DublinAirport

Capital Investment Programme 2020+ Review

FOR THE PERIOD

23 → 26

Submission to CAR

Contents

1. Executive Summary

1.1.1 The Covid-19 pandemic has brought severe disruption to the aviation sector, decimating demand for air travel over the last two years. Passenger volumes at Dublin Airport in 2020 and 2021 were 78% and 74% lower than 2019 levels, respectively, creating very challenging economic circumstances for airlines, the airport and the network of business partners who support the air transportation system. Dublin Airport introduced a large-scale voluntary redundancy scheme that led to approximately a third of the workforce leaving the organisation. Despite the impacts, we remained open to facilitating the transportation of essential workers, personal protective equipment (PPE), and other medical supplies. We continued to transport Ireland's high value manufacturing output around the world.

1.1.2 The Dublin Airport five-year Capital Investment Programme (CIP), which was agreed and commenced at the end of 2019, has also been greatly impacted by the pandemic. Projects have been deferred and timelines elongated to reduce spending and preserve the Airport's finances. The timing and pace of recovery in air travel demand remain uncertain, though there are some grounds for optimism that growth will accelerate in 2022 as the pandemic transitions to an endemic phase that will not require lockdowns and extensive travel restrictions.

1.1.3 It is in this context that a full building blocks review was proposed by the Commission for Aviation Regulation (CAR) to be completed before 2023. The review proposes to reassess and refine the CIP to best reflect the needs of our airport partners and Dublin Airports after this disruptive event. The review will also add two additional years to the current CIP to balance the two years that were lost to Covid-19. A new traffic forecast has been proposed based on projected post-pandemic recovery trends. The CIP remains focused on building capacity to accommodate 40 million passengers per annum (mppa), though the time horizon for this has shifted to the end of the decade. Since 2019, there has also been a change to the regulatory environment regarding planning laws, Covid-19 measures, and sustainability/carbon reduction requirements. The projection of construction inflation has become more complex due to the disruptive effects of the pandemic. All of these factors will be considered in this review to shape cost, scope and timelines for existing and new projects.

1.1.4 This document presents the proposed treatment for the Core (Asset Management, Security, IT and Other), Commercial, and Capacity categories included in the 2019 Determination and adds Sustainability/Carbon Reduction as a fourth category. The proposed treatment for the Core projects has changed since the draft submission on the back of comments received from Stakeholders during formal consultation. The proposed approach for Core projects for the additional two years of this CIP

period now changed to submit project sheets and proposed costs for “exceptional” large Core projects and this can be seen in this document. Then to retain the existing allowance for existing projects, adjusted for inflation, and add a pro-rata allowance for the extra two years of 2025 and 2026 for minor “typical” projects. Commercial projects have been reassessed and where scope adjustments or additional projects are required, they have been included for consideration here. The project sheets now include the key commercial business case information. The large Capacity projects have been adjusted for inflation, scope change, programme and have been amalgamated into larger groupings based on overall project goal and location. The revised groupings allow projects to be considered holistically, which will improve flexibility and create an opportunity for more efficient delivery. Following on from consultation, the capacity projects all now include separate project sheets summary tables. Sustainability / Carbon Reduction projects have been added to meet the requirement to reduce carbon emissions by 51% by 2030 and achieve net zero no later than 2050. This submission best reflects the mix of projects required to drive the recovery at Dublin Airport and build back better infrastructure to best serve our airport partners.

1.1.5 A draft version of this document was issued to all airport stakeholders in advance of formal consultation on the proposed projects and treatments. A diverse range of stakeholders attended the consultation and we received feedback both orally and written to the consultation material presented. There is a stakeholder consultation section added to this final version of the report that reflects what was received and the actions taken by Dublin Airport based on this feedback. The feedback has led Dublin Airport to undertaken greater engagement with stakeholders, change the Core treatment and reconsider aspects of projects for inclusion. The presented projects in this document has been influenced by the comments received and we thank Stakeholders for taking the time to engage proactively with the process.

1.1.6 An inflation adjustment is being sought for the existing Core[1] project costs as the scope of these projects are still valid since 2019 but the rates to deliver the projects have changed. This is due to high inflation in the Irish construction market and the disruption of two years to our programmes due to Covid-19. It is proposed to adjust these rates by using actual inflation to Q4 2021 and then use a medium inflation projection to the mid-point of construction. This projection will be compared with actual inflation annually and adjusted accordingly so that it can be accurately reflected in project costs. If there is no review and adjustment mechanism allowed, then a higher inflation projection will be required due to the high risk this situation would create for Dublin Airport. This post-pandemic phase will be highly volatile and making an accurate long-term projection of inflation is highly uncertain.

[1] Core = Asset Management, Security, IT and Other projects.

1.1.7 As there has been two extra years added to this CIP period in 2025 and 2026 additional “exceptional” Core projects have been included in this document detailing the scope and proposed cost of these projects. These projects are the MV resilience substation (CIP.20.07.035), a key project to develop electricity supply resilience given the move to electric vehicles and potential electrification of the heating of Terminal 1 and Terminal 2. An upgrade of the hold baggage sortation equipment (CIP.20.07.036), new security scanners (CIP.20.06.045) and terminal kerb security mitigation (CIP.20.06.046). The additional smaller “typical” core projects are still proposed to be funded through the pro-rata treatment of the current core expenditure. This has been revised down to reflect it is only to fund these smaller ongoing maintenance and licensing projects.

1.1.8 In the process of reviewing the 2019 approved projects based on traffic recovery, project cost, timelines and new priorities (sustainability / carbon reduction) some projects have been superseded or deferred. The superseded projects are T1 Pier 1 Airbridges (CIP.20.03.043.01), Airside GSE charging facilities (CIP.20.03.057) and Hydrant enablement on Piers 2 and 3 (CIP.20.03.071). Instead of these projects airbridges will be incorporated into Terminal 1 Module 1 development; there is now a holistic campus wide charging project and a hydrant enablement project targeting Pier 3 and the Western Apron. There is a more extensive list of deferred projects, these are projects that are still required but the urgency has been reduced due to the disruption of the pandemic on growth. The projects being deferred are Terminal 1 Multi-Storey Car Park Block B (CIP.20.04.006), Terminal 1 Kerbs (CIP.20.03.006), Terminal 1 Check-in (CIP.20.03.011.1), Terminal 1 Rapid Exit (CIP.20.03.016), De-icing Pad Runway 10R (CIP.20.03.049) and the project with the most significant cost New Remote Apron 5M (CIP.20.03.054). These projects will be reconsidered in the next CIP period.

1.1.9 There are new projects added to the CIP in the areas of Commercial, Capacity and a Sustainability envelope. The existing commercial projects have been updated for scope and inflation change. There are three additional projects added to this envelope. These have been added to provide Fuel Farm Welfare (CIP.20.04.031) facilities, refurbishment of the listed Old Central Terminal Building (CIP.20.04.034) and Drop off/ pick up (CIP.20.04.032). Nine projects have been added to the Capacity envelope, Terminal 2 and Pier 4 Transfer Facilities (CIP.20.03.072), South Apron Airside Support Centre (CIP.20.03.077), Pier 4 De-Flex (CIP.20.03.078), Taxiway R Widening (CIP.20.03.074), Fuel Hydrant Network works (CIP.20.03.075), De-icing Consolidation (CIP.20.03.076), Code E Engine Test Facility (CIP.20.03.079) and 10L-28R Taxiway Exit AGL (CIP.20.03.080) and Apron 5H and North Apron Taxiway Rehabilitation (CIP.20.03.081). The 5H project being transposed from PACE with a revised cost.

1.1.10 A major difference since 2019 is the addition of a suite of sustainability / carbon reduction projects that have been triggered by the climate action bills aggressive carbon reduction targets. Dublin Airport is responding to this legal requirement to reduce our carbon footprint by putting forward a group of projects that can deliver on these targets. These projects are essential to shift the dial on our environmental impact as an airport on climate change and on our local area environment. The surface water compliance project CIP.20.03.052 has moved to this new envelope as it best aligns with this envelope overall goal. There are then nine additional projects added to deal with our carbon emissions and that of our airport users. There are projects dealing with Airport EV Charging (CIP.20.09.001), Alternative Aviation Fuel (CIP.20.09.002), Anaerobic Digestion of Organic Waste (CIP.20.09.003), purchase of Sustainable Vehicle Fleet (CIP.20.09.004), Fixed Electrical Ground Power (FEGP) Phase 3 (CIP.20.09.005), the second phase of the Photovoltaic Solar Farm (CIP.20.09.006), Mobility Improvements (CIP.20.09.007), Terminal 2 Sustainable Upgrade (CIP.20.09.008), and Terminal 1 and Campus Sustainability Feasibility Study (CIP.20.09.009). These projects will be developed and delivered in this CIP period and beyond and represent the foundation of Dublin Airport's strategy to reach net zero by at least 2050. The revised Carbon Goals were identified only in November 2021; as such the level of detail available for these projects is limited at this stage. We are requesting that they be considered StageGate projects.

1.1.11 The cost changes seen in the Core projects is being driven by the high inflation in the Irish construction market pre-pandemic, the post-pandemic volatile inflation and the delays in delivering projects due to the two-year pandemic period. The costs for the additional years are being driven by the “exceptional” Core projects and a pro-rata allowance to deliver smaller “typical” projects over this period. The commercial and capacity projects have cost increases due to these same factors with the addition of scope to existing projects which has been discovered through design and user requests. This has also led to additional projects in these envelopes. The capacity projects requiring planning permission are further delayed due to the North Runway planning conditions appeal process. The addition of an extensive list of sustainability / carbon reduction projects has added considerable additional costs for this CIP period. However, these projects are required if the aggressive targets put forward in the climate action bill are to be achieved. ***Table 1.1*** presents a cost summary of the CIP following review and anticipated spend up to the end of 2022 and proposed investment beyond 2023 up to 2026 by envelope grouping with percentage split indicated.

	Envelope	CIP 2020+ Review	
A	Core (including T1 and T2 HBS)	€970m[1]	33%
B	Capacity (excluding 5H)	€1,412m	48%
C	Commercial	€190m	6%
D	Sustainability	€395m	13%
E	CIP2020+ Review subtotal (E=A+B+C+D)	**€2,967m**	

F	Addition of extra over for Apron 5H	€29m[2]
G	Spend to end of 2022 to enter RAB	€448m
H	Spend beyond 2026 to enter next CIP	€651m
I	CIP2020+ Review total (=E+F-G-H)	**€1,897m**

[1] Subject to final T1 and T2 HBS costs, currently at StageGate 3 IFS review.

[2] €49.1m for Apron 5H awarded under PACE in 2018.

Table 1.1 – CIP2020+ Cost Summary

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02 Introduction

2. Introduction

2.1.1 **The devastating impact of the Covid-19 pandemic has been felt globally, and the aviation industry has been particularly affected. The public health measures implemented by the Irish government and countries worldwide decimated passenger numbers at Dublin Airport. Low passenger and commercial revenues over the last two years have weakened our commercial position, leading to a voluntary redundancy scheme (almost a third of the workforce left the organisation) and deferred airport infrastructure development.**

2.1.2 **The CIP2020+ included a significant number of capacity development projects designed to accommodate a forecast medium-term demand level of 40 mppa. The pandemic has not changed the medium-term goal but has pushed the time horizon out to the end of the decade. Therefore, this review in conjunction with stakeholder feedback, endeavours to adjust the CIP to take account of progress to date, forecast traffic recovery, project timelines, new legislation, new regulations, and the addition of 2025 and 2026 to this regulatory period.**

2.1.3 As the traffic forecasting is updated to reflect the post-pandemic recovery, this is an opportunity to review the scope and delivery schedules for previously approved projects. This will consider the progress made to date on project development, deferment of projects due to elongated traffic recovery horizons and addition of projects to tackle the importance of sustainability and carbon reduction. The formal consultation on these projects and progress to date helps to inform the final make-up of projects presented in this final report required to drive development at the airport until 2026 and lay the foundations for growth beyond this date.

2.1.4 In the years between the approval of the CIP2020+ and now (Q2 2022), changes have been made to legislation and regulations governing the airport. A key change has been the creation of an aviation noise regulator for Dublin Airport, which now assesses noise as a component of the planning approval process. The ongoing review of Dublin Airport's application to change planning conditions regarding the North Runway has impacted the timeframe for subsequent planning applications.

2.1.5 Crucially, Dublin Airport had prepared application material to increase our capacity cap and develop the associated CIP2020+ capacity infrastructure. It had intended to commence preplanning and environmental scoping, however, until such a time that the planning authorities have adequately progressed the North Runway application, this has not been possible.

2.1.6 In addition to this, the Climate bill enacted in March 2021 commits Ireland to reduce carbon emissions 51% from 2018 emissions by 2030, then to net-zero no later than 2050. This has necessitated the addition of a suite of infrastructure projects to deliver on these new carbon reduction goals.

2.1.7 Throughout this document, these changes will be addressed to show how these factors have impacted the CIP2020+ projects and the changes that Dublin Airport proposes to make to shape our recovery as we move into the Covid-19 endemic phase.

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03 Review STRUCTURE

3. Review Structure

3.1.1 **The review sequence was set out by CAR in their draft interim review for 2022 in Clause 7.8[2]. Early engagement updates presenting the general direction of the review were conducted in Q4 2021 with key airport users. Formal consultation with all stakeholders invited was carried out in Q1 2022. This report summarises the consultation process, feedback received and our final proposals for adjustments to the capital investment programme taking on board the views received.**

3.1.2 This document will lay out the impact that Covid-19 had on the airport and the original CIP2020+. The impact of the pandemic is the reason a review is required to reset the key inputs to the CIP. This document is divided into three main sections, namely:

- Context.
- Stakeholder Consultation.
- CIP2020+ Review.

3.1.3 **Context**

This section clarifies legislative and planning policy changes and the impacts that these have on the original CIP2020+ projects, especially the capacity projects. Additional sustainability and carbon reduction requirements will be introduced, and the legislative reasoning will be explained. A new forecast will be presented that projects how traffic will recover post-pandemic. This will be presented in tandem with an updated assessment of the capacity constraints for the airport, given this traffic projection. The regulatory response concerning capital projects to date during the pandemic will also be presented.

3.1.4 **Stakeholder Consultation**

This section will summarise the CIP2020+ Review consultation process, the feedback received, and our response by project grouping. This section will also present feedback received concerning our plans to progress the construction of the PACE Apron 5H project. Finally, the section will conclude with feedback relating to strategic considerations around the medium and long term use of Runway 16-34.

[2] https://www.aviationreg.ie/_fileupload/Draft%20Decision(2).pdf

3.1.5 **CIP2020+ Review**

This section will present our proposed update to the capital development plan taking into account the feedback received from stakeholders throughout the consultation process. Our proposed method to address construction inflation and programme extension will be detailed, including an update to our cost estimation process and key assumptions.

3.1.6 Original CIP2020+ projects progressed or completed will be presented with a proposal for values spent by the end of 2022, entering the RAB indicated. This section will also discuss our request for CAR to review previous decisions around the remuneration of the existing South Apron Passenger Board Zone.

3.1.7 A grouping of project envelopes called Core (Asset Management, IT, Security and Other) will be presented. We propose no scope or base cost adjustments to the original Core projects but rather a general treatment to adjust the remaining spending for inflation. For the additional CIP years 2025 and 2026, we propose a pro-rata flexible budget for additional "Typical" everyday ongoing maintenance, asset replacement and licencing requirement projects. Augmented by several new "Exceptional" large one-off projects. The detail of which will be presented via new project sheets noting that many are in their infancy and lack the normal level of detail we would typically submit, given the requirement to provide them where an output of the consultation process. Therefore, we propose that most of these projects be treated as StageGate projects, with greater detail provided as each project progresses through the typical development cycle.

3.1.8 The results of a review of the original CIP2020+ capacity projects will be presented, proposing in some cases, projects to be superseded and deferred. These changes are being driven by the new traffic projections, revised delivery schedules and sustainability/carbon reduction requirements.

3.1.9 Updated capacity and commercial projects to commence in this extended CIP period up to 2026 will be presented with the indicative delivery programme, estimated cost, assumed asset life and proposed regulatory treatment, such as Flexible, StageGate or Deliverable indicated. Project concept scope, change, and high-level business case justification will be detailed via summary project sheets grouped into their respective envelopes.

3.1.10 Some of the projects will be grouped by locations and goals, for example, Terminal 1 Passenger Journey, South Apron Hub and Carparks. The groups demonstrate the complementary relationships between the individual projects, particularly important given the requirement for phased delivery in many instances.

3.1.11 A new category of sustainability projects has been added to address Dublin Airport's commitments to achieving net-zero no later than 2050. These are significant projects that will remove our reliance on fossil fuels and provide energy security as the world transitions from carbon-based energy sources. These projects will also enable our fuel and airline partners to decarbonise aviation fuel (sustainable aviation fuel [SAF]) and ground operations (electric ramp). Project sheets will be provided for each, detailing high-level objectives and cost estimates. Similar to the new "Exceptional" large one-off Core projects, these sustainability projects are in their infancy and lack the normal level of detail, given the tight deadline to complete this CIP2020+ review. Therefore, we propose that the majority of the sustainability projects be treated as StageGate projects, with greater detail provided as each project progresses through the typical development cycle.

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04 Context

4. Context

4.1 Covid-19 Impact

4.1.1 **In 2020, passenger numbers at Dublin Airport declined by 78% to almost 7.4 million from 2019 numbers. More than half of all those who travelled through Dublin Airport in 2020 did so in January and February, as passenger numbers increased by 2% to 4.1 million passengers in the first 2 months of the year. Between March and the end of December, passenger numbers fell by 89% to 3.3 million. The last time Dublin Airport had fewer than 8 million passengers in a calendar year was 28 years ago in 1994. Despite the difficult circumstances, Dublin Airport continued in operation as an essential service throughout 2020. It has played a vital role in importing PPE and other medical equipment, facilitating the arrival of supplies on cargo flights operated by 16 different airlines.**

4.1.2 From mid-March 2020, the Irish Government advised against non-essential overseas travel, and similar guidelines were in place in many other countries. In July, the Irish Government announced an initial travel Green List of 22 countries, which was reduced over time due to the changing public health position across Europe. In early November, Ireland adopted the EU traffic light system for travel. However, with the wave of cases generated by Alpha and then Delta, Ireland and many other European countries introduced stricter regulations concerning international travel. In 2020, these meagre passenger numbers severely impacted the airport's financial performance. daa turnover was down 69% in 2019, and net debt increased by 82% to €783million. A subsequent mitigating voluntary redundancy scheme at daa meant that a third of the workforce left the organisation between 2020 and 2021. ***Table 4.1*** presents our monthly passenger figures through 2020.

4.1.3 Dublin Airport passenger numbers in 2021 increased by 14% to 8.46 million compared with 2020. However, 2021 passenger numbers were down by 74% compared to numbers in 2019 as Covid-19 continued to have a massive impact on aviation globally. Two-thirds of all passengers (66%) who travelled through Dublin Airport in 2021 did so in August, September, October, and November, equating to 5.6 million passengers. During 2021, passenger numbers to and from Continental Europe increased from 2020 levels by 33% to 5.3 million. The number of passengers travelling to and from Dublin Airport and Britain decreased by -10%, while transatlantic traffic increased by 5% compared to 2020. Compared to pre-Covid-19 numbers in 2019, traffic to and from Continental Europe was down

by 69%, while passengers travelling from Dublin Airport to and from Britain were down by 79%. ***Table 4.2*** presents our monthly passenger figures through 2021.

Month	Passengers	Change v 2019
Jan	1,972,000	+2%
Feb	1,952,000	+2%
Mar	973,000	-57%
Apr	27,000	-99%
May	46,000	-98%
Jun	94,000	-97%
Jul	381,000	-89%
Aug	516,000	-85%
Sept	392,000	-87%
Oct	263,000	-91%
Nov	175,000	-92%
Dec	291,000	-87%
Total 2020	**7.4 million**	**-78%**

Table 4.1 - Breakdown of monthly passenger traffic for 2020

Month	Passengers	Change v 2019
January	213,110	-90%
February	106,182	-95%
March	123,347	-95%
April	131,975	-95%
May	166,329	-94%
June	300,834	-91%
July	657,908	-81%
August	1,257,668	-63%
September	1,349,650	-56%
October	1,559,703	-46%
November	1,397,652	-38%
December	1,190,967	-48%
Total 2021	**8.5 million**	-74%

Table 4.2 - Breakdown of monthly passenger traffic for 2021

4.1.4 2022 has started slowly for the airport, with the effects of the Omicron variant still restraining passenger numbers in the short term. However, with the reduced severity of this variant and the success of the vaccination programme, the signs are that 2022 will be the first year of real post-pandemic growth.

4.2 Legislative changes

4.2.1 Since the original CIP2020+ submission in Q3 2019, the regulatory framework for infrastructure development at Dublin Airport has undergone extensive change. The scale of the resulting impact was not foreseen or known at the time of regulatory consultation. The full realisation of the impact materialised throughout normal infrastructure planning development in 2020 and 2021. The root cause of the change follows the introduction of three new Acts transposed into Law between 2019 and 2021:

- Aircraft Noise (Dublin Airport) Regulation Act 2019 (November 2019).
- Emergency Measures in the Public Interest (Covid-19) Act 2020 (March 2020).
- Climate Action and Low Carbon Development (Amendment) Act 2021 (July 2021).

4.2.2 **Impact of Aircraft Noise (Dublin Airport) Regulation Act 2019 (Nov 2019)**

Developments associated with regulatory capital approvals in this determination period are seeing expected planning periods of circa 18 months. Increases in the airport's capacity through new projects, including those outlined in CIP2020+ require the current airport capacity cap to be increased, which necessarily requires consideration by Aviation Noise Competent Authority (ANCA). ANCA, and its associated legislation, have introduced a series of processes, including undefined and uncapped regulatory time periods, which has exposed Dublin Airport to delivery risk and uncertainty.

4.2.3 In 2020 Dublin Airport submitted an application to change the conditions resulting from the development of the North Runway. This application, which is currently progressing through the ANCA processes, seeks to change the conditions within the current 32mppa cap. Dublin Airport had prepared the application material to increase the cap and develop the associated capacity infrastructure. It had intended to commence preplanning and environmental scoping, however until such a time that the planning authorities have adequately progressed the North Runway application, this has not been possible.

4.2.4 The planning approval delay directly affects our project delivery timeline, exposing the projects to inflationary and legislative cost increases over time.

4.2.5 **Emergency Measures in the Public Interest (Covid-19) Act 2020**

Covid-19 had a negative effect on nearly all projects executed during this period. The range and scale of the impact on the projects are represented in our recent StageGate 2 submission for the Hold

Baggage Screening (HBS) Terminal 1 project. From a construction perspective, the above-referenced legislation had:

- Impacted construction workers entering the country and sites.
- Impacted supply chains across Ireland, Europe and the wider world in delivering conventional construction materials and specialised airport equipment.
- Impacted construction programmes and contracts with stop-start Government decrees.

There has, of course, been a limited upside gained as a result of Covid-19 in the delivery of projects, but these positive gains have been few:

- Ease of access to Runway 16-34 with the North Runway for the associated interface works.
- Greater access to areas in Terminal 2 for the HBS installation works.

4.2.6 The Climate Action and Low Carbon Development Act 2021

In July 2021, the government introduced the Climate Action and Low Carbon Development (Amendment) Act 2021 (July 2021) and subsequently in November 2021, published the Climate Action Plan 2021, which commits Ireland to a legally binding target of net-zero greenhouse gas emissions no later than 2050 and defined the emissions reductions for each sector of the economy. This plan defined the targets for carbon emission for the transport sector and public sector buildings, which are the basis for development of sustainability infrastructure proposed in this CIP 2020+ Review.

4.2.7 This includes the introduction of:

- Alternative means of heating and cooling buildings.
- Greater investment in the building envelopes, creating airtightness and reducing energy loss.
- Infrastructure to enable the introduction of Sustainable Aviation Fuels at the airport.
- Infrastructure to decarbonise ramp ground operations to service aircraft and campus wide.
- The investment in lower carbon embodied construction materials.

