Remaining emissions reduction required* kt CO2e	573	980	1,561
Emissions reduction per year required* kt CO2e	286	81	29

*Linear reduction – Annually reduction based on previous targets being achieved

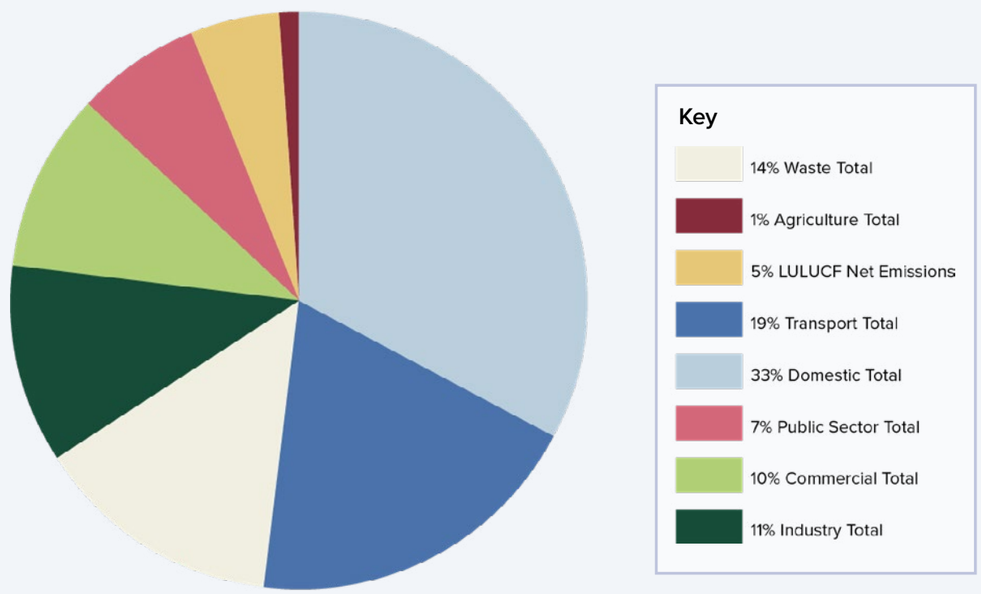


Belfast's Carbon Reduction Targets

Belfast declared a climate emergency in October 2019, setting an ambitious target for the city to become net zero by 2050. Achieving this means that, by 2050, the city must remove the same amount of greenhouse gases (GHG) that it releases into the atmosphere, balancing carbon emissions with natural absorption (carbon sequestration) and reduction measures. The extract below from Belfast City Council's Local Government District (LGD) Emissions overview illustrates how city-wide emissions have reduced by **46%** since the baseline year of 2005, with challenging targets in place to achieve a 100% reduction (net zero) by 2050.

The two highest GHG emission sectors in Belfast are buildings and transport, with domestic, public and commercial buildings collectively accounting for 50% of the city's emissions whilst transport across all of these sectors accounts for 19%. This pattern informed the choice of low carbon retrofit and active travel as two of the themes of the UP2030 programme.

Fig 3: Belfast's emissions by sector. Source: UK local authority and regional greenhouse gas emissions statistics - GOV.UK

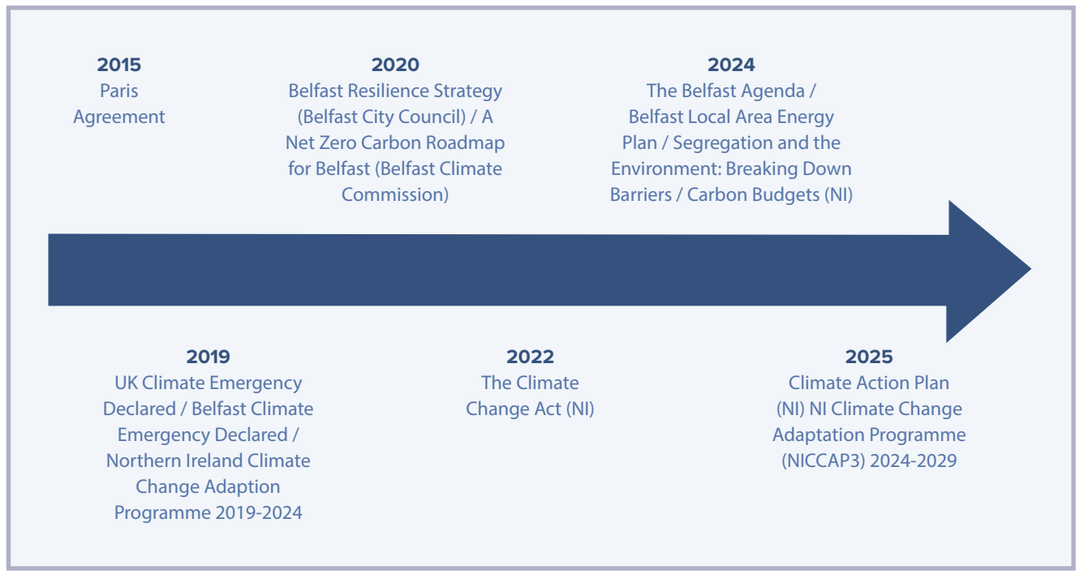


City Resilience and Impacts on Communities

Climate resilience and adaption are embedded in key regional, and city plans and policies such as the Northern Ireland Climate Change Adaptation Programme 2019-2024, the Belfast Local Development Plan 2020-2035, the Belfast Agenda 2024 and the Green and Blue Infrastructure Plan. Climate change is not a single, isolated issue for the city and should never be reduced to one strand within a wider body of work. Instead, climate adaptation and resilience must be integrated into every aspect of development and regeneration, to protect communities, safeguard the investment of public money, and secure a cleaner, greener, safer and healthier quality of life for generations to come.

As is the case globally, in Belfast, climate change disproportionately impacts vulnerable communities. Lower income households, the elderly, those with poor health and those living in privately or socially rented homes are likely to be more susceptible to the impacts and risks of climate change. Lower income households, particularly those living within flood risk areas, will find it more difficult to get home insurance and deal with the impacts of flood damage, whilst those with poorer health will be more affected by poor air quality, increased damp, flooding of homes and local areas, and more severe fluctuations in weather such as heatwaves.

Fig 4: Key climate milestones



Sea levels around the UK have risen by **16.5cm** since 1901. For Belfast Harbour, the 5 highest tidal surges on record have been recorded since 1994. Large portions of Belfast city centre are situated between 1 and 2 metres below extreme tide level, and **6,000** properties are currently considered at significant coastal flood risk.

The International, National and Regional response

The COP21 Paris Agreement aims to limit global warming to less than 2°C above pre-industrial levels, pursue efforts to limit increases to 1.5°C, build resilience and increase the world's ability to mitigate the impacts of climate change.

The Climate Change Act (Northern Ireland) 2022 sets targets for Northern Ireland (NI) to reduce its GHG emissions. The Act sets out a carbon budgeting framework, provisions for reporting against emissions targets and carbon budgets, and the appointment of a Climate Commissioner. It sets an interim target of at least **48%** reduction in net emissions by 2030 alongside sectoral targets that include sourcing at least 80% of electricity consumption from renewables, recycling 70% of waste, and allocating a minimum spend of 10% of overall transport budgets to active travel by 2030. The Carbon Budget (2023-2037) Regulations (2024) set the first three carbon budgets, requiring average annual reductions of 33% for 2023-2027; 48% 2028-2032; and 62% for 2033-2037.

In 2022, Belfast adopted carbon reduction targets of 66% reduction by 2025, 80% reduction by 2030 and 100% reduction by 2050 (compared to 2000). Belfast's community plan, the Belfast Agenda (2024-2028) outlines priorities of action over the next four years including a programme of work under one of its key themes 'Our Planet' which aims to create a sustainable, nature-positive city.

The 2024 Belfast Local Area Energy Plan outlines a series of priority projects to transition the city to clean, renewable energy sources to reach net zero by 2050. The plan provides a strategic case for investment that will enable a transition to an affordable and decarbonised energy system as well as supporting wider socio-economic goals.

Fig 5: Climate policy overview

Global	• Paris Agreement (COP21) • UN Sustainable Development Goals (UN SDGs)
United Kingdom	• UK Climate Change Act 2008
Northern Ireland	• The Climate Change Act (Northern Ireland) 2022 • Carbon budgets • Third Northern Ireland Climate Change Adaptation Programme (NICCAP3) • Energy Strategy – The Path to Net Zero Energy • Draft Green Growth Strategy • Programme for Government • Second Cycle NI Flood Risk Management Plan 2021-2027 • Strategic Planning Policy Statement • Draft Architecture and Built Environment Policy
Belfast	• Belfast Local Development Plan • The Belfast Agenda • Belfast Local Area Energy Plan • Segregation and the Environment: Breaking Down Barriers • Belfast Resilience Strategy • A Net Zero Carbon Roadmap for Belfast • Green and Blue Infrastructure Plan • A Bolder Vision for Belfast

1.2 Achieving net zero: what is it?

Net zero means balancing the amount of carbon emissions we add to the atmosphere with the amount we remove.

Gases such as carbon dioxide (CO_2) and methane act like a thick, heat-trapping blanket on the earth. The more greenhouse gases we produce and emit, the more heat becomes trapped, driving climate change. Experts warn that rising global temperatures will disrupt weather patterns and put food and water systems under increasing strain.

Carbon dioxide (CO_2) is the largest single contributor to climate change, making up most of global greenhouse gas emissions.

The main sources of carbon emissions worldwide are energy production (burning coal, oil and gas for electricity and heating), transport (cars, planes and shipping), industry (manufacturing, construction and chemical processes), buildings (heating, cooling and electricity use in homes and businesses), and agriculture and land use (deforestation and livestock).

Carbon is like water filling a Belfast sink:

- Things like cars and factories act like a tap, pouring carbon into the air.
- Nature, like plants, trees and oceans, acts like a drain, soaking up that carbon.
- But right now, the tap is running too fast, and the drain can't keep up.

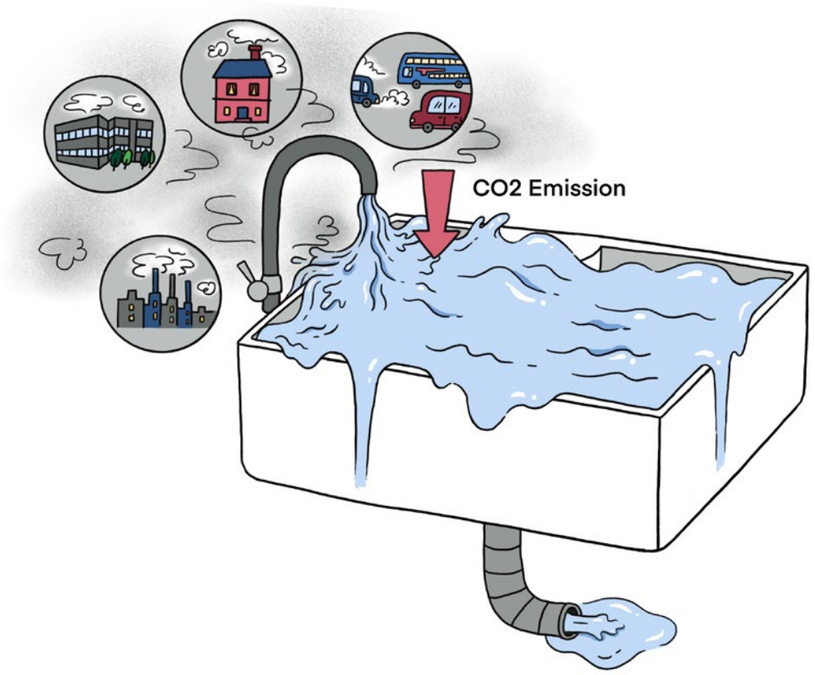


Fig 6: Belfast sink illustration

Cutting our emissions is a key focus for Belfast and tackling major sources like buildings and transport is essential for making meaningful progress towards net zero.

1.3 The role of cities in achieving net zero

Cities have a major role to play in achieving net zero and are central to both the climate challenge and solution.

As of 2023, approximately 55% of the world's population resided in urban areas, a proportion projected to reach 68% by 2050. Despite covering less than 2% of the earth's surface, cities consume about **75%** of global energy and are responsible for approximately **70%** of global greenhouse gas emissions.

The high concentration of people and activity in cities increases their vulnerability to climate risks like water scarcity, flooding, and heat stress, while also contributing to pollution, congestion, and waste.

Yet, their density and status as centres of innovation and governance position them as powerful drivers of transformative climate action. The New Climate Economy project (commissioned by the Global Commission on the Economy and Climate New Climate Economy), found that compact, connected and coordinated cities are more productive, inclusive, safer and resilient. They enable the efficient distribution of resources and foster the learning and innovation to drive the large-scale behavioural and infrastructural shifts required to reach net zero.

Image : Belfast city scape

Belfast demonstrates this dual role. As a compact but fast growing post-industrial mercantile city, it is already experiencing the realities of a changing climate through extreme weather events such as flooding, storms, and heatwaves. At the same time, the Local Development Plan aims to grow the city's population by **66,000** people by 2035 and to do this, it has growth figures of **31,600** new homes citywide with approximately **8,000** new housing units in the city centre.

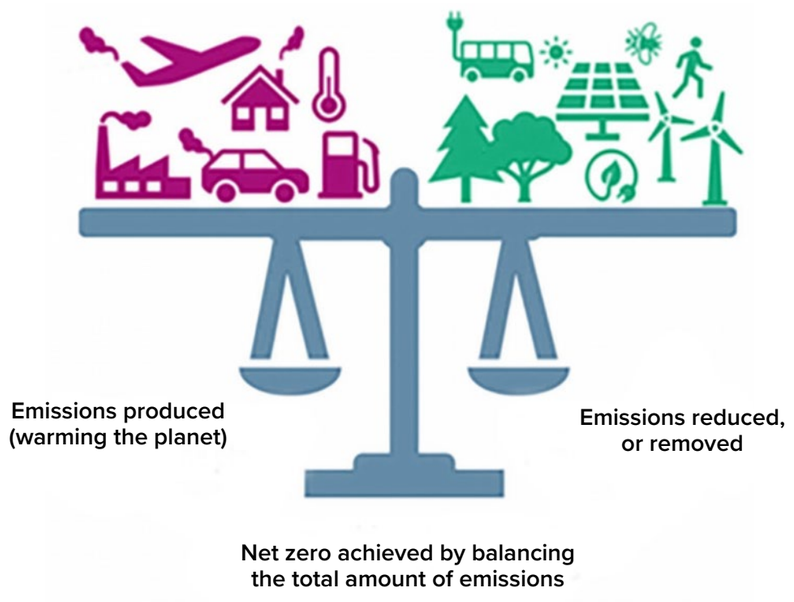
This growth presents a critical opportunity to avoid locking in high-carbon infrastructure and instead to build a city that is both economically dynamic and environmentally sustainable. How the city designs and connects to its neighbourhoods, and public spaces will be fundamental to achieving net zero and creating a resilient, attractive place to live, work and invest.

1.4 Segregation and the challenge of achieving net zero

Belfast's urban landscape continues to bear the imprint of decades of sectarian division with physical barriers, often called "peace walls" or "interfaces" that separate communities along lines of identity and community affiliation. In this context, segregation can be understood as "those institutions, structures, behaviours, policies and decisions that divide local communities or perpetuate the division of those communities" and results in "single identity" communities that are separated by physical barriers or hidden boundaries.

Due to the historic nature of segregation within the city, to address conflict, the built environment was developed with social division

Fig 7: Achieving net zero



as a proactive security measure. The Segregation and the Environment report outlines how there are an extensive range of "hidden barriers" in Belfast that were embedded during a "process of security planning" of inner-city Belfast between 1976 and 1985, where everyday elements of the built environment were used to reinforce separation. Today, many of these barriers remain embedded and normalised and continue to affect how people live and move through the city and are particularly evident in transport, education, and leisure activities, which is demonstrated in:

- The fragmented nature of the city's road and transport network, which increases journey times and requires additional transport navigation as residents may not necessarily feel comfortable using their closest geographical resource or are unable to do so due to physical or social barriers, thus generating additional transport emissions.
- The duplication of buildings, services and resources such as schools, leisure amenities and community infrastructure, thus requiring additional energy and financial resources to operate and maintain.

This means that achieving net zero in Belfast will be more difficult. The current model of division and duplication only deepens Belfast's challenge to decarbonise and tackle the wider resilience issues facing the city. Meaningful action towards achieving net zero will require confronting the spatial legacies of division that continue to shape how people move, live, and access opportunities and amenities.

These patterns have shaped the city in lasting ways, with the greatest disadvantages felt by people living closest to peace barriers and produced uneven environmental conditions across the city where some communities face higher exposure to pollution, limited access to green space, and poor connectivity, while others benefit from investment and infrastructure. These disparities complicate efforts to deliver citywide climate resilience, as trust, participation, and shared ownership of net zero goals are harder to build across divided geographies.

Environmental justice recognises that pollution, climate risk, and poor access to nature fall most heavily on disadvantaged communities and in Belfast, this pattern overlaps with segregation. Areas nearest to peace barriers have the lowest access to green space in the UK, with only 10% of land publicly accessible compared with 12% in Derry and 17% in Edinburgh. Without greenery, residents lose both everyday amenity and essential environmental benefits such as cooling, carbon storage, and wildlife habitat. In the city centre, biodiversity is particularly limited by the lack of greenery, and this reflects and reinforces wider inequalities in health and wellbeing.

Today, 86% of residents living within 400 metres of a peace barrier fall within the most deprived sections of greater Belfast. Disadvantage manifests here in persistent poverty, poor health, high unemployment, and low educational achievement. These pressures are compounded by environmental challenges: high air and noise pollution, greater risks from flooding and extreme heat, and a shortage of accessible green space.

1.5 Climate and health

Climate change has significant impacts on human health, creating a complex web of direct and indirect effects that influence both physical and mental well-being. Belfast is experiencing increased frequency and intensity of extreme weather events, which can cause a rise in heat-and-cold related deaths, can increase the spread of infectious diseases as well as impacting on mental health. The impacts can be wider ranging, resulting in disruptions to health and social care systems, exacerbating health inequalities, as well as affecting wider determinants of health like food security and air quality.

Physical health impacts

- **Extreme heat / cold:** Increased frequency and intensity of heatwaves lead to a rise in heat-related illnesses and deaths, with figures from the Office for National Statistics (ONS) identifying 3,271 excess deaths in England and Wales in 2022. These periods of extreme temperature change, particularly affect the most vulnerable, such as the elderly and those with pre-existing cardiovascular and respiratory conditions.
- **Flooding and storms:** Increased rainfall leads to more frequent and severe flooding, which can cause injuries and fatalities. Contaminated floodwaters can also cause skin and gastrointestinal infections.
- **Infectious diseases:** Milder winters and warmer temperatures can allow vector-borne diseases to spread more easily. Ticks carrying Lyme disease, for example, have a longer active season, and non-native mosquito species that can transmit diseases like dengue may establish themselves in the UK.
- **Air quality:** Climate change can worsen air pollution, which is a significant driver of respiratory conditions like asthma and chronic obstructive pulmonary disease (COPD). It is also linked to cardiovascular diseases and cancer. A report by the Royal College of Physicians in 2025 estimated that around 30,000 deaths per year in the UK are estimated to be attributed to air pollution, with an economic cost of £27 billion in the UK due to healthcare costs, productivity losses and reduced quality of life.

Mental health impacts

Anxiety and stress: Those affected by extreme weather, such as floods, are at a significantly higher risk of developing mental health problems. A report by the British Red Cross on climate resilience and vulnerability found that **40%** of people living in the UK who have been flooded report severe or moderate mental health impacts. The increasing frequency of extreme weather events and the growing awareness of environmental threats can cause anxiety, distress, isolation and hopelessness, particularly among the young and the elderly.

Belfast Net Zero Neighbourhood Framework 2025

1.6 Climate and urban design

The design of our physical environment is a critical tool for addressing climate change. To future-proof the city, design, governance, finance, and planning systems we must pursue a holistic and integrated, collaborative approach to address the changing climate and deliver climate action.

Well-designed, compact urban growth and high-quality public spaces can address multiple challenges simultaneously, including climate resilience. Public spaces that are welcoming, attractive, and well-connected by public transport, that incorporates green infrastructure, can:

- Enable walkable neighbourhoods that support healthier lifestyles and reduce transport emissions.
- Improve urban drainage and water quality.
- Increase biodiversity.
- Provide shade and reduce the urban heat island effect.
- Create social hubs vital for community cohesion and collective responses during extreme weather.

Investment in the built environment is essential, both in retrofitting buildings to improve energy efficiency and providing infrastructure that supports active travel.

For Belfast, this means adopting adaptive, sustainable, and climate-led urban design solutions at a local level to reduce the city's carbon footprint while ensuring communities are prepared for, and able to recover from extreme weather.

Climate-led urban design protects Belfast's infrastructure, ecosystems, and communities, while also delivering health, economic, and ecological benefits. Done well, it embeds spatial justice, ensuring that no one is left behind.

Climate mitigation tackles the root cause of climate change by reducing emissions and limiting the extent of future climate impacts. Urban design contributes by creating walkable, well-connected streets that allow people to access daily needs, such as schools, health services, shops, and social opportunities locally and sustainably. Increasing tree cover and improving the quality of our soils and green spaces helps absorb carbon dioxide (CO_2) while also making neighbourhoods more liveable.

Climate adaptation is about coping with the consequences of climate change that are already unfolding. It involves adjusting infrastructure, policies, ecosystems, and behaviours to reduce risks and build resilience. Adaptation requires collective planning across government, organisations and communities.

Belfast's key climate risks include:

Flooding: tidal, river, surface water (pluvial), and reservoir risks, often occurring in combination (for example, high tide coinciding with heavy rainfall).

Sea level rise: new tidal barriers will reduce but cannot eliminate risk entirely.

Storms and wind damage: leading to power outages, transport disruption, fallen trees, and pressure on emergency services.

Heat exposure: rising summer temperatures, with the most vulnerable residents at greatest risk.

Urban Heat Island Effect: dense, built-up areas trapping and intensifying heat; with increased air conditioning use can add further heat to streets and public spaces.

Ecosystem and biodiversity stress: species loss and reduced biodiversity and green connectivity, degrades ecosystems which become less effective at absorbing carbon, further accelerating climate change.

Urban design can respond using both climate mitigation and adaptation solutions, such as:

- **Flood risk management:** green infrastructure and Sustainable Drainage Systems (SuDS) slow runoff, improve water quality and reduce pressure on combined sewers.
- **Blue infrastructure:** using the River Lagan and other water bodies to regulate temperature, and restoring buried rivers to manage both flooding and heat, as well as increase biodiversity.
- **Green Infrastructure and tree planting:** Introducing green space around homes and planting street trees reduces surface and air temperatures, improves walkability, and provides habitats for biodiversity.
- **Building design:** Promoting effective ventilation and avoiding materials that exacerbate overheating to protect residents from extreme heat.

By combining these measures, Belfast can address its vulnerabilities while delivering both mitigation and adaptation in practice. Well-designed places not only reduce emissions but also protect and prepare communities, embedding resilience into the fabric of the city and ensuring the achievement of its net zero targets.

1.7 Local Development Plan and climate measures

Belfast's response to these climate risks is already underpinned by a strong framework of policies and plans that support climate mitigation and adaptation. Together they provide the tools to translate urban design principles and climate responses into coordinated action across the city.

The Belfast Agenda prioritises collaboration across service providers, breaking down siloed working to deliver climate mitigation and adaptation for communities and planning collectively for people and places. It sets out programmes for expanding nature and urban growing, improving soils, increasing access to nutritious food, planting the right trees in the right places, upgrading the quality of homes, reducing carbon emissions from our buildings, and transitioning to cleaner, greener transport.

The Planning system has an important role to play in seeking to address climate change, insofar as it regulates land use and delivers sustainable development and provides a foundation for societal/behavioural change. Sustainable and inclusive development is at the heart of the Local Development Plan (LDP); as the statutory land use plan for the city, it has specific policies for new developments in terms of climate mitigation and adaptation on urban design and placemaking.

Key measures include:

- Better integration between transport and land use planning
- Increased urban densities
- Reuse of brownfield land and repurposing existing buildings
- Energy efficiency and green design
- Avoiding flood risk areas
- Sustainable Drainage Systems (SuDS)
- Green & Blue Infrastructure
- Promotion of active/sustainable travel
- Protection of existing trees and increased planting of new trees

Image: Cycling in Botanic Gardens

A wide range of LDP policies aim to mitigate and adapt to the climate emergency across housing, urban design, environmental protection and natural heritage. Strategic Policies (SP) define the city's long-term goals and priorities and guide all development and planning decisions and are supported through a wide range of "detailed policies", some of which aim to mitigate and adapt to the changing climate across housing, urban design, environmental protection and natural heritage.

Strategic Policy 6 (SP6) – Environmental Resilience is of particular relevance as it specifically refers to a changing climate: Strategic Policy SP6 - Environmental Resilience: The council will support development where it helps to reduce greenhouse gas emissions and is adaptable in a changing climate to build environmental resilience.

To support SP6, a number of detailed policies focus on specific environmental themes under Environmental Resilience (ENV)

- **ENV1 – Environmental Quality:** Protect against contamination, poor air/water quality, noise, and light pollution.
- **ENV2 – Mitigating Environmental Change:** Encourage reuse of buildings, sustainable design, renewable energy, and nearly zero-carbon standards.
- **ENV3 – Adapting to Environmental Change:** Require resilience measures such as SuDS, green roofs, biodiversity enhancement, and flood adaptation.
- **ENV4 – Flood Risk: Flood Risk Assessments required:** precautionary approach in flood-prone areas.
- **ENV5 – Sustainable Drainage Systems (SuDS):** All new development to incorporate SuDS (e.g., green roofs, permeable paving, swales, wetlands).

Together, these ENV policies translate SP6's strategic goals into actionable priorities for planning and development. In addition, Supplementary Planning Guidance (SPG) provides non-statutory planning advice and guidance that supports and clarifies policies, some relevant thematic examples include:

Greening:

- **Strategic Policy 8 – Green & Blue Infrastructure Network:** Protects and expands connected green/blue corridors.
- **Policy GB1 – Green & Blue Infrastructure Network:** Requires integration of greenways, open spaces, and ecological corridors in new development.
- **TRE1 – Trees:** Presumption in favour of retaining significant trees and requiring net gain in planting.
- **LC1 – Landscape:** Protects and enhances landscape character, ensuring nature-based solutions are embedded in development.
- **Trees and development SPG:** Provides detailed guidance on tree protection and biodiversity-friendly planting.
- **Sustainable Drainage Systems (SuDS) :** Encourages green roofs, wetlands, and permeable surfaces, which double as greening and climate resilience measures.

Active Travel:

- **TRAN1 – Active travel walking and cycle:** Requires safe, convenient walking and cycling routes, secure cycle parking, and facilities.
- **TRAN8 – Car parking and servicing arrangements:** Reduces reliance on private cars, promotes EV charging, and prioritises sustainable modes.
- **DES1 – Principles of urban design principles:** Promotes permeability, active frontages, and walkable neighbourhoods.
- **RD1 – New residential development:** Requires safe access to public transport, cycling, and walking networks.

Retrofit:

- **DES2 – Masterplanning approach for major development:** Requires adaptive reuse of buildings, higher densities along corridors, and BREEAM 'Excellent' standards.
- **ENV2 – Mitigating environmental change:** Promotes reuse of existing buildings, renewable energy integration, and nearly zero-carbon standards.

Belfast Net Zero Neighbourhood Framework 2025

- **ENV3 – Adapting to environmental change:** Encourages green roofs, biodiversity enhancements, and energy-efficient design.
- **Masterplanning approach for major development SPG:** Embeds retrofit, district heating, and sustainable design into large-scale schemes.

Together, these policies are the backbone for delivering climate mitigation and adaptation in Belfast, while ensuring that interventions are place-based, community-focused, and aligned with wider resilience goals. The LDP is subject to a five-year statutory review cycle that ensures policies remain up to date.

Climate Adaptation in Action: Belfast Examples

Connswater Community Greenway:

The **£40 million** urban regeneration project in East Belfast exemplifies a holistic approach to city planning, integrating flood protection, biodiversity restoration, and community cohesion. Delivered through a strong partnership model, the initiative has transformed the area with **13** new or improved bridges, **16 hectares** of accessible green space, and **16 kms** of integrated pedestrian and cycle paths. The enhanced flood protection measures now safeguard 1,700 residents directly and benefits up to **40,000** people across the region.

The project has also delivered impressive economic returns, generating £4 in benefits for every **£1** invested. These include increased tourism, employment, and higher property values. Furthermore, if just 2% of East Belfast residents become more physically active as a result of the greenway, the long-term economic impact could reach an estimated **£500 million** over the next 40 years.

Image: Walking to school

The greening and growing potential in Belfast's neighbourhood Alleyways

Small-scale, low-cost interventions can transform neighbourhoods by tackling issues such as dumping, littering, and unsafe public spaces. Community-led initiatives to reclaim and green alleyways create inclusive environments where residents can come together to learn about growing, cooking, eating, and sharing. These spaces strengthen social bonds, reduce isolation and foster a sense of local pride and stewardship.

Alongside their social value, alleyways projects deliver important environmental benefits. They provide opportunities for sustainable drainage that slows surface water runoff and enhance biodiversity through stronger ecological connections. For residents without access to private gardens or public green space, alleyways offer relief during heatwaves, improving health and wellbeing. Crucially, these community spaces also act as hubs for sharing knowledge and skills, helping residents build resilience and adapt together to future climate challenges.

Building on the success of initiatives such as the Connswater Community Greenway project, communities across Belfast can be inspired and empowered to take forward their own local greening, growing and placemaking projects that generate multiple co-benefits.

Image: Alleyway in Belfast

Image: Growing

02

THE NEIGHBOURHOOD

The geographical focus of the project boundary includes the **neighbourhoods of the city centre Linen Quarter, the Market, Barrack Street, Donegall Pass and Sandy Row**. These areas have a mix of functions and land uses including residential, tourism, commercial, office, hospitality and transport.

This diverse geographical context enables us to consider inter-related issues such as the severance and climate challenges created by the road infrastructure and other factors such as poor public realm/open space, play provision, air quality and connectivity. Specifically, it looks at the impacts and mitigation measures on existing local communities and city centre residents.

2.1 The Neighbourhood: People, demographics & travel behaviour

To better understand the pilot neighbourhood and ensure any proposed interventions regarding climate action reflect the needs and realities of the local communities, we drew on census data to provide insights on those living and working in the area, as well as social dynamics and everyday behaviours.

The pilot area has a resident population of approximately **10,000,** encompassing several long-established and newer more diverse communities.

According to the 2021 Census, the UP2030 pilot area has a very diverse population, with around **22%** of residents having a second language to English, which is about three times the average in Belfast and almost five times the NI average.

Image: Map of the UP2030 Neighbourhood which includes Linen Quarter, the Market, Barrack Street, Donegall Pass and Sandy Row

In addition, the UP2030 pilot area has a significant proportion of young people. This is largely indicative of the fact that (1) there are two universities located close to the pilot area and (2) many jobs are located within the city centre.

Modes of travel to work

Whilst the 2021 census data was collected during a period of home working due to COVID19, many residents in the area reported walking or cycling to their place of full-time work or study, due to being located less than 5km away. In the UP2030 pilot area, around **42%** of those commuting to work did so on foot, which is a significantly higher rate than for the wider Belfast and Northern Ireland rates. The second largest mode of travelling to work was either by car or van, accounting for over a quarter of commuters within the pilot area.

Table 1: Age range in the UP2030 area, Census data 2021

Geography	Age	Population	%
UP2030	0-15 years	1355	13.8%
	16-39 years	5033	51.3%
	40-64 years	2460	25.1%
	65+ years	965	9.8%
	Total	9813	
Belfast	0-15 years	66,112	19.1%
	16-39 years	124,487	36.0%
	40-64 years	103,974	30.1%
	65+ years	50,846	14.7%
	Total	345,419	
NI	0-15 years	388,433	20.4%
	16-39 years	571,141	30.0%
	40-64 years	617,125	32.4%
	65+ years	326,476	17.2%
	Total	1,903,175	

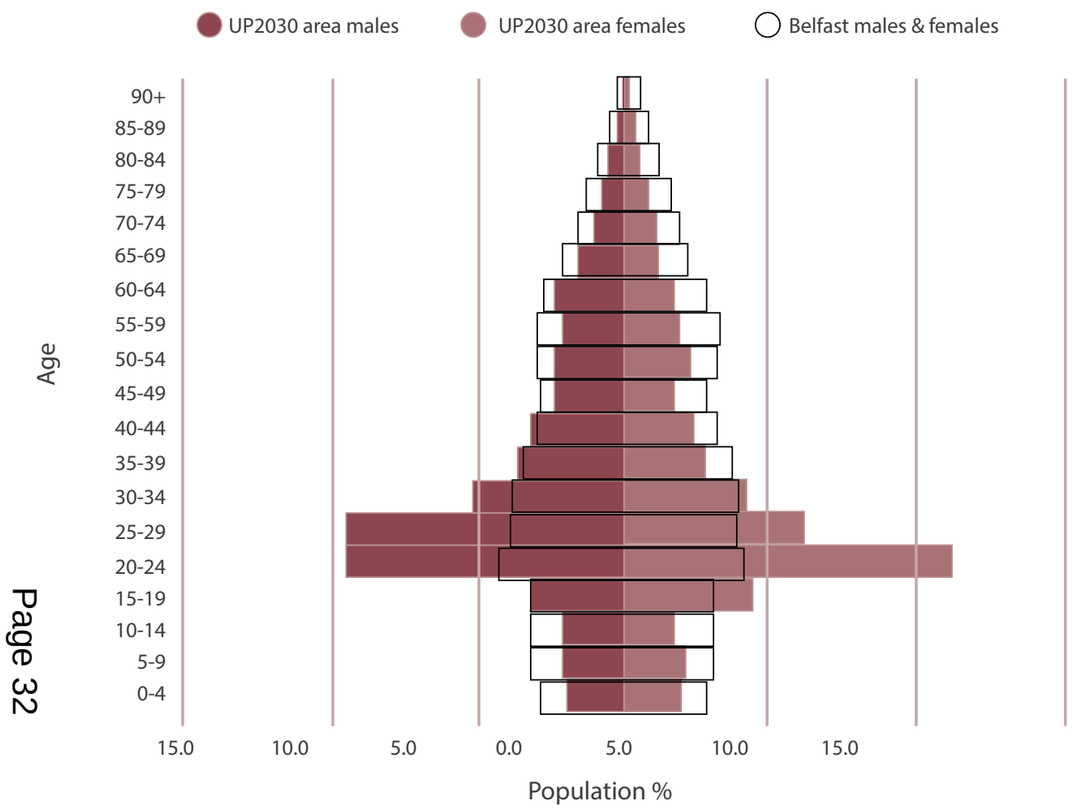
Table 2: Housing stock in the UP2030 area, Census data 2021

Geography	House type	People	%
UP2030	Whole house or bungalow	4,616	47.1%
	Flat, maisonette or apartment etc	3,775	38.5%
	Not coded	1,418	14.5%
	Total	9,809	
Belfast	Whole house or bungalow	289,832	83.9%
	Flat, maisonette or apartment etc	46,189	13.4%
	Not coded	9,396	2.7%
	Total	345,417	
NI	Whole house or bungalow	1,758,545	92.4%
	Flat, maisonette or apartment etc	118,282	6.2%
	Not coded	26,348	1.4%
	Total	1,903,175	

Table 3: Language in the UP2030 area, Census data 2021

Geography	Language	People	%
UP2030	English	7,428	75.7%
	Other Language	2,143	21.9%
	Not coded	235	2.4%
	Total	9,806	
Belfast	English	310,386	89.9%
	Other Language	23,363	6.8%
	Not coded	11,669	3.4%
	Total	345,418	
NI	English	1,751,510	92.0%
	Other Language	85,106	4.5%
	Not coded	66,559	3.5%
	Total	1,903,175	

Fig 8: Gender and age in the UP2030 area, Census data 2021



Tenure

The tenure profile of the UP2030 area differs significantly from the wider city. While the proportion of privately rented homes is similar, the share of owner-occupied housing is around one-third lower than the Belfast average. Almost half of households rent from social housing providers, nearly double the citywide figure.

This distinctive pattern reflects the area's redevelopment during the 1970s and 1980s, when major public housing programmes were introduced alongside road infrastructure improvements. These interventions left a legacy in the form of a much higher concentration of social housing compared with other parts of Belfast.

Tenure Type	UP2030 Area (no. of properties)	UP2030 %	Belfast (no. of properties)	Belfast %
Owner occupier	872	23%	60,377	37%
Privately rented	398	10%	15,568	10%
Socially rented	1,852	48%	40,718	25%
Unknown	708	18%	45,490	28%
Total	3,830	100%	162,153	100%

Table 4: Tenure type in the UP2030 area, Belfast LAEP 2024

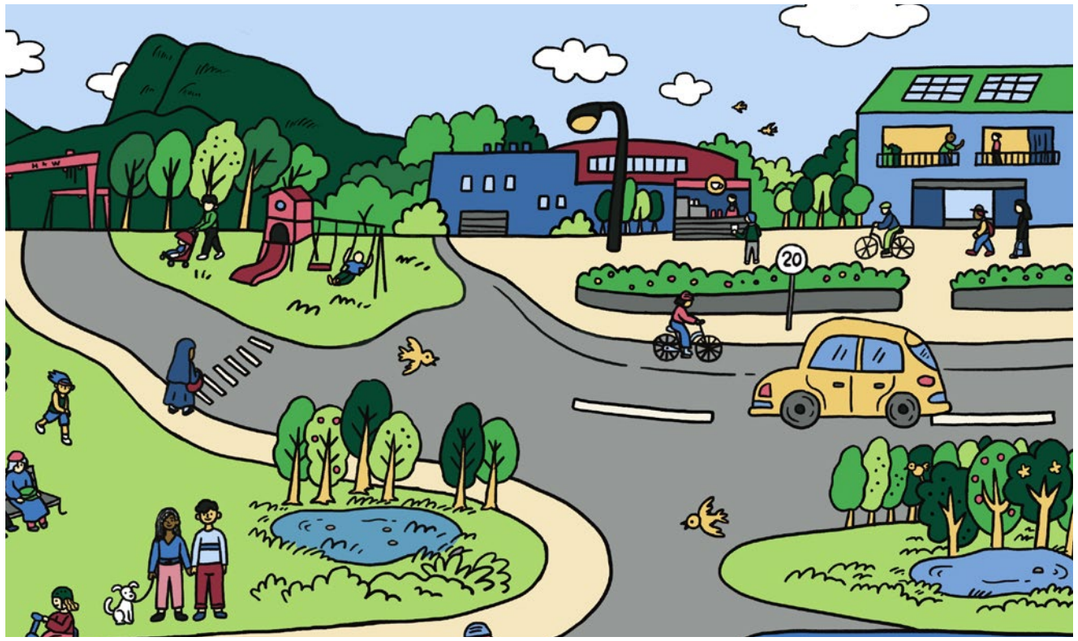
Image: Traffic on Hamilton Street, Belfast

2.2 The Neighbourhood: Residential, commercial & public buildings

Residential

The UP2030 area covers around **3,830** domestic properties. Situated adjacent to the River Lagan, it is largely flat with much of the area lying at or just under sea level. This makes it potentially vulnerable to flooding from the river, with a tidal barrage system and substantial flood protection walls installed. Most of the residential building stock in the area is low density terraced housing or purpose-built flats, built in the period between 1980 and the present day, with an additional estimated **2,500** planned to be built between now and 2035.

The area is unusual in having clusters of homes immediately adjacent to the central business district, with concentrations of typical Belfast post-war homes standing beside 1960s office buildings. More than half of the homes are relatively modern flats with the majority of the rest made up of streets of the iconic red brick, post war terraced houses. The older, solid wall buildings are challenging and expensive to retrofit whilst the majority of modern buildings can benefit from cavity wall insulation as a relatively easy win. This results in a combination of relatively poorly insulated



EPC rating	UP2030 area (no. of properties)	UP2030 %	Belfast (no. of properties)	Belfast %
A	0	0.0%	117	0.1%
B	532	14%	10733	7%
C	2,214	58%	49073	30%
D	925	24%	56707	35%
E	134	3%	29450	18%
F	24	1%	13560	8%
G	1	0%	2513	2%
Total	**3830**	**100%**	**162153**	**100%**

Table 5: EPC rating of domestic properties in the UP2030 area, Belfast LAEP 2024

EPC rating	UP2030 area (no. of properties)	UP2030 %	Belfast (no. of properties)	Belfast %
D-G (low energy efficiency performance)	1084	28%	102230	63%

Table 6: D-G EPC rating of domestic properties in UP2030 area, Belfast LAEP 2024

older homes that starkly contrast with social housing properties built since the 1980s. It is this concentration of social housing that raises the energy performance of homes, with only 28% of homes having an Energy Performance Certificate rating of D-G compared with the wider city where **63%** of homes fall below the generally accepted standard C.

Commercial

The pilot area includes a section of the city centre and includes the central business district for the city which means it is well populated with a mix of non-domestic buildings such as offices, retail and hospitality. These use types have significant energy demands.

- The estimated number of non-domestic buildings in the project area is **1,248.**
- Around 66% of non-domestic buildings in the project area are commercial buildings (i.e. offices), and around 20% are retail.
- Hospitality buildings make up around 1/2 of the project area's non-domestic heat demand (i.e. large hotels).
- Around **70%** of the project area's non-domestic electricity demand comes from commercial buildings.

- Some of the non-domestic buildings with the largest heat demands in the project area include hotels.
- Some of the non-domestic buildings with the largest floor areas and electricity demands in the project area include call centres and banks.

Public

The area includes a variety of buildings owned by the public sector including schools and community centres most of which are relatively modern. It also ranges from the newly opened Grand Central Station, as well as publicly owned 1970s and 80s office buildings through to legacy stock such as St George's Market.

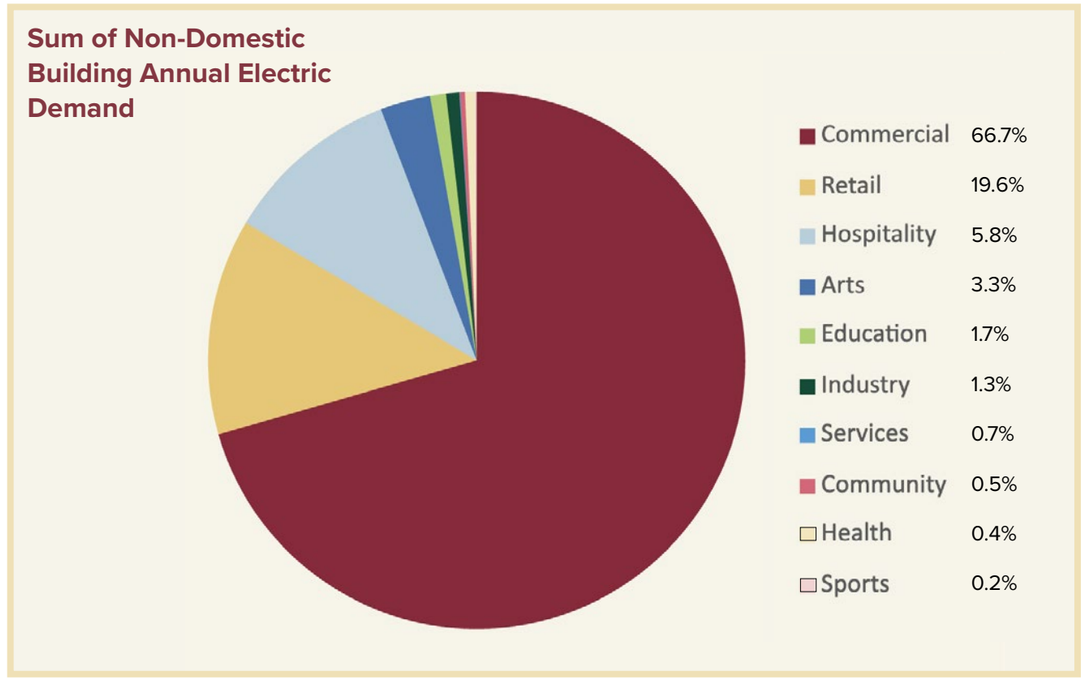
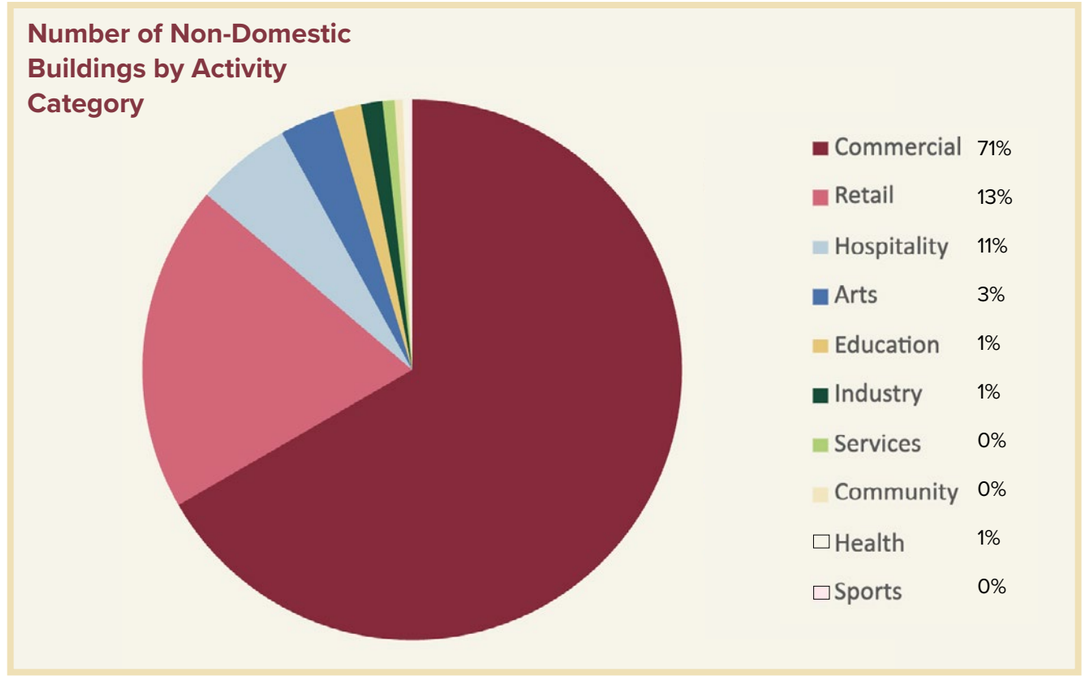


Fig 9: Non-domestic building annual electric demand in the UP2030 area, Belfast LAEP 2024

Image: St George's Market

Fig 10: Non-domestic buildings by activity category in the UP2030 area, Belfast LAEP 2024



2.3 The Neighbourhood: Transport links, blue and green infrastructure

Flanked by the Westlink and home to Belfast's central business district, the area suffers from heavy congestion, air pollution, and parking pressures. Three of Belfast's four Air Quality Management Areas (AQMAs) fall within the UP2030 area, where vehicle emissions regularly exceed legal limits. It is also an area with a number of culverted rivers running under it that flow into the Lagan, and pressure on the combined sewage system presents challenges for rainwater discharge into the Lagan Basin, particularly after a significant rainfall event and during a high tide.

The project area contains two major train stations: Belfast Lanyon Place train station and Belfast Grand Central Station (opened 2024), a railway and bus station which is part of the Weavers Cross development, a multi-million-pound transport-led regeneration project which will link a new high-capacity transport hub with mixed-use development site. Both stations serve as the main destinations for those wishing to access Belfast city centre, including those travelling to Belfast to live, work or visit, from around the region and the south of Ireland, critically connecting Dublin and Belfast.

Blue and Green:

The area also has direct access to the River Lagan, however, access to open, green space in the immediate area is limited. Due to the central nature of the area, competition for land use is high with an estimated **2,514** number of planned domestic buildings and **160** planned non-domestic buildings in the project area between now and 2035.

Sustainable transport

The new Eastern Transport Plan (ETP), led by the Department for Infrastructure sets the framework for transport policy and investment decisions up to 2035 and is guided by principles that recognises the dual functions and interrelated nature of place and movement underpinned by a vision that was developed collaboratively with key stakeholders to "deliver an integrated and re-balanced transport network in favour of sustainable, efficient modes, which connects communities creating an accessible, inclusive, safe and prosperous economic region by delivering carbon reduction, improving air quality, enhancing the built and natural environment and facilitating healthy and sustainable travel choice over unnecessary private car travel." The approach in the ETP focuses on creating places for people, built around a healthy, safe and carbon neutral vision for the future and continues to promote active travel and a shift to more sustainable modes, while deprioritising single-occupancy car use.

Belfast Grand Central Station: A Flagship for Sustainable Transport

Belfast Grand Central Station sets a new benchmark for sustainable infrastructure, aligning with Translink's Climate Positive Strategy to halve emissions by 2030, reach net zero by 2040, and become Climate Positive by 2050. Sustainability is embedded throughout, from low-carbon construction using recycled steel, GGBS (Ground Granulated Blast-Furnace Slag) concrete, and responsibly sourced timber, to advanced water recycling and rainwater harvesting systems that reduce resource consumption.

The station's passive design maximises solar gain and natural ventilation, minimising energy demand for heating and cooling. Solar PV panels, high-performance glazing, LED lighting, and a smart Building Management System further enhance energy efficiency. These innovations support the station's pursuit of BREEAM 'Excellent' and BREEAM Infrastructure 'Excellent' ratings. Designed for climate resilience, the site incorporates flood mitigation measures and insulation that adapts to seasonal extremes. Active travel is a core focus, with over **200** cycle parking spaces, improved pedestrian access, and plans for a Belfast Bike Scheme docking station at Weavers Cross. Integrated with zero-emission buses and low-impact construction methods, the station exemplifies Northern Ireland's commitment to a greener, more connected future.

Image: Translink

Belfast Net Zero Neighbourhood Framework 2025

2.4 The Neighbourhood: The Linen Quarter

The Linen Quarter Business Improvement District (LQ BID) is an independent, not-for-profit organisation, democratically elected by local stakeholders to drive positive change in the area. Situated within the UP2030 pilot boundary, the LQ BID has become a leading force for sustainability-led urban transformation. Since 2021, its vision has been to establish Northern Ireland's first sustainable business district, and potentially the UK's first sustainability-focused BID.

Its priorities align closely with UP2030's core themes: greening the city, promoting active travel, and enabling retrofit and energy efficiency. Through strategic partnerships and business-led initiatives, the LQ BID demonstrates how the private sector can catalyse climate action and deliver meaningful change at the neighbourhood level.

Image: Adelaide Street

Greening:

Over the past few years, they have made significant progress in realising their vision of a healthier, more sustainable Linen Quarter. Through their Investment and Regeneration initiatives, they've partnered with Department for Infrastructure (DfI), Department for Communities (DfC), and Belfast City Council to install parklets, create greener social spaces, and support urban biodiversity. This work has included pedestrianising part of a street to install a social space deck, converting parking bays and derelict sites into vibrant green areas, in partnership with DfI. They have also collaborated with private landowners to transform vacant lots into gardens and installed bird boxes to enhance the urban ecosystem.

Their members, businesses and organisations within the district, have also led their own sustainability initiatives, including the installation of rooftop beehives to support pollination across the district. Several sites now feature herb gardens on their rooftops, while one location has developed a thriving vegetable and herb garden, supplying fresh, homegrown produce directly to their hotel bars.

Active Travel:

Another key focus has been on expanding their co-funding support for levy-paying organisations, enabling them to achieve Cycling Friendly Employer Accreditation, reinforcing their commitment to health and climate action through active travel.

Linen Quarter BID is now firmly established as a regional leader in Cycling Friendly Accreditation, with 60% (projected to be **70%** by end of 2025) of all accredited locations/organisations in Northern Ireland based within the district.

