

# Dublin Airport - CIP2020+ Deliverability Assessment





Report  
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The logo for Steer, featuring the word "steer" in a bold, lowercase, sans-serif font.

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## Executive Summary

### Overview

Steer, in its capacity as the Independent Funds Surveyor (IFS), was appointed by CAR to provide an independent review of the proposed Capital Investment Programme 2020+ ('CIP2020+') developed by Dublin Airport, covering their proposed capital investment projects at the airport for the period 2020-2026.

In its draft decision, CAR allowed for a newly proposed CIP of €2.9bn, of which c.€1.8bn<sup>1</sup> was planned to be delivered over the four year period (2023-2026).

CAR noted that the programme was ambitious. Submissions in response to the draft decision by stakeholders including Ryanair and IATA questioned the deliverability of the planned programme due to the size and scale of the infrastructure development required during this timeline and in the context of planning and operational challenges.

To assist CAR's consideration of submissions regarding the CIP, this report provides a high-level assessment of the scale of the proposed programme of projects submitted by Dublin Airport, and considers the **deliverability** of the programme, and its associated risks between now and 2026.

The report assesses three elements of the deliverability:

- Benchmarking - how does the size of the proposed investment programme compare with previous Dublin Airport capex, and the investment undertaken at peer airports in Europe?
- External Context - What is the status of the infrastructure market in Dublin and the rest of Ireland, and could this have an impact on the availability of key resources?
- Are there any factors relating to Dublin Airport itself that could restrict the development of the capex programme?

## Assessment

### Benchmarking

Historically, Dublin Airport has been broadly aligned with its European peers in terms of capex spend and spend per passenger over the past ten years.

However, the proposed capex between 2022 and 2026 places it significantly ahead of these airports in terms of the scale and timeframe of capital spend.

### External Context

The scale of investment is ambitious and whilst paired with a timeframe of increased activity across Ireland as a whole, this places additional pressures on the Irish construction market. These pressures have been addressed in this report through a review of competing infrastructure projects, resources, and labour. It has found that the available labour market is below that targeted to deliver Ireland's national development plan with a reducing pool of available workers.

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<sup>1</sup> In real terms – February 2022

The increased demand for construction workers is paired with a reduced supply of resources which, combined with inflation, is pushing up the cost of materials. As a result, the cost of labour within the Irish market is becoming more expensive.

For some of the bigger projects within their capex programme, Dublin Airport may have to look beyond Ireland to source and procure contractors for some projects. This could put further inflationary pressures on project costs and in addition, shortage of appropriate suppliers could also result in slippage in individual projects, and possibly programme, delivery timescales.

The Irish construction supply chain is further impacted by the global macro-economic outlook and uncertainty driven by inflation, possible impacts of recession and the knock-on effects of international conflict. These external factors provide an increasingly challenging context when assessing the deliverability of Dublin Airport's planned increased capex programme of the ensuing four years.

### **Dublin Airport Specific Factors**

In addition to external conditions, other factors which may adversely impact Dublin Airport have also been considered as part of this report. They include:

- Historical evidence of a delay in the delivery of a recent, smaller, simpler suite of projects;
- Despite the airport having conducted feasibility works and set up structures and plans to deliver these large-scale projects, the absence of simulation modelling and the sheer scale of planned projects provides a risk to the on time delivery of the whole programme.
- Several projects are likely to require additional planning consent, including additional assessment by the Aircraft Noise Competent Authority. These provide additional potential for delays to the overall programme.

### **Conclusion**

It is clear that Dublin Airport has a high level of ambition in increasing the level of investment in the airport facility compared to previous levels of investment, and European peers.

We have identified a range of risks which may present themselves to Dublin Airport throughout its investment programme. Whilst these risks may not negatively impact the overall outcome of the programme, and while we cannot say definitively that Dublin Airport will not be able to deliver the programme as per the planned timeline, these risks may impact the conditions under which it is delivered, and notably the deliverability of multiple simultaneous projects and the knock-on impact this may have on the overall timeline.

It appears likely therefore that in the case of some projects, the risks discussed above will materialise, and thus it seems less likely that the full set of projects and/or full level of investment will be delivered in line with the planned timeline.

## Glossary

| Acronym  | Definition                                                                                                              |
|----------|-------------------------------------------------------------------------------------------------------------------------|
| ADP      | Aéroports de Paris – French Airport operator in France and other countries, including Paris Charles de Gaulle and Orly. |
| ADR      | Aeroporti di Roma – operator of both Rome airports – Fiumicino and Ciampino.                                            |
| AENA     | Spanish state-owned company managing 46 airports in Spain, and several overseas airports.                               |
| CAPEX    | Capital Expenditure                                                                                                     |
| CAR      | Commission for Aviation Regulation (Ireland)                                                                            |
| COVID-19 | Coronavirus 2019                                                                                                        |
| DAA      | Formerly Dublin Airport Authority (Dublin and Cork Airports)                                                            |
| DART     | Dublin Area Rapid Transit (railway)                                                                                     |
| ENAC     | Ente Nazionale per l'Aviazione Civile (Italian Civil Aviation Authority)                                                |
| GDP      | Gross Domestic Product                                                                                                  |
| GFCF     | Gross Fixed Capital Formation                                                                                           |
| GNI      | Gross National Income                                                                                                   |
| IFS      | Independent Funds Surveyor                                                                                              |
| MAG      | Manchester Airports Group (Manchester, Stansted, East Midlands Airports)                                                |
| OECD     | Organisation for Economic Co-operation and Development                                                                  |



# 1 Introduction

## Context

### Background

- 1.1 Dublin Airport is a regulated airport, as it is deemed to have Significant Market Power, such that if it chose, it could apply excessively high charges to airline customers, as there are no realistic alternatives in the market for them to switch to.
- 1.2 The Commission for Aviation Regulation (CAR) of Ireland is the regulating authority that sets the maximum level of Airport Charges that Dublin Airport is able to levy on its airline customers.

### CIP2020+

- 1.3 In 2019, Dublin Airport presented its proposed capex plans for the five year period 2020-2024, totalling €1.8bn.
- 1.4 Steer was appointed by CAR to provide an independent review of the proposed Capital Investment Programme 2020+ ('CIP2020+') developed by Dublin Airport, covering their proposed capital investment projects at the airport for the period 2020-2026.
- 1.5 Since the previous assessment, undertaken in 2019, there have been several events and changes that have impacted significantly on Dublin Airport's updated capex submission in 2022. These include:
  - Changes in legislation;
  - COVID-19; and
  - Rapid construction cost inflation.
- 1.6 In December 2021, the final decision on a second interim review concerning 2022 was issued by CAR, driven by the impact of COVID-19 on air traffic supply, demand and longer-term volume forecasts. The decision was made to propose the extension of the regulatory period to 2026, an addition of 2 years to the original term.
- 1.7 CAR stipulated a review of the full regulatory building blocks to be completed for 2023, including the review of a revised Capital Investment Plan. Steer was appointed by CAR to commence the review in January 2022.
- 1.8 In its draft decision, CAR allowed for a newly proposed CIP of c.€2.9bn, of which c.€1.8bn<sup>2</sup> was planned to be delivered over the four year period (2023-2026).
- 1.9 CAR noted that the programme was ambitious. Submissions to the draft decision from stakeholders including IATA and Ryanair, questioned the deliverability of the planned

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<sup>2</sup> In real terms – Feb 2022

programme due to the size and scale of the infrastructure development required during this timeline and in the context of planning and operational challenges.

- 1.10 Whilst a sizeable proportion of the cost increase compared to 2019 can be explained by an increase in rates due to high levels of construction price inflation, the size of the proposed capital investment programme, compared to previous programmes at Dublin Airport, and compared to peer airports in Europe, is large.