4.2.8 The original CIP2020+ suite of projects included measures which would have largely achieved the previous governmental target of 30% reduction by 2030. The new legislation requires an increase to 51% carbon reduction by 2030. Dublin Airport has developed a strategy to deliver on this legal requirement, which is presented in this CIP2020+ review. The strategy includes improvements to the original projects we plan to progress, and a suite of new dedicated sustainable projects designed to achieve the required carbon reduction by the end of this decade.

4.3 Forecast

4.3.1 Review of Traffic Dynamics

It was highlighted in the previous CIP2020+ demand analysis that there had been changes to the dynamics and composition of traffic at Dublin Airport since 2014. This mostly still holds in a post-pandemic environment. Aer Lingus will continue to focus on the successful network model while working even closer with their partners on the Atlantic Joint Business. These partners include American Airlines and the IAG group of airlines. Aer Lingus has taken delivery of several narrow-body A321NeoLR aircraft, which they are now utilising on the North Atlantic in conjunction with their fleet of wide-body aircraft.

4.3.2 Summer 2022 sees transatlantic capacity returning to close to pre-pandemic levels with new routes announced for both USA and Canada. This traffic sector and increased transfers will underpin airport growth, moving towards 40 mppa. Dublin Airport anticipates growth back to the position as the sixth largest airport for North Atlantic traffic. This will require tailored airport infrastructure to facilitate.

4.3.3 Ryanair will continue to focus on their point-to-point European flying, utilising their new Boeing 737-8200 next-generation aircraft. There has been a significant increase in demand for overnight aircraft parking, with Ryanair announcing a further based aircraft, to a total of 33, and their biggest ever schedule for Summer 2022.

4.3.4 While certain airlines have ceased operation during the pandemic, there have also been new airlines that have commenced or are due to commence operations in Summer 2022, including HiSky, Play, Blue Islands and Aurigny. While Stobart Air has exited the market, Summer 2022 sees the start-up of Emerald Airlines, which will begin basing ATR twin-engine turboprop aircraft in Dublin and operating under the Aer Lingus Regional brand, providing similar capacity to the UK and feeding the Aer Lingus transatlantic operation. There is also confidence in the return of the Eastern long-haul carriers once the pandemic has passed.

4.3.5 There had been a strong resurgence in Irish outbound leisure demand pre-pandemic, which, in 2019, resulted in 38% increase in passengers travelling to Southern Europe / Mediterranean destinations since 2014. It is believed that these sectors will continue to see growth post-pandemic, starting with Summer 2022. Leisure traffic accounted for circa 80% of overall traffic pre-pandemic. This is expected to increase due to decreased business traffic caused by changing working environments and the focus on sustainability for organisations. Covid-19 has made it unclear how Brexit will impact traffic long-term, but the UK has been performing well, with capacity at 71% of 2019 levels in November 2021.

4.3.6 Dublin Airport Strategic Aims

Dublin Airport maintains the same strategic target as guided by the National Aviation Policy (NAP), published by the Department for Transport, Tourism and Sport (DTTAS) in 2015. Among the goals outlined in the NAP are:

- Creating conditions to encourage the development of new routes and services, particularly to new and emerging markets.
- Ensuring a high level of competition among airlines operating in the Irish market.
- Optimising the operation of the Irish airport network to ensure maximum connectivity to the rest of the world; and
- Develop Dublin Airport as a vibrant secondary international hub combining local passengers with transfer passengers enabling airlines to operate services to more destinations, more frequently than could be supported by local demand alone. The United States Customs and Border Control Preclearance (CBP) facility is a key contributory factor to the growth in the transatlantic connecting business. This advantage faces pressure in the medium-term as several European airports are negotiating with the United States authorities to provide CBP facilities. Dublin Airport carried just under 2 million transfer passengers in 2019 and we believe this will continue to grow in a normalised post-pandemic environment.

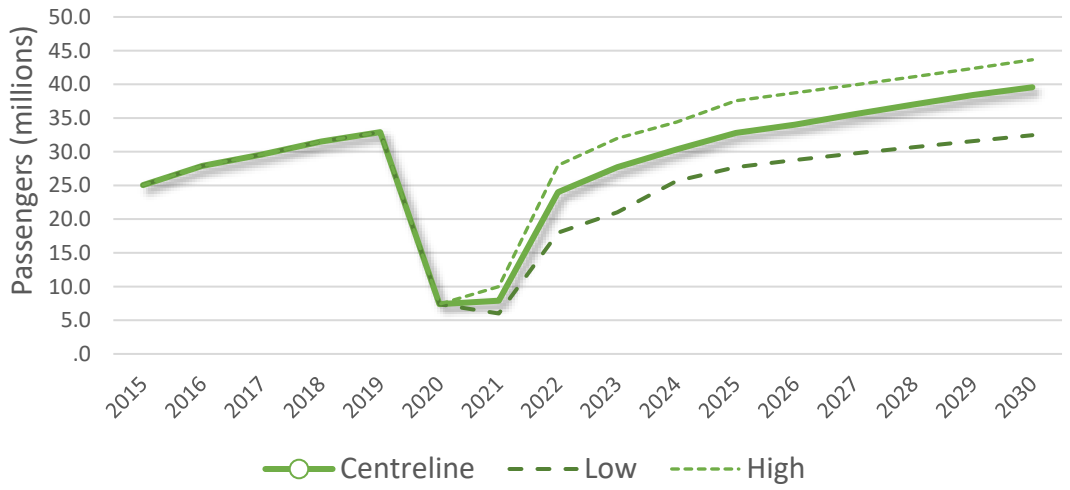
4.3.7 Market Outlook

Covid-19 has decimated air traffic at Dublin Airport, with passenger volume falling below 2019 levels by -78% in 2020 (7.4 million) and -74% in 2021 (8.5 million). The pace of recovery remains uncertain, with ACI Europe forecasting passenger numbers returning to 2019 levels until 2025, and EUROCONTROL forecasting aircraft movements returning by 2024. However, there are positive signs that traffic at Dublin Airport will see an accelerated return. Since the opening (and before the impact of the Omicron variant – August 2021 to November 2021), Dublin Airport had seen capacity returning strongly in several regions, including Eastern Europe at 86% of 2019 and Southern Europe at 75% of 2019. There have also been several positive announcements for Summer 2022.

4.3.8 Capacity constraints will return at Dublin Airport as early as Summer 2022. Runway constraints will be alleviated when the North Runway opens in Q3 2022, but constraints move to stands and gates, particularly overnight. At times, the CBP and security facilities remain bottlenecks and will come under pressure due to the swift return of peak-time traffic in Summer 2022.

4.3.9 **Annual Forecast**

The forecast indicates 40 mppa will potentially be achieved in 2030. As this CIP encompasses 2022 to 2026, the demand forecast at the end of the period will be around 35 mppa. The aim of this capital investment proposal is to develop the capacity necessary to achieve 40 mppa and this will require development of infrastructure to address capacity deficits in several processes throughout the airport. As a result, some of the proposals, designed to accommodate 40 mppa, have been brought forward in this CIP period to ensure they are delivered before 40 mppa is achieved, while others have been deferred until the next CIP period as they are not immediately required. The capacity assessment section of this report identifies the processors that require intervention in this CIP period. The revised annual forecast as of Q2 2022 is presented in ***exhibit 4.3*** below.



Source – Dublin Airport Q2 2022.

Exhibit 4.3 - Revised Annual Forecast

4.3.10 **Forecast Summary**

It is believed that the short-haul / long-haul composition of the forecast will remain similar to the pre-pandemic assumption. Code-C aircraft represented 87% of annual movements, which is likely to increase slightly due to the increased utilisation of next-generation narrow-body aircraft by both Aer Lingus and Ryanair. While Dublin Airport has seen airlines ceasing operation during the pandemic, there have also been new airlines commencing operations, which would point to "other" airlines market share remaining at approximately 25%.

4.3.11 In the initial recovery years, seasonality will be slightly peakier in the Summer due to pent-up demand for family holidays, but this is expected to ease as normal capacity returns from 2024-2025. However,

the make-up of the design day schedule remains similar to the previous CIP2020+ as the business models of the two largest base carriers remains the same.

4.4 Capacity Assessment

4.4.1 This section outlines the processes and methodologies used by Dublin Airport to assess the capacity of Airport infrastructure. Based on the current facilities, the analysis has been done with the planned enhancements required to meet the 40 mppa design horizon. A 'typical busy day' schedule has been developed to represent demand at 40 mppa.

4.4.2 This schedule was used to assess the capacity required within the airport facilities to meet the needs of the airlines, passengers and airport to the end of the decade. Dublin Airport will move from a runway constrained airport to a stand and gate constrained airport in the coming years. This change is the primary driver for introducing new stands and associated gates about the North and South Aprons.

4.4.3 Methodology

The original CIP2020+ submission in 2019 used a design day flight schedule (DDFS) representing a busy day in July 2025 when the airport was assumed to reach 40 mppa. Covid has impacted the year 40 mppa will be achieved, now assumed to be around 2030 and the characteristics of the busy day seen at the 40 mppa horizon. As a result, the original DDFS has been revised according to the new make-up of demand at Dublin Airport. ***Exhibit 4.4*** compares the original CIP2020+ DDFS to the CIP2020+ Review (new) DDFS. Peaks remain high in the main departure and arrivals banks but with a more consistent activity distribution throughout the afternoon.

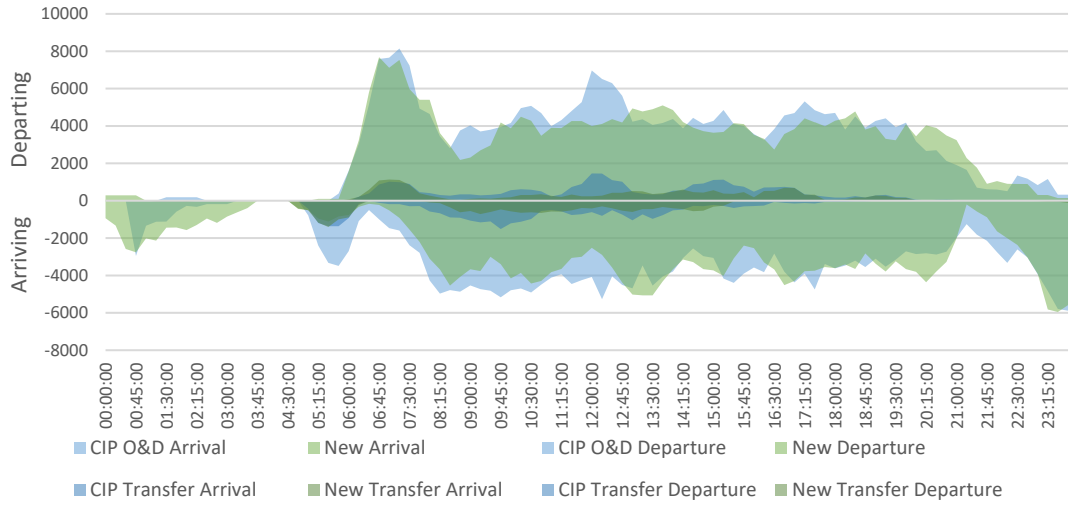


Exhibit 4.4 – Rolling Hour Passenger Volume by Flight Schedule

4.4.4 ***Exhibit 4.5*** compares the US Preclearance passenger demand in the original CIP2020+ (2020-2024) submission to the CIP2020+ Review (2022-2026) version. The afternoon peaks are slightly reduced however the morning peaks have increased. As flights have been re-timed to provide optimum connectivity to and from the US market, the mid-morning wave sees consistent demand from 10 am to 2 pm.

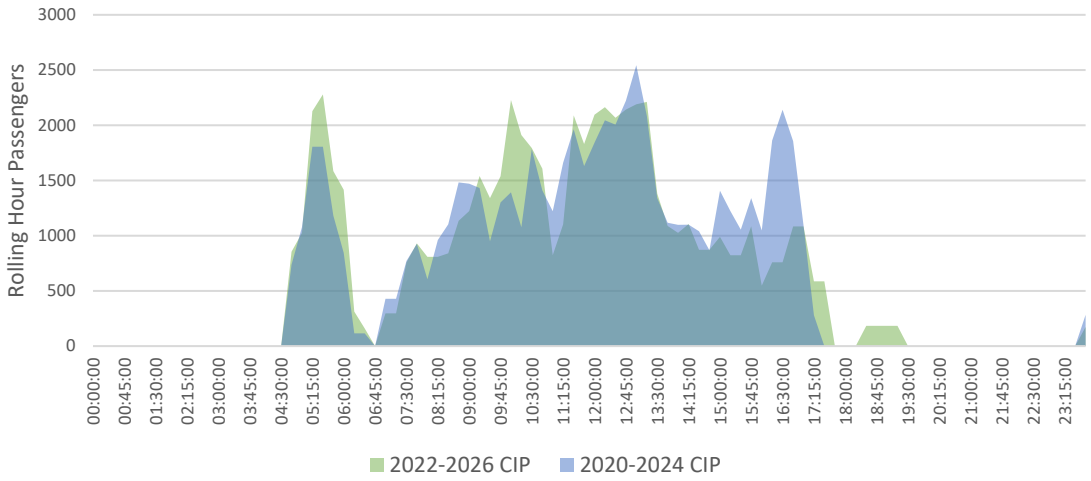


Exhibit 4.5 – US Preclearance Rolling Hour Passenger Volumes by Flight Schedule

4.4.5 **Overview**

The capacity assessment focuses on the critical processors, with ***exhibit 4.6*** presenting the departure flow RAG status and ***exhibit 4.7*** the arrival flow***.*** Each processor is coloured to represent whether they have sufficient capacity (Green) or insufficient capacity (Red) to meet the demand at 40 mppa around 2030.

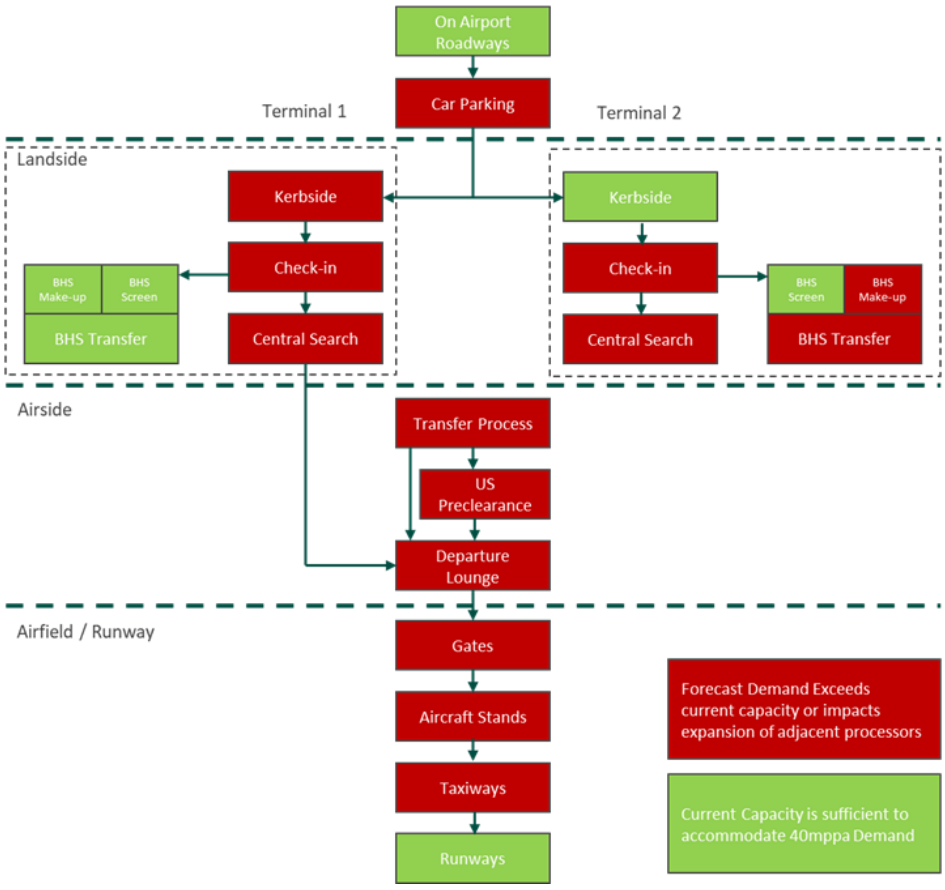


Exhibit 4.6 – Departure Process Capacity Status at 40 mppa

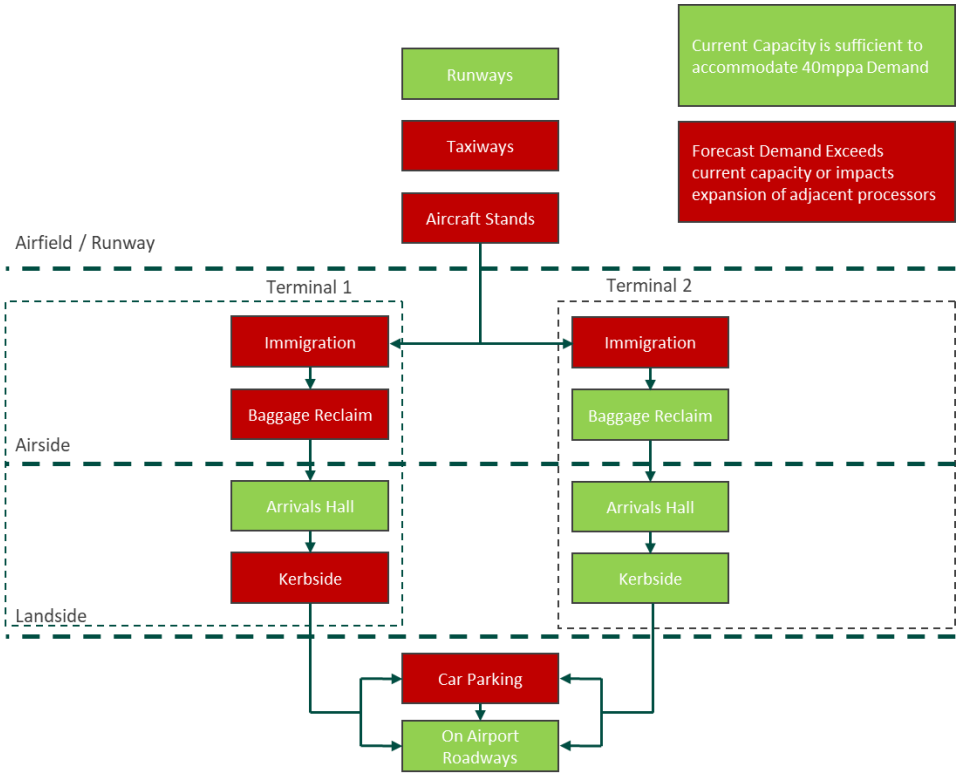


Exhibit 4.7 – Arrival Process Capacity Status at 40 mppa

4.4.6 Terminal 1

The key challenges for Terminal 1 between now and 40 mppa will be the upgrade of Central Search to newer technology, expansion of the International Departures Lounge (IDL), Immigration and Baggage Reclaim, and provision of adequate stands and gates to facilitate a capacity increase with the introduction of the Northern Runway. ***Table 4.8*** presents a capacity RAG GAP analysis of Terminal 1 by year up to 40 mppa or around 2030, indicating when each processor will move from under capacity (green), nearing capacity (amber) and overcapacity (red).

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	21.4 mppa	4.9 mppa	5.2 mppa	13.6 mppa	16.9 mppa	20.1 mppa	21.4 mppa	22.5 mppa	23.1 mppa	24 mppa	25.3 mppa	26 mppa
Baggage												
Check-In												
Security												
IDL												
Immigration Pier 1&2												
Immigration Pier 3												
Baggage Reclaim												
Gates												
Stand												

Table 4.8 – Terminal 1 Capacity Assessment RAG GAP Analysis

4.4.7 Terminal 2

The key challenges for Terminal 2 between now and 40 mppa will be the upgrade of Check-in and Central Search to newer technology, increasing the capacity of CBP and TSA, and additional gates and associated contact stands to facilitate a Hub operation efficiently. ***Table 4.9*** presents a capacity RAG GAP analysis of Terminal 2 by year up to 40 mppa or around 2030, indicating when each processor will move from under capacity (green), nearing capacity (amber) and overcapacity (red).

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	11.6 mppa	2.6 mppa	2.8 mppa	7.4 mppa	9.1 mppa	10.9 mppa	11.6 mppa	12 mppa	12.4 mppa	13 mppa	13.7 mppa	14 mppa
Baggage												
Check-In												
Security												
IDL												
TSA												
CBP												
Transfer												
Immigration												
Baggage Reclaim												
Gates												
Stand												

Table 4.9 – Terminal 2 Capacity Assessment RAG GAP Analysis

4.4.8 Landside Facilities

Landside facilities at the airport include the car parks, drop off kerbs and bus drop off/pick up areas. The majority of these facilities are located within the Ground Transportation Centre (GTC). The Metro-North station will also be located in this area in the coming decade.

4.4.9 Car Parking

Car parking remains over capacity, with no intervention completed since the original CIP2020+ final determination in 2019. This upgrade remains a requirement to achieve 40 mppa. As a result of Covid travel patterns of staff have changed and a key constraint is emerging of staff parking and mobility solutions in general.

4.4.10 GTC

Coaches and buses use the GTC to drop off and pick up passengers at the airport. While the capacity for the GTC is expected to remain the same, it will require amendments to cater for that nature of the bussing, including the high frequency Busconnects routes. This area will undergo re-development in the coming years with the introduction of Metro.

4.4.11 Terminal Kerb

Terminal 1 Kerb demand will exceed capacity in the coming years. A managed solution will be required to ensure optimum utilisation of the existing infrastructure rather than building more kerb length. The proposed Drop Off and Pick Up tolling project will ensure more effective use of the existing kerb length and discourage waiting for long periods to collect arriving passengers.

4.4.12 Terminal Passenger Processing

Passenger processing is located within the terminal buildings and includes check-in, central search, departure lounge, gate spaces, transfer areas, immigration, baggage reclaim and baggage handling system.

4.4.13 Check-in

Terminal 1 check-in capacity has increased due to the HBS Standard 3 upgrades, which has provided additional capacity by upgrading Area 14. This allowed a further 28 check-in desks to be considered in the capacity calculations. As a result, there are now sufficient desks to accommodate demand up to at least 2026. To ensure this capacity is used effectively and in response to the shift towards self-service contactless processes, the use of self-service kiosk and bag drop technology should continue to be increased. Further check-in capacity expansion of Terminal 1 is not required until the next CIP period beyond 2026.

4.4.14 Terminal 2 check-in remains a capacity constraint. The proposed upgrade of the check-in area to include additional self-service kiosks, dedicated bag drops and check-in desks is required to achieve 40 mppa.

4.4.15 Hold Baggage Screening

The Terminal 1 and 2 hold baggage screening areas are currently undergoing a substantial upgrade to Standard 3 screening equipment. The original CIP 2020+ analysis suggested Terminal 1 make-up would be a significantly constrained to achieve 40 mppa. As part of the upgrade, a new baggage screening area and additional carousel are being constructed along with a re-organisation of the existing carousels. This will result in sufficient make-up capacity to achieve 40 mppa. Terminal 2 make-up capacity for transatlantic departures remains a key constraint in the baggage system. Demand for the transfer belts in Terminal 2 will increase beyond 2019 levels in the coming years; as a result, additional transfer belts are required to cater for this demand.

4.4.16 Central Search

Terminal 1 central search capacity remains underprovided to cater for 40 mppa. The existing lanes are single-view X-ray machines on ATRS lanes ranging from 19m to 21m. To achieve the required capacity at 40 mppa, and provide multi-view screening technology, the central search area will need to relocate to the mezzanine level of Terminal 1. This will require at a minimum eleven 25 metre ATRS lanes with Standard 3 machines and full-body scanners.