Image: Beehive on the rooftop of the Maldron Hotel Belfast City (courtesy of Lawrence Tingson)

This includes the first Cycling Friendly Building, achieved through their co-funding and guidance support scheme.

The BID also offers financial assistance to landlords and property developers or owners within the district who wish to have their buildings audited which can help to identify opportunities to improve energy efficiency, enhance waste management practices, and reduce carbon emissions.

Example of business in the area leading the way in terms of greening, growing and reducing their carbon footprint are: Maldron Hotel, Hampton by Hilton and Killutagh Estates Limited.

Retrofit:

LQ BID commissioned a short illustrative report on one of Belfast's landmark office blocks - Bedford House, to illustrate in a very practical way the environmental, social and commercial benefits of a green built environment, for businesses themselves as well as the communities in which they are situated. The report illustrates how similar buildings across Belfast can be retrofitted to help create a more sustainable city and considers related issues such as tenant requirements, circular fit out, and supply chains. It provides landlords, developers and facility managers with a template that helps them on their own journey towards achieving more sustainable, efficient, and profitable office premises.

2.5 The Neighbourhood: Public realm

The public realm is comprised of streets, squares, parks, open spaces, waterfronts, and the spaces between buildings and is vital to how people move, interact, and experience their neighbourhood. It shapes identity, fosters community, and supports cultural life. However, in this area, the public realm is underperforming.

Insights from walkabouts, stakeholder engagement, and analysis reveal a range of challenges and aspirations. While the neighbourhood is well-connected via sustainable transport links, including Grand Central Station, Lanyon Station, Metro bus routes, and Belfast Bike docking stations, the dominance of vehicle infrastructure fragments the area. Roads, junctions, and crossings are designed primarily for cars, not people. This disconnects communities, discourages walking and cycling, and undermines the potential for inclusive, liveable streets.

There is a clear opportunity to reimagine the public realm as people-focused, accessible, and climate-resilient. As highlighted, the area suffers from a lack of green and open space, poor pedestrian infrastructure, and limited mobility for disabled users, older people, and children. Narrow pavements, uneven surfaces, and complex crossings compound these issues, alongside environmental stressors such as air pollution, surface flooding, and urban heat, all of which disproportionately affect vulnerable groups and deepen inequalities.

Improving the public realm requires a co-design approach that brings together residents, business owners, public sector partners, urban designers, landscape architects, disability advocates, and critically, children and young people. Working together, they can create spaces that are inclusive, easy to maintain, and aligned with best practice, such as green

infrastructure which include street trees and rain gardens that can enhance climate resilience and comfort, but are also carefully considered in terms of location, to avoid obstructing footways, reducing sightlines, or creating hazards like slippery surfaces. Similarly, planters and other interventions must be designed with accessibility at their core, avoiding the clutter of bins, signage, junction boxes, and ad hoc seating that currently disrupts movement for wheelchair users and pushchairs.

Case Study - Blackstaff Square

A live example of this approach is the Blackstaff Square project, which is part of the Department for Communities' Climate Action Plan. The project includes a new requirement to undertake a Climate Change Risk and Vulnerability Assessment, ensuring that future interventions are both inclusive and resilient.

Blackstaff Square is a key public space located in the Linen Quarter area that consists of hard surfacing and semi-mature trees surrounding the perimeter. There are several hospitality businesses around the Square that spill out into the space but given the lack of public seating and poor design, it mainly serves as a thoroughfare for pedestrians coming from the Grand Central Station and into the city centre.

Blackstaff Square is owned by the Department for Communities (DfC) and there are plans to upgrade it as part of a public realm project. As part of DfC's Climate Action Plan 2024-25, Blackstaff Square and surrounding streets were selected as a pilot for a risk and vulnerability assessment.

A climate risk and vulnerability assessment is used to determine the nature and extent of risks posed by climate change and by analysing potential climate hazards and evaluating existing vulnerabilities understand the potential impacts on people, assets, services, livelihoods and the environment. The Department recommends that the Risk and Vulnerability Assessment is fully embedded in the project lifecycle at the pre-design stage of all public realm schemes i.e. it should form part of the Outline Business Case.

A risk and vulnerability assessment was carried out to determine key climate-related risks relevant to the scheme, such as flooding, air quality and heat and a higher prevalence of storms. While mitigating approaches were proposed including Sustainable Urban Drainage (SuDS), water retention features, surfacing, street furniture, shelter and greenery, no decisions have yet been made regarding implementation. It was also noted that the integration of active travel into placemaking would bring benefits by reducing emissions and improving air quality that helps create a more pleasant environment. The identified issues and potential adaptation and mitigation measures from the risk and vulnerability assessment are now being considered as part of the ongoing design development process.

Environmental Justice and Segregation

The Belfast Environmental Justice Index (EJI), developed by Useful Projects for Northern Ireland Environment Link, maps inequalities across fifty-one wards. Factors include access to green space, urban heat island effect, flood risk, poor health outcomes, and deprivation.

Image: Blackstaff Square

The wards with the highest EJI scores cluster in central Belfast, including the UP2030 area, where segregation, poverty, and environmental disadvantage intersect most sharply. The Tree Establishment Strategy identifies these communities as priority areas for tree planting, noting their low canopy cover and limited biodiversity. The lack of greenery not only reduces visual and recreational amenity but also limits the environmental benefits trees provide, such as shade, cooling, carbon storage, and wildlife habitat. This absence of biodiversity is both a symptom and a driver of wider social and health inequalities.

This evidence underlines the urgency of joined-up, cross-community environmental action. Tackling biodiversity loss, climate risk, and access to nature cannot be separated from addressing the structural inequalities rooted in segregation. This enduring “segregation handicap” creates duplication, inefficiency, and division that weigh heavily on both the city’s environment and its people.

Image: Adelaide street

03

VISION, THEMES AND PILLARS

The UP2030 process unfolds across three key stages: **the vision phase, the action phase, and the upscaling phase.**

Visioning and Adaptive Pathways Process

During the vision phase, we convened a series of workshops with city stakeholders and project partners to collectively imagine what a net zero neighbourhood could look like, and to identify the actions and pathways needed to get there.

We used a range of creative tools to support this process, including the 'Future Newspaper' exercise, where teams collaborated to craft headlines and front-page stories in 2050, celebrating the city's success in achieving its net zero goals. These stories then served as a springboard for mapping out long-, medium-, and short-term actions across project themes and the overarching vision. By sequencing these actions, stakeholders gained a clearer understanding of the urgency involved and the importance of a robust, cross-sector implementation plan to bring the vision to life.

To build on these conversations, we held a concluding workshop focused on adaptive pathways, an approach that acknowledges the complexity and uncertainty we face in planning for the future. Adaptive pathways allow for practical, low-risk investments today while remaining flexible enough to accommodate change. This method offers a dynamic roadmap for identifying, evaluating, prioritising, and sequencing multiple strategies over time. Importantly, it leaves room for unchosen strategies to be activated later, enabling ongoing adjustment and adaptation.

The adaptive pathways process surfaced several cross-cutting cluster activities relevant to all project themes. These included:

- Capacity building at both the community level and within the public workforce.
- Collaborative working and inclusive engagement, particularly in communities affected by conflict, ensuring sensitivity to legacy issues.
- Education, up-skilling, and employment opportunities aligned with local schemes.
- Knowledge sharing, with emphasis on programmes tailored to different contexts, such as community ownership, carbon literacy, shared space management, and allotment gardens, to help stakeholders grasp the broader net zero agenda.

Belfast Net Zero Neighbourhood Framework 2025

Innovation emerged as a key theme, especially around public-private collaboration to deliver creative mixed-use land solutions in high-value city centre areas. Data scarcity and management were also highlighted as critical, underscoring the need for transferable data that can support diverse projects, demonstrate impact, and attract further investment.

Finally, sustainable financing was a core focus, exploring how to unlock large-scale strategic transformation while also enabling smaller-scale interventions that build cumulative change and secure long-term buy-in.

The 2050 Vision

The outcome of the visioning work resulted in the image and an overarching vision statement with supporting vision statements for each of the three UP2030 pillars, as an amalgamation of the discussions:

> ‘To create a net zero neighbourhood that adapts and mitigates climate risks through increased greening, better active and sustainable transport and more energy efficient low carbon buildings and to act as a beacon of success for other neighbourhoods.’

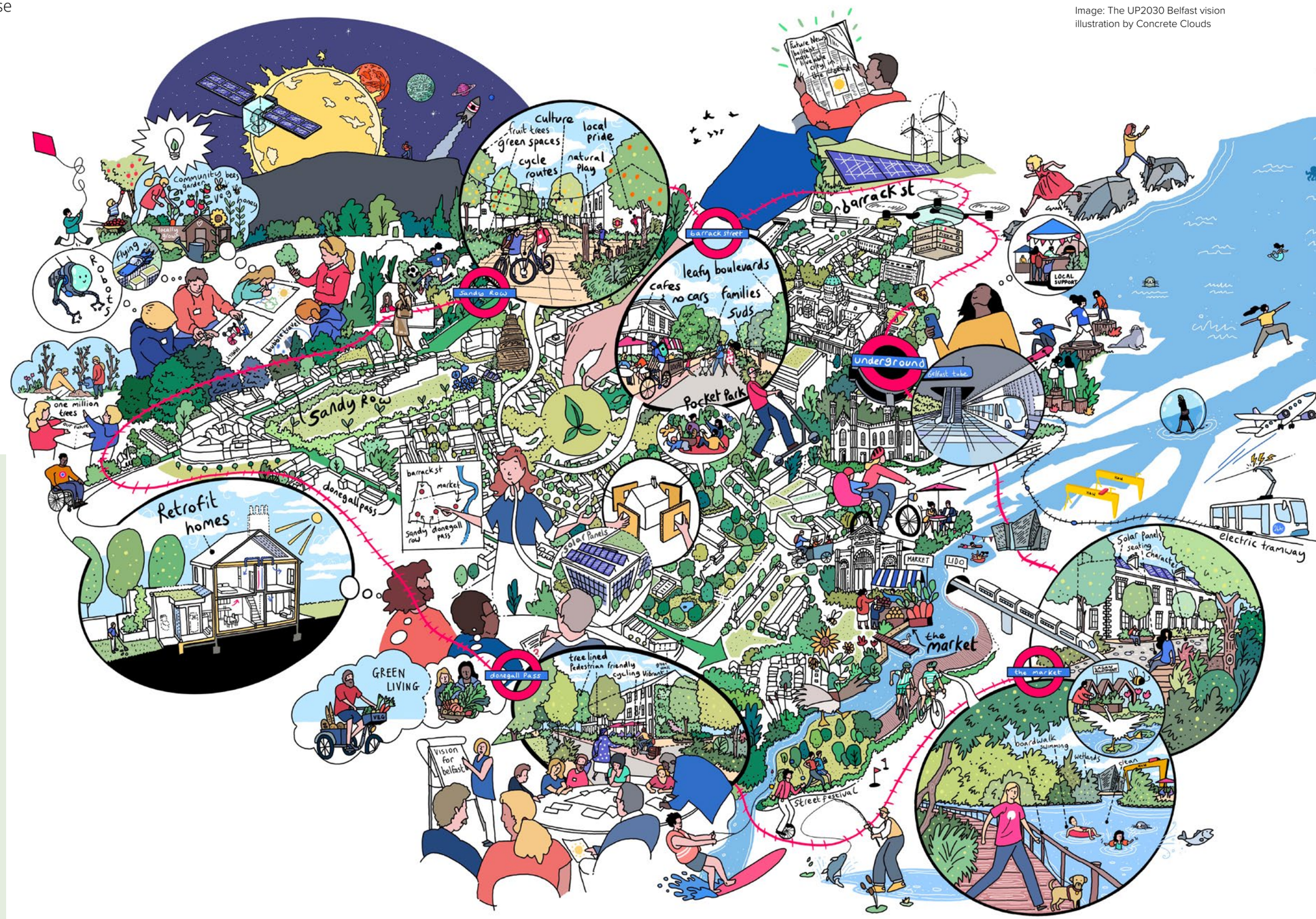


Image: The UP2030 Belfast vision illustration by Concrete Clouds

Themes of UP2030: Greening, Active Travel and Retrofit

Belfast, like cities around the world, is tackling the challenge of reducing carbon emissions to reach net zero. The Net Zero Carbon Roadmap for Belfast shows that the best ways to reduce the city's carbon footprint are by making our buildings more energy efficient and changing how we travel. But it is not just about cutting emissions, it is about making sure these changes work for everyone in our communities. These challenges have shaped the three themes of UP2030 that are underpinned by the need to ensure meaningful engagement and accessible communications.

Retrofit

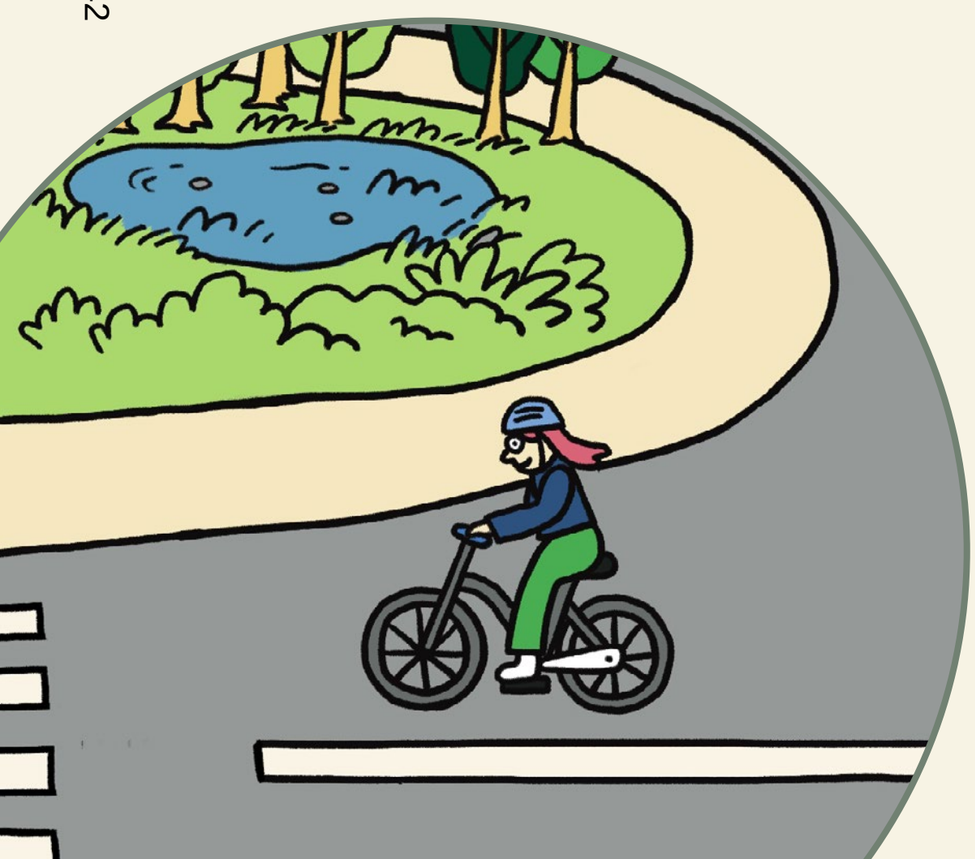
What it means: Retrofit involves upgrading buildings to make them more energy-efficient, reducing the energy needed for heating, cooling, and lighting. This includes using a fabric first approach to improve elements of the existing building fabric such as insulation to prevent the loss of heat unintendedly and build on this by replacing fossil-fuel heating systems with more efficient energy sources such as renewable technologies like solar panels and heat pumps, or hybrid approaches.

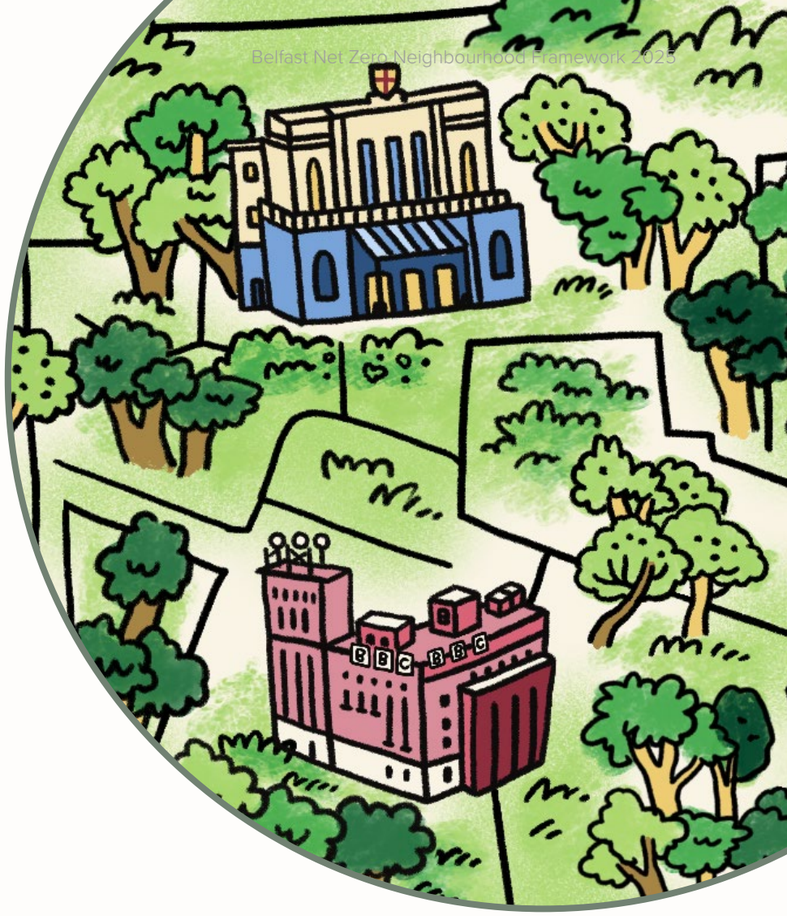
Why it matters: Buildings currently account for **50%** of Belfast's carbon emissions. Buildings that are not energy efficient (i.e. poorly insulated) are harder to heat and keep warm which creates energy waste and over time can become costly to run. Retrofitting reduces energy waste and replaces fossil fuels with renewable energy, significantly lowering emissions.

Active Travel

What it means: Active travel refers to making journeys by walking, wheeling, scooting, or cycling. It is often used for short trips, such as walking to the shops or cycling to work.

Why it matters: Transport accounts for **20%** of Belfast's emissions, and Northern Ireland has been the slowest in the UK to reduce its carbon emissions. Shifting from private cars to sustainable transport options such as walking, cycling, and public transport is one of the most effective ways to lower urban emissions.





Greening the City

What it means: Greening is about adding more nature to our city. This includes parks, wetlands, ponds, trees, gardens, and even green roofs. These spaces help wildlife thrive, clean the air, and make our city more resilient to climate change, like flooding and heatwaves.

Why it matters: Trees and vegetation absorb carbon dioxide (CO_2) through their leaves and improve air quality by capturing pollutants on their surfaces. In Belfast, green spaces with trees provide shade and cool the environment by releasing water through leaves and soil evaporation, helping to reduce the urban heat island effect and lower energy demand for cooling during heatwaves. Green spaces help manage flooding by reducing rainwater runoff and mitigate flooding in vulnerable areas of Belfast.

The themes are underpinned by three core pillar visions that support the city's transformation:

Just transition: Co-create an inclusive, more equitable and fair society where all communities are aware and included in a democratic, accessible and transparent way to take ownership and benefit from the actions to support carbon neutrality, including new jobs, better homes and affordable sustainable transport.

Carbon Neutrality: Take an ambitious approach to the challenge of carbon neutrality through greening, active and sustainable travel, green energy and better buildings to provide clean air, green space and a healthy environment for all to live.

Resilience: Take a democratic and sustainable approach to be prepared, adapt to and mitigate climate risks and shocks including flooding to create a safe, thriving and future proofed neighbourhood.

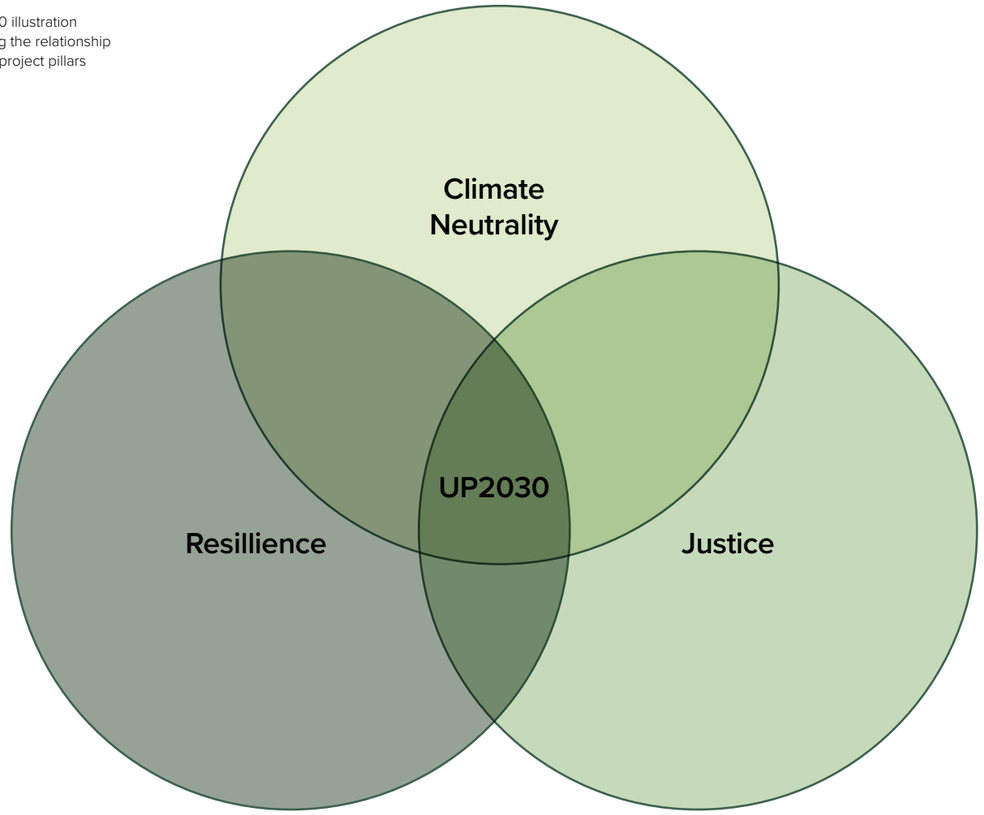


Fig 11: UP2030 illustration demonstrating the relationship between the project pillars

.3.1 Retrofit

What Do We Mean by Retrofit?

In this context, retrofit means the process of upgrading or improving existing buildings, primarily to enhance their energy efficiency and reduce energy consumption. It results in warmer, healthier and more comfortable homes and buildings.

The Belfast Retrofit Hub

Convened by Belfast City Council, the Belfast Retrofit Delivery Hub is a collaborative initiative established to accelerate the decarbonisation of buildings in Belfast by promoting energy efficiency and the adoption of low-carbon heating solutions. With over 70 member organisations, it brings together key stakeholders from various sectors to identify opportunities, develop projects, and overcome barriers to retrofit activity within the city. Work spans residential, public and commercial buildings but focuses largely on residential. The Hub works with stakeholders to explore potential approaches, programmes and knowledge exchange with efforts focused largely on the development of a cross tenure, place based domestic retrofit pilot project.

Retrofit Challenge for Belfast's Building Stock

Across Belfast, buildings account for half of the greenhouse gas emissions, residential buildings alone account for **33%**, with **7%** coming from public and **10%** from commercial stock.

It has been estimated by the UK Green Building Council that 80% of homes that will be in existence in 2050 have already been built and their relatively poor energy performance needs to be addressed. The alternative to retrofitting these buildings would be to demolish older, under-performing properties and rebuild

Image: Retrofit Hub Work-shop June 2024

Image: Community training retrofit event April 2024

as new, however this form of action would be very costly and time-consuming. Such a strategy would not be economically viable or environmentally sustainable given the costs and embodied carbon associated with re-construction.

In 2024, the commercial real estate company, CBRE NI, warned that up to **75%** of Belfast's office stock could become unusable by 2030 due to upcoming Energy Performance Certificate (EPC) legislation, highlighting the need for the low carbon retrofit of all building types.

Failure to take action could result in increased fuel poverty, incidents of climate related respiratory illness, the stranding of built assets and could push Northern Ireland further away from its net zero carbon emission goals.

Exploring Retrofit Challenges and Solutions

What we set out to do - with retrofit identified as one of the three main project themes, we set out to explore the issues across all sectors, identifying barriers and opportunities at local level that could result in scalable solutions for the city. A series of tools would be tested as part of this process.

How we did it - the information that we sought lay with industry professionals who understood the technical and strategic issues, whilst communities and residents brought lived experience and consumer insights. Using a series of workshops and events, we worked closely with both, sense checking findings as they emerged with community groups. As we identified challenges, we tested a series of tools to help understand them and identify potential solutions.

In June 2024 the Belfast Retrofit Delivery Hub and the Council's UP2030 team ran a joint mapping exercise event to help visualise the need and opportunities for a neighbourhood retrofit programme across all building types. Drawing on retrofit experts and key stakeholders and working in sectoral groups, they focused on the UP2030 pilot area to answer a series of questions about what a climate-ready net zero neighbourhood might look like, actions to make this happen, the barriers and opportunities as well as what might happen if no climate action were taken. The following questions were posed:

1. Consider a range of retrofit solutions to the property/typical properties of the street, including their costs and the impact to the owner, as well as associated barriers and opportunities.

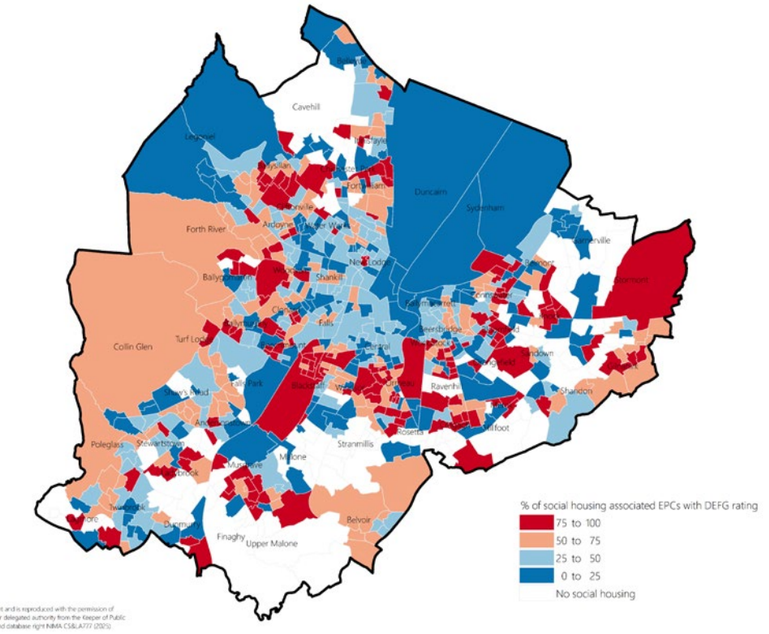
2. Consider a financial and delivery model for each tenure type as well as any additional policies, incentives or disincentives that would support uptake at pace.

3. Propose an aggregated plan for the area and the sequence of actions that would support efficient delivery/roll out and encourage uptake.

Retrofit opportunity mapping

Data from the Local Area Energy Plan (LAEP) was originally produced in spreadsheet format, spanning the whole of Belfast. To explore the UP2030 area, maps were commissioned based on the LAEP data, visualising a selection of small neighbourhoods with every home indicating energy efficiency performance and tenure.

Image: Map example used in retrofit mapping workshop, June 2024



This material is Crown Copyright and is reproduced with the permission of Land & Property Services under delegated authority from the Keeper of Public Records. © Crown copyright and database right NIMA CS&LA777 (2025).

Fabric first prioritises optimising the outside fabric of the building before considering heating or energy generation systems.

At the stakeholder event in June 2024, expert members of the Belfast Retrofit Hub were invited to explore the maps to see if they could be used to identify subsets of homes that might be suited to a retrofit solution, based on the 'worst first' and 'fabric first' approaches. This newly compiled and unique data set took discussion from theoretical to a potential practical application position, where it might be used to develop potential pilot projects.

Image: Map example used in retrofit mapping workshop, June 2024

Belfast Net Zero Neighbourhood Framework 2025

Retrofit mapping workshop finding:

Residential retrofit challenges:

- Access to funding - householders in NI have limited access to grant funding compared with other areas of the UK and the Republic of Ireland. Private and social landlords face similar challenges with limited access to major funding streams available to their counterparts in other regions.
- Lack of capacity – many householders have limited awareness and understanding of the benefits and opportunities around retrofitting their homes. In the absence of independent one stop shops, they may not have the information needed to access the limited grants available, make decisions and commission work.
- Disruption/change – social housing providers find this to be a major barrier, often finding up to 50% of potential recipients of retrofit programmes unwilling to participate due to personal circumstances and/or inability to deal with the inconvenience associated with the proposed works.
- Energy, resilience and comfort – consideration must be given to fuel poverty, healthy and comfortable homes and community informed approaches with the risk and resilience to severe weather events woven in.

Public and commercial retrofit challenges:

- Policy – Northern Ireland's Climate Change Act is relatively new (2022), with national and corporate policies and targets still emerging. Clarity on future policy is required to drive public and commercial organisations to set targets and policies that will lead to gathering data and commissioning energy efficiency programmes. Political commitment and clear policy are critical to facilitate long-term, large-scale investment in retrofit.
- Capacity and expertise – as demand for energy efficient practice and stock increases, organisations are trying to improve understanding of their stock, baselining energy demand to assess its potential for improvement to avoid the

A stranded asset can be a building that loses its economic value prematurely due to external factors, such as changes in technology or legislation, increasing the level of risk, making it unviable.

risk of future stranding of assets. There is limited expertise to identify and implement projects.

- Access to finance – retrofit-related funding streams available in Northern Ireland are significantly less than elsewhere in the UK.
- Return on investment – there is a complex series of risks associated with investing in low carbon retrofit measures with long term paybacks and no savings guarantees.

Follow up action taken:

As a direct result of the workshop, a public/commercial event was held in October 2024 where energy and facilities management staff across Belfast were invited to share best practice and concerns around large scale approaches to retrofitting their stock.

The retrofit maps showed building energy efficiency patterns not previously identified. They subsequently stimulated a series of more detailed questions to help identify the areas with greatest need for energy efficiency improvement and the value at stake across the project area.

Questions included:

- How many homes are in the area, broken down by tenure?
- What is the energy performance of that housing stock?
- What are the primary heat sources in homes across the area?
- What is the geographical spread of homes rated by energy performance?
- What proportion of homes are in fuel poverty and what is the distribution?
- Which tenures and building types have the highest levels of fuel poverty?
- Provide a baseline of CO_2 emissions associated with housing stock.
- Identify the main carbon efficiency measures that could be retrofitted to homes.

- What is the geographical distribution of homes with low efficiency building envelope (walls and windows)?
- Calculate the potential number of interventions for each type of measure.
- Calculate the potential CO_2 savings associated with the measures
- Calculate potential costs for installation.

The Belfast Retrofit Hub is currently exploring options for an area basis, cross tenure domestic retrofit pilot project. The approach that is likely to follow will draw on data and discussion findings such as that gathered through the UP2030 project, with steps likely to include:

- Identify homes with EPC ratings of D-G, using LAEP data and working with housing professional Retrofit Hub partners to sense check/validate.
- Construction sector, social housing providers and landlord bodies scrutinise LAEP maps to identify prioritised clusters of homes in need of retrofit work.
- Develop an outline business case using data provided by hub partners.

In order to answer these questions, further data gathering and analysis was commissioned:

Quantification of carbon reduction opportunities – University of Cambridge is one of the UP2030 project partners and to assist with this work, they completed a detailed analysis of the UP2030 area, scrutinising the current condition of homes, exploring the area-wide potential and value at stake related to carrying out measures to improve the fabric of the buildings and also by installing photovoltaic panels. The data modelling system, believed to be the first of its kind in Northern Ireland, will allow the calculation of the potential installation costs, carbon and energy cost savings once analysis of the data is complete.

Data zone mapping – building on the initial mapping exercise and the series of questions posed, Belfast City Council used the Power BI data visualisation system to depict retrofit related data from the LAEP, applied to data zones (clusters of approx. **200** homes). Initially developed to

help elected Members to visualise the need and potential for retrofit in their electoral areas, the tool was subsequently tailored to focus on the UP2030 area. The result was a powerful visual and numerical depiction of the need and potential for warmer home interventions, with the mapping highlighting potential areas for priority action.

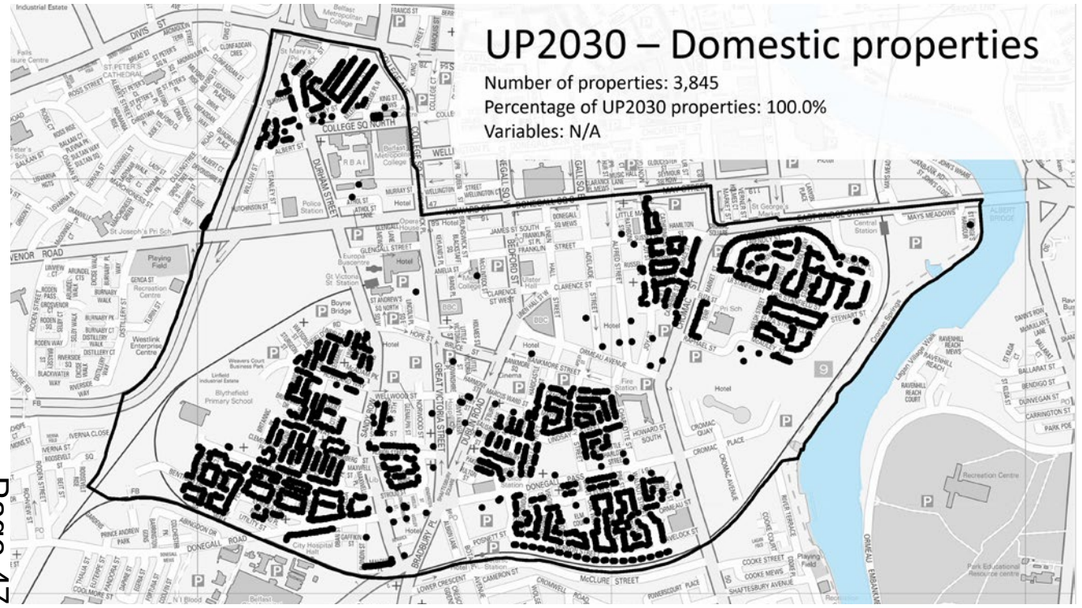


Fig 12: Map of residential properties in the UP2030 project area, Belfast LAEP 2024

Next steps in data – development of the Power BI tool has been challenging as developers explored new data visualising and mapping approaches, however, if combined with a heat mapping approach and socio-economic data layer, it could help to identify priority locations for area based retrofit pilot projects. This data combined with the analysis outputs of the University of Cambridge work, could be used to identify the value at stake, informing the development of business cases for funding applications.

Finance and Governance Workshop Findings

The July 2025, the UP2030 team conducted a workshop with a select internal team within Belfast City Council to explore the finance and governance considerations of retrofit schemes. The group acknowledged the value of emerging residential data and its potential for informing the development of area-based pilot retrofit projects across the city.

The group also highlighted a lack of city-wide data on the energy

performance of both public and commercial stock, reflecting the lack of a strategic approach. Much of this data is privately held and potentially sensitive, with no group or body having the remit or oversight of the carbon and energy performance of the city's built estate. There may be opportunities to learn from cities in Great Britain and the Republic of Ireland where climate change legislation is more mature. There is keen interest in using the LAEP data and other sources to plan joined up public and commercial programmes such as low carbon district heating. Several research projects are coming to fruition that offer opportunities for rollout, including work led by Belfast City Council on the potential for solar PV energy generation in the city centre.

Joint working and knowledge exchange is critical – a public/commercial approach is needed targeting those leading on energy across the city, sharing case studies of approaches already being successfully used to retrofit buildings and reduce emissions. Discussions are required with Belfast City Council planning and regeneration teams along with university experts on institutional investment to identify local policy blockages and potential solutions. Work is required to establish a baseline of energy demand, carbon footprint, occupancy and vacancy levels in commercial (as well as public sector) stock.

The finance and governance workshop identified the following conditions required for upscaling of retrofit:

Residential

- Clarity and commitment on policy (such as Minimum Energy Efficiency Standards) - this will inform and direct stockholders' retrofit plans and investor ambitions.
- Access to government grants similar to those in Great Britian and the Republic of Ireland to help fund retrofit work across all tenures and stock types.
- Access to funds from energy companies such as the Energy Company Obligation in Great Britain.
- Ring-fencing by NI Executive of retrofit related funds to ensure relevant allocation.
- Development of a pipeline of significant large scale retrofit programmes to encourage stakeholders to invest in relevant skills and staff.

- Instigation of independent one stop shop and/or portal to support householders.
- Development and delivery of an area based cross tenure domestic retrofit project with low cost, low disruption and high carbon impact, with a view to replication.

Public

- Obligation for public bodies to provide carbon baselines, regular reporting, set corporate reduction targets and commit to action.
- Normalising of best practice such as energy auditing, Building Energy Management Systems, data monitoring and mitigation, use of invest to save programmes.

Commercial

- A group exists with the remit to oversee and drive a city-wide approach to decarbonising the office and other commercial stock of Belfast to ensure future viability.

Community Sense Checking Workshop Findings

The opportunities for ways forward in domestic retrofit were sense checked with the community for final feedback. Fundamentally, the community envisions a future of well-designed, energy-efficient, and family-friendly homes, supported by:

- Immediate action on damp, insulation, and communication.
- Long-term investment in renewable energy and housing redesign.
- Trustworthy, local delivery of services and information.
- Practical help now and bold community-led transformation in the future.

What Works

- Tailored solutions: One-size-fits-all doesn't work, homes and needs vary.
- Energy efficiency upgrades (e.g., insulation, boilers, solar) are welcomed.
- Clear communication is essential: residents want trusted, accessible information.

Concerns

- Trust issues: Fear of scams, poor workmanship, and lack of follow-up.
- Disruption: Retrofitting can be intrusive, especially for older or vulnerable residents.
- Affordability: High costs without grants are a major barrier.

Community Ideas

Belfast Net Zero Neighbourhood Framework 2025

- Financial incentives for retrofit measures such as solar panel grants and heat pumps.
- Holistic approach to intervention delivery to address concerns e.g., fear of disruption alleviated by provision of loft clearing service.
- One-stop advice hubs for retrofit guidance and grant access.
- Train local workers to deliver retrofits and build trust.
- More social housing and better home design (light, space, family-friendly).
- Green space is valued but must be planned to avoid structural issues.

Retrofit for Net Zero: A Collaborative Process

This framework sets out a practical, cross-sector process for delivering net zero buildings across domestic, public, and commercial spaces. Informed by learning throughout the project, it proposes targeted actions to overcome barriers, co-design retrofit solutions and build capacity for long-term delivery. Achieving this vision will require strong collaboration, shared resources, and sustained commitment to create healthier, more resilient and energy-efficient places to live and work.

Retrofit

VISION STATEMENT: All buildings (homes, public and commercial) will have net zero emissions through a combination of insulation, ventilation, low carbon heating and renewable energy generation, providing weather-resilient, healthy and commercially viable spaces to live and work.

Key Framework Action	Impact	How
Understand needs/barriers to bringing forward retrofit delivery	Residents and project stakeholders have an increased understanding of retrofit challenges and opportunities to making their building stock more energy efficient and resilient to the changing climate. Baselines relating to energy and climate impacts are created to help set targets, policies and action programmes. Audit of energy efficiency and carbon risk of the city enables strategic assessment of risk and opportunities.	**Domestic:** - Engage residents through household surveys and retrofit workshops to understand lived experience, priorities, and barriers such as affordability, disruption, and trust. - Sense check retrofit priorities with the community, highlighting immediate needs (e.g. comfort, health, dampness, insulation) and long-term aspirations (e.g. renewables, better home design). - Building on the Department for the Economy (one stop shop) commitments and plans, explore needs and opportunities for community embedded, wrap-around warm homes support services. - Use LAEP and socio-economic data to identify homes with EPC ratings D–G, and other fuel poverty indicators to produce heat maps of retrofit potential and priority. **Public** - Work with public sector organisations to collate data on the energy ratings of buildings (Display Energy Certificates) to map energy performance and retrofit potential of public buildings across Belfast. - Identify barriers to implementing best practice such as lack of expert knowledge, supply of suitably qualified and experience staff and funding programmes. - Facilitate public sector knowledge exchange events. **Commercial** - Engage with local commercial retrofit stakeholders to understand sector-specific barriers and opportunities. - Establish a baseline of energy performance of commercial buildings. - Scrutinise LAEP maps with commercial stakeholders to identify clusters of office and retail buildings in need of retrofit. - Explore carbon audit support and incentives to encourage uptake of retrofit measures.

Co-design vision for retrofit development in the area	Retrofit plans for the area are informed by those living and working in the area, resulting in relevant ambitions that have high levels of partner engagement. By working strategically and collaboratively, commercial and public sector stakeholders will work identify city scale threats and opportunities. This will enable city scale solutions and investment opportunities.	**Domestic** - Identify communities and community groups already engaged on retrofit across the city to learn from experience and peers. - Using a social license approach, co-design a retrofit vision with communities that reflects their needs: energy-efficient, family-friendly homes with trusted local delivery. - Test survey methodology to scale understanding of household needs. - Incorporate community ideas such as solar panel grants, heat pumps, loft clearing services, and training for local retrofit workers. - Promote tailored solutions over one-size-fits-all approaches, and ensure clear, accessible communication. - Create an open data/map resource to support knowledge sharing and transparency. **Public** - Map the existing energy and carbon performance of city public building stock, future economic viability and options to optimise. - Collaborate with public sector partners to shape retrofit goals aligned with climate resilience and service delivery. - Explore funding models to inform the process drawing on examples elsewhere. - Promote the normalisation of best practice across public buildings, including energy monitoring and mitigation strategies. - Encourage co-design of retrofit pilots that demonstrate leadership and replicability. **Commercial** - Work with commercial stakeholders to map the existing energy and carbon performance of city commercial building stock, future economic viability, potential impacts of policy change and options to optimise the stock value. - Use findings combined with those of public sector buildings to strategic approach to energy and carbon management and investment for the city. - Promote shared learning and co-investment in retrofit delivery.

Establish resources available and potential synergies for implementation	- Opportunities identified for collaboration in the short and long term. - A map of connected projects in the pilot area and city-wide. - Resources established for the implementation and maintenance of interventions.	**Domestic** - Map existing, recent and planned retrofit programmes across Belfast along with the agencies that facilitated them to establish good practice and expertise. - Build on Department for the Economy plans for the development of a one-stop advice hub, exploring potential for locally based support to support householders in accessing grants and trusted information. - Explore opportunities to support able to pay market similar to services provided by People Powered Manchester and through collective buying schemes. **Public** - Use data and workshops to assess retrofit measures and costs across public buildings. - Share commissioning and procurement expertise through Retrofit Hub members. - Promote invest-to-save models and energy performance contracting to unlock funding. **Commercial** - Emergence of financial assistance for building audits to identify energy efficiency and carbon reduction opportunities. - Encourage co-funding and alignment with city-wide decarbonisation strategies. - Support commercial property owners in accessing retrofit expertise and resources. - Identify synergies with Northern Ireland Electricity's Green Energy Delivery Group and professional bodies offering training on whole-life costing.
Implement co-designed vision	- Locations and interventions secured approved. - Interventions begin roll out. - Delivery/ maintenance group established.	**Domestic** - Pilot area-based retrofit schemes with low disruption and high carbon impact are delivered, informed by community feedback. - Develop an outline business case using data from hub partners. - Improve information delivery, grant access, and quality control to build trust and uptake. -Test supply chain capacity and delivery models through live retrofit projects.

		Public - Review current standards and enforcement mechanisms; identify opportunities to upscale successful pilots. - Implement retrofit schemes in public buildings with strong monitoring and reporting frameworks. **Commercial** - Strategic and co-ordinated programme of building assessment and improvement is rolled out. - Promote uptake of retrofit standards and ESG-aligned practices across the sector.
Long term vision	- Agreed and refined framework.	**Cross cutting** - Promote policy clarity and incentives to develop a pipeline of projects which encourages investment in retrofit across all sectors. **Domestic** - Review local and regional policies to embed retrofit into housing a nd climate strategies. - Promote long-term investment in renewables, better home design, and social housing expansion. - Train local workers to build capacity and trust in retrofit delivery. - Explore developer contributions (Section 76) to support retrofit uplift in priority areas. **Public** - Institutionalise carbon reporting and retrofit planning across public bodies. - Align retrofit with broader climate resilience and service delivery goals. **Commercial** - Ensure commercial retrofit aligns with long-term viability and city-wide decarbonisation goals.

3.2 Active Travel

Transport is Northern Ireland's second-largest source of emissions, with private cars as a primary contributor. In Belfast, over **60%** of journeys under two miles are made by car, representing a significant opportunity for emissions reduction. The reliance on cars is unsustainable; without alternatives, planned growth in Belfast could add a further **100,000** vehicle trips to peak hours.

Shifting these short journeys to active and sustainable travel (walking, wheeling, cycling and public transport) is one of the most effective ways to lower urban emissions and can reduce emissions by up to **75%**. This shift is urgent, as current mobility patterns are incompatible with 2030 interim emission targets. Electrification and fuel efficiency improvements alone are insufficient, a challenge compounded by the fact that Northern Ireland is lagging in electric vehicle facilitation, with just **470** charging points representing only 2.8% of the overall UK number.

This transition also delivers crucial co-benefits; reduced congestion, improved public health, better air quality, and more vibrant public spaces. Conversely, without large-scale behaviour change, health service costs from air pollution-related illnesses affecting vulnerable people will continue to rise.

Action at Scale

Recognising this need, there is a growing framework of policy and investment to enable this shift. Under the Climate Act 2022, the Department for Infrastructure has a legal obligation to reach a target spend of at least 10% of its transport budget on active travel projects by 2030,

Belfast Net Zero Neighbourhood Framework 2025

which equates to more than £80m a year. This aligns with wider UK policies, such as the ban on new petrol and diesel car sales by 2030 and grants for electric vehicles.

In Belfast, this strategic direction is reflected by the Connectivity, Active and Sustainable Travel (CAST) workstream, a key priority in the Belfast Agenda. CAST contains high-level 'strategic intents' agreed by cross-sector stakeholders designed to encourage modal shift, including:

- Supporting projects that encourage people to use forms of sustainable travel.
- Supporting behavioural change projects that replace car journeys with walking, wheeling and cycling.
- Addressing transport poverty, delivering active travel infrastructure, and co-designing place-based active travel initiatives.

The Challenges: Systemic Barriers to Uptake

Many residents in the UP2030 pilot area reported walking or cycling to their place of full-time work or study, due to being located less than 5km away. Around **42%** of those commuting to work done so by foot. Despite the clear benefits, significant barriers impede progress:

The School Transport Paradox:

A 2025 report by DfI highlights a critical issue: while **51%** of primary school pupils in Northern Ireland live within one mile of their school and of these, **48%** are driven by car and **46%** walked to school. This indicates a substantial, addressable pool of journeys where car use is habitual rather than necessary.

Safety Concerns:

Residents report fear from traffic conflict at major junctions, a reluctance to cycle alongside cars, and perceptions of anti-social behaviour, which deter walking, especially among older people and children.

Fragmented & Intimidating Infrastructure:

The city's cycle network is often disconnected and confusing, particularly for new users. This forces cyclists to choose between unsafe, busy roads or inappropriate footpaths, creating conflict and discouraging uptake.

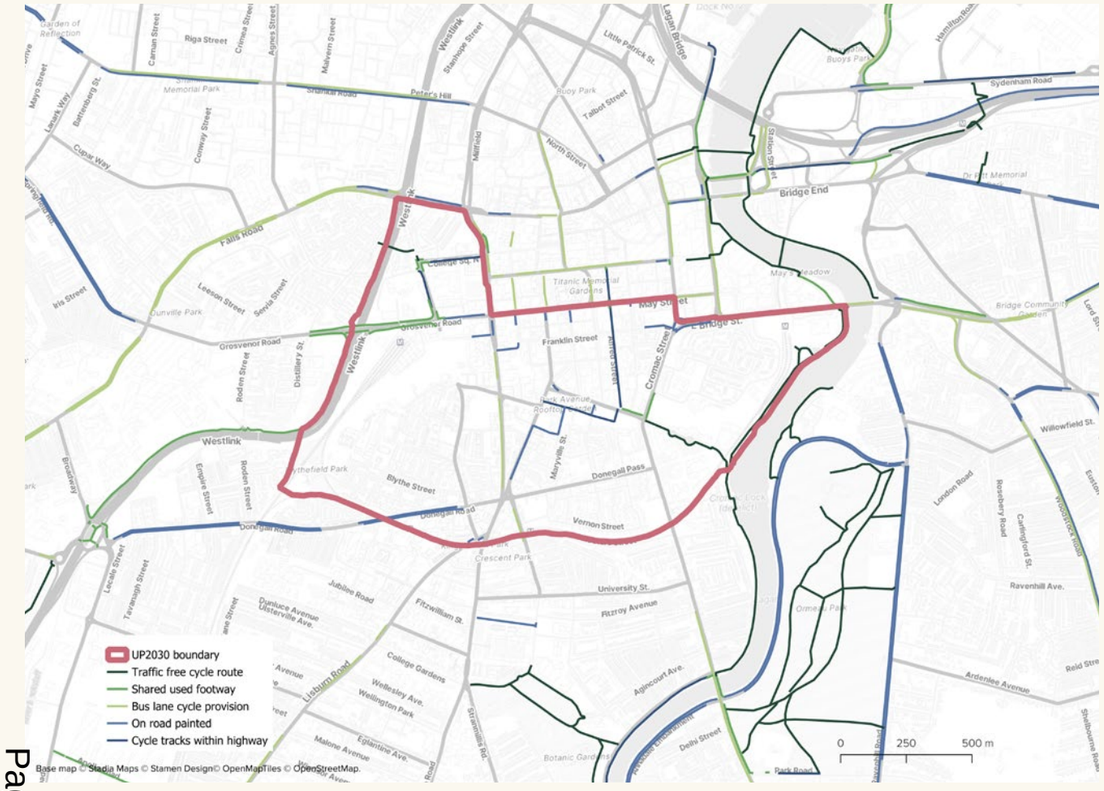


Fig13: DfI Northern Ireland Cycling Infrastructure Map in the UP2030 project area, DFI 2025

Accessibility & Connectivity:

Public transport routes can require long walks to stops, especially for older residents, and segregation at significant road junctions can stifle pedestrian movement, exacerbating a feeling of disconnect.

Resource & Capacity Constraints:

Schools and communities often lack the capacity to coordinate new initiatives, with stretched teaching staff and limited parental volunteer time creating a fundamental barrier.

Equity Gap:

There is a clear risk of "selective uptake," where only well-resourced communities with active volunteer networks can implement programmes, potentially worsening transport poverty.

What Communities Told Us

Through engagement, residents expressed some concerns and reservations about the prospect of modal change, and making more journeys through active and sustainable forms of travel. Concerns focused on frustrations towards the limitations of bus coverage in some parts of the city, conflict between road users (i.e. cars, bikes and pedestrians) making cycling an off-putting prospect, as well as fears of safety. Convenience and cost were cited as the main incentives for making more journeys by bus or train.