**Purpose of this Report**

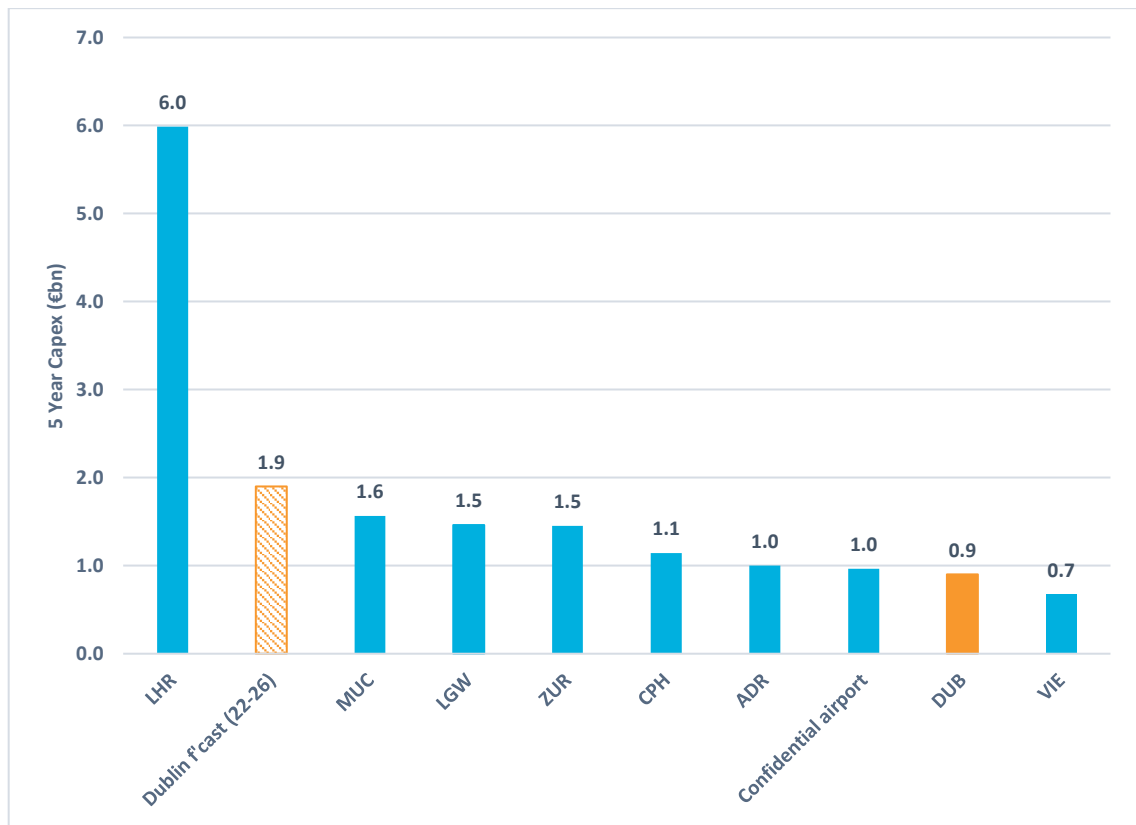
- 1.11 To assist CAR's consideration of submissions regarding the CIP, this report provides a high level assessment of the scale of the proposed programme of projects submitted by Dublin Airport, and considers the **deliverability** of the programme, and its associated risks between now and 2026.
- 1.12 The report is split into three sections, assessing three elements of the deliverability:
- Benchmarking - how does the size of the proposed investment programme compare with previous Dublin Airport capex, and the investment undertaken at peer airports in Europe?
  - External Context - What is the status of the infrastructure market in Dublin and the rest of Ireland, and could this have an impact on the availability of key resources?
  - Are there any factors relating to Dublin Airport itself that could restrict the development of the capex programme?
- 1.13 The following sections explore each of these themes in more detail.

## 2 Benchmarking the Dublin Airport proposal

### Historic five year period capex spend

- 2.1 Figure 2.1 assesses the level of capital expenditure at a range of European airports and/or airport groups between 2012 and 2021, and identifies the highest combined capex spend during any rolling five year period between these years.
- 2.2 This is compared with Dublin Airport’s own peak five year capex in the historical period (see orange bar) and the five year forecast capex for Dublin between 2022 and 2026.

**Figure 2.1: Dublin Airport versus European peers – peak rolling five year capex between FY12-FY21**



Source: Dublin Airport, CAR, various European airport annual reports.

Note: Figures are in real 2021 prices

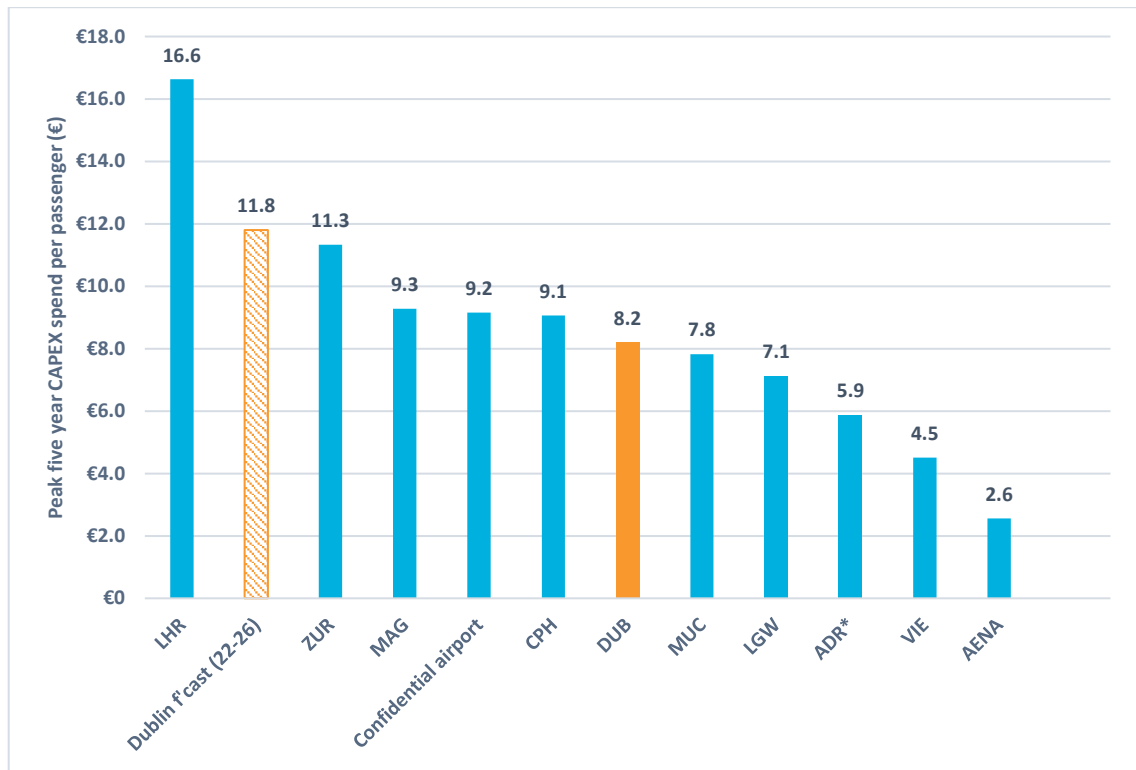
- 2.3 Capex spend at Dublin Airport has historically been slightly lower than peer European airports.
- 2.4 During the period FY12-FY21, the highest spend in any rolling five years was €6 billion at London Heathrow. This compares to the peak of €0.9 billion at Dublin.

2.5 The proposed spend of €1.9 billion at Dublin between 2022-2026 is set to be more than that of its previous peak five year period, and higher than nearly all the other single airports in the peer comparisons. The only exception among the single airports is London Heathrow.

### Historic peak five year period average capex per passenger

2.6 Figure 2.2 shows the total peak five year capex spend per passenger at Dublin and peer airports.

Figure 2.2: Peak five year capex spend per passenger between FY12 and FY21



Source: Dublin Airport, CAR, various European airport annual reports

Note: Figures are in real 2021 prices

\* Not all years were available for ADR so the period FY17/FY21 has been used as a comparator.

2.7 The average capex spend per passenger at Dublin Airport was historically broadly in line with other peer European airports during their peak five years of capex spend.