4.4.17 Terminal 2 central search was almost at capacity in 2019. The existing single view x-ray equipment and manual lanes result in a significant under-provision to cater for the demand at 40 mppa. The planned installation of twelve 12 metre ATRS lanes, C3 machines and full-body scanners will increase the capacity to cater for 40 mppa.

4.4.18 International Departure Lounge

The Terminal 1 international departure lounge was at capacity at peak times during 2019. This situation will re-occur as passenger numbers return to 32 mppa and beyond. Suitable departure lounge expansion and a re-organisation of the existing spaces are needed to offset the shortfall at 40 mppa.

4.4.19 The Terminal 2 international departure lounge pre-CBP has sufficient capacity to cater for 40 mppa.

4.4.20 Passenger Holding Gates

Terminals 1 and 2 will have insufficient gates to accommodate the demand at 40 mppa. Currently, gate demand is a constraint across the airport, whether for contact or remote operations. A key driver for additional gates is the operational requirement to reduce towing across the airport and increase the availability of contact stands. When contact stands and gates are at capacity, the use of remote stands for passenger operations will increase. Additional bussing gates will be required to serve these remote gates, particularly in the near term.

4.4.21 US Preclearance

US Preclearance includes two passenger processes: TSA security screening and US immigration and customs control. In 2019 the limiting factor in the process was the TSA screening lanes. As there is a strategic aim to grow the airport as a transatlantic hub, the demand for this processor will increase beyond its current capacity. The future requirements presented in the original CIP2020+ submission remain necessary to balance capacity across both steps within the US Preclearance process and accommodate 40 mppa demand.

4.4.22 Immigration

Immigration facilities are a crucial processor in the airport. Capacity is primarily influenced by the mix of passport types and passenger profiles. Terminal 1 has two immigration facilities: Pier 1 and 2 and Pier 3. The Pier 1 and 2 immigration facility will require a moderate increase in booth and e-gate provision to accommodate 40 mppa.

4.4.23 However, the Pier 3 immigration facility requires significant intervention to accommodate the demand at 40 mppa. The existing facility has eight immigration booths and no e-gate facilities. The pier caters for a range of flight types, including long haul Middle Eastern carriers. The make-up of passport types on Middle Eastern flights is predominantly non-EU, resulting in slower than normal processing and long queues during peak times. Therefore, Pier 3 immigration require up to 12 immigration booths and five e-gates to cater for 40 mppa demands.

4.4.24 Terminal 2 immigration facilities have sufficient capacity to cater for the demand up to 2026 but will require a modest increase in booth and e-gate capacity to accommodate demand up to 40 mppa.

4.4.25 Transfer

Transfer demand is forecast to grow substantially over the next decade. As a result, the existing Pier 4 transfer processes will require a small number of additional booths and e-gates to maintain optimum minimum connection times through the passenger journey.

4.4.26 Baggage Reclaim

Terminal 1 baggage reclaim has been reviewed for both reclaim belt requirements and circulation area. The reclaim hall is congested at peak times, restricting circulation for passengers passing through to customs and the arrivals exit. In addition to the congestion in the hall, insufficient wide-body belt length is provided. Therefore, to accommodate 40 mppa demands, both reclaim space and belt reconfiguration and optimisation will be required. The Terminal 2 baggage reclaim hall has sufficient capacity for passengers and bags to cater for demand at 40 mppa.

4.4.27 Aircraft Parking Stands

Dublin Airport has 128 narrowbody equivalent (NBE) stands across the airfield today. Of these, 104 stands are located on the Eastern Aprons, with the remaining on the West Apron. Apron 5H has recently received planning approval to increase Eastern Apron stand capacity to 116. West Apron stands are primarily used for cargo, ad-hoc and transit flight operations.

4.4.28 The future stand requirements to accommodate 40 mppa remain consistent with the original CIP2020+ submission, a total of between 150-155 NBE stands. Remote Western Apron 5M provides the majority of the stand capacity uplift; however, the apron cannot be developed until the Airfield Vehicle Underpass is enabled and the airport receives permission to increase its capacity beyond 32 mppa.

4.4.29 **East / West Connectivity**

West Apron operations have continued to grow since the original CIP2020+ submission in 2019. During the pandemic, cargo operations increased by 200%. It is anticipated that the West Apron will be expected to accommodate an increase in cargo, towed and GA operations up to 40 mppa. Airside connectivity between the East and West Aprons was previously provided via the northern perimeter road and Runway 16-34 surface crossing. However, due to the enablement of the Northern Runway in 2022, airside vehicle access via the Runway 16-34 surface crossing will not be possible. The Irish Aviation Authority has confirmed that apron vehicles will not be permitted to cross Runway 16-34 when operating in either runway or taxiway modes due to critical safety concerns and risk of runway incursion.

4.4.30 Therefore, a vehicle underpass will be required to facilitate safe and reliable vehicle access between the remote Western Aprons and the Eastern Campus, where most facilities and services are located. This will allow aircraft handlers to service aircraft operations efficiently. Without the underpass, access to the western stands will be inefficient and unworkable for time-critical operations such as cargo. In the longer term, the increased pressure on the Eastern Campus may result in remote passenger commercial flights on the West Apron whereby passengers will be bussed from the Eastern Campus terminal area to aircraft parked on the West Apron.

4.4.31 **Runway**

In late summer 2022 the Northern Runway 10L-28R will be brought into service. This will increase the capacity of our current runway network beyond the peak 48 movement limit currently declared for the existing runway system.

4.4.32 **Capacity Assessment Summary**

The capacity assessment indicates that many existing facilities do not have sufficient capacity to accommodate 40 mppa demand. The approved proposals brought forward in the original CIP2020+ submission continue to provide the optimum solutions to address this capacity deficit, albeit delivery timing of the projects may be tailored to span between the revised CIP cycle up to 2026 and the next.

4.5 CAR Regulatory Response to Date

4.5.1 **At the outset of Covid-19 in Ireland in March 2020, the pandemic's severity and length were unknown and could not be predicted. The first action of CAR was to suspend the financial penalties for quality-of-service breaches for March and April 2019. In April 2019, this was extended to the foreseeable future as the full extent of the pandemic was becoming apparent. This allowed Dublin Airport to adjust services to suit the very low traffic conditions during the pandemic and save money.**

4.5.2 In October 2020, CAR issued a draft decision on an interim review of the 2019 determination in relation to the years 2020 and 2021. Then in December 2020, the final decision was issued on this, after consultation. The review determined:

- Suspension of penalties on quality-of-service breaches.
- Suspension of triggers and adjustments relating to the price caps for 2020 and 2021.
- The replacement of the 2020 per-passenger cap with a series of individual caps reflecting Dublin Airport's published menu of airport charges for 2020.
- No adjustment to the per-passenger price cap of €7.50 concerning 2020 and 2021.
- A new review mechanism for all Capex projects to be progressed in 2021.

4.5.3 All projects to progress that were greater than €4 million in value required the approval of airlines. Approval was defined as support/agreement of 50% of passengers represented by airlines who make submissions in response to the consultation. Projects that had commenced before 2020 and/or were safety or regulatory critical did not require this approval from airlines. The process was intended to protect the interests of future users from the current potential for capacity overprovision and associated diminished value in airport charges.

4.5.4 In October 2021, a draft decision on a second interim review concerning 2022 was issued by CAR and then made final in the decision paper of December 2021. This review broadly carried over the adjustments from the 2021 review. This included:

- The continued removal of the Capex reprofiling triggers and Opex passthrough mechanism.
- The requirement to consult on the progression of further projects (or components of projects) with an expected final cost of greater than €4 million.

- Per passenger price cap to increase in line with inflation to €8.11.
- The reintroduction of quality-of-service financial penalties for security queue times and wait time for Passengers with Reduced Mobility (PRMs) with reduced revenue adjustment compared to 2019 levels.

4.5.5 The December 2021 final decision paper also issued the start of a full building blocks review of CIP2020+ to be completed for 2023. The review encompasses:

- Adjustments to the regulatory model.
- Setting revised passenger number targets.
- Developing revised Opex targets.
- Considering adjustments to the allowed cost of capital.
- Reconsidering a revised Capital Investment Plan.
- Considering adjustments to the Quality-of-Service regime.

4.5.6 CAR also proposed the extension of the regulatory period to 2026, an addition of 2 years to the original period. It has been envisaged that the reviewed and updated CIP would draw on the original submissions made in 2019, reflected in this document presenting our proposed submission following extensive stakeholder consultation through Q4 2021 and Q1 2022.

DublinAirport

Capital Investment Programme 2020+ Review

05 Stakeholder CONSULTATION

5. Stakeholder Consultation

5.1.1 **This section outlines the stakeholder consultation that took place as part of this CIP2020+ Review submission. A series of informal pre-consultation meetings took place with key stakeholders in advance of formal consultation. Our CIP 2020+ Review Consultation Document was issued to airport stakeholders on the 1st of March 2022, and presentations with stakeholders took place on the 22nd and 23rd of March 2022.**

5.2 Consultation Process

5.2.1 Dublin Airport has consulted extensively with airport stakeholders. We have explained the impacts Covid-19 and new legislation have had on the businesses and how they impacted the capital development program. We gave updates on projects completed and our recovery forecast, capacity/capital needs and requirements to grow to 40mppa by the end of the decade. We presented scope and cost changes to original projects and the rationale for several new projects primarily focused on sustainable drivers. We proposed new solutions to address additional Core project needs and a mechanism to accommodate volatile inflation forecasts. Our consultation involved the following three phases:

- Informal pre-consultation with key airport stakeholders between the 13th and 20th of December 2021.
- Issue of the CIP2020+ Review Stakeholder Consultation report on the 1st of March 2022 to all airport stakeholders.
- Presentation to airport stakeholders on the 22nd and 23rd of March 2022 at Dublin Airport, with all airport stakeholders, invited.

5.2.2 A week of informal consultation with groups of key airport users took place between the 13th and 20th of December 2021. This consultation outlined the general direction of the review and gave a recap of the original submission from 2019. The purpose was to update and outline the schedule for the review submissions, formal feedback was not solicited. We noted at these meetings that the CIP programme would be significantly shorter than would typically be the case for determining a regulatory period; we also gave an overview of our Core and Inflation treatment proposals. Copies of the presentation were issued directly after each meeting to the stakeholders.

5.2.3 The formal consultation event was held at Dublin Airport on the 22nd and 23rd of March 2022. All airport stakeholders were invited. The event was primarily a sit-down presentation event with consultation materials and supporting documents, drawings and models were presented around the room for the attendees to view before, after and during breaks. There were extensive questions and answers sessions with stakeholders throughout the presentations. There were also several members of Dublin Airport staff in attendance that engaged in discussions with stakeholders during breaks in the presentations.

5.2.4 The morning of the first half-day focused on an overview of the original CIP, what has changed since 2019 and provided an update on capital development progress to date, followed by our core projects. The afternoon covered capacity projects with a focus on terminal and pier development. Day 2 continued with the remaining capacity projects in the morning, moving on to commercial and sustainability projects, concluding with a presentation of possible longer-term post-2026 development options for stakeholder consideration. CAR attended both days to monitor engagement and to satisfy themselves with the validity and quality of the consultation.

5.2.5 Following the presentations, we issued a copy of the presentations and a clarification document to address several queries raised which could not be fully answered on the day. The clarification document was issued on the 25th of March 2022. These clarifications focused on themes of questions being asked from multiple stakeholders throughout the engagement.

5.2.6 Following the above consultation, the closing date for written responses was the 11th of April 2022. Dublin Airport received nine written responses to this consultation. This consisted of 4 airlines, 1 fuel handler, 1 general aviation handler, 2 hanger MRO businesses and International Air Transport Association (IATA). These responses and the questions raised during the consultation with stakeholders has informed the changes in this document from the draft consultation submission.

5.3 Formal Consultation Summary

5.3.1 The formal in-person consultation took place over two full days on the 22nd and 23rd of March 2022 at the Radisson at Dublin Airport. All airport stakeholders were invited to attend the consultation on these dates. Three representatives of the Commission for Airline Regulation (CAR) were in attendance on both days to observe the consultation. A separate online consultation was conducted on the 4th of April 2022, a truncated version of what was presented during the in-person consultation with representatives of CAR present at this consultation.

5.3.2 These consultation sessions were used to present Dublin Airport's proposed reviewed and revised capital projects to stakeholders. The treatment of the projects was divided between CORE projects (civil, mechanical electrical, security and IT projects) that were presented as a broad treatment to adjust for inflation and an extra two years added to this CIP period. The capacity projects which makes up the majority of proposed capital expenditure, were presented to show the changes in scope and allowances. This was also the case with commercial projects and the business case information was also presented to show the commercial merits of these projects. The biggest change since the 2019 consultation is the addition of several sustainability projects that are at different stages of design development and are now seen as essential in light of the legislative environment in Ireland. These were presented to stakeholders to outline the context of their inclusion and the detail currently available on these projects.

Exhibit 5.1 – Drawings and model set-up for formal consultation at the Radisson, Dublin Airport

5.3.3 The format of the consultation was in a conference presentation style with several presenters from Dublin Airport. The presentations were supplemented by an array of drawings and models of the proposed projects which were inspected by attendees during breaks in the presentations. The presentations allowed for several questions to be taken from the attendees throughout the two days. This led to detailed discussions with Stakeholders during the sessions with many questions answered by Dublin Airport on the day. The unanswered questions were collated over the two days and were responded to in writing by Dublin Airport with a clarification document, as previously mentioned.

Exhibit 5.2 – Day 2 of formal consultation at the Radisson, Dublin Airport March 23rd 2022

5.3.4 Attendance at the 2-day consultation sessions and the virtual session was made up of a diverse range of stakeholders and airlines representing over 80% of passenger throughput. There were representatives from [redacted] home-based carriers, [redacted] airlines, [redacted], fuellers, ground handlers, cargo, hanger operators, general aviation and trade organisations.

5.3.5 In total 13 stakeholders presented by ***table 5.3*** expressed view on the consultation through comments during the consultation or through written submissions. These opinions have been captured as a general sentiment towards the project as supportive/does not object (green/SD), partially supports (yellow/PS), objects (red/O) and no comment (grey/blank) on individual projects. These responses are summarised in ***table 5.4*** in this section, along with the name of the stakeholder. The vast majority of projects received no comment, supportive being the next most common, followed by partial support and finally objection.

Code	Company	#
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Table 5.3 – List of Stakeholders who provided either verbal or written feedback

		Stakeholder # >	1	2	3	4	5	6	7	8	9	10	11	12	13
	CIP #	Project													
Capacity	20.03.012	Terminal 1 Central Search - Relocation to Mezz Level													
	20.03.013	Terminal 1 Departure Lounge (IDL) Reorientation and Rehabilitation													
	20.03.015	Terminal 1 Baggage Reclaim Upgrade & Alterations													
	20.03.017	Terminal 1 Shuttle, bus lounges and injection points													
	20.03.018	Terminal 1 - Immigration Hall													
	20.03.020	Terminal 2 Check-in Area Optimisation													
	20.03.021	Terminal 2 Central Search Area Expansion													
	20.03.024	Terminal 2 Immigration Hall - Reorientation													
	20.03.028	Terminal 2 HBS Transfer Lines													
	20.03.029	New Pier 5 (T2 and CBP Enabled)													
	20.03.030	Expansion of US Pre-Clearance Facilities													
	20.03.031	South Apron Expansion (Remote Stands, Taxiway and Apron)													
	20.03.033.1	Enablement of Pier 3 for Precleared US bound passengers													
	20.03.034	Pier 3 Immigration (Upgrade & Expansion)													
	20.03.072	T2 & Pier 4 Transfer Facilities													
	20.03.077	South Apron Airside Support Centre													
	20.03.078	Pier 4 De-Flex													
	20.03.004	Gate Post 9 Expansion (West Lands)													
	20.03.036	North Apron Development													
	20.03.051.2	West Apron Vehicle Underpass Pier 3													
	20.03.074	Taxiway R widening													
	20.03.075	Fuel Hydrant Network Works													
	20.03.076	De-Icing Consolidation													
	20.03.079	Code E Engine Test Facility													

		Stakeholder # >	1	2	3	4	5	6	7	8	9	10	11	12	13
	CIP #	Project													
	20.03.080	10L/28R Taxiway Exit AGL													
Commercial	20.04.001	Car Parking Management System (Maintenance & upgrade)													
	20.04.005	Long Term Car Parking - Eastland's (2000 spaces)													
	20.04.007	Terminal 2 Multi-Storey Car Park (680 spaces)													
	20.04.009	Staff Car Park													
	20.04.033	Car Valet Product													
	20.04.003	New Food & Beverage Fit out (T1X)													
	20.04.023	Food & Beverage Provision & Fit-out – Post CBP													
	20.04.030	New Kitchen in Terminal 2													
	20.04.002	Car Hire Consolidation Centre													
	20.04.004	Digital Advertising Infrastructure													
	20.04.016	Platinum Services Upgrade Works													
	20.04.017	Airline Lounges - Expansion, Upgrade & New													
	20.04.018	Fast Track Improvements													
	20.04.021	West Apron - Accommodation & Welfare Facilities													
	20.04.025	Commercial Property Refurbishment													
	20.04.031	Fuel farm welfare													
	20.04.034	OCTB Refurb													
	20.04.035	Metro Development and Interface													
	20.07.010	Office Consolidation & Refurbishment													
	20.08.001	Retail Refurbishments, Upgrades and New Developments													
	20.08.002	Retail Marketing & Media Installation													
	20.09.010	Drop Off Pick Up													

		Stakeholder # >	1	2	3	4	5	6	7	8	9	10	11	12	13
	CIP #	Project													
Sustainability	20.03.052	Surface Water Environmental Compliance													
	20.09.001	Airport Charging													
	20.09.002	Alternate Fuels													
	20.09.003	Anaerobic Digestion													
	20.09.004	Sustainable Fleet													
	20.09.005	Fixed Electrical Ground Power Phase 3													
	20.09.006	Photovoltaic Solar Farm Phase 2													
	20.09.007	Mobility Improvements													
	20.09.008	Terminal 2 Sustainable Upgrade													
	20.09.009	Terminal 1 and Campus Sustainability Feasibility													

Table 5.3 – Summary of Stakeholder Written Feedback

5.4 Core Project Summary

5.4.1 The core projects were presented as a grouping of the Civil, Mechanical, Electrical, Security and IT projects. No individual projects were presented from this grouping as they are all approved projects from the 2019 determination. They were proposed to be treated as only requiring a change in allowance to allow for inflation and a pro-rata increase in allowance to accommodate the additional two years added to this CIP period. Dublin Airport also proposed a mechanism to adjust the inflation allowance to the actual inflation over the CIP period due to the volatility in the market given the post-Covid period and the war in Ukraine.

5.4.2 There was a general response from Stakeholders [redacted] that they could not clearly understand the calculation undertaken for the inflation adjustment and whether this included completed projects. They also highlighted that they did not understand why an additional allowance was required for the additional years of 2025 and 2026, that this could be funded from the existing allowances. These stakeholders also questioned the inflation adjustment mechanism and believe that the CPI adjustment on the passenger charge allows for construction inflation.

5.4.3 Dublin Airport clarified the inflation calculation by issuing a clarification document to all attendees detailing the calculation of the inflation for the Core projects. ***Section 6.2 and 6.4*** has also been added

to this report to explain the mechanism of the inflation calculation. An additional allowance for 2025 and 2026 is required as the airport needs to continuously invest in our assets to remain safe, regulatory compliant and maintain business continuity. In light of these comments, Dublin Airport has now included costs and project sheets for "exceptional" large projects within the Core grouping. This will give stakeholders details on these projects for their information. The smaller day to day "typical" projects are still being proposed to be funded from a pro-rata for 2025 and 2026. The details of which can be interrogated in this report ***Section 6.11***. A list of all the Core projects has been added to this document for clarity.

5.4.4 In relation to the adjustment method for inflation, this is to reflect the nature of procuring construction services for high value long, duration projects. There needs to be a mechanism to allow for inflation over these periods to get efficient rates from contractors. If set rates were agreed upon now for 5 years, a significant premium would be paid for the contractor to take the risk of inflation fluctuation. The NEC suite of contracts being used is designed to create a collaborative relationship with all parties and get the best outcome possible for projects. The contract has a specific clause to allow for inflation adjustment, and this contract is used on the largest and most complex projects in the world (Australia and Hong Kong)[3][4] and HS2 in the UK[5].

5.5 Capacity Project Summary

5.5.1 These projects are the majority of the cost of this CIP and represent the projects required to grow the airport to handle 40 mppa. These projects have mixed feedback, with the majority of stakeholders being silent or expressing support for the projects. A notable exception would be the west apron vehicle underpass which attracted both positive and one negative comment about the necessity of the project to the airport development plans. The stakeholders that will directly use the underpass were supportive of the project and would like it to be delivered even sooner than scheduled. The North and South apron hub projects have positive feedback with the same request to be delivered sooner than currently scheduled. The following summarises the key comments received by project.