Residents were clear about what active travel enabling measures would be most beneficial in their area:

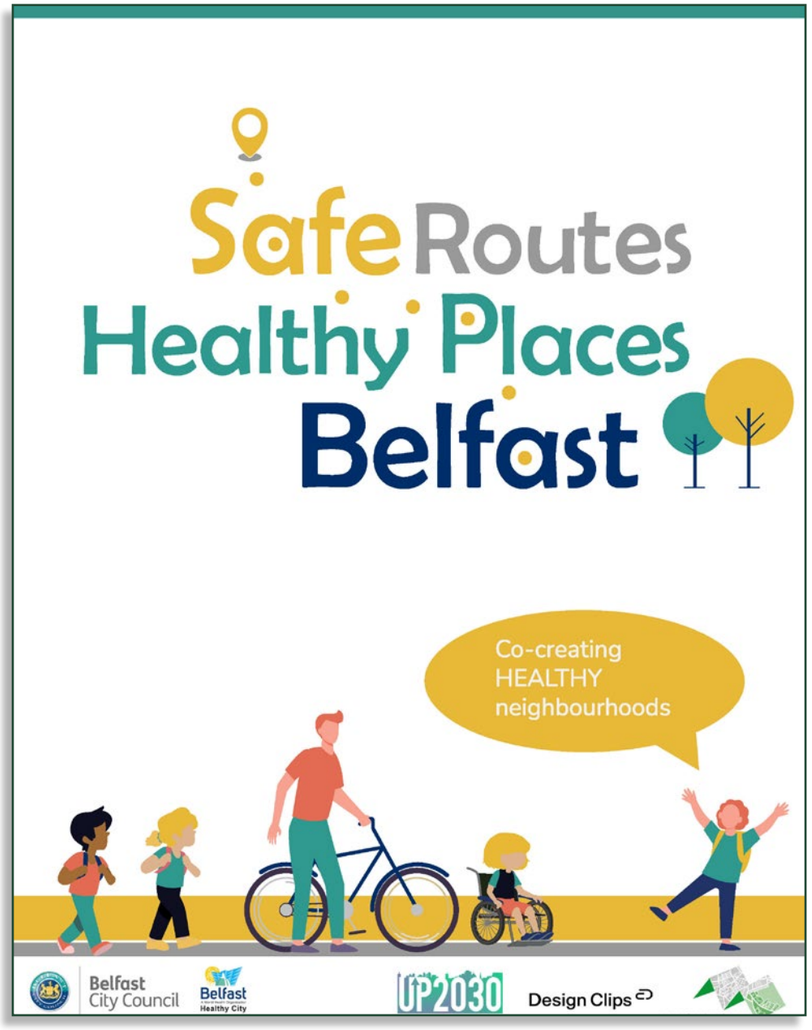
- Roads made safer for cycling, to enable people to convert some of their weekly car journeys into bike journeys and improve the attractiveness of that option.
- Planting trees along streets, with emphasis on planting the right type of tree for the environment.
- Improving bus transport with a more reliable service that covers more routes and is free.
- Some residents remarked that pedestrianisation and creating more people focussed spaces in our neighbourhoods could help alleviate social isolation.

What we tested: Safe Routes Healthy Places

To test a community-led solution, a walking bus was proposed as part of the UP2030 project. This initiative involved children walking to school together along a set route, accompanied by adult volunteers.

Identified as an opportunity to increase active travel in the pilot area, the development of walking buses also aligns with an ambition set out in the Connectivity, Active and Sustainable Travel priority of the Belfast Agenda. As the lead for this element within the Belfast Agenda, Belfast Healthy Cities partnered with Belfast City Council to explore the initiative further.

Image: Front cover of 'Safe Routes, Healthy Places Belfast' - full resource available in Appendix 2



Through the project, the team were able to engage the resources and expertise of Design Clips, an urban design studio focusing on participatory planning approaches, to actively engage children and youth in the design of strategic small scale urban interventions that aim to improve the spatial and environmental quality of the space.

It was considered that engaging children to participate in walking buses could not only provide an opportunity for physical and social activity, but it also provides a chance to engage children to think about the quality of their walking route and wider environment, and how we can adapt our neighbourhoods to become more climate resilient.

Target Outcomes:

- Create modal shift from car dependency to active travel for school journeys.
- Integrate education with practical climate action through Key Stage 2 teaching resources.
- Encourage children to evaluate their neighbourhood and identify opportunities to improve their enjoyment of the walking route.
- Address local challenges including air pollution, traffic congestion, and road safety concerns.
- Facilitate increased physical activity contributing to improved physical and mental health.
- Build community connections through parent-led sustainable transport solutions.

Walking Bus Programme: Pilot implementation across six primary schools in pilot areas and surrounding communities (St Malachy's, Donegall Road, Blythefield, St Joseph's, Fane Street, and St Mary's Primary Schools).

Resource Package: A comprehensive suite of materials was developed by Design Clips, Belfast Healthy Cities and Belfast City Council, including a toolkit and teaching resources in alignment with Key Stage 2 curriculum: Safe Routes Healthy Places Belfast. To compliment the pilot, a digital mapping platform was created by **Mapping for Change** to facilitate engagement, enabling groups to plot the parts of their route that they liked or disliked. In addition to the resources, promotional posters and leaflets were developed to engage the school community.

Engagement Approach: The Safe Routes Healthy Places resources along with a free walking bus pilot was offered to schools in the UP2030 and surrounding area. The offer was adapted and simplified to a "mini taster programme" when the initial approach showed limited uptake.

What we learned from the Walking Bus pilot:

Overall, the pilot developed a high-quality, flexible toolkit for schools which was child-focused in its design. The pilot paved a strong foundation which

Belfast Net Zero Neighbourhood Framework 2025

can be built upon further by those interested in pursuing initiatives of this nature. It involved good collaboration across partners and was well received and encouraged by elected members.

The pilot provided a valuable insight into the reality of bringing forward active travel initiatives with schools, and the barriers to accessing and delivering activities outside of the normal work plan.

However, the pilot highlighted the realities of bringing forward active travel initiatives with schools, as well as the barriers to delivering these activities, outside of the normal work plan. Even with free resources and support available, establishing a walking bus proved challenging.

Critical Insights for Future Policy and Practice: The Walking Bus pilot provided practical lessons for how to successfully implement active travel initiatives. Future efforts must be built on the following insights:

1. Resource and Capacity Constraints

Resource-constrained schools face major barriers: stretched teaching staff, limited capacity to take on new coordination roles, parents unable to step in, timetable clashes, and competing priorities. These schools may struggle to even review proposals, especially if they do not clearly fit existing work plans or ease current pressures.

Resource-rich schools, by contrast, tend to have active Parent Teacher Associations, staff time allocated to climate and sustainability initiatives, established volunteer networks, and often existing green accreditations.

Providing toolkits alone assumes all schools have the same capacity, however, in practice this could risk widening inequalities rather than tackling transport poverty.

2. Coordination Challenges

Schools report confusion over multiple disconnected active travel, environmental, and climate initiatives from different organisations. It is unclear how programmes connect or which should take priority.

Engagement must fit school planning cycles. Approaches in April for September implementation work best, while mid-year starts clash with set curriculum.

Schools often lack the project capacity to make use of existing networks (e.g., Walk, Wheel and Cycle Trust (formerly Sustrans), Keep Northern Ireland Beautiful) that already have relationships in place.

3. Incremental Change Requirement

Rather than immediate rollout, walking buses should be framed as something to work towards. Smaller steps can build capacity and confidence over time. To support this, Design Clips developed a matrix showing the input needed for a walking bus, alongside other interventions at different scales.

Before launching programmes, schools should be assessed for capacity, resources, existing interest, activities, and community support. This helps identify schools most ready to participate, those needing extra support, and opportunities to reduce silo working by aligning stakeholder efforts.

Greatest success comes when initiatives link to existing goals such as Green Flag accreditation, health campaigns, or curriculum themes.

Schools with stronger PTAs and more resources are more likely to engage, leaving behind those with fewer supports and reinforcing existing inequalities.

4. Sustainability Dependencies

Unless programmes are encouraged at a strategic level, schools may view them as unnecessary burdens. Their wider value in teaching children about climate, environment, and place should be recognised as part of Northern Ireland's climate ambitions.

Sustained parental input is crucial but may be limited in communities where economic pressures restrict volunteer time.

Teachers cannot absorb extra coordination work on top of the curriculum without dedicated support or funding.

A one-off toolkit with short timelines is not enough. Lasting change requires ongoing support, funding, and dedicated coordination roles.

Conclusion:

The Safe Routes Healthy Places walking bus programme revealed the challenges and opportunities of community led active travel programmes and their potential if rolled out at scale. Despite the barriers to delivering the programme, it provided insights into the difficulties schools face regarding adopting extra-curricular activities and the lack of awareness of how schemes of this nature could address multiple challenges including reducing traffic and congestion at peak times and improving air quality as a result of reduced road traffic.

Future active travel initiatives should be informed by a capacity assessment to seek equitable balance in delivery to ensure no one is left behind and that all communities are supported in the transition to net zero.

Active Travel for Net Zero: A Collaborative Process

The following guidance outlines a practical, community-informed process for embedding active travel into everyday life. Developed through learning across the project, it sets out actions to improve walking, wheeling, and cycling infrastructure, alongside behaviour change initiatives. Delivering active travel will require cross-sector collaboration, shared resources including data and finance with long-term commitment to ensure safe, inclusive, and sustainable mobility for all.

Active Travel

VISION STATEMENT Streets and public spaces will support safe, inclusive, and well-connected active travel through high-quality walking, wheeling, and cycling infrastructure designed with fairness, clarity, and community, alongside targeted behaviour change initiatives, make active travel the preferred and accessible choice for all.

Key Framework Action	Impact	How
Understand needs/barriers to support modal shift towards active and sustainable travel	Clear view of barriers and co-benefits; residents and stakeholders more aware of how to shift behaviour.	Engage to understand the area needs: Hold workshops and surveys to capture lived experience on safety, accessibility, and affordability barriers. Data baseline: Review census data, travel surveys, and local emissions reports. Gap analysis: Audit existing studies to identify where evidence is missing.
		Spatial mapping: Map current transport networks, canopy cover, and flood risk to identify inequalities. School focus: Use Safe Routes Healthy Places Toolkit to run school audits from a child's perspective.
Co-design vision for active travel development in the area	Agreed set of short- and long-term actions; inclusive and locally relevant solutions.	Strategic alignment: Convene CAST partners and Translink for joined-up planning. Community- led design: Facilitate design sessions with residents to plan pedestrian zones, school streets, one-way systems, and green corridors. Inclusive testing: Engage children, older people, and vulnerable groups to test inclusivity. Make it local: Connect routes directly to shops, schools, services, and parks. Behaviour change and communication: Deliver local campaigns linking health, affordability, and climate resilience with targeted messaging to promote uptake and behaviour change.
Establish resources available and potential synergies for implementation	Integrated delivery. Reduced duplication. Clear pathways for funding and maintenance.	Project Mapping: Map active travel and greening projects already in delivery to find overlaps and synergies. Funding Plan: Create a funding plan with phased delivery and clear evaluation milestones. Synergies: Link with green and blue infrastructure programmes to maximise investment impact. Partnership and Collaboration: - Work with landowners, housing providers, and utilities to unlock sites. - Formulise partnerships with community groups, businesses and transport providers.

Belfast Net Zero Neighbourhood Framework 2025

Implement co-designed vision	- Locations and interventions secured approved. - Interventions begin roll out. - Delivery/maintenance group established.	Delivery of safe, segregated infrastructure: - Roll out safe, segregated cycle lanes through the Belfast Cycle Network. School pilots: - Pilot walking and cycling buses in schools to normalise low-carbon commutes. Shared schemes: - Expand Belfast Bikes with new bike types (non-standard and adapted cycles) and secure parking. Public transport: - Upgrade bus shelters with lighting, seating, and real-time information. - Re-design large junctions with extra crossings and traffic calming. Placemaking: - Plant street trees and pocket greenery to make active routes more pleasant.
Long term vision	- Sustained modal shift. - Measurable reductions in emissions and improved health. - Agreed and refined framework.	Monitoring: - Monitor modal share, air quality, and carbon savings across neighbourhoods. Education: - Embed active travel into the school curriculum and public campaigns (Eco Schools, Green Flag). Maintenance: - Establish ring-fenced budgets for long-term maintenance of paths, cycleways, and greening. Policy: - Make walking and cycling the default through planning guidance, developer obligations, and incentives. Accountability: -Use annual reporting to track delivery against 2030 targets.

Image: Cycling in Belfast

Image: Cycling in Belfast

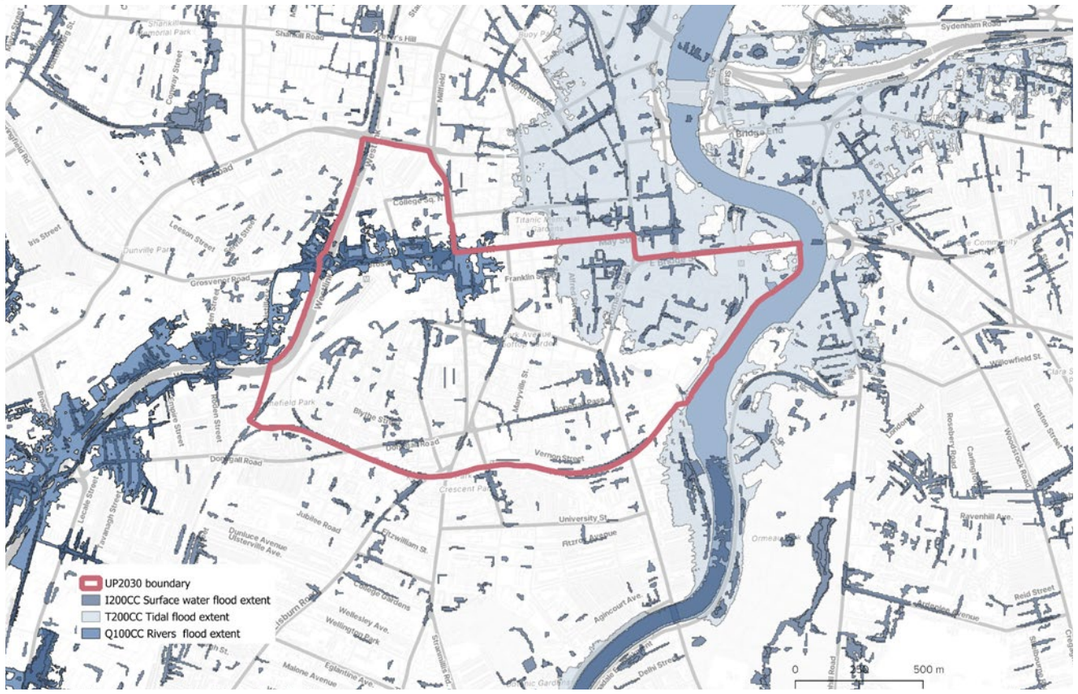
3.3 Greening

Challenges and Current Picture

The UP2030 Pilot Project Area highlights how exposed Belfast is to climate change. The River Lagan, which borders this area, has a history of significant flooding and increasingly wet winters which places homes and businesses at greater risk.

The imbalance between grey and green infrastructure is stark; over **90%** of Belfast's 86.2km² of land is covered by roads, buildings and car parks, and only 10% makes up publicly accessible green space. Tree canopy cover in the pilot area is just **6%**, compared with the city average of 18%. This lack of green infrastructure results in ecosystem and biodiversity stress, limits drainage, intensifies flooding, and traps heat, reduces biodiversity, and undermines public health. The Segregation and the Environment Report highlight how these pressures fall hardest on disadvantaged groups. Limited access to trees and green space is an environmental justice issue, and greening interventions can serve as a shared priority for communities.

Fig 14: Flood projections in the UP2030 project area – Generated by Flood Maps (NI) - Flood Hazard & Risk Maps for NI, 2025



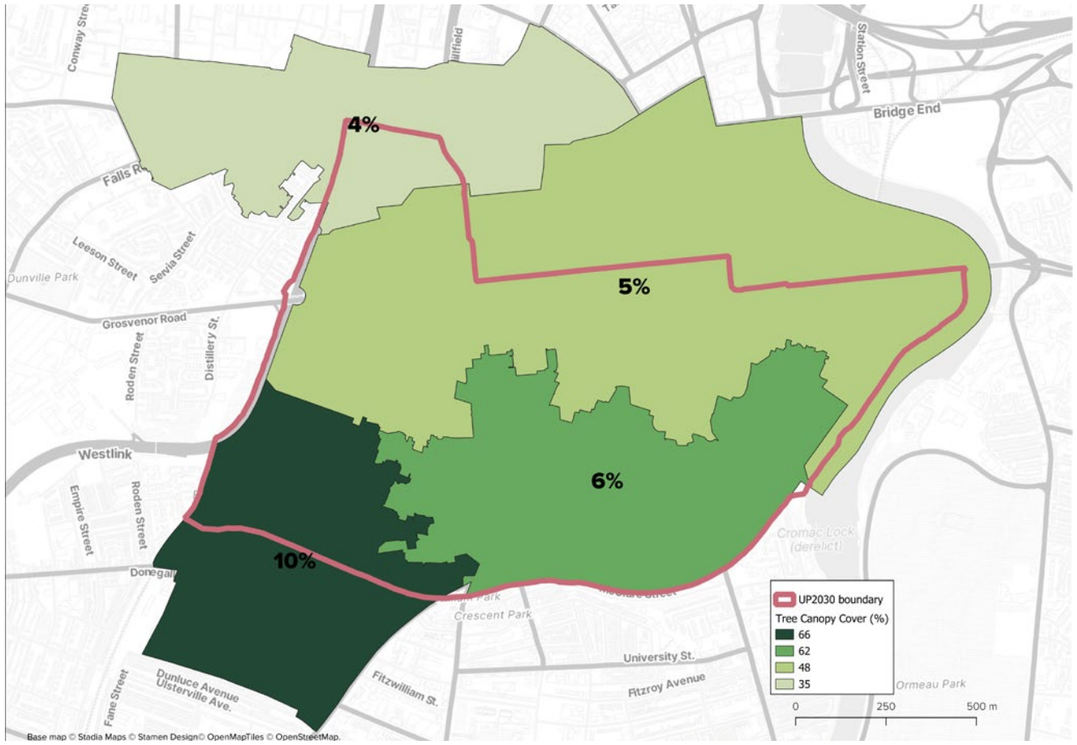


Fig 15:Extract of Tree Equity Score for the UP2030 area, courtesy of Tree Equity Score UK, 2025

The Role of Green Infrastructure

The Landscape Institute defines Green Infrastructure (GI) as a strategically planned and delivered network of natural and semi natural areas, green spaces, rivers and other landscape features, designed and managed to provide a wide range of ecosystem services and benefits for both people and nature.

In Belfast, expanding and enhancing the existing green infrastructure in the city means:

- Cleaner air and reduced heat stress
- Improved flood resilience and drainage
- More space for biodiversity and food growing
- Better physical and mental health
- Stronger community connection and pride of place

Belfast City Council initiatives such as the **1 Million Trees** programme, Grey to Green, and the UPSURGE project are beginning to shift momentum toward a greener, more climate-resilient city. These efforts are complemented by an ambitious city-wide target to increase overall tree canopy coverage to **30%** by 2050. This commitment is not only reflected in on-the-ground interventions but is also embedded in strategic planning policy, including the Local Development Plan and Supplementary Planning Guidance documents such as the Blue and Green Infrastructure Plan, Trees and Development, Placemaking and Urban Design, and Sustainable Urban Drainage Systems (SuDS). Together, this guidance reinforces the role of urban greening as a core priority for environmental justice, biodiversity, and community wellbeing. Aligned to this is the Belfast Tree Strategy, Valuing Belfast's Urban Forest and the Belfast i-Tree Eco Report.

What Communities Told Us

Through engagement, residents were clear about what they want:

- More trees, greener streets, and accessible parks
- Community gardens and allotments to reduce isolation and support food growing
- Nature-based play, wildflower patches, and small-scale greening in underused spaces
- A sense of ownership over local spaces, built through participation and shared action.

Image: Community event

Image: Growing in Belfast city centre

These asks underline that green infrastructure is about much more than climate adaptation. It is about social connection, education, and long-term stewardship.

Case Study: CityTree in Donegall Pass

Donegall Pass sits within one of Belfast's Air Quality Management Zones and heavy congestion and poor air quality have long worried residents. To mitigate this impact, one of the community organisations proposed applying for funding to install a CityTree, an innovative moss-based filter designed to capture particulate matter and cool surrounding air.

Based on residents' concerns about air quality, we saw this as an opportunity to test whether such technology could play a meaningful role in Belfast's wider greening strategy. Using the CityTree Executive Booklet (as of October 2024) which claims that the CityTree product reduces the CO_2 equivalent of **44** trees, and cooling equivalent of **81** trees, we carried out a cost benefit analysis comparing CityTree with 44 real trees, looking at costs, delivery challenges and wider environmental benefits. The aim was not to position one against the other, but to understand how they might complement each other in tackling air pollution and climate impacts in constrained urban environments.

Real Trees Benefits

Air Quality, Noise Pollution & Carbon Sequestration:

Trees help clean the air, store carbon, and make cities quieter and cooler. In Belfast, they remove more than **210** tonnes of harmful pollutants from the air each year, a service worth about **£7.5 million**. They also lock away around **319,000** tonnes of carbon and capture nearly 8,890 tonnes of carbon annually, which is valued at almost **£290 million**. Well-planned planting can also guide air flow and act as a barrier, reducing the amount of pollution people are exposed to.

Cooling & Flood Mitigation:

Trees in Belfast contribute significantly to cooling and flood mitigation through canopy interception and root absorption. Belfast's urban forest intercepts over **1.3 million** litres of rainfall annually, reducing surface runoff and alleviating pressure on drainage infrastructure. This process improves water quality by filtering pollutants and supports climate resilience by regulating urban temperatures and mitigating the urban heat island effect. Sustainable Drainage Systems such as tree pits and vegetated areas are promoted to slow water flow and mimic natural drainage, particularly in flood-prone areas.

Biodiversity & Habitat:

Urban biodiversity restores ecological functions and the ecosystems that supports plants, animals and insects to move, adapt and thrive. Protecting and restoring habitats is vital and Belfast's urban forest encourages physical activity and outdoor recreation, contributing to healthier lifestyles and greater emotional wellbeing among residents.

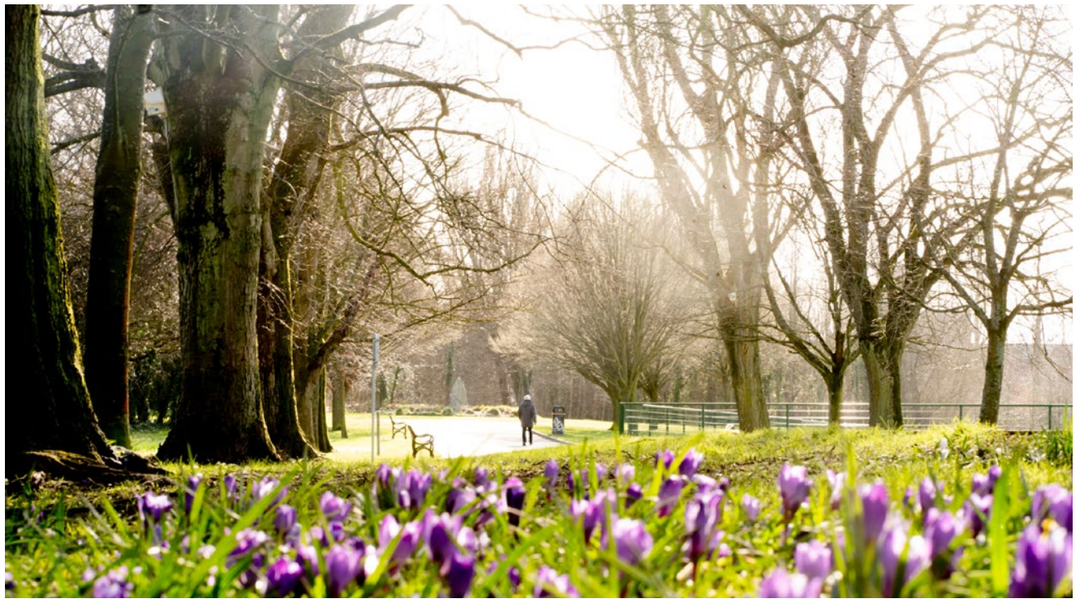


Image: Green space in Belfast

Social & Cultural Value:

Urban trees foster civic pride and strengthen community identity by embedding ecological, cultural, and sensory value into the cityscape. They enhance mental wellbeing and create spaces for reflection, gathering, and cultural expression, reinforcing a sense of place across Belfast's neighbourhoods.

Health and Wellbeing:

Access to trees and green space is linked to reduced stress, lower blood pressure, and improved mental health. Belfast's urban forest encourages physical activity and outdoor recreation, contributing to healthier lifestyles and greater emotional wellbeing among residents.

Longevity:

With proper care, trees can live for 50 to 200 years, delivering increasing environmental, social, and economic benefits over time. Their long lifespan makes them a vital investment in Belfast's climate resilience and public health infrastructure.

Real Tree Costs:

Initial Planting:
Lower than CityTree, especially for standard street trees.

Maintenance:
Pruning, pest control, and replacement every 8–15 years if poorly planted.

Space Requirements:
Need soil volume and canopy clearance to thrive.

CityTree Benefits

Compact & Mobile:
Ideal for dense urban areas with limited soil or canopy space, requiring a compact footprint (9m²), suitable for paved sites

Immediate Air Filtration:
Uses moss cultures and Internet of Things (IoT) sensors to remove pollutants like particle matter (PM2.5) and nitrogen oxide (NOx).

Data & Visibility:
Offers real-time environmental data and can be branded for awareness campaigns.

CityTree Costs

High Initial Investment:
Units can cost up to £50,000 each.

Maintenance & Lifespan:
The product lifespan is 7–10 years, with specialist maintenance required (power, water moss replacement).

Limited Ecosystem Services:
Does not offer shade, biodiversity, or cultural value.

Cost Benefit Analysis Summary

Factor	CityTree	44 Trees*
Initial Cost	£20,000 - £50,000	£62,355 (of planting)
Maintenance	Regular servicing, energy supply, specialist input	£1065 (basic care)
Lifespan	7-10 years	Decades to centuries (species dependent)
Carbon Capture	Limited – mainly air filtration	5438 kg captured long-term (LiDAR data))
Space Require	9m²	Street planting, requires below and above ground space
Additional Benefits	Compact design, immediate performance	Biodiversity, shade/cooling, flood mitigation, improved streetscape, educational and social value

Table 7: Cost benefit analysis summary, April 2025

*Estimated using available cost information as of April 2025. Figures are indicative and subject to change depending on species, planting conditions and long-term maintenance require-ments.

What we learned

- CityTree can complement, but not replace, real trees. It offers a compact and immediate intervention in spaces where traditional tree planting is not possible.
- Real trees take longer to establish but provide far wider benefits: improved air quality, cooler streets, noise reduction, higher property values, active travel, biodiversity and community well-being.
- Over time, trees are more cost-effective and play a vital role in climate resilience.

Challenges to Delivering Green Infrastructure:

- Space in cities is constrained by buildings, services and underground utilities.
- Landowner permissions, liability concerns and cross-agency coordination are often slow and complex.
- Communities cannot act alone: multi-year investment and cooperation across partners are needed.
- Early community engagement reduces resistance (e.g., blocked light, safety, parking) and helps prevent vandalism.

Long-term management must be built in from the start. Short bursts of capital funding are not enough to sustain lasting greening projects.

Image: Community growing in Belfast

Case Study: QUB Social Innovation Challenge: ‘Making Belfast a Green and Playful City’ Queens University Belfast (QUB) and Northern Ireland Housing Executive and Belfast City Council (NIHE)

Through the action phase of the project, the UP2030 team sought opportunities to test ideas and approaches for greening and growing opportunities in the pilot neighbourhood. The team liaised with QUB and NIHE to explore opportunities for sites within area that could most benefit from greening and growing interventions and address multiple challenges beyond improving climate resilience. A large enclosed hard landscaped space between the residential streets of John Street and Hamill Street was chosen as the site. An initial site audit was completed by the UP2030

team, QUB and NIHE, which highlighted issues regarding dumping, clutter, and an inconsistent use of the space, a possible legacy of the demarcated lines from the space’s previous use as a car park. The site had evidence of children’s play equipment and growing initiatives from residents and these indicators of informal use helped to shape the approach to the case study, which sought to build on these elements for improved use and enjoyment of the space.

QUB led a social innovation challenge for post graduate students from a variety of disciplines, which involved the students engaging the community at a consultation fun day to understand current perceptions towards the site and discuss challenges and opportunities to making the area greener and more playful.

The outcomes of the consultation demonstrated that planting and growing initiatives proved popular with residents, as well as visual improvements to the space with the likes of murals and shared resources such as a tool library and bike shared. Challenges including dog fouling were flagged, but overall, there was interest for multiple uses of the shared space which could be brought forward with planting and growing opportunities such as tree nurseries and community food growing, seating and social space and one suggestion even included a running track around the perimeter of the space.

During the project, the site became occupied as a work site to support upgrades to the social housing stock which prohibited further steps towards development and delivery.

Image: John Street and Hamill Street

Beyond the completion of the UP2030 project, the site will continue to be an opportunity to test smaller scale approaches to greening, community co-design as well as an opportunity to engage citizens about the importance and benefits of greening, growing and the wider ambitions of climate resilience for the city, should resources become available to bring this forward.

NIHE arranged to have rubbish removed from the site to restore the space and increase a sense of pride. Residents of the area have already taken steps to make the area greener, being resourceful with discarded materials.

Una and Terry live in the area and told us about how they are fostering greening and growing opportunities within the space:

"This and the other tank were discarded from homes that are being retrofitted in our area. There are a couple of other people who are using discarded water tanks for planters in the area. If we hadn't taken them as planters, they would have ended up in landfill. The majority of the houses here don't have gardens, so we are using what little space we have in our alleyways and at the front of our houses to bring a tiny piece of nature into our lives."

Greening for Net Zero: A process for implementation

This process presents key actions shaped by learning throughout the project to bring forward greening and growing opportunities in neighbourhoods. It offers practical ideas and collaborative mechanisms to build a resilient, biodiverse and inclusive neighbourhoods supporting climate goals, public health, and social equity. It's designed to guide cross-partner efforts and will require strong cross-sector collaboration, shared resources, and long-term commitment from partners and the community.

Belfast Net Zero Neighbourhood Framework 2025

Image: Residents growing using upcycled bins and oil tanks

Image: Una and Terry's reuse of a discarded water tank as a planter

Greening

VISION STATEMENT The neighbourhood has a resilient green network of routes and spaces that mitigates flooding, cools and protects our neighbourhood, supports biodiversity, improves air quality, and enhances public health, while making active travel and everyday life more enjoyable and sustainable.

Key Framework Action	Impact	How
Understand needs/barriers to supporting greening and growing	- Identified needs and barriers to supporting greening and growing. - Better understanding of residents' perceptions of green spaces. - Ability to identify spaces for greening and growing that support resilience and a fair and just transition to net zero/ tackle inequality.	Engage to understand area needs - Engage communities to establish needs and desires for greening and growing opportunities in the area, including experienced or perceived challenges to bringing these forward. Prioritise planting where the need is greatest - Map areas with poor air quality, high deprivation and low canopy cover. This aligns with the Belfast Tree Establishment Strategy's commitment to tackling inequality and targeting investment.
Co-design vision for greening and growing development in the area	-An agreed common vision including a range of scalable actions and interventions for the short and long term. -Strengthened community cohesion and civic pride. -Better understanding of how smart investments into greening and growing initiatives can provide multiple benefits for the people and place.	Engage to co-design the proposal - Using information from the needs analysis, engage residents and other stakeholders to produce a common vision that seeks opportunities for immediate action as well as longer term ideas for the community and the area to become greener and more resilient. Design with opportunities for co-benefits in mind - Educate residents and other stakeholders on the link between climate action and opportunities to address social issues within the community to help make it relevant. Growing initiatives and food partnerships are an opportunity to address social isolation, improve health and support food justice, which all contribute to community wealth building. Celebrate Community Identity - Involve residents in design and decision-making and encourage the use of greening as a platform for art and community pride. Engage with a broad range of ages and abilities to ensure proposals are robust – the Safe Routes Healthy Places resource includes materials for engaging children to complete a street/area audit which could add another perspective to the design and produce ideas that make the area more enjoyable for everyone.

		Strengthen community involvement - Build capacity for residents to play a role in planting and care. Support the establishment of Tree Wardens, Friends groups and volunteer schemes. Plant more, but plant smart - Focus on putting the right trees and/or growing spaces in the right places (e.g., fruit trees, seasonal hedges) and making use of underutilized spaces (e.g., car park edges, rooftops, streets). Plan for long-term management, not just planting - Consideration for sustainable maintenance, watering, and monitoring must be built into plans, contracts and budgets to protect the investment and ensure long term success. Integrate green infrastructure into all stages of design - Ensure trees and green space are not an afterthought but designed into streets, developments and regeneration schemes from the outset.
Establish resources available and potential synergies for implementation	- Opportunities identified for collaboration in the short and long term. - A map of connected projects in the pilot area. - Resources established for the implementation and maintenance of interventions.	Liaise with strategic partners - Collaborate with community greening and growing organisations and city stakeholders (including BCC, NIHE, local schools etc.) to identify opportunities for partnership working like space/land use, and/or access to resources such as volunteer time, materials or funding opportunities. Educate and Empower - Use creative tools (e.g., posters, QR codes, events) to build awareness of upcoming plans and to encourage participation at planting/growing events. Use these engagement opportunities to highlight the value and benefits of greening and growing for the community as well as teaching people HOW to grow, care for, and appreciate green spaces.
Implement co-designed vision	- Locations and interventions secured approved. - Interventions begin roll out. - Delivery/maintenance group established. - Enhanced greening in the area.	Grow Together - Encourage shared growing and skill-sharing across generations and opportunities to do this in the area such as through the (further) development of community gardens, urban orchards, and small allotments. Make Green Spaces Safe and Welcoming - Consider how to mitigate against and address vandalism and antisocial behaviour as well as improving the experience of the space through things like improved lighting, seating, and accessibility.
Long term vision	- Agreed and refined framework.	Agree a programme of reviewing and monitoring the success of the vision delivery including a regular milestone check in to review progress.

		- Sense check the vision periodically and refine as necessary, particularly in reference to alignment with regional and city ambitions. - Embed an element of flexibility to allow for quick response to funding/resource and partnership opportunities at various levels. - Link in with community greening and growing organisations and city partners to raise the profile of the vision and identifying collaboration and delivery opportunities.

Resources:

- UP2030 engagement recommendations
- Tree Establishment Strategy
- Air Quality Reports
- Flood Maps NI
- Greenspace NI Map
- The Future of Northern Irelan's Urban Green Spaces: Vision and Routemap
- Safe Routes Healthy Places toolkit (Appendix 2)

Image: Community garden with tree

Image: GROW Community Garden, Belfast

04

COMMUNICATION AND ENGAGEMENT IN THE NEIGHBOURHOOD

A critical part of the UP2030 project was built on the principle of co-design, where communities and city stakeholders would shape the net zero neighbourhood framework to **ensure alignment of climate action with local community priorities.**

To do this meaningfully, we first had to explain why we were creating this framework and unpack the core issues driving it. Climate conversations can feel abstract or overwhelming at times and bridging the gap to show that this work is about more than climate, that it's also about shaping resilient thriving places was essential.

From the outset of the UP2030 Project, we recognised that building a net zero neighbourhood in Belfast would require more than technical solutions, it would demand clear, inclusive communication and meaningful engagement with the people who live and work there. It is vital that those impacted by spatial and climate change inequality must shape the solutions. A co-design process helps redistribute power and transforms consultation from tokenism into agency.

Public understanding of climate change and net zero remains limited in Northern Ireland, which can contribute to a general resistance to engage. The Department of Agriculture, Environment and Rural Affairs (DAERA) surveyed residents across Northern Ireland in 2024 to ascertain the public knowledge on climate change policy. 61% of those surveyed are supportive of the executive's aim to reduce emissions produced by industries, transport, food and homes to net zero by 2050 (with 13% opposed).

Image: Open Botanic 2024

When asked about net zero, **47%** of respondents reported that they either do not understand the concept of net zero or understand it only vaguely. This underscores the urgent need for locally tailored and accessible communication strategies that can clarify the concept and make it relevant to people's daily lives.

Between March 2023 April and May 2025, we carried out extensive engagement across the UP2030 pilot area. Our aim was to understand how people perceive climate change and net zero, what barriers they face in engaging with these issues, and what they want from a greener, more sustainable neighbourhood.

We engaged through one-to-one meetings, site walks with community representatives, targeted workshops with government, academic and community partners, a social innovation challenge with QUB students and the local community, and a Neutrality Story Maps at the Open Botanic Festival 2024. We also held sense-checking workshops to test and refine our findings with local communities.

Communication Challenges	Our Engagement Principles
Low public understanding of climate change and net zero, often seen as vague or inaccessible	Use clear, relatable language rooted in everyday life. Support conversations with visual and inter-active tools
Wide variation in knowledge and lived experiences	Start where people are, and ground conversa-tions in the local context and everyday priorities
Technical and policy-heavy language alienates people	Reframe conversations around tangible commu-nity benefits (e.g., cleaner air, safer streets for walking, wheeling and cycling, and reduced bills)
Climate messaging can feel guilt-driven or disempowering	Focus on achievable actions and celebrate local success stories and progress
Political sensitivity and climate scepticism	Keep conversations focused on shared values and practical solutions, emphasising the need and benefits of making Belfast a more resilient and sustainable city
Lack of time, trust, or access to information	Offer flexible, informal and inclusive formats (e.g., pop-ups, social media, peer-led events) that fit into people's lives

What we heard

Understanding of net zero varied widely. While some participants associated it with sustainability, emissions, and weather changes, others found it abstract, unfamiliar, or even politically charged. A few expressed scepticism, referencing greenwashing or feeling overwhelmed by technical language. Many said climate information feels inaccessible or disconnected from their daily lives.

This variation wasn't just about awareness, it reflected differences in lived experience, priorities, trust in institutions, and capacity to engage. These insights directly shaped our communication approach, leading us to define a set of practical engagement principles.

Key Challenges and Our Engagement Principles

These principles guided the design of every activity we delivered across the UP2030 pilot area. They also helped us adapt when engagement needed to change direction or format.

What we tested

Events, Activities and Tools

Between April 2023 and May 2025, we designed and delivered a series of engagement activities shaped by our core principles. Each was tailored to meet people where they are socially and geographically, and to test inclusive, creative, and locally relevant ways of communicating net zero.

Key activities included:

- Informal conversations in community spaces with food and shared activities, building connection through listening-focused engagement centring residents' own stories and experiences.
- Neighbourhood walkabouts to further our understanding of challenges and opportunities at different scales within the area.
- Attendance at public facing events to capture a range of voices and opinions.
- Workshops with a range of groups and stakeholders dedicated to shaping the framework and project learning.

Whilst the format of the session may have been adapted to different contexts and audiences, we tried to consistently capture information on two main elements:

1) Current understanding of net zero

How: We encouraged people to tell us 'What three words' they would use to describe net zero, collected via interactive tools such as 'Mentimeter', on paper within a session, on flip charts at events and through one-to-one conversations.

Why: We wanted to understand where people are at when they enter the conversation and how terms like net zero are understood both individually and collectively, answers also provided insight into their priorities, interests and feelings towards the topic.

Examples of Engagement

1. Open Botanic Festival

Date: 15th September 2024
Audience: General public, families, young people
Approach: We hosted a visually engaging pop-up stall designed to encourage informal, family-friendly engagement. Activities supported intergenerational conversations and used consistent tools to capture insights.

Key activities included:

- Poster with map of area encouraging participants to interact and contribute to the ask: “What’s your big idea for a greener neighbourhood?”

2) Citizen experiences and stories

How: We captured these in survey format and asked participants to complete them at the beginning of sessions.

Why: We wanted to explore people’s views and experiences on how they see climate change affecting Belfast and their daily life; whether they have made changes to their home, lifestyle or travel behaviour and what would motivate them to do so, as well as what they envision a net zero neighbourhood would look like in Belfast and the changes needed to make it happen. Apart from generating valuable insights, the survey provided a useful platform to quickly connect with people on issues most relevant to them and explore further discussion and ideas. The outputs from this helped to shape our Neutrality Story Maps and Community Personas.

Image: Open Botanic 2024

- Colouring-in station for children, using poster sections to spark discussion, this activity provision also served to keep children occupied to allow for engagement with accompanying adults.
- Quick survey to capture citizen experiences and stories.

Flip chart asking people to share three words they associate with net zero, generating engagement and discussion.

2. World Cities Day

Date: 29th October 2024
Audience: Belfast City Youth Council
Approach: Held at the Crescent Arts Centre, this evening event marked World Cities Day 2024 (theme: Youth Leading Climate and Local Action for Cities). Attendees included Belfast City Youth Council members, the Lord Mayor, and the Council Climate Commissioner.
Key activities included:

- Presentation on the UP2030 project.
- ‘Walking debate’ and small group sessions sparked open discussion.

Group discussions responding to thematic questions, encouraging them to share and discuss their ideas and priorities.

3. Sense-Checking Workshops

Date: Spring 2025
Audience: Mixed community participants
Approach: These sessions were designed to validate findings and test resonance of emerging ideas from the project. Feedback confirmed the importance of framing Net Zero through everyday benefits and maintaining an ongoing, two-way conversation.

Key activities included:

- Presentation on the UP2030 project.
- Activity to validate ‘community personas’.
- Group discussions responding to thematic questions, encouraging them to share and discuss their ideas and priorities.

Neutrality Story Maps and Community Personas

Storytelling Through the Neutrality Story Maps

The Neutrality Story Maps (NSM) digital tool was developed by Vrije Universiteit Brussel (VUB) in collaboration with Centre for Research and Technology Hellas (CERTH) as part of the UP2030 Project to support communication and engagement around climate issues. It allowed us to gather and synthesise local stories, priorities, concerns, and aspirations, creating a narrative-based bridge between residents and the project’s technical goals.

Image: Free colouring in resources created for child engagement

The Belfast Neutrality Story Map platform can be accessed online: https://m4d.services.iti.gr/up2030/app/belfast

We used this tool to listen across a diverse range of voices from community leaders and families to young people and seniors over the course of our engagement sessions and activities. Through workshops, informal conversations, and surveys, these stories were distilled into a series of fictionalised but relatable personas.

These personas became a useful engagement tool creating a starting point for open discussions without judgement.

Community Personas

Each persona reflected real themes and emotions gathered through project engagement. They helped surface perspectives that might otherwise go unheard in formal consultations.

Katie

A busy parent juggling work and family. Katie supports active travel but is concerned about safety. She dreams of a city where bikes, not cars, lead the way.

Mary

A lifelong resident who has noticed more flooding and worsening air quality. Mary's focus is on community health and the cost of living. She believes local education and grassroots solutions are key to climate resilience.

Thomas

Frustrated by climate messaging and sceptical of the movement, Thomas wants less talk and more tangible solutions, better housing, transport, and financial incentives to drive real change.

Zoe

Weighed down by climate anxiety and the pressure to act, Zoe sees barriers to sustainable living, but she's driven by a vision of strong leadership, inclusive spaces, and a community rising together for change.

Max

A tech-savvy teen full of optimism, Max is eager to get involved, he sees climate action as a chance to shape Belfast's future through innovation and youth-led ideas.

Testing the Personas

We tested these personas with individuals and groups across the pilot area, using them as icebreakers to initiate safe, judgment-free conversations. Participants were asked: “Do any of these feel familiar to you?” or “Who do you know that’s a bit like this?”

This prompted honest, sometimes emotional responses. People shared their own frustrations, hopes, and ideas and often recognised themselves in more than one persona.

The persona approach proved especially valuable with groups who might be less likely to speak up in traditional formats. It made the climate conversation feel more personal and grounded in real life experiences.

Persona	Relatability	Key areas of Agreement
Thomas	Highly relatable	Frustration with government messaging, scepticism toward climate change and the climate change movement, concerns about housing quality, transport, infrastructure and waste management, would welcome financial incentives to drive action
Mary	Very relatable	Noticing the increase in extreme weather events such as floods, and the impact on the city. Cost of living and health a key priority for community. Would like to see community engagement and more opportunities to educate and empower at the grassroots level.
Katie	Highly relatable	Support for active travel, concerns about safety, desire for a less car-dominated city
Max	Somewhat relatable	Youth engagement and awareness, excitement about the future and new technologies, desire to act
Zoe	Relatable and representative	Climate anxiety and feeling overwhelmed about personal and social responsibility to act. Barriers to sustainable living, desire for community action, safety and inclusion, and strong leadership

What we Learned

Start with lived experience

Engagement was most effective when rooted in daily concerns like car parking and congestion, increased energy bills, and access to green space, not abstract climate goals.

Use language that connects, not confuses.

Technical or policy-heavy terms alienated participants. The use of plain, relatable language and visuals where possible, opened the door to more meaningful conversations and supports engagement across a wide range of abilities and backgrounds.

Education is empowering

Share only the most relevant information with simple definitions and relatable explanations, and incorporate icebreakers, interactive activities and games that help to create shared understanding of the issues leading to more relaxed and productive conversations. This supports a fair and just transition to net zero by making the journey inclusive and accessible to everyone.

Insights highlighted the need for knowledge sharing and capacity building across communities and stakeholders, along with the need to discuss climate action within a broader context, to reduce barriers to engagement.

Image: Engagement at Donegall Pass Community Garden

Storytelling opens doors

Asking people to reflect on how their area has changed, what it used to feel like, how children experience the area, what they'd love to see restored, helped bridge emotion and action. Storytelling sparked nostalgia, pride, and hope, and made space for imagining positive change.

Tailor approaches and activities to audiences

We adapted our engagement styles for the interest of the audience and found that this fostered better connection in the session, e.g. emoji mapping the area with older children as a way to discuss how they feel about their neighbourhoods helped to provide insights into their perspective and spark conversations about what they think Belfast in 2050 could look like.

Connect the co-benefits

Showing how climate action can deliver co-benefits such as improved health, economic opportunity, and social cohesion helps to reduce barriers to engagement and avoids presenting it as a standalone issue. This approach made the conversation more accessible and relevant to people's everyday concerns.

Focus on momentum, not guilt

Empowering, action-based messaging was better received than content framed around sacrifice or fear. Reframing around local success stories, achievable actions, and future potential created a more constructive, optimistic tone.

Flexible formats increase reach

We got the best engagement when we met people in spaces they already use, with formats that didn't demand too much time or prep. Casual chats worked much better than long, structured sessions.

Personas created connection

Presenting relatable characters helped people express their own views, without feeling put on the spot. It turned "what do you think about climate change?" into "do any of these people sound like you?" a much more open, engaging starting point.

Recommendations and Resources

Lessons from Tool Testing

Tool	Why We Considered It	Why We Didn't Use It
Climate Fresk card game	Popular EU-wide tool for climate literacy	Requires full-day facilitator training and 3+ hours delivery time – not feasible for casual community formats
Carbon Conversations (Scottish initiative)	Small group sessions in communities, providing supportive, non-judgemental space for people to discuss and learn	The sessions consist of at least 6 regular meetings every fortnight, each 2 hours with a min of 8-10 participants – not feasible for the project timeframe
EN-ROADS Climate Solutions Simulator	Participants take on the roles of different stakeholders and negotiate to meet global climate goals	Relies on access to a computer and the dashboard is not accessible to all

Further Engagement and Resources

Resource	Use Case	Link or Note
The role of deliberative public engagement in climate policy development (University of Lancaster)	Helps shape effective, evidence-based climate imagery	https://www.theccc.org.uk/publication/the-role-of-deliberative-public-engagement-in-climate-policy-development-university-of-lancaster/
Talking Climate Handbook – how to have a climate change conversation	Communication strategies grounded in social research	By Climate Outreach: ideal for local gov staff https://climateoutreach.org/reports/how-to-have-a-climate-change-conversation-talking-climate/#
Keep Northern Ireland Beautiful – Climate Literacy Programmes	Climate and carbon awareness training	Accredited certification from the Carbon Literacy Project funded by DAERA

Business as usual means continuing on a path where buildings waste energy, streets prioritise cars, green space is scarce, and climate considerations remain an afterthought. It means accepting fuel poverty, air pollution, flood risk, and missed economic opportunities.

A net zero neighbourhood means warm homes, safe streets, connected green spaces, and communities empowered to shape their future. It means addressing climate change while improving health, wellbeing, and quality of life for everyone.

05

CARBON EMISSIONS DATA STUDY IN THE NEIGHBOURHOOD

Throughout the UP2030 project, Belfast and the University of Cambridge (UCAM) have been **working together to estimate the carbon footprint of the UP2030 project area** to see what it would take to make it carbon neutral.

Urban Carbon Emission Data Flow Mapping: University of Cambridge

This has focused specifically on the potential for housing retrofit, active travel and urban greening to reduce carbon emissions.

An interesting element of UP2030 is that despite the majority of the cities involved wanting to cut their carbon footprint, they do not have a way to estimate the effectiveness of their approaches to reducing those emissions.

Therefore, UCAM has developed a way to calculate the carbon footprint of the main emission sources of the Linen Quarter (housing and travel) and to estimate the impact of retrofitting household insulation and solar panel installation, as well as active travel.

This was based on using publicly available information about household energy consumption and energy source, to calculate household emissions, and Travel Survey Northern Ireland and census data to estimate travel emissions. This 'activity data' was then multiplied by emission factors – numbers produced by the UK Government to convert

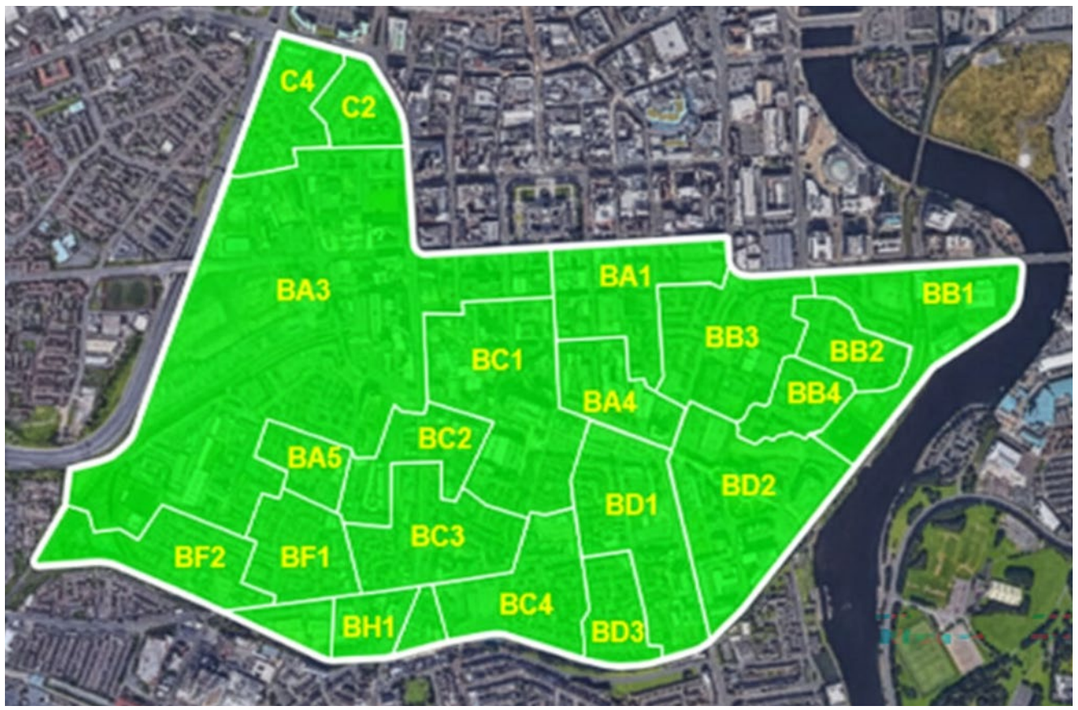


Fig 16: Census data zones within the UP2030 project area (the letters and numbers refer to the different census data zones, with C standing for Court, and B for Botanic), UCAM 2025

activity data into carbon emission estimates.

