

Scenarios for Infrastructure Development in Northern Ireland to 2050

Draft Scenarios

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TRAJECTORY 

Project Background

Trajectory is a strategic and foresight consultancy with decades of experience specialising in futures work, including scenarios, that seeks to help decision makers think more effectively about how the world is changing – and how those changes may affect how they themselves will need to operate and engage with the world around them.

The **Strategic Investment Board (SIB)** Northern Ireland commissioned Trajectory to conduct scenario planning research to identify how contextual factors (in politics, economics, tech etc) will shape future demands for and delivery of infrastructure in Northern Ireland over the next 25 years.

This will support further development of Enabling Actions being taken forward by the NI Civil Service to improve planning and implementation of infrastructure projects and unlock persistent delivery challenges. This piece of work will specifically support the scope of Enabling Action 10: '*Infrastructure Needs Assessment*' and inform priorities for future Investment Strategies for Northern Ireland.

One of the recommendations of the Phase 1 report from this Enabling Action was to develop scenarios to inform future infrastructure planning. This approach also **builds on a recently published scenario planning project conducted for DfE / Matrix, on Decarbonisation of the Built Environment**. That work identified four possible, plausible scenarios describing decarbonisation in the built environment over the next 25 years.

Desk research and trends analysis was undertaken to identify key forces shaping future infrastructure needs, and **to devise adapted scenario structures relating to infrastructure**

TRAJECTORY

The
**Strategic
Investment
Board**

Why Scenarios in infrastructure planning?

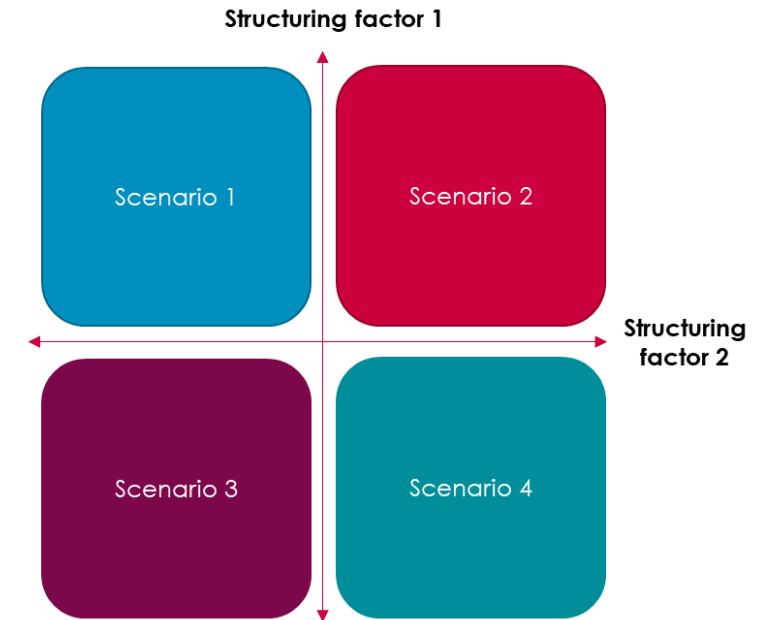
Scenarios are stories that describe alternative ways the external environment might develop in the future. Each scenario explores how structural factors and different conditions might support or constrain delivery of policy and strategy objectives.

In this project, scenarios were created using two variables. Firstly, **an economic variable**, with economic stagnation and low growth at one end and sustained, strong economic growth at the other. Secondly, **a political stability variable**, which has political instability at one end and certainty at the other.

Through a scenario planning methodology, we explore four distinct futures, each presenting unique challenges and opportunities for infrastructure development in Northern Ireland out to 2050. These scenarios are not mere predictions but are frameworks designed to help stakeholders envision different possibilities and prepare for a range of outcomes. This 'scenarios' document summarises the adapted scenarios, specifies key trends and contains some early considerations.