[3] https://www.neccontract.com/projects/partnering-for-success-p4s-sydney-water-australia
[4] https://www.neccontract.com/projects/hong-kong-airport-tunnel
[5] https://www.neccontract.com/news/uk-government-lets-%C2%A310-bn-of-new-nec-works-and-services

	CIP #	Project	Summary of Comments received
Capacity	20.03.012	Terminal 1 Central Search - Relocation to Mezz Level	• [redacted] supports the Security Screening project in Terminal 1, but the two phases could have been combined had the enabling work for the mezzanine level been conducted in advance.
	20.03.013	Terminal 1 Departure Lounge (IDL) Reorientation and Rehabilitation	No comment
	20.03.015	Terminal 1 Baggage Reclaim Upgrade & Alterations	No comment
	20.03.017	Terminal 1 Shuttle, bus lounges and injection points	No comment
	20.03.018	Terminal 1 - Immigration Hall	No comment
	20.03.020	Terminal 2 Check-in Area Optimisation	No comment
	20.03.021	Terminal 2 Central Search Area Expansion	No comment
	20.03.024	Terminal 2 Immigration Hall - Reorientation	No comment
	CIP.20.03.028.1	Terminal 2 HBS Transfer Lines	• [redacted] supports the inclusion of the EBS within the project.
	CIP.20.03.029	New Pier 5 (T2 and CBP Enabled)	• [redacted] supports the project but stated their frustration with the proposed delivery timescale. • Works now set to commence in 2024 and take 5 years to complete.
	CIP.20.03.030	Expansion of US Pre-Clearance Facilities	• [redacted] reiterated the need to investigate the use of technologies to increase the CBP and TSA processes in Pier 4. • [redacted] believes that the reorientation and expansion of the US Pre-Clearance facility appears to be needed to cope with the forecasted expansion of US trans-Atlantic traffic. • [redacted] believes there should be a cost-based approach for setting US Preclearance charges, rather than treat it as a purely non-aeronautical expense.
	CIP.20.03.031	South Apron Expansion (Remote Stands, Taxiway and Apron)	• [redacted] was supportive of the original PBZ to be located in the South Apron.
	CIP.20.03.033.1	Enablement of Pier 3 for Precleared US bound passengers	• [redacted] is generally supportive of the enablement of Pier 3 for US CBP flights, however raised the issue of technology being used for this instead of the use of Swing Gates in Pier 3 and bussing operations from the US CBP facility in Pier 4.
	CIP.20.03.034	Pier 3 Immigration (Upgrade & Expansion)	No comment
	CIP.20.03.072	T2 & Pier 4 Transfer Facilities	No comment
	CIP.20.03.077	South Apron Airside Support Centre	No comment
	CIP.20.03.078	Pier 4 De-Flex	No comment

	CIP #	Project	Summary of Comments received
	CIP.20.03.004	Gate Post 9 Expansion (West Lands)	No comment
	CIP.20.03.036	North Apron Development	• [redacted] is supportive of the North Apron Development, stating that the cost represents good value for money. • [redacted] explained their opposition to the North Apron development. The hangers there (i.e., MRO) would need to be relocated elsewhere on the airfield, and this has not been discussed with stakeholders. • [redacted] supports the revised plan for North Apron which provides for an additional MARS stand comprising two additional narrow body stands. • [redacted] has requested that the project be postponed due to the requirement for the removal of hangers for the extension of Pier 1 (Node). • [redacted] believes that a feasibility study to determine the best location for the reallocation of MRO facilities on the campus as well as a binding commitment to relocate MRO activities is needed.
	CIP.20.03.051.2	West Apron Vehicle Underpass Pier 3	• [redacted] highlighted their support for the West Apron Vehicle Underpass to proceed as quickly as possible. When the crossing over 16/34 closes with the opening of the new Northern Runway, the journey time will be potentially over 40 minutes between the East and West Apron. • [redacted] highlighted their objection to the West Apron Vehicle Underpass citing the scope, which could be reduced to Single Cell. The overall asset life was also questioned. 6 partially supports this project, recognizing that expansion of the West Apron is required to support future growth. However, 6 believes that other projects at Dublin Airport should have been prioritized over this project. • [redacted] opposes the project citing no benefits for passengers paying the passenger charge. 7 highlights other potential options such as operational processes for vehicles to cross runway 16/34 when the runway is operating as a taxiway. • [redacted] The underpass is greatly needed in their opinion, but the four-year timeline is a long time to wait for users of the West Apron. • [redacted] believes that the West Apron Vehicle Underpass is a vital piece of infrastructure for exploiting the west campus and long-term development. The proposed double cell design will improve resilience. • [redacted] emphasised the importance of continued development of additional facilities and infrastructure for all operators. • [redacted] Access to this area is vital for general aviation, emphasising the quick delivery of a dual cell underpass connecting the West apron to the main campus and welfare facilities, and aviation fuel supply.
	CIP.20.03.074	Taxiway R widening	No comment
	CIP.20.03.075	Fuel Hydrant Network Works	• [redacted] supports the installation of the Fuel Hydrant System on new stands across the airport. They believe there would be significant cost savings in the long term.
	CIP.20.03.076	De-Icing Consolidation	No comment
	CIP.20.03.079	Code E Engine Test Facility	No comment
	CIP.20.03.080	10L/28R Taxiway Exit AGL	No comment

5.5.2 In light of the comments received in the table in this section a number of actions were undertaken by Dublin Airport to help alleviate the stakeholders' concerns. Extensive consultation with stakeholder [redacted] was undertaken to explain the process to date in relation to planning permission and rising of the 32mppa cap. This helped to explain the complexity of the process and it is not Dublin Airport wishing to elongate the delivery schedules of the capacity projects but the planning system and the appeal on the North Runway planning conditions. Dublin Airport is making every effort to expedite the planning permission process to deliver this infrastructure as soon as possible. There was a concern raised about the effect of the North apron development on the hangers in this area with MRO businesses. Dublin Airport is engaging with these stakeholders to try to nullify undesirable outcomes from this development. And has committed to conducting a feasibility study to determine the optimum location and funding mechanism for future replacement hangar development.

5.5.3 Concerning developing the South Apron Hub, we have re-included the Terminal 2 Early Bag Store and commit to finding an optimal solution for the transit of passengers between Terminal 2 and the relocated South Apron remote stands; ideally, the re-inclusion of the relocated Passenger Boarding Zone if technically feasible, safe and economical.

5.5.4 The underpass is a long-term piece of infrastructure that is required for the future development of the airport in what will become the midfield area of the airport. It will be constructed in the centre of the airfield and will cause massive disruption to airfield operations while being constructed. Therefore, an asset that will accommodate projected traffic over its full asset life is required to avoid needing to construct in this area again in the future. A dual cell is the right solution for the long-term development of the airport. It is also required to satisfy the operational and fire safety requirements in the case of an emergency. There are also comments from stakeholders that they require this underpass even before the currently scheduled delivery date. The underpass is not being prioritised over other infrastructure but will be delivered before some other infrastructure as it is not subject to the 32mppa cap.

5.5.5 A number of changes to this document due to the formal consultation have been implemented in relation to the capacity projects. The projects have been split out into their respective project sheet summary tables so that they can be viewed by stakeholders independently. The larger and more complex Terminal 1 projects have reverted to being treated as StageGate projects.

5.6 Commercial Project Summary

5.6.1 The commercial projects received mostly no comment based on the feedback received. The exception being the Platinum Services upgrades that have been objected to by stakeholder [redacted]. In response these projects are required to maintain the standard of service being offered and for this business segment to be retained. This project has a positive business case and will generate revenue for the airport that will offset airport charges. It is also an important service for VIP, VVIP and business travellers using the airport which is important for Ireland as an international business destination.

5.6.2 The comments received during the formal consultation have led to changes to this document in relation to the commercial projects. We have added business case key information to the project sheets so that stakeholders can inspect this information. The EBITDA, IRR, NPV and payback period has been added to all the sheets so the commercial merits of projects can be shown. The following summarises the key comments received by project.

	CIP #	Project	Summary of Comments received
Commercial	CIP.20.04.001	Car Parking Management System (Maintenance & upgrade)	No comment
	CIP.20.04.005	Long Term Car Parking - Eastland's (2000 spaces)	No comment
	CIP.20.04.007	Terminal 2 Multi-Storey Car Park (680 spaces)	No comment
	CIP.20.04.009	Staff Car Park	No comment
	CIP.20.04.033	Car Valet Product	No comment. Since the consultation Dublin Airport has omitted this project from the CIP2020+ Review.
	CIP.20.04.003	New Food & Beverage Fit out (T1X)	No comment
	CIP.20.04.023	Food & Beverage Provision & Fit-out – Post CBP	No comment
	CIP.20.04.030	New Kitchen in Terminal 2	No comment
	CIP.20.04.002	Car Hire Consolidation Centre	No comment
	CIP.20.04.004	Digital Advertising Infrastructure	No comment
	CIP.20.04.016	Platinum Services Upgrade Works	• [redacted] believe there is no need for upgrading premium services, lounges and platinum services. They believe that other projects that impact more passengers should be prioritized.

	CIP.20.04.017	Airline Lounges - Expansion, Upgrade & New	No comment
	CIP.20.04.018	Fast Track Improvements	No comment
	CIP.20.04.021	West Apron - Accommodation & Welfare Facilities	No comment
	CIP.20.04.025	Commercial Property Refurbishment	No comment
	CIP.20.04.031	Fuel farm welfare	No comment
	CIP.20.04.034	OCTB Refurb	No comment
	CIP.20.04.035	Metro Development and Interface	No comment. Since the consultation Dublin Airport has omitted this project from the CIP2020+ Review.
	CIP.20.07.010	Office Consolidation & Refurbishment	No comment
	CIP.20.08.001	Retail Refurbishments, Upgrades and New Developments	No comment
	CIP.20.08.002	Retail Marketing & Media Installation	No comment
	CIP.20.09.010	Drop Off Pick Up	No comment

5.7 Sustainability Project Summary

5.7.1 These projects, except for the surface water environmental compliance project, are all new since the 2019 determination. They have been triggered due to the legislative changes in relation to decarbonisation and environmental standards in Ireland. As these changes have only happened recently the development of these projects varies but are generally in the early development stages. The general feedback is that stakeholders understand the drivers for these projects as they, too, are moving to reduce their environmental impact. The following summarises the key comments received by project.

	CIP #	Project	Summary of Comments received
Sustainability	CIP.20.03.052	Surface Water Environmental Compliance	No comment
	CIP.20.09.001	Airport Charging	• [redacted] supports in principle, but more details on the proposed delivery phasing is needed. Alignment between Dublin Airport and the stakeholders who will operate the Electric Vehicles on the Airport campus has also been called for. • [redacted] believes that there is insufficient charging points for electric vehicles, and the current charging points are poorly located.

	CIP.20.09.002	Alternate Fuels	• [redacted] requested that Dublin Airport ensure that they avoid any duplication in this area where work is ongoing at national and European level. • [redacted] supports drop-in SAF usage by the airport as it meets the requirements for existing aircraft types into the future. The projects' scope needs to be better defined.
	CIP.20.09.003	Anaerobic Digestion	• [redacted] welcomes the Anaerobic Digestion project as representing a strong commitment to the circular economy and supports its inclusion.
	CIP.20.09.004	Sustainable Fleet	No comment
	CIP.20.09.005	Fixed Electrical Ground Power Phase 3	No comment
	CIP.20.09.006	Photovoltaic Solar Farm Phase 2	• [redacted] wished to understand the efficiency of the proposed project and assess any wider opportunity for Airport tenants to explore Solar Panel use on existing footprints. • [redacted] questioned the practicality of such a facility considering the local climate and weather conditions.
	CIP.20.09.007	Mobility Improvements	• [redacted] requested that any investment in cycling infrastructure is met by a clear commitment by Fingal County Council in the external road network.
	CIP.20.09.008	Terminal 2 Sustainable Upgrade	The scale of this project will correctly require the StageGate process and external regulation. The project is supported by 6.
	CIP.20.09.009	Terminal 1 and Campus Sustainability Feasibility	No comment

5.7.2 Stakeholder [redacted] provided the majority of the comments in relation to these projects, and they are all supportive of the projects which Dublin Airport welcomes. The projects are for the most part being proposed as StageGate due to the early nature of the development. The StageGate process will allow for the efficiency and carbon credentials of the projects to be explored by an independent body when sufficient design development has been progressed.

5.7.3 In response to stakeholders' concerns, the Photovoltaic Solar Farm phase 2, placement of all photovoltaic solar panels close to the airport, must be assessed for glint and glare for pilots. This restricts the locations they can be developed around the airport. The photovoltaic solar panels will be efficient in the Irish climate with our limited sunlight and under the carbon legislation, can only count towards reducing our carbon footprint if it is directly connected to the airport. The Alternative fuel project will now concentrate on SAF in the study as it is what is immediately relevant for the airport and our fuel infrastructure. The airport charging project has already started engagement with stakeholders to understand the requirements, especially in the ramp environment.

5.8 Apron 5H Project Summary

5.8.1 Dublin Airport has only recently received planning permission for the construction of Apron 5H. In the development of the detailed costings and design for this project it has become apparent that the PACE allowance is not sufficient to deliver the project. Therefore, the developed scope and cost estimate was consulted with stakeholders on the 23rd of March 2022 as part of the formal consultation.

5.8.2 There is a stockpile of fill material on the site of Apron 5H that has been assessed and it is not suitable for construction. This is an additional cost to this project to remove the material. It was commented by Stakeholder [redacted] that the removal of this material should be paid for by the previous project. Unfortunately, at the time of the material deposition, it was assumed it could be reused. It cannot be used now and to construction Apron 5H it needs to be removed; therefore it is essential to the Apron 5H project progression. It was commented by Stakeholder [redacted] if modelling of the congestion in the north apron has been modelled for the north apron developments. It was confirmed that it was modelled and does not cause undue disruption; we further met this stakeholder to present our model output. Stakeholder [redacted] asked what is generating the cost increase. It is the new substation, additional planning contributions, and there is a risk item for dealing with contaminated soil.

5.8.3 A project sheet for Apron 5H has been added to this document following the formal consultation. This includes the scope and projected cost of the project. The full detailed cost breakdown of the project will be assessed by the IFS for capital efficiency.

5.9 Strategic Consideration Summary

5.9.1 The timing of the capital investment review and update, occurring in the same year that the North Parallel Runway will be commissioned, created an opportunity to revalidate the Runway 16-34 assumption and review our longer-term development path options. Noting that during the 2017 Masterplan consultation process, stakeholders were firmly of the opinion that we should retain Runway 16-34 in the medium term and re-assess views when the North Runway enters service. We presented to stakeholders through the CIP2020+ Review consultation report and formal presentation event, requesting their feedback and preference.

5.9.2 Reviewing the status of Runway 16-34 and its benefits was important to ensure that the capital investments detailed in this CIP2020+ Review are aligned with our longer-term development plans, particularly the vehicle underpass and any future reconfiguration or refurbishment of Piers 2 and 3.

5.9.3 This strategic review was divided into six sections, providing airport development context including a presentation of two high-level, long-term development options. The focus was on considering the implications of decommissioning Runway 16-34 and the possible benefits the alternative may offer over the medium and long-term. The review structure included the following sections:

- Planning for the future.
- Long Term Development Options.
- Potential Future Runway 16-34 Utilisation.
- Benefits and Cost Saving.
- Remove Runway 16-34 Long Term Development Option.

5.9.4 At both the informal and formal presentations, stakeholders articulated various viewpoints ranging from airlines indicating no requirement for Runway 16-34 to others indicating a preference for retention to ensure operational resilience in all weather conditions, if even at a reduced capacity.

5.9.5 Written formal feedback from many airlines acknowledged the benefits of removing Runway 16-34 from an eastern pier and apron development perspective in the longer term but that the timing was premature within this decade, noting that weather resilience was a current concern. Several airlines asked that a more detailed strategic review of Runway 16-34, including dedicated stakeholder consultation, be conducted in the future.

5.9.6 From the feedback, we deduce a stakeholder preference to retain Runway 16-34 and defacto Pier 2 and 3 in the medium term up to at least the end of the decade and that we will re-assess in the future in tandem with an update to the airport Masterplan. Therefore, we are confident that the proposed Vehicle Underpass, Pier 3 Immigration and Pier 3 Fuel Hydrant projects proposed within this submission are justified investments proposed within this CIP2020+ review period.

DublinAirport

Capital Investment Programme 2020+ Review

06 CIP2020+ REVIEW

6. CIP2020+ Review

6.1 Project Scope and Cost Refinement

6.1.1 **The Commercial and Capacity projects from the CIP 2020+ determination have been progressing through feasibility and design since 2019. The projects, when originally submitted, had a reasonable concept level of design and cost information. However, since then, subsequent feasibility and design work has revealed several necessary changes due to different scope change drivers.**

6.2 Cost Estimation

6.2.1 Cost estimates for the Capacity, Commercial and new Sustainability projects have been reviewed and updated where applicable, with additions included to account for inflation and scope change. The Core projects have only been reviewed with additions for inflation. Level 1 costs have been presented in this report (Level 3 will be made available to CAR and IFS). Costs have been estimated assuming the following principles:

- A standardised estimating structure has been applied based on the Royal Institute of Chartered Surveyors BCIS or NRM system.
- The level of detail in the estimate is dependent on the available project information.
- All estimates were imported into the industry standard "CUBIT" software for consistency and data recording across the original CIP submission. Drawings, where available, are recorded with estimated data for ease of access.
- Contingency and design variability is included in each estimate.
- Estimates have all been re-baselined using published data from the SCSI on inflation; this approach leverages on the previously determined rates and applies an inflation factor to rebase line the estimates to Q4 2021. ***Exhibit 6.1*** presents the re-base lined inflation adjustment methodology and a sample calculation.
- Escalation is included in each estimate based on a mid-range forecast to midpoint of construction for each project.

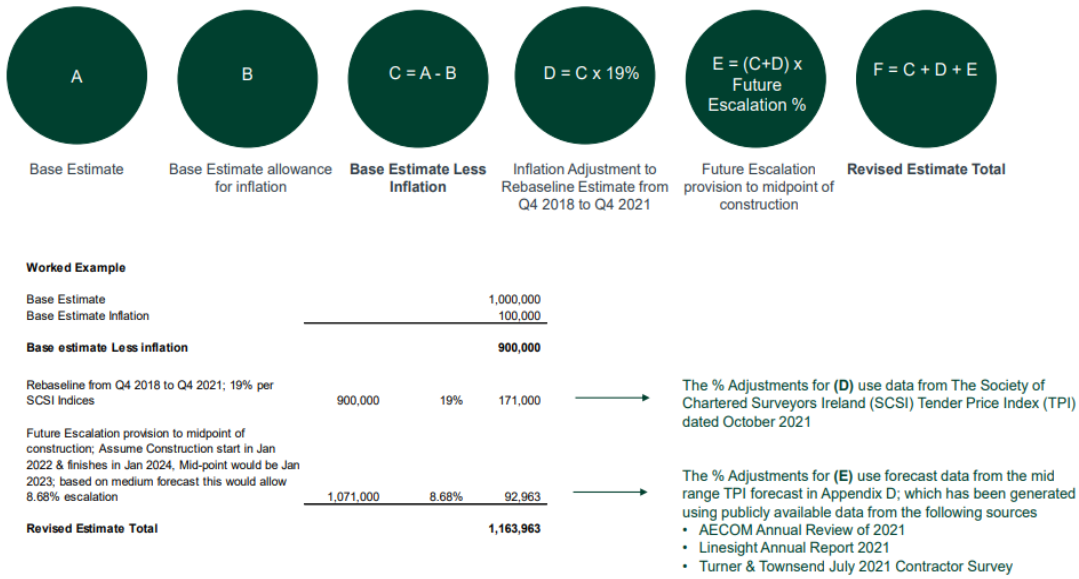


Exhibit 6.1 – Inflation Adjustment Methodology and Sample Calculation

The general assumptions for estimates are as follows:

6.2.2 Cost Assumptions

- Cost Estimates are in general class 4 concept feasibility level and have a base price date of Q4 2021. There are exceptions to the class 4 status for estimates where design has progressed further, for example, on the South Apron Hub, North Apron Development and Underpass; these are considered class 3.
- Main contractor preliminaries included at between 15% and 25% depending on the project.
- An allowance of up to 5% has been included for design development.
- Low visibility procedures allowance included at 7% on specific projects with airside construction work based on Dublin Airport Construction norms.
- Design and Management costs cover Professional Fees, Design Costs, office accommodation and Dublin Airport staff costs/supervision.
- Contingency is calculated at up to 20% of the Total Direct Cost (TDC) plus Design and Management costs.
- Excavated material and groundwater encountered is free from contamination and hazardous materials
- Assumes competitive tendering and procurement arrangements.

6.2.3 **Cost Exclusions**

- VAT.
- Land Acquisition Costs.
- Any Development Costs outside of the scope as expressly described in the project sheets.
- Abnormal market factors and price escalation beyond those
- Specialist or customer Audio Visual and IT equipment within new buildings.
- Additional costs for managing, removing and disposing of any contaminated materials except where expressly stated otherwise.
- Abnormal ground conditions.
- Planning contributions in excess of what can be reasonably foreseen.
- Allowance for acceleration, premium working time, bonuses.
- Regulatory planning levies associated with the Metrolink.

6.2.4 **Schedule Assumptions**

- Schedule developed based on concept/feasibility level design only.
- Project Programmes have been developed on a standalone basis, known interdependencies have been considered. Future interdependencies resulting from design development are to be determined.
- Individual project planning approvals are subject to Infrastructure Application for increased airport capacity being granted in Q2 2024.
- Regulatory application periods, inclusive of environmental appraisals, are indicative of previous applications within the campus without appeal.
- Vacant possession of impacted facilities will be made available by third parties in a timely manner.

6.2.5 **Design Fees**

Design fees for projects included in the CIP review are allocated individually to each project. In general, design fees include where appropriate:

- Project Management.
- Architectural Design.
- Engineering Design, Civil, Structural, M&E, Environmental etc.
- Statutory Planning.
- Procurement.
- Contract management.
- Programme Controls (Cost, Risk, Schedule).

- Construction Administration and Management.
- Site Supervision and Site project managers.

6.3 Contingency and Design Variability

6.3.1 Contingency and design variability has been derived and allocated based on the level of maturity and complexity of the project. Contingency and design variability is an allowance to cover the risk of increased costs as a result of issues that are unknown or not defined at the time of preparing the estimate and to allow for design changes as a result of the project development. The contingency and design variability amounts that have been used in the preparation of the cost estimates and are generally based on the following level of maturity of the project:

- Feasibility stage - 20% of construction and design costs.
- Design stage - 10-15%, depending on the project's complexity.
- Construction stage - 10%.

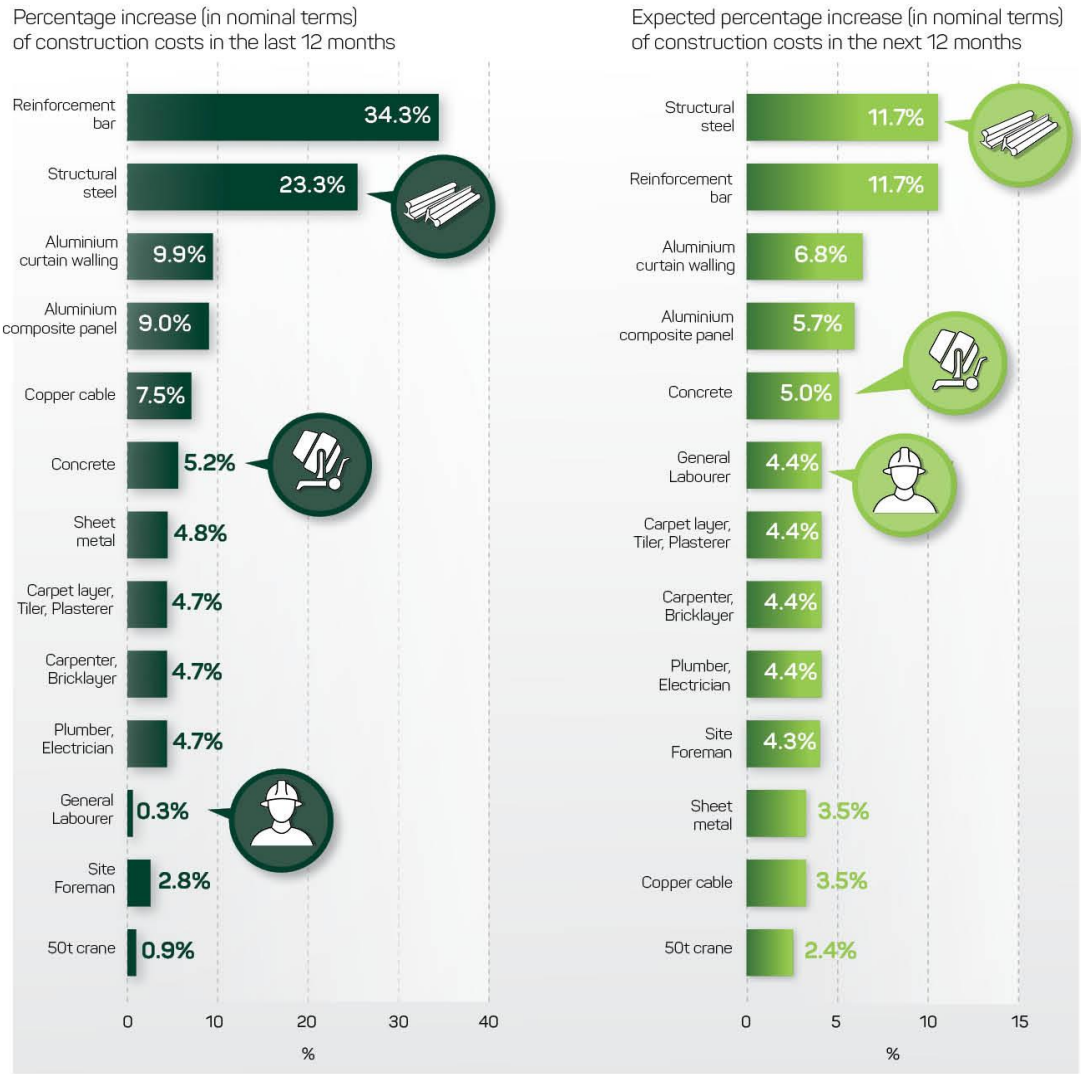
6.4 Inflation Treatment

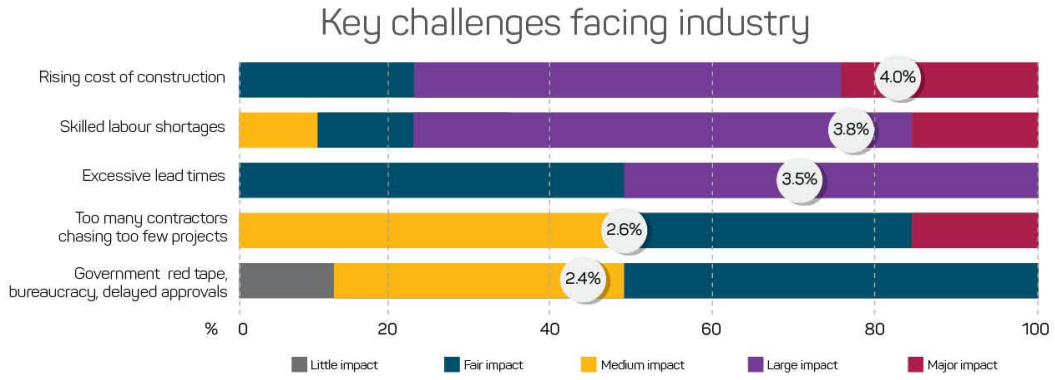
6.4.1 In the 2019 determination, Dublin Airport put forward an inflation allowance to the mid-point of construction of projects. However, due to the strength of the pre-pandemic Irish construction market and the disruptive effects of the pandemic, this prediction has proven significantly below actual inflation in the market.