The results of UCAM's study are not produced through a direct sensing of the carbon emissions of the UP2030 project area but are based on estimations and assumptions which mean they should be used to provide an estimate of emissions rather than a scientific reading.

Findings

In total, household and travel emissions in the UP2030 project area are estimated at **20,081** metric tonnes of CO_2 per year (mt CO_2/yr), with 13,325 mtCO_2/yr from households and 6756 mtCO_2/yr from resident travel. This research also estimated the emission saving impact of trees in the Linen Quarter. However, according to our calculations, this would reduce the area's carbon footprint by only 5.5 mtCO_2/yr. While trees may not significantly reduce overall emissions through carbon absorption, they serve an important purpose for making active travel more enjoyable, through making places nicer to use and move through.

Households

In terms of the effectiveness of household retrofit a total of 1,218 mtCO_2/yr is reduced, a 6% reduction. The most impactful approach was to improve household insulation, which reduced carbon emissions by 1,036 mtCO_2/yr, followed by solar PV with 162 mtCO_2/yr reduced. Based on our calculations, if the electricity grid in Northern Ireland were to become carbon neutral, this would reduce household emissions by 2931 mtCO/yr (14.6%).

Travel

By taking national averages from the Travel Survey Northern Ireland, we estimate that 2202 people may have cycled in the UP2030 project area within the past 12 months. If this number cycled to work every day (rather than taking the car), this would reduce travel CO_2 by 599 mtCO_2/yr, and if every one of those 2202 people chose to exclusively cycle for all activities, then the total travel emissions would fall by 3120 mtCO_2/yr - reducing the travel carbon footprint by 46%.

Beyond the overall figures and estimates, it is interesting to note the differences within the UP2030 project area. By estimating per person carbon footprints, a difference of **55%** between the areas with the smallest and largest carbon footprints per person can be observed. This is determined by a number of factors, but an important element is the age of the houses in each data zone. For example, areas of the UP2030 project area which feature higher levels of older, less well insulated houses also have higher estimated emissions.

This feeds into an interesting element of how to approach building retrofit. Whilst retrofitting houses through improving window, roof and wall insulation is roughly ten times more effective at reducing the carbon footprint of the UP2030 project area households than installing solar panels, this isn't true across the whole area. In fact, mostly in the Markets, but also in parts of Sandy Row (data zones BA5, BB2 and BB4 – marked in blue below), due to the number of households who are suitable for solar power, more CO_2 could be reduced by focusing on solar than on improving insulation. However, in other areas, notable in Court 2 and 4 (C2 & C4) at the top left of the map, very few households are suited for solar, but many are in need of improved insulation.

If the data zone is blue, this means that installing solar panels would reduce more carbon emissions than insulation, however if it is green, then it is more effective to improve the household's insulation. The darker the green, the less effective solar panel installation is.

For more information, see Appendix 3: Belfast UP2030 Project Area: Carbon Accounting Findings.

Fig 17: Map of UP2030 area showing the differences between different data zones per person carbon footprint, UCAM 2025

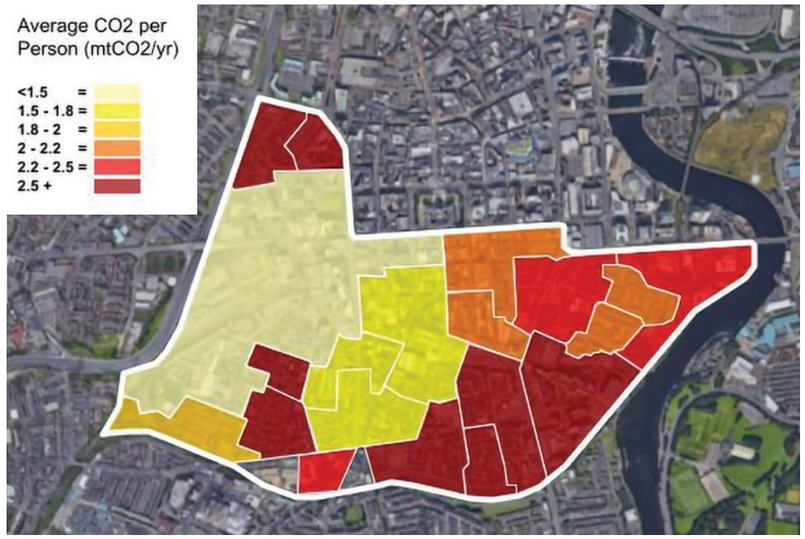
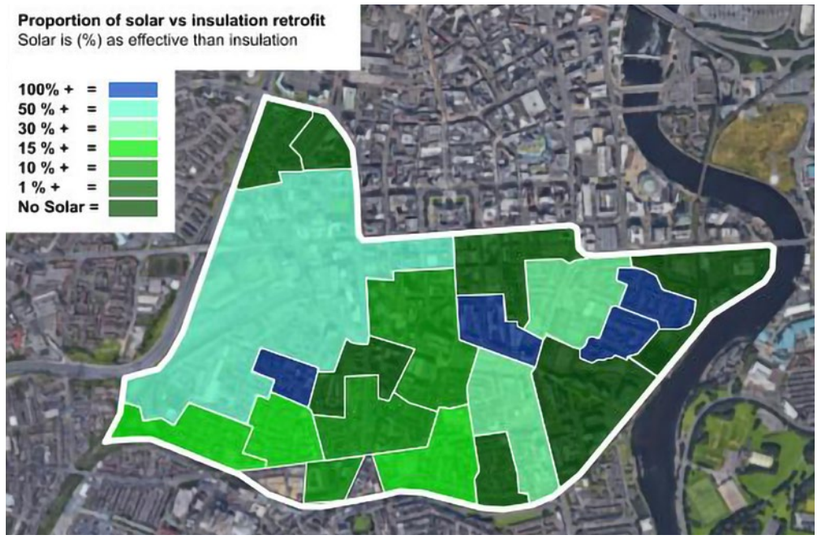


Fig 18: Map showing the proportion of solar energy carbon emission reduction in comparison to insulation, in the UP2030 area, UCAM 2025

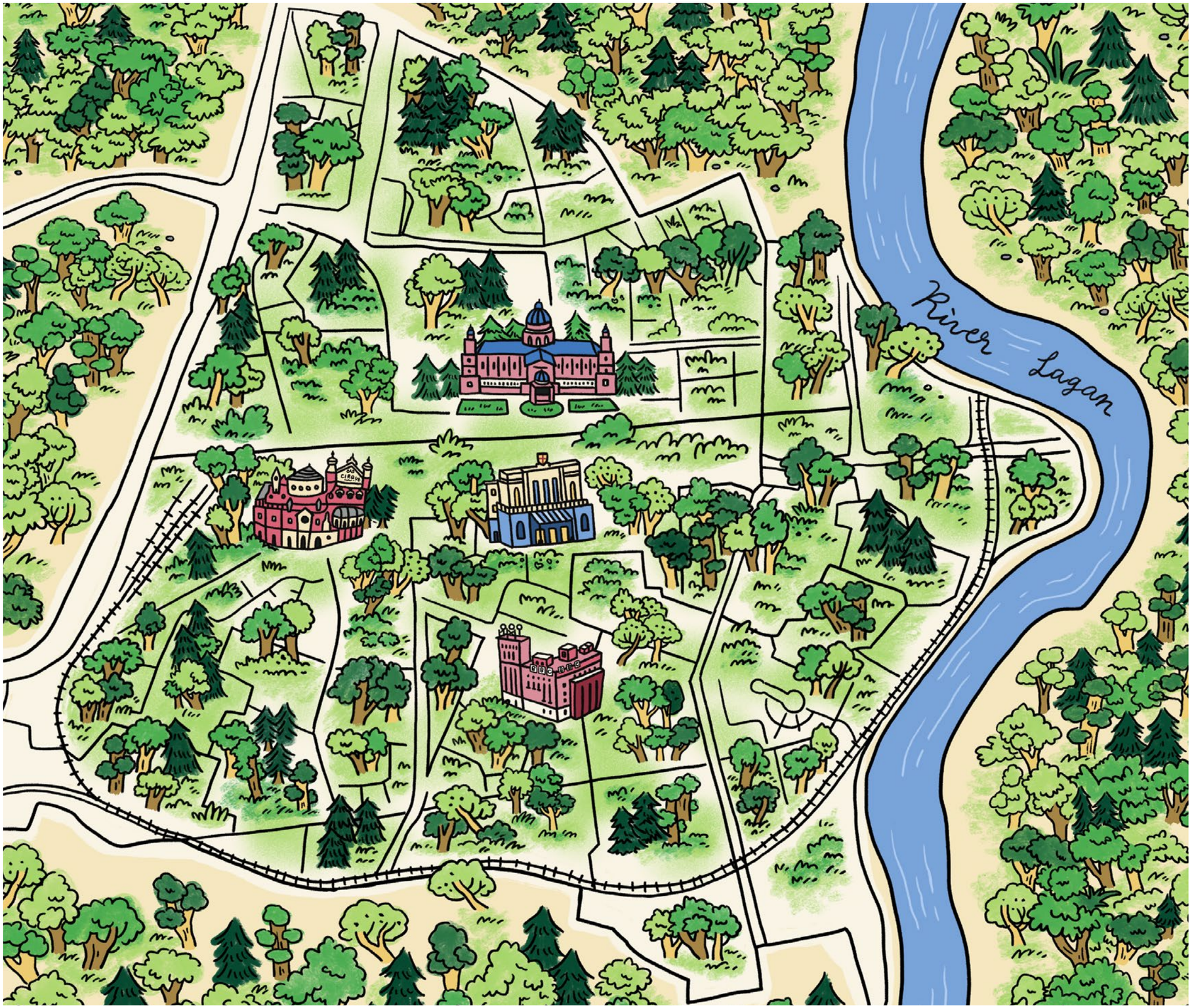


Belfast Net Zero Neighbourhood Framework 2025

Conclusion

Even within this small pocket of the city, there are a variety of measures that would be effective in reducing emissions. The study shows that like the rest of the city, the largest proportion of emissions in the area comes from its buildings therefore that should be the first port of call. Some areas within the zone would benefit from retrofit, whereas others would create a bigger impact by having solar PV panels installed. In terms of active travel and greening, the area and its residents will see good reductions in emissions if all residents choose to ditch the car and travel to work more actively. Moreover, tree planting may not necessarily have a huge contribution to a reduction in emissions, however their impact would be more wide-ranging, making the area more attractive, greener, create precipitation interception and provide shade and homes for wildlife.

Calculations using Belfast's public tree database and Forestry Research have been used to estimate the average annual carbon sequestration for a tree in the UP2030 pilot area. Based on the approximate emissions from houses and mobility in the area, it's estimated that over 1m trees would be required to absorb this carbon if we were to attempt to reach net zero through tree planting alone.



06

NET ZERO ENABLERS IN BELFAST

To bring forward net zero at a neighbourhood level, **we must understand how these ambitions sit within the context of city-wide climate efforts** such as major projects, governance, data, strategic partnerships and capacity building.

6.1 Major projects

Belfast City Council is working closely with its community planning partners to help the city to attain net zero by 2050 and help the city to be more resilient to the impacts of climate change. This is guided by the Belfast Local Area Energy Plan (LAEP) – a whole energy system approach, carried out in partnership with key stakeholders, identifying the most cost-effective, integrated plan for the city to contribute to timebound national and local net zero targets whilst maximising co-benefits to society.

Major projects that will help to achieve climate change ambitions include:

- High temperature, low carbon district heat network - using low carbon heat sources, phase 1 would focus on office and commercial in the city centre with potential to extend to residential and other non-central locations in future iterations.
- North Belfast Sustainable Energy Community - a community led approach to achieving a net zero neighbourhood starting with production of a net zero community master plan.
- Belfast Sustainable Food Programme-co-ordination of a cross-sectoral partnership across the food system and delivery of a 3 year strategy and action plan to shape a food system that enables everyone in Belfast to have equitable access to nutrient rich, affordable that promotes human and planetary health.
- Nature Towns and Cities: Breaking through Barriers to Connect People and Nature. Working in partnership with Ulster Wildlife to co-design a blueprint for nature recovery across the city and its surrounding areas, including the Lagan Valley Regional Park and the Belfast Hills.
- Alleyways (new project by Council – funding TBC) – bringing previously unused and unsafe spaces back into use by communities for productive use such as growing and greening.
- Eastside Greenways Climate Programme– empowering people living in areas of disadvantage to connect to conversations on climate change at a local level and shape how climate action could improve their community and the lives of people in it.
- Department for Infrastructure Sustainable Urban Drainage Pilot Project – using nature-based drainage solutions such

as attenuation ponds, raingardens, swales and leaky dams to demonstrate the benefits of managing rainwater naturally on the surface, to slow its flow into rivers and sewers.

- Belfast Tree Strategy – tree, woodland and hedgerow restoration and development of a tree warden programme across the city to increase climate resilience in areas vulnerable to impacts of climate change in Belfast.

6.2 Governance considerations, reporting and monitoring

The Northern Ireland Executive holds ultimate strategic responsibility for ensuring that Northern Ireland (NI) meets its climate responsibilities, as established through the Climate Change Act (NI) 2022. The Act sets out the framework for Northern Ireland to address climate change and establish legally binding emissions targets, including the achievement of net zero emissions by 2050 (i.e. a **100%** reduction in net greenhouse gas emissions compared to a 1990 baseline), with a target for 2030 set in the Act of an at least **48%** reduction in emissions, and a target for 2040 of an at least **77%** reduction in emissions.

Image: Front cover of Local Area Energy Plan, May 2024

The Department for Agriculture, Environment and Rural Affairs (DAERA) is responsible for leading the preparation and publication of the Climate Action Plan on behalf of the Northern Ireland Executive. The Climate Action Plan 2023-2027 (in draft at the time of writing) will include policies and proposals that set out a roadmap of action needed to reduce emissions and are arranged into sectors. However, implementation will rely on coordinated action across government departments and local authorities.

The Plan is structured around sectoral leads, each led by a designated department responsible for delivery and oversight. For example, the Department for Infrastructure will develop a new Transport Strategy for Northern Ireland, which will form the basis for the first Transport Sectoral Plan mandated by the Climate Change Act. This Sectoral Plan will set out the actions required to meet statutory emission reduction targets for 2030, 2040, and 2050, including a commitment to set a minimum spend of **10%** of the overall transport budget for active travel, which will accelerate the development of a connected, low-carbon, active travel network across Northern Ireland.

As regional departments hold the powers, budgets, and levers to drive systemic change, their decisions will shape the operational landscape for local authorities. Belfast City Council will align its own climate ambitions, delivery plans, and investment priorities with the targets and sectoral pathways set out in the Climate Action Plan, ensuring local action contributes meaningfully to regional outcomes.

At the same time, Belfast is committed to playing a leadership role by not only aligning with regional targets but also demonstrating what place-based climate action can look like in practice and this Net Zero Neighbourhood Framework offers an important contribution to our understanding. Through innovation, partnership, and community-led delivery, the Council will continue to promote scalable solutions to retrofitting buildings, champion active travel and nature-based interventions, and through cross-sectoral governance structures support collaboration that accelerates a just transition. In doing so, Belfast aims to shape and inform regional policy from the ground up, ensuring that local insight and ambition are embedded in Northern Ireland's climate future.

City-wide governance levers

There are a number of existing structures at a city-wide level that oversees governance, reporting and monitoring of city projects. Belfast City Council has a Climate and City Resilience Committee that looks specifically at actions that will help the city to be not only resilient but also adapt to and mitigate against the changing climate, whilst reducing emissions to reach agreed net zero targets. Other city-wide groups such as the Our Planet Board, Strategic Oversight Group, Net Zero Delivery Group, Data Group, Retrofit Hub and the Sustainable Food Partnership, all ultimately support the reduction of emissions and the establishment of a sustainable, nature positive, low carbon climate resilient economy for the city.

Committee reporting: Climate and City Resilience

Belfast City Council's Climate and City Resilience Committee provides political oversight for the city's Climate Action Plan and its Resilience Strategy, which aim to safeguard Belfast from climate change impacts and ensure a net zero future. The committee receives reports, discusses climate risks, and makes recommendations to the Council on policies to address the climate crisis and build a low-carbon, climate-resilient economy.

Our Planet Board

The Belfast Our Planet board is part of Belfast City Council's community planning process, working to create a sustainable and nature-positive city by tackling climate change and biodiversity loss. It focuses on key priorities like re-naturing the city, establishing a circular economy, and innovating for a net zero future through initiatives such as developing green technology hubs and improving green spaces. Its membership includes a wide range of partners whose interests and work spans these topics, meeting on a quarterly basis to review the progress of sub-groups who are delivering action plans for agreed priority areas. The Strategic Oversight Group, which oversees delivery across the programme of work, meets bi-monthly or as may be required and agreed through the co-chairs, reporting back to the Board. The Our Planet Board is the overarching group that links all the groups below together, creating a city-wide structure that covers multiple projects.

Strategic Oversight Group

The role of the Strategic Oversight Group is to oversee delivery across the Our Planet programme of work. The Board is responsible for ensuring

the delivery of strategic city-wide interventions through sub-groups that report into the group, such as the Net Zero Delivery Group and the Belfast Sustainable Food Partnership. It provides oversight and co-ordination of the Our Planet programme of work which aims to create a sustainable, nature-positive city, through three core areas of:

- Re-naturing the city and increasing resilience to climate change.
- Creating a sustainable circular economy.
- Innovating to net zero.

Net Zero Delivery Group

The purpose of the group is to provide collective leadership to promote and support the development of a coordinated series of net zero investments across the city to achieve the emission reduction targets in a cost optimal way whilst creating wider benefits for local communities. The scope of its responsibility includes:

- Co-ordinating emerging net zero investments across the city.
- Prioritising and taking forward specific actions from the Plan identifying strategic objectives and critical success factors for each emerging project.
- Reviewing and updating the LAEP pathways and actions as needed.
- Tracking and communicating progress on delivery to key stakeholders.

Data Group

The creation of the Belfast Local Area Energy Plan resulted in a rich dataset that is unique and provides a new insight to the build environment in the city. The data group members span the members of the Our Planet Board and the Net Zero Delivery group and its purpose is to provide a good strong evidence base for future projects and research in the city. The data has already been linked to social data making it an even richer resource.

Belfast Sustainable Food Partnership

Belfast Sustainable Food Partnership's vision is for Belfast to be a city of good food for all, where healthy, just, sustainable food is available and accessible to everyone. It aims to do this by working with partners in Belfast and across NI to:

- Promote a greater appreciation of the role and importance of healthy, just and sustainable food – fresh, local, seasonal – amongst the public, policymakers and institutions.
- Inspire key organisations to work individually and together to link initiatives around sustainable food to drive positive social, economic and environmental change.
- Develop a broad cross-sector partnership to involve public sector bodies, the community and voluntary sector and local businesses which will work together to attain a silver Sustainable Food Place award for Belfast.

The group's progress is reported regularly to Belfast Healthy Cities Partnership, the Climate and City Resilience Committee and the Our Planet Board.

Belfast Retrofit Delivery Hub

The Hub brings together the Northern Ireland Housing Executive, business leaders, key organisations and the Council to catalyse retrofit activity relating to all domestic, public, commercial and private buildings in Belfast. The Hub's work is guided by a steering group and four co-chairs and is informed by the National Retrofit Strategy which is produced by the Construction Leadership Council. Progress is regularly reported to the Net Zero Delivery Group and the Climate and City Resilience Committee. In the absence of an NI retrofit hub, this Belfast group represents NI at UK and Republic of Ireland events as the group members include many of the national retrofit players.

Belfast Net Zero Neighbourhood Framework 2025

6.3 Area planning

Achieving net zero is not the responsibility of one organisation or team, its only possible if we help people to understand the necessity and value of adopting a climate lens to everything we do and help communities to bring forward climate priorities through area planning.

A key commitment within the Belfast Agenda, the City's Community Plan, is to work with communities and local stakeholders to bring forward area-based community plans. In support of this we will ensure there is a climate 'lens' applied to help communities understand and prepare for the impact of climate change and to bring forward climate related priorities for action, helping to develop resilient, low-carbon communities.

We will continue to engage with communities on issues related to climate change, raise awareness, educate and enable them to make changes that will improve quality of life, support behavioural shifts, enhance climate literacy and importantly identity actions which deliver positive social, co-benefits such as better health and economic opportunities. Examples may include establishing community gardens, promoting active travel and cycling, repair cafes, developing community energy projects, insulating homes, reducing food waste, and creating local sustainability plans. These grassroots efforts are powerful because they are place-based, flexible, build strong local relationships, and give communities a voice in addressing the climate emergency.

6.4 Data

Data and data analytics have emerged as a critical tool in the fight against climate change, enabling researcher, policymakers, and industries to track environmental changes, predict future scenarios, and develop effective solutions. From monitoring deforestation and carbon emissions to optimising renewable energy systems and predicting extreme weather events, the role of data in climate action is undeniable.

This data also has the power to help debate with anti-green and climate-sceptic agendas and countering the scaling back of environmental action.

As climate change continues to pose an existential threat, the importance of data-driven decision-making will only grow. By harnessing the power of data analytics, we can better understand the challenges ahead and take meaningful action to protect our planet for future generations. The future of climate action depends on our ability to leverage data to make informed, impactful decisions.

As we move forward, data analytics will remain at the forefront of global efforts to combat climate change, offering hope that we can address this crisis with the precision, speed, and scale that it demands. However, it must be acknowledged that these data practices, paradoxically, generate carbon emissions. More information on the role of data in net zero and climate change is available in Appendix 4.

Achieving net zero at the neighbourhood level requires robust, actionable data to guide planning, track progress, and unlock investment. As climate priorities become embedded in area plans and commercial strategies, the demand for high-quality data is growing rapidly.

Useful data sources for the development of a net zero neighbourhood:

- Climate and emissions data: localised datasets such as those available through Census, Department for Communities, PowerBI and the Local Area Energy Plan are essential for understanding baseline conditions and identifying high-impact interventions, and can help shape where investment should be directed.
- Geospatial data: Data relating to flood risks, heat risks and climate vulnerabilities can reveal where nature-based solutions would be best placed for maximum benefit.
- Smart city infrastructure: Real-time data from sensors, such as air quality monitoring, supports environmental tracking, traffic flow optimisation, and energy efficiency.
- AI-powered modelling: Artificial intelligence enhances predictive capabilities, enabling cities to simulate outcomes, track carbon performance, optimise smart buildings and infrastructure and predict future patterns of transport and travel in line with policy and behaviour change.

6.5 Knowledge Sharing and Upskilling

An issue that was raised at every stage of the development of this framework by stakeholders was the need for knowledge sharing, empowerment and support.

Knowledge and skills for residents: Discussions with community representatives focused on how to make homes comfortable, warm, healthy and affordable to heat. One of the major barriers (after finance), was a lack confidence in making the right choices and finding quality contractors to do the work. An approach commonly used is provision of one stop shops, sometimes provided by government agencies or community-based groups.

Community groups such as the Warm Home Hub in Galway are well-placed to build local confidence in retrofit as they are likely to be trusted by the people in their area and can provide advice without the pressure of a sales pitch. Support and knowledge sharing might include providing advice about draught-proofing or insulating their homes, running events to show off local examples of successful home retrofit, or starting a project to install a low-carbon heating system in a community building, church or school. The Inner North Belfast Sustainable Energy Community is currently piloting this approach, using the Sustainable Energy Communities model from the Republic of Ireland and training community members to work with local residents to understand how to make their homes more energy efficient

Net Zero Training for Urban Placemakers: Through the project, a need was identified for knowledge sharing among placemakers to ensure the most to date learning was being disseminated and elevated. As such a suite of training resources and materials has been procured to address this, providing upskilling around climate-led placemaking approaches.

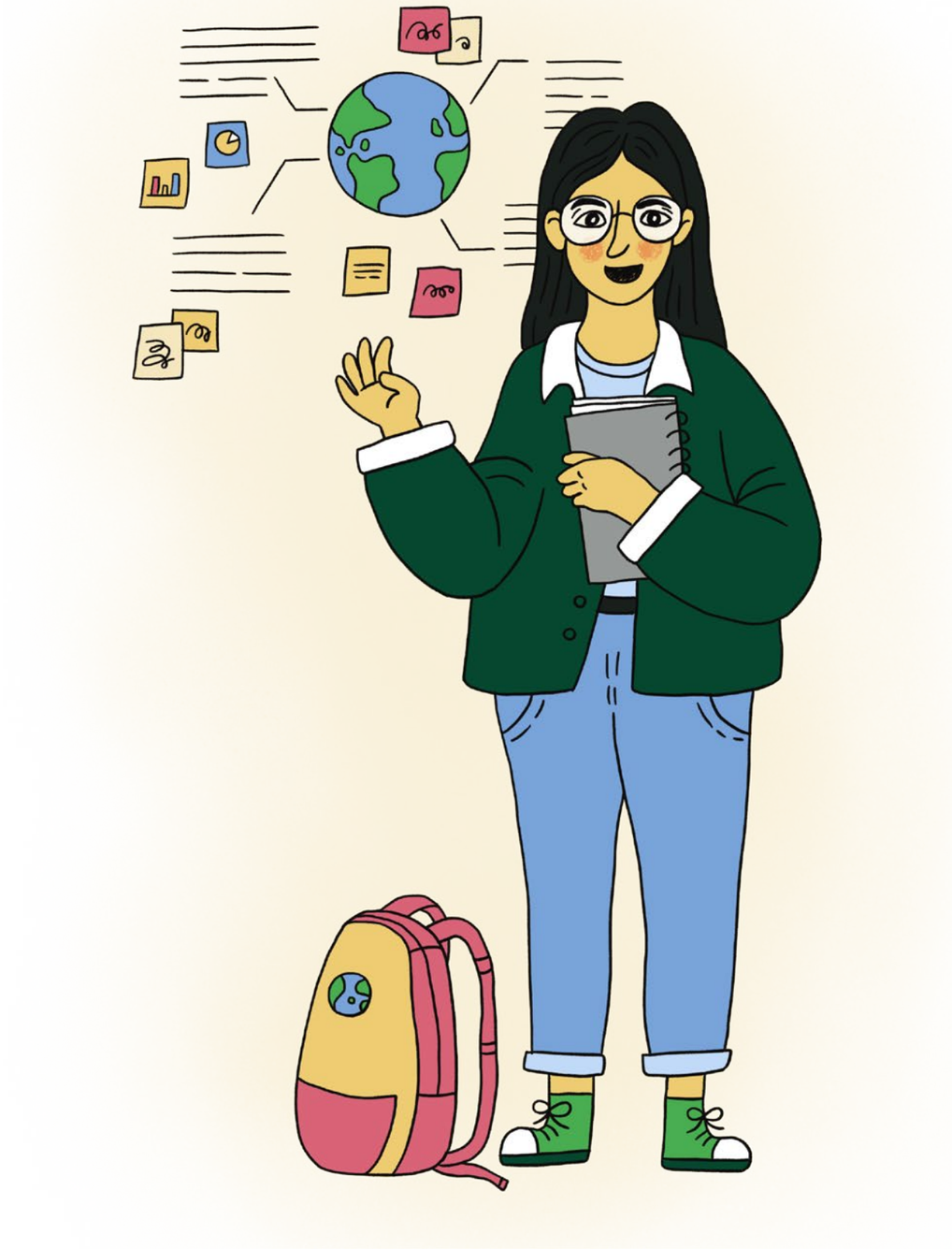
Strategy for green skills: The newly published Green Skills Action Plan, by the Department for the Economy, 2025), provides NI's first framework to address the skills gap, recognising the opportunities with an estimated **105,000** jobs in the green economy in Northern Ireland with an additional circa **58,000** predicted by 2025. Green skills will play a vital role in the delivery of reducing Belfast's carbon emissions and offer significant economic opportunities for the city, its businesses and residents. At the same time, however, the UK and Republic of Ireland are facing a significant green skills shortage in the retrofit sector, requiring hundreds of thousands of skilled workers, including installers, assessors, and retrofit coordinators in order to meet net zero targets.

Key challenges include an ageing workforce, lack of an NI pipeline of retrofit projects to provide certainty of work and a lack of funding for cross sectoral retrofit programmes that can be seen in Great Britain and the Republic of Ireland. National retrofit leads in England, Scotland and Wales strongly advise the establishment of skills programmes in advance of any funding programmes as the establishment of labour and material supply chains can take between 5-10 years.

Whilst vocational training providers such as South Eastern Regional College and Belfast MET have offered retrofit skills programmes, the level of uptake has been very limited. With current skills shortages in the construction industry, employers are reluctant to release staff and invest in staff training until government policy and funding programmes can provide assurance on their investment.

Solutions could involve modernising apprenticeships, retraining existing workers, developing specialist retrofit qualifications, and fostering partnerships between training providers, councils, and industry to create clear career pathways into the sector. The development of replacement funding programmes by the Department for Communities to address low carbon heating and energy efficiency, will provide a degree of certainty of demand for retrofit related skills.

Belfast Net Zero Neighbourhood Framework 2025



07

OPPORTUNITIES FOR THE WAY FORWARD

The UP2030 Belfast experience and learning from this project highlights five core elements that should guide placemakers and practitioners seeking to better connect communities and climate action as the urgency and expectation to deliver climate and resilience outcomes in placemaking increases: **Engage, Educate, Elevate, Enable, Embed.**

Engage – Understand the lived experience and identify opportunities for climate solutions to address social challenges by meeting people where they are at.

Educate – Raise the awareness and profile of the importance of this work through knowledge sharing.

Elevate –Disseminate the learning; upskill and upgrade placemaking approaches.

Enable – Build capacity and enable communities to bring forward climate priorities in area planning.

Embed – Upgrade existing governance systems and partnerships, as well as current and future work streams and projects.

The thematic chapters are critical to understanding how retrofit, active travel and greening support the transition at a local level. Addressing climate change requires multiple partners and a place-based approach that ensures the interventions are appropriate for the area and are based on engagement and data. To support the scalability of the Framework, there are specific interventions set out as Opportunities for the Way Forward that are designed to guide and support other communities to consider potential options, they are considered to be multiple problem solvers that bring co benefits.

Retrofit: Domestic

- Pilot an area-based retrofit programme with low disruption, high carbon impact, and cross-tenure delivery.
- Scale up household engagement through surveys and workshops to educate, tailor solutions and build trust.
- Seek funding opportunities and unlock external grants to offer financial incentives that will support retrofit measures across all tenures with practical help now and bold community led transformation in the long term.
- Build capacity and mobilise local retrofit workforce to deliver fabric upgrades and strengthen community confidence.
- Use LAEP data to prioritise clusters of homes with poor energy ratings and high retrofit potential.
- Support the development of a community-based, one-stop shop approach for retrofit advice, grant access, and trusted contractor referrals to optimise householder engagement.
- Embed consideration of fuel poverty and housing related health issues through a cost/benefit analysis approach.

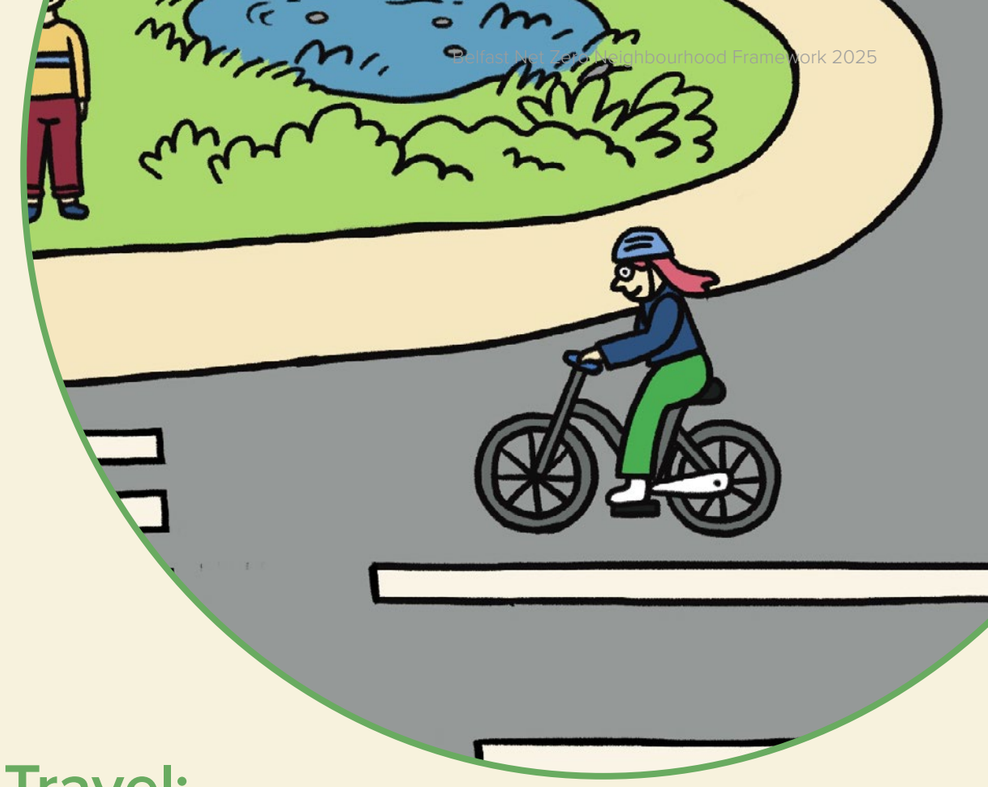
Retrofit: Public Sector

- Mandate the setting and publication of carbon baselines and reduction targets for all public bodies, with transparent reporting.
- Normalise best practice in energy auditing, metering, monitoring, and use of Building Energy Management Systems.
- Implement and publicise low carbon retrofit pilots in public buildings to demonstrate leadership and test scalable models.
- Leverage invest-to-save funding to unlock retrofit investment and long-term savings.
- Review and update standards and enforcement to support consistent delivery across public assets.
- Adoption of the NI Climate Action Plan (2023-27) will clarify the setting of climate targets and policies relating to retrofit, helping to provide the certainty needed by all stakeholders to invest in building stock, skills and development programmes, creating a significant pipeline of retrofit related woks and jobs across all sectors.

Retrofit: Commercial Sector

- Support building audits and retrofit planning through co-funding and technical guidance.
- Create a strategic energy and carbon oversight group for the city, focusing on public and commercial buildings to map out energy and carbon risks, retrofit opportunities and scaling emerging projects such as solar PV and low carbon district heating, sharing best practice and exploring opportunities to engage with long term institutional investment in low carbon retrofit programmes.
- Align low carbon retrofit with ESG and viability goals to attract investment and future-proof commercial stock.
- Explore Developer Contributions (Section 76) to fund retrofit uplift in priority areas.
- Promote uptake of retrofit standards and encourage innovation in low-carbon design.

Belfast Net Zero Neighbourhood Framework 2025



Active Travel:

Supporting behavioural change

- Engage everyone: Particularly vulnerable groups such as children and older people in shaping solutions, such as facilitating design sessions with residents to plan pedestrian zones, school streets, one-way systems, and green corridors.
- Communication: Deliver local campaigns linking health, affordability, and climate resilience with targeted messaging to promote uptake and behavioural change.
- School focus: Embed active travel into the school curriculum through Safe Routes Healthy Places Toolkit and run school audits from a child's perspective and pilot safe cycling and walking initiatives.
- Make it clear: Provide easy to understand information on how to use bikes, buses, and routes through apps, road shows and community outreach.
- Educate: On the co-benefits of active travel and green space on health and well-being, linking to parks and open spaces.

Development and Infrastructure

- Engage: Hold workshops and surveys to capture lived experience on safety, accessibility, and affordability barriers.
- Review data: Including census data, travel surveys, and local emissions reports and map current transport networks, canopy cover, and flood risk to identify inequalities.
- Make it fair: Ensure investment benefits all, supports residents to balance car needs with active travel goals.
- Make it safe: Deliver protected cycle lanes, more pedestrian crossings, speed restrictions and enforcement.
- Expand: Belfast Bikes network with new bike types (non-standard and adapted cycles) and provide inclusive secure cycle parking.
- Public transport: Improve bus routes and reliability, provide upgrades to existing bus shelters with lighting, seating, and real-time information.
- Make it accessible: Re-design large junctions with extra crossings, traffic calming and connect routes directly to local shops, schools, services, and parks.
- Green and blue: Link with green and blue infrastructure programmes to identify potential tree planting and biodiversity projects that improves the active travel experience and connects to local green spaces and services.
- Funding plan: Create a funding plan with phased delivery and clear evaluation milestones, with ring-fenced budgets for long-term maintenance of paths, cycleways, and greening.

Belfast Net Zero Neighbourhood Framework 2025

Greening:

- Listen first: Engage residents to identify greening and growing priorities, including barriers like lack of space, maintenance concerns, or safety.
- Use data to guide action: Combine community input with mapping tools (e.g., air quality, canopy cover, deprivation, flood risk) to target areas most in need.
- Create a common agenda and sense check regularly: Use needs analysis to co-design a greening vision that blends immediate action with long-term resilience and periodically review and refine with community feedback, and align with city-wide and regional strategies.
- Make it relevant and design for co-benefits: Integrate green infrastructure early in planning to support climate resilience, biodiversity, and social wellbeing and link to social outcomes, like tackling isolation, improving health, and supporting food justice, to build community wealth.

- Celebrate identity: Use greening as a canvas for art, storytelling, and pride.
- Engage all ages and abilities, including children, through tools like Safe Routes Healthy Places.
- Build local capacity together: Support Tree Wardens, Friends groups, intergenerational skill-sharing and volunteer schemes to maintain and care for green spaces such as community gardens, urban orchards, and small allotments.
- Empower through education: Use creative tools (QR codes, posters, events) to raise awareness and teach residents how to grow, care for, and value green spaces.
- Right tree, right place: Plant fruit trees, seasonal hedges, and edible planting in underused spaces like rooftops, car park edges, and street corners and in high pollution areas, using the Belfast City Council 'Tree Establishment Strategy' to guide decisions on potential planting locations, species selection and aftercare.
- Make it safe and welcoming: Improve lighting, seating, and accessibility to reduce antisocial behaviour and enhance usability.
- Think beyond planting: Embed maintenance, watering, and monitoring into contracts and budgets to protect investment.
- Stay flexible: Allow room to respond quickly to new funding, partnerships, or community ideas.
- Raise the profile to unlock resources: Link with city partners to promote the vision and identify opportunities for joint delivery and advocacy by working with Belfast City Council, NI Housing Executive, schools, and greening organisations to share land, materials, volunteers, and funding.
- Tree Planting in high-pollution areas: Prioritising tree planting in high pollution areas, using the Belfast City Council 'Tree Establishment Strategy' to guide decisions on potential planting locations, species selection and aftercare.

Image: Tree planting

08

APPENDICES

APPENDIX 1 – Power BI visualisation of UP2030 retrofit data from Belfast Local Area Energy Plan

Process – data specific to the UP2030 area was extracted from the Belfast LAEP, focusing on domestic building energy performance and condition. Power BI transformed the data into a visual format, providing maps of the existing EPC of homes as well as the potential EPC if recommendations were implemented.

Map of UP2030 Current EPC

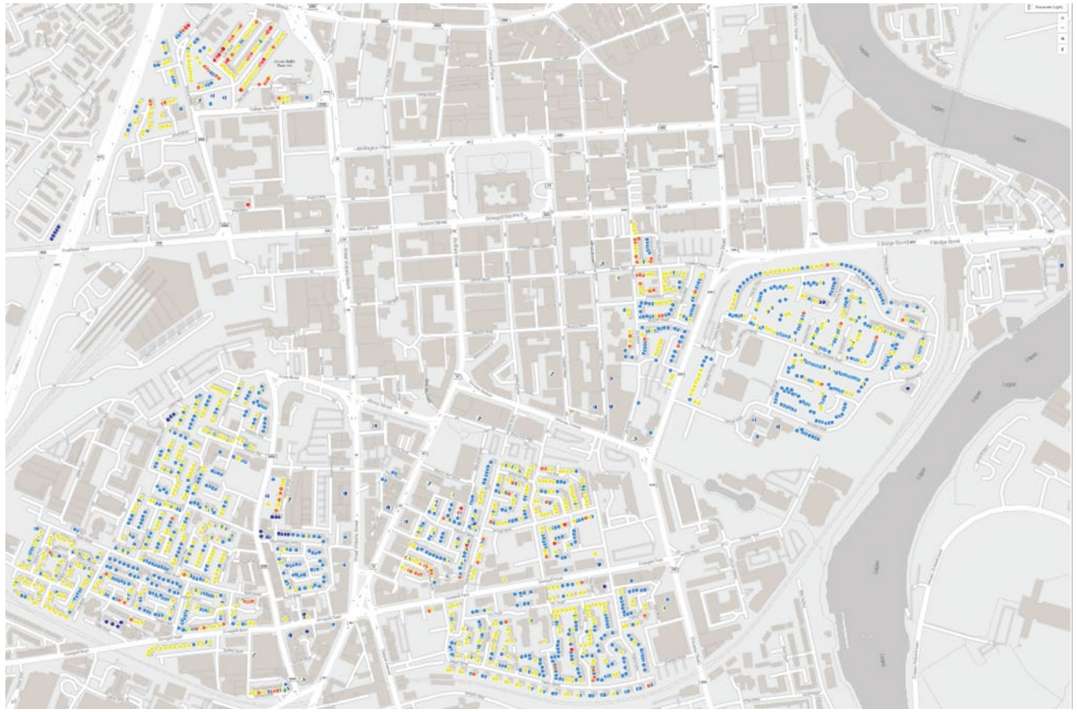


Fig 19: Current EPC rating of domestic buildings in the UP2030 area, Belfast LAEP 2024

Building	Number of Properties	Number D-G current	Number D-G potential
Flat	2,126	56%	
Terraced	1,534	40%	
Semi D	154	4%	
Detached	16	0.5%	
	3,830	100%	

Table 8: Breakdown of Housing Type by EPC rating, Belfast LAEP 2024

Properties by current EPC rating

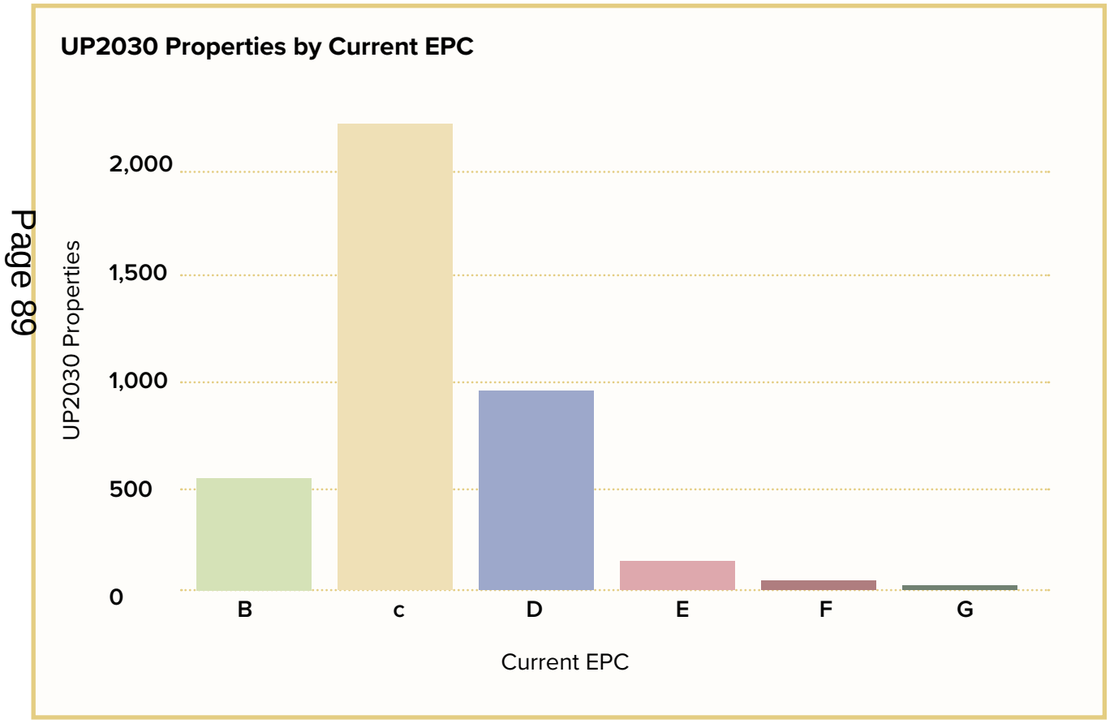


Fig 20: UP2030 area property split by EPC rating, Belfast LAEP 2024

EPC rating	A	B	C	D	E	F	G
No. of properties	0	532 (14%)	2,214 (58%)	925 (24%)	134 (3%)	24 (1%)	1 (0%)

Table 9: UP2030 area property split by EPC rating, Belfast LAEP 2024

Property type	A	B	C	D	E	F	G
Flat		893 (42%)	1,178(55%)				
Terraced		23 (1.5%	1,121 (73%)	376 (25%)			
Semi detached		7 (5%)	118 (77%)	28 (18%)			
Detached		3 (19%)	9 (56%)	4 (25%)			

Table 10: Housing type in UP2030 by EPC rating, Belfast LAEP 2024

Potential EPC rating

EPC rating	Number	%
A	0	0%
B	532	14%
C	2,214	58%
D	925	24%
E	134	3%
F	24	1%
G	1	0%
Sum	3830	100%

Table 11: EPC band split in UP2030 area by percentage, Belfast LAEP 2024

% of homes rated to be energy inefficient with EPC rating D-G	28%
% of homes with EPC rating A-C	72%

APPENDIX 2 – Safe Routes Healthy Places Belfast Toolkit

'Safe Routes, Healthy Places Belfast' is a resource co-designed by Belfast City Council, Belfast Healthy Cities, Design Clips, and Mapping for Change, aimed at helping schools create cleaner, greener, and healthier neighbourhoods through active travel. This resource invites children to actively explore and reflect on their routes to school, promoting the uptake of active travel and encouraging them to consider how climate, urban design, and placemaking can shape healthier communities.

This resource is aligned to our Healthy Transport Teaching Resource and Walking Bus Toolkit. Mapped to the NI curriculum, the Healthy Transport Teaching Resource helps children understand the broader benefits of active travel from personal health to environmental impact. While our Walking Bus Toolkit turns awareness into action, supporting more children to walk or wheel to school together.

To deepen engagement, Design Clips created child-friendly materials that encourage pupils to explore their routes to school through the lens of climate and urban design, while Mapping for Change provided digital mapping tools to help visualise and document these journeys.

All together, these resources form a structured pathway, from learning and exploration to action empowering schools to co-create safer routes and healthier places with their pupils.

For more information about walking buses, please contact info@belfasthealthycities.com

APPENDIX 3 – Belfast UP2030 Project Area: Carbon Accounting Findings

As part of the development of the Belfast Net Zero Neighbourhood Framework, University of Cambridge worked with Belfast to create a carbon accounting methodology for urban regeneration, estimating emission reductions from greening, retrofit, and mobility improvements. The workbooks developed for this study were designed specifically for Belfast using emissions data provided from a number of sources including the Local Area Energy Plan. They have helped further

our understanding of emissions activity in the area to identify actions and interventions would have the greatest impact.
If you have any queries in relation to this work, please contact: kam71@cam.ac.uk

APPENDIX 4 - The Role of Data in Net Zero and Climate Change

Through the UP2030 project, we looked at the role of data and data analytics in net zero and climate action, considering the most impactful data sources that will inform Belfast's approach and highlighting the importance of data-driven decision-making in placemaking.

09

BIBLIOGRAPHY

- Belfast City Council (2019) A Bolder Vision for Belfast. Belfast: Belfast City Council. A Bolder Vision for Belfast
- Belfast City Council (2020) Belfast Green and Blue Infrastructure Plan. Belfast: Belfast City Council. Green and blue infrastructure plan | Belfast City Council
- Belfast City Council (2020) Belfast Resilience Strategy. Belfast: Belfast City Council. Resilient Belfast | Belfast City Council
- Belfast City Council (2021) Belfast City Air Quality Action Plan 2021–2026. Belfast: Belfast City Council. Belfast City Air Quality Action Plan 2021-2026
- Belfast City Council (2021) Net Zero Carbon Roadmap for Belfast. Belfast: Belfast City Council. https://pcancities.org.uk/sites/default/files/Belfast%20Net-Zero%20Carbon%20Roadmap_0.pdf
- Belfast City Council (2023) Local Development Plan: Plan Strategy 2020–2035. Belfast: Belfast City Council.
- Belfast City Council (2022) Belfast Tree Strategy 2023-2033. Belfast: Belfast City Council. Belfast Tree Strategy
- Belfast City Council (2023) Local Area Energy Plan. Belfast: Belfast City Council.
- Belfast City Council (2023) Tree Establishment Strategy. Belfast: Belfast City Council. Further information available on request: wru@belfastcity.gov.uk
- Belfast City Council (2024) Segregation and Environment – Breaking Down Barriers. Belfast: Belfast City Council.
- Belfast City Council (2024) The Belfast Agenda 2024–2028. Belfast: Belfast City Council.
- Belfast City Council (2025) Safe Routes Healthy Places Toolkit. Belfast: Belfast City Council.
- British Red Cross (2023) Vulnerability and Resilience: Public awareness and perceptions of flood risk in the UK London, British Red Cross
- Carbon Trust (2020) Mini Stern for Belfast. London: Carbon Trust.
- Climate Outreach (2020) Talking Climate Handbook: How to have a climate change conversation.
- Committee on Climate Change (2019) Net Zero: The UK's Contribution to Stopping Global Warming. London: CCC.
- Connswater Community Greenway Trust (2017) Connswater Community Greenway Evaluation Report. Belfast: EastSide Partnership.
- Department of Agriculture, Environment and Rural Affairs (DAERA) (2021) Northern Ireland Climate Change Adaptation Programme 2019–2024. Belfast: DAERA.