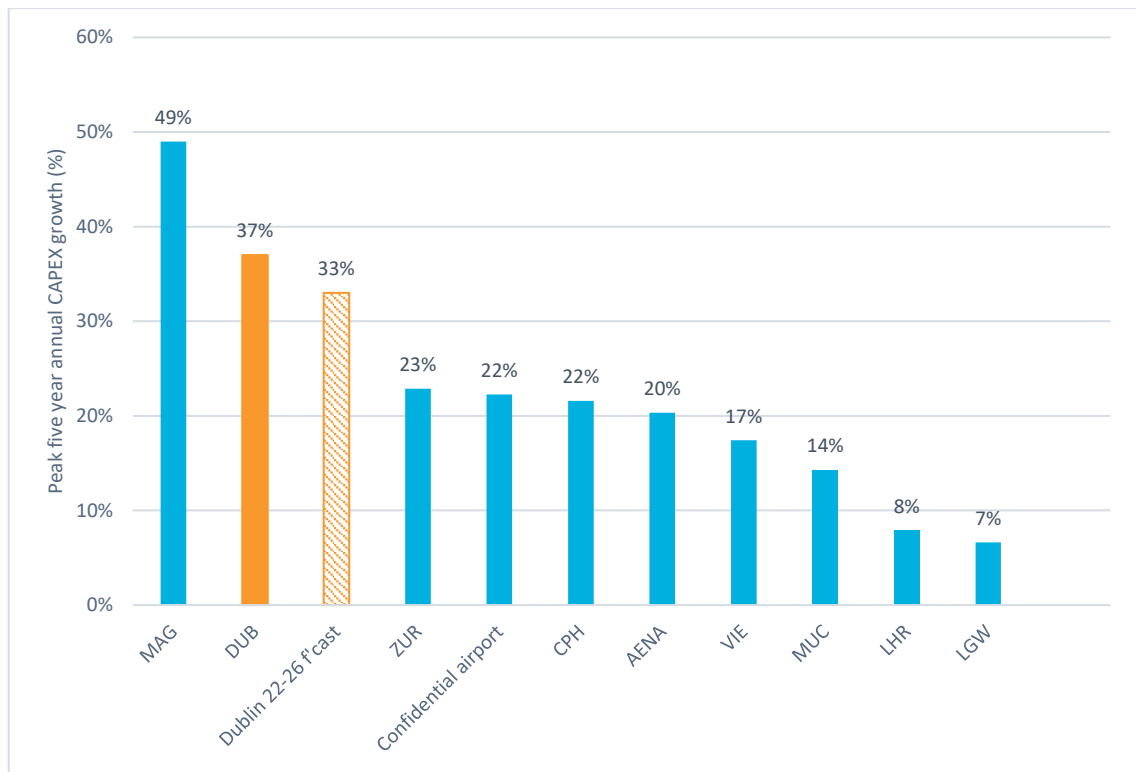
2.8 This averaged at €8.20 per passenger at Dublin Airport during the highest five year period of capex investment.

2.9 Assuming a 5 year capex of €2bn and circa 164m passengers as forecast by CAR, the proposed capex for 2022-2026 could be in excess of €11 per passenger. This significantly exceeds the historical averages of both Dublin and its peer airports, with only Heathrow higher.

### Historic five year annual CAPEX growth

2.10 Figure 2.1 shows the highest five year annual growth rate for each airport between FY12 and FY21 to demonstrate their ability to scale up investment. This may represent different periods for each airport depending on individual capex cycles.

**Figure 2.3: Peak five year annual capex growth**



Source: Airport annual reports, CAR Analysis

Note: Figures are in real 2021 prices

Not all years were available for ADR so it has been excluded from this comparison

- 2.11 Dublin Airport has historically been able to ramp up capex spend at a steeper rate than peer airports, however it is worth noting that this peak period of growth came from a much lower base spend than is currently being proposed (€35m vs €143m).
- 2.12 The proposed increases in capex between 2022-2026 at Dublin results in a 33% annual growth rate. In comparison to peer airports, Dublin Airport are proposing both a higher value capex spend over the future five year period and a higher annual growth rate. This places a dual pressure on Dublin’s CIP due to both the scale and the timeframe for its deliverability.

### Forward Look Investment Plans

- 2.13 Table 2.1 shows a comparative view of planned future capital investment plans at peer airports.

**Table 2.1: Forward look investment plans**

| Airport/Airport Group | Capital Investment Plan                                                           | Deliverable                                                                         |
|-----------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| LGW                   | LGW 5 Year investment plan in 2019 planned to spend £1.1bn between 2019 and 2024. | General improvement across terminals/potential new runway/potential third terminal. |

| Airport/Airport Group | Capital Investment Plan                                                                                                                      | Deliverable                                                                                                                          |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| ADR                   | ADR presented an Investment Plan to 2046 to ENAC for a total of €8 billion, of which €4 billion is for the development of the new east area. | Terminal expansion and upgrades/apron and taxiway rehabilitation/New terminal/New runway/new airport hotel.                          |
| LHR                   | £3.6bn CIP mid case proposed in final H7 guidance between 2022 and 2026.                                                                     | Next generation security and baggage systems, improved passenger experience and net zero initiatives.                                |
| Groupe ADP            | €1bn per annum (2021-2025).                                                                                                                  | Part of the groups '2025 Pioneers' strategic roadmap towards more sustainable and multi-modal operations.                            |
| FRA                   | €4bn investment 2009 until 2026.                                                                                                             | New runway allowing 120 aircraft movements, new terminal, terminal renovation/cargo city extension/ New airport hotel.               |
| ZUR                   | €3.6bn until 2028.                                                                                                                           | Airport city/terminal upgrade/new catering facility/new ATC/runway renovation.                                                       |
| CPH                   | €3.2bn by 2034.                                                                                                                              | Terminal expansion and refurb/runway rehabilitation/Pier E development.                                                              |
| DUB                   | €2bn by 2026.                                                                                                                                | Terminal refurb and new piers/new apron and taxiway/ runway rehab/commercial and car park developments, and sustainability projects. |
| MAN                   | £2bn by 2030.                                                                                                                                | Terminal expansion/airport city/logistics facility/additional car parking.                                                           |

Source: Airport annual reports, CAPA, CAA, news articles

## Conclusion

- 2.44 Dublin Airport's proposed capital expenditure, when compared to other major airports and airport groups in Europe, appears to be high. In addition, the growth in capex outstrips the forecast growth in passenger numbers, leading to a comparatively higher spend per passenger.
- 2.45 The rate at which Dublin Airport plans to increase capex spend between 2022 and 2026 is also higher than that achieved by peer airports during their respective peak periods of investment.
- 2.46 The combination of a large capex programme over a short period of time positions Dublin's plans ahead of what has historically been achieved at peer airports during their peak periods in terms of both total spend, spend per passenger and rate of growth.

## 3 Ireland/Dublin Infrastructure Market

### Irish National Development Plan 2021-2030

- 3.1 The Irish government is currently delivering the largest National Development Plan in its history, prompting a significant period of building and construction activity across the country.

#### Overview of activity

- **€165bn** investment planned between 2021 and 2030 by the Irish government.
- Target includes **300,000 new homes** by the end of 2030 with expected **population growth of 1 million** between 2016 and 2040.
- **€35bn investment package for transport** including new light rail systems, 1,000km of new walking and cycling infrastructure. Ireland has the **third largest OECD investment in transport** as a percentage of GFCF (14% in 2021).
- Average **47,000** direct and **33,000** indirect constructions jobs will be sustained.
- NSO 6 outlines the completion of the new parallel runway for Dublin Airport as part of the high quality international connectivity objective (already delivered).
- The Irish department of Transport has the second largest allocation of capital allocations between 2021 and 2025 (c.2.6bn per annum), this is second to housing.
- The risks of inflationary pressures on the construction market have been identified within the plan and their ability to reduce private sector investment with the need to prioritise public investment which is to deliver the highest level of social and economic return.
- There are **9 major regional development investments** planned in the same region as Dublin Airport in addition to the north runway and visual control tower project at the airport. These include a new children's hospital, Arklow flood relief scheme and the Dublin Metrolink. Additional projects valued at over €1bn include the water supply project and National Broadband Plan.

#### Major Projects

- 3.2 Table 3.1 below contains an overview of projects valued at over €500m as part of Ireland's major infrastructure project pipeline.