6.4.2 The next 2 to 3 years after the pandemic coupled with the terrible war in Ukraine will be a complex and unpredictable period for inflation. This, coupled with the pipeline of infrastructure and house building projects planned by the Irish State, will constrain materials and skilled labour markets, and could raise prices even more. This represents a significant risk to the delivery of CIP2020+ projects, especially the large-scale capacity projects that will deliver significant capital expenditure beyond 2026. ***Exhibit 6.2*** presents labour and material inflation recorded in Ireland in the last 12 months and forecasted for the next 12 months.

6.4.3 In the construction industry to secure the best rates for projects over multiple years it is common practice to allow an adjustment for inflation in the rates over the life of contracts. This allows the contractor to lower their risk and also allows the client to secure better rates as the contractor does not need to price for the risk of inflation. Dublin Airport receive the best rates possible for construction

by adopting this model. This is especially true in the current volatile period as a contractor would require a significant premium on their rates to allow for possible inflation increases.





Data Source – Turner & Townsend – Republic of Ireland Market Intelligence Survey Autumn 2021.

Exhibit 6.2 – Irish Labour and Material Inflation Key Challenges Facing Industry

6.4.4 This makes the prediction of inflation for the period 2023 to 2026 a high-risk item for Dublin Airport. There are two options available to mitigate this risk, both where presented in detail during the stakeholder consultation:

- Upper-end inflation prediction.
- Medium inflation prediction with a correction mechanism.

6.4.5 **Upper-end Inflation Prediction**

A cost consultant was engaged in developing escalation calculations for future development at Dublin Airport. Average Tender Price Inflation (TPI) has been 5% annually over the last 10 years based on data from the SCSI. Based on this, Dublin Airport has produced a range of potential inflation percentages that are banded in low (2%), medium (4%) and high (6%) for the years beyond 2022. The low and the high are less likely, the medium being the central prediction that is most likely based on past performance. However, past performance is no guarantee of future performance, especially after a once in a century pandemic and a major war in Europe ongoing. In the absence of a mechanism to correct for actual inflation annually; Dublin Airport would have no choice but to use the high inflation prediction, to guard against sustained high inflation for the 2023 to 2026 period. There is also no published construction inflation index prediction for the Irish market to benchmark against; and most consultancies are unanimous in their agreement that forecasting Tender Price Escalation over the medium to long term is extremely risky for client organisations like Dublin Airport.

6.4.6 **Medium Inflation Prediction with a Correction Mechanism**

Dublin Airport intends to use the medium inflation prediction in conjunction with the introduction of a regulatory mechanism to adjust annually for actual inflation over the CIP period. This will allow the actual inflation to be the ultimate value applied annually throughout the CIP2020+ period. CIP2020+ project allowances presented in this document use the actual TPI inflation from the original base date to Q4 2021 to normalise cost to today's prices. The medium range inflation prediction is then applied to the midpoint of construction for the projects. This will then be adjusted through the CIP2020+ construction delivery period to account for actual inflation in the period.

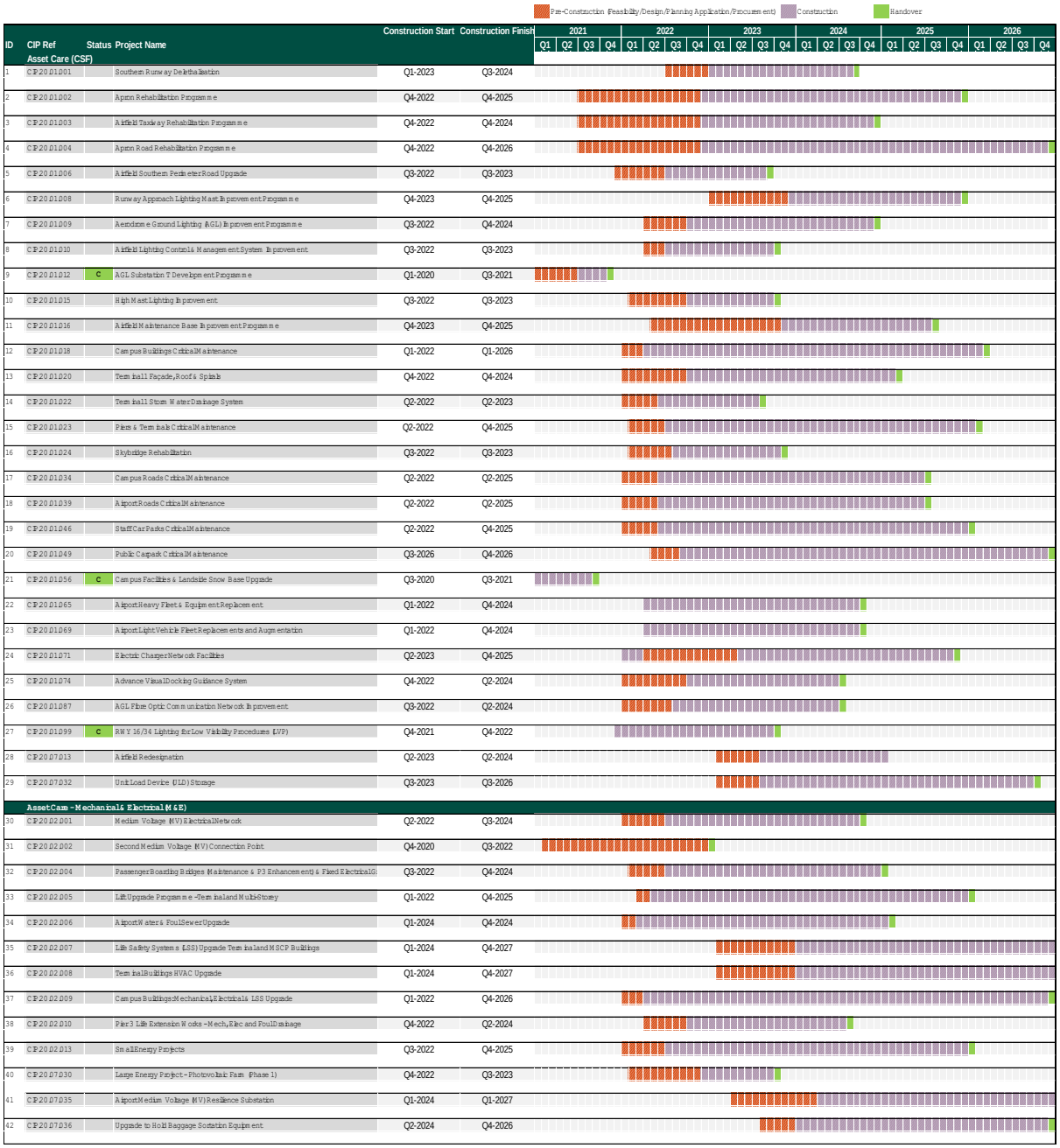
6.4.7 The intention would be that the price adjustment for inflation would be reimbursed through the regulatory model where annual inflation exceeds the forecasts contained within the estimates, in line with published data on market inflation. This can be achieved through Dublin Airport releasing data on the price increase for inflation it is paying through its multi-annual frameworks combined with annual review and reconciliation of non-framework project costs against published TPI indices. The medium

inflation prediction assumes that a mechanism for adjusting to actual inflation is adopted. If this is not adopted, Dublin Airport will need to readjust the inflation to the high prediction to hedge against the risk of sustained elevated levels of inflation in the Irish construction market. Therefore, project allowances would need to be revised upwards without the adjustment mechanism as we are forecasting escalation for projects which do not achieve completion until after this CIP period concludes. The allowances presented in this document are, therefore, contingent on the adjustment mechanism being implemented.

6.5 Construction Programme Extension Beyond 2026

6.5.1 Due to the points outlined in ***section 4***, "Context", it has become apparent that the delivery of some of the larger CIP2020+ capacity projects and new sustainability projects will extend beyond 2026. As a result, a significant portion of the capital expenditure will be beyond this date. In the case of capacity projects, most of the spending before 2026 will be enablement projects that will include demolition and rearranging facilities. These are essential to delivering the final project, as in the case of Module 1 and Pier 5, they are being built on the footprint of existing infrastructure.

6.5.2 Therefore, projects presented in this updated CIP2020+ review must be approved in their entirety from a commitment and cost allowance perspective. This assurance is vital to raise construction funding and to agree on favourable procurement terms with contractors. ***Table 6.3 to 6.5*** presents the CIP2020+ Review project delivery programme for the Core, Capacity, Commercial and Sustainability projects, noting some adjustment is likely as project design and planning timelines continues to be refined.



ID	CIP Ref	Status	Project Name	Construction Start	Construction Finish
	Asset Care (CSF)				
1	CIP2021001		Southern Runway Delethalisation	Q1-2023	Q3-2024
2	CIP2021002		Apron Rehabilitation Programme	Q4-2022	Q4-2025
3	CIP2021003		Airfield Taxiway Rehabilitation Programme	Q4-2022	Q4-2024
4	CIP2021004		Apron Road Rehabilitation Programme	Q4-2022	Q4-2026
5	CIP2021006		Airfield Southern Perimeter Road Upgrade	Q3-2022	Q3-2023
6	CIP2021008		Runway Approach Lighting Mast Improvement Programme	Q4-2023	Q4-2025
7	CIP2021009		Aerodrome Ground Lighting (AGL) Improvement Programme	Q3-2022	Q4-2024
8	CIP2021010		Airfield Lighting Control & Management System Improvement	Q3-2022	Q3-2023
9	CIP2021012	C	AGL Substation T Development Programme	Q1-2020	Q3-2021
10	CIP2021015		High Mast Lighting Improvement	Q3-2022	Q3-2023
11	CIP2021016		Airfield Maintenance Base Improvement Programme	Q4-2023	Q4-2025
12	CIP2021018		Campus Buildings Critical Maintenance	Q1-2022	Q1-2026
13	CIP2021020		Terminal1 Façade, Roofs & Splash	Q4-2022	Q4-2024
14	CIP2021022		Terminal1 Storm Water Drainage System	Q2-2022	Q2-2023
15	CIP2021023		Piers & Terminals Critical Maintenance	Q2-2022	Q4-2025
16	CIP2021024		Skybridge Rehabilitation	Q3-2022	Q3-2023
17	CIP2021034		Campus Roads Critical Maintenance	Q2-2022	Q2-2025
18	CIP2021039		Airport Roads Critical Maintenance	Q2-2022	Q2-2025
19	CIP2021046		Staff Car Parks Critical Maintenance	Q2-2022	Q4-2025
20	CIP2021049		Public Carpark Critical Maintenance	Q3-2026	Q4-2026
21	CIP2021056	C	Campus Facilities & Landside Snow Base Upgrade	Q3-2020	Q3-2021
22	CIP2021065		Airport Heavy Fleet & Equipment Replacement	Q1-2022	Q4-2024
23	CIP2021069		Airport Light Vehicle Fleet Replacements and Augmentation	Q1-2022	Q4-2024
24	CIP2021071		Electric Charger Network Facilities	Q2-2023	Q4-2025
25	CIP2021074		Advance Visual Docking Guidance System	Q4-2022	Q2-2024
26	CIP2021087		AGL Fibre Optic Communication Network Improvement	Q3-2022	Q2-2024
27	CIP2021099	C	RWY 16/34 Lighting for Low Visibility Procedures (LVP)	Q4-2021	Q4-2022
28	CIP2017013		Airfield Redesignation	Q2-2023	Q2-2024
29	CIP2017032		Unit Load Device (ULD) Storage	Q3-2023	Q3-2026
	AssetCare - Mechanical & Electrical (M&E)				
30	CIP2022001		Medium Voltage (MV) Electrical Network	Q2-2022	Q3-2024
31	CIP2022002		Second Medium Voltage (MV) Connection Point	Q4-2020	Q3-2022
32	CIP2022004		Passenger Boarding Bridges (Maintenance & P3 Enhancement) & Fixed Electrical G	Q3-2022	Q4-2024
33	CIP2022005		Lift Upgrade Programme - Terminal and Multi-Storey	Q1-2022	Q4-2025
34	CIP2022006		Airport Water & Foul Sewer Upgrade	Q1-2024	Q4-2024
35	CIP2022007		Life Safety Systems (LSS) Upgrade Terminal and MSCP Buildings	Q1-2024	Q4-2027
36	CIP2022008		Terminal Buildings HVAC Upgrade	Q1-2024	Q4-2027
37	CIP2022009		Campus Buildings Mechanical, Electrical & LSS Upgrade	Q1-2022	Q4-2026
38	CIP2022010		Pier 3 Life Extension Works - Mech, Elec and Foul Drainage	Q4-2022	Q2-2024
39	CIP2022013		Small Energy Projects	Q3-2022	Q4-2025
40	CIP2017030		Large Energy Project - Photovoltaic Farm (Phase 1)	Q4-2022	Q3-2023
41	CIP2017035		Airport Medium Voltage (MV) Resilience Substation	Q1-2024	Q1-2027
42	CIP2017036		Upgrade to Hold Baggage Sortation Equipment	Q2-2024	Q4-2026

Table 6.3 – CIP2020+ Review Project Programmes – Asset Management

ID	CIP Ref	Status	Project Name	Construction Start	Construction Finish
	Information Technology				
89	CIP 20 05 001		Airfield Optimisation	Q2-2022	Q4-2026
90	CIP 20 05 002		Digital Passenger Experience	Q2-2022	Q4-2026
91	CIP 20 05 003		Integrations and Data	Q2-2022	Q4-2026
92	CIP 20 05 004		Baggage Systems	Q2-2022	Q4-2026
93	CIP 20 05 005		Business Efficiency	Q2-2022	Q4-2026
94	CIP 20 05 006		Commercial Systems	Q2-2022	Q4-2026
95	CIP 20 05 007		Reliability, Safety, Security & Compliance	Q2-2022	Q4-2026
96	CIP 20 05 008		Operational Devices (Support & Maintenance)	Q1-2022	Q4-2026
97	CIP 20 05 009		Network Components – Lifecycle & Growth	Q1-2022	Q4-2026
98	CIP 20 05 010		Passenger Processing (excl. Security Screening)	Q1-2022	Q4-2026
99	CIP 20 05 011		Security Technology Innovation (Biometrics & POD Detection)	Q1-2022	Q4-2026
100	CIP 20 05 012		Servers and Storage – Lifecycle & Growth	Q1-2022	Q4-2026
101	CIP 20 05 014		User Devices (Desktops, Mobile, Telephone, Radio)	Q1-2022	Q4-2026
102	CIP 20 05 015		New Data Centre Hosting Location	Q1-2022	Q4-2026
103	CIP 20 05 016		Microsoft Enterprise	Q1-2022	Q4-2026
104	CIP 20 05 020		Innovation Fund	Q1-2022	Q4-2026
	Security				
105	CIP 20 06 001		Cabin-Baggage X-Ray Replacements: EDS Upgrade	Q3-2023	Q2-2027
106	CIP 20 06 007		Full Body Scanners	Q1-2024	Q4-2026
107	CIP 20 06 009		ATRS – Additional Lane in Terminal 1	Q2-2026	Q1-2027
108	CIP 20 06 014		Screening and Logistics Centre	Q2-2022	Q4-2025
109	CIP 20 06 015		Intrusion Detection Systems for Dublin Airport Boundaries	Q4-2023	Q4-2025
110	CIP 20 06 016		Surface Road Blockers & Temporary Mobile Barriers	Q1-2025	Q4-2025
111	CIP 20 06 022		Redevelopment of Training Facility (ASTO)	Q1-2025	Q4-2025
112	CIP 20 06 025	C	Detection: Explosive Detection Dogs (EDD) and Mobile X Ray Unit	Q2-2021	Q1-2022
113	CIP 20 06 030		VCP Automation to Enable Remote Screening	Q1-2025	Q4-2026
114	CIP 20 06 031		Autopass – T1 Replacements & T2 Install	Q1-2022	Q4-2024
115	CIP 20 06 036		TSA – X-Ray & PBSS Replacement	Q2-2022	Q2-2023
116	CIP 20 06 041		Security Screening Equipment – End of Life	Q2-2022	Q4-2026
117	CIP 20 06 042		ATRS – Central Search Areas (T1 and T2)	Q2-2024	Q4-2026
118	CIP 20 06 044		Replacement of T1 Controllers for Access Control System	Q1-2021	Q2-2027
119	CIP 20 06 045		Security Scanners	Q1-2024	Q4-2026
119	CIP 20 06 046		Terminal Kerb Security Mitigation	Q3-2023	Q4-2025
	Other				
128	CIP 20 07 001		Programme Management	Q1-2022	Q4-2026
129	CIP 20 07 002		Minor Projects	Q1-2022	Q4-2026
130	CIP 20 07 014		Terminal Operations Improvement Projects	Q1-2022	Q4-2026
123	CIP 20 07 033	C	T1 HBS – 6 Bay & Area – 14	Q1-2020	Q2-2022
124	CIP 20 07 034	C	T2 HBS	Q1-2020	Q3-2021

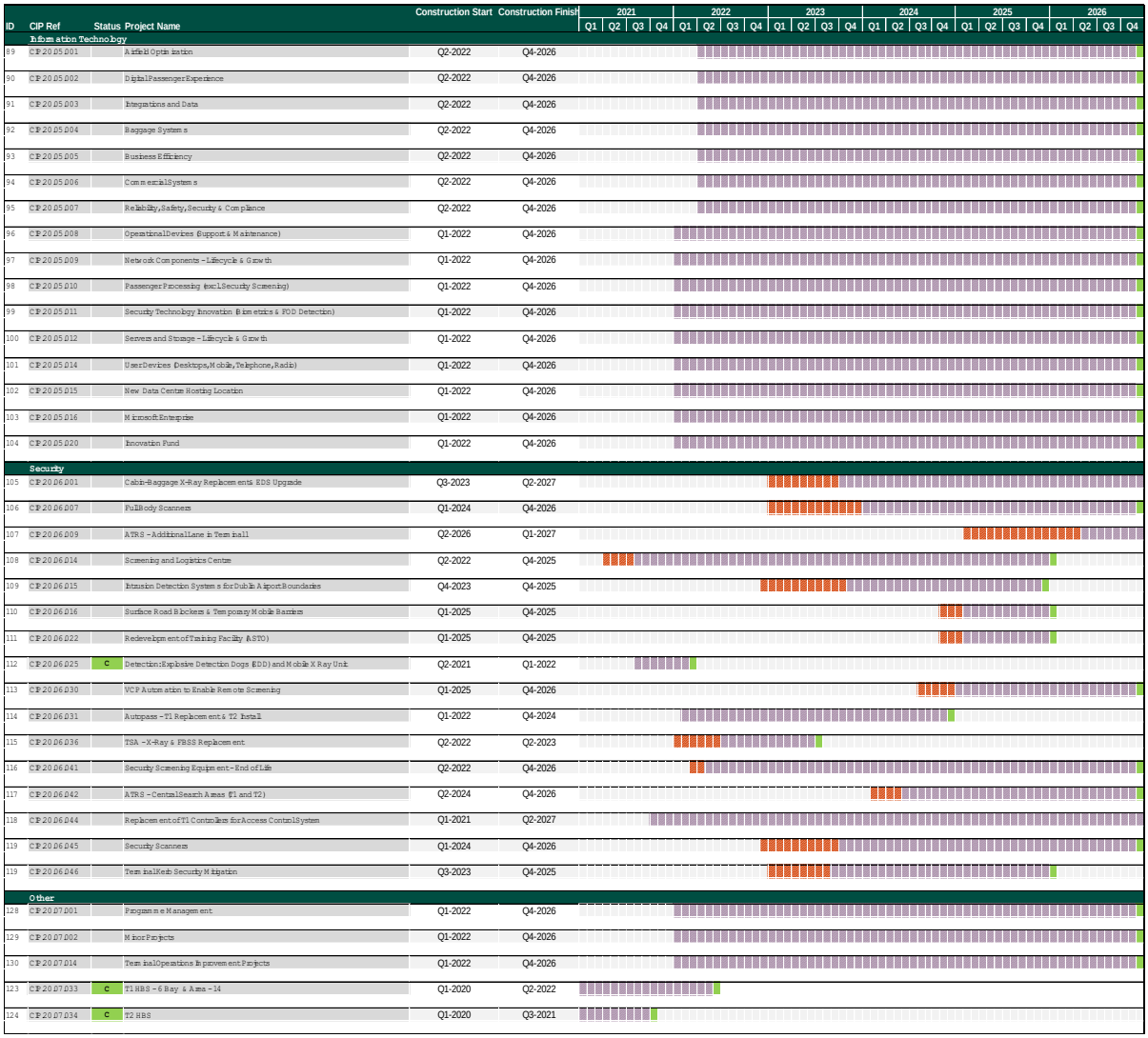
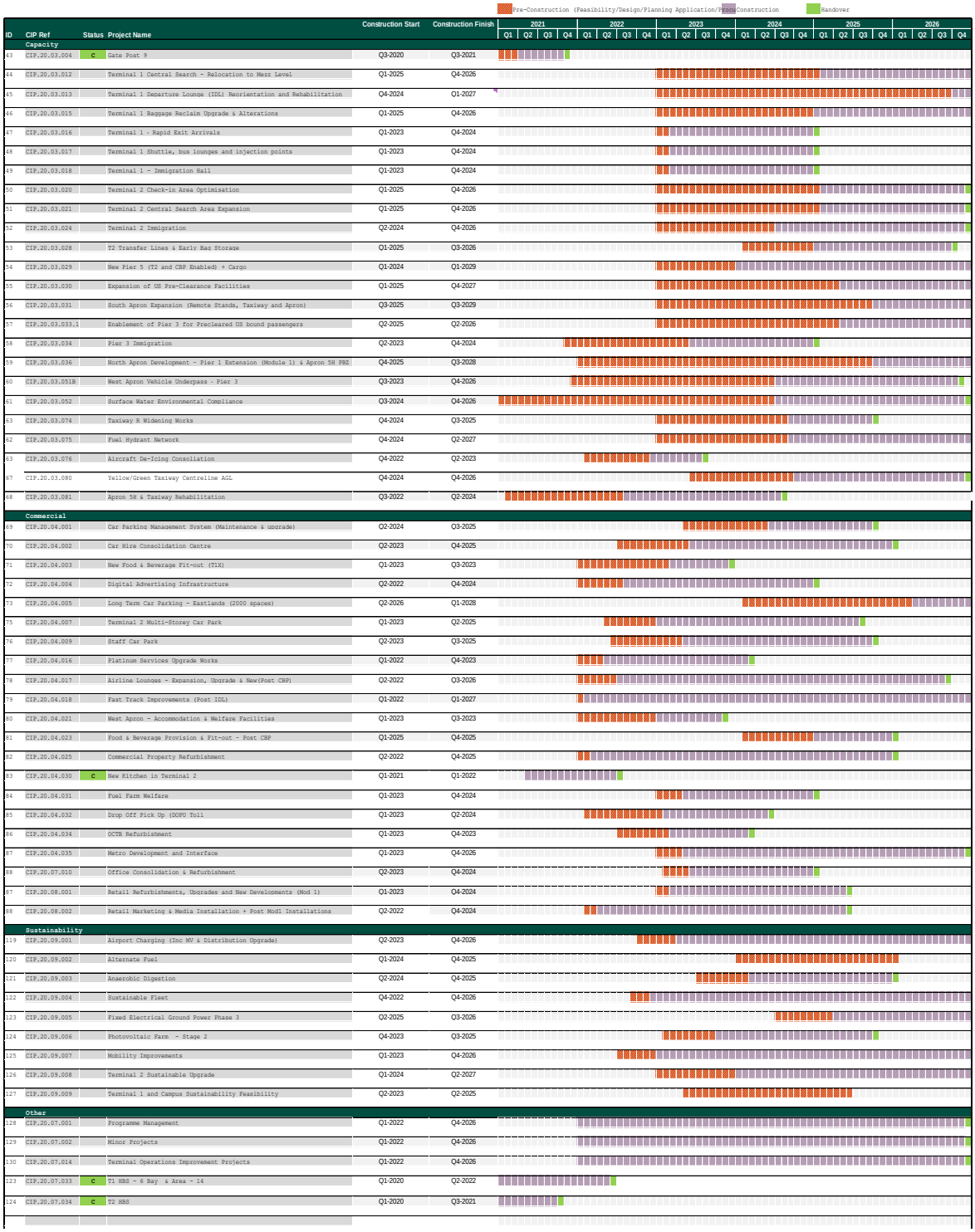