- Department for Communities (2024) Climate Action Plan 2024–25. Northern Ireland: Department for Communities.
- Department for Energy Security and Net Zero (2024) Reforms to the Energy Performance of Buildings regime. London: DESNZ.
- Department for Infrastructure (2023) Eastern Transport Plan 2035. Northern Ireland: Department for Infrastructure.
- Department for Infrastructure (2025) Flood Maps NI. Available at: https://www.infrastructure-ni.gov.uk/topics/flood-maps-ni
- Department for Infrastructure (2025) Travel to and from School in Northern Ireland 2023/24: Press Release.
- Department for the Economy, Green Skills Action Plan (2025) Northern Ireland: Department for the Economy.
- Energy Systems Catapult (2024) Local Area Energy Planning: Belfast. Birmingham: Energy Systems Catapult.
- European Commission (2022) Horizon Europe: Urban Planning 2030 (UP2030). Brussels: European Commission.
- Green City Solutions (2024) Executive Booklet, Citytree. Bestensee, Germany
- Intergovernmental Panel on Climate Change (IPCC) (2018) Special Report: Global Warming of 1.5°C. Geneva: IPCC.
- Intergovernmental Panel on Climate Change (IPCC) (2023) Climate Change 2023: Synthesis Report. Geneva: IPCC.
- Keep Northern Ireland Beautiful (2023) Climate Literacy Programme. Belfast: KNIB.
- Landscape Institute (2019) Green Infrastructure: An Integrated Approach to Land Use. London: Landscape Institute.
- National Audit Office (NAO) (2023) Resilience to flooding. Available at: https://www.nao.org.uk/wp-content/uploads/2023/11/Resilience-to-flooding-.pdf
- Northern Ireland Assembly (2022) Climate Change Act (Northern Ireland) 2022: Northern Ireland Assembly
- Northern Ireland Assembly (2024) The Climate Change (Carbon Budgets 2023-2037) Regulations: Northern Ireland
- Northern Ireland Audit Office (2025) Active Travel in Northern Ireland. Available at: NI Audit Office Report - Active Travel in NI_0.pdf
- Northern Ireland Environment Link (2023) The Future of Northern Ireland's Urban Green Spaces: Vision and Routemap. Belfast: NIEL.
- Northern Ireland Statistics and Research Agency (NISRA) (2024) 2024 Mid-Year Population Estimates. Available at: https://datavis.nisra.gov.uk/population/2024-mid-year-estimates-for-northern-ireland.html
- Office for National Statistics (ONS) (2023) Excess mortality during heat-periods: England and Wales. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/excessmortalityduringheatperiods/englandandwales1juneto31august2022
- Queen's University Belfast (QUB) (2018) Connswater Community Greenway: Final Evaluation Report. Belfast: Queen's University Belfast. Available at: https://www.eastsidepartnership.com/news/research-reveals-impact-ccg (Accessed: 23 October 2025).
- Royal College of Physicians (RCP) (2025) A breath of fresh air: responding to the health challenges of modern air pollution. Available at: https://www.rcp.ac.uk/policy-and-campaigns/policy-documents/a-breath-of-fresh-air-responding-to-the-health-challenges-of-modern-air-pollution/
- Translink (2022) Climate Positive Strategy. Belfast: Translink.
- University of Cambridge (2024) Urban Regeneration Carbon Accounting: Methodology. Cambridge: University of Cambridge (For further information, see Appendix 3)
- University of Lancaster (2020) The Role of Deliberative Public Engagement in Climate Policy Development. London: Committee on Climate Change.
- Useful Projects & Northern Ireland Environment Link (2023) Belfast Environmental Justice Index. Belfast: NIEL.
- Vrije Universiteit Brussel & Centre for Research and Technology Hellas (2024) Neutrality Story Maps: UP2030 Project Tool. Brussels: VUB.
- Wheels for Wellbeing (2025) A Guide to Inclusive Cycling (5th edn.). London: Wheels for Wellbeing
- World Resources Institute (2018) Unlocking the Inclusive Climate Economy in Cities. Washington, DC: WRI.

Belfast Net Zero Neighbourhood Framework 2025

10

LIST OF FIGURES AND TABLES

Figures:

Tables:

Acknowledgements

UP2030 Belfast Acknowledgements

There have been many stakeholders and contributors to this project both near and far that have shaped our learning and this framework, we are grateful for your time, input, thoughtful feedback and stimulating discussions – including:

Liaison Partner: Mapping for Change

UP2030 project Partners
Design clips
Resilient Cities Network
University of Cambridge
UP2030 project Partners
VUB (Vrije Universiteit Brussel) & CERTH (Centre for Research & Technology Hellas)

Community
Belfast South Alternatives Youth Group
Belfast South Community Resources
Belfast Youth Climate Commission
Belfast Youth Council
Donegall Pass Community Forum
Donegall Pass Primary School
Donegall Pass Seniors Group
Falls Residents' Association
Market Development Association
Residents for the UP2030 project area that attended workshops over the course of the project
Residents of John Street and Hamill Street
St Malachy's Primary School
Translink Youth Forum

City Stakeholders
Belfast City Council departments
Belfast Health and Social Care Trust
Belfast Healthy Cities
Belfast Healthy Cities: Greening the City Advisory Group
Belfast Hills Partnership
Belfast Retrofit Delivery Hub
Climate NI
Cycling UK
Department for Agriculture, Environment and Rural Affairs
Department for Communities
Department for Infrastructure
Eastside Partnership
Forward South
Linen Quarter BID
Northern Ireland Housing Executive
Public Health Agency
Queen's University Belfast
Social Farms & Gardens
Translink
Ulster University
Walk Wheel Cycle Trust, formally known as Sustrans
West Belfast Partnership Board

This document was designed by Marssaié Studio.

Disclaimer

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the EUROPEAN UNION or the EUROPEAN CLIMATE, INFRASTRUCTURE AND ENVIRONMENT EXECUTIVE AGENCY (CINEA). Neither the European Union nor the granting authority can be held responsible for them.

The content, format, citations, and sources presented in this report are the sole responsibility of the author. While efforts have been made to ensure the accuracy and reliability of the content presented, there may be gaps in the information provided, or the information may become outdated over time. Readers are encouraged to independently verify any information presented in this report to ensure its accuracy and relevance to their specific needs or circumstances.

Copyright message

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both. Reproduction is authorised provided the source is acknowledged.

This project is funded by Innovate UK, part of UK Research and Innovation, under the UK Government's Horizon Europe Guarantee (grant number 10078936).

This page is intentionally left blank

Safe Routes Healthy Places Belfast

UP2030 Co-funded by the European Union
Belfast City Council
Belfast Healthy City
Design Clips
mapping for change

Safe Routes, Healthy Places, Belfast

enabling the children's perspective

Safe Routes, Healthy Places, Belfast

enabling the children's perspective

Contents

1 Introduction

1 Introduction

The ‘Safe Routes, Healthy Places, Belfast’ is a toolkit to reimagine urban spaces, particularly streets, as places that prioritise children’s safety, health and well-being, through their perspectives. ‘Safe Routes, Healthy Places, Belfast’ approach builds on the Urban Childhoods Study[1] and Resilience Strategy[2] and recognises children as equal citizens, encouraging their participation in shaping our communities. ‘Safe Routes, Healthy Places, Belfast’ provides activities and tools to meaningfully engage primary school children with their neighbourhood, by enabling safe routes to schools and creating an opportunity for children to observe and reflect on the design of their neigbourhood streets. By involving children in urban design, we can improve streets that are safe, enjoyable, and accessible for everyone.

Why Child-Friendly Streets and Cities matter?

Children see and experience the world differently from adults. Including their perspectives in urban planning helps to create streets that are safer, more playful, and easier to explore. However, children’s voices are often missing from design decisions, despite their rights being recognised by the United Nations. ‘Safe Routes, Healthy Places, Belfast’ aims to help bridge that gap, providing tools and activities for including children’s voices in the co-design process. By actively engaging children in the design and planning process, we can create public spaces that accommodate their unique spatial and developmental needs, while ensuring an inclusive city for all the ages and needs.

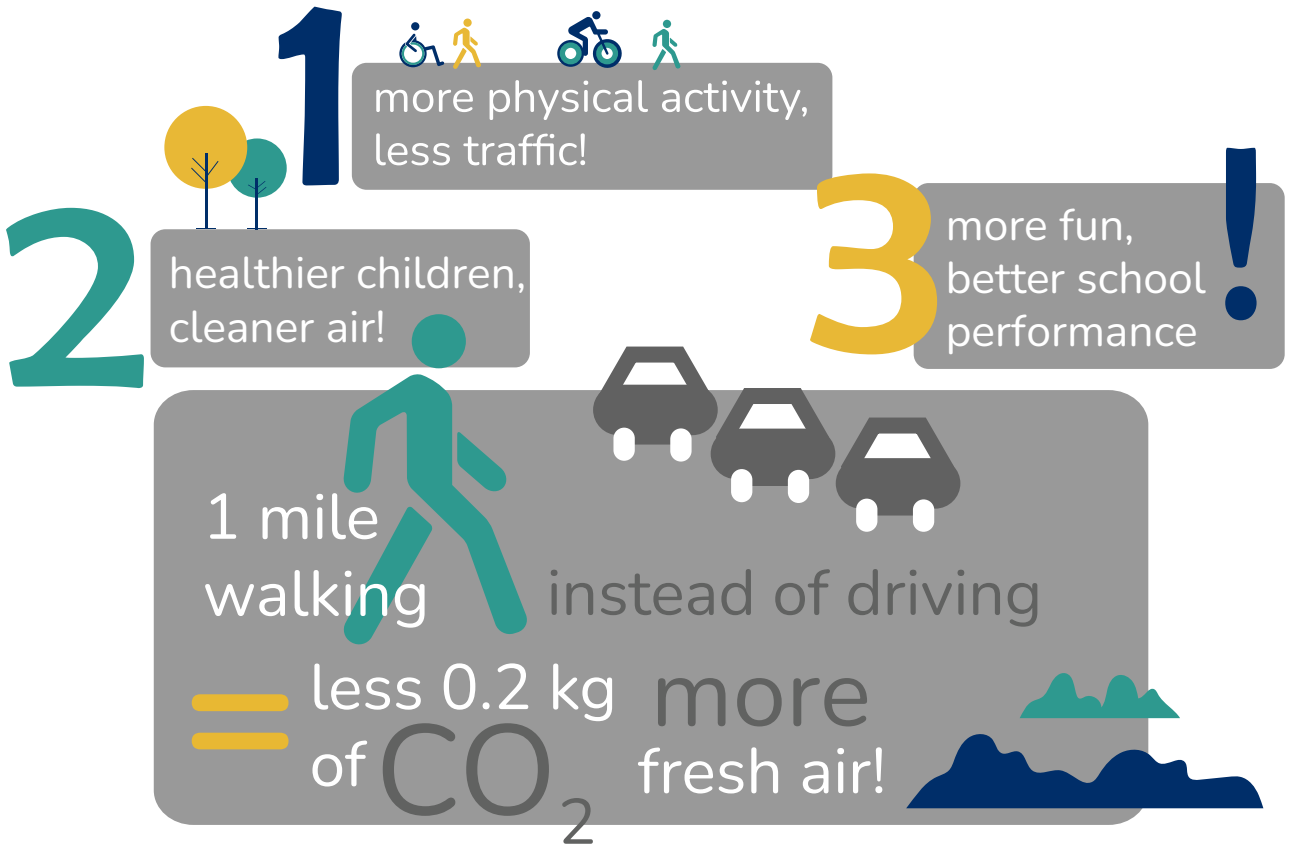
> “If you design a street that works for kids, you design a street that works for everyone. If you can change the street, you can change the world.”
>
> Janette Sadik-Khan

1 A framework and design strategy to create a more healthy, inclusive and child-friendly city centre in Belfast was developed by Arup. Learn more here.

2 The strategy’s overall mission is to transition Belfast to an inclusive, low-carbon, climate-resilient economy. Learn more here.

Why Safe Routes, Healthy Places ?

Walking or wheeling[3] to school brings a range of benefits to children, including improved physical health, mental well-being, and cognitive performance. Active school travel benefits the wider community, boosts the local economy, strenghtens social cohesion by reducing traffic, improving air quality and fostering stronger connections between neighbours. Safe routes are essential to encourage more children to walk or wheel, while healthy places make it easier to be physically active, and provide attractive environments that can connect children with local biodiversity. The 'Safe Routes, Healthy Places Belfast' toolkit provides tools to identify and improve these routes, creating healthier, happier communities.



3 "Wheeling" refers to the act of traveling using wheels other than bicycles, including prams, pushchairs, wheelchairs, or other mobility aids.

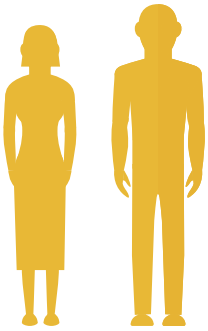
How this toolkit links to Net Zero Neighbourhood for Belfast

Belfast City Council declared a Climate Emergency in 2019, and has been working to make climate resilience a priority for the city. The UP2030 project involves Belfast City Council working with other cities to create a Net Zero Neighbourhood framework. The 'Safe Routes, Healthy Places, Belfast' toolkit supports this vision for children to walk or wheel to school. These routes reduce car use, improve air quality, and make neighbourhoods healthier for everyone.

'Safe Routes, Healthy Places, Belfast' is based on Child & Youth Friendly Urban Design toolkit , developed by Design Clips, urban design specialists in child-friendly cities and children's participation in citymaking process.

children

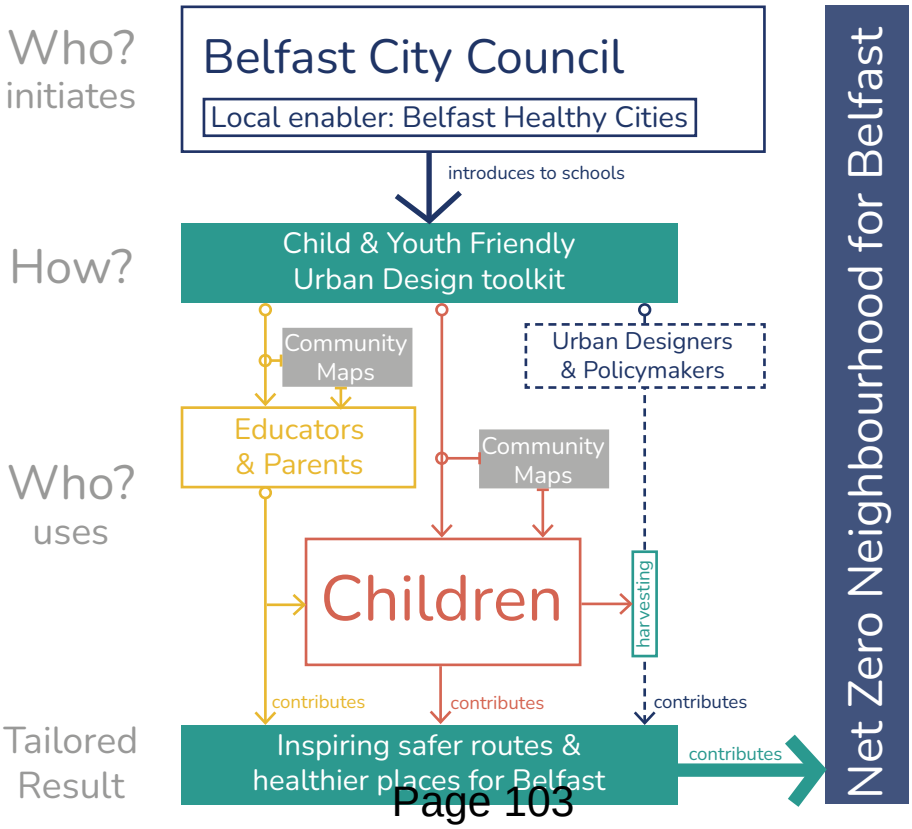
Child-orientated ROUTE assessments



educators & parents

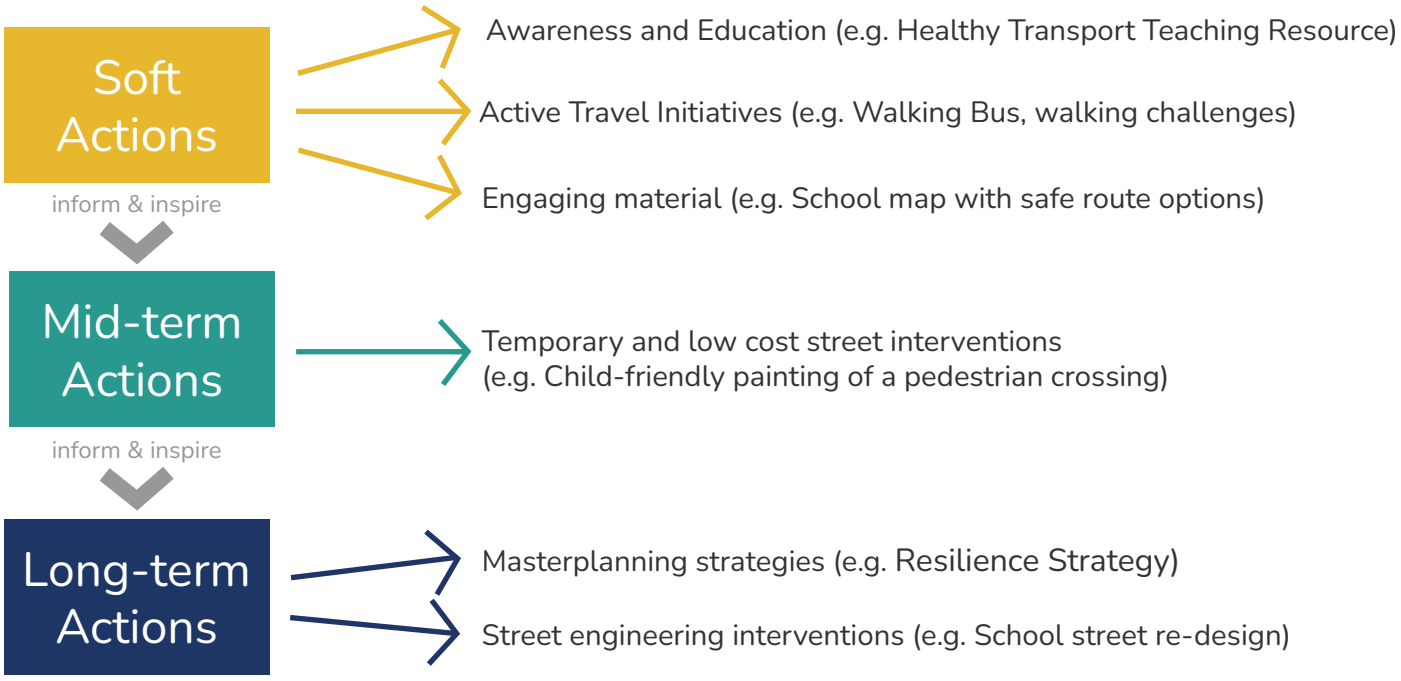
CHECKLISTS for child-friendly routes

For the case of 'Safe Routes, Healthy Places, Belfast' the toolkit is focusing on street level, including tools and activities tailored to age, needs and characteristics of primary school children. The activites and tools are designed to successfully guide educators and parents in selecting safe routes for children as well as to meaningfully engage children in route and street assessment. Finally, the activities aim to inspire urban designers and policymakers for future urban regeneration projects towards safer routes and healthier places for Belfast. As part of the toolkit a Digital Community Maps tool by Mapping for Change is included to enrich the participatory process with a digital option that enables the creation of a safe route map archive.

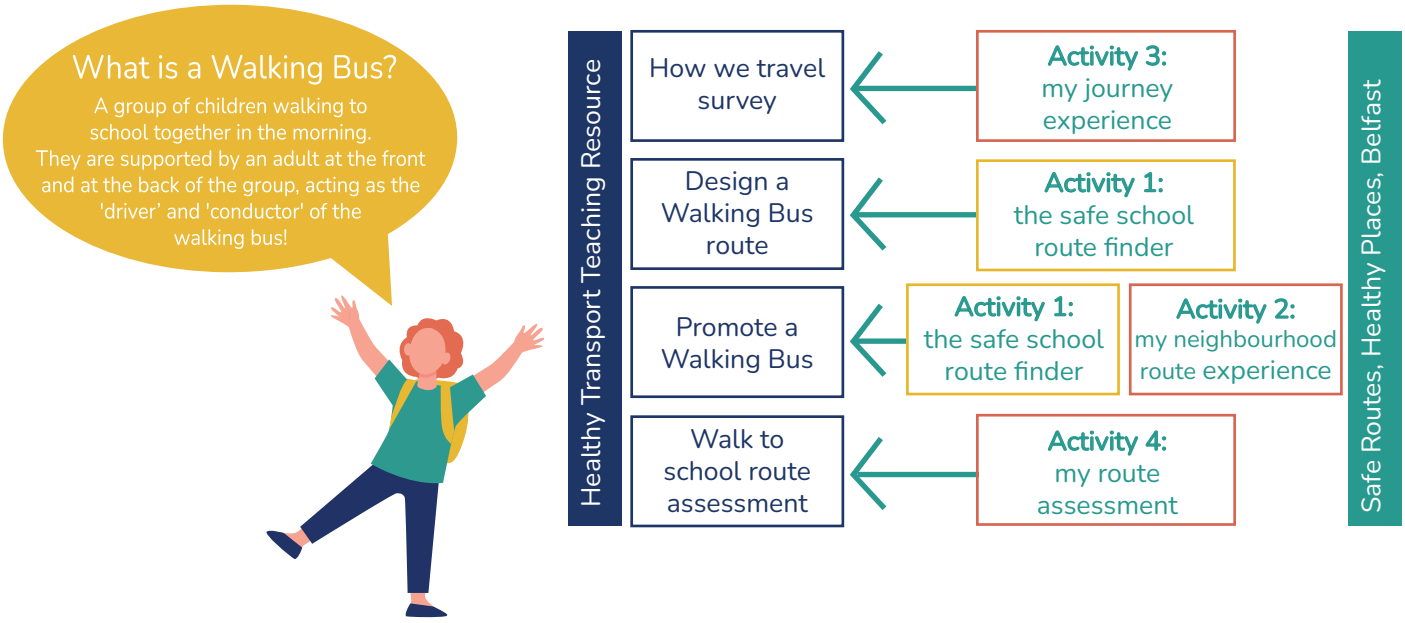


Levels of Action !

‘Safe Routes, Healthy Places, Belfast’ lays the foundation for action and could inspire future initiatives in Belfast that promote sustainable mobility and urban greening. This toolkit is part of a wider effort to create safer routes and healthier places for Belfast that may include both short-term (e.g. awareness lessons, etc.) and long-term activities (e.g. improvement of street design, etc.). Short-term actions can serve as quick wins to engage more children in walking and wheeling to school, while long-term efforts will create a safer environment that enables a sustainable and lasting change for the future. Together these actions aim to encourage more children to walk and wheel to school, reducing air pollution and creating vibrant, attractive neighbourhoods where everyone can live and thrive.



In the case of the Healthy Transport Teaching Resource by Belfast Healthy Cities, the 'Safe Routes, Healthy Places, Belfast' toolkit provides specific tools and activities to incorporate child-friendly urban design elements into route selection and to enable children to share their perspectives on urban design. These activities are supplementary, aiming to enrich the teaching resources and support the walking bus initiative, as illustrated in the following diagram:



The following matrix illustrates who may initiate each of the different activities, as well as the level of effort and resources each may require. It is intended to support local enablers and facilitators in selecting the activities that best fit their specific context:

Activity	Who initiates/ facilitates the activity				Aspects to consider					
	Educator	Parent Association	Local organization / NGO	Designer	Location: indoor / in classroom	Location: outdoor / on site	Time*	Level of Effort	Level of impact	Level of children's participation
Safe school route finder	●	●	●			●	●○○	●○○	●●●	○○○
My journey experience	●		●	●	●		●○○	●○○	●○○	●●●
My neighbourhood route	●		●	●		●	●●○	●●○	●●○	●●●
My route assessment	●		●	●		●	●●●	●●●	●●●	●●●

EFFORT / RESOURCES: LOW → HIGH

Time: refers to the activity duration - actual time of participants' engagement

The next section presents the campaign materials created to support the Walking Bus initiative.

Did you know

that walking & wheeling to school has multiple benefits for children, their families & the neighbourhood

Safe Routes Healthy Places Belfast

Belfast City Council and Belfast Healthy Cities are exploring how to make our neighbourhoods cleaner, greener and healthier places. We are piloting a Walking Bus to get more children walking and wheeling to school.

1 more physical activity, less traffic!

2 healthier children, cleaner air!

3 more fun, better school performance!

Make it EASY for ALL children

Transforming morning run to school into a FUN activity with family & friends

Awareness activities

Active travel initiatives

Co-creating HEALTHY neighbourhoods

Street audits

Safe streets

UP2030 Co-funded by the European Union Belfast City Council Belfast A World Health Organization Healthy City Design Clips mapping for change

Safe Routes Healthy Places Belfast

Belfast City Council and Belfast Healthy Cities are exploring how to make our neighbourhoods cleaner, greener and healthier places. We are piloting a Walking Bus to get more children walking and wheeling to school.

Are you interested?

Get your school involved to help more primary school children walk & wheel to school, creating safer streets, cleaner air, and a healthier community for everyone!

- ☑ Get involved! Let us know your school wants to participate by contacting _____
- ☑ Receive the Healthy Transport teaching resources, the Walking Bus toolkit & the Safe Routes, Healthy Places Belfast toolkit
- ☑ Explore the resources and get started on your walking bus.
- ☑ Teach children awareness of their neighbourhood and how to make streets child-friendly

What is a walking bus?

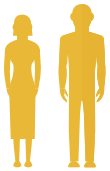
A group of children walking to school together in the morning. They are supported by an adult at the front and at the back of the group, acting as the 'driver' and 'conductor' of the walking bus!

UP2030 Co-funded by the European Union
Belfast City Council
Belfast Healthy City
Design Clips
mapping for change

2 Participatory Activites

2 Participatory Activities

The activities are designed to accommodate your school's needs and adapt to your resources. Using the 'Safe Routes, Healthy Places, Belfast' toolkit, you can conduct some or all of the activities to support your students in walking and wheeling to school, while meaningfully engaging them in sharing their travel experiences and perspectives on the street design of their neighbourhood.



Activity 1: the safe school route finder

Activity 2: my neighbourhood route

Activity 3: my journey experience

Activity 4: my route assessment

Tip:

To ensure that all activities respect participating children and their legal guardians, we recommend that facilitators collaborate closely with the school to align the proposed activities with EU and national legal and ethical requirements. Please also ensure full compliance with the EU General Data Protection Regulation (GDPR) and relevant national data protection laws. When taking photos or recording videos during workshops or activities, be especially cautious to avoid capturing or sharing identifiable images of children, including their faces.

Activity 1: the safe school route finder

Who uses the tools?

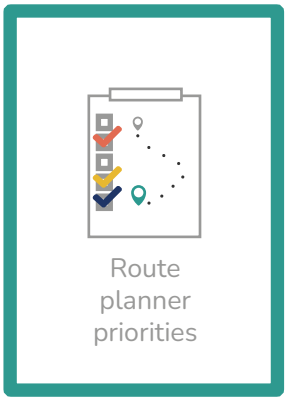
Educators/ Parents

Scope:

The 'Safe school route finder' activity can help parents or educators design a child's school route or a Walking Bus route, by guiding them and ensuring that urban street features along the selected route provide an accessible, safe, and pleasant route. This will lead to successful and positive walking experiences. Alternatively, this activity can be used by adults to find the most accessible and safe route for any other initiative involving children.

Tools:

Please see p. 14



Please see p. 16

Extra materials:

You will need to be either on site to assess the route or use a street view on a digital map, such as Google maps.

Preparatory steps:

Consider few alternative routes before the activity.

Activity steps:

1. Select a possible route based on the 'Criteria for Child-Friendly Routes' tool, then use the 'Route Planner Priorities' tool to ensure the route meets the criteria.
2. If the first option does not meet the Essential and Desirable criteria, select another route and repeat step 1.
3. If there are multiple routes that meet the Essential and Desirable criteria, choose the one with the most Nice-to-Have criteria.

Output: An accessible, safe and pleasant route for everyday walking to school, a safe route option for a Walking Bus or a similar initiative.

Next steps: You can use Safe Routes, Healthy Places, Belfast, a digital Community Mapping tool by Mapping for Change, to map your route and the character of the places along the route. By documenting safe routes on the digital map the aim is to create a safe route options archive to inspire and enable more children to walk and wheel.

Activity 2: my neighbourhood route

Who uses the tools?

Facilitator: Educator/ Urban Designer

Participants: Children (9-11 years old)

Time: 15-45 minutes (on site)

Scope:

'My school route' activity uses the 'Route experience mapping tool' which provides children with a key for mapping their actual route and share their travel experience along their everyday route to school.

Tools:

Route experience mapping tool

Please see p. 25

Digital Community Maps tool

Please see p. 18

Extra materials:

If you prepare a hard copy option, you will need a base map and coloured pens/ pencils, based on the 'Route Experience mapping tool' key. Alternatively, you can use the digital Community Maps tool Safe Routes, Healthy Places, Belfast on tablets.

Preparatory steps:

Print out the 'Route experience mapping tool' and a base map or find a tablet for each participant.

Activity steps:

1. Get out on site and follow the actual route to school.

2. Follow the Route experience mapping tool key and map the route accordingly.

Output: Children's actual route, their experience, and the number of crossing points

Next steps: The outputs of this activity can be used by parents and educators to support the Safe Routes, Healthy Places Belfast archive that could be used by the school other parents for future route selections, according to Activity 1. Additionally, the data that will be collected during Activity 2 can be used by urban designers to help them understand the existing conditions of the built environment, providing valuable insights for future regeneration projects.

Activity 3: my journey experience

Who uses the tools?

Facilitator: Educator/ Urban Designer

Participants: Children (8-10 years old)

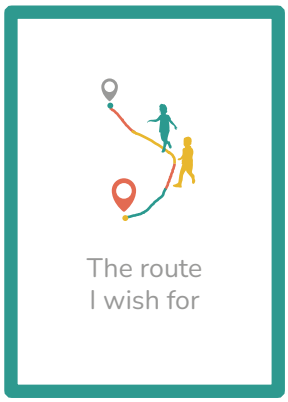
Time: 20-45 minutes (in the classroom)

Scope:

'My journey experience' activity helps children reflect on their daily journeys and reimagine their neighbourhood streets.

Tools:

Please see p. 20



Please see p. 23

Extra materials:

You only need pens and pencils.

Preparatory steps:

Print out the 'Route storytelling' and 'The street I wish for' tools.

Activity steps:

1. Begin with the 'Route storytelling' tool, giving students 20 minutes to reflect on their journey to school and write what they like and dislike along the way. Encourage them to recall their morning (or most recent) journey to help visualise their experiences.

2. Next, use 'The route I wish for' tool to help students reimagine and draw their ideal journey experience. Ensure step 1 is completed first as a warm-up activity before asking them to draw a dream route.

Output: Children's route experiences and their expectations for a dream route.

Next steps: The data collected during Activity 3 can be used by urban designers to help them understand a. the existing conditions of the built environment as well as b. children's preferences and expectations; and inspire future regeneration projects.

Activity 4: my route assessment

Who uses the tool?

Facilitator: Educator/ Urban Designer

Participants: Children (10-11 years old)

Time: 30-60 minutes (on site)

Scope:

'My route assessment' activity aims to provide children with tools to observe and assess their neighbourhood streets.

Tools:

Route Survey

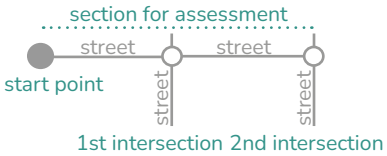
Please see p. 28

Extra materials:

You will need a pen/ pencil.

Preparatory steps:

Divide the route into sections. Each section should be defined between 2 intersections.



Decide how many sections to assess, depending on the route's length and availability of time. Print multiple worksheets if you are assessing more than one section.

Activity step:

1. Get out on site and use the 'Route Survey' tool to assess the route/ parts of the route.

Output: Children's assessment of their route and needs for street improvements.

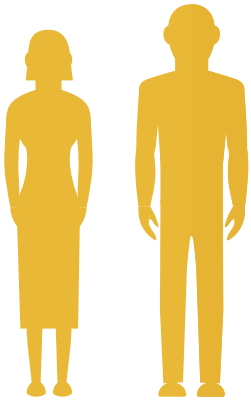
Next steps: The data collected during Activity 4 can be used by urban designers to help them understand the existing conditions of the built environment through children's experiences and perspectives. Their input may highlight priorities that need attention in their neighbourhood streets and inspire future regeneration projects.

3 Participatory Tools

3 Participatory Tools

The following tools are designed to support adults—including parents, educators, urban designers, and policy makers—in encouraging more children to walk and wheel to school through active travel and greening initiatives. They also enable children to share their travel experiences and perspectives on their neighbourhood streets.

If you are an adult:



Criteria for child-friendly routes

Route planner priorities

Digital Community Maps tool

by Mapping for Change

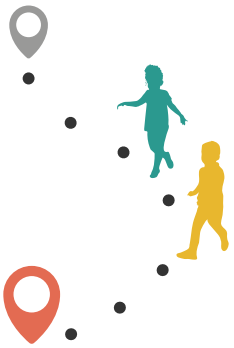
If you are a child:

Route storytelling

The Route I Wish For

Route experience mapping tool

Route Survey



Criteria for child-friendly routes

Criteria for child-friendly routes

A child-friendly route should be safe, pleasant, and easy to travel.

Use the checklist below to describe the route:

Active travel & safety features

- [ ] wide footpath
- [ ] greenway
- [ ] well-maintained pavement
- [ ] ramps
- [ ] footpath lights (or street lights illuminating the footpath)
- [ ] zebra/ pelican crossing
- [ ] traffic lights
- [ ] low-traffic street (ideally a narrow or one-way street)
- [ ] cycling path
- [ ] bus stop(s)
- [ ] low levels of urban noise (such as roadworks, railways, etc)
- [ ] absence of litter, broken glasses, dog waste

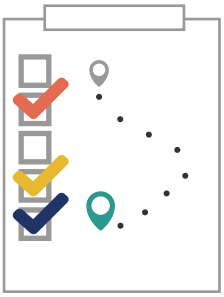
Natural features

- [ ] trees, plants, gardens
- [ ] river, seafront or a pond
- [ ] birds, butterflies or other wildlife

Places to be and meet others

- [ ] green space
- [ ] park, field or a playground
- [ ] parklet/ benches/ bins
- [ ] local shop(s)
- [ ] community/ leisure centre

UP2030 Co-funded by the European Union



Route planner priorities

Route planner priorities

Please keep in mind that you will have to tick all the boxes in the Essential category, at least one box in each column of the Desirable category, and optionally as many boxes as possible in the Nice-to-Have category to ensure a safe and pleasant route.

Essential

- [ ] wide footpath along the whole route
- [ ] well-maintained pavement along the whole route
- [ ] ramps along the whole route
- [ ] (if travelling in dark) footpath lights (or street lights illuminating the footpath)

Desirable

- [ ] zebra/ pelican crossing
- [ ] traffic-lights
- [ ] low-traffic road
- [ ] trees, plants or gardens
- [ ] a river, seafront or a pond
- [ ] birds, butterflies or other wildlife

Nice-to-have

- [ ] low levels of noise (such as roadworks, railways etc)
- [ ] a greenway or a green space
- [ ] a park, field, or a playground
- [ ] cycle parking/ benches/ bins
- [ ] a local shop (avoid if along busy/ polluted street)
- [ ] community/ leisure centre (avoid if along busy/ polluted street)
- [ ] cycling path
- [ ] bus stop (s)

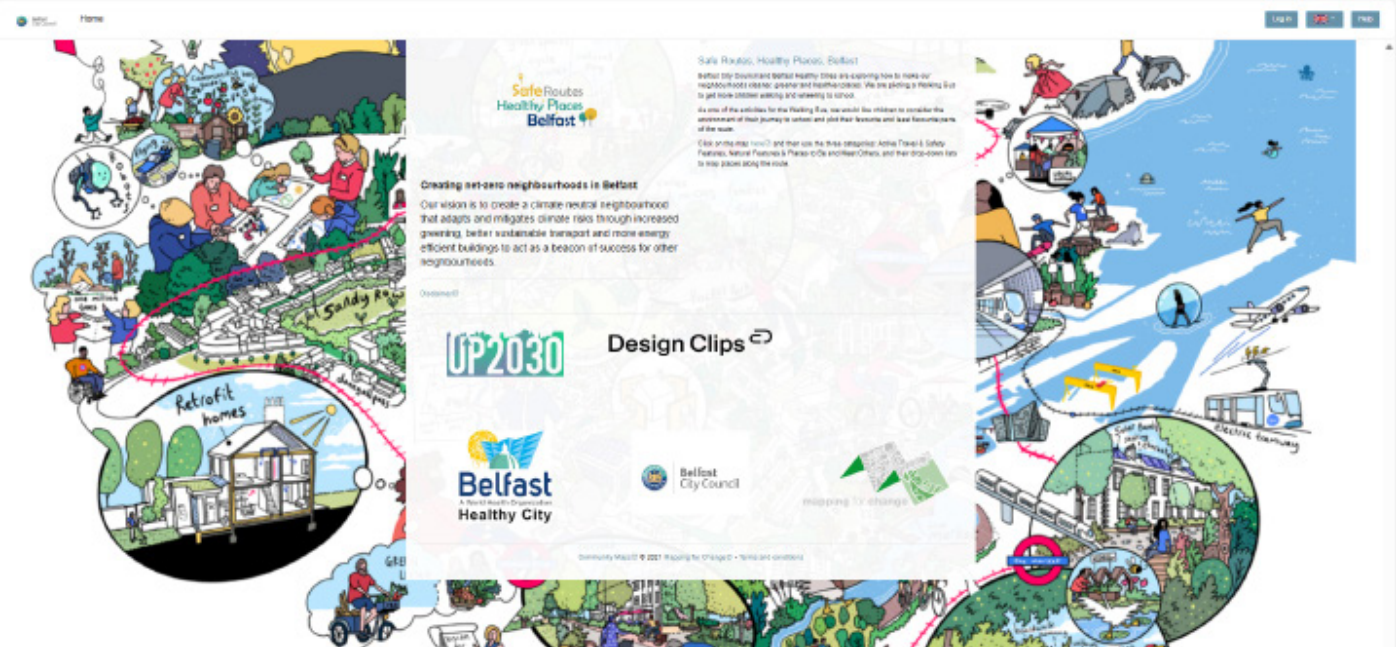
UP2030 Co-funded by the European Union

Digital Community Maps tool

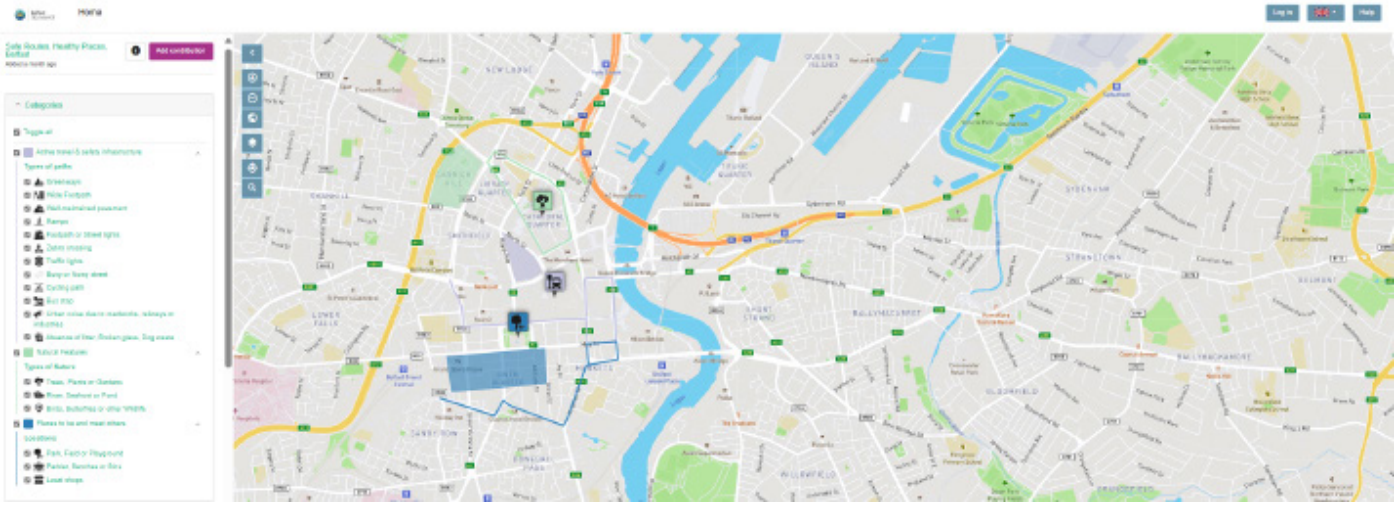
by Mapping for Change

Digital Community Maps tool

You can access the digital Community Maps at
https://up2030belfast.communitymaps.org.uk/welcome

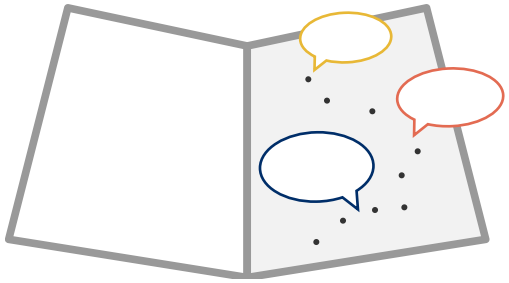


Click on the map and then use the three categories:
Active Travel & Safety Features, Natural Features & Places to Be and Meet Others,
and their drop-down lists to map a route and places along the route.



Additionally, you can use images, videos or audio stories to capture your experience.
Additional instructions are available here or you can watch a tutorial video here.

UP2030 Co-funded by the European Union



Route storytelling

my name:

This morning on my way to school...

Your positive experiences can inspire designers to make routes even safer! By sharing what you enjoy about walking or wheeling, you can help more children walk & keep our air cleaner

I liked to hear

.....

.....

I liked to see

.....

.....

I really enjoyed seeing

.....

UP2030 Co-funded by the European Union

This morning on my way to school...

Your negative experiences can help designers to create better paths so more children can walk & wheel and we can all breathe cleaner air

I didn't like to see

.....

.....

I didn't like to hear

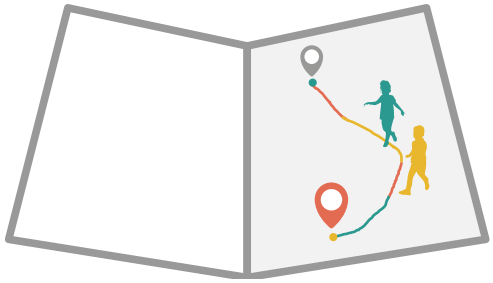
.....

.....

.....

made my trip less pleasant.

UP2030 Co-funded by the European Union

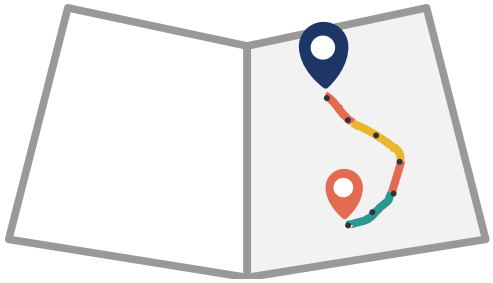


The route
I wish for

Imagine your perfect street, one you'd love to walk or wheel along every day on your way to school. Draw your dream street here and inspire designers to create spaces that help more children travel safely while keeping our air cleaner.

The route I wish for

Co-funded by the European Union



Route experience mapping tool

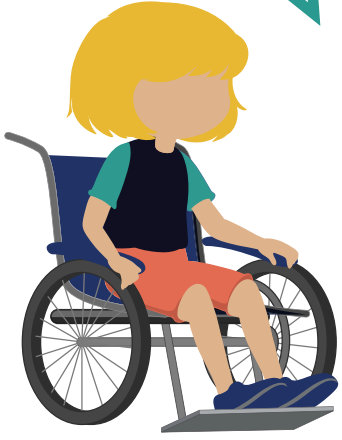
Route experience mapping tool

Use the symbols, colours, and numbers below to map your route and help designers to understand what you need and how you see things when walking or wheeling to school, to design safer streets and healthier places

The Key

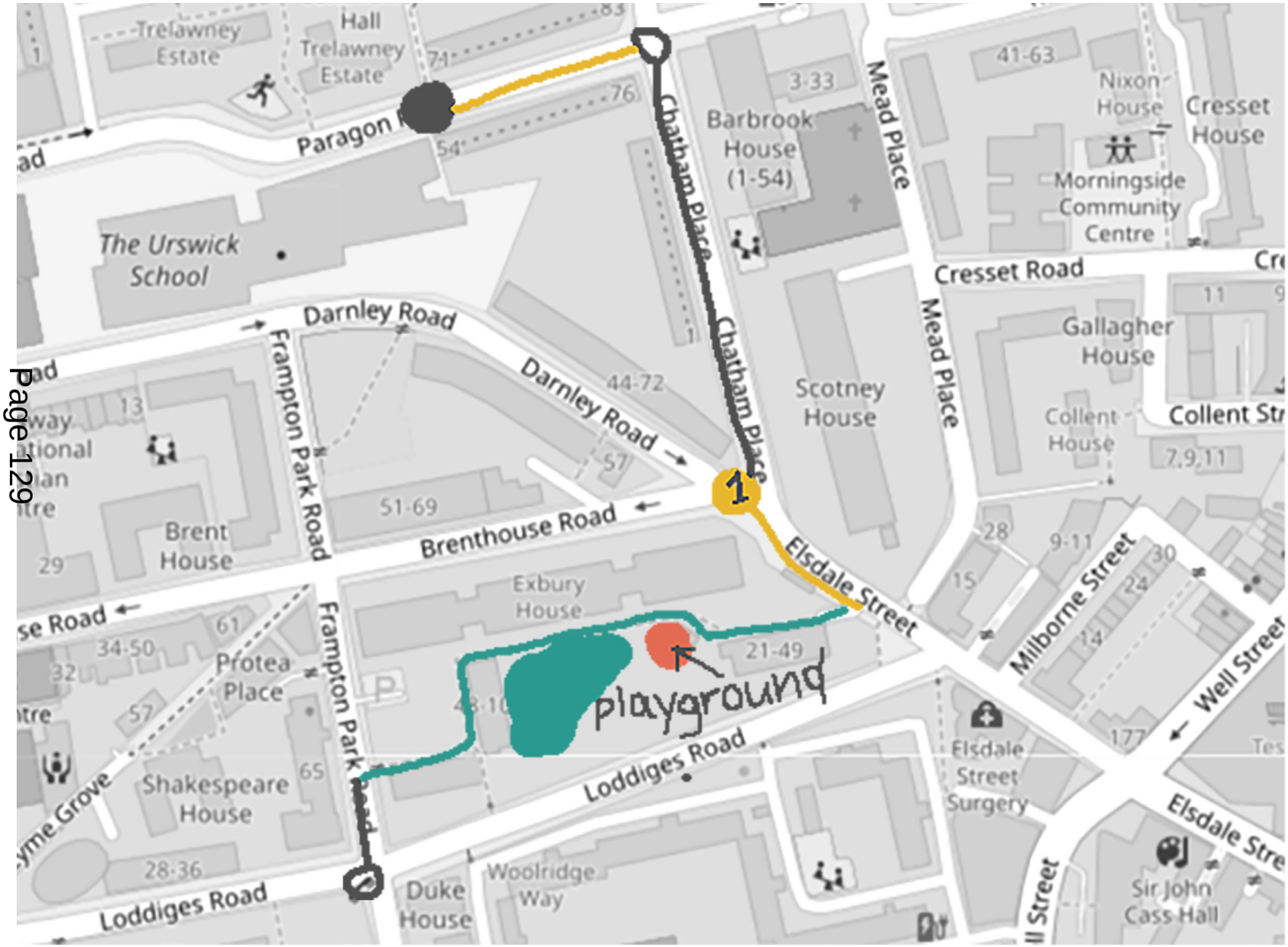
- start point
- end point
- direction change
- route
- safe route
- green route
- safe crossing
  - 1 zebra/ pelican crossing
  - 2 traffic lights
  - 3 lollipop person
- green space
- blue spaces
- social places
  - 1 local shop(s)
  - 2 community centre
  - 3 leisure centre

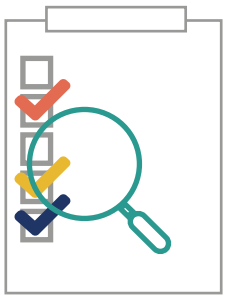
Do you have any extra comments? Please keep notes here:



UP2030 Co-funded by the European Union

An example map:





Route survey

Route survey

Use each worksheet to assess the three categories:

Travel Path

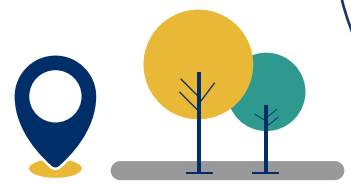
Nature

Places

from your unique perspective !

Travel

Let's explore the path for safer, greener & more child-friendly neighbourhoods! Together, we can help reduce air pollution and create routes where everyone can breathe fresh air



Nature

Places

Usability

Steps

> First check the box if you can see any of the features in the list

> Then score each question
3, if you agree
1, if you are so-so
0, if you disagree

> At the end, add up all your scores to get the total for each category. 16/24

Travel Path

Can you see any (please tick) :

	yes	so-so	no
☐ Footpath			
Is it wide enough?	3	1	0
Is the pattern of the pavement fun?	3	1	0
☐ Cycling lane			
Do you think it will be easy to cycle here?	3	1	0
☐ Street lights			
Do they shed light on the path?	3	1	0
☐ Zebra/ pelican crossing			
Do they have ramps?	3	1	0
Is it short enough to cross safely?	3	1	0
☐ Traffic lights or lollipop person			
Do they provide enough time to cross safely?	3	1	0
☐ Cars or street works			
Is it a quiet street?	3	1	0

keep some notes here:

Total score for Travel Path

How could your journey to school be safer?

UP2030 Co-funded by the European Union

Nature

Can you see any (please tick):

	yes	so-so	no
☐ Trees			
Do they make you feel nice?	3	1	0
☐ Plants or flowers			
Do you think they are well-maintained?	3	1	0
☐ Water feature			
Do you like it?	3	1	0
☐ Wildlife			
Does it make you happy?	3	1	0
☐ Downhills/ Uphills			
Do you think they are fun?	3	1	0
Can you smell the fresh air	3	1	0

Can you hear any (please tick) :

☐ Any birds			
Do you enjoy this?	3	1	0
☐ The leaves of the trees			
Do you think this improves your trip experience	3	1	0

keep some notes here:

Total score for Nature ☐

How can we have more nature here?

UP2030 Co-funded by the European Union

Places

Can you see any (please tick) :

	yes	so-so	no
☐ Park, field or playground			
Are you happy with its size?	3	1	0
Do you think it's well-maintained?	3	1	0
☐ Pedestrianised street			
Does it feel like a safe place?	3	1	0
☐ Benches			
Is the material comfortable to sit on?	3	1	0
Do you like its colour and design?	3	1	0
☐ Bins			
Are they well-maintained?	3	1	0
☐ Shop			
Is it a good size?	3	1	0
☐ Community centre			
Do they have activities for children?	3	1	0

keep some notes here:

Total score for Places

How could your journey to school be more fun?

UP2030 Co-funded by the European Union

Now let's think about which part of your route needs the most improvement. What changes would make more children walk to school & keep our air cleaner

Total score for Travel Path 24

Total score for Nature 24

Total score for Places 24

keep some notes here:

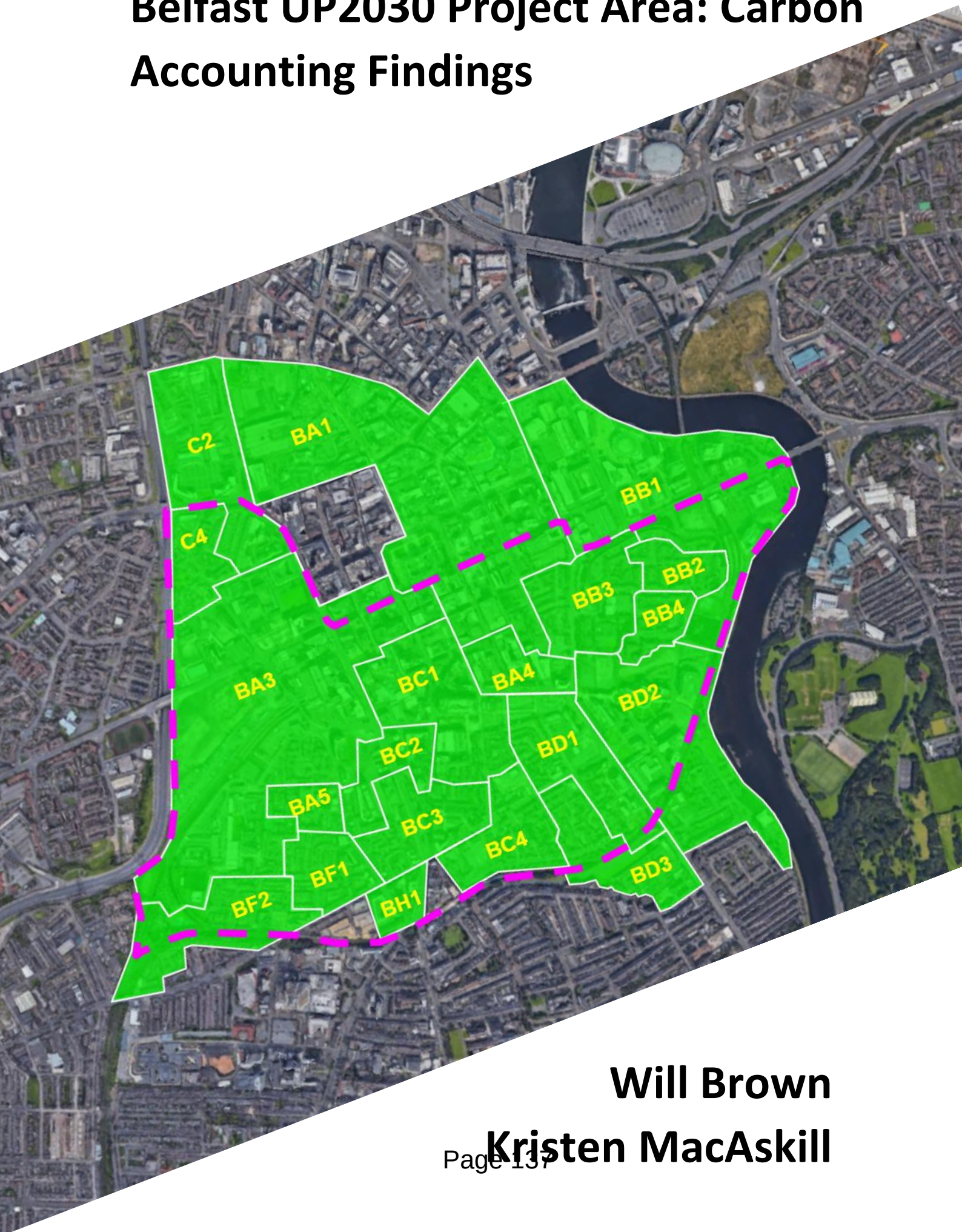
UP2030 Co-funded by the European Union

Together,
we can all help make our
neighbourhoods safer, heathier
& free from pollution,
with cleaner air!