**Table 3.1: Irish infrastructure projects over €500m**

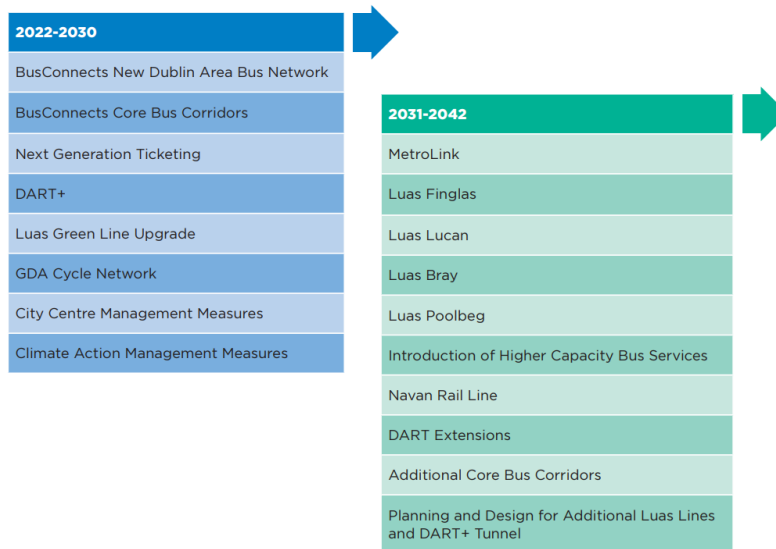
| Project                                        | Stage                     | Construction Timeline | Cost       |
|------------------------------------------------|---------------------------|-----------------------|------------|
| Metrolink                                      | Final Business Case       | 2025-Early 2030s      | +€10bn     |
| Dart + West                                    | Final Business Case       | 2024-2027             | €500m-€1bn |
| Busconnects Cork                               | Strategic Assessment      | 2025-2030             | €500m-€1bn |
| M/N20 Cork to Limerick Road                    | Preliminary Business Case | 2027-2031             | +€1bn      |
| Galway City Ring Road                          | Final Business Case       | 2027-2031             | €500m-€1bn |
| Water Supply Project – Eastern/Midlands Region | Preliminary Business Case | 2026-2030             | +€1bn      |
| Greater Dublin Drainage                        | Preliminary Business Case | 2025-2029             | €500m-€1bn |
| Ringsend Wastewater Treatment Plant Project    | Implementation            | 2018-2025             | €500m-€1bn |
| Cork City Docklands                            | Preliminary Business Case | 2023-2031             | €500m-€1bn |
| New Children’s Hospital                        | Implementation            | 2017-2024             | +€1bn      |

Source: gov.ie - Prospects 2022 - Ireland’s Major Infrastructure Project Pipeline (www.gov.ie)

## Dublin Transport Strategy

3.3 Figure 3.1 shows Dublin-specific transport projects between 2022 and 2042.

**Figure 3.1: Two phases of transport development projects as part of the Greater Dublin Area Transport Strategy**



Source: Transport Strategy for the Greater Dublin Area - National Transport <https://www.nationaltransport.ie/gda/>

3.4 The forecast overall capital cost to deliver the proposals set out by the Greater Dublin Area Transport Strategy is €25bn. This is more than double the proposed costs of €10.3bn set out in the 2016-2035 strategy and pushes out key infrastructure projects beyond the initial 2035 deadline to 2042. Whilst infrastructure ambitions remain high across Ireland, this strategy



demonstrates the slippage in both cost and timeframes which can be experienced across a large portfolio of infrastructure projects.

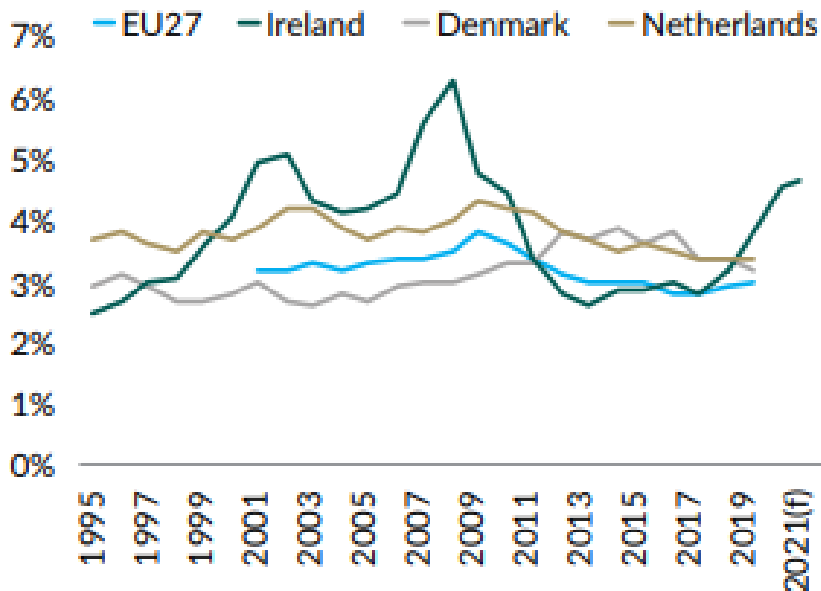
3.5 Key infrastructure developments as part of this recent strategy include:

- Inclusion of new bus corridors and cycle routes;
- Greater pedestrianised areas and improved wayfinding;
- The addition, extension or upgrade of light and heavy (DART) rail lines; and
- New road links including the South Port Access Route and link between N3 and N4 national roads.

### Public Investment in Infrastructure

3.6 Figure 3.2 shows the current Irish public investment as a percentage of GDP compared to historic levels of investment by peer countries.

Figure 3.2: Total public investment (GFCF) as a percentage of GDP (GNI\*)



Source: Project Ireland 2040

3.7 Figure 3.3 shows the current Irish public investment projection for the next decade in absolute terms, and as a percentage of GNI (Gross National Income).

Figure 3.3: Ireland - public capital expenditure split between Exchequer and Non-Exchequer

| € billion**               | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | Total |
|---------------------------|------|------|------|------|------|------|------|------|------|------|-------|
| Exchequer                 | 9.8  | 11.1 | 11.9 | 12.8 | 13.6 | 14.2 | 14.9 | 15.4 | 15.9 | 16.4 | 136   |
| Non-Exchequer             | 2.9  | 2.9  | 2.9  | 2.9  | 2.9  | 2.9  | 2.9  | 2.9  | 2.9  | 2.9  | 29    |
| Total Capital Expenditure | 12.7 | 14   | 14.8 | 15.7 | 16.5 | 17.1 | 17.8 | 18.3 | 18.8 | 19.3 | 165   |
| Exchequer as % of GNI*    | 4.5% | 4.8% | 4.9% | 5.1% | 5.1% | 5.1% | 5.1% | 5.1% | 5.0% | 5.0% | 5.0%  |

\*\*Rounding effects

Source: Project Ireland 2040

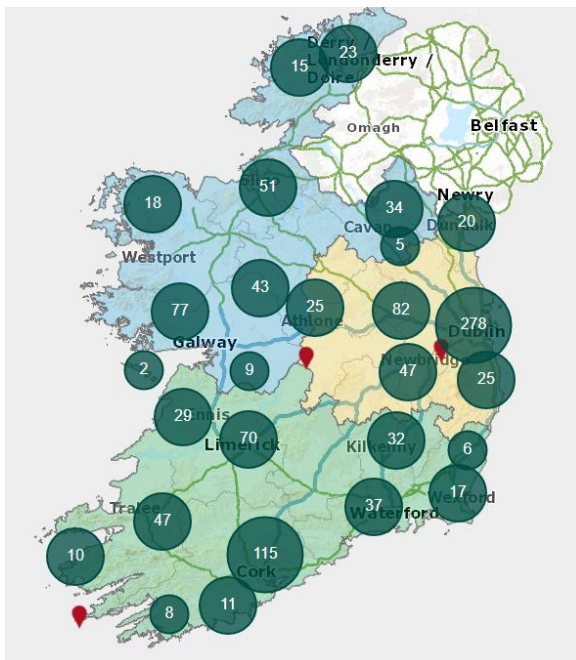
3.8 Ireland is planning to invest €165bn in infrastructure between 2021 and 2030.

- 3.9 Ireland public investment as a percentage of GDP has been broadly in line with the EU average, and below peers such as Denmark and Netherlands between 2011 and 2019. The proposed investment in infrastructure beginning in 2021, however, places it significantly above peer countries.
- 3.10 This is forecast to continue at circa 5% of GNI over the course of the next decade, implying a sustained period of high levels of infrastructure investment.
- 3.11 Approximate total investment in building and construction in 2022 is estimated to be €32bn (Build, 2022). Based on this figure, and the €14bn estimated investment in the National Development Plan from public funds (Figure 3.2), over half of expenditure on infrastructure is assumed to be from the private sector in 2022.
- 3.12 Private investment in Ireland’s infrastructure remains important, in addition to the planned public investment between now and 2030. Due to the ramp up in publicly funded projects it is likely that there will be pressures on skills, resource, and materials to fulfil the requirements of both public and private projects.