Table 6.4 – CIP2020+ Review Project Programmes – IT, Security and Other



ID	CIP Ref	Status	Project Name	Construction Start	Construction Finish
	Capacity				
43	CIP.20.03.004	C	Gate Post 9	Q3-2020	Q3-2021
44	CIP.20.03.012		Terminal 1 Central Search - Relocation to Mezz Level	Q1-2025	Q4-2026
45	CIP.20.03.013		Terminal 1 Departure Lounge (IDL) Reorientation and Rehabilitation	Q4-2024	Q1-2027
46	CIP.20.03.015		Terminal 1 Baggage Reclaim Upgrade & Alterations	Q1-2025	Q4-2026
47	CIP.20.03.016		Terminal 1 - Rapid Exit Arrivals	Q1-2023	Q4-2024
48	CIP.20.03.017		Terminal 1 Shuttle, bus lounges and injection points	Q1-2023	Q4-2024
49	CIP.20.03.018		Terminal 1 - Immigration Hall	Q1-2023	Q4-2024
50	CIP.20.03.020		Terminal 2 Check-in Area Optimisation	Q1-2025	Q4-2026
51	CIP.20.03.021		Terminal 2 Central Search Area Expansion	Q1-2025	Q4-2026
52	CIP.20.03.024		Terminal 2 Immigration	Q2-2024	Q4-2026
53	CIP.20.03.028		T2 Transfer Lines & Early Bag Storage	Q1-2025	Q3-2026
54	CIP.20.03.029		New Pier 5 (T2 and CBP Enabled) + Cargo	Q1-2024	Q1-2029
55	CIP.20.03.030		Expansion of US Pre-Clearance Facilities	Q1-2025	Q4-2027
56	CIP.20.03.031		South Apron Expansion (Remote Stands, Taxiway and Apron)	Q3-2025	Q3-2029
57	CIP.20.03.033.1		Enablement of Pier 3 for Precleared US bound passengers	Q2-2025	Q2-2026
58	CIP.20.03.034		Pier 3 Immigration	Q2-2023	Q4-2024
59	CIP.20.03.036		North Apron Development - Pier 1 Extension (Module 1) & Apron 5H PBZ	Q4-2025	Q3-2028
60	CIP.20.03.051B		West Apron Vehicle Underpass - Pier 3	Q3-2023	Q4-2026
61	CIP.20.03.052		Surface Water Environmental Compliance	Q3-2024	Q4-2026
63	CIP.20.03.074		Taxiway R Widening Works	Q4-2024	Q3-2025
62	CIP.20.03.075		Fuel Hydrant Network	Q4-2024	Q2-2027
63	CIP.20.03.076		Aircraft De-Icing Consolidation	Q4-2022	Q2-2023
67	CIP.20.03.080		Yellow/Green Taxiway Centreline AGL	Q4-2024	Q4-2026
68	CIP.20.03.081		Apron 5H & Taxiway Rehabilitation	Q3-2022	Q2-2024
	Commercial				
69	CIP.20.04.001		Car Parking Management System (Maintenance & upgrade)	Q2-2024	Q3-2025
70	CIP.20.04.002		Car Hire Consolidation Centre	Q2-2023	Q4-2025
71	CIP.20.04.003		New Food & Beverage Fit-out (T1X)	Q1-2023	Q3-2023
72	CIP.20.04.004		Digital Advertising Infrastructure	Q2-2022	Q4-2024
73	CIP.20.04.005		Long Term Car Parking - Eastlands (2000 spaces)	Q2-2026	Q1-2028
75	CIP.20.04.007		Terminal 2 Multi-Storey Car Park	Q1-2023	Q2-2025
76	CIP.20.04.009		Staff Car Park	Q2-2023	Q3-2025
77	CIP.20.04.016		Platinum Services Upgrade Works	Q1-2022	Q4-2023
78	CIP.20.04.017		Airline Lounges - Expansion, Upgrade & New(Post CBP)	Q2-2022	Q3-2026
79	CIP.20.04.018		Fast Track Improvements (Post IDL)	Q1-2022	Q1-2027
80	CIP.20.04.021		West Apron - Accommodation & Welfare Facilities	Q1-2023	Q3-2023
81	CIP.20.04.023		Food & Beverage Provision & Fit-out - Post CBP	Q1-2025	Q4-2025
82	CIP.20.04.025		Commercial Property Refurbishment	Q2-2022	Q4-2025
83	CIP.20.04.030	C	New Kitchen in Terminal 2	Q1-2021	Q1-2022
84	CIP.20.04.031		Fuel Farm Welfare	Q1-2023	Q4-2024
85	CIP.20.04.032		Drop Off Pick Up (DOPU Toll	Q1-2023	Q2-2024
86	CIP.20.04.034		OCTB Refurbishment	Q1-2023	Q4-2023
87	CIP.20.04.035		Metro Development and Interface	Q1-2023	Q4-2026
88	CIP.20.07.010		Office Consolidation & Refurbishment	Q2-2023	Q4-2024
87	CIP.20.08.001		Retail Refurbishments, Upgrades and New Developments (Mod 1)	Q1-2023	Q4-2024
88	CIP.20.08.002		Retail Marketing & Media Installation + Post Mod1 Installations	Q2-2022	Q4-2024
	Sustainability				
119	CIP.20.09.001		Airport Charging (Inc MV & Distribution Upgrade)	Q2-2023	Q4-2026
120	CIP.20.09.002		Alternate Fuel	Q1-2024	Q4-2025
121	CIP.20.09.003		Anaerobic Digestion	Q2-2024	Q4-2025
122	CIP.20.09.004		Sustainable Fleet	Q4-2022	Q4-2026
123	CIP.20.09.005		Fixed Electrical Ground Power Phase 3	Q2-2025	Q3-2026
124	CIP.20.09.006		Photovoltaic Farm - Stage 2	Q4-2023	Q3-2025
125	CIP.20.09.007		Mobility Improvements	Q1-2023	Q4-2026
126	CIP.20.09.008		Terminal 2 Sustainable Upgrade	Q1-2024	Q2-2027
127	CIP.20.09.009		Terminal 1 and Campus Sustainability Feasibility	Q2-2023	Q2-2025
	Other				
128	CIP.20.07.001		Programme Management	Q1-2022	Q4-2026
129	CIP.20.07.002		Minor Projects	Q1-2022	Q4-2026
130	CIP.20.07.014		Terminal Operations Improvement Projects	Q1-2022	Q4-2026
123	CIP.20.07.033	C	T1 HBS - 6 Bay & Area - 14	Q1-2020	Q2-2022
124	CIP.20.07.034	C	T2 HBS	Q1-2020	Q3-2021

Table 6.5 – CIP2020+ Review Project Programmes – Capacity, Commercial and Sustainability

6.6 Project Grouping

6.6.1 As the projects have been progressed through feasibility and design since 2019, it has become apparent that some projects complement others and are directly related from an operational perspective. Therefore, we propose grouping where relevant individual projects by area and goal. Each project within the group will still retain its individual cost allowance, asset life and regulatory treatment, for example, Flexible, Deliverable or StageGate. Project groups include:

- Terminal 1 Passenger Journey.
- Terminal 2 Passenger Journey.
- South Apron Hub.
- Carparks.
- Food and Beverage.

6.6.2 Where projects are to be assessed through the StageGate mechanisms, we ask for the flexibility to submit them for CAR/IFS review either in part (phased), individually or as part of a larger group, depending on project complexity and delivery strategy.

6.6.3 Terminal 1 Passenger Journey

The Terminal 1 Passenger Journey grouping deals with the relocation of central security to the mezzanine, expansion of the international departure lounge, immigration and baggage reclaim. These projects taken together will enhance the experience and passenger throughput capacity of Terminal 1.

6.6.4 Terminal 2 Passenger Journey

The Terminal 2 Passenger Journey consists of check-in area and central search expansion; both optimisation projects delivering 40 mppa capacity.

6.6.5 South Apron Hub

South Apron Hub grouping delivers apron expansion, Pier 5 and an enhanced CBP product. These buildings are being built on existing infrastructure that must be demolished, and current tenants relocated. Project delivery of this grouping will extend into the next CIP period; it is, however, essential that the whole project is approved in principle in this period allowing Dublin Airport to develop the project in the knowledge that the investment is not at risk.

6.6.6 North Apron Development

The North Apron Development is the next most significant project grouping with the ultimate goal of delivering Module 1, and associated aircraft contact stands. This project requires the demolition of three hangars, and extension of the North Apron to the east to facilitate development of a replacement hangar, by others. The timeline to deliver the overall project extends beyond 2026 into the next CIP period. We are proposing the same treatment as the South Apron Hub with approval in principle of the project in this period and the overall cost included for agreement.

6.6.7 Car Parks

Dublin Airport proposes to deliver the majority of the original CIP2020+ Commercial Car Park projects. Given their inter-dependencies and similarities, we have amalgamated the projects to proceed in this CIP cycle into a single “Car Parks” project group.

6.6.8 Food and Beverage

Dublin Airport proposes to deliver all of the original CIP2020+ food and beverage projects. Given their inter-dependencies and similarities, we have amalgamated the projects to proceed in this CIP cycle into a single “Food and Beverage” project group.

6.7 Optioneering

6.7.1 In the design development of all the projects contained in this submission, different levels of optioneering were explored. The more complex and restrained the project in terms of operations, site development, and scale, the more options were put forward. The projects with the greatest deal of this are the large capacity projects that, while undertaking detailed design, tried many different configurations and delivery strategies to deliver the best product possible, minimise the impact during construction, and reduce costs where possible.

6.7.2 Many different alternative concepts were put forward during the 2019 consultation for these projects, and the overall concept design was agreed at that stage, i.e. Pier 5 location, Module 1 location, underpass to the western apron. We will not be re-examining these overall concept designs as they were already agreed on and approved in 2019, and this is a review of that determination.

6.8 Project Treatment

6.8.1 There are changes proposed to the regulatory treatment for a number of projects in this CIP review. This is predominately in the commercial projects which are proposed to be all treated as flexible projects. As the airport returns to pre-pandemic levels of usage and growth the requirements of the commercial offering at the airport may change to reflect the nature of this rebound. The post-pandemic traffic may be similar to pre-pandemic or this may have changed and the airport needs to have flexibility to react to these changes. This is evidenced by the current situation with traffic rebounding faster than predicted and our carparking and food and beverage offering under significant pressure and impacting the experience our passengers have at the airport. These are just the current issues, over the remaining years of this CIP other challenges will be encountered and will require flexibility of funding to remedy them in a timely fashion.

6.8.2 It is proposed that all of the larger and more complex capacity projects are treated as StageGate projects. The capacity projects generally fit into five thematic groupings of the Terminal 1 Passenger Journey, Terminal 2 Passenger Journey, North Apron Development, South Apron Hub and the West Apron Underpass. The first four thematic areas consist of a collection of projects that deliver the proposed goal of these projects to increase capacity through terminals and on the piers and aprons to 40mppa. How all these projects interact in the delivery of these four thematic areas is complex and will require StageGate consultation to determine the efficient cost to deliver these projects taking into account relocations, continuation of operations and sequencing of works.

6.8.3 The additional sustainability projects being proposed for the airport to comply with Irish and European environmental legislation are for the most part being proposed as StageGate projects. The projects are only in their initial feasibility stages and as such there is a great deal of uncertainty on the scope and costs of these projects. These projects are also large and complex projects and fit within the stated purpose of the StageGate process in this way.

6.8.4 Following stakeholder consultation, we have refined our proposed Core treatment for the additional years included in this CIP period out to 2026. We have proposed a pro-rata treatment for “typical” routine works augmented by four new “exceptional” larger projects, three of which we propose to treat through StageGate, given the short time available for us to define, cost and consult on these additions.

6.8.5 As it can be observed in this submission, the utilisation of StageGate will be key to the delivery of capacity and sustainability projects. It is then proposed that some changes to StageGate are made to allow it to be used in a more effective and less cumbersome manner. StageGate will be on the critical

path for a number of projects, and the more streamlined the process is, the lesser the effect it will have on project timelines.

6.8.6 **Maximising Opportunity** - Currently each 'StageGate' Project is provided an individual allowance. Dublin Airport propose that the StageGate allowance be considered collectively. Considering them collectively would allow for greater degree of flexibility. It would also:

- Allow project components to be brought forward individually or collectively for review as part of stage gate, maximising efficiency of spend and delivery.
- Maximise efficiency by allowing the introduction of new project elements where that was deemed appropriate, or removal of elements where they were deemed no longer relevant.
- Maximise the efficient use of contingency across projects. Avoid value reducing descoping within projects to remain within project budget.
- Provide greater flexibility to manage the uncertainty associated with new projects where there has been limited time to develop project scopes, with the resultant high degree of cost uncertainty. In particular it would allow time for the further consideration of the requirements to achieve the recently updated Governmental Sustainability Carbon Budgets.

6.8.7 **Early Consultation** - Dublin Airport believe that Stagegate is now adequately matured, such that further and earlier engagement with the airport users would assist in ensuring that opportunities and risks are consulted on early.

6.8.8 Dublin Airport operate an internal Governance process which monitors and approves projects from inception through to hand over. We would propose two additional interim Stagegate phases be introduced to the process outside the main cycle, which align to the Dublin Airport process. The additional stages proposed are:

- Post completion of the feasibility stage, ensuring that all options and have been examined and a preferred option identified, prior to commencement of detailed design.
- Post detailed design to reconfirm the preferred option, and changes which may have arisen as part of the detailed design stage

6.8.9 The level of detail and cost certainty presented at each stage would be commensurate with the project maturity at that stage.

6.8.10 Dublin Airport's experience to date on complex StageGate 1 assessments is that a significant amount of time during the assessment process is consumed by the tracing through of the original CIP submitted scope to StageGate 1 presented scope. The project has been developed from an outline scope in the CIP submission to a detailed level 3 bottom-up costing of scope to construct the project. These projects can significantly change scope since the initial outline scope and how it relates to the original might not be clear. The project, as presented in StageGate 1 is driven by detailed design, consultation with stakeholders and operational assessments for delivery. These can move the project significantly from the original submission. It would be Dublin Airport's view that, in this case, it would be best for the IFS to just assess the project as presented. An assessment of the efficient use of capital for the delivery of the project presented in StageGate 1 without tracing from the original scope. This would reduce the assessment period and still deliver the core function of StageGate to assess efficient capital expenditure of complex, high-value projects.

6.8.11 In conjunction with the previous proposition, Dublin Airport would like to conduct StageGate on a quarterly basis going forward. This will allow the airlines to be kept up to date with any changes in scope on other StageGate projects in a timely manner as detailed design is being developed. As we move away from the pandemic and get back to normality, the frequency of projects being developed through StageGate will increase. The use of a regular cycle will enable this process to run smoothly.

6.8.12 In the StageGate projects to date it has been apparent that different StageGate projects have different assessment durations depending on the design and funding complexity of the project. It is hard to have a defined timeline for assessing all StageGate projects. To that end, Dublin Airport would propose to agree with the IFS / CAR on a timeline for completing an assessment at the outset of each project assessment. This will create realistic targets to complete the project assessment and allow Dublin Airport and the IFS to plan resources for these activities.

6.9 Superseded Projects

6.9.1 A comprehensive review of the original CIP2020+ projects was undertaken internally by Dublin Airport. This review considered the current situation due to Covid-19, the projected passenger recovery, elongation of project delivery timelines and the long-term needs of the airport. Traffic will recover, the horizon for 40 mppa has been pushed out to the end of the decade, and once the Northern Runway opens, we become a stand constrained airport. Sustainability/carbon reduction obligations are now key to the long-term operation of the airport and will be a key component in our licence to exist and grow. These drivers have led to the supersedence of three projects and the deferment of seven projects to the next CIP period beyond 2026.

6.9.2 ***Table 6.6*** presents three projects we propose to supersede with new projects. In developing the detailed design for Module 1, it was found to be prudent to incorporate airbridges to maximise pier utilisation and increase gate allocation flexibility, noting that the project already incorporated elevated fixed links to remove the danger of passengers crossing the head of stand road. Adding airbridges to Module 1 has allowed us to supersede the original CIP2020+ project "Terminal 1 Pier New Airbridges", mitigating complex, costly and disruptive retrofitting of airbridges to either Pier 1 or Pier 2 with the latter now deemed unfeasible following project review and considering the asset life of Pier 2.

6.9.3 In the 2019 determination, there was a minor project for GSE airside charging infrastructure called "Airside GSE Charging Facilities"; we now propose to supersede this project. The CIP2020+ review will replace it with a larger and more ambitious sustainability project focusing on campus-wide vehicle charging.

6.9.4 We also propose to supersede the original CIP2020+ "Hydrant Enablement - Pier 2 and 3" project given changes in our apron fuelling rollout strategy and replace it with a new "Fuel Hydrant Network" project that will cover the development of hydrants to Pier 3, the eastern end of Pier 1 and a fuel spur to the West Apron. Hydrant enablement of Pier 2 will be re-assessed in the next CIP period, along with the wider strategy for the re-development of the pier.

Code	Name	Asset Life	Treatment	Allowance
CIP.20.03.043.1	Terminal 1 Pier New Airbridges	20 Years	StageGate	€23.3m
CIP.20.03.057	Airside GSE Charging Facilities	10 Years	Flexible	€4.9m
CIP.20.03.071	Hydrant Enablement – Pier 2 & 3	20 Years	Flexible	€23.7m
			Total	€51.9m

Table 6.6 – CIP2020+ Review Superseded Projects

6.10 Deferred Projects

6.10.1 ***Table 6.7*** presents six capacity and commercial projects we propose to defer to the next CIP period beyond 2026. These projects are spread amongst Terminals 1 and the airfield. Terminal 1 will have the kerbs relocation, check-in, and rapid exit arrivals deferred. These projects are being deferred due to a new kerb management strategy, the reactivation of Area 14, and due to challenges with customs arrangements, respectively.

6.10.2 On the airfield, we propose the deferral of remote Western Apron 5M, and the de-icing pad at Runway 10R. Apron 5M is being deferred due to the long-term timelines to deliver this project and its reliance on the vehicle underpass, which will not be enabled until the end of this CIP period. We, therefore, propose to progress and fund Apron 5M in the next CIP period beyond 2026.

6.10.3 We propose to defer the de-icing pad until a more holistic de-icing strategy is prepared. In the near term, we propose concentrating on fluid standardisation, consolidated fluid storage, and developing an airport-wide de-icing policy in conjunction with our airline and handler partners.

6.10.4 Finally, the commercial project Terminal 1 Multi-Storey Carpark Block B has been deferred to the next CIP period beyond 2026, given its possible dependencies on the Metro Station and terminal connection strategy, which has not yet been finalised.

Code	Name	Asset Life	Treatment	Allowance
CIP.20.03.006	Terminal 1 Kerbs	15 Years	Flexible	€13.6m
CIP.20.03.011.1	Terminal 1 Check-in	10 Years	StageGate	€26.0m
CIP.20.03.016	Terminal 1 Rapid Exit Arrivals	10 Years	Flexible	€1.9m
CIP.20.03.049	De-icing Pad at Runway 10R	20 Years	Flexible	€5.0m
CIP.20.03.054	New Remote Apron 5M	32 Years	StageGate	€82.5m
CIP.20.04.006	Terminal 1 Multi-Storey Car Park Block B (466 spaces)	25 Years	Flexible	€17.4m
			Total	**€146.4m**

Table 6.7 – CIP2020+ Review Deferred Projects

6.11 Core Projects

6.11.1 For this review, Core projects consist of Asset Management Civil, Structural, Fleet, Mechanical and Electrical, IT, Security and Other projects. Following feedback from stakeholders, these projects have been further split into two type groups, namely "Typical" or "Exceptional". **Tables 6.8 to 6.12** present the original Core projects that are not yet complete with updated type, regulatory treatment, asset life, and indicated cost. Noting that three projects have been marked as being complete.