Co-funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them. This project has received funding from the Horizon Innovation Actions under the grant agreement n° 101096405.

Belfast UP2030 Project Area: Carbon Accounting Findings



Will Brown
Kristen MacAskill

Belfast UP2030: Carbon Accounting Findings

Executive Summary:

The city of Belfast's contribution to the UP2030 project centres on the Linen Quarter and the inner south surrounding communities of the city centre. Intitally focusing on the area's 'Business Improvement District', the city's focus expanded outwards, going on to include the neighbourhoods of Sandy Row, The Market, Donegall Pass and Barrack Street. Alongside actions focusing on active travel and community engagement, one task was to estimate the carbon emissions of the project area. This report highlights the preliminary results of this investigation.

The boundary of calculations aligned with the UP2030 project boundary and covers the assessment of annual carbon emissions produced by households and resident mobility, alongside the carbon reduction benefits of urban greening.the assessment of annual carbon emissions produced by households and resident mobility, alongside the carbon reduction benefits of urban greening. This baseline data was then used to estimate the emission reduction potential of improved household insulation, the installation of solar PV and the potential increase in cycle commuting as a result of improved urban greening. The methods used to conduct these calculations are contained within the methodology document, with only the results included here.

As part of the development of the Belfast Net Zero Neighbourhood Framework, the University of Cambridge worked with Belfast to create a carbon accounting methodology for these elements. The workbooks developed for this study were designed specifically for Belfast using publically available open datasets and the BCC's Local Area Energy Plan. This has served to support further the BCC's understanding of emissions activity in the area to identify actions and interventions would have the most significant impact.

In total, the carbon emissions for the above three areas is estimated to be 15,227 mtCO2/yr, with 13,325 mtCO2/yr coming from households and 1,902 mtCO2/yr coming from resident mobility.

Regarding the four forms of emission reduction estimate, a total of 1,273 mtCO2/yr is reduced, an 8.3% reduction. The most impactful approach was to improve household insulation, which reduced carbon emissions by 1,104 mtCO2/yr, followed by solar PV with 162 mtCO2/yr reduced.

An important finding concerns the emission impacts of urban greening. The trees within the UP2030 project area have been estimated to only sequester 0.84 mtCO2/yr; an insignificant 0.006% of the estimated emissions. However, if broader impacts for trees are taken into account, such as by considering a 20% increase in cycle commuting through planting more trees, an annual saving of 6 mtCO2/yr is estimated, a 760% increase on the imact through tree sequestration alone.

For internal use only

mtCO2 = Metric Tonnes of CO2

All findings are estimates

Household Carbon Emissions Estimate

Households are the leading source of cerbon emissions within the UP2030 project area. The types of household accounted for are as follows (with the number of each type):

Detached: 125 *(3%)*
Semi-Detached: 245 *(6%)*
Terraced: 1630 *(39%)*
Flat/Apartment: 2205 *(52%)*
Total: 4205

On the right is a breakdown of household emissions per census data zone.

A significant influence on individual household carbon emissions is the heating fuel used. As can be seen below, mains gas is by far the most common:

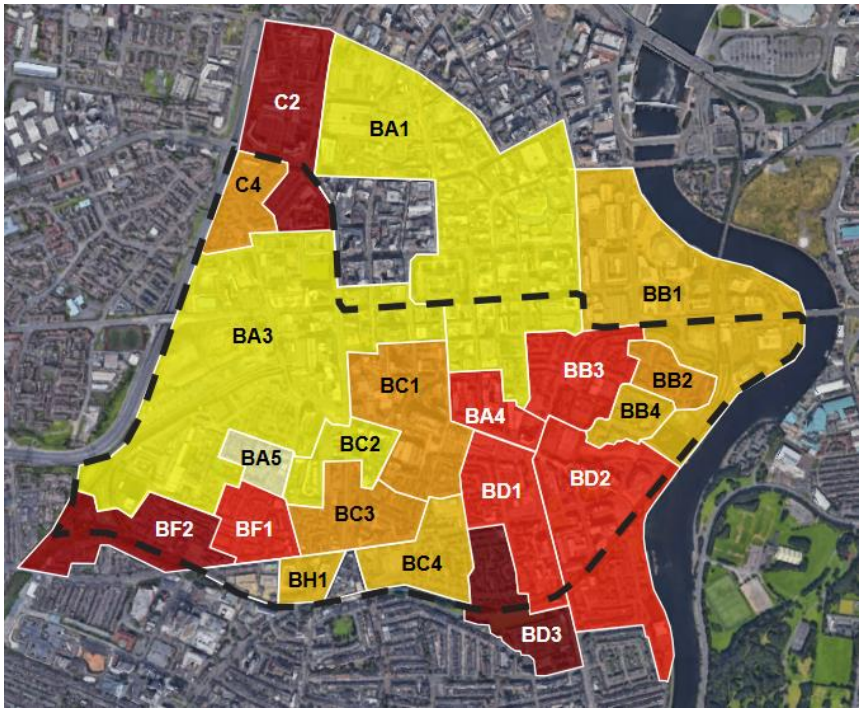
Mains Gas: 88%
Oil: 3%
Community: 3%
Electric Heating: 3%
Other: 3%

Total carbon emissions: **13,325 mtCO2/yr – 88% of total emissions**

Each household type is estimated to contribute to the project area's carbon emissions in the below manner:

Detached: 5.8%
Semi-Detached: 7.3%
Terraced: 49%
Flat/Apartment: 37.7%

Below is a map of the UP2030 project area and the household emissions of each data zone.



Data Zone	Estimated mtCO2/yr
Botanic_A5	364.16
Botanic_C2	471.44
Botanic_A3	486.81
Botanic_A1	492.93
Botanic_H1	550.16
Botanic_B1	554.85
Botanic_B4	590.79
Botanic_C4	594.25
Botanic_C1	621.66
Botanic_B2	627.96
Court_4	649.00
Botanic_C3	684.17
Botanic_D1	705.95
Botanic_B3	732.31
Botanic_F1	789.41
Botanic_D2	791.50
Botanic_A4	798.04
Court_2	845.25
Botanic_F2	912.94
Botanic_D3	1061.39
Total	13325.09

Mobility Carbon Emissions Estimate

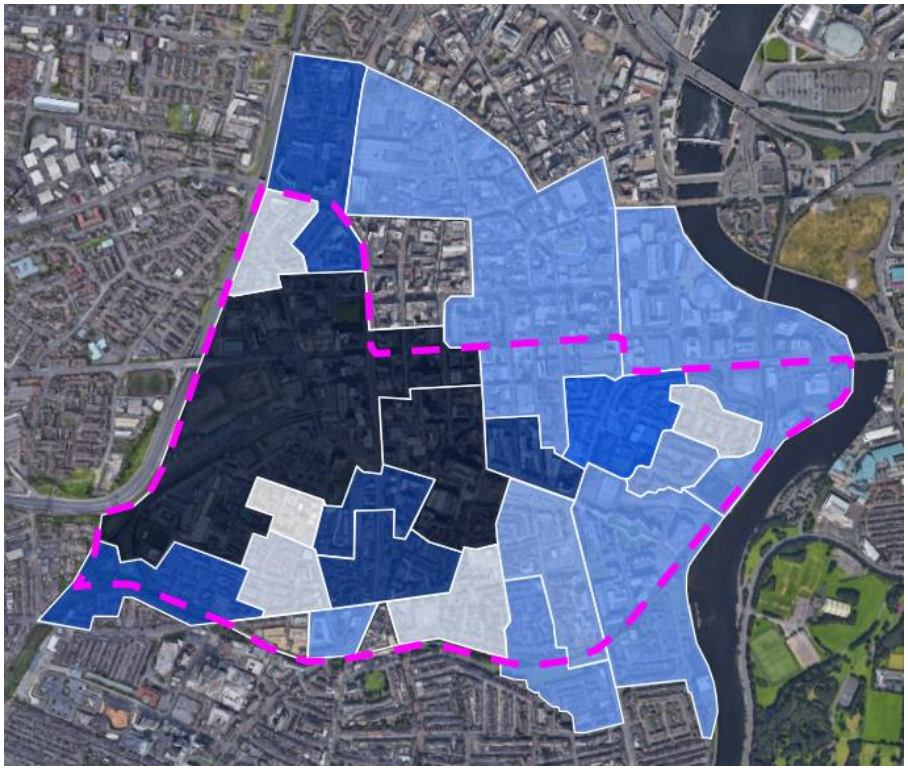
Whilst estimated to be less impactful than households, mobility carbon emissions are still significant.

The estimated total mobility emissions of the UP2030 project area are:

1902 mtCO2/yr – 12% of total emissions

A significant influence on the distribution of emissions across the project area is the prevalence of car ownership. Given the relatively low levels of car or van availability in the area, the mobility emissions are proportionally lower than may be expected. Another significant influence on the data zone emission outcomes is the average age of residents, with younger residents being more likely to produce more mobility emissions.

Below a map outlines the distribution of emissions across the data zones.



Botanic_A5	42.9
Botanic_C4	63.2
Botanic_F1	65.1
Court_4	65.5
Botanic_B2	67
Botanic_B4	75.7
Botanic_D1	79.2
Botanic_D2	80
Botanic_A1	82.8
Botanic_D3	85.9
Botanic_H1	86.7
Botanic_B1	89.5
Botanic_B3	90.1
Botanic_F2	100.7
Court_2	101.2
Botanic_C2	111
Botanic_A4	126
Botanic_C3	133.5
Botanic_A3	157
Botanic_C1	198

Tree Carbon Storage and Sequestration

The third baseline calculation concerned the ability of trees in the project area to absorb carbon emissions. Using the Belfast public tree database to create an average tree archetype for the project area, and the estimated tree land coverage contained within the city's *Valuing Belfast's Urban Forest Report* the estimated annual carbon sequestration for the proejct area is:

0.84 mtCO2/yr – 0.006% of total emissions

The three above estimates comprise the baseline from which potential carbon reducing actions can be assessed. What follows is the estimated impacts for:

- Improved insulation
- Household Solar Installation
- Cycle Commuting due to increased urban greening

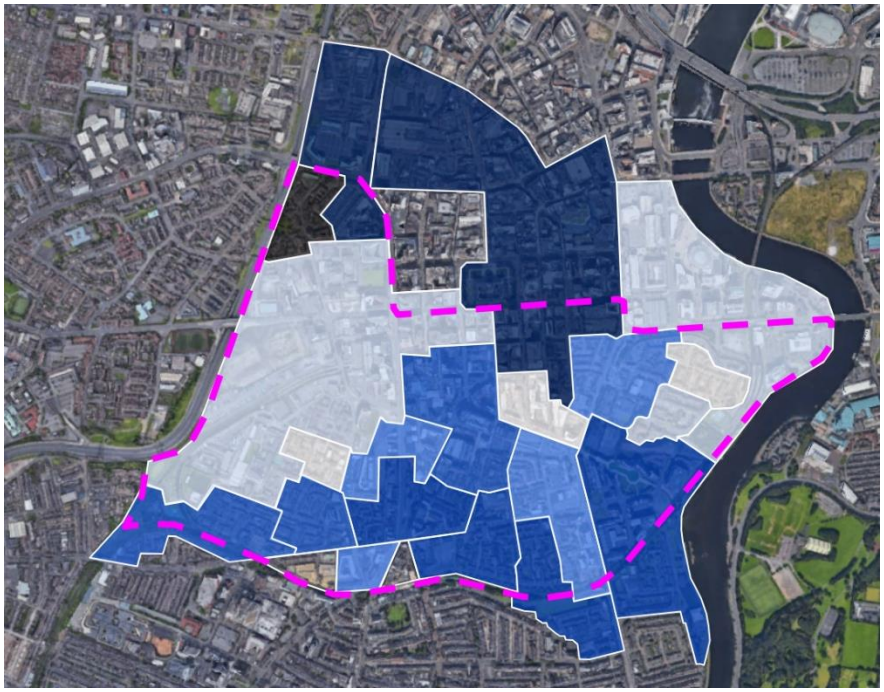
Household Insulation Carbon Reduction Estimate

The improvement of household insulation is the most effective approach to reducing carbon emissions assessed so far. This is a conservative estimate, one which does not account for the replacing of pre-existing insulation, but rather the enhancement of non or low insulated households. A crucial determining factor here is the types of walls featuring within the households.

For instance, the Court 2 and 4 data zones are set within neighbourhoods which feature a larger stock of uninsulated walled homes – resulting in the most effective impacts being in these areas. Conversely, Botanic A4 is comprised of relatively recent apartment buildings, meaning the scope for retrofit is very low.

The estimated emission reduction if the same level of insulation retrofit was adopted is:

1105 mtCO2/yr - 7.64% reduction of total emissions



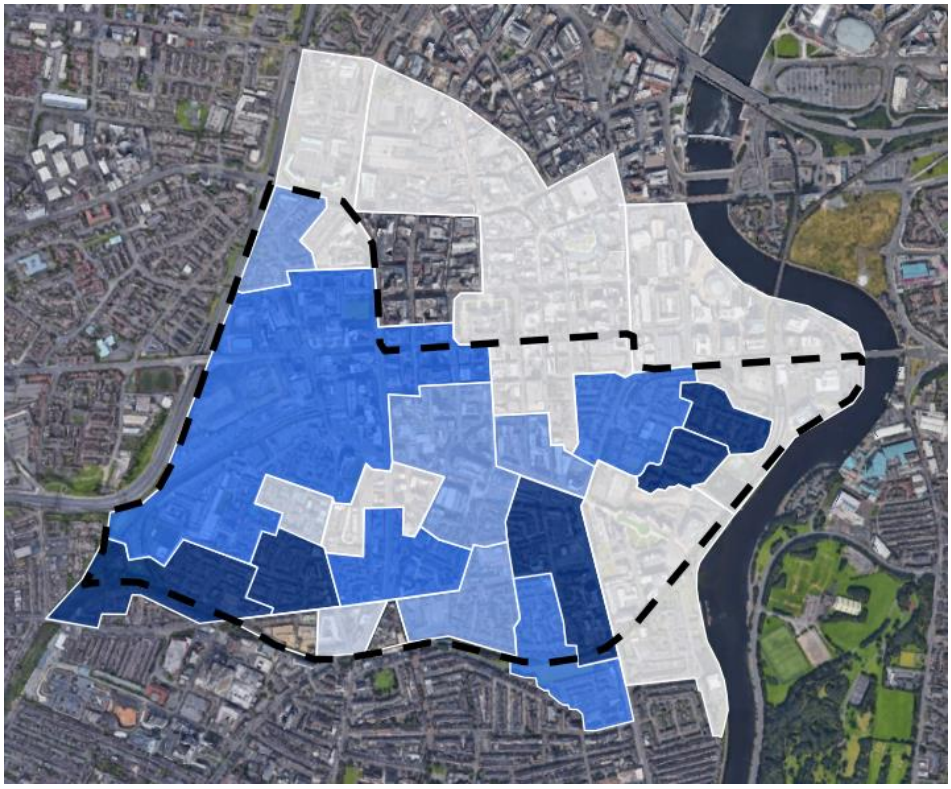
Botanic_A4	0
Botanic_A5	0.26
Botanic_B2	0.97
Botanic_A3	1.82
Botanic_B1	2.29
Botanic_B4	2.91
Botanic_B3	4.10
Botanic_H1	4.98
Botanic_C2	5.25
Botanic_D1	5.87
Botanic_F2	7.17
Botanic_C1	7.63
Botanic_F1	7.99
Botanic_C3	9.90
Botanic_D2	10.16
Botanic_C4	10.73
Botanic_D3	12.61
Botanic_A1	13.40
Court_4	17.64
Court_2	27.09

Household Solar Installation Carbon Reduction Estimate

Whilst upgrading the insulation of a house will improve its energy efficiency, the installation of solar panels will reduce the consumption of energy in the first place. Taking the total number of households within the UP2030 project area which are deemed to be solar suitable, taken from Local Area Energy Plan data, the total solar emission reductions are estimated to be:

162 mtCO2/yr mtCO2/yr – 1% reduction of total emissions

Below is a map oulining the percentage of households within each data zone which are suitable for solar panel installation



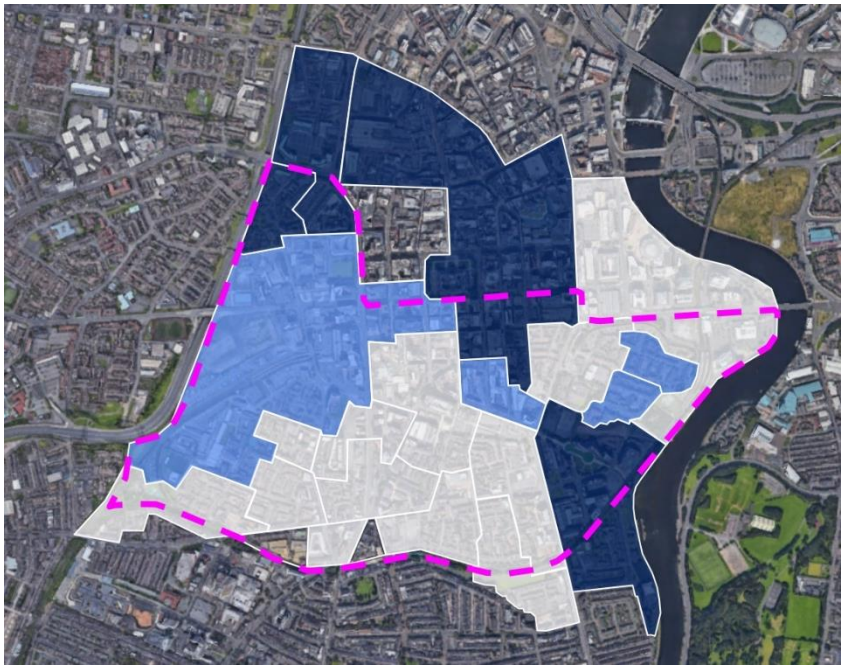
B1	0
D2	0
BC2	3
C2	8
A1	9
H1	12
A5	16
A4	22
BC1	22
C4	22
BC4	29
D3	31
B3	39
BC3	41
A3	42
F2	61
D1	63
F1	71
B4	96
B2	98

An interesting observation is that whilst many data zones are suitable for either approach, some are more suited for one over the other. For instance Court 2 is the data zone with the highest potential for emission reductions through enhanced insulation, but is one of the least suited for solar. Conversely, Botanic B2 has the largest potential for solar installation, but relatively little potential emission reductions through enhanced insulation.

Therefore, based on the estimations presented here, more targeted measures can be adopted. Beyond those which can be approached with a balance between the two approaches (white in the belwo map), the targeted data zones are below.

Insulation Focus (dark blue):
C4, C2, A1, D2

Solar Focus (light blue):
B2, B4, A3, A4

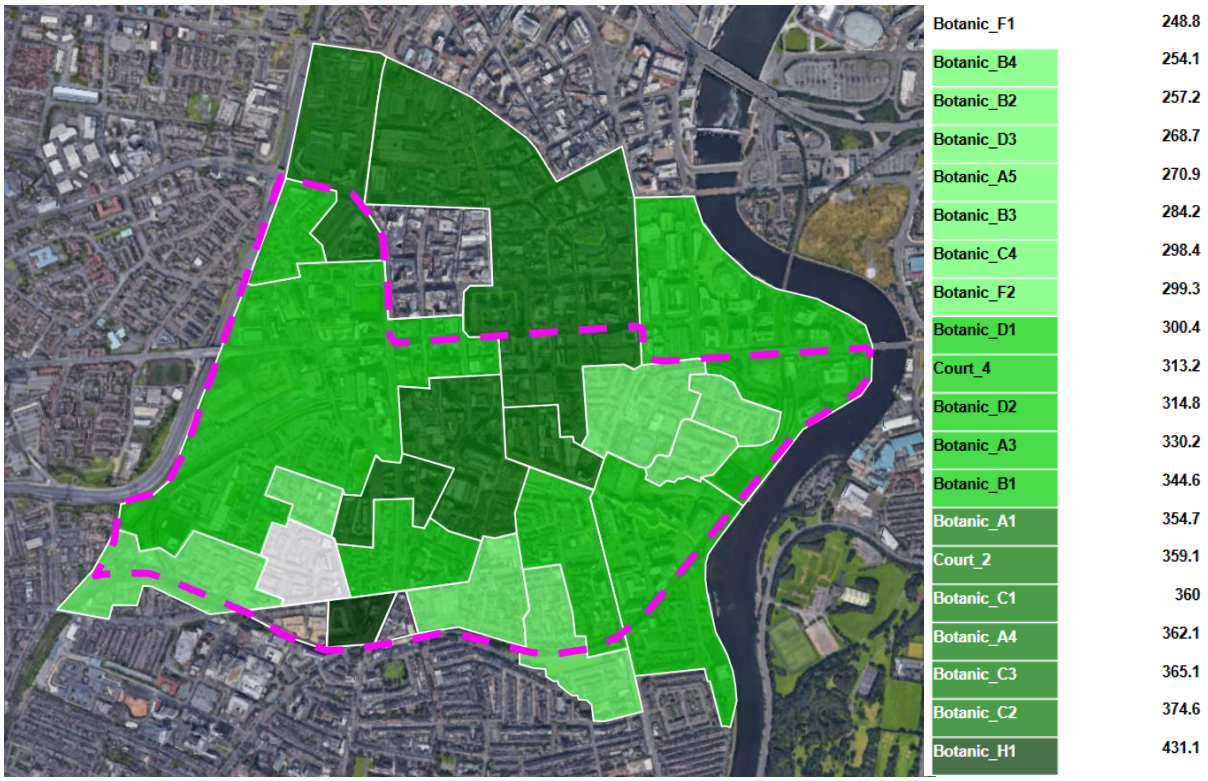


Cycle Commuting due to Increased Urban Greening

The below estimate was based upon a combination of the mobility emission baseline (presented above) and the Travel Survey for Northern Ireland, which found that 20% of respondents would cycle more if there were more pleasant routes. Therefore, the estimate of increased urban greening centred upon reducing car-based commuting by 20% on days conducive to cycling (dry and with max temperatures above 10 degrees – 83 in total) thereby estimating the impact of increased cycle commutes. Estimated emission reduction is:

6.4 mtCO2/yr – 0.04% reduction of total emissions

The map below demonstrates the distribution of the emission reductions across the different data zones based on age, sex, and car ownership statistics.



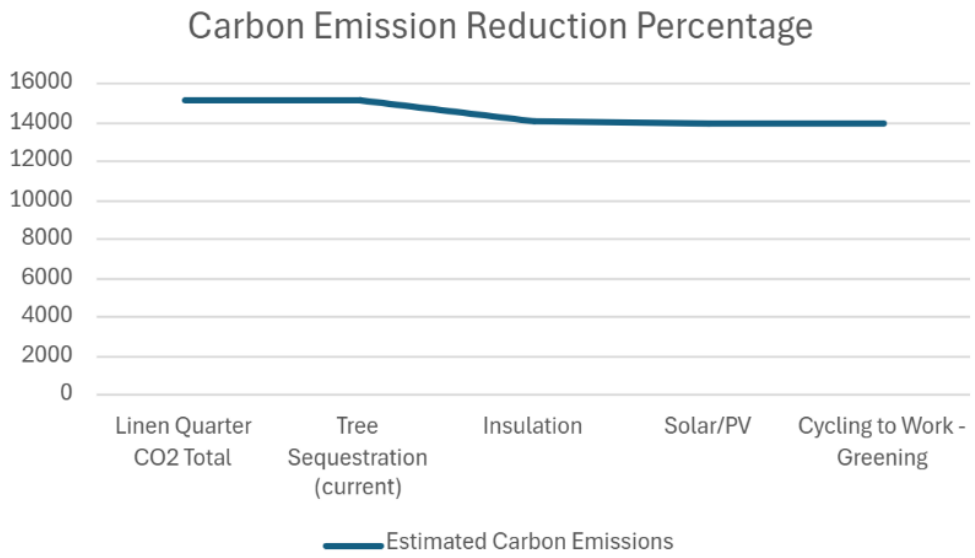
Summary

In total, across the three areas accounted for here, the baseline emission total is **15,227 mtCO2/yr**. By combining the estimates provided here, this baseline can be reduced to **13,954 mtCO2/yr** – an emission reduction of approximately **8.3%**.

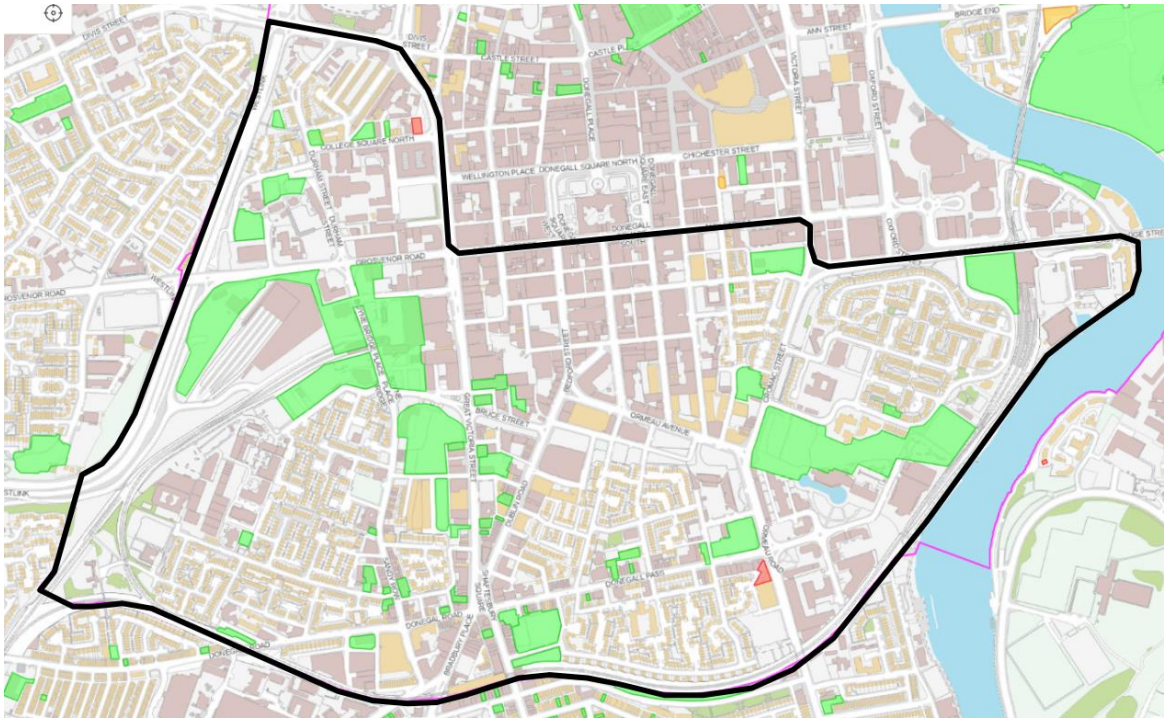
Below is a chart demonstrating the cumulative emissions reduction from the original baseline. It has been presented to demonstrate the total impacts in relation to carbon neutrality. Whilst it may appear that the gap towards carbon neutrality is large, only a handful of approaches have been estimated here, with alternatives like electric vehicle adoption, heat pumps and further active travel initiatives not assessed.

Another area where emissions could fall within the project area would be the decarbonisation of national electricity. The Northern Ireland specific emission factor used for electricity (0.371 kgCO2/kWh) is relatively high in comparison to the UK wide factor (0.204 kgCO2/kWh). As efforts to reduce nationwide electricity carbon emissions progress, emissions will fall; given that 22% off household emissions are assumed here to be from domestic electricity use. A hypothetical 22%

reduction of household carbon emissions (representing carbon neutral energy production) would be just under 3,000 mtCO2/yr, representing a reduction of 19.7%. This is without considering the potential adoption of EVs, both domestic and within the public sector, which would be more impactful, given the lack of carbon emissions from charging the vehicles.



Another element to be considered are further developments within the UP2030 project area. The map below shows potential sites for development (green), representing a total of 2131 units within the black line. This would require estimations of embodied emissions within building materials, the emissions produced through construction and the estimated ongoing emissions associated with the unit's use, which could be estimated by producing building archetypes from the household data used here.



The Role of Data in Net Zero and Climate Change

"The keys to faster adaptation [to climate change] are information, incentives and effective government. Better information allows more rational decision-making."[1]

Context

Urbanisation is a worldwide phenomenon that has results in more than half of the world's population being categorised as urban citizens. This rapid growth of urbanisation resulted in a variety of advantages and obstacles. Although cities serve as economic hubs, supporting employment opportunities and driving innovation and prosperity, they also contribute to environmental issues such as air and noise pollution and global warming. Urban development and greenhouse gas emissions are positively correlated at the national, regional, and city levels. Urban growth can contribute to a huge positive impact on energy demand and energy consumption, which is identified as one of the key determinants of city greenhouse gases like CO_2, poses a threat to both humanity and the natural environment and is the main concern for governments and cities around the world.

An increase in public awareness of global warning in urban areas has contributed to global efforts and collaborations to reduce greenhouse gas emissions. As an example of the global effort towards this aim, in the Paris Agreement, all participating nations have committed to restricting the rise in global temperatures to below 2°C and striving to limit it even more, to below 1.5°C. Following the Paris Agreement, many global strategies have been established to reach a net zero balance in greenhouse gas emissions by 2025 or earlier. In parallel, the necessity of achieving zero emissions in cities has been extensively recognised and analysed in academic literature.

As the world continues to grapple with the escalating threat of climate change, data has emerged as a powerful tool in the efforts to understand, mitigate, and adapt to its impact. Data analytics – powered by advanced algorithms, machine learning, and artificial intelligence (AI) – has become central to tracking environmental changes, predicting future scenarios, and informing decision-makers about the best course of action.

From mapping carbon emissions to forecasting extreme weather events, data analytics is shaping the fight against climate change in profound ways. This section explores what data and data analytics could be used to monitor the planet, predict environmental trends, and drive actionable solutions to combat the climate crisis.

Data analytics in climate science involves collecting, processing, and analysing vast amounts of environmental data to identify trends, patterns, and potential solutions. This data comes a variety of sources, including satellite imagery, sensors, climate models, and historical records. With advanced computing power, machine learning, and AI, researchers and climate scientists are now able to process this data at unprecedented speeds and scale[2].

[1] The Economist (2025), Smarter incentives would help India adapt to climate change, The Economist, 5 January. Available from: https://www.economist.com/leaders/2025/01/02/smarter-incentives-would-help-india-adapt-to-climate-change [Accessed 29 September 2025]

[2] El khirani S. E. (2024), The impact of data analytics on climate change, Medium, 7 September 2024. Available from: https://medium.com/data-science-clarity/the-impact-of-data-analytics-on-climate-change-5dd57b546496 [Accessed 29 September 2025]

The following section explores how data analytics has evolved as a tool for climate science and why they are important for tackling climate change, especially for cities such as Belfast.

Key areas for data analytics in climate research

Climate modelling – by analysing historical and real-time data, climate models simulate how the Earth's climate might change under different conditions, such as rising CO_2 levels or deforestation.

Predictive analytics for extreme weather – data analytics is used to predict the likelihood and severity of extreme weather events like hurricanes, floods, and droughts, enabling governments and communities to prepare better.

Carbon footprint monitoring – data analytics helps track carbon emissions from industrial activities, transportation, and agriculture, giving policymakers and industries real-time insights into their environmental impact.

Biodiversity tracking – by analysing ecological data, researchers can monitor species populations and their habitats, helping to preserve biodiversity and develop strategies for conservation in the face of climate change.

Satellite data and remote sensing

Monitoring deforestation and land use – satellite imagery analysed with data analytics tools helps track deforestation in real time, especially in regions like the Amazon Rainforest. By identifying illegal logging activities and habitat destruction, governments and environmental organisations can take immediate action to prevent further damage.

Ice melt and sea level rise – data analytics helps track changes in polar ice caps, glaciers, and sea levels. Satellite data from missions like NASA's GRACE (Gravity Recovery and Climate Experiment) allow scientists to monitor ice loss in Antarctica and Greenland, providing critical information about the rate of sea-level rise and its future impact on coastal communities.

Carbon emissions monitoring

Global CO_2 monitoring – data analytics tools are being used to monitor global carbon dioxide levels from space-based sensors and ground-based monitoring stations. Platforms like the Carbon Trackers Initiative utilise satellite data and machine learning models to estimate global CO_2 emissions from power plants, factories and transportation.

Real-time air quality data – cities around the world are using data analytics to monitor air quality in real-time. By tracking particulate matter, nitrogen dioxide, and other pollutants, cities can take swift action to reduce emissions, improve air quality, and protect public health.

Agricultural impact and food security

Agricultural monitoring – agriculture is both a contributor to and a victim of climate change. Data analytics is used to monitor agricultural practices, assess water usage, and predict crop

yields. By analysing this data, farmers can make informed decisions that reduce environmental impact while ensuring food security.

Drought and water resources management – in areas prone to drought, data analytics helps manage water resources by predicting drought severity and optimising water usage. Tools like the Global Drought Information System (GDIS) use climate and hydrological data to provide real-time drought monitoring and forecast future water shortages.

Climate models and simulations

Predictive climate models – predictive analytics uses historical climate data and AI algorithms to model future climate scenarios. These models simulate the impact of various factors – such as greenhouse gas emissions, deforestation, and ocean temperatures – on future climate conditions. They help scientists predict rising temperatures, changing precipitation patterns, and the frequency of extreme weather events.

Scenario analysis – data analytics enables researchers to run multiple climate scenarios based on different policy decisions.

Predicting extreme weather events

Storms and flooding – data analytics models are being used to predict the likelihood of hurricanes and tropical storms, helping communities prepare for potential disasters. Machine learning algorithms analyse patterns in sea surface temperatures, wind speeds, and atmospheric pressure to predict when and where these storms will hit.

Heatwaves and droughts – predictive models help forecast heatwaves and droughts months in advance, giving governments time to plan responses, manage water resources, and protect vulnerable populations. This is especially important in regions already facing food and water insecurity due to climate change.

Predicting the impact ecosystems and species

Biodiversity forecasting – using ecological data and machine learning, researchers can predict how climate change will impact biodiversity. Predictive models analyse species distribution, migration patterns, and habitat loss to forecast the future health of ecosystems and guide conservation efforts.

Renewable energy optimisation

Solar and wind energy analytics – data analytics is being used to optimise the generation and distribution of renewable energy sources like solar and wind. By analysing weather patterns, energy demand, and grid performance, operators can improve the efficiency and reliability of renewable energy systems, reducing dependency on fossil fuels.

Energy forecasting – predictive analytics models can forecast energy production from renewable sources based on climate data.

Urban planning and climate resilience

Smart cities – cities are increasingly using data analytics to develop smart city initiatives that reduce carbon emissions and improve climate resilience. By analysing traffic patterns, energy usage, and air quality data, cities can implement policies that reduce pollution, optimise public transportation, and create greener urban environments.

Flood risk management – coastal cities and flood-prone areas use data analytics to predict rising sea levels and storm surges. With this information, city planners can build resilient infrastructure, such as sea walls and drainage systems, to protect against future flooding.

Carbon sequestration and forest conservation

Forest monitoring – data analytics is used to monitor carbon sequestration efforts, particularly in forests and wetlands, which act as carbon sinks. By tracking deforestation and reforestation efforts, governments and organisations can better manage their carbon reduction strategies.

Carbon markets – data analytics helps companies and countries participate in carbon trading markets by accurately tracking and reporting carbon emissions. This transparency is essential for ensuring compliance with global climate agreements and reducing overall emissions.

Key data sources

The influence of climate change on different aspects of society and ecology is too complex to comprehend from a singular lens, place or point in time[3]. Lahoud, for instance, highlights the omnipresence of climate change, stating how it occurs in the periphery of our vision and at the limits our sensorium and understanding[4]. Conceptualisations, speculations, and interventions around climate change have been consistently evolving. The understanding of climate change moves across different registers and scales – both spatially and temporally. Existing at different intersections of scales, issues and temporalities, recent research approaches attempt to make the impact of change more tangible.

As the conversation around climate action evolves, so do the approaches, which are becoming more complex and interpolating several different data sources and methods of analysis. It has become increasingly important to recognise the role data can play as well as what it is envisioned to do. The spatial-temporal nature of climate change is intertwined with the practices of data collection and deployment. As the academic Theodore Lim appositely put it, "different perspectives in time and space, with the help of data and information, can result in very different prioritisation of social and environmental outcomes".[5]

[3] Bajaj, S. (2025), Conceptualising climate change and reconceptualising climate data: Understanding different interpretations and approaches to climate data, AAPTI Institute, 3 June 2025. Available from: https://aapti.in/blog/conceptualising-climate-change-and-reconceptualising-climate-data-understanding-different-interpretations-and-approaches-to-climate-data/ [Accessed 29 September 2025]

[4] Lahoud, A. (2016), Scale as problem: Architecture as trap, Climates: Architecture and the planetary imaginary, Columbia Books on Architecture and the City, 3 June 2016. Available from: https://averyreview.com/media/pages/issues/15/architecture-as-trap/2807d579b0-1663135360/averyreview-climates-10-lahoud.pdf [Accessed 29 September 2025]

[5] Lim, T. C. (2021), Patterns in environmental priorities revealed through government open data portals, Telematics and Informatics, 64, 101678

According to the Royal Statistical Society (RSS), there are approximately 1,000 official climate-related statistics available in the UK[6]. However, obviously, this figure does not take into account the myriad of unofficial climate-related datasets within local organisations such as Belfast City Council.

Moreover, a significant amount of this data is now being presented in various guises and forms through a growing number of climate-related dashboards[7,8,9]. These are usually interactive data visualisations that provide a snapshot of real-time climate-related activities across different stakeholder. They take a wide variety of data sources – for example, carbon emissions, energy usage, air quality, renewable energy production – and present in easy-to-interpret visualisations[10].

However, as investigated in this section, there aren't any particularly climate-related dataset that stands out as been most important. This is largely due to the sheer complexity of climate change and the unique characteristics associated with different cities and time periods[11].

Responsible data sustainability

As detailed above, data, data analytics and digital technologies play a pivotal role in tackling climate change, serving as catalysts towards achieving a wide range of climate-related objectives. As shown above, data-driven research and AI technologies are already being used to tackle different impacts of climate change. Furthermore, data stewardship is an important part of ensuring that data is available to support the fight against the climate crisis. Again, data enables more informed decision making and better targeted interventions, as well as improving and enriching scientific research.

However, too little is known about how data and technology contribute to the crisis. The internet creates 1.6 billion metric tons of greenhouse gas emissions per year. There is a growing recognition of the internet's cost to the climate, including the impact of online video streaming[12]. This is intrinsically linked to the way we collect, use and share data as individuals, as organisations and as society more broadly. Questions of environmental sustainability of data and technology, like energy-intensive AI models, are gaining traction in the public debate.

---

[6] Royal Statistical Society (2025), Guide to UK official statistics on climate change, The Economist, 5 January 2025. Available from: https://www.economist.com/leaders/2025/01/02/smarter-incentives-would-help-india-adapt-to-climate-change [Accessed 29 September 2025]

[7] Climate Emergency UK (2025), Council Climate Action Scorecards, mySociety, 29 September 2025. Available from: https://councilclimatescorecards.uk/ [Accessed 29 September 2025]

[8] Department of Agriculture, Environment and Rural Affairs (2025), Northern Ireland Greenhouse Gas Inventory 1990-2022, Department of Agriculture, Environment and Rural Affairs, 30 June 2025. Available from: https://datavis.nisra.gov.uk/daera/northern-ireland-greenhouse-gas-inventory.html [Accessed 29 September 2025]

[9] Met Office (2025), Climate Dashboard, Met Office, 23 September 2022. Available from: https://climate.metoffice.cloud/ [Accessed 29 September 2025]

[10] Terrado, M. *et al* (2022), Towards more effective visualisations in climate services: good practices and recommendations, Climate Change, 172, 18. Available from: https://link.springer.com/content/pdf/10.1007/s10584-022-03365-4.pdf [Accessed 29 September 2025]

[11] Climate Service Center Germany (2015), Climate Focus Paper – Cities and Climate Change, Climate Service Center Germany, 1 November 2015. Available from: https://climate-adapt.eea.europa.eu/en/metadata/publications/climate-focus-paper-cities-and-climate-change/gerics_kfw_2015_climatefocuscities.pdf/@@download/filehttps://link.springer.com/content/pdf/10.1007/s10584-022-03365-4.pdf [Accessed 29 September 2025]

[12] Massey, J. and Moriniere, S. (2023), Why we need to be responsible about data and the environment, Open Data Institute. Available from: https://theodi.org/news-and-events/blog/why-we-need-to-be-responsible-about-data-and-the-environment/ [Accessed 29 September 2025]

As the reliance on data and technology increases, the environmental impacts of their use and development are likely to become more and more significant. Organisations, such as Belfast City Council, who are adopting these technologies and, as a result, stewarding large amounts of data will need to ensure that these risks are mitigated.

Conclusion

Data and data analytics has emerged as a critical tool in the fight against climate change, enabling researcher, policymakers, and industries to track environmental changes, predict future scenarios, and develop effective solutions. From monitoring deforestation and carbon emissions to optimising renewable energy systems and predicting extreme weather events, the role of data in climate action is undeniable.

This data also has the power to help debate with anti-green and climate-sceptic agendas and countering the scaling back of environmental action.

As climate change continues to pose an existential threat, the importance of data-driven decision-making will only grow. By harnessing the power of data analytics, we can better understand the challenges ahead and take meaningful action to protect our planet for future generations. The future of climate action depends on our ability to leverage data to make informed, impactful decisions.

As we move forward, data analytics will remain at the forefront of global efforts to combat climate change, offering hope that we can address this crisis with the precision, speed, and scale that it demands. However, it must be acknowledged that these data practices, paradoxically, generate carbon emissions.

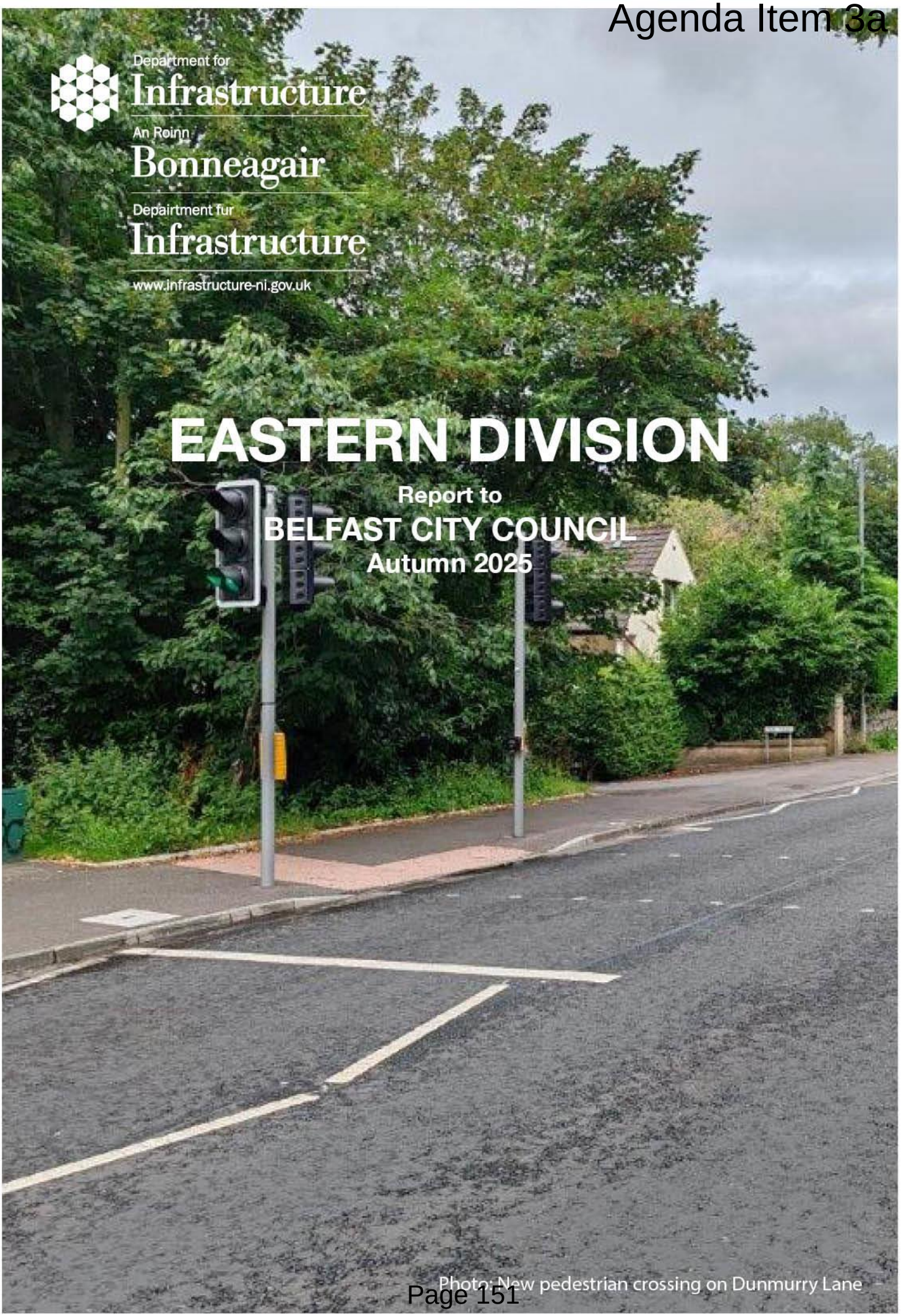


Photo: New pedestrian crossing on Dunmurry Lane

Contents

Foreword

I have pleasure in submitting the Roads 2025/26 Annual Report on the work of the Department for Infrastructure (DfI) Roads across the Belfast City Council area.

This report deals with works completed across the Council area during the year 2024/25 and sets out our initial proposals for schemes to be undertaken in the year 2025/26.

The Department's Final 2025-26 Resource Budget is £637.1m, representing an increase of £77.6m from the 2024-25 opening budget. The Department has been historically underfunded for many years, so this is a welcome increase in the Departments resource budget allocation. However, this does not fully meet the requirements of the Department and therefore decisions on prioritising the budget have been made.

The Department's Final 2025-26 Capital Budget is £917m, representing an increase of £63.4m from the 2024-25 opening budget. This recognises the importance infrastructure plays to everyday lives by delivering positive change for all as we continue to invest for future generations. The Department will continue to deliver priority capital schemes with the funding available for the benefit of all citizens.

To help prioritise, the Department is developing a Transport Strategy 2035, the Public Consultation for which closed in September 2025.

The Transport Strategy sets the long-term vision and the overarching strategic goals for the region, enabling economic growth, strengthening regional balance, and enhancing connectivity while the Transport Plans are more detailed and spatially focussed on specific areas.

Work has commenced on the local transport plans, and these are being developed in parallel with the council's Local Development Plans to ensure an integrated approach between transport and land use planning.

The opening Capital budget for structural maintenance of the road network in 2025/26 is £68M, which will enable the delivery of the highest priority resurfacing, roadside stability and drainage projects. Further details of those projects to be delivered within the Belfast City Council area are contained within this report.

The Department will continue to prioritise delivery of essential services for maintaining public safety, protecting the transport network, and addressing regional imbalance. To help address historic underfunding additional funding has been allocated to essential maintenance and enhancing signs and lining and builds upon the existing level of service.

In an effort to maximise the use of the resources available, we are continuing to develop the Road Maintenance Strategy which offers, a new approach to how the road network is maintained. It will be data driven and supported by sound engineering judgement and focused on delivering higher quality repairs ensuring a more reliable and safer road network.

The Department recognises the importance of investing in pedestrian and cycling infrastructure and developments are being made to the Belfast Cycling Network. The Department will continue to work closely with Councils to better understand your five-year active travel programme and to develop an effective grant and support framework for the effective delivery of greenways and other measures to promote and encourage active travel.

Road safety also remains a high priority for the Department, and we are committed to working proactively to make our roads safer and address the needs of all road users, particularly near schools.

In 2024 the Department launched the Road Safety Strategy to 2030 and the supporting 2024-25 Action Plan that contains 10 Strategic Interventions.

The strategy is an important document focused on creating safe roads, safe vehicles, and safe people and the Department delivers a programme of priority targeted road safety interventions through the Local Transport & Safety Measures (LTSM) programme to progress improvements across the road network.

Requests for LTSM improvements, including the provision of footway schemes or upgrading works, will continue to be assessed with progression of priority improvements within the funding available.

The introduction of part-time 20mph zones at schools is a significant intervention that has helped to ensure that children, parents and staff feel safer as they travel to and from school on a daily basis and in June 2025 it was confirmed an additional 40 schools will benefit from this key safety measure bringing the total delivered since 2020/21 to 273 schools.

Regarding Major Projects in the Council area, the prioritised list of major projects includes the Belfast Rapid Transit Phase 2 BRT2 and The Lagan Pedestrian & Cycle bridge. Further detail on each of these schemes is provided within the content of the report.

I hope that you find this report informative. I, along with Paul King Network Development Manager and the Section Engineers from our two Belfast Section Offices, Joe Torney and David Williams, look forward to meeting the City Growth and Regeneration Committee.

Simon Wells
Divisional Roads Manager (Acting)

Eastern Division - Senior Management Structure

DfI Roads wishes to build upon the good working relationships it has with Council Members and Officers. The Divisional Senior Management Team is listed below. Day to day operational matters should be raised with the relevant Senior Engineers whose details are listed at the start of each section.

Simon Wells
Divisional Roads Manager

Celine Duff
Network Planning Manager

Graeme Salmon
Network Traffic Manager

Paul King
Network Development Manager

Gareth McKibbin
Network Maintenance Manager

Philip Robinson
Network Telematics Manager

Karen Robb
Business Support Manager

About Eastern Division

Eastern Division is one of four Client Divisions within DfI Roads. It spans the local Council areas of Belfast City and Lisburn & Castlereagh City.