Project Aims:

- To look forward to consider infrastructure and the wider economy under future alternative scenarios
- To reflect on the current scenario in Northern Ireland and what this means for infrastructure planning
- To consider potential challenges and opportunities/actions for stakeholders in supporting Northern Ireland to move to a more economically stable scenario



Futures Scenario Framework

Political stability and certainty

- Key Trends**
- Stable political majorities/coalitions
 - Public spending constraint
 - Weak growth
 - Gradual improvements in living standards
 - Left-behind sectors

Scenario 1: Sluggish Security
Political certainty and weak economic growth

Economic weakness a drag on infrastructure development

More targeted approaches to infrastructure introduced

Infrastructure with greatest social or economic returns targeted

Successes in some sectors

Scenario 2: Progress & Planning
Political certainty and strong economic growth

Ambitious, but flexible, long-term infrastructure developments

Long-term cross-sector plans

New income streams for infrastructure

Demographic challenges remain but are lessened

Infrastructure development is largely able to meet demographic need

- Key Trends**
- Stable political majorities/coalitions
 - Growing policymaker confidence
 - Longer term funding settlements
 - Rising disposable income

Economic stagnation, low growth

Scenario 3: Decline & Challenge
Weak growth and political uncertainty

Short termism dominates

Longer-term developments are not feasible

Existing infrastructure continues to degrade

Significant levels of unmet need

Public often reject developments

Scenario 4: Unequal Developments
A strong economy but unstable politics

Economic growth boosts living standards and reduces skilled emigration

But lack of clear direction on infrastructure sees patchwork and piecemeal development

Infrastructure spend short-term and thinly spread

Sustained, strong economic growth

- Key Trends**
- Short lived, unstable governments
 - Public services in crisis
 - Limited business investment
 - Net zero consensus breaks
 - Living standards declining
 - Strategy gaps and delays
 - Out-migration/brain drain

- Key Trends**
- Chop and change in governments
 - UK more isolated internationally
 - Shorter term funding settlements
 - Widening inequalities
 - Strong, market led economic growth
 - Responsible citizenship and greater consumer action on green issues
 - Accelerating tech progress

Political instability and uncertainty



Scenario 1: Sluggish Security – political certainty & weak growth

Key Trends

- Politics**
 - Continued functioning NI Executive
 - Commitment across UK/NI to climate legislation
 - 'Zero sum' approach to public services/finances
- Economy**
 - Limited increases in living standards
 - Constrained investment in infrastructure
- Social**
 - Ageing society
 - Rise in one-person households
- Tech**
 - Tech adoption and sector growth stalls
- Infrast.**
 - Smaller scale interventions
 - Left-behind sectors
 - Understanding micro-impacts on consumers/businesses

Scenario Characteristics

- This period is characterised by weak growth and political certainty.
- Throughout the period the NI Executive functions well and is able to enact long term policies with a clear eye towards longer-term goals. Yet economics, and some political chopping and changing at Westminster, present a drag on infrastructure investment and development.
- City Deals, whilst still supported centrally, have often faced patchwork funding that has hamstrung development.
- This has left the NI Executive in a mixed position regarding infrastructure – looking to integrate longer-term planning whilst still hamstrung by uncertain central funding. This has driven a more pragmatic approach to infrastructure development – using what investment is available to target key areas with the greatest need and/or positive economic impact with a shift towards longer-term thinking.
- Living standards and disposable incomes have improved only marginally and the public mood is often low. Yet targeted investment continues – though the mega-project is dead smaller targeted long-term developments do continue.
- Maintenance backlogs in schools, social housing, roads and other key sectors continue to grow.
- Targeted spend has meant other aspects of infrastructure remain underdeveloped.

Infrastructure Challenges

- Communicating why certain sectors have been deprioritised at the expense of others will become key – some public or business pushback is likely
- Threat of loss of public support – even those developments with clear economic or social benefits may take years to deliver the upside
- Local vs national interests may create tensions over funding or infrastructure focuses – driving greater political disruption of development around election cycles

Infrastructure Opportunities/Action

- Discipline regarding funding and prioritisation of key areas with maximised returns is key in this scenario to ensure effective infrastructure development
- Value of long-term frameworks and forward-thinking, evidence-based planning for infrastructure is even more important in this scenario in guiding the targeting of infrastructure spend
- Priorities will likely fall on essential systems including those essential for future growth and opportunity: decarbonisation, water, energy security, digital connectivity