Code	Name	CIP2020+ Review			
		Type	Asset Life	Treatment	Cost
Asset Mechanical and Electrical Projects					
CIP.20.02.001	Medium Voltage (MV) Electrical Network	Except	20 Years	Flexible	€7.10m
CIP.20.02.002	Second Medium Voltage (MV) Connection Point	Except	5 Years	StageGate	€1.22m
CIP.20.02.004	Passenger Boarding Bridges (Maintenance & P3 Enhancement) & Fixed Electrical Ground Power	Except	15 Years	Flexible	€19.24m
CIP.20.02.005	Lift Upgrade Programme - Terminal and Multi-Storey	Except	20 Years	Flexible	€7.18m
CIP.20.02.006	Airport Water & Foul Sewer Upgrade	Typical	25 Years	Flexible	€5.59m
CIP.20.02.007	Life Safety Systems (LSS) Upgrade Programme Terminal and MSCP Buildings	Typical	10 Years	Flexible	€12.24m
CIP.20.02.008	Terminal Buildings HVAC Upgrade	Except	20 Years	Flexible	€21.68m
CIP.20.02.009	Campus Buildings: Mechanical, Electrical & LSS Upgrade	Typical	15 Years	Flexible	€11.11m
CIP.20.02.010	Pier 3 Life Extension Works - Mech, Elec and Foul Drainage	Except	15 Years	Flexible	€15.99m
CIP.20.02.013	Small Energy Projects	Except	15 Years	Flexible	€6.25m
CIP.20.07.030	Large Energy Project - Photovoltaic Solar Farm	Except	15 Years	Flexible	€9.46m
				Total	**€117.06m**

Table 6.8 – CIP2020+ Review Core Asset Mechanical and Electrical Projects

Code	Name	CIP2020+ Review			
		Type	Asset Life	Treatment	Cost
Asset Civil, Structural and Fleet Projects					
CIP.20.01.001	Southern Runway (R10R/28L) Delethalisation Programme	Except	20 Years	Flexible	€2.47m
CIP.20.01.002	Apron Rehabilitation Programme	Typical	20 Years	StageGate	€48.22m
CIP.20.01.003	Airfield Taxiway Rehabilitation Programme	Typical	20 Years	StageGate	€19.33m
CIP.20.01.004	Apron Road Rehabilitation Programme	Typical	20 Years	Flexible	€5.39m
CIP.20.01.006	Airfield Southern Perimeter Road Upgrade Programme	Typical	15 Years	Flexible	€4.83m
CIP.20.01.008	Runway Approach Lighting Mast Improvement Programme	Except	20 Years	Flexible	€13.32m
CIP.20.01.009	Aerodrome Ground Lighting (AGL) Improvement Programme	Except	15 Years	Flexible	€5.23m
CIP.20.01.010	Airfield Lighting Control & Management System Improvement Programme	Except	10 Years	Flexible	€5.23m
CIP.20.01.012	AGL Substation T	Except	30 Years	Complete	€4.30m
CIP.20.01.015	High Mast Lighting Improvement	Except	15 Years	Flexible	€0.91m
CIP.20.01.016	Airfield Maintenance Base Improvement Programme	Except	20 Years	Flexible	€5.24m
CIP.20.01.018	Campus Buildings Critical Maintenance	Typical	15 Years	Flexible	€1.82m
CIP.20.01.020	Terminal 1 Façade, Roof & Spirals	Except	20 Years	Flexible	€27.94m
CIP.20.01.022	Terminal 1 Storm Water Drainage System	Except	15 Years	Flexible	€1.22m
CIP.20.01.023	Piers & Terminals Critical Maintenance	Typical	15 Years	Flexible	€1.87m
CIP.20.01.024	Skybridge Rehabilitation	Except	20 Years	Flexible	€1.33m
CIP.20.01.034	Campus Roads Critical Maintenance	Except	15 Years	Flexible	€7.10m
CIP.20.01.039	Airport Roads Critical Maintenance	Except	15 Years	Flexible	€5.87m
CIP.20.01.046	Staff Car Parks Critical Maintenance	Typical	15 Years	Flexible	€1.18m
CIP.20.01.049	Public Carpark Critical Maintenance	Typical	15 Years	Flexible	€2.86m
CIP.20.01.056	Campus Facilities & Landside Snow Base Upgrade	Except	20 Years	Complete	€2.83m
CIP.20.01.065	Airport Heavy Fleet and Equipment Replacement	Except	7 Years	Flexible	€14.00m
CIP.20.01.069	Airport Light Vehicle Fleet Replacements and Augmentation	Except	5 Years	Flexible	€3.05m
CIP.20.01.071	Electric Charger Network Facilities	Except	10 Years	Flexible	€1.95m
CIP.20.01.074	Advance Visual Docking Guidance System (5G, Pier 1 & Pier 2)	Except	10 Years	Flexible	€6.25m
CIP.20.01.087	AGL Fibre Optic Communication Network Improvement Programme	Except	20 Years	Flexible	€2.28m
CIP.20.01.099	RWY 16/34 Lighting for Low Visibility Procedures (LVP)	Except	10 Years	Flexible	€6.85m
CIP.20.07.013	Airfield Redesignation	Except	15 Years	Flexible	€1.69m
CIP.20.07.032	Unit Load Device (ULD) Storage	Except	15 Years	Flexible	€6.12m
CIP.20.07.031	HBS3 – T1	Except	15 Years	StageGate	€231.00m
CIP.20.07.033	HBS3 – T2	Except	15 Years	StageGate	
				Total	**€441.68m**

Table 6.9 – CIP2020+ Review Core Asset Civil, Structural and Fleet Projects

Code	Name	CIP2020+ Review			
		Type	Asset Life	Treatment	Cost
Security Projects					
CIP.20.06.001	Cabin-Baggage X-Ray Replacement and EDS Upgrade	Except	7 Years	Flexible	€20.28m
CIP.20.06.007	Full Body Scanners	Except	7 Years	Flexible	€2.32m
CIP.20.06.009	ATRS – Additional Lane in Terminal 1	Except	7 Years	Flexible	€0.67m
CIP.20.06.014	Screening and Logistics Centre	Except	15 Years	Deliverable	€14.91m
CIP.20.06.015	Intrusion Detection Systems for Dublin Airport Boundaries	Except	7 Years	Flexible	€4.66m
CIP.20.06.016	Surface Road Blockers and Temporary Mobile Barriers	Typical	7 Years	Flexible	€1.24m
CIP.20.06.022	Redevelopment of Training Facility (ASTO)	Except	15 Years	Flexible	€1.53m
CIP.20.06.025	Detection: Explosive Detection Dogs (EDD) and Mobile X Ray Unit	Except	6 Years	Completed	€0.20m
CIP.20.06.030	VCP Automation to Enable Remote Screening	Except	7 Years	Flexible	€0.92m
CIP.20.06.031	Auto pass - T1 Replacement and T2 Install	Except	7 Years	Flexible	€2.01m
CIP.20.06.036	TSA - X-Ray and FBSS Replacement	Typical	7 Years	Flexible	€0.42m
CIP.20.06.041	Security Screening Equipment - End of Life	Typical	7 Years	Flexible	€6.01m
CIP.20.06.042	ATRS - Central Search Areas (T1 and T2)	Except	7 Years	Flexible	€13.57m
CIP.20.06.044	Replacement of T1 Controllers for Access Control System	Typical	7 Years	Flexible	€0.63m
				Total	**€69.37m**

Table 6.10 – CIP2020+ Review Core Security Projects

Code	Name	CIP2020+ Review			
		Type	Asset Life	Treatment	Cost
Other Projects					
CIP.20.07.001	Programme Management	Typical	5 Years	Flexible	€8.16m
CIP.20.07.002	Minor Projects	Except	7 Years	Flexible	€14.92m
CIP.20.07.014	Terminal Operations Improvement Projects	Typical	5 Years	Flexible	€5.40m
				Total	**€28.48m**

Table 6.11 – CIP2020+ Review Core Other Projects

Code	Name	CIP2020+ Review			
		Type	Asset Life	Treatment	Cost
IT Projects					
CIP.20.05.001	Airfield Optimization	Except	5 Years	Flexible	€6.66m
CIP.20.05.002	Digital Passenger Experience	Typical	5 Years	Flexible	€2.08m
CIP.20.05.003	Integrations and Data	Typical	5 Years	Flexible	€6.01m
CIP.20.05.004	Baggage Systems	Typical	5 Years	Flexible	€1.55m
CIP.20.05.005	Business Efficiency	Typical	5 Years	Flexible	€7.38m
CIP.20.05.006	Commercial Systems	Typical	5 Years	Flexible	€2.74m
CIP.20.05.007	Reliability, Safety, Security & Compliance	Typical	5 Years	Flexible	€9.79m
CIP.20.05.008	Operational Devices (Support & Maintenance)	Typical	5 Years	Flexible	€2.08m
CIP.20.05.009	Network Components - Lifecycle & Growth	Typical	5 Years	Flexible	€8.09m
CIP.20.05.010	Passenger Processing (excl. Security Screening)	Except	5 Years	Flexible	€13.09m
CIP.20.05.011	Security Technology Innovation (Biometrics & FOD Detection)	Except	5 Years	Flexible	€5.95m
CIP.20.05.012	Servers and Storage - Lifecycle & Growth	Typical	5 Years	Flexible	€6.63m
CIP.20.05.014	User Devices (Desktops, Mobile, Telephone, Radio)	Except	5 Years	Flexible	€4.40m
CIP.20.05.015	New Data Centre Hosting Location	Typical	15 Years	Flexible	€4.76m
CIP.20.05.016	Microsoft Enterprise	Typical	3 Years	Flexible	€7.14m
CIP.20.05.020	Innovation Fund	Except	5 Years	Flexible	€4.76m
				Total	**€93.11m**

Table 6.12 – CIP2020+ Review Core IT Projects

6.11.2 Inflation and Programme Elongation

Since the onset of Covid-19, Dublin Airport has spent frugally on capital projects to ration capital budgets. During this period, the airport focused on delivering the Northern Runway and the upgraded baggage systems for Terminals 1 and 2, two of the most significant projects for the airport since Terminal 2. Stopping these projects would have challenged commercial and operational commitments and increased overall cost and timelines. Therefore, the brunt of the capital rationing fell to CIP2020+ projects and, in particular, Core projects. A small number of safety-critical projects have been progressed in 2020 and 2021, with a significant uptick in delivery planned for 2022.

6.11.3 We propose to deliver the remainder of the Core projects not delivered to date from 2022 to 2024 within the original CIP period. The budget for these projects will be adjusted for inflation and the elongated delivery timelines to reflect the actual cost of delivering these projects. The additional years

of 2025 and 2026 will require funding for Core projects that were not accounted for in the 2019 determination.

6.11.4 Projects will be required in these years to address ongoing asset ageing, maintenance programmes, IT, security, safety and regulatory requirements. We request a flexible pro-rata allowance to manage these additional "Typical" requirements up to the end of the extended CIP period to 2026, augmented by several more significant one-off or "Exceptional" projects supported by project sheets. Noting that this approach has been nuanced to take account of stakeholder feedback since the Consultation Report was issued.

6.11.5 **Typical Core Projects**

Typical Core projects are generally required to replace and upgrade essential equipment and services for the airport's day-to-day running. The projects address critical safety, regulatory or business continuity needs and are not optional. They would generally be at a low to medium cost level, often in groupings of smaller projects across different parts of the airport (e.g. airbridge critical maintenance, campus roads).

6.11.6 To accommodate the additional two years, we propose a pro-rata treatment of the inflationary adjusted "Typical" Core projects from **Tables 6.8 to 6.12** for each additional year. ***Table 6.13*** presents our proposed additional "Typical" Core project treatment.

A	Total "Typical" Core Projects + Inflation	€194.0m*
B	Average "Typical" Core Allowance per Year (=A/5)	€39.0m/PA
C	**Proposed "Typical" Core Additional Years Flexible Allowance (=Bx2)**	**€78.0m**

* From Tables 6.8 and 6.12, excluding completed projects.

Table 6.13– Proposed Core Programme Elongation Treatment

6.11.7 **Exceptional Core Projects**

"Exceptional" Core are generally sizeable one-off Asset Management and Security requirement projects. Following stakeholder feedback, we propose to define four new "Exceptional" projects required within the extended CIP period up to 2026. ***Table 6.14*** and the following project sheets present the additional "Exceptional" Core projects added to the CIP2020+ Review since the Consultation report was issued and Consultation events were held. Given the short time available to define, cost and consult on these additional projects, we propose to treat three of them through the StageGate process.

Code	Name	CIP2020+ Review		
		Asset Life	Treatment	Cost
CIP.20.07.035	MV Resilience Substation	15 Years	StageGate	€57.69m
CIP.20.07.036	Upgrade to Hold Baggage Sortation Equipment	15 Years	StageGate	€43.88m
CIP.20.06.045	Security Scanners	8 Years	Flexible	€28.03m
CIP.20.06.046	Terminal Kerb Security Mitigation	20 Years	StageGate	€12.48m
			Total	**€142.08**

Table 6.14 – CIP2020+ Review New Exceptional Core Projects

MV Resilience Substation

CIP.20.07.035 (New Project)

Project Summary

This project will progress the Feasibility Study and take to Stage Gate the requirement for a MV Resilience Substation "Cold Standby" at Dublin Airport. The proposed facility will provide under ESBN control the ability to maintain HV/MV supply maintaining Critical Airport Operations at Dublin airport in the event of a catastrophic HV or MV failure at the current Dardistown Substations.

Through discussions over many years with ESBN (ESB Networks), the Distribution System Operator (DSO), agreement in principle has been achieved regarding the provision of a new substation on the basis serving Dublin Airport that it is utilised as a standby, rather than a new point of connection. The CRU (Commission for Regulation of Utilities) has acknowledged that Dublin Airport is recognised as national strategic infrastructure. The CRU also notes the characterisation of the hot-standby connection as "critical infrastructure" necessary to ensure the safe uninterrupted operation of the airport.

Electricity is supplied to Dublin Airport via a dual 110kV (HV) supply from ESB Networks. The two supplies come from Finglas and Kilmore, over diverse underground routes. The two supplies enter the airport at the main airport 110kV/10kVsubstation known as Dardistown Substation. A dual supply at 110kV is generally considered secure and dependable but both incoming supplies connect to the Dublin Airport network at the same point in Dardistown, this represents a single point of failure. Although a single point of failure event is unlikely (e.g., catastrophic fire or explosion, aircraft incident or terrorist attack) the operational impact would be significant. The recovery time from a single point failure is likely to be greater than 1 month.

As Dublin Airport presently has a single High Voltage (HV) connection to the ESB distribution network at Dardistown 110 kV Substation. However, typically for airports it is common to utilise different combinations of HV supplies and connection points to the electricity network to aggregate the incoming HV supply to improve resilience.

This approach is consistent with that described in the ICAO Aerodrome Design Manual - Part 5 — Electrical Systems Second Edition, 2017 which states "For major airports, it is desirable to have at least two independent incoming power sources coming from widely separated sections of the electricity network beyond the aerodrome, with each supplying separate substations on the aerodrome.

Can existing generators maintain the operation?

While on-site standby generators would keep the airfield and some terminal operations functioning, several of the terminal services would not be operational, nor would campus infrastructure such as car parks and campus buildings. Overall, it would not be possible to continue with normal airport operations. Note: Existing standby generators are designed to keep the airport operational in the event of a short power interruption, this is typically not more than for a two-hour outage. ESBN advises a 24/36 Month duration for construction of a new HV/MV Facility such as Dardistown in the event of a catastrophic failure or Incident.

How many connection points do other Airport have?

In the UK and Europe, the provision of more than one connection point to critical industries is common to ensure business continuity assurance. In the case of airports, Heathrow, Gatwick, and Bournemouth airports have two electricity connection points.

Project Deliverables

This project will provide for feasibility / investigation into the need for a second 110kV substation under Energisation control by ESBN with a location to be a significant distance away from the existing Dublin Airport electricity connection point at Dardistown 110kV substation.

The project will also provide for the design, planning and construction of the new substation including associated controls, services, ducting, hardstanding, access, site protection and security.

Exhibit 6.15 – Dardistown Switchgear

Exhibit 6.16– Typical ESB GIS Substation

Business Case Justification

The project identified will provide a reliable HV/MV supply to Dublin airport following a 6-8 Hour Recovery Time to Dublin Airport in the event of a catastrophic failure. It will also provide resilience that will allow for co-ordinated critical maintenance and upgrade to the Dardistown Facility HV/MV Substation.

Project Detail Summary and Costs

<table>
<tr><th colspan="5">CIP.20.07.035 - MV Resilience Substation</th></tr>
<tr><td>Project Group</td><td colspan="4">Core - Asset Mechanical and Electrical Projects</td></tr>
<tr><td>Treatment</td><td colspan="4">StageGate</td></tr>
<tr><td>Asset Life</td><td colspan="4">15 Years</td></tr>
<tr><td>Project Output</td><td colspan="4">• Feasibility / investigation.
• Detailed design and planning.
• Construction of the new substation including associated controls, services, ducting, hardstanding, access, site protection and security.</td></tr>
<tr><td rowspan="4">Construction Programme

Level 1 Costs</td><td colspan="2">Start</td><td colspan="2">End</td></tr>
<tr><td colspan="2">Q1 2024</td><td colspan="2">Q1 2027</td></tr>
<tr><td>Construction</td><td>Design & Management</td><td>Escalation & Contingency</td><td>Total</td></tr>
<tr><td>63%</td><td>13%</td><td>25%</td><td>-</td></tr>
<tr><td>Total</td><td>€36,260,000</td><td>€7,250,000</td><td>€14,180,000</td><td>€57,690,000</td></tr>
<tr><td>Total</td><td colspan="4">€57,690,000</td></tr>
<tr><td>Cost Certainty</td><td colspan="4">Class 4</td></tr>
</table>

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Upgrade to Hold Baggage Sortation Equipment

CIP.20.07.036 (New Project)

Project Summary

This project will carry out critical End of Life Asset Replacement and Upgrade to Hold Baggage Sortation Equipment across Dublin Airports Terminal 1 & 2. These upgrades are to existing equipment not upgraded or replaced as part of the recent HBS Standard 3 Security Compliance Upgrades to Terminal 1 and 2.

The Hold Baggage Sortation System at Terminal 1 and 2 at Dublin Airport transport outbound hold baggage from the check in desks to the relevant dispatch chutes or carousels for collection by ground handling agents and loading to the aircraft. The inbound luggage is delivered from the ground handling agents via loading conveyors in the baggage sortation halls to arrival carousels in the baggage reclaim hall.

Project Deliverables

Works required as part of this project are the replacement, life extension or mid-life upgrades to the following components of the System:

T1 6 Bay Departure System Sorter Replacement - as the current sorter is in service over 22 years, despite overhauls the sorter is unreliable, the availability to spare parts is not reliable and the level of integration with other baggage system components is limited. The frequency and impact of failure have increased and has a direct impact on the capability of delivering baggage within the required “in system time” increasing the risk of CAR sanctions. A replacement sorter will provide reliability, additional integration with the baggage system and increased resilience which is not currently available and improve systems energy performance.

Replacement of End of Life T1 Arrivals Delivery Lines and Carousel 6 to 10 - Replacement of these assets is required as the assets are end of life, difficult to maintain due to availability of components, access to them is made more onerous by the new area 14 mezzanine, and they are currently at maximum system capacity.

Replacement of End of Life T1 Arrivals Carousel 2 – 5 - the current system is operated in a sub-optimum manner. They are not designed for direct loading and suffer increased maintenance and failures as a result. Replacing with a double stacked conveyor loading carousel fed by appropriate loading conveyors will increase resilience and capacity for baggage reclaim in a constrained environment.

End of Life T1 Area 14 Carousel 5 Replacement - to allow for full integration to HBS system, provide increased capacity affording resilience to the T1 Baggage Sortation System and providing enhanced energy performance. A newer friction drive will increase efficiency.

End of Life T1 Check In Outbound Delivery Conveyor Replacement - as the conveyors are end life, spare components are difficult to obtain and access to operate and maintain is difficult due to arrange of conveyors.

T2 Sorter Redundancy Line Upgrade - is required to provide resilience to accommodate cross terminal baggage delivery and mitigate against failure of the T2 TTS which is an identified Single Point of Failure.

Business Case Justification

The projects identified are key projects that are required to allow the Terminals HBS Systems to meet with current and future Regulatory Service of Quality measures by improving system performance and reliability, addressing system failures by introducing an acceptable level of resilience and also upgrading equipment that will require less maintenance in a physically constrained environment and ensuring that system capacity will meet short to medium term capacity projections.

Project Detail Summary and Costs

CIP.20.07.036 - Upgrade to Hold Baggage Sortation Equipment				
Project Group	Core - Asset Mechanical and Electrical Projects			
Treatment	StageGate			
Asset Life	15 Years			
Project Output	• T1 6 Bay Departure System Sorter Replacement. • Replacement of End of Life T1 Arrivals Delivery Lines and Carousel 6 to 10. • Replacement of End of T1 Arrivals Carousel 2 – 5. • End of Life T1 Area 14 Carousel 5 Replacement. • End of Life T1 Check In Outbound Delivery Conveyor Replacement. • T2 Sorter Redundancy Line Upgrade.			
Construction Programme	**Start**		**End**	
	Q2 2024		Q4 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	56%	11%	33%	-
	€24,580,000	€4,920,000	€14,380,000	€43,880,000
Total	**€43,880,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Security Scanners

CIP.20.06.045 (New Project)

Project Summary

Dublin Airport wishes to expedite the planned pilot of Security Scanners to fully deploy these systems throughout the Dublin Airport Campus to synchronise with the planned deployment of C3 cabin baggage screening. If approved, this proposal will increase the approved allocation by CAR in 2019 from 4 units to 42 (38 additional).

In 2019 the initial proposal of Dublin Airport concerning security scanners was to run a 2-year pilot of the new flat panel category of security scanners which was emerging on the market during that period. Given the impact and consequent delays caused by the Covid 19 pandemic, the pilot in Dublin Airport did not proceed; however, several Irish and European airports have been able to deploy the new Security scanners into live operational environments and have shared their experience and throughput with Dublin via direct contact and ACI working groups to the extent that Dublin Airport is confident to substitute the pilot for an entire deployment.

Dublin Airport Security is driving a concerted effort to improve our overall detection capability and the deployment of Security Scanners. The overall passenger experience would also be enhanced given reduced need for manual body searching.

Early deployment of the proposed new equipment pre-empts anticipated mandatory Irish Aviation Authority (IAA) requirements to be instructed in this CIP period

Exhibit 6.16 – Full Body Scanner Example

Project Deliverables

The project proposes to build of the original CIP2020+ project CIP.20.06.007 - Full Body Scanners to deploy a further 38 Security Scanner units across three projects. Ultimately the airport will have a total of 42 Security Scanner units made up of 4 from the original project and 38 from this new project made up of:

- **Terminal 1 Security Scanners** - Deploy a further 17 (19 total) Security Scanner systems in the CSA, Platinum, and staff entry checkpoint areas.
- **Terminal 2 Security Scanners** - Deploy a further 15 (17 total) Security Scanner systems in the CSA, passenger transfer and staff entry checkpoint areas.
- **External Checkpoints Security Scanners** - Deploy six further Security Scanner systems in the VCP, Fire-Station and maintenance base areas of the campus.

Business Case Justification

The Security Scanner projects are critical to ensure Dublin Airport meets its future regulatory and security requirements to maintain the highest level of safety and business resilience, particularly as airport activity is anticipated to grow to around 40mppa in the coming years. We believe the project presents the most economical and efficient solution. Furthermore, the project has the potential to reduce opex by reducing the number of Airport Security Officers required to staff each security lane and potentially the total number of lanes required at peak times throughout the airport.

Project Detail Summary and Costs

CIP.20.06.045 - Security Scanners				
Project Group	Core - Security			
Treatment	Flexible			
Asset Life	8 Years			
Project Output	• 38 new Security Scanner to augment original project CIP.20.06.007.			
Construction Programme	**Start**		**End**	
	Q1 2024		Q4 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	58%	30%	12%	-
	€16,350,000	€3,270,000	€8,410,000	€28,030,000
Total	**€28,030,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Terminal Kerb Security Mitigation

CIP.20.06.046 (New Project)

Project Summary

This project looks to implement the recommendations from the risk evaluation report issued to Dublin Airport, which highlighted threats to persons and property at the landside areas of the campus in the event of a targeted attack similar to those which occurred in recent history in London, Glasgow and Brussels.

Following a number of high-profile attacks across Europe on airports including Brussels, Istanbul, Paris and Glasgow, Dublin Airport commissioned a report to identify threats and risks at Dublin Airport from similar events happening at Terminals 1 & 2. Specifically, the investigation looked at the impact on the Campus of equivalent attacks on those that had occurred in Europe.

To achieve this Dublin Airport appointed an independent third-party assessment of the risks of such attacks on the landside areas of the Dublin Airport Campus. This assessment considered the threat from person borne improvised explosive devices (PBIED) and vehicle borne improvised explosive devices (VBIED) both external to and inside the terminal buildings.

Project Deliverables

The consultant completed assessments on the basis of inspection, blast and vehicle ramming modelling and their experience ins similar assessments in other European countries. From the assessment, a number of risk mitigations projects were developed. The risk mitigations projects have been prioritised, with the following three requiring funding for delivery in this CIP period:

T1 Departures and Arrivals anti-VBIED systems - Provision of anti-VBIED systems Infront of T1 Departures and Arrivals. This is to be achieved by deploying PAS standard bollards which can resist a vehicle attack to this area. This approach would reduce the impact of a vehicle ramming attack and prevent a VBIED from entering the T1 landside lobbies on the two levels.

T2 Departures and Arrivals anti-VBIED systems - Provision of anti-VBIED systems Infront of T2 Departures and Arrivals. This is to be achieved by deploying PAS standard bollards which can resist a vehicle attack to this area. This approach would reduce the impact of a vehicle ramming attack and prevent a VBIED from entering the T2 landside lobby.

Exhibit 6.17 – Anti-VBIED example

T1 Departures and Arrivals PBIED systems - Provision of measures which would reduce the impact of such a PBIED attack in the T1 landside area (i.e. external glazing exploding outwards). This is to be achieved by the replacement of the existing aging arrival level and departure level front elevation glazing and frames facing towards the T1 forecourts with toughened materials which would reduce the injury from fragmentation. It is noted that such glazing already exists in T2 and has been already retrofitted in T1's Mezzanine area.