In Eastern Division we are responsible for approximately 2,564 km of public road together with 355 bridges, 68,532 streetlights, 257 controlled crossings (Pelican/Puffin/Toucan & Zebra type), 264 traffic signalised junctions. We carry out functions under the headings: -

- **Network Planning** - Regulation of additions to the network proposed by developers
- **Network Development** - Improvements to the existing network to improve safety and traffic progression including Minor Works and Local Transport & Safety Measures.
- **Network Traffic** - Traffic Management minor improvements, pedestrian priority, traffic orders, signing, collision remedial schemes, resident and disabled parking, car parks and pay and display spaces, cycling and traffic calming.
- **Network Traffic Telematics -** Traffic signal control, operation of the Traffic Information and Control Centre, Traffic and travel information, TrafficWatchNI website, Motorway Control Systems, CCTV traffic cameras.
- **Network Maintenance** – Maintenance of the existing network. Maintenance activities include resurfacing, surface dressing and drainage works as well as grass cutting, gully emptying, patching, embankment / verge maintenance, fencing and provision of the Winter Service.
- **Major Projects East** – Major capital projects (>£5M) on Key Transport Links.
- **Active Travel** - delivering projects that enable more people to walk, wheel and cycle for many of their shorter everyday journeys. In Belfast City this involves developing a programme of priority projects in line Belfast Cycle Network Plan and the upcoming Eastern Transport Plan.

Department for Infrastructure
Eastern Division HQ
Hydebank House
4 Hospital Road
BELFAST
BT8 8JP

Tel: 0300 200 7899 (24 hours a day)

E-mail: easternsecretariat@infrastructure-ni.gov.uk

Website: https://www.infrastructure-ni.gov.uk/

SECTION 1 – NETWORK PLANNING

Network Planning Manager: Celine Duff

Celine is responsible for the Development Control, Private Streets and Development Plans.

Celine is supported in Belfast City Council area by the following staff:

Stephen Cash
Senior Engineer – Local Development Plans
Hydebank House
Hospital Road
Belfast
BT8 8JL
Tel: 0300 200 7899
Email: easternsecretariat@infrastructure-ni.gov.uk

Geoff Lawther
Senior Engineer – BCC Development Control
Hydebank House
Hospital Road
Belfast
BT8 8JL
Tel: 0300 200 7899
Email: easternsecretariat@infrastructure-ni.gov.uk

Russell Moore
Senior Engineer – Private Streets
Hydebank House
Hospital Road
Belfast
BT8 8JL
Tel: 0300 200 7899
Email: easternsecretariat@infrastructure-ni.gov.uk

1.1 Development Control

DfI Roads in its consideration of planning applications, takes into account aspects of development which could prejudice traffic progression and safety in terms of junction capacity, access arrangements, parking standards and provision, road width, radii, gradients, drainage and sight lines. This consideration usually involves site visits and technical work. Compliance with transport policy and compatibility with road infrastructure is taken into account as well as any need for developer led improvements. Proposals are also checked for potential encroachment upon any future road corridors. A detailed Transport Assessment may be required for larger developments where potential traffic impact may extend to road junctions some distance from the development site and where infrastructure improvements are deemed necessary as mitigation. For smaller developments a Transport Assessment Form is required to be completed by the applicant in order to ascertain the likely impact.

In the case of housing developments, the Private Streets (NI) Order 1980 is applied if a planning application includes streets which are to become public and maintainable by the Department. Development Control along with the associated Private Streets Section determines the area to be adopted, arranges for the calculation of the bond amount, supervises construction of the streets and, following satisfactory completion by the developer completes the process for adoption into the public road network. Should the developer not complete the street, DfI Roads can take appropriate enforcement action under the Private Streets Order to ensure satisfactory completion of works funded by the bond.

Other Development Control work includes participating in pre-application discussions and planning meetings, preparation of evidence and presentation of this at Planning Appeals. Assistance is given with enforcement cases associated with breaches of planning control. Input is provided for the use of planning case officers at Council Planning Committee meetings with attendance by Development Control Officers as required.

TABLE 1: Planning Consultations

Consultation Details	Belfast City Council Area
Number of consultations	751
Number of consultations replied to within 21 days	562
Number of Pre-Planning Enquiries	56

Examples of major applications being dealt with are included in Table 2.

TABLE 2: Planning Consultations – Examples of Major applications

Application Reference	Location, Town / Townland
LA04/2023/2557/F	Lands East of Meadowhill, North of Glencolin Cour
LA04/2024/0626/F	1 Havelock House, Havelock Place, Ormeau
LA04/2024/1592/F	Marlborough House, Victoria Street, Belfast

Roads (NI) Order 1993, Article 80

Article 80 applies to new vehicular accesses or agricultural accesses onto unclassified roads. It covers proposals such as new driveway entrances or alterations where planning permission is not required. During the reporting period DfI Roads dealt with **41** Article 80 applications.

Development Control also provides evidence in respect of associated Article 84 appeals which are determined by the Planning Appeals Commission.

Development Control also gives advice on various ad-hoc matters such as placing of planters and signage.

1.2 Private Streets

Private Streets Section inspects and manages the adoption of roads infrastructure in new developments. It also manages enforcement proceedings against developers who fail in their responsibility to provide road bonds before commencement of work on site. This takes the form of a series of warning letters followed, if necessary, by enforcement action.

DfI Roads will afford a developer every opportunity to fulfil their responsibilities in completing development infrastructure works to an adoptable standard. Where it becomes evident that a developer is either incapable or unwilling to complete the work, DfI Roads will consider initiating legal proceedings. This may result in the need for DfI Roads to complete the works and recover the costs.

DfI Roads has a finite contracting resource at its disposal and given the variation in annual funding levels, the availability of contracting resource to deliver private street enforcement works cannot be assured. In addition, DfI Roads has no control over the interests of other stakeholders, primarily Northern Ireland Water (NIW), which impact on the delivery of the completion of adoption works.

Completed Works 2024 – 2025

TABLE 3: Private Streets – Adoption numbers

Adoption Details	Belfast City Council Area
Number of adoptions	13

TABLE 4: Adoption locations

Adoption locations	Date of Adoption
Cairnmartin Crescent	22/11/2024
Donegall Park Gardens	15/05/2024
Frederick Street	08/05/2024
Gardenmore Way	05/03/2025
Harberton Park Crescent / Harberton Lane	28/02/2025
Harberton Park Crescent / Harberton Park Gardens	28/02/2025
Harberton Park Crescent	28/02/2025

Adoption locations	Date of Adoption
Harberton Park Gardens 1	14/06/2024
Harberton Park Gardens 2	14/06/2024
Harberton Square	14/06/2024
Harberton Crescent / Harberton Green / Harberton Lane	14/06/2024
Moyard Grove	06/06/2024
Upper Dunmurry Close	14/06/2024

During the reporting period Private Streets Section has been successful in adopting a total of 30 private developments comprising 3500m of carriageway and 21m of remote footway, into the publicly maintained road network.

1.3 Private Streets - Enforcement

Private Streets Section continues to invoke enforcement proceedings against developers who fail in their responsibility to provide road bonds before commencement of work on site. This takes the form of a series of warning letters followed, if necessary, by enforcement action.

Private Streets Section continues to work with developers on backlog housing sites with the objective of having work completed to an adoptable standard. Where it becomes evident that a developer is either no longer trading or is incapable or unwilling to complete the work, DfI Roads will consider initiating enforcement action. This may result in the need for DfI Roads to complete the works and recover the costs from the road bond under Articles 13 and 15 of the Private Streets Order 1980.

The Planning Portal which was launched in December 2022 can be used to submit, view and comment on planning applications online by accessing the following link: https://www.nidirect.gov.uk/services/planning-portal.

1.4 Local Development Plans

Advice

The Department provides advice to the Council area as requested, on road safety and traffic progression issues for Local Development Plans and Community Plans as well as work on strategic development planning applications.

There were no consultations dealt with, during the reporting period from 1 April 2024 to 31 March 2025 within the Belfast City Council Area.

SECTION 2 - NETWORK DEVELOPMENT & NETWORK TRAFFIC

Development Manager: Paul King

Paul is responsible for Transportation Projects, Local transport and Safety Improvement Schemes and Street Lighting.

Paul is supported in Belfast City Council Area by:

Lionel Walsh
Senior Engineer – Minor Works
Hydebank House
Hospital Road
Belfast
BT8 8JL
Tel: 0300 200 7899
Email: roads.end@infrastructure-ni.gov.uk

Tom McCormick
Senior Engineer - Transportation Team
Hydebank House
Hospital Road
Belfast
BT8 8JL
Tel: 0300 200 7899
Email: roads.end@infrastructure-ni.gov.uk

Evans Gibson
Senior Engineer – Street Lighting
Hydebank House
Hospital Road
Belfast
BT8 8JL
Tel: 0300 200 7899
Email: evans.gibson@infrastructure-ni.gov.uk

Traffic Manager: Graeme Salmon

Graeme is responsible for Traffic Management Minor Improvements, Pedestrian Priority, Traffic Orders, Signing, Collision Remedial schemes, resident and disabled parking, car parks and pay and display spaces, and Traffic Calming.

Graeme is supported in Belfast City Council Area by:

Andrew Miskimmin
Senior Engineer – Traffic Management (1)
Hydebank House
Hospital Road
Belfast
BT8 8JL
Tel: 0300 200 7899
Email: Andrew.miskimmin@infrastructure-ni.gov.uk

Stephen McMeekin
Senior Engineer – Traffic Management (3)
Hydebank House
Hospital Road
Belfast
BT8 8JL
Tel: 0300 200 7899
Email: Stephen.mcmeekin@infrastructure-ni.gov.uk

LOCAL TRANSPORT AND SAFETY MEASURES

The Regional Transportation Strategy (RTS) identified the importance of Local Transport and Safety Measures (LTSM) and highlighted some of the principal initiatives to be addressed, including:

- local improvements in towns to assist pedestrians and cyclists.
- local highway infrastructure measures to improve safety, such as collision remedial schemes and traffic calming schemes; and
- Network Development schemes (minor works).

LTSM expenditure tends to be widely spread and most communities benefit, as an individual scheme is relatively low cost in comparison to the cost of projects on the Strategic Works programme. They are usually very visible measures and provide good value for money in terms of a safer road transport system, which benefits society, the economy, the environment; and actively contributes to everyone's quality of life.

Types of LTSM projects include:

- Minor Works and Micro Schemes
- Traffic Management
- Pedestrian Measures
- Traffic Calming
- Collision Remedial
- Safer Routes to School
- Bus Priority Measures
- Cycling Measures
- Road and Lane Closures
- Legislation

2.1 Completed Works 2024 – 2025

TABLE 5: Transportation - Bus Priority

Road Number	Road Name, Location	Scheme Description	Status
A6	Antrim Road	Provision of a new bus cage and refresh of localised road markings	Completed

TABLE 6: Collision Remedial

Name, Location	Scheme Description	Status
Sydenham Bypass	Control of right turn into Dee Street within the signal phasing and adjustment to junction layout	Completed

TABLE 7: Road Signs, Markings, and Bollards

Road Number	Road Name, Location	Scheme Description	Status
U0812	Windsor Avenue	4m School Keep Clear Extension	Completed
U0832	Pasadena Gardens	18.5m I-Bar	Completed
U0819	Tildarg Street	4m I-Bar	Completed
A55	Ballygomartin Road	3 x Pedestrian guardrail	Completed
U0626	Galway Street	8.2m I-Bar	Completed
U0622	North King Street	10m extension DYL's	Completed
U0801	Glenveagh Drive	5 x pedestrian guardrail	Completed
U0199	Upper Galwally/Church Road	15m Corner restrictions	Completed
U0813	Galwally Avenue/Church Road	15m Corner restrictions	Completed
U0500	Church Road/Bradford Place	15m Corner restrictions	Completed
U0611	Allworthy Avenue	6m I-Bar	Completed
U7104	Glenburn Rd/Glenburn Court	15m Corner restrictions	Completed
A1	Kingsway	10 x parking plates	Completed

Road Number	Road Name, Location	Scheme Description	Status
B88	Frederick Street	2 x Mon-Fri 8-6:30pm timeplates	Completed
U0637	SL1 Richview Street	1 x Mon-Fri 8-6pm timeplate	Completed
U0637	SL2 Richview Street	1 x Mon-Fri 8-6pm timeplate	Completed
U0848	31 Landseer Street	1 x Mon-Fri 8-6pm timeplate	Completed
U0804	Broadway	2 x PM Urban Clearway signs	Completed
U0301	Stranmillis Road	1 x Mon-Fri 8-6pm timeplate	Completed
U0619	SL52 Duncrue Street	1 x DAERA sign	Completed
B506	692 Ravenhill Road	1 X Roundabout sign	Completed
U0848	Botanic Court	2 x No stopping timeplates	Completed
C701	Dundela Avenue	4 x No stopping timeplates	Completed
U0831	Earlswood Road	4 x No stopping timeplates	Completed
C701	North Road	2 x No stopping timeplates	Completed
B506	Ravenhill Road	10 x No stopping timeplates	Completed
U0307	Tates Avenue	2 X National Football Stadium signs	Completed
A1	Lisburn Road	2 X National Football Stadium signs	Completed
U0307	Boucher Road	2 X National Football Stadium signs	Completed
A55	Stockman's Lane	2 X National Football Stadium signs	Completed
A2	York Road	2 x Jennymount Business Pk signs	Completed
C002	Finaghy Road South	2 x Finaghy Community Ctr signs	Completed
U0301	Stranmillis Rd/Embankment	4 x Zebra crossing warning signs	Completed
B506	Ravenhill Road	10 x No stopping timeplates	Completed
U0307	Tates Avenue	2 X National Football Stadium signs	Completed
A1	Lisburn Road	2 X National Football Stadium signs	Completed
U0307	Boucher Road	2 X National Football Stadium signs	Completed

Road Number	Road Name, Location	Scheme Description	Status
U0504	Gilnahirk Walk	1 x No Through Road sign & pole	Completed
U0828	Knocknagoney Drive	1 x No Through Road sign & pole	Completed
B502	Westland Rd, Cliftonville Rd	3 x Cliftonville Golf Club signs	Completed
B502	Oldpark Road	2 x Our Lady's Nursery School signs	Completed
U0125	Gilnahirk Rd/Lower Braniel Rd	3 x Roundabout warning signs	Completed
A55	A55	1 x Traffic light warning sign & HVBB	Completed
U7102	Kilwee Lane	2 x Children crossing signs	Completed
C002	Finaghy Road South	2 x Finaghy Community Centre signs	Completed
U0624	Gloucester Street	3 x Timeplates Mon-Fri 8am-6pm	Completed
U0815	Carolan Road	4 x Timeplates Mon-Fri 8am-4pm	Completed
C0701	North Road	2 x School Keep Clear signs	Completed
U0831	Eastleigh Drive	1 x Timeplate accessible bay	Completed
U0831	Castleview Terrace	1 x Timeplate accessible bay	Completed
A23	Castlereagh Road	8 x Urban Clearway signs	Completed
A1	Bedford Street	8 x Timeplates	Completed
U0810	Rathmore Park	1 x No Through Road sign & pole	Completed
A2	Great Patrick Street	1 x Urban Clearway sign	Completed
U0619	Dock Street	1 x Urban Clearway sign	Completed
A2	Nelson Street	3 x Urban Clearway sign	Completed
B170	392 Belmont Road	2 x 30mph signs	Completed
B170	392 Belmont Road	2 x National speed limit signs	Completed
U0635	La Salle Gardens	1 x No Through Road sign & pole	Completed
B502	Cliftonville Circus	1 x Accessible bay sign	Completed
U5311	San Souci Park	2 x Time plates	Completed

Road Number	Road Name, Location	Scheme Description	Status
U0811	Finbank Gardens	2 x Pedestrian guardrail	Completed
B23	Ballylesson Road	2 x Road narrows signs	Completed
B506	91 Ravenhill Road	1 x No Through Road sign & pole	Completed
B23	Malone Road x 2 & Balmoral Avenue x 1	3 x Newforge sports complex	Completed
C0703	Donegall Road	2 x St James Farm signs	Completed
U0831	Belmont Church Road	19.5m Waiting Restrictions	Completed
U0801	Suffolk Road	51m Waiting Restriction	Completed
F0848	College Green Mews	62m Waiting Restriction	Completed
U0634	Sorella Street	19.3m Waiting Restriction	Completed
U0634	Dunville Street	20m Waiting Restriction	Completed
U0634	Dunville Street	63m Waiting Restrction (SYL)	Completed
U0648	Clowney Street	1 x 3m I-Bar + 1 x 3.5m I-Bar	Completed
U0638	Harmony Street	1 x New loading bay markings	Completed
U0815	Carolan Road	1 x 76m SYL	Completed
U0501	Rosetta Road	1 x Left arrow & Turn left wording	Completed
U0812	36 Eglantine Avenue	5.3m I-Bar	Completed
U0500	Church Road, Belfast	3.5m I-Bar	Completed
U0811	Glenarm Square	Give Way markings	Completed
B0501	Cavehill Road	Yellow box markings (Fire station)	Completed
A2	Dunbar Link	Yellow box markings	Completed
B502	Cliftonville Circus	Accessible bay markings	Completed
B88	Frederick Street	Yellow box markings	Completed
B170	Belmont Road	Dragons teeth markings	Completed
U0618	Tomb Street	27m DYL's	Completed
U0634	Lisvarna Place	15m Corner restrictions	Completed
C703	542 Donegall Road	Keep clear markings	Completed

TABLE 8: Legislation – Speed Limits

Road Number	Road Name, Location	Scheme Description	Status
A23	Ballygowan Road on approach to Church Road, Belfast	Section of 40mph	Completed

TABLE 9: Legislation - Waiting Restrictions

Road Number	Road Name, Location	Scheme Description	Status
U0618	Tomb Street	27m Double yellow lines	Completed
U0634	Sorelli Street	Small length of DYL	Completed
U0634	Dunville Street	Small length of SYL and DYL	Completed
U0831	Belmont Church Road	Extension of DYL at Upper Newtownards Road	Completed
U0801	Suffolk Road	DYL at Community Centre	Completed
U0815	Carolyn Road	175m SYL Mon-Fri 8.00am-16.00pm	Completed

TABLE 10: Legislation – Parking Bays

Road Number	Road Name, Location	Scheme Description	Status
A2	Nelson Street	Loading bay	Completed
U0638	Harmony Street	Loading bay	Completed

TABLE 11: Legislation – Disabled Parking Bays

Road Number	Road Name, Location	Scheme Description	Status
U0601	33 Ballysillan Drive	Bays placed	Completed
U0839	25 Ballynafoy Close	Bays placed	Completed
U0836	40 Hollycroft Avenue	Bays placed	Completed
U0811	56 Locksley Gardens	Bays placed	Completed
U0648	5 Cavendish Square	Bays placed	Completed
U0648	6 Cavendish Square	Bays placed	Completed
U7101	74 Colinmill	Bays placed	Completed

U0639	21 Eliza Street Close	Bays placed	Completed
U0607	81 Joanmount Park	Bays placed	Completed
C0019	108 Ligoniel Road	Bays placed	Completed
U0614	5 Thorndale Avenue	Bays placed	Completed
B502	Cliftonville Circus	Introduction of accessible parking bay	Completed

TABLE 12: Legislation – Pedestrian Measures

Road Number	Road Name, Location	Scheme Description	Status
C003	Upper Dunmurry Lane	Pedestrian Crossing	Completed
U0632	Westrock Gardens	Dropped kerb scheme	Completed
U0608	Glenbank Place Area	Dropped kerb scheme	Completed
U0844	Chadwick Street Area	Dropped kerb scheme	Completed
U0646	Ashmore Street/Conway Street Area	Dropped kerb scheme	Completed
U0630	Snugville Street Area (incl. Tudor Grove)	Dropped kerb scheme	Completed
U7106	Summerhill Drive Area	Dropped kerb scheme	Completed
U0502	Downshire Park central	Dropped kerb scheme	Completed

TABLE 13: Carriageways- Minor works - Footways

Road Number	Road Name, Location	Scheme Description	Status
	Church Road	Provision of 465m of new footway along the eastern side of Church Road to link existing footway at Grey Castle Manor with the entrance to the Henry Jones playing fields and provide continuous pedestrian access along Church Road. Scheme substantially completed in March 2025 with a short stretch of footway on approach to the Henry Jones playing fields surfaced in September 2025. NIE diversion works remain to be completed.	Substantially complete
			

2.2 Planned Works 2025 – 2026

Please note that the delivery of the schemes listed below will be dependent on availability of Contractor resources.

TABLE 14: Carriageways / Minor Works planned

Road Number	Road Name, Location	Scheme Description	Status
A512	McKinstry Road/Derriaghy Road/ The Cutts	Junction improvement, carriageway widening, upgrade and widening of footways, shared use cycle tracks. Control of all vehicle movements with the signal phasing. (On the boundary of Belfast and Lisburn Council areas)	Completed

McKinstry Road/ Derriaghy Road/ The Cutts scheme design

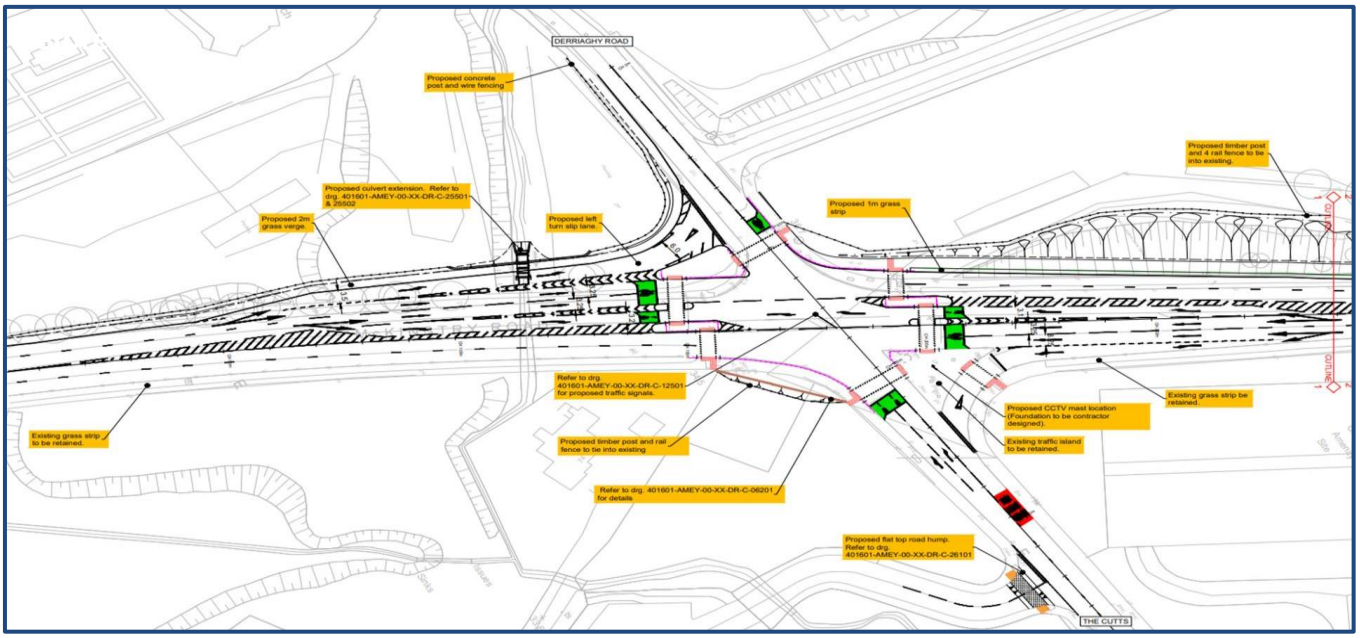


TABLE 15: Transportation - Bus Priority Measures

Road Number	Road Name, Location	Scheme Description	Status
A2	York Road & Shore Road Bus Priority	Enhancement of existing bus corridor - introduction of additional bus lanes, local carriageway widening and drainage, provision of new and upgrade of existing signalised pedestrian crossings to PUFFIN, and draft associated legislation.	Preliminary design stage
Various	Experimental Scheme	Bus Lanes - Introduction of an operational time change to AM/PM peak periods on both inbound & outbound bus lanes on southern radial routes to Belfast City Centre and draft associated legislation.	Complete
Various	Linenhall Street	Provision of a temporary coach bay and draft associated legislation.	Feasibility stage
Various	Glider Bus Corridors	Review maintenance issues and defects highlighted by Translink and prioritise for repair.	Feasibility stage
A20	Albertbridge and East Bridge Street	Reallocation of road space on Albert Bridge and East Bridge Street to facilitate pedestrian demand, cycling and public transport.	Awaiting outcome of Eastern Transport Plan
B505	Holywood Road	Reallocation of road space on Holywood Road corridor to provide new/extended lengths of bus lane to facilitate improved public transport and cycling.	Preliminary design under consideration.
A6	Antrim Road	Reallocation of road space on Antrim Road corridor to provide new/extended lengths of bus lane to facilitate improved public transport and cycling.	Awaiting decision on BRT2
A24	Ormeau Road	Reallocation of road space on Ormeau Road corridor to provide new/extended lengths of bus lane to facilitate improved public transport and cycling.	Preliminary design under consideration.

TABLE 16: Transportation – Park and Ride

Road Name, Location	Scheme Description	Status
Tillysburn Park and Ride	A proposal has been developed for a Park and Ride site on the A2 Belfast to Bangor transport corridor. It will be located at Tillysburn Junction, on ground situated between Holywood Road and Sydenham Bypass. Statutory consultations are ongoing.	Preliminary designs under consideration.

TABLE 17: Transportation – Linen Quarter

Road Name, Location	Scheme Description	Status
Linen Quarter	Transportation measures to limit traffic movements in the Linen Quarter, Belfast in accordance with objectives set out in the Eastern Transportation Plan	At design stage

TABLE 18: Traffic Calming

Road Number	Road Name, Location	Scheme Description	Status
U0644	Flax Street	Traffic Calming Scheme	Complete
U0812	Windsor Park	Traffic Calming Scheme	In progress
U0812	Derryvolgie Avenue	Traffic Calming Scheme	In progress
U0810	Orpen Park	Traffic Calming Scheme	Under review
U0817	Ravenhill Park / Onslow Parade	Traffic Calming Scheme	Consultation complete
U0810	Orpen Road, Porter Park & Orpen Drive	Traffic Calming Scheme	Under review
U0605	Somerton Road	Traffic Calming Scheme	Deferred
U0612	Alexandra Park Avenue	Traffic Calming Scheme	Deferred

TABLE 19: Collision Remedial

Road Number	Road Name, Location	Scheme Description	Status
A512	McKinstry Road / The Cutts	Junction improvement. Control of right turns (As above on the boundary of Belfast and Lisburn)	Completed

TABLE 20: Safer Routes to School - Part time 20mph limits

Road Number	Road Name, Location	Scheme Description	Status
U0208	Edenbrooke Primary School, Tenant Street, Belfast.	Part time 20mph	Programmed
B0170	Belmont Primary School, Belmont Road, Belfast.	Part time 20mph	Programmed
U0801	Bunscoil Phobal Feirste Primary School, Rosgoil Park, Shaws Road, Belfast.	Part time 20mph	Programmed

TABLE 21: Road Signs, Markings and Bollards

Road Number	Road Name, Location	Scheme Description	Status
Various	2 x Bignian Drive, 2 x North Green, 2 x Bearnagh Drive	6 x Holy Child P.S signs	Completed
Various	2 x Lisburn Rd, 2 x Balmoral Avenue, 2 x Boucher Road	6 x Clearer Twist National Stadium	Completed
U0610	Ardoyne Rd & Cranbrrok Court	3 x Playground signs	Completed
A2	Middlepath Street	2 x No Entry & hi vis backing board	Completed
A2	Nelson Street	1 x Loading bay sign & pole	Completed
U0819	Roseberry Road	2 x Road humps signs	Completed
U0624	Wellington Street	3 x Bus lane & 3 x No left turn signs	Completed

Road Number	Road Name, Location	Scheme Description	Status
Various	Various locations	15 x Affidea Stadium signs	Completed
U0837	Templemore Street	2 x Avoneil Leisure Centre signs	Completed
U0801	Glenveagh Drive	15m Pedestrian guardrail	Completed
A55	3 x Rocky Road & 2 x A55	5 x Not suitable for HGV's	Completed
U0644	Havanna Way	2 x Children crossing signs & Plates	Completed
U0644	Herbert Street	2 x Children crossing signs & Plates	Completed
U0613	Duncairn Gardens	Parking bay lines	Completed
A2	Nelson Street	Loading Bay markings	Completed
U0620	Hill Street	Pedestrian Zone signage	Programmed
U0620	Gordon Street	One way signage	Programmed
U0634	Ross Road	15m Corner restrictions	Programmed

TABLE 22: Legislation - Waiting Restrictions

Road Number	Road Name, Location	Scheme Description	Status
A1	Bedford Street	Extension Legislation for Double yellow lines	Completed
A55	Upper Knockbreda Road	Double yellow lines in maintenance bay	In progress
U0812	Marlborough Park	Double yellow lines	In progress
U0614	St James Street	Single yellow line	In progress

TABLE 23: Legislation – Traffic Movements

Road Number	Road Name, Location	Scheme Description	Status
B126	College Avenue	Ban on U-turn	In progress

Road Number	Road Name, Location	Scheme Description	Status
A1	Great Victoria Street onto Grosvenor Road	Prohibition of left turn	In progress

TABLE 24: Legislation – Parking Bays

Road Number	Road Name, Location	Scheme Description	Status
A2	Middlepath Street	Limited waiting bays	In progress

TABLE 25: Legislation – Grand Central Station

Road Number	Road Name, Location	Scheme Description	Status
Various	Boyne Bridge Place/Great Victoria Street/ Glengall Street/ Hope Street	Legislation associated with Grand Central Station	Completed

TABLE 26: Legislation – Waiting Restrictions

Road Number	Road Name, Location	Scheme Description	Status
A1	Bedford Street	Extension Legislation for Double yellow lines	Completed
A055	Upper Knockbreda Road	Double yellow lines in maintenance bay	In progress
U0812	Marlborough Park	Double yellow lines	In progress
U0614	St James Street	Single yellow line	In progress

TABLE 27: Legislation – Disabled Parking Bays

Road Number	Road Name, Location	Scheme Description	Status
U0835	9 Knock Link	Bays to be placed	Ongoing
U0604	54 Fairhill Walk	Bays to be placed	Ongoing
U0827	27 Edenvale Crescent	Bays to be placed	Ongoing
U0613	30 Lothair Avenue	Bays to be placed	Ongoing
U0814	8 Posnett Court	Bays to be placed	Ongoing

Road Number	Road Name, Location	Scheme Description	Status
U0848	46 Stranmillis Gardens	Bays to be placed	Ongoing
A55	Springfield Road	Accessible parking bay	In progress

TABLE 28: Pedestrian Measures

Road Number	Road Name, Location	Scheme Description	Status
U0620	Hill Street	Pedestrianisation	Programmed
C701	Knockbreda Road	Pedestrian crossing	At design

Accessible Parking Bays – General

Individual Accessible Parking Bay applications are assessed in line with policy before the completion of the necessary legislative process. Successful applications are required to be notified in local newspapers offering the opportunity for the public to submit their views.

Any objections must be fully considered before the application can progress to the Legislative Stage. Due to the processes involved, approved applications are required to be grouped and processed in batches of two or maybe three occasions during the year.

Deillumination of signs

The Department is continuing to develop a programme of replacing internally illuminated bollards with retroreflective bollards, as resources permit, thus helping to reduce energy costs.

Legislation

All proposals to introduce or amend legislation are subject to successful completion of the necessary processes. This includes Accessible Parking Bays, Speed Limits, Traffic Regulation Orders (such as one-way), Parking and waiting restrictions (such as yellow lines) etc. A notice of intention of proposals is published in local papers which offers the opportunity for the public to submit their views on the proposals. Objections, when received, must be fully considered and addressed before any scheme can be taken forward for implementation.

2.3 Street Lighting

The total number of streetlights in Eastern Division is approximately 68,250, of which 45,757(67%) are in the Belfast City Council area.

Completed Works 2024 – 2025

TABLE 29: Street Lighting – completed

Location	Scheme Description	Status
River Terrace, Cooke Street, Cooke Mews, Cooke Place and Cooke Court, Belfast.	Street Lighting Renewal Scheme	Complete
Sandringham Mews, Belfast.	Street Lighting Renewal Scheme	Complete
Knockdene Park, Belfast.	Street Lighting Renewal Scheme	Complete

Street Lighting Maintenance

Since April 2015, in line with reductions in available staff, DfI Roads only repairs those defective streetlights reported by the public or their representatives. In order to facilitate this process, reports of defective lights can now be made directly online via the NI Direct website at the web address: https://www.nidirect.gov.uk/services/report-street-light-fault

Reports made via this web page automatically generate a works order to the appropriate contractor to have the defect repaired.

Reports can also be made by telephone at 0300 200 7899.

Priority is given to emergency defects i.e. those defects posing a direct structural or electrical hazard, then to groups of lights out, groups of lights burning continuously and finally to individual lights out.

Repair of faults to streetlights

Our response times are: -

Emergency, responded to a Road Traffic Collision within an hour and a half to site (1.5 hrs) where a streetlighting column has been damaged. This is only to make safe and protect the public from danger to exposure of live cables or the column falling.

Urgent, respond within twenty-four hours (24 hrs). This is to reinstate a knockdown of a column possibly at a critical junction.

Normal lamp maintenance within five days (5 days). It is not always possible to fulfil the 5-day response. This can be down to a combination of factors. The number of outages on the system, cable faults on the cable network or staff shortages. We also try to ensure that at least 95% of streetlights are recorded as working on the LMS at anytime, subject to budget being available.

Planned Works 2025– 2026

Street Lighting – planned

There are no planned schemes in the Belfast City Council for 2025/26.

SECTION 3 - NETWORK TELEMATICS

Philip is responsible for Traffic signal control, operation of the Traffic Information and Control Centre, Traffic and travel information, TrafficWatchNI website, Motorway Control Systems, and CCTV traffic cameras.

Philip is supported by:

Ian Duff
Senior Engineer – Intelligent Transport Systems & Control Room Operations
Traffic Information and Control Centre
1B Airport Road
Belfast
BT3 9DY
Telephone: 028 9025 4517
Email: belfast.ticc@infrastructure-ni.gov.uk

Neil Graham
Senior Engineer – Road Safety
Traffic Information and Control Centre
1B Airport Road
Belfast
BT3 9DY
Telephone: 028 9025 4517
Email: belfast.ticc@infrastructure-ni.gov.uk

Gary McCracken
Senior Engineer – Traffic Signals and Road Safety
Traffic Information and Control Centre
1B Airport Road
Belfast
BT3 9DY
Telephone: 028 9025 4517
Email: belfast.ticc@infrastructure-ni.gov.uk

NETWORK TRAFFIC TELEMATICS

The Traffic Information & Control Centre (TICC) operates 24/7 and carries out a variety of functions, including traffic control; dissemination of traffic and travel information; incident management; and out of hours incident handling.

TICC manages and co-ordinates the control of traffic on Belfast's urban road network and on our motorway networks. TICC is also responsible for control of traffic signals in some other towns, such as Bangor, Newry Carrickfergus and Lisburn.

Operators use a computerised Urban Traffic Control (UTC) system which allows them to monitor and control the traffic signals at junctions in Belfast and make changes to timings, if necessary, to help traffic flow more freely and prevent queues building up, wherever possible.

There are permanent CCTV traffic cameras throughout Northern Ireland and these provide a visual aid to monitor the network. The cameras cover Belfast City Centre, the motorway network and other strategic routes, including the A1 to Newry and the Belfast Rapid Transit routes. Additional cameras have recently been installed in Coleraine, Derry, Omagh, Cookstown and on the A6 Belfast to Derry route.

A Motorway Control System allows operators to add information to the overhead signs and set advisory speed limits on the motorway network, Westlink, A1, A6 and A8.

When incidents occur on the road network, they inevitably result in traffic congestion, unreliable journey times and have an adverse effect on air quality. Staff in TICC work closely with other organisations to manage incidents as effectively as possible, to ensure that the network is safe and is operating at its optimum capability.

Incident and event management are integral parts of the TICC operation. Regular meetings are held with stakeholders including PSNI, Belfast City Council, SSE Arena, Titanic Belfast and Belfast Harbour Police. Through these forums, planned events have special traffic management plans developed and implemented with the aim of ensuring that journey times are optimised for road users.

It is also responsible for the provision of traffic information throughout Northern Ireland and a key aspect of monitoring and managing the road network is the provision of up-to-date and accurate information to the public and local radio stations.

This is facilitated via the TrafficWatchNI website, email alerts and a X account (formerly Twitter) to which increasing numbers are now subscribing. All dynamic information on the website is verified visually by the operators or through communication with the PSNI. The number of Twitter followers has increased from 29,000 in January 2017 to over 84,000 currently.

Other work areas within TICC's remit include the:

- Network Management team that manages the computer systems behind the traffic signal control operation;
- Motorway Control team that manages installation, maintenance and the computer systems behind motorway signs, signals and emergency telephones;
- Traffic signal installation and maintenance team; and
- Contract Management

3.1 Completed Works 2024 – 2025

TABLE 30: Network Telematics

Scheme Description	Status
TRAFFIC AND TRAVEL INFORMATION	
We have increased the number of CCTV sites available on the website to provide coverage at critical network junctions and improve traffic control capabilities.	Complete
Ensure systems remain maintained and up to date	Complete
We have upgraded the TrafficWatchNI website to ensure it remains robust, secure and fit for purpose.	Complete
URBAN CLOSED-CIRCUIT TELEVISION (CCTV) CAMERAS	
We will continue to identify new locations where the provision of cameras will enhance the coverage of the CCTV network to improve traffic control capabilities.	Ongoing
We have upgraded a number of our Westlink and motorway CCTV cameras from analogue to digital.	Complete
Deployed mobile CCTV at numerous events.	Complete
TRAFFIC CONTROL SYSTEMS	
We will continue the rollout of Server to Server Bus priority on Quality Bus Corridors throughout Belfast.	Ongoing
Commenced a project to examine fibre shortfall on the network, subject to funding and resource.	Ongoing
Upgraded CCTV instation hardware	Ongoing

Scheme Description	Status
TRAFFIC MANAGEMENT	
Utilise TICC's communications and control infrastructure together with the CCTV network to ensure traffic flows are monitored and effectively managed on the urban and motorway networks.	Ongoing
We will monitor traffic signal timings to ensure they are appropriate for the prevailing traffic conditions.	Ongoing
Purchased new equipment to replace some of the aging infrastructure currently on the network.	Complete
Signal junction upgrades incorporating extra low voltage equipment and puffin crossing facilities at: • Frederick St / York St • Bradbury Pl / Lisburn Rd / Sandy Row Controlled crossing equipment upgrades incorporating extra low voltage equipment and puffin crossing facilities were completed at: • York St @ Mineral St • Castlereagh St @ Frank St • North Queen St @ Cultra St • Donegall Pass @ Apsley St	 Complete Complete Complete Complete Complete Complete

3.2 Planned Works 2025 – 2026

TABLE 31: Network Telematics

Scheme Description	Status
TRAFFIC AND TRAVEL INFORMATION	
We will upgrade and enhance the TrafficWatchNI website to ensure it remains robust, secure and fit for purpose.	Ongoing
We have plans to further increase the number of CCTV sites available on the website from 150 to 160 to provide coverage at critical network junctions and improve traffic control capabilities.	Ongoing

Scheme Description	Status
We will investigate the addition of Automatic Number Plate Recognition (ANPR) Cameras on the network. Any new ANPR cameras will be high quality and use the latest optical recognition technology which will continue to provide reliable and timely journey times to Road Users.	Ongoing
URBAN CLOSED-CIRCUIT TELEVISION (CCTV) CAMERAS	
We will continue to identify new locations where the provision of cameras will enhance the coverage of the CCTV network to improve traffic control capabilities.	Ongoing
Investigate options of installing a new CCTV site on Sydenham by-pass.	Ongoing
Subject to funding and resource investigate the upgrade of analogue CCTV cameras to digital throughout the network.	Ongoing
Deploy mobile CCTV at various events	Ongoing
TRAFFIC CONTROL SYSTEMS	
We will continue to upgrade and add to our Urban Traffic Control System (UTC) to ensure the system remains robust and secure.	Ongoing
We will commence design on IP to the Roadside for our Motorway network to enable growth in Intelligent Mobility and Connected Vehicles, when feasible.	Ongoing
We will implement software improvements for the M1 and M2 Busway signs.	Ongoing
We will investigate new platforms and technologies to be able to communicate with infrastructure on the network.	Ongoing
TRAFFIC MANAGEMENT	
We will investigate the options to re-introduce SCOOT into the city centre.	Ongoing

Scheme Description	Status
We will investigate the options to introduce FUSION into the city centre.	Ongoing
We will monitor traffic signal timings to ensure they are appropriate for the prevailing traffic conditions.	Ongoing
We will utilise TICC's communications and control infrastructure together with the CCTV network to ensure traffic flows are monitored and effectively managed on the urban and motorway networks.	Ongoing
We will seek to purchase and install new equipment and replace aging infrastructure on the network, when funds and resource are available.	Ongoing
We have commenced a review of our ITS infrastructure to ensure that we are delivering the best service possible to the public.	Ongoing
Signal junction upgrades incorporating extra low voltage equipment and puffin crossing facilities at the following sites: Old Holywood Road/Belmont Road Shaftesbury Square	Oct 25 Feb 26
MOTORWAY NETWORK SAFETY	
Subject to adequate resource and funding being available we will undertake feasibility work on the replacement of the end-of-life motorway Emergency Roadside Telephone (ERT) system and commence design on a replacement system.	Ongoing
We will undertake feasibility into upgrading access to sites for maintenance personal and subject to adequate funding commence design on improving health and safety going forward.	Ongoing
We will improve communication resilience to assets on the network.	Ongoing
We will examine options for the control of the motorway infrastructure when resource is available.	Ongoing
We will investigate future technologies and infrastructure needed for C-ITS implementation.	Ongoing

Scheme Description	Status
PEDESTRIAN MEASURES	
Controlled crossing equipment upgrades incorporating extra low voltage equipment and puffin crossing facilities at the following sites: • Kingsway @ Rowan Drive • Antrim Rd @ Ben Madigan • Antrim Rd @ Serpentine Rd	Completed Feb 26 Feb 26

SECTION 4 - NETWORK MAINTENANCE

Maintenance Manager: Gareth McKibbin

Gareth is responsible for Road Maintenance, Structural Maintenance, Highway Inspections, Utility Street Works, Street Tree Maintenance, Public Liability Claims, Winter Service and Emergency Planning.

Gareth is supported in Belfast City Council Area by:

Joe Torney
Section Engineer for Belfast North
Dfl Roads Belfast North Section Office
1A Airport Road
Belfast
BT3 9DY

Tel: 0300 200 7899
E-mail: BelfastNorth@infrastructure-ni.gov.uk

David Williams
Section Engineer for Belfast South
Dfl Roads Belfast South Section Office
1A Airport Road
Belfast
BT3 9DY

Tel: 0300 200 7899
E-mail: BelfastSouth@infrastructure-ni.gov.uk

Sean O'Neill
Senior Engineer
Network Maintenance Support
1A Airport Road
Belfast
BT3 9DY

Tel: 0300 200 7899
E-mail: maintenance.eastern@infrastructure-ni.gov.uk

EXPLANATION OF MAINTENANCE OPERATIONS

Resurfacing and Strengthening

Roads generally fail by cracking and rutting. They usually do not fail suddenly, but gradually deteriorate due to the impact of traffic, age and weathering. Wear normally appears as either excessive permanent deformation of the whole or part of the carriageway structure or is associated with the cracking of the bituminous layers.

Roads are normally designed for an operational life of 20 years. During this period and beyond, there is a need for the highway authority to intervene at times to either treat or replace the top layer of bituminous material known as the "surface course" or to provide additional depth to preserve the underlying structure of the road and extend its life.

Resurfacing is the application of a layer of this mixed material of 40mm minimum thickness. It strengthens the road, seals it against the ingress of water, and improves skidding resistance and riding quality.

Surface course Bitumen Macadam (Bitmac) has an expected life of 7-12 years which can be extended by subsequent surface dressing. Bitmac is a more flexible material than Asphalt and more suitable for the deformation and movement associated with weaker underlying ground conditions.

Asphalt resurfacing is more appropriate to heavily trafficked roads and junctions having a robust roadbase. It is more expensive and has a longer expected life of 15-20 years.

Resurfacing of existing roads can usually be carried out on top of the existing surface (overlay) but where drainage or kerb levels or bridge heights are restricted the existing surface may need to be removed before the resurfacing takes place.

Surface Dressing

This process involves spraying a bitumen emulsion binder onto the existing road surface, followed by a layer of stone chippings, which is then rolled. This seals the road preventing ingress of water thus extending the life expectancy of the road and also helps to improve the skid resistance on the surface.

Drainage Works

The quick and effective drainage of surface water from the carriageway contributes significantly to road safety and helps to prevent damage to the road itself. Improvement works carried out include the upgrading of the existing drainage facilities to ensure effective dispersal of surface water and prevent as far as possible the occurrence of standing water or flooding

of the road. In many cases the provision of new drainage facilities has to be undertaken including the installation of road gullies, pipes and manholes leading to a suitable discharge point.

Grass Cutting

Grass cutting is carried out for road safety reasons rather than for amenity purposes. The Department's grass cutting policy has evolved to focus on protecting wildlife and promoting biodiversity when managing roadside verges. A single swathe will be cut along the verges on the strategic road network twice per year. Other areas that are needed for road safety purpose, such as sightlines at junctions, will also be cut at least twice each year with additional cuts as and when needed. A similar approach will be introduced on heavier trafficked rural roads and on lighter trafficked rural roads, one cut will be carried out late in the growing season.

Gully Emptying

In 2025/26 as in the previous year, the Department currently aims to maintain the level of service and inspect and clean, where necessary, all gullies once annually. Open outlets are also cleaned once per year.

Dealing with Correspondence / Public Interface

The Department, and in particular DfI Roads, receives a large volume of correspondence from the public and public representatives throughout the year. The level of correspondence has been increasing in recent years at a time when staff resources have been reducing.

In a large number of cases the correspondence relates to reports of individual defects on the road network, such as potholes, blocked gullies, defective streetlights etc. In order to improve efficiency, the Department now deals with correspondence which is only reporting routine defects differently from other general correspondence. Therefore, if a member of the public, or public representative, writes to the Department by letter or e-mail, reporting a routine defect then our staff will simply log this information onto our work systems and an automated response detailing the query reference number will issue to the correspondent. Staff will then deal with the query received in accordance with our maintenance standards.

If the initial letter relates to a more general roads issue rather than simply reporting a defect, a substantive reply will issue in the normal way.

In an effort to reduce the volume of correspondence reporting routine defects, we are encouraging the reporting of defects through the on-line "Report a Fault" section on our website. Alternatively, a phone call can be made to one of our telephone operatives who will

record the details directly onto the “Report a Fault” system. You can report a fault on-line at https://www.nidirect.gov.uk/ or by telephone to 02890 540540.

It is noted that the vast majority of dealings with the public are by phone or email and the number of visitors to our offices has reduced considerably as communication methods have improved. However, Section Offices will remain open to the public from 10am - 12noon with meetings outside of this able to be arranged by appointment also.

Defects

Section Office staff regularly inspect the local network for actionable defects in accordance with the Road Maintenance Guidelines. These guidelines classify the local roads according to traffic volume and establish corresponding deadlines for the repair of any defects identified. Also, in an effort to maximise our effectiveness in delivering key road maintenance functions, we ask that members of the public and elected representatives who have access to the internet to please report road defects via the DfI online reporting facility provided by NI Direct; https://www.nidirect.gov.uk/information-and-services/travel-transport-and-roads/problems-roads-and-streets. Alternatively, faults that are considered to be an emergency can be reported by telephone as shown on Page 64.

Street Tree Maintenance

DfI Roads Eastern is responsible for over 14,500 street trees throughout the Division.
The management and maintenance of these trees is undertaken through a longstanding arrangement with Belfast City Council (BCC). A Project Management Agreement is in place to allow the Department to draw on the advice and expertise of BCC arboriculturists to manage street trees (trees on adopted carriageways). This partnership with BCC dates back over 40 years.

Street trees are inspected on a 2-year cyclical programme by BCC aboricultural staff. Regular monthly meetings are held with BCC arboriculturists, as well as informal daily/weekly contact to discuss any street tree issues or problems that may arise. Where the need for tree maintenance works is identified this is progressed by BCC on a priority basis, in liaison with DfI Eastern Division, subject to the availability of the necessary resources. This maintenance work, and also any required replacement tree planting, is completed using the BCC aboricultural contract. This arrangement is in place throughout Eastern Division and may on occasions include necessary DfI Roads tree maintenance located within the Lisburn and Castlereagh City Council area. In 2024/25 routine tree maintenance costs within DfI Roads Eastern Division were £368,000. A further £180,000 was spent on reactive and storm related tree works.

In addition to tree maintenance, over the past 4 years DfI Roads Eastern Division has planted over 5,800 new trees on DfI owned land in partnership with BCC as part of the Belfast Million Trees project. These have mainly been native species such as Rowan, Hawthorn, Lime, Cherry and Birch and this new tree planting links into the objectives of the BCC Belfast Tree Strategy - Belfast Tree Strategy (belfastcity.gov.uk). Furthermore, 104 heavy standard street trees were planted.

Open Sites / Planters

The DfI / BCC Project Management Agreement also includes the maintenance of 65 DfI Open Sites / Planters throughout the BCC area, which are mainly located in Belfast City Centre and gateway areas. Open Site maintenance is undertaken three times per year (April, August, and November) by BCC aboricultural staff, using the BCC horticultural contract. Works include trimming and pruning of bushes and vegetation, grass cutting, landscaping and litter picking, as well as any required replacement planting. In 2024/25 open site maintenance costs within DfI Roads Eastern Division were £106,000.