### Competing Resources

- 3.13 Figure 3.4 shows the number of infrastructure projects over €20m planned in Ireland up to 2050.

Figure 3.4: Ireland - total projects (over €20m) by region



Source: Project Ireland 2040, gov.ie - MyProjectIreland Interactive Map (www.gov.ie), Steer Analysis

- 3.14 The majority of projects are expected to complete over the same period as Dublin Airport’s four year capex plan, with a total of 338 projects expected between 2023 and 2026:
  - 2023 – 157 projects
  - 2024 – 119 projects
  - 2025 – 45 projects
  - 2026 – 17 projects

3.15 The largest number of projects (278) are concentrated around Dublin, placing a potential regional pressure on supply of various commodities.

3.16 Figure 3.5 shows the expected completion year of the projects within Project Ireland 2040 between 2021 and 2030.

**Figure 3.5: Expected project completion year**



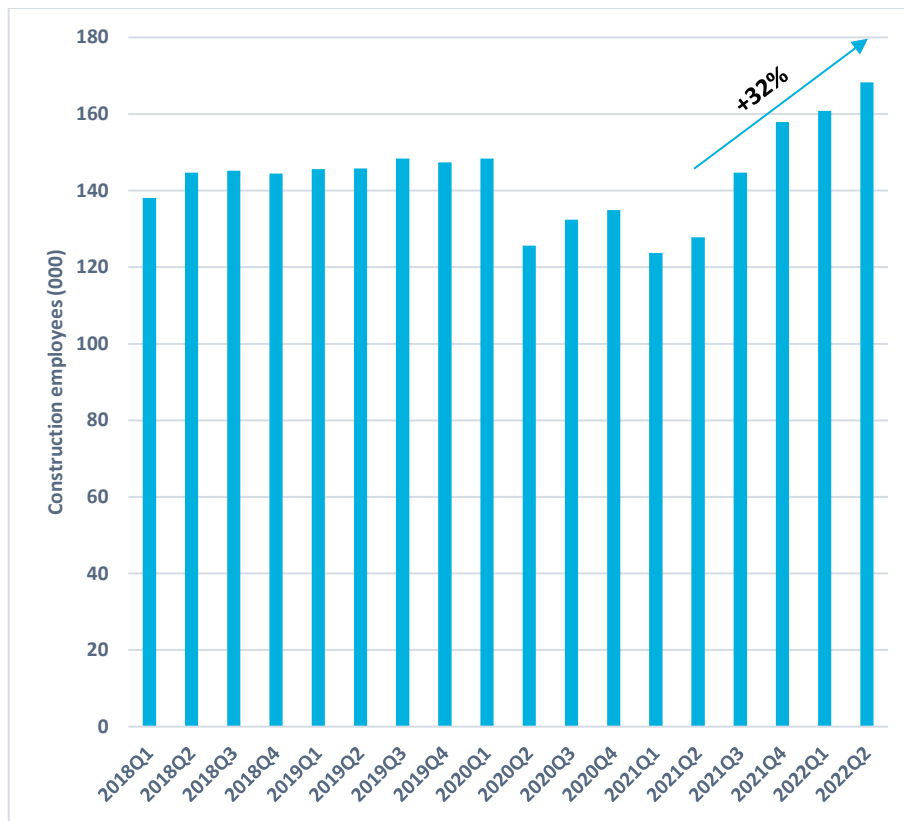
Source: Project Ireland 2040, gov.ie - MyProjectIreland Interactive Map ([www.gov.ie](http://www.gov.ie)), Steer Analysis

3.17 It is important to note that Figure 3.4 reflects the number of projects but does not reflect the size of spend. Some of the larger projects such as the Metrolink, Water Supply Project and M/N20 Cork to Limerick are not expected to complete until later part of the decade, overlapping with the main spend at Dublin Airport.

**Construction employment trends**

3.18 Figure 3.6 shows the number of construction employees in Ireland (seasonally adjusted).

**Figure 3.6: Construction employees (seasonally adjusted)**



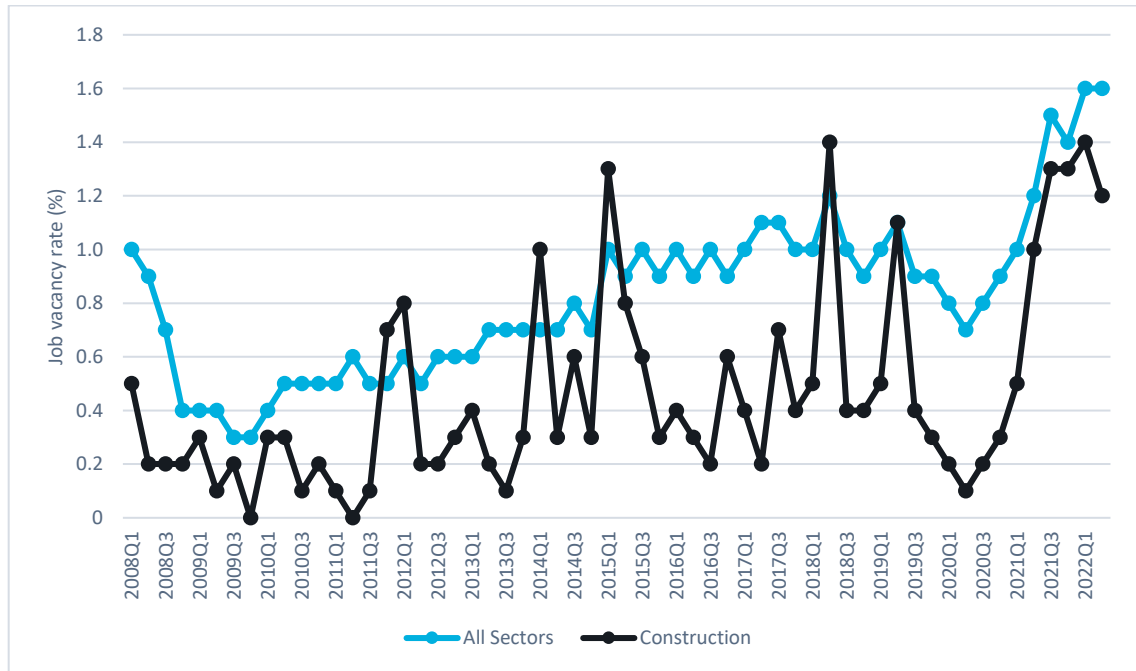
Source: Project Ireland 2040 (2021), BUILD 2040 (2022), Building Future Skills (2020), CSO <https://www.cso.ie/en/releasesandpublications/ep/p-lfs/labourforcesurveyquarter22021/employment/>

- 3.19 Since Q2 2021 there has been a consistent year on year increase in construction employment with a +32% increase in Q1 2022 versus Q1 2021 (source: CSO.ie).
- 3.20 The national development plan estimates that an annual average of 47,600 direct and 33,100 indirect jobs will be created from public construction investment in Ireland between 2021 and 2030.
- 3.21 There were 168,300 construction sector employees in Q2 2022 and 2,200 job vacancies in the sector in the same quarter (CSO.ie). This is 62,000 short of the estimated employment levels for 2022 in the Building Future Skills (2020) report. Whilst employment rates have been increasing, this has not been at the rate predicted to deliver Ireland’s construction pipeline.
- 3.22 A talent pipeline is expected to provide the required skills within the Irish market, however it will take time for students and apprentices to become fully qualified and enter the workforce. There were 4,870 new construction apprentice registrations in 2021, the highest level since 2007. In addition, 5,399 new engineering undergraduates were registered in 2020/21 (Build 2022).
- 3.23 Average wages have been increasing with weekly earnings for construction workers up +8.7% year on year in Q2 2022 (CSO.i.e). Whilst one of the better paid industries in Ireland, earnings remain below professional services and public administration sectors and continue to face pressures from rising inflation.