Scenario 2: Progress & Planning - political certainty & strong growth

Key Trends

- Politics**
 - Successive stable majorities in Westminster and continued functioning of NI Executive
 - Commitment to UK/NI to climate legislation
- Economy**
 - Longer term funding settlements
 - Rising disposable income
 - Positive investment environment
 - Cost of living pressures ease
- Social**
 - Ageing society
 - Rise in one-person households
 - Population growth inc. younger people
 - Responsible citizenship
- Tech**
 - Faster progress on emerging tech
 - AI used to run new systems
 - Adoption of new technology, growth of green economy
- Infrast.**
 - Mixed developments including large scale
 - Infrastructure development is largely able to meet demographic need

Scenario Characteristics

- Stable politics and better than expected economic growth lay the foundations for significant progress across Northern Ireland's infrastructure.
- Long term plans (and confidence that governments will stay the course) give direction to both the NI Executive and industry. The success of the Programme for Government has fostered greater regional balance, and headway is being made on priorities.
- Policymaker confidence builds and the NI Executive is able to implement ambitious policies regarding longer-term spending and development in infrastructure.
- Importantly, though, these plans target areas of greatest need and greatest impact – supported by more coherent collaboration and data sharing across government departments.
- These plans have sought to build in flexibility for future governments in light of NI's regular local and national electoral cycles – presenting significant shorter-term action but retaining capacity for adaptation in the longer-term.
- After relatively slow economic progress in the 2020s consumers started to feel better off. A strong economy and clear political commitment to investment in key growth areas, including AI and decarbonisation, has presented the NI government with new revenue streams – some of which has been ring-fenced to support infrastructure development. NI's employment market has also strengthened.
- Challenges remain, particularly in updating the country's ageing housing stock. But a more concerted approach to infrastructure is in play.

Infrastructure Challenges

- Reforms to planning systems and introducing longer-term cross-sector infrastructure planning will take time and may face stumbling blocks from some stakeholders.
- Demographic pressures will persist – though may be lessened by improvement in quality of life and reducing emigration/increased immigration of younger people.
- Bottlenecks in delivery still likely to be present – especially around skills and labour
- Prioritisation and phasing will still be required to ensure the right infrastructure development is achieved

Infrastructure Opportunities/Actions

- Long-term planning becomes possible, though still with some challenges, and introduces the possibility of `whole system` approaches to NI infrastructure
- Greater collaboration across NI – and with partners in UK and Ireland
- More joined up thinking should enable the creation of stronger datasets and clearer identification of priorities
- Stronger growth and clearer aims will build private sector confidence and investment – could be leveraged for wider gains (e.g. skills)
- Building flexibility into longer-term planning allows for coherence and endurance of long-term infrastructure development with leeway for future adaptations or delivery mechanism

Scenario 3: Decline & Challenge – weak growth & political uncertainty

Key Trends

- | | |
|-----------|---|
| Politics | <ul style="list-style-type: none">• Uncertainty and short-lived governments in Westminster and NI• UK isolated internationally• Public services in crisis |
| Economy | <ul style="list-style-type: none">• Regular recessions, stagnation and weak growth• Limited business investment• Living standards declining |
| Social | <ul style="list-style-type: none">• Ageing society• Rise in one-person households• Out-migration• Decarbonisation less popular |
| Tech | <ul style="list-style-type: none">• Tech progress stalls |
| Infrastr. | <ul style="list-style-type: none">• Strategy gaps and delays• Infrastructure struggles to meet increasing demographic need• Size and scale of interventions on infrastructure is below required level |

Scenario Characteristics

- In this scenario unstable politics and a weak economy contribute to effectively derail infrastructure development – both in the short-term and out towards the middle of the century.
- With rolling political and economic crises, both within the UK and spawned from international shocks, governments are pushed into a reactive and short-term mindset.
- This prevents progress being made across much of Northern Ireland's infrastructure needs – both in terms of longer-term planning and commitments, including on flood defence and green energy where a failure to invest early in the period is now being felt keenly, and around required upgrades to existing, ageing infrastructure. Key City Deals, planned at the start of the period, have struggled to find funding in the long-term. No headway made on regional balance.
- Maintenance and upgrades to water/wastewater have fallen dangerously below required standards. Backlogs on schools, social housing also not addressed.
- More widely, living standards have fallen and most people's priorities lie with the dire state of public service. The perception that infrastructure investment, outside of key areas such as health and social care provision, is an unnecessary cost is driving anger and opposition – especially when that infrastructure is perceived as part of an increasingly unpopular decarbonisation agenda.
- The country's population is ageing, a long-term trend accelerated by increasing rates of emigration, especially among high skilled younger workers.