4.1 STRUCTURAL MAINTENANCE COMPLETED WORKS 2024 – 2025

Structural Maintenance - Carriageway

TABLE 32: Trunk Road Network Resurfacing – Cost and Length Completed

Structural Maintenance Cost	
£4,500,000	
	Total Length Completed
Total length completed	7.43 lane kms

TABLE 33: Resurfacing –Trunk Road Network Locations

Road Number	Road Name, Location
A0002	Sydenham Bypass – Citybound

TABLE 34: Non-Trunk Road Network Resurfacing – Cost and Length Completed

Structural Maintenance Cost	
£6,414,000	
	Total Length Completed
Non-trunk Road Network	18.66 lane kms
Road Recovery	5.19 lane kms

TABLE 35: Resurfacing - Non-Trunk Road Network Locations

Road Number	Road Name, Location
U0647	Lyndhurst Park View*
U0606	Inver Avenue*
U0633	New Barnsley Parade*
U0637	Felt Street*
U0637	Eureka Drive*
U0637	Bentham Drive*
U0637	Boyne Court*
U0632	Rockmount Street*
U0632	Beechview Park*

Road Number	Road Name, Location
U0610	Balhom Drive*
A0512	Creighton Road Stage 1
U0647	Forthriver Park
U0609	Mountainhill Road
U0615	Wolfhill Avenue
U0628	Townsend Street
U0607	Oldpark Terrace
U0631	Lanark Way
A0002	Sydenham By Pass
C0265	Kings Road – Knock Road to Gilnahirk Road
U0304	Connsbrook Avenue – Holywood Road to Strandburn Street
U0831	Belmont Church Road
U0812	Myrtlefield Park
U0820	Loopland Park
U0500	Grays Park Avenue
U0500	Grays Park Gardens
U0500	Grays Park Drive
C0003	Dunmurry Lane
U0835	Orangefield Road/Sandhill Gardens
U0831	Wandsworth Road
U0835	Kerrsland Drive
U0835	Kerrsland Parade
U0835	Kerrsland Crescent
U0844	Balmoral Road 1*
U0844	Balmoral Road 2*
U0844	Balmoral Road 3*
U0844	Balmoral Road 4*
U0301	Stranmillis Embankment
U0828	Hawthornden Gardens*

Road Number	Road Name, Location
U0840	Inglewood Court*
U0810	Beechlawn Avenue*
U0835	Sandhill Parade*
B0023	Upper Malone Road at Dunmurry Lane*
U0835	Orangefield Grove*
U0835	Orangefield Avenue*

***Road Recovery**

TABLE 36: Footway Resurfacing - Cost and Length Completed

Structural Maintenance Cost
Included in resurfacing cost above
Total length completed
21.5km

TABLE 37: Footway Resurfacing locations

Road Number	Road Name, Location
U0647	Forthriver Park
U0609	Mountainhill Road
U0615	Wolfhill Avenue
U0607	Oldpark Terrace
U0801	Creeslough Park
U0800	Glencolin Way
C0265	Kings Road – Knock Road to Gilnahirk Road
U0304	Connsbrook Avenue – Holywood Road to Strandburn Street
U0831	Belmont Church Road
U0812	Myrtlefield Park
U0820	Loopland Park
U0500	Grays Park Avenue
U0500	Grays Park Gardens

Road Number	Road Name, Location
U0500	Grays Park Drive
U0831	Wandsworth Road
U0835	Kerrsland Drive
U0831	Kerrsland Parade
U0835	Kerrsland Crescent
F0510	Milltown Estate

TABLE 38: Drainage - Cost and sites Completed

Structural Maintenance Cost
£322,000
Number of Sites completed
10

TABLE 39: Drainage Locations

Road Number	Road Name, Location
A0002/A0023	Bridge End, Short Strand and Mountpottinger Link – Replacement gully lids and channel jetting
A0002	Bridge End - Mastic improvement to inspection chambers
U0830	Tweskard Lodge
U0130	Rocky Road
U0844	Balmoral Link
U0638	Bains Place - New drainage and carriageway reconstruction
U0843	Derrin Pass – System diversion preventing carriageway flooding
A0002	Nelson Street – Re-siting gullies into verge
U0630	Snugville Street – All gullies replaced
U0613	Queens Parade Pedestrian ramp – New drainage system installed

4.2 STRUCTURAL MAINTENANCE PROPOSED WORKS 2025 – 2026

Structural Maintenance - Carriageway

TABLE 40: Non-Trunk Road Network Resurfacing - Cost and Length Proposed

Structural Maintenance Cost	
Non-Trunk Road Network - £3,107,000	Road Recovery - £150,000
	Total Length Proposed
Non-Trunk Road Network	16.9 Lane km
Road Recovery - 6 sites	6.4 Lane km

TABLE 41: Resurfacing – Non-Trunk Road Locations

Road Number	Road Name, Location	Status
U0830	Castlehill Road	Complete
A0023	Short Strand	Complete
A0023	Mountpottinger Link	Complete
C0265	Old Dundonald Road	Complete
U0827	Sydenham Avenue	On site
U0844	Balmoral Link*	Complete
U0810	Wilmont Park*	Complete
U0800	Hannahstown Hill	Complete
U0801	Horn Drive	Complete
U0636	Norglen Parade	On Site
U0601	Strathmore Park	Complete
U7108	Lagmore Avenue (Extents of Active Travel Scheme)	Programmed
U0694	McDonnel Street*	Complete
U0806	Brooke Court*	Complete
U0806	Moor Park Mews*	Complete
U7101	Pembrooke Court*	Complete

***Road Recovery**

TABLE 42: Footway Resurfacing – Length Proposed

Total Length Proposed
14.68km

TABLE 43: Footway Resurfacing Proposed Locations

Road Number	Road Name, Location	Status
U0830	Castlehill Road	Complete
A0023	Short Strand	Complete
U0827	Sydenham Avenue	On site
U0500	Belvoir Drive	Complete
U0801	Horn Drive	Complete
U0636	Norglen Parade	On Site
U0601	Strathmore Park	Complete

Structural Maintenance - Drainage

TABLE 44: Drainage – Proposed Sites and Costs

Number of Sites Proposed	Total Estimated Cost
5	£260,000

TABLE 45: Drainage Sites - Proposed Locations

Road Number	Road Name, Location	Status
A0055	Stockmans Lane – Pipe re-lining	Complete
U0807	William Alexander Park	Complete
U0844	Balmoral Link	Complete
U0802	Deanwood Drive	On site
U0612	Alexander Park Avenue	Planned

4.3 ROUTINE MAINTENANCE COMPLETED WORKS 2024 – 2025

Grass Cutting

TABLE 46: Grass Cutting Completed

Total cut	
Total Length cut 75km.	Total area cut 218,060m^2

Defects

Section Office staff regularly inspect the local network for actionable defects in accordance with the Road Maintenance Guidelines. These guidelines classify the local roads according to traffic volume and establish corresponding deadlines for the repair of any defects identified.

TABLE 47: Defects details

Description	Detail Total
Total priority defects recorded	29,926

Public Liability Claims 2024-25

TABLE 48: Public Liability Claims details

Description	Detail Total
Total claims received in Eastern Division	**689**
- vehicular damage	661
- personal injury	165
- property damage	18
Total claims settled	**524**
Total claims rejected	**134**

Please note that statistics above for total claims settled are claims where compensation was paid, and statistics for total claims rejected are for claims where no compensation was paid.

The Department's road related claims data between 2019/20 to 2024/ 25 can be accessed via the following webpage; https://www.infrastructure-ni.gov.uk/publications/road-asset-maintenance-directorate-management-information-roads-related-claims-period-20202021-20242025

The link to general information relating to road related claims on NI Direct is via the following webpage; https://www.nidirect.gov.uk/articles/claim-compensation-due-road-or-street-problem

4.4 MAINTENANCE OF STRUCTURES

Structures Section manages 355 bridges and culverts within the Division, 127 of which are in the Belfast City Council Area. Typically, these have a span of 1.8m and greater. Smaller structures are managed by the local Section Office.

Completed Works 2024 – 2025

Six structures projects were completed within the Belfast City Council area during 2024/25 at a cost of £80,000.

TABLE 49: Structures Schemes Completed 2024/25

Location	Scheme Description
Vegetation Removal from 3 No Road over Rail Structures	Completed
Structure No 20251 – Lower Windsor Avenue Footbridge Steps Washing	Completed
Saintfield Rd at Upper Galwally - Wall Repairs	Completed
Baroda Drive Replacement Wall	Completed
Structure No 90390 – Upper Springfield Road P4 Undermining	Completed
Ligoneil Rd Wolfhill – Wall Repairs	Completed

Proposed Works 2025 – 2026

Eleven structures projects are proposed within the Belfast City Council area during 2025/26 at an estimated cost of £150,000.

TABLE 50: Structures Schemes Proposed 2025/26

Location	Status
Structure No 90395 – Kingsway, Dunmurry – Undermining & Scour Protection Works	Complete
Structure No 20172 – Queen's Bridge – Replacement of parapet handrail straps	Complete
Structure No 20184 – Dee Street Bridge Vegetation Removal	Ongoing

Location	Status
Structure No 20250 – Tate's Avenue Bridge – Removal of Guano – Replacement of Mesh Panels and Installation of Doors for Inspections	Ongoing
Deacon Street Steps – Investigatory Works	Ongoing
Westlink Suicide Deterrent Measures	Design
Structure No 20256 – King's Bridge Waterproofing, Resurfacing and Concrete Repairs	Design
Structure No 20262 – Bells Bridge – Spalling Concrete Repairs	Programmed
Structure No 90397 – Upper Dunmurry Lane – Masonry Repairs and Scour Protection Works.	Programmed
Structure No. 20152 - Westland Road Culvert – Metal Railing Repair / Replace (Structure Maintenance)	Programmed
Structure No 20235 – Falls Road – Parapet Improvement	Programmed

Bridges are inspected routinely. This generates an ongoing programme of maintenance / repairs to bridges and other structures.

4.5 MAINTENANCE OF VEHICLE RESTRAINT SYSTEMS

Completed Works 2024/25

Vehicle Restraint Systems (VRS) works undertaken within the Belfast City Council area during 2024/25.

TABLE 51: Vehicle Restraint Systems Completed 2024/25

Road Name, Location	Status
Sydenham Bypass	Complete
Sydenham Bypass – repair/replace defective VRS	Complete
Sydenham Bypass - repair/replace defective VRS	Complete
Tillysburn Roundabout - repair/replace defective VRS	Complete
Upper Knockbreda Road - clear vegetation and repair VRS	Complete
Belfast South TCB Tensioning project	Complete
Belfast South Vegetation Removal (9 locations)	Complete
Belvoir Road (West section)	Complete
Baroda Drive Wall repair	Complete
York Link - Replacement VRS	Complete
Nelson Street East - Replacement VRS	Complete
Nelson Street West - Replacement VRS	Complete
Loughview Terrace - Repair	Complete
Cairnmartin Road - Repair	Complete
Fortwilliam Roundabout - Off slip to Shore Road - Replacement VRS	Complete
Belfast North TCB tensioning project	Complete
Belfast North Vegetation Removal (6 locations)	Complete

Proposed Works 2025/26

Vehicle Restraint Systems (VRS) works proposed for the Belfast City Council area during 2025/26.

TABLE 52: Vehicle Restraint Systems Schemes Planned 2025/26

Road Name, Location	Status
Upper Knockbreda Road at F/Bridge SE Median	Programmed
Upper Knockbreda Road at F/Bridge NW Median	Programmed
Upper Knockbreda Road at F/Bridge SE F Way	Programmed
Upper Knockbreda Road at F/Bridge NW F Way	Programmed
Middlepath Street - repair / replace defective OBB	Programmed
Glen Road – VRS Replacement	Planning
Shore Road East – VRS Replacement	On Site
Shore Road West – VRS Replacement	On Site
Fortwilliam Roundabout Perimeter – VRS Replacement	On Site
Fortwilliam Roundabout Median (approach from Shore Road) – VRS Replacement	On Site
Fortwilliam Roundabout Median (departure to Shore Road) – VRS Replacement	On Site
Fortwilliam Roundabout LHS Footway (from Shore Road to roundabout) – VRS Replacement	On Site
Colinwell Road - Repairs	Complete

4.6 WINTER SERVICE

TABLE 53: Winter Service - dates of operations

Description	Start date	Completion date
Official winter maintenance period 2024-25	16 October 2024	31 March 2025
Salting Operations in this period	78	

TABLE 54: Winter Service - details of operations

Description	Details
Depot locations in Eastern Salting Area	Airport Road Depot, Belfast Sprucefield Depot, Lisburn Balloo Depot, Bangor
Number of gritters used during 1 gritting action	12
Number of personnel involved in gritting operation in Eastern Salting Area	135
Length of roads salted in Eastern Salting Area	1306 km
Total volume of salt used during 2024-2025 winter season in Eastern Salting Area.	12,515 tonnes

SECTION 5 – MAJOR PROJECTS EAST

MAJOR PROJECTS EAST

5.1 York Street Interchange

District Council area(s)	Belfast
Location	York Street, Belfast
Scheme description	This scheme will address a major bottleneck on the strategic road network, replacing the existing signalised junctions at York Street with direct links between Westlink, M2 and M3, three of the busiest roads in Northern Ireland. It will also separate strategic traffic from local traffic movements via underpasses below the existing road and rail bridges and underneath a new bridge at York Street.
Scheme length	Grade separated junction intersection, approx 3km
Scheme estimated cost	£120m-£165m (2015 estimate, currently under review)
Scheme website	York Street interchange - overview | Department for Infrastructure (infrastructure-ni.gov.uk)
Any related schemes?	None
Current stage	Development Phase, stage 3 report complete. Gateway 2 approval needed to advance to procurement.
Current position	A scheme proposal has been developed and taken through public inquiry in 2015, followed by publication of the Public Inquiry Inspector's Report and the Departmental Statement in 2016. The statutory processes have been completed with the exception of the Vesting of the required lands, which would take place prior to construction. The procurement process to award a contract for the detailed design phase of this scheme was halted in early 2017 as result of a legal action. This legal action concluded in September 2019, with the award of contract being set aside. In July 2020 the former Minister announced an external review into the scheme to provide assurance on how and to what extent the scheme reflects key Ministerial, Executive and Council objectives and priorities. This included interviews with stakeholders and was conducted in November 2020. In March 2021 the former Minister announced the outcome of the review,

	accepting the six recommendations from it and outlined proposals to address them. Consultants were asked to carry out some further work, particularly around placemaking and active travel, to maximise ambition in terms of what can be delivered for communities, connectivity and the wider living places agenda. This work was completed, and the final report was published in October 2022. It recommended three options for further development. The former Minister asked for these to be developed, exploring any implementation issues and engage further with stakeholders. This was completed and a report submitted to the Minister in August 2024 for consideration. In January 2025 the former Minister asked for further engagement with elected representatives on the latest placemaking and active travel options. This has been completed and submitted to the Minister in July 2025 for consideration. On 14 August 2023 the Department published a prioritised list of major road schemes that will continue to be progressed. No funding was identified for this scheme and the decision was made to pause the scheme development, (other than complete the ongoing placemaking and active travel work). Any future decision on the overall scheme progression will be informed by the Department's emerging Regional Strategic Transport Plan.

5.2 Belfast Rapid Transit Phase 2 – BRT2

District Council area(s)	Lisburn Castlereagh City Council, Belfast City Council, Antrim and Newtownabbey Borough Council
Location	The G3 route will run along the Antrim Road in the north, and along the Ormeau Road and Saintfield Road in the south. The existing City Centre to Titanic Quarter Glider service will also be extended to connect with Queen's University and the City Hospital.
Scheme description	The Belfast Rapid Transit Phase 2 (BRT2) project is the further development of the Belfast Bus Rapid Transit system to North and South Belfast with an extension of the existing G2 route to serve Queen's University and Belfast City Hospital.
Scheme estimated cost	£142m - £148m
Scheme website	Belfast Rapid Transit - Glider | Department for Infrastructure (infrastructure-ni.gov.uk)
Current stage	Completion of the OBC. The estimated cost of the North Belfast to South Belfast Glider route is currently in the range of £142m to £148m. To date, £35m of funding has been secured through Belfast Region City Deal and an additional £13 million allocated from the Department of Infrastructure. As such, a considerable shortfall of some £100m remains.
Current position	On 25 February 2025 Minister Kimmins announced the next steps for the Belfast Rapid Transit (BRT2) project, which will see the Glider service extended to north and south Belfast, using the £35m funding within the Belfast Region City Deal, with an additional £13 million allocated from the Department of Infrastructure. The Outline Business Case is being finalised and will concentrate on a phased approach given the limited funding available at this time. Subject to business case approval, detailed design of the proposed routes will commence. This will involve further engagement with residents, businesses and other stakeholders along the selected route.

5.3 Lagan Pedestrian & Cycle Bridge

District Council area(s)	Belfast City Council
Location	The Lagan Pedestrian and Cycle Bridge will be built across the River Lagan from the Lagan Towpath at the Gasworks site to the Ormeau Embankment, close to the 'Ozone' indoor tennis centre and leisure complex.
Scheme description	The bridge will be a twin-pylon cable-stayed steel bridge spanning 143m across the River Lagan. The steel superstructure will be supported on piled reinforced concrete piers and abutments, with approach ramps provided beyond the bridge at each end to tie into the existing pedestrian and cycle infrastructure. The width of the bridge at 5.0m, will accommodate both pedestrians and cyclists and improve linkages between communities from both sides of the River Lagan. It will also improve transport linkages to the City Centre for pedestrians and cyclists and accessibility to leisure facilities and parks for local communities and commuters. It will encourage sustainability by enabling people to choose healthier cleaner forms of transport and improve road safety to provide an alternative traffic free route.
Scheme estimated cost	Estimated Cost £23 to £28m
Scheme website	Lagan pedestrian and cycle bridge | Department for Infrastructure (infrastructure-ni.gov.uk)
Current stage	Procurement stage.
Current position	Submitted tenders are currently being assessed and it is hoped that the contract could be awarded soon. The design & build phase is expected to take up to 24 months from contract award with a possible completion date in 2027. However, this will be dependent on the contractor's programme and resources.

SECTION 6 – ACTIVE TRAVEL

Active Travel teams are responsible for making walking, wheeling and cycling an attractive travel option for many everyday journeys.

Completed Works 2024/25

1 Active Travel project was completed within the Belfast City Council area during 2025/26.

TABLE 55: Active Travel Schemes Completed 2024/25

Scheme	Scheme Description	Status
Stranmillis Embankment	Pedestrian and cycling improvements between Ormeau Road and Grovernors Bridge	Complete
Design of various BCN Schemes	Preliminary and detailed design of various short term BCN schemes	Complete

Proposed Works 2025/26

12 Active Travel projects are proposed for development within the Belfast City Council area during 2025/26.

TABLE 56: Active Travel Schemes Proposed 2025/26

Scheme	Scheme Description	Status
Lagmore Avenue	BCN 003	Construction
West Belfast Greenway: Phase 1a	BCN 016	Construction
Island Street	BCN 010	Construction
Sydenham Greenway Phase 1	BCN 014	Legislation Phase

STRATEGIC ROAD IMPROVEMENTS

Scheme	Scheme Description	Status
Durham Street/College Square North	BCN 029	Legislation Phase
Montgomery Road	BCN 011	Legislation Phase
Sailortown & Ulster University	BCN 015	Design
West Belfast Greenway: Phase 1b	BCN 016	Design
Ravenhill Road & Ormeau Embankment	BCN 013	Design
Dublin Road & Botanic Avenue	BCN 005	Design
Limestone Road & Cavehill Road	BCN 002	Design
West Belfast Greenway: Phase 2	BCN 037	Design

USEFUL NUMBERS

Out of Hours Emergencies

Telephone: 0300 200 7899

Flooding Incident Line

Telephone: 0300 200 0100

Street Lighting Faults

Telephone: 0300 200 7899

Website: www.nidirect.gov.uk/services/report-street-light-fault

General Enquiries

email: DfIRoads. Eastern@infrastructure-ni.gov.uk

Website: www.infrastructure-ni.gov.uk

Telephone: 0300 200 7899

Blue Badge Unit

Provides on-street parking concessions for Badge Holders who travel either as drivers or passengers.

Contact: BBU PO Box 64 Enniskillen BT74 0BL

email: bluebadges@infrastructure-ni.gov.uk

Telephone: 0300 200 7818

Parking Enforcement Processing Unit

Processes all penalty notices under Decriminalised Parking Enforcement.

Contact: Roads.Parking@infrastructure-ni.gov.uk

Website: https://www.nidirect.gov.uk/articles/parking-enforcement

Telephone: 0300 200 7895

Belfast City Council

CITY GROWTH & REGENERATION COMMITTEE

Subject:	International engagement – update on proposed approach
Date:	26 November 2025
Reporting Officer:	Damien Martin, Strategic Director, Place and Economy
Contact Officer:	Laura Leonard, EU and International Relations Manager

Restricted Reports

Is this report restricted? **Yes** [ ] **No** [X]

If Yes, when will the report become unrestricted?

- **After Committee Decision** [ ]
- **After Council Decision** [ ]
- **Some time in the future** [ ]
- **Never** [ ]

Please indicate the description, as listed in Schedule 6, of the exempt information by virtue of which the council has deemed this report restricted.

Insert number [ ]

1. Information relating to any individual
2. Information likely to reveal the identity of an individual
3. Information relating to the financial or business affairs of any particular person (including the council holding that information)
4. Information in connection with any labour relations matter
5. Information in relation to which a claim to legal professional privilege could be maintained
6. Information showing that the council proposes to (a) to give a notice imposing restrictions on a person; or (b) to make an order or direction
7. Information on any action in relation to the prevention, investigation or prosecution of crime

Call-in

Is the decision eligible for Call-in? **Yes** [X] **No** [ ]

1.0	**Purpose of Report or Summary of main Issues**
	The purpose of this report is to share an updated version of the draft approach to council's engagement in international activity for the coming three-year period following discussion at the August, October and November committee meetings, and to propose a new framework for engagement, taking account of the comments received.
2.0	**Recommendations**
	Members are asked to: • Note the amendments to the previous version, set out in section 3.5 of the report • Approve the proposed approach to council activity in international engagement work for the coming three years, as well as the annual action plan for the current financial year.
3.0	**Main report**
3.1	At the August and October 2025 meetings of the City Growth and Regeneration Committee, members received draft versions of the proposed International Relations Framework 2025 – 2028 along with an action plan for 2025/26 activity. At both meetings, there was discussion that led to specific proposals for amendments to the draft document. It was agreed that officers would incorporate those amendments into a revised version of both the framework and action plan and that these would be shared at a future meeting.
3.2	At the October 2025 meeting of the Committee, the specific decisions included: • Agreement to continue Belfast City Council participation in the Eurocities network • Agreement to explore opportunities for collaboration with Office of the Northern Ireland Executive in Brussels and other relevant partners, in relation to the potential for an annual event to be held as part of the European Week of Regions and Cities • Agreement to establish an EU stakeholder group • Agreement to extend invitations to attend international engagement stakeholder groups to Members of the City Growth and Regeneration Committee.
3.3	Members also asked that the framework was updated to specifically identify how ethical and environmental considerations were taken into account in international relations activity. Finally, they noted that they wished to defer consideration of the proposed approach to Council international engagement work activity for 2025-28 and the Annual Action plan for 2025/26, to enable an updated draft International Relations Framework 2025-2028 to be submitted.

3.4	In November, Members again agreed to defer as although the framework had been updated in relation to ethical and environmental considerations and the action plan had been amended to reflect the above decisions in relation to the EU, the framework had not been updated to reflect the decisions on EU matters.
3.5	Taking account of the points raised above, the revised draft approach to council-led international engagement activity for the coming three-year period is set out in Appendix 1 and the supporting delivery plan for year one (2025-26) is set out in Appendix 2. The three-year "framework" document is intended to be a supporting document to other key strategies and plans such as the Belfast Agenda, the Corporate Plan and Local Development Plan – setting out how priority objectives and ambitions in those documents can be supported through international connections, networks and opportunities. Its purpose is to identify areas of collaborative advantage and help focus resources on opportunities that can maximise return on investment, in keeping with city priorities.
3.5	Specific changes to the content of the documents now include: • Updating the framework to identify specifically how ethical and environmental considerations will be take into account in the planned activity. This includes references to "environmentally sustainable and inclusive economic growth" as part of the vision; additional references to sustainable growth under the key work pillars and commitment to support mission-driven innovation actions focused on addressing social and environmental challenges faced by communities and individuals across the city • Updating the framework on trade and investment, innovation and knowledge exchange and funding and partnership to reflect the decisions on the EU as outlined at para 3.2. • Updating the action plan to include agreed deliverables as identified in 3.2 including network participation and work to develop additional engagement opportunities, including the EU Cities and Regions Work.
4.0	**Financial and Resource Implications**
4.1	The EU and International Relations budget was approved as part of the 2025-26 estimates setting process. Budgets for individual activities are the responsibility of the respective teams.
5.0	**Equality or Good Relations Implications/Rural Needs Assessment**
	No specific equality or good relations implications. Activities will focus on support for Belfast-based organisations and companies.

6.0	**Appendices**
	Appendix 1: Draft International Relations Framework – 2025-28 **Appendix 2**: International Relations Delivery Plan – 2025-26

Appendix 1: Draft International Relations Framework 2025-2028

Background

For many years, Belfast City Council has been actively engaged in international relations activity – working with and in support of our local partners. The nature of that work has changed over time and in response to changes in the internal and external operating context.

The most recent framework document (2017-2021) set out a strategic approach for engagement, focused on three key pillars, namely:

- Business – investment (including capital), export/trade activity and supporting the development of business-to-business collaboration
- Tourism development and promotion – for both business and leisure markets
- Education – professional development partnerships, research and innovation exchanges, student mobility and global education initiatives.

Global changes in the last number of years have been unprecedented in recent history. This makes long-term planning more challenging – and requires flexibility and responsiveness to adapt to the new ways of working. In response, our proposal is for a three-year framework approach, supported by a series of one-year action plans. We are mindful of the need to remain responsive to opportunities that can help deliver on strategic objectives, in the context of limited resources. We note the need to develop a more rigorous approach to the assessment of emerging opportunities, ensuring that these support the city's inclusive growth ambitions as set out in the Belfast Agenda. In that context, we also note the need to ensure that the proposed actions are cognisant of both ethical and environmental considerations, in keeping with council policy.

In addition to external changes, there have been significant internal changes since the previous framework was established. New teams are focused on international engagement activity as part of their day to day working. The EU and International Relations Unit (EUIRU) is likely to remain the focal point for the council's international civic engagement work, coordinating the critical civic engagement activities (alongside the office of the Lord Mayor), managing key sister city relationships and facilitating relevant inward visits. Individual teams will be responsible for leading out on their own areas of work and will be accountable for associated outcomes.

This current framework provides a strategic approach that seeks to focus our financial and staff resources to position Belfast as a globally-connected, forward looking city that is open, inclusive and ambitious, attracting trade, investment, talent and visitors while sharing the city's unique story and values with the world.

Our international partners

As with all International Relations activity, the success of transnational partnership working is dependent on a mutual willingness of partners to reciprocate and support project initiation and development.

Given the resources available (both human and financial), Belfast City Council has strategically focussed a significant element of its international relations activity on its established Sister City relations. However, it remains open to partner with other cities and locations on strategic initiatives where this collaboration fulfils council's objectives as outlined in the Belfast Agenda, Corporate Plan and associated plans and frameworks.

Belfast City Council has three established Sister City partnerships:

- Nashville (Tennessee) – council's oldest Sister City relationship signed in 1995
- Boston (Massachusetts) – signed in 2014
- Shenyang (China) – agreed in 2016

The Council has also engaged in other networks such as Eurocities (incorporating more than 200 cities and municipalities across Europe) as well as other sector-specific and issue-based networks that are critical for learning, information-sharing and city promotion. The June 2025 UK/EU Reset along the unique NI trading relationship offered through the Windsor Framework presents new opportunities for European engagement overall – working alongside partners such as the Northern Ireland Executive team in Brussels. The Irish Presidency of the Council European Union from July-December 2026 will bring the new relationship with the EU into focus and will also present opportunities for engagement through our north-south partnerships.

As previously noted, international connectivity is not restricted to the work of the EUIR team and this framework and supporting action plan encompass and profile the international engagement work across other departments and units such as Innovation City Belfast, the City Innovation team, Climate and Resilience team, and the City Regeneration and Development team.

Strategic Context

Belfast City Council's International Relations Framework is not a stand-alone document. It is, rather, a supporting document, creating opportunities for the delivery of city priorities as set out in critical strategies such as the Belfast Agenda and the new Corporate Plan in particular.

Our approach in developing the framework

In developing this new framework, the EU and International Relations team undertook extensive engagement with a range of internal teams involved in this work. They also engaged directly with key city partners such as the universities, Invest NI, Visit Belfast, British Council, TEO and Catalyst. The findings from these engagements have formed the basis of this revised framework, shaping not only the content but also considerations on ways of working and opportunities for data-sharing and resource maximisation, as well as focusing on what specific areas of added value the framework can support.

The vision, purpose and strategic objectives are set out below and delivery against these is to be focused on three key work pillars, namely:

- Trade and investment
- Innovation and knowledge exchange
- City positioning, tourism promotion and cultural development.

Vision

To position Belfast as a globally-connected, forward looking city that is open and ambitious, attracting trade, investment, talent and visitors to support environmentally sustainable and inclusive economic growth while sharing the city's unique story, culture and values with the world.

Purpose

The purpose of this framework is to identify areas of collaborative advantage and help focus resources on opportunities that can maximise return on investment, in keeping with city priorities.

Council's Role

Belfast City Council will work alongside its strategic partners to :

- Develop and utilise international relationships and connections to generate investment, trade and tourism
- Enhance Belfast's positive global visibility in key markets and communicate its unique assets and attractions
- Coordinate and amplify messaging to maximise return on investment
- Support delivery of priority activities aligned with the Belfast Agenda's vision for environmentally sustainable and inclusive economic growth.

Our priority work pillars

Building on our work on international relations to date as well as our analysis of emerging market issues and taking account of the discussions through our engagement with internal and external partners, we have identified three core pillars of activity to focus our work under this framework.

Pillar 1: Trade and investment

While FDI investment may have dominated the narrative in more recent years, there is an increasing focus on trade development. An emerging regional entrepreneurship strategy is likely to include a specific focus on high-growth businesses – Innovation Driven Enterprises (or potentially AI Driven Enterprises). These businesses are global by nature and need new sources of capital and international research and business partnerships. There is an opportunity to explore how Belfast's existing civic relationships can support greater business to business collaborations – with a focus on creating jobs; driving productivity and building new joint ventures and partnerships – all while ensuring a focus on sustainable and inclusive growth. This is consistent with the Economy Minister's focus on "good jobs".

Successive economic strategies have noted that export-led growth is a key economic driver. In 2023, external sales by NI companies were estimated to be £33.3 billion, a 15.7% increase from the previous year. The EU remains the largest export market for Northern Ireland (63.6% of Northern Ireland exports) and the largest import market for Northern Ireland (69.0% of Northern Ireland imports) for goods in 2024. It is followed by the US (15.1% of NI exports). At a city level, new relationships – still in their infancy – with partners in our sister city of Nashville have the potential to generate positive business-to-business connections, particularly in key growth sectors such as life and health sciences. Likewise – an area of focus for the current framework is to explore additional opportunities for export to the EU market, facilitated in partnership with organisations such as the NI Executive Office in Brussels.

The need for external capital is not confined to trading businesses. It is also critical for bringing forward key infrastructure and investment projects.. As the council and its city partners double down on the delivery of its high-level ambitions set out in the Belfast Agenda – particularly focusing on job and population growth – developers and project promoters are increasingly exploring opportunities for international mobile, patient capital to support delivery. In the short term, the need to drive investment in sustainable housing is a strategic priority and will be a focus of our efforts in the coming year, following previous progress in relation to Grade A office, Purpose Build Student Accommodation and Hotels.

As a result of the positive reset in relationships with the EU there is also the potential, working with government partners and key city institutions, such as our universities, to explore enhanced opportunities for European funding.

Pillar 2: Innovation and knowledge exchange

Belfast Region City Deal is a £1billion programme of investment that aims to create more than 20,000 new jobs over the next decade. Digital transformation and sectoral growth are at the heart of many of the Belfast-based projects. These emerging centres of excellence present an opportunity not only to compete globally on collaborative research activities but also to attract additional talent and investment to the Belfast Region. As these centres are established, they will become critical components of the city's investment narrative, enabling a focus towards higher-value jobs and helping drive productivity in line with city ambitions.

There has been a recent resurgence of work through Innovation City Belfast – a partnership focused on bringing together public and private sector partners along with academia to generate investment; maximise the societal and economic impact of the innovation ecosystem; improve the reach and quality of the city's digital infrastructure and grow the entrepreneurial ecosystem to support the development of more innovation-driven enterprises (IDEs). Active engagement in global networks to support this work is critical to ensuring that our investments are world-class and that the Belfast offer is heard and understood among key decision-makers. ICB is currently mapping out an engagement plan to take account of critical events and activities. We will work with them to consider shared and consistent messaging and to explore opportunities for participation by relevant of partners. One specific angle that we want to learn from and share learning on is "inclusive innovation" – in keeping with our commitments to support inclusive economic growth. Likewise, there is an opportunity to support our local businesses to engage in mission-driven R&D and innovation activities – using investment to address a range of environmental and social challenges faced across the city.

Belfast has a number of FDI and indigenous companies across a range of growth sectors that are world leading in their field and competing in a global marketplace – as illustrated through the Invest NI trade statistics. Sectors include net zero; life and health sciences and digital technology. The challenge is to drive more businesses to think and operate globally. We will work closely with Invest NI and sector support organisations to identify opportunities for market access and market engagement activities as well as opportunities to secure capital to support growing businesses in these sectors – including through our sister cities, wider civic connections in the USA, and rebuilding European relations to exploit the unique trading position secured through the Windsor Framework.

Belfast is home to two leading universities – both of whom are extremely active in international markets for the purpose of developing research collaborations, attracting talent and increasing international student numbers. Through this framework, we will explore opportunities to support this work, principally through the civic office and by identifying new opportunities with our partner cities.

Belfast is an active member of a number of international networks and engages on a regular basis in networking, knowledge exchange and showcasing activities. Through this framework, we will explore opportunities for additional engagement including the annual European Week of Regions and Cities in Brussels and collaborative participation in events such as New York New Belfast, working alongside our private sector and academic partners to promote key city messages.

Pillar 3: City Positioning, Tourism Promotion and Cultural Development

Belfast is a culturally vibrant destination that attracts growing numbers of visitors each year. It is a UNESCO city of music – one of only 59 across the world and the only one on the island of Ireland. The rich cultural traditions – and the music in particular – are at the core of our unique and authentic tourism product.

Attracting international visitors (either for conferences, other business or leisure) is an important element of any international relations framework. Belfast is the gateway for most visitors to Northern Ireland and the council has already demonstrated its commitment to growing tourism numbers by investing in ICC Belfast – to drive new and high-value business tourism to the city. As a new business tourism strategy emerges, it is critical that the role of Belfast is reinforced. For leisure tourism, the value of large-scale events in attracting visitors – particularly Fleadh Cheoil na hÉireann – is likely to present significant opportunities in the coming two years in particular. Early engagement and promotion in key markets – working closely with partners in Visit Belfast, Tourism NI and Tourism

Ireland – will be essential if we are to deliver on the economic regeneration benefits from this large-scale event.

A recurring insight from international partners is the strength of the networks in Belfast and the value of the "Team Belfast" approach in helping them to access key decision-makers and expediting decision-making. A priority for the period of this framework will be to develop a suite of assets that can be shared by all partners involved in international activity, including Belfast Region partners, focusing on the key investment messaging – both the ask and the offer.

The important role of the Lord Mayor and the civic office

In addition to playing a convening and complementary role with our partners, Belfast City Council's civic role in international relations is a critical one. It enables and facilitates access to key influencers and networks. The role of the Lord Mayor, in particular, is a critical asset that can elevate the messaging and create a positive experience of engagement in outward visits and in hosting delegations that visit the city. This factor was widely recognised and acknowledged by our city partners as providing significant added value. Likewise, the ability to involve our elected members in conversations with investors and visitors to the city is seen by our partners as a key part of the "Team Belfast" ethos. We will ensure that our elected members play a key civic leadership role where their involvement supports our strategic objectives and will continue to work with the Lord Mayor and the team to identify opportunities for involvement in critical inward visits and international engagement activities.

How we work

In additional to considering ***what*** we do, it is equally important to consider ***how*** we do it. Through our engagement with partners, we have identified a number of key principles that sit behind our activity plan and that, if properly considered, can help make our individual and collaborative efforts more effective. These include:

Objective assessment of opportunity

A recurring discussion during our engagement with internal and external partners was the need to create a consistent approach to due diligence around requests to host inward visits; attend international events and enter into new formal partnerships.

The scale of interest in Belfast from external partners is welcome. In the last year alone, the EU and International Relations Team supported more than 45 inward visits. In the context of constrained resources across all partners, it is clear that a more robust process of evaluating and assessing opportunities presented in order to make recommendations as to how (and whether) these are supported is essential. This due diligence approach is also likely to lead to more collaborative/partnership-based outward missions – thereby reducing the environmental impact and increasing the overall impact of investment. Work has already been undertaken on a new approach and this will be further refined before being introduced across all teams in the coming year.

Measuring and communicating success

Another recurring theme in engagement meetings was the challenge associated with assessing and measuring impact directly related to specific international engagement activities.

Our research into experiences from other locations highlighted that this was not unique to Belfast and it is something that most locations are challenged by. This is because the relationships required to attract capital investment or develop new research or business-to-business partnerships can often take a long time to develop and are reliant on relationship-building – rather than being simple transactions. Likewise, engagement at a single event will rarely deliver an immediate outcome; it may take a number of follow up engagements or it could be that fortuitous connections are made which ultimately lead to outcomes that had not been previously foreseen.

Given that the framework is a supporting document rather than a stand-alone strategy, the outputs and benefits delivered by this framework will support and are aligned to outcomes from the Belfast Agenda and other key strategies highlighted elsewhere in this framework. These are likely to include securing additional investment for local businesses; increasing investment in innovation; supporting delivery of housing targets (through investment attraction) and increasing visitor numbers. The supporting action plan that sits with this framework will identify relevant outputs and performance measures and progress against these will be reported back to Committee on a quarterly basis.

In order to help track outputs and benefits from inward and outward visits, a new CRM system will be introduced. This will enable officers to record support offered and identify outputs and outcomes as a result of that support (where information is available). It will enable us to take a more informed approach to how we deal with requests that have not, to date, generated a return and will support better information-sharing across the various teams involved in this work.

Accountability

While the CRM system will help coordinate and manage data better, it can only be effective if officers can get access to the information they require from other partners. This document and the associated action plan provide an overarching perspective of the council's international engagement activity across a number of teams. Each team is accountable for securing delivery against their stated objectives and associated reporting through committee. The EU and International Relations team may generate connections for businesses and organisations, but the responsibility and accountability for follow-up sits with the individual organisation. Likewise, the EUIR team will endeavour to track progress and collate information on outputs and outcomes associated with this work, but it is reliant on other parties to secure that information.

Maintaining strong partnerships

Belfast's international focus aligns well with the emerging approach from the NI Executive and that of key city and Belfast Region partners. Recent years have seen a new impetus behind our Sister City agreements in North America in particular as well as China. We plan to build stronger conncetions with the NI Executive teams and the Invest NI International Offices, including developing a plan of action alongside the NI Executive Office in Brussels to explore EU-based trade development and information exchange in line with the priorities set out in this framework.

There has been a revitalisation of support for the work of the Dublin-Belfast Economic Corridor and there are numerous opportunities for collaboration with partners along the corridor to support inclusive economic growth, positioning this seamless cross-border corridor in a global context. Likewise, new opportunities to secure external funding to support collaborative activity on areas of shared interest (skills; circular economy; key economic growth sectors) are a focus of the DBEC work for the coming year. Maximising the outcomes from these agreements, rather than developing new partnerships, will be a focus throughout the period of this framework. Complementing their activity and amplifying its impact is both a core role of the Council and a key principle of this framework.

We will work with these partners to ensure our role contributes to theirs for the benefit of the city; our measures of success will be developed in conjunction with these partners to further cement this 'additionality' role and ensure our resources are deployed towards shared outcomes. In practical terms, this will mean continuing to work closely with our partners through formal and informal relationships – including the stakeholder engagement groups and wider engagement mechanisms that provide opportunities for information-sharing and forward planning for collaborative activities.

Appendix 1: Case studies from recent international relations engagement work

Case Study: Nashville Economic and Civic Mission Feb 2025

Objectives:

- Mark 30 years Sister City Relationship
- Meet economic leaders and explore business, partnership and investment opportunities
- Support Queens, Fisk and Belmont Universities' led Peace Summit

Highlights:

- 30 Year Sister City milestone-strengthened long standing civic diplomacy through official LM engagements, including with the Mayor of Nashville, and high level meetings
- Trade and innovation-focused Belfast start-ups, researchers and civic leaders connected with over 40 stakeholders in Tennessee's Life & Health Sciences, Venture Capital, Tech, Sports and Culture
- Education & Research: laid groundwork for bilateral student exchanges, collaborative research and medical education partnerships
- Culture & Heritage: deepened creative and heritage links including connections for 250th Anniversary of the USA, country music programming and Scots Irish initiatives.

Case study: Aflac

"Belfast, the 'city of talent and innovation' became the standout choice for company investment due to its talent pool, digital capability, and alignment with the company's overall strategy. Not to mention the personality of the city felt by the key decision makers on a fact-finding trip.

The start up and ongoing success of Aflac NI has been strongly supported and elevated with the continued backing of Belfast City Hall, which has been greatly appreciated by the company. The council ensures that VIP global visitors from Aflac are given a special City Hall welcome to show how the city values the investment, job creation, and further growth".

Case study: TalentSensus

"The International Relations function is an invaluable asset to Belfast City Council and the businesses it supports. It has been instrumental in driving significant growth for my business, Upskill Enterprise, in the USA.

It has provided invaluable support in hosting numerous high-profile delegations from the United States and played a crucial role in facilitating an important trade mission to Northern Ireland for a delegation from Pennsylvania.

The impact of these visits has been truly remarkable. Thanks to the connections fostered, our company, Upskill Enterprise, and our TalentSensus Technology have gained direct access to key individuals in the US public workforce system. This has resulted in an impressive $4.2 million in revenue for 2025."

Case study: Friendship Four

The Friendship Four tournament is the first and only NCAA Division One Hockey tournament to be held outside of the United States. The tournament brings up to 1,000 Bostonians to Belfast for a week over the Thanksgiving period.

The tournament is important to Belfast as it aligns to a number of corporate objectives:

- Economic development: on a number of occasions, a business delegation has accompanied the sports teams, through the office of The Boston Irish Business Association (BIBA)
- Education and skills: in addition to participating student athletes' mobility, the players also undertake education outreach. Visits to Belfast schools profile how sport can support educational pathways and community cohesion. University partnerships have also spun out of tournament participation e.g. Northeastern University has developed a partnership with Queen's University Belfast, bringing almost 200 students to study in Belfast for a semester over the last two years
- Tourism development: taking place during the tourism "off-season", spend by international guests in Belfast during the week of Friendship Four amounts to £500,000 and generates 3,000 bed nights for local hotels. During game intermissions, Belfast is profiled directly into millions of Canadian and American households through a series of promotional messages aired on TV channel NESN.

From 2026, the tournament will encompass four women's teams – building on the prior success and reach of the female Friendship Series which engaged two colleges - proof that the appetite for these quality experiences for international visitors, and Belfast's reputation for delivering them continues to grow.

Case study: St Mary's University College

"As a small institution with limited international resources, St Mary's struggled to engage with the US market or make significant connections. Introductions made through Belfast City Council to Nashville Sister Cities changed that.

Positive PR created through undertaking outward and inward visits with Nashville has been priceless - positioning St Mary's University College as an international, outward looking institution with talented students – both domestically across Northern Ireland and in the States. The development of our students' skillset has been phenomenal. The relationship also gave St Mary's the confidence to launch our International Summer school.

St Mary's would like to acknowledge the incredible work of Belfast City Council's International Unit who have been invaluable to the development of a footprint for St Mary's in the US".

Appendix 2: Belfast City Council – International engagement activity: Delivery Plan 2025-2026

Trade and Investment					
Project/Initiative	**Brief Overview**	**Belfast City Council Lead**	**Partners**	**Timeframe**	**Priority outputs and benefits**
New York, New Belfast 2025	Annual event and supporting side programme focused on engaging with key east coast USA economic "champions" and pipeline FDI companies considering investing in Belfast and potential trade opportunities for local companies. Also opportunity to position Belfast's latest Tourism messaging (Fleadh 2026) and capital assets for investment	EU and International Relations Team (EUIRT)	Event organisers Invest NI US office and Belfast Chamber	June 2025 (*now complete*)	Investment leads for City assets and trade leads for Belfast businesses Support Invest NI for investment and trade pipeline Promotion of major events
Homecoming 2025	Business conference promoting Belfast to diaspora communities, particularly US-based.	EUIRT	Event organisers	October 2025 *(now complete)*	Tailored messaging and engagement to focus on capital investment opportunities. Showcase will also draw on cultural engagement, including profiling Fleadh Cheoil
US Sister City collaboration engagement	Development work to explore re-engagement with Boston, using same successful "Team Belfast" model used for Nashville mission. Boston focus will also be Life and Health Sciences including access to innovation partnerships/VCs	EUIRT; Enterprise and Business Growth Team	ICB; universities; Catalyst; individual businesses	Indicative working date – Q4 2025/6 (subject to partner agreement)	Partnerships & access to finance / trade for Belfast businesses, with focus on L&HS Promotion of Belfast as a study and tourism destination

Project/Initiative	Brief Overview	Belfast City Council Lead	Partners	Timeframe	Priority outputs and benefits
	Nashville inward trade mission: engagement with VCs and sector bodies to develop and deliver inward (to NI) business mission, focusing on life and health sciences	EUIRT, working with EBG Team	Invest NI; Global Health Connector; HIRANI	June 2026 (indicative date). Preparatory work to commence September 2025	Exploring FDI opportunities in key growth sectors; expanding business base in Belfast for key growth sectors
Developing new EU business connections	Undertaking scoping work with NI Executive Office in Brussels and Invest NI to explore opportunities for additional engagement in EU/Brussels-based activities, with a focus on increasing business engagement in new markets	EUIRT; EBG	NI Executive Office in Brussels, Invest NI	Initial exploratory work completed – November 2025. Action plan agreed and implementation from January 2026	New market engagement opportunities for local businesses
Belfast City and Region Place Partnership	Joint public/private sector-led initiative focused on place positioning to attract investment and deliver on inclusive growth. Key events include MIPIM (France, March each year) and UK ReiiF (Leeds, May each year). Other special/one-off events may also be involved, in line with opportunities. The Partnership also produces resources such as a website and investment prospectus. Will also undertake targeted work to identify and engage with new international investment opportunities, with a focus on supporting priority city investments e.g. new housing	City Regeneration and Development team	Other BRCD councils, Belfast Harbour, Universities, Invest NI, developers, construction companies, legal and financial services	Annual programme of work, with attendance at a number of flagship events	Leads generated in support of investment attracted and developments supported

Project/Initiative	Brief Overview	Belfast City Council Lead	Partners	Timeframe	Priority outputs and benefits
Develop and maintain updated Belfast's city proposition messaging and new products	Review and update of existing collateral to focus on key investment messaging for specific target markets – complement innovation proposition (below) and Invest NI collateral	Internal BCC teams (EUIR; Comms; Research; ED; CRD)	Invest NI; universities and colleges; City Deal project leads	Review current: Q2 2025; revised products: Q4	High quality products identifying unique investment opportunities; shared messaging among partner organisations
Inward Delegations: facilitate requests for presentations on Belfast's ED proposition	Facilitating inward visits, and using opportunity to showcase opportunities for investment, trade collaboration and good practice across a range of ED areas (note: will put in place "qualification" process to identify projects with potential for positive impact)	EUIRT (coordinate); input from relevant council and other partner leads	Range of city partners – depending on area of priority	Ongoing	Follow up engagement leading to more specific plans for investment /trade or collaboration (e.g. meeting with President of Babson College)
Dublin-Belfast Economic Corridor	Work in collaboration with 8 councils along the corridor to take forward collaborative projects across several areas including sector development; research and innovation; skills development	Enterprise and Business Growth team	EUIR Team; other DBEC council partners; universities; NI/ RoI government depts	Ongoing work programme agreed with partner councils	Funded project activity in priority areas (circular economy; sector development; skills development). Note: funding for skills projects approved November 2025.

Innovation and Knowledge Exchange					
Project/Initiative	**Brief Overview**	**Belfast City Council Lead**	**Partners**	**Timeframe**	**Priority outputs and benefits**
Belfast Innovation value proposition	Developing a shared investable value proposition for the Belfast innovation ecosystem – including the City Deal funded investments	City Innovation Office	Innovation City Belfast partners	Draft proposition to be tested at Smart Cities World Congress (November 25)	Greater coherence and clarity of messaging to priority market segments
Bloomberg Philanthropies 2025 Mayors Challenge	A two phase, 12-month programme with 50 other cities to deliver urban innovation solutions. Will include learning visit to to Columbia	City Innovation Office	Innovation City Belfast and challenge partners	First workshop planned for late Spring 2025	Collaborative proposals for solving urban innovation challenges
Smart City World Congress (Barcelona)	Promotion of city messaging, focusing on opportunities for partnership, investment, research and trade in relation to digital innovation	Innovation City Belfast	ICB Partners	Q3	Leads in relation to partnerships, investment, research & funding opportunities
Upsurge Initiative	EU Funded climate demonstrator project linking Belfast to Maribor, Budapest, Breda, Katowice including officer visits to each partner city	Climate Team	CNS Team; Neighbourhood Services; QUB; EU Partners; Community orgs	Netherland visit – October 2025	Inform and evidence viability of nature-based solutions for sustainable food production
Support education partners' activity (focus on sister city links)	Use civic linkages to enhance international collaborations in innovation, research and attraction of international talent	EUIRT, City Innovation, ICB	Third level education partners	Ongoing	Education partners secure research £; attract international students
Network engagement	Developing opportunities to profile Belfast and support knowledge exchange through active participation in key networks and attendance at events such as European Week of Regions and Cities	EUIRT, City Innovation, Culture, Climate	NI Executive Office, Brussels	Ongoing network engagement; EU Week of Regions and Cities takes place in October each year	Identification of key profiling/ showcasing/ learning opportunities and sharing outcomes with teams/ committee

City Positioning, Tourism Promotion and Cultural Development					
Project/Initiative	**Brief Overview**	**Belfast City Council Lead**	**Partners**	**Timeframe**	**Priority outputs and benefits**
Supporting strategic tourism stakeholders in attracting and promoting major tourism and cultural events	Collaborating with Visit Belfast, Tourism Ireland and Tourism NI to drive sectoral growth and positioning Belfast as a host city for major events and international exhibitions – focus on Fleadh Cheoil for coming year	Tourism and Fleadh teams	Visit Belfast Tourism Ireland Tourism NI	Engagement plan finalised – October 2025; marketing and comms campaign implementation starts Jan 2026	International positioning and profiling opportunities; increasing visitor numbers
Friendship Four – Men and Women's Tournaments	US College Ice Hockey Tournaments linked to Boston Sister City; associated STEM Festival and promotion of city via US TV airtime	EUIRT Tourism team	Odyssey Trust NI Connections DfC Tourism NI	Q3	Economic impact on city – bed nights, Arena venue, US and global press coverage value, socially and impact on schools and community groups making US ice hockey links for future cooperation
Your Roots Are Showing	Folk music conference and trade fair which attracts over 100 artists – scheduled for January 2026	Culture Team	Visit Belfast ICC Belfast	January 2026	Improved city positioning (focusing on music/culture)
Celebrate Chinese New Year	Participation in city partner events to mark New Lunar year	Civic Offices (esp. Lord Mayor) EUIRT	Good Relations Team; Chinese Welfare Association; Chinese Chamber; Chinese Consulate, Confucius	Q4	Enhances civic relations with Chinese players locally and internationally at civic, business and community level
UNESCO City of Culture	Ongoing collaborative exchanges and investment in local music sector – as one	Culture Team	Cultural sector	Ongoing programme of	Support development of local music sector;

	of 59 international cities of culture (music). International activities include October 2025 visit to South Korea			activity (approved annually via CGR)	profile sector on international stage; present opportunities for international engagement by local artists

In addition to above workstreams, Council teams currently participate in strategic thematic networks aligned to the above themes including:

Council for Global City CIOs	Information and opportunity exchange between innovation cities across the world including virtual speaking opportunity at UN Global Health Connector event for Belfast Innovation Commissioner and attendance and participation at the Connector Innovation Summit in Las Vegas
European & UK Learning Cities Networks	Exchanging best practice and developing initiatives to support community learning including officer engagement in Learning Cities network events in Paris and Shenyang, promoting Belfast's best practice programmes., including the role of lifelong learning in aging societies. (fully paid by network)
UNESCO City of Music	Active participation in UNESCO cultural networks with reciprocal benefits between the cities including but not limited to partnerships with UCoM cities Kansas City (US) Hannover (Germany) Daegu (South Korea), Conde (Brazil), Ghent (Belgium) and Bologna (Italy). This year an officer will travel to each partner city (fully paid by network)
IETM	International cultural network representing over 500 member organisations and individual professionals working in the contemporary performing arts worldwide. Belfast City Council and several of its cultural partners locally are members of the network
Eurocities	The Eurocities network comprises more than 200 large cities from within and outside the European Union, representing more than 150 million people across 38 countries. It focuses on policy influence and shared learning opportunities across a range of work areas including innovation; culture and social affairs.