### Job Vacancies and Unemployment Rates

3.24 Figure 3.7 shows the number of job vacancies in the construction market and all sectors in Ireland.

Figure 3.7: Ireland job vacancy rate %



Source: Central Statistics Office, Steer analysis

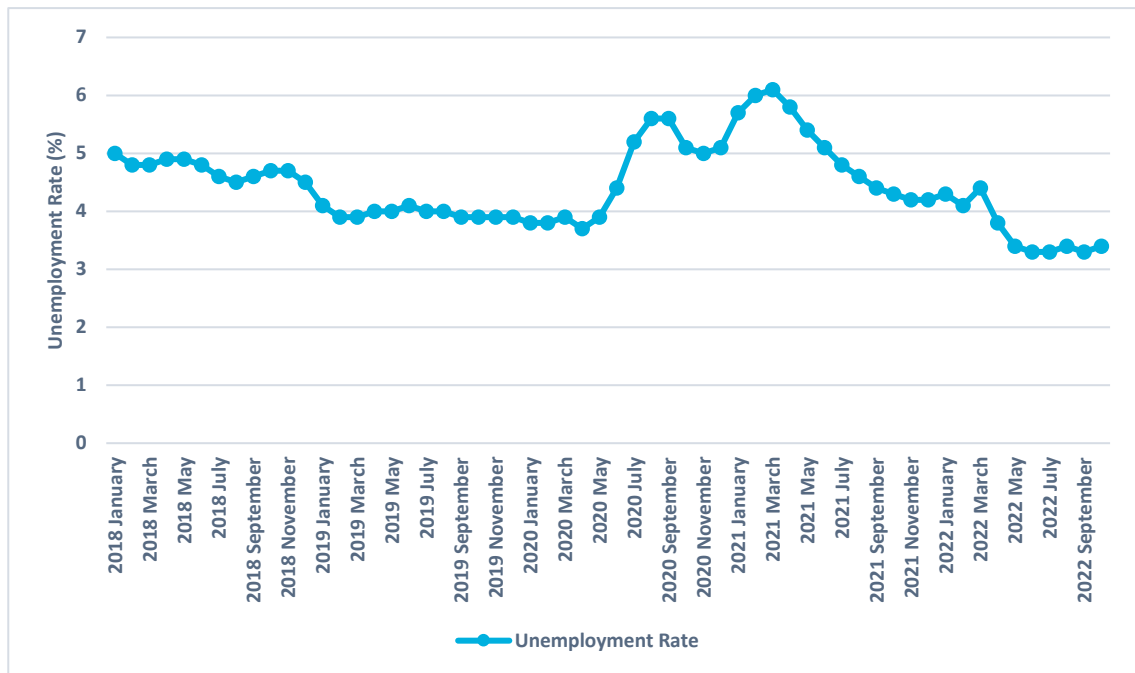
3.25 The job vacancy rate for all sectors, and construction jobs specifically, has rapidly increased since 2020. Vacancy rates for construction were 1.2% of total available jobs in Q2 2022 (CSO.ie).

3.26 Total job vacancy rates in Ireland are at their highest point since 2008 (the earliest point at which data is available).

3.27 Another consideration linked to job vacancies is the level of unemployment, which provides an indication of the availability of workers in the marketplace.

3.28 Figure 3.8 shows the level of unemployment in Ireland over the last five years. Unemployment levels today are at their lowest point when measured against this time period.

**Figure 3.8: Monthly unemployment rate for persons between 25-74 in Ireland**



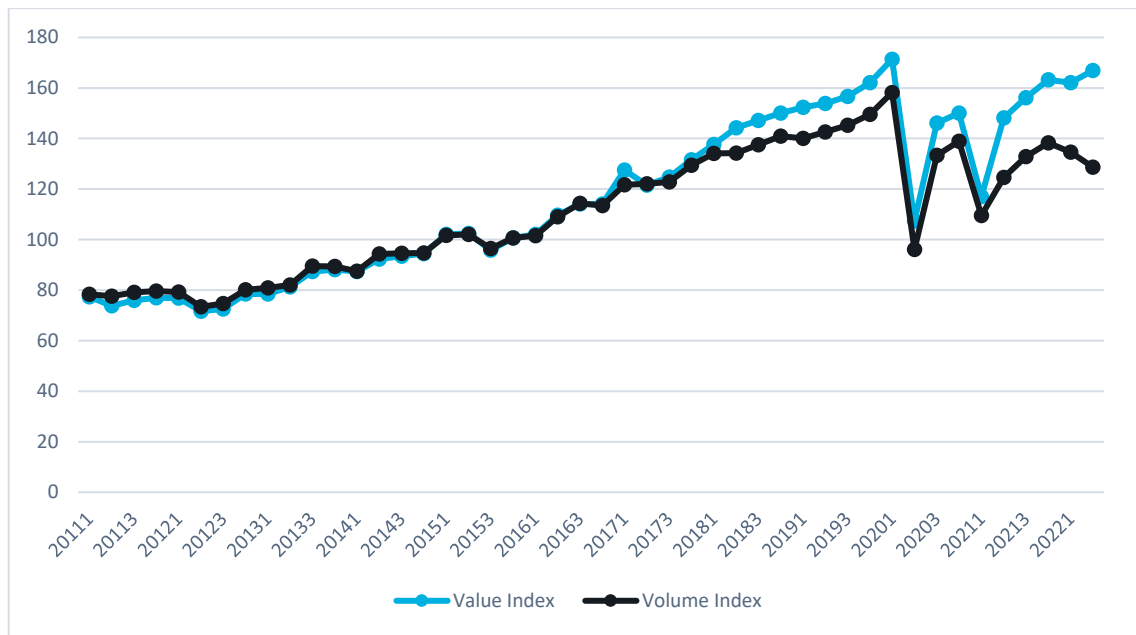
Source: Central Statistics Office, Steer Analysis

- 3.29 The unemployment rate has continued to decline in Ireland following a peak during the COVID-19 pandemic. Unemployment rates in October 2022 were at 3.4%, demonstrating a potential lack of available resource in the market.
- 3.30 This rise in job vacancies, paired with a decline in unemployment rates suggest there is a growing gap between jobs needing to be filled and the level of resource available in the market. This will create a capacity gap in the construction market (which includes Dublin Airport’s intended projects) while also potentially putting upwards pressure on labour unit rates.
- 3.31 Clearly the range of people, their locations and their skills contained within this national data cannot be mapped directly to the construction industry, but simply at a macro level, the low unemployment levels could indicate a more difficult environment in which to attract and recruit the appropriate talent and skills.
- 3.32 In response, the Irish government launched a recruitment drive earlier in 2022 to attract construction workers into the labour market. This drive is founded on meeting the key pillars of the government’s National Development Plan which includes a specific focus on housing. Construction workers entering the Irish market may therefore be prioritised for public projects under the NDP, particularly those which will help prepare for population growth and deliver public services, before wider transport infrastructure projects.

**Building and Construction Production**

- 3.33 The building and construction *value* index has seen a sharp increase since 2021 to overtake pre-pandemic levels. The *volume* index continues to lag pre-pandemic levels, increasing in 2021 before contracting during the first two quarters of 2022.