Challenges

- Repairs can only do so much for so long – key infrastructure sectors will begin to collapse without maintenance or replacement.
- Intensification of future challenges (e.g. climate adaptation) without longer-term planning – resulting in secondary impacts on economy that harm future capacity for development
- Severe brain drain and emigration likely to manifest
- Older, poorer, and sicker population – placing increased pressure on creaking health and social infrastructure
- No patience for long-term planning amongst public – public opposition to developments likely to become entrenched

Opportunities /Actions for NI

- Likely to be a case of doing what little is possible with what is available.
- Where reform of planning approaches and short-termism is possible it will be hugely important – but also hugely difficult
- May see some element of crisis prioritisation – with critical infrastructure failures in areas of infrastructure driving investment away from other areas
- Crisis can create solutions and innovation – but infrastructure cannot always respond as quickly
- Use of policy levers to facilitate infrastructure delivery
- Importance of focusing on 'back to basics', resilience, and addressing barriers to delivery

Scenario 4: Unequal Developments – strong growth & political uncertainty

Key Trends/ Factors

- Politics**
 - Unstable governments in Westminster post-2029, knock on effect for NI Executive
 - Net zero contested, but remains policy
 - UK goes it alone – little scope for international alignment
- Economy**
 - Strong, sustained economic growth
 - Shorter term funding settlements due to unstable politics
 - Rising disposable income overall
 - Widening inequalities
- Social**
 - Ageing society
 - Rise in one-person households
 - Responsible citizenship and greater consumer action on green issues
- Tech**
 - Accelerating tech progress
- Infrastr.**
 - Patchy and disjointed interventions
 - Left-behind sectors
 - Strategy gaps and delays

Scenario Characteristics

- UK politics returns to unstable governments with limited mandates – whilst NI faces repeated periods with unstable government and short-term budgets. This has knock-on effects on both the feasibility of and commitment to long term infrastructure developments and upgrades.
- Despite this uncertainty, relatively smooth economic conditions through the 2030s and beyond has created opportunities – and in Northern Ireland the success of key growth areas has created a strong economy. This has strengthened the quality-of-life dividend – helping reduce brain drain and draw in workers from abroad.
- At a societal level, incomes have ticked upwards – but by the mid-2030s public discontent over the quality of infrastructure in Northern Ireland is growing. Economic growth has not always manifested in improvements to infrastructure itself – and where it has it has often been patchy and piecemeal.
- Short-term funding settlements and repeated crisis for the NI Executive, and a lack of direction at Westminster, have hamstrung attempts at longer-term or more holistic approaches to infrastructure planning. Instead, Northern Ireland's approach has often remained one of trying to do everything – but achieving far less.
- While economic growth has seen infrastructure investment grow, it remains patchy and disjointed. Individual or regional improvements appear – but it's increasingly clear that without larger-scale and cross-sector planning Northern Ireland is increasingly falling behind where it needs to be on infrastructure.

Challenges

- Development will be patchy and unequal – both geographically and in terms of broader strategic challenges
- Pilots and smaller projects can work – but can leave areas or sectors behind the trend or have little impact if not featuring in longer-term planning
- Without joined up thinking on infrastructure the foundations of longer-term economic growth will be weakened in NI – especially once the green transition and the impacts of climate change become prominent
- Private sector engagement can come with its own risks of overspend or regulatory capture

Opportunities /Actions

- Growth will create opportunities for low-hanging fruit (e.g. energy) infrastructure to be developed – especially where politically expedient or easy to achieve
- Strong economic growth will raise living standards and investment opportunities. Skills shortages and brain drain likely mitigated to some degree
- Opportunities for engaging with private sector in partnerships to bolster immediate investment
- The climate might allow for smaller pilots away from core economic zones that can be used as evidence for larger developments