If this project were approved for funding it would mean that Dublin Airport would be prepared as best is possible for the risks associated with VBIED ad VBIED and could reasonably expect that the extent of property damage and loss of live to its staff and passengers would be considerably reduced as a result of implementing the recommended mitigations.

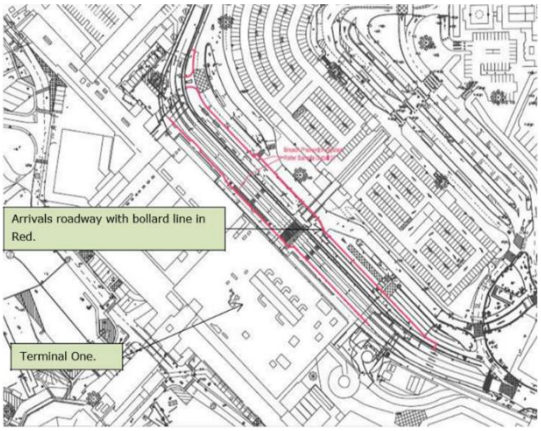


Exhibit 6.18 – T1 Dept & Arr Kerb (site boundary)

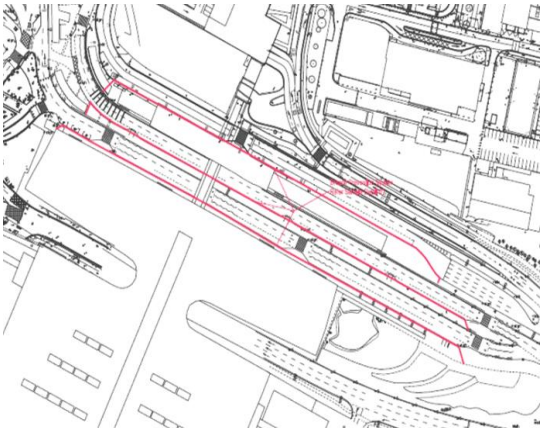


Exhibit 6.19 – T2 Kerb (site boundary in red)

Business Case Justification

The Terminal Kerb Security Mitigation projects are critical to ensure Dublin Airport meets its risk assessed security requirements to maintain the highest level of safety and business resilience, particularly as airport activity is anticipated to grow to around 40mppa in the coming years. We believe the project presents the most economical and efficient solution.

Project Detail Summary and Costs

CIP.20.06.046 - Terminal Kerb Security Mitigation				
Project Group	Core - Security			
Treatment	StageGate			
Asset Life	20 Years			
Project Output	• Terminal 1 kerb PAS standard bollards. • Terminal 2 kerb PAS standard bollards. • Terminal 1 arrival and departure level front elevation glazing and frame replacement.			
Construction Programme	**Start**		**End**	
	Q3 2023		Q4 2025	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	66%	13%	21%	-
	€8,200,000	€1,640,000	€2,640,000	€12,480,000
Total	**€12,480,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment

6.12 Capacity Projects

6.12.1 The original CIP2020+ capacity projects have been updated for cost, scope and programme based on the work done to date in design and logistical planning of how to deliver these projects while keeping the airport functioning. The costs have increased due to inflation. In general, scope has increased, and the programmes have elongated due to increases in scope, delays caused by Covid-19 and the new planning permission environment.

6.12.2 The projects are designed to increase airport capacity to 40 mppa with anticipated hourly throughput balanced across all processors to avoid bottlenecks. Fundamentally the majority of the capacity projects are refined or replacement versions of those submitted, assessed by Helios and approved by CAR in 2019. The key objectives, outputs and capacity gains are the same.

6.12.3 The original projects have been augmented by four new projects, namely South Apron Airside Support Centre, De-Icing Consolidation, Code E Engine Test Facility, and 10L/29R Taxiway Exit AGL. We have also included the recent Fingal County Council-approved PACE project Apron 5H and North Apron Taxiway Rehabilitation, which will now be considered a CIP2020+ project and which we plan to bring to daa Board for capital approval in May 2022 with the objective of progressing to site as soon as practically possible.

6.12.4 We have consulted with stakeholders extensively on the proposed project and their associated changes, refinements and additions. Stakeholders provided few objections to the projects in general at both informal and formal presentations or in writing. In many cases, stakeholders positively welcomed the projects they would directly benefit from.

6.12.5 Since the Consultation Report was issued, we have made several minor adjustments to two projects. Following extensive engagement with a key airline stakeholder, we have re-introduced the Terminal 2 Early Bag Store project previously deferred. We have also committed to finding an optimised solution to transfer passengers between Terminal 2 and the relocated South Apron remote stands. Feasibility works will be required to find a solution and determine costs, which will be presented to stakeholders via the South Apron Expansion project StageGate process.

6.12.6 ***Table 6.20*** presents a breakdown of our proposed capacity projects by project grouping, including proposed asset life, regulatory treatment and high-level estimated cost. Noting that one project has been marked as being complete.

Code	Name	CIP2020+ Review		
		Asset Life	Treatment	Cost
Capacity Projects				
Terminal 1 Passenger Journey Group				
CIP.20.03.012	Terminal 1 Central Search - Relocation to Mezz Level	15 Years	StageGate	€49.14m
CIP.20.03.013	Terminal 1 Departure Lounge (IDL) Reorientation and Rehabilitation	15 Years	StageGate	€47.04m
CIP.20.03.015	Terminal 1 Baggage Reclaim Upgrade & Alterations	15 Years	Flexible	€24.74m
CIP.20.03.017	Terminal 1 Shuttle, bus lounges and injection points	15 Years	Flexible	€3.86m
CIP.20.03.018	Terminal 1 - Immigration Hall	15 Years	Flexible	€2.01m
CIP.20.03.034	Pier 3 Immigration (Upgrade & Expansion)	6 Years	Flexible	€10.57m
Terminal 2 Passenger Journey Group				
CIP.20.03.020	Terminal 2 Check-in Area Optimisation	15 Years	Flexible	€15.82m
CIP.20.03.021	Terminal 2 Central Search Area Expansion	15 Years	Flexible	€5.59m
CIP.20.03.024	Terminal 2 Immigration Hall - Reorientation	15 Years	Flexible	€2.45m
South Apron Hub Group				
CIP.20.03.028	Terminal 2 HBS Early Bag Store and Transfer Lines	10 Years	StageGate	€34.41m
CIP.20.03.029	New Pier 5 (T2 and CBP Enabled)	28 Years	StageGate	€339.13m
CIP.20.03.030	Expansion of US Pre-Clearance Facilities	25 Years	StageGate	€87.29m
CIP.20.03.031	South Apron Expansion (Remote Stands, Taxiway and Apron)	34 Years	StageGate	€207.53m
CIP.20.03.033.1	Enablement of Pier 3 for Precleared US bound passengers	15 Years	Flexible	€9.0m
CIP.20.03.072	T2 & Pier 4 Transfer Facilities	10 Years	Flexible	€0.70m
CIP.20.03.077	South Apron Airside Support Centre	20 Years	Flexible	€11.61m
CIP.20.03.078	Pier 4 De-Flex	15 Years	Flexible	€4.33m
Others				
CIP.20.03.004	Gatepost 9 Expansion	20 Years	Complete	€8.98m
CIP.20.03.036	North Apron Development	32 Years	StageGate	€239.94m
CIP.20.03.051.2	West Apron Vehicle Underpass Pier 3	50 Years	StageGate	€245.06m
CIP.20.03.074	Taxiway R widening	20 Years	StageGate	€7.32m
CIP.20.03.075	Fuel Hydrant Network Works	20 Years	StageGate	€32.86m
CIP.20.03.076	De-Icing Consolidation	7 Years	Flexible	€1.32m
CIP.20.03.079	Code E Engine Test Facility	20 Year	StageGate	€16.02m
CIP.20.03.080	10L/28R Taxiway Exit AGL	15 Year	Flexible	€5.24m
		Total Excluding Apron 5H		**€1,411.97m**
CIP.20.03.081	Apron 5H and North Apron Taxiway Rehabilitation (Extra over PACE €49.1m)	32 Year	N/A	€29.23m
		Total Including Apron 5H		**€1,441.2m**

Table 6.20 – CIP2020+ Review Capacity Projects

Terminal 1 Passenger Journey Group

CIP.20.03.012/013/015/017/018/034

Project Summary

Dublin Airport proposes a suite of projects to enhance the Terminal 1 passenger journey experience, improve operational efficiency and ultimately provide a balanced capacity across terminal processors, sized to accommodate peak hour passenger demand through to 40 mppa.

Dublin Airport proposes to deliver the majority of the original CIP2020+ Terminal 1 capacity projects. Given the inter-dependencies and physical connections, we have amalgamated the projects proposed for this CIP cycle into a single "Terminal 1 Passenger Journey" project group.

The Terminal 1 Passenger Journey will ensure capacity throughput is balanced across all departing and arriving processors while ensuring service quality, level of service and comfort norms are maintained as the airport grows to 40 mppa.

All the Terminal 1 Passenger Journey projects presented were approved by the Regulator in 2019. We now propose refinements to the scope and costs, noting that the projects fundamentally provide the same benefits and capabilities. The following describes the project details and what has changed since the original determination in 2019.

Project Deliverables

All terminal processors have been re-assessed with resultant projects prioritised; we propose to deliver the following projects within this CIP cycle up to 2026 with the remaining deferred to the next period:

CIP.20.03.012 - Terminal 1 Central Search – Relocation to Mezzanine Level

The existing central security search will reach its capacity limit during forecasted peak demand hours, resulting in a below standard service level. In addition, there is no further space on the same level to expand. Therefore, it is proposed to relocate central search to the mezzanine level above to provide a more seamless security screening process. The mezzanine floor will be enlarged, through the extension of the floor slab, with new floored areas to accommodate ATRS and full-body scanner security screening lanes. Passengers will access the facility via existing landside escalators and lifts and will exit via a new vertical circulation core into the departure lounge. The project costs exclude the purchase or installation of security screening equipment which will be captured via the Security Equipment Core allowance.

Exhibit 6.21 *– New Terminal 1 Central Search CGI*

CIP.20.03.013 - Terminal 1 Departure Lounge (IDL) Reorientation and Rehabilitation

During forecasted peak demand hours, the departures lounge will reach its capacity. The relocation of the Central Search facilities (CIP 20.03.012) from the departures level of Terminal 1 to the mezzanine level provides a departure lounge expansion opportunity. The expansion includes space for new business lounges, circulation, orientation, food and beverage and retail offerings.

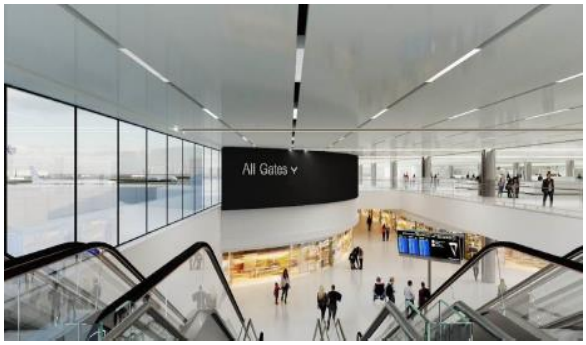


Exhibit 6.22 *– New IDL CGI*

CIP.20.03.015 - Terminal 1 Baggage Reclaim Upgrade and Alterations

With the anticipated forecast growth in passenger numbers, the existing hall's capacity will not provide the circulation space requirement nor provide the length of reclaim belt required to meet demand. Additionally, the existing finishes and appearance require refurbishment. This project will deliver a redesigned, refurbished and reconfigured hall. Increased reclaim belt lengths will be achieved by removing belt 1, lengthening belts 2 and 3 and combining belts 6 and 7. The relocation of the landside wall will create additional circulation space.

CIP.20.03.017 - Terminal 1, Bus Lounges and Injection Points

With the introduction of North Apron remote stands, bus lounge and injection point demand will increase, particularly during peak morning and evening waves. Current bus lounge and injection provisions are modest and unable to facilitate forecast peak demands. This project proposes refurbishing the Old Central Terminal Building ground floor and adjoining space to create new bus lounges, a dedicated injection point and associated kerbs.

Exhibit 6.23 *– OCTB and proposed area of refurbishment (Indicative)*

CIP.20.03.018 - Terminal 1 Immigration Hall Reconfiguration

This project builds on work completed in 2017 and 2020 and is required to accommodate peak hour demand anticipated at 40 mppa. It proposes to reconfigure the booths and e-gates to increase the number of booths from 11 to 14 and the number of e-gates from 10 to 11.

CIP.20.03.034 - Pier 3 Immigration (Upgrade and Expansion)

The Pier 3 immigration area is experiencing capacity issues due to insufficient queueing space to accommodate both current and future passenger numbers, particularly at peak times due to simultaneous widebody arrivals. Additionally, the overall product and passenger experience are unsatisfactory, particularly regarding the approach to the processing booths, visual aesthetics, and passenger perception. This project proposes a reconfiguration and refurbishment of the Pier 3 immigration hall.

The objective is twofold, it will provide an increase in capacity of passenger processing and will improve circulation and queueing area. The associated circulation corridors will be reconfigured to allow an orderly flow of passengers into the queueing areas allowing for better management of arriving passengers, freeing space around the hall and providing an improved overall passenger experience.

What Has Changed

The following outlines changes proposed to each project, impacting the original cost profile. The changes reflect scope and design refinement following end-user feedback, brief development, site survey, and changes in regulation and legislation. All baseline project costs have been adjusted to reflect current inflation projections.

CIP.20.03.012 - Terminal 1 Central Search – Relocation to Mezzanine Level

Due to construction delays resulting from Covid, this project must now be split into two phases to ensure continuity of a regulatory compliant security screening operation. The first phase requires upgrading the existing departure level central search facility with new screening equipment and introducing full-body scanners. This phase maintains the current capacity and is needed during the mezzanine relocation construction works. Additional costs associated with this phase include temporary departure floor strengthening and modifications to existing electrical, mechanical and life safety systems. All new equipment will be repurposed once the existing central search facility is ramped down and relocated to the Phase 2 mezzanine facility. The following summarises the fundamental changes impacting cost:

- Additional steel supports to the departures floor to carry the additional loading from the new security equipment in the temporary phase.
- Phasing requirements for rolling out new security lanes in a live environment on departures level, including temporary hoardings, material storage, and equipment relocation costs.
- Modifications to existing floor finishes and temporary upgrades to floor coverings.
- Modifications to the existing HVAC systems to cater for the additional heat load from the new security equipment in the temporary phase.
- New LV power requirements to the new security equipment in the temporary phase.
- New I.T. requirements to the new security equipment in the temporary phase.

CIP.20.03.013 - Terminal 1 Departure Lounge (IDL) Reorientation and Rehabilitation

The original project has been reassessed and areas re-measured to take account of design refinement of the adjoining and complementary projects. Original project deliverables are still planned, including relocated fast track facility, relocated airline lounge, expanded and new retail, food and beverage, seating and circulation space.

The project costs include construction of the relocated Fast Track and Airline Lounge shell and core with fitout and equipment accounted for in their respective commercial project sheets. The reconfigured Retail (ARI) shell, core and fit is however included in this project given the interdependencies with the circulation space.

CIP.20.03.015 - Terminal 1 Baggage Reclaim Upgrade and Alterations

No change in scope is anticipated.

CIP.20.03.017 - Terminal 1, Bus Lounges, and Injection Points

Following site survey and design refinement, refurbishment of the Old Central Terminal Building is more complex and demanding than anticipated given the building age and historic protection status. Adjustment to the apron road, kerbs and pedestrian ramps also require more work than envisaged, including a jet blast fence re-alignment and construction of a new bus injection entrance with ramped access and canopy. The following summarises the fundamental changes impacting cost:

- Upgrade to existing ramps, pavement, and apron road repairs.
- New canopy to immigration injection point.
- Provision for traffic management system for buses.
- Provision for jet blast fence re-alignment as part of the traffic management system.
- New covered walkway and lighting on the forecourt to the bussing area provision for the corridor. widening and external wall transfer beam to immigration injection point.
- Washrooms to be upgraded to align with the new washroom standards.
- Provision for additional IT requirements for Bus Lounge.
- New boarding card desks.
- Supply and install of solar shading interior blinds.

CIP.20.03.018 - Terminal 1 Immigration Hall reconfiguration

No change in scope is anticipated.

CIP.20.03.034 - Pier 3 Immigration (Upgrade and Expansion)

Following site survey and design refinement, expanding the existing facility is more complex and demanding than anticipated given the age of the pier, further compounded by legacy electrical and mechanical issues. Also, transfer access control and valving requirements have increased following end-user feedback and brief development. The following summarises the fundamental changes impacting cost:

- Demolition and Relocation of new toilet facilities to maximise queuing efficiency, with increased capacity to meet the forecast passenger numbers. Construction of new external pump room associated with new toilet facilities.
- Additional immigration booths designed in line with Terminal 2 immigration booths
- Removal and relocation of high-mast lighting electrical room.
- Improved Terminal 2 passenger transfer route with smart access control system.
- Additional communications equipment room for operational resilience.

Business Case Justification

The Terminal 1 Passenger Journey projects are critical to ensure Dublin Airport meets its future operational and regulatory requirements to maintain the highest level of safety, efficiency, and business resilience, particularly as airport activity is anticipated to grow to around 40 mppa in the coming years. The projects, when combined, provide for a balanced capacity throughput across the terminal, ensuring adherence to both CAR and IATA levels of service. The projects incorporate several efficiency optimisations helping to reduce opex as passenger demands increase while also providing for new commercial opportunities, increasing potential revenue, and aiding in overall passenger charge reduction. The following summarises the key opex and revenue opportunities:

CIP.20.03.012- Terminal 1 Central Search – Relocation to Mezzanine Level

Relocation of departure level pre-search queue area provides an opportunity for temporary pop-up landside commercial retail or F&B space until additional check-in island is required.

CIP.20.03.013 - Terminal 1 Departure Lounge (IDL) Reorientation and Rehabilitation

Additional retail, F&B and airline lounge space has the potential to increase commercial revenue by approximately €6-7 million per year.

CIP.20.03.018 and CIP.20.03.034 - Terminal 1 Immigration Hall reconfigurations

Improved arrival and transfer corridor valving and utilisation of automated e-gates will reduce airport and immigration staffing.

Project Detail Summary and Costs

CIP.20.03.012 - Terminal 1 Central Search – Relocation to Mezzanine Level				
Project Group	Terminal 1 Passenger Journey Group			
Treatment	StageGate			
Asset Life	15 Years			
Project Output	Phase 1 • Modification of existing space for the replacement of existing screening lanes, x-ray and body scanner equipment. (Equipment provided under Core Security project). • Departure floor strengthening to accommodate proposed equipment. • Modifications to existing electrical mechanical and life safety systems to accommodate proposed equipment. Phase 2 • Strip out of the existing mezzanine area, including slab infill to increase footprint for the development of replacement security screening facility sized to accommodate 25m ATRS lanes. (Equipment provided under Core Security project, includes reprovision of Phase 1). • New passenger vertical circulation core providing access to International Departure Lounge post-screening.			
Construction Programme	**Start**		**End**	
	Q1 2025		Q4 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	52%	10%	38%	-
	€25,460,000	€5,090,000	€18,590,000	€49,140,000
Total	**€49,140,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.013 - Terminal 1 Departure Lounge (IDL) Reorientation and Rehabilitation				
Project Group	Terminal 1 Passenger Journey Group			
Treatment	StageGate			
Asset Life	15 Years			
Project Output	• Redevelopment of Departure Lounge previously occupied by Central Search accommodating new Central Search vertical circulation core and passenger flow. • Creation of displaced Fast Track facility shell and core (equipment provided under Core Security project, fit out provided under Commercial project). • Creation of displaced Terminal 1 Airline Lounge shell and core (fit out provided under Commercial project). • Reconfigured Retail (ARI Area) shell, core and fit out to accommodate Departure Lounge reorientation and new passenger flow. • Refurbishment, optimisation and creation of new retail, food and beverage, seating and circulation space to increase overall departure lounge holding capacity.			
Construction Programme	**Start**		**End**	
	Q4 2024		Q1 2027	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	48%	10%	43%	-
	€22,530,000	€4,510,000	€20,000,000	€47,040,000
Total	**€47,040,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.015 - Terminal 1 Baggage Reclaim Upgrade & Alterations				
Project Group	Terminal 1 Passenger Journey Group			
Treatment	Flexible			
Asset Life	15 Years			
Project Output	• Increased reclaim belt lengths will be achieved by removing belt 1, lengthening belts 2 and 3 and combining belts 6 and 7. • Relocation of the landside wall to create additional circulation space. • Relocation and optimisation of existing offices and toilet blocks to increase Reclaim Hall circulation space. • Refurbishment of Reclaim Hall floors and ceilings. • New self-connect check in facility.			
Construction Programme	**Start**		**End**	
	Q1 2025		Q4 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	49%	10%	41%	-
	€12,080,000	€2,420,000	€10,240,000	€24,740,000
Total	**€24,740,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.017 - Terminal 1 Baggage Reclaim Upgrade and Alterations				
Project Group	Terminal 1 Passenger Journey Group			
Treatment	Flexible			
Asset Life	15 Years			
Project Output	<u>Refurbishment of non-active old bus gates.</u> • Upgrade to existing ramps, pavement, and apron road repairs. • Washroom upgraded to align with the new washroom standards. • Provision for additional IT requirements for Bus Lounge. • New boarding card desks. • Supply and install of solar shading interior blinds. • Provision for jet blast fence re-alignment as part of the traffic management system. <u>Refurbishment and enlargement of Terminal 1 Bus Injection Point.</u> • New canopy. • Provision for traffic management system for buses. • New covered walkway and lighting on the forecourt to the bussing area provision for the corridor.			
Construction Programme	**Start**		**End**	
	Q1 2023		Q4 2024	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	61%	11%	28%	-
	€2,340,000	€430,000	€1,080,000	€3,860,000
Total	**€3,860,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.018 - Terminal 1 - Immigration Hall				
Project Group	Terminal 1 Passenger Journey Group			
Treatment	Flexible			
Asset Life	15 Years			
Project Output	• Reconfigured and optimised booths and e-gates to increase the number of booths from 11 to 14 and the number of e-gates from 10 to 11.			
Construction Programme	**Start**		**End**	
	Q1 2023		Q4 2024	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	56%	11%	33%	-
	€1,130,000	€230,000	€660,000	€2,010,000
Total	**€2,010,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.034 - Pier 3 Immigration (Upgrade & Expansion)				
Project Group	Terminal 1 Passenger Journey Group			
Treatment	Flexible			
Asset Life	6 Years			
Project Output	• Strip out and relocate ancillary rooms and services to increase the usable immigration footprint. • Refurbished Immigration Hall with optimised queue space and passenger flow. • Increased processing capacity with the provision of additional officer booths and E-gates. • Construction of new passenger toilet facilities. • Removal and relocation of high-mast lighting electrical room, comms rooms, switch rooms, pump rooms and ancillary services. • Improved Terminal 2 passenger transfer route with smart access control system.			
	Start		**End**	
	Q2 2023		Q4 2024	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	77%	6%	17%	-
	€8,120,000	€620,000	€1,840,000	€10,570,000
Total	**€10,570,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Terminal 2 Passenger Journey Group

CIP.20.03.020/021/024

Project Summary

Dublin Airport proposes a suite of projects to enhance the Terminal 2 passenger journey experience, improve operational efficiency and ultimately provide a balanced capacity across terminal processors, sized to accommodate peak hour passenger demand through to 40 mppa.

Dublin Airport proposes to deliver the majority of the original CIP2020+ Terminal 2 capacity projects. Given the inter-dependencies and physical connections, we have amalgamated the projects proposed for this CIP cycle into a single "Terminal 2 Passenger Journey" project group.

The Terminal 2 Passenger Journey will ensure capacity throughput is balanced across all departing and arriving processors while ensuring service quality, level of service and comfort norms are maintained as the airport grows to