**Figure 3.9: Production Index (2015 = 100)**



Source: Central Statistics Office, Steer Analysis

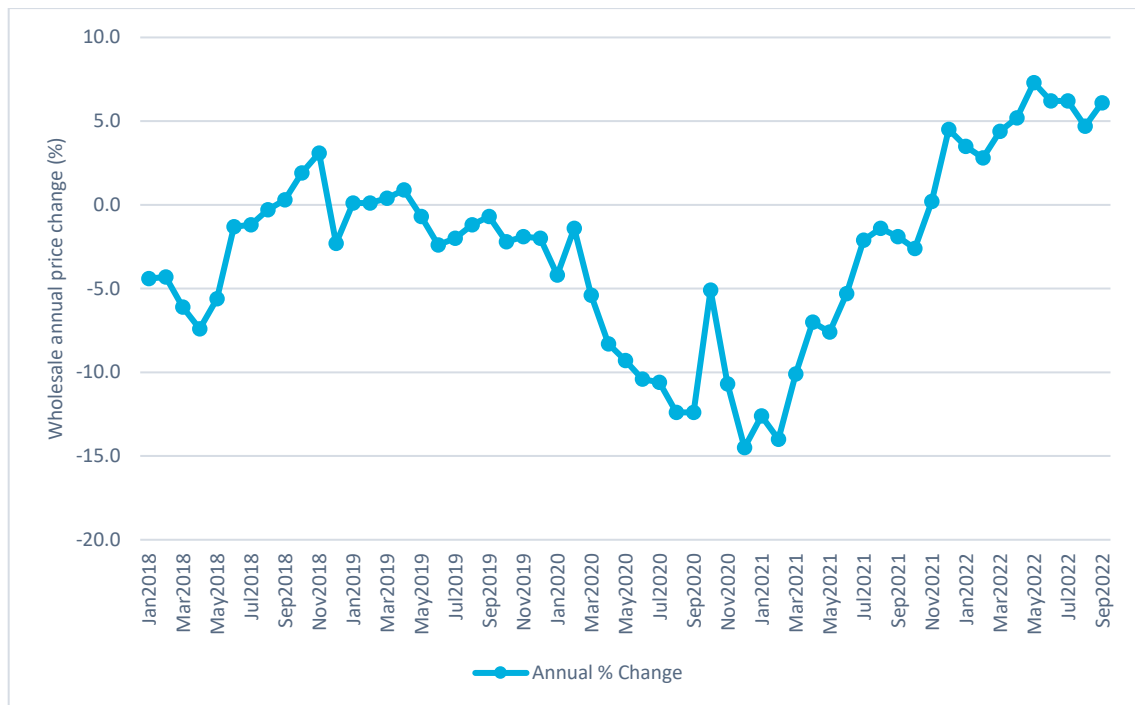
3.34 The gap between the two indices is currently more substantial than pre-pandemic levels. The most recent available quarter for 2022 (Q2) saw the volume index decrease by 4.5% prompted by a potential slow down in the economy and following an increasing risk of global recession. This should be a consideration for Dublin Airport as it heads into a significant period of high investment.

3.35 Note – indices include price of materials and wages. The value index considers constant prices whilst volume is the quantitative volume of production excluding price changes (i.e. in real terms).

**Wholesale Price Index**

3.36 Wholesale prices for construction products increased by +16.6% over the 12 months to September 2022.

**Figure 3.10: Wholesale price annual change (%)**



Source: Central Statistics Office, Steer Analysis

3.37 There have been large annual increases in wholesale prices across a range of materials including the below for September 2022:

- Steel +40.6%;
- Cement +23.9%;
- Pipes and fittings +27%;
- Plaster +24%; and
- Stone, Sand and Gravel +10%.

3.38 Inflation in 2021 and 2022 is attributable to a combination of factors, including COVID-19, Brexit, supply chain disruptions, unprecedented weather conditions, increased demand both nationally and internationally, and the conflict between Russia and Ukraine. Indications are that this will continue into 2023, but not necessarily at the same excessively high rates. Dublin Airport will not be insulated from these ongoing global impacts. A level of resilience has been built into the CIP to account for inflation, however a degree of price uncertainty remains in this volatile market.

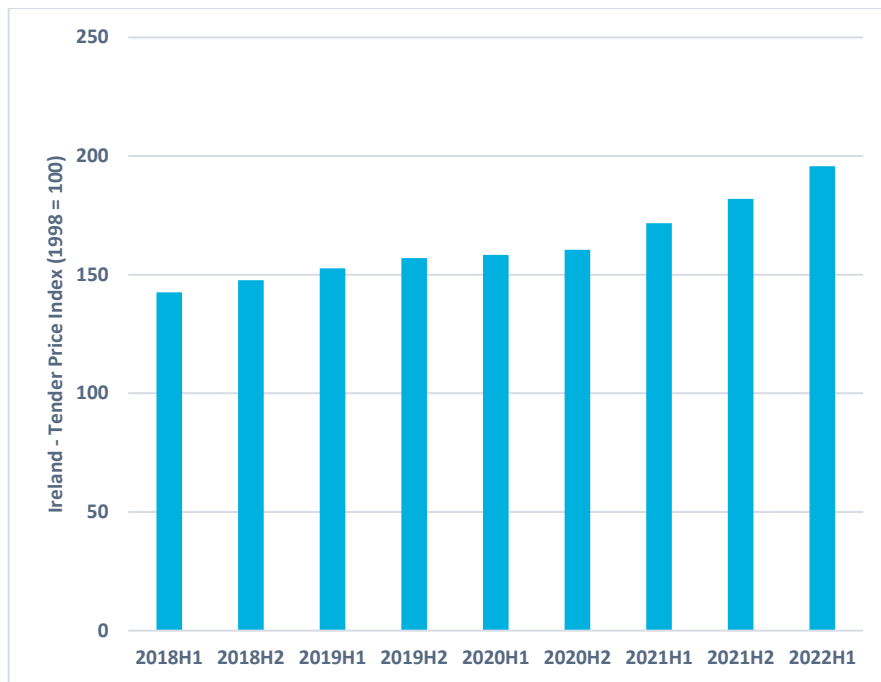
**Tender Price Index**

3.39 The resulting impact of increased material costs and wages has driven up tender prices charged by construction firms.

3.40 National construction tender prices increased by +7.5% in the first half of 2022.



**Figure 3.11: Tender Price Index (Index =1998)**



Source: SCSi (<https://scsi.ie/tpijuly2022/>)

3.41 Tender price inflation for January to June 2022 by region is set out below, indicating a broad consistency across in rates across the nation:

- Dublin +7%;
- Rest of Leinster +8%;
- Munster +8%; and
- Connacht/Ulster +8%.

**Risks to Dublin Airport infrastructure development**

3.42 There are a series of existential factors in the Irish economy that could therefore pose a risk to Dublin Airport’s large capex programme over the ensuing five years. These include:

- Competition with other public investments for materials and human resources on the supply side. There are a significant number of projects also planned around the same location and over the same time frame as Dublin’s planned capital programme.
- Supply chain issues are driving rising prices which are impacting wholesale costs. The Irish government have had to pay contractors on public projects to cover the impact of inflation with up to €160m expected to be paid out by the end of 2022<sup>3</sup>.
- Declining unemployment and increasing job vacancies in the Irish labour market suggest there is a declining pool of resources who are immediately available to fill job posts.
- In addition to the outright potential shortage of people, there is currently a skills gap between predicted employment levels and those employed within the Irish construction sector. Employment has been increasing and there is a skills pipeline, however further recruitment and upskilling is required, placing pressures on planned projects, particularly

<sup>3</sup> <https://www.irishexaminer.com/news/politics/arid-40869302.html>

in the near term. Two thirds of construction companies are currently struggling to recruit the talent they need.<sup>4</sup>

- The likely reduction in available labour in Ireland, together with increased unit costs of both labour and materials, could force Dublin Airport to look overseas for increasing numbers of staff, materials and contractors.
- The tender price index has been driven up by pent up demand and labour shortages following the easing of COVID-19 restrictions. This has resulted in supply chain issues and volatile material prices which have been exacerbated by the conflict between Russia and Ukraine.
- Whilst the construction market is predicted to be increasingly active in Ireland over the next five to ten years, driven by national development ambitions, there remains a large amount of uncertainty and external pressures within the global market, prompting the need for additional resilience within capital investment programmes.

## Conclusion

- 3.43 Infrastructure development throughout Ireland is expected to remain high, and indeed increase to even greater levels.
- 3.44 There is a likelihood that the high levels of infrastructure development, both through public and private investment, could place additional pressure on the supply of key resources, such as:
- Labour, both professional and trades people (skilled and unskilled);
  - Plant and Equipment; and
  - Building materials.
- 3.45 In addition, such levels of activity are likely to increase the burden on other aspects of the construction processes, such as obtaining the correct planning consents. There is evidence that this particular function is already under strain due to the sheer volume of activity, and this could potentially get worse, leading to significant delays in construction plans.
- 3.46 Whilst we acknowledge that this does not specifically relate to Dublin Airport, the underlying context of high levels of infrastructural/construction activity in Ireland, and in particular in the Dublin region, could lead to delays through the non-availability of resource, delays in acquiring resources, and the delay in key gateway processes such as the acquisition of planning approvals.