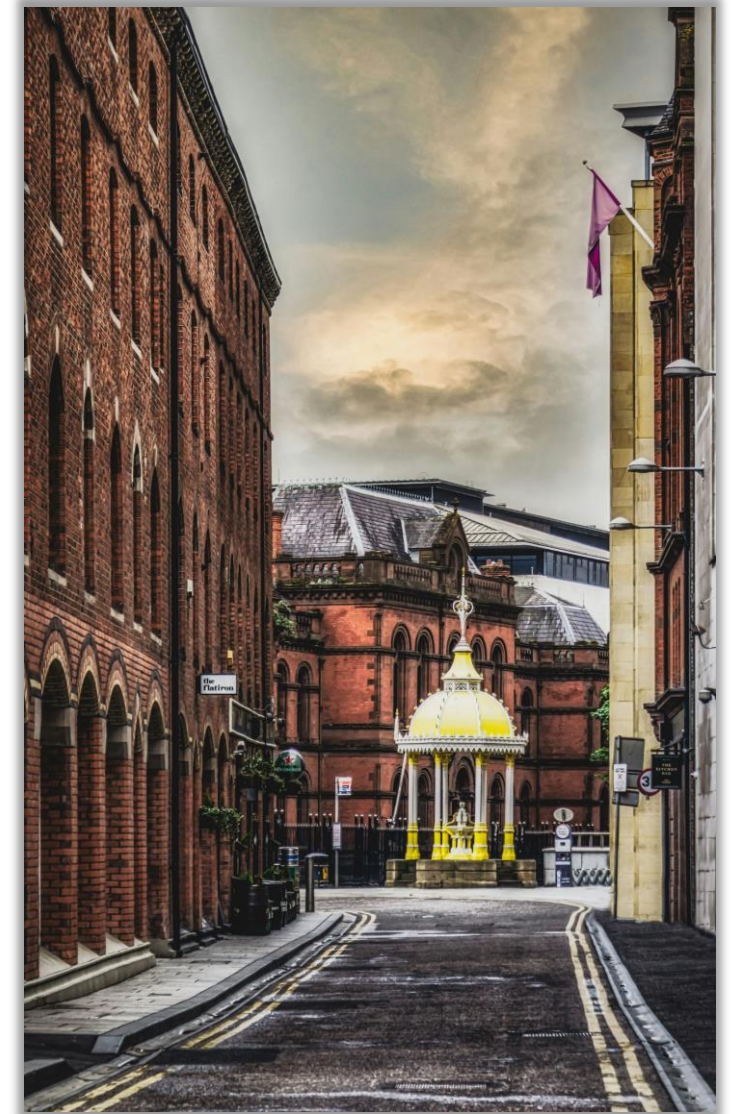
Considerations in Infrastructure Planning

In terms of today, there are similarities of *Scenario Three: Decline & Challenge* to the current experience of infrastructure planning and development in Northern Ireland. Whilst recent political events in Northern Ireland have brought back some political stability – both the wider economic and political contexts at a UK-wide and global level may impact this. Whilst there is an ambition to move away from single year budgets, constrained finances and other issues may destabilise politics and make long-term planning difficult to achieve. Developing methods to mitigate the negative impacts of that scenario and, if possible, to try move out of it should be central to current and future planning.

In this context, the objective of infrastructure development should be to – wherever possible – support Northern Ireland in moving into a more economically stable scenario (i.e. Scenarios 2 or 4).

In the context of Scenario Three, current adaptations to infrastructure planning and development in Northern Ireland that could help mitigate its impacts and move infrastructure towards less damaging scenarios may include:

- A heightened focus on addressing barriers and using policies to facilitate infrastructure delivery – e.g. by facilitating cross-department knowledge sharing and evidence-based planning
- More streamlining of planning and development processes to accelerate delivery
- A comprehensive review of plans with a focus on future resilience-supportive infrastructure and the maintenance of existing lynchpin infrastructure
- Prioritisation to avoid critical infrastructure failures – 'back to basics' approach to protect NI infrastructure
- More realistic planning in the short term in the context of available budgets and current funding policies



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Appendix

Research Sources

- 10 Year Infrastructure Strategy Working Paper – HM Treasury (2025)
- Deconstructing Economic Growth in Northern Ireland – Ulster University Economic Policy Centre (2025)
- Infrastructure 2050 – Investment Strategy Northern Ireland (2022)
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- Regional Development Strategy for Northern Ireland 2025 – Northern Ireland Executive (2025)
- NISRA, 2022 based Population Projections for Northern Ireland (2025)
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- Trajectory Trends and Foresight Research