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<sup>4</sup> <https://constructionblog.autodesk.com/ireland-construction-skills-survey/#:~:text=38%25%20of%20construction%20companies%20expect,companies%20with%20over%20100%20employees.>

## 4 Dublin Airport – Specific Questions on Deliverability

### Previous Project Delays

- 4.1 One potential cause for delays in the development of large-scale capital programmes, is the phenomenon known as optimism bias. It is the tendency for organisations to expect better than average outcomes from their actions, without fully accounting for the negative risks. This optimism bias can lead to over-estimations of return on investment and under-estimations of timescales, costs and resourcing. This has been evidenced by the earlier referenced Transport Strategy for the Greater Dublin Area with the revised investment cost and timelines published in the latest strategy, and may be a contributory factor in recent delays to previous projects undertaken at Dublin Airport. There have been many papers written that discuss its prevalence in large scale capital programmes, often providing suggested solutions to consider the impact of optimism bias in large scale projects' costs and timescale projections<sup>5</sup>. Whilst this paper does not seek to assess its full impact (if any) on Dublin Airport's CIP with regards to costs and delivery timeframes, it is simply to highlight that this phenomenon exists, it may have had an impact on previous capital programmes and therefore could provide a risk to the 2022-2026 CIP.
- 4.2 Dublin Airport's Programme of Airport Campus Enhancements (PACE) programme of projects is a suite of projects designed to develop the airport's infrastructure to handle the rapid growth in traffic that had significantly outstripped previous forecasts.
- 4.3 There are several projects within the PACE programme that have been completed, generally the terminal projects. However, some large projects relating to airfield developments have yet to be completed. These include the following major projects:
- Apron 5H and taxiway rehabilitation;
  - South Apron stands phase 2;
  - Dual taxiway Foxtrot;
  - Link 6 extension taxiway; and
  - South Apron taxiway widening.

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<sup>5</sup> Examples of papers discussing optimism bias and its treatment include:

<https://apmg-international.com/files/document/project-optimism-bias-white-paper>

<https://www.gov.uk/government/publications/rail-infrastructure-optimism-bias-study>

<https://www.esri.ie/system/files?file=media/file-uploads/2015-07/EC002.pdf>

Green Book supplementary guidance: optimism bias - GOV.UK ([www.gov.uk](http://www.gov.uk))

- 4.4 Some, but not all, of these projects have commenced but have yet to be completed. Whilst we accept that the COVID-19 pandemic may have slowed down the programme beyond March 2020, some of these projects (e.g. Link 6 Taxiway and Apron 5H) were scheduled to have been completed prior to the 2020 lockdown.
- 4.5 Whilst it would be incorrect to assume that optimism bias is the sole cause of the delay in the PACE programme of (notably) airfield projects, it is evident that the projects have not been delivered within the timelines as planned in 2017/18.
- 4.6 Given that the PACE programme was a smaller and less complex suite of projects than compared with some of the projects in the CIP2020+ programme, e.g. North and South Apron Hubs, or West Apron Underpass, this raises a concern that a similar delay to the CIP programme of projects remains a strong possibility.

## Scale of Programme in Short Time Frame

### Simulation

- 4.7 We asked Dublin Airport to what extent they have considered the operational impact implicit in the planned timelines for the CIP projects. For example, the impact that any works may have on capacity analysis, or the modelling and simulation of airfield movements during extensive airfield works. One such was whether the West Apron Underpass could be constructed within the planned construction window given forecast traffic levels and associated stand/taxiway demand.
- 4.8 Dublin Airport have noted that once Contractors and Design and Build Engineers have been appointed, they will work with stakeholders to develop detailed construction sequencing to minimise impacts. Dublin Airport has also set up a dedicated working group to work through this detail.
- 4.9 With regards specifically to the underpass and the North and South Apron hubs, Dublin Airport advised that they have performed feasibility work on the phased delivery of these programmes. In addition, they have advised that as the detailed design evolves, they will constantly look at improvements and temporary solutions to mitigate the construction impact, providing them with confidence in the deliverability of the projects.
- 4.10 Whilst we acknowledge that Dublin Airport has put in place some structures and plans for the delivery of these major projects, having to fit delivery around maintaining operations is likely to be a significant risk to the timeline, and the extent to which this will be the case is not yet established.

## Planning Constraints

### Planning

- 4.11 Steer has not conducted a detailed review of Irish planning law as it may apply to this specific programme. However we understand that certain projects, including the North and South Apron capacity developments, are likely to be subject to a longer planning process.
- 4.12 Noise poses a particular planning challenge due to a reliance on third parties. We note that the requirement for different projects to follow different planning pathways may impact Dublin Airport's ability to optimally phase the programme from a construction and operational perspective.

- 4.13 We understand that certain projects, including the North and South Apron, are likely to be subject to a longer planning process including assessment by the Aircraft Noise Competent Authority, as established by Irish legislation in 2019 to oversee the EU Noise Regulation of 2014.
- 4.14 The lack of legally binding timelines in relation to the Noise Assessment and appeal process clearly poses a risk to the planned timelines, as this relies on third parties.

## 5 Conclusion

5.1 Whilst this review provides a high-level overview of the deliverability of Dublin Airport's Capital Investment Programme, it cannot determine for certain their ability to meet current proposals. Steer has therefore provided an overview of the possible risks and challenges which may face Dublin as they deliver the CIP. This assessment has been done in the context of historic, external, and internal influencing factors and has involved:

- Benchmarking - how does the size of the proposed investment programme compare with previous Dublin Airport capex, and the investment undertaken at peer airports in Europe?
- External context - what is the status of the infrastructure market in Dublin and the rest of Ireland, and could this have an impact on the availability of key resources?
- Internally, are there any factors relating to Dublin Airport itself that could restrict the development of the capex programme?

### **Benchmarking**

5.2 Historically, Dublin Airport has been broadly aligned with its European peers in terms of capex spend and spend per passenger over the past ten years.

5.3 However, the proposed capex between 2022 and 2026 places it significantly ahead of these airports in terms of the scale and timeframe of capital spend.

### **External Context**

5.4 The scale of investment is ambitious and whilst paired with a timeframe of increased activity across Ireland as a whole, this places additional pressures on the Irish construction market. These pressures have been addressed in this report through a review of competing infrastructure projects, resources, and labour. It has found that the available labour market is below that targeted to deliver Ireland's national development plan with a reducing pool of available workers.

5.5 The increased demand for construction workers is paired with a reduced supply of resources which, combined with inflation, is pushing up the cost of materials. As a result, the cost of labour within the Irish market is becoming more expensive.

5.6 For some of the bigger projects within their capex programme, Dublin Airport may have to look beyond Ireland to source and procure contractors for some projects. This could put further inflationary pressures on project costs and in addition, shortage of appropriate suppliers could also result in slippage in individual projects, and possibly programme, delivery timescales.

5.7 The Irish construction supply chain is further impacted by the global macro-economic outlook and uncertainty driven by inflation, possible impacts of recession and the knock-on effects of international conflict. These external factors provide an increasingly challenging context when assessing the deliverability of Dublin Airport's planned increased capex programme of the ensuing four years.

### **Dublin Airport Specific Factors**

- 5.8 In addition to external conditions, other factors which may adversely impact Dublin Airport have also been considered as part of this report. They include:
- Historical evidence of a delay in the delivery of a recent, smaller, simpler suite of projects;
  - Despite the airport having conducted feasibility works and set up structures and plans to deliver these large-scale projects, the absence of simulation modelling and the sheer scale of planned projects provides a risk to the on-time delivery of the whole programme.
  - Several projects are likely to require additional planning consent, including additional assessment by the Aircraft Noise Competent Authority. These provide additional potential for delays to the overall programme.

### **Summary**

- 5.9 It is clear that Dublin Airport has a high level of ambition in increasing the level of investment in the airport facility compared to previous levels of investment, and European peers.
- 5.10 We have identified a range of risks which may present themselves to Dublin Airport throughout its investment programme. Whilst these risks may not negatively impact the overall outcome of the programme, and while we cannot say definitively that Dublin Airport will not be able to deliver the programme as per the planned timeline, these risks may impact the conditions under which it is delivered, and notably the deliverability of multiple simultaneous projects and the knock-on impact this may have on the overall timeline.
- 5.11 It appears likely therefore that in the case of some projects, the risks discussed above will materialise, and thus it seems less likely that the full set of projects and/or full level of investment will be delivered in line with the planned timeline.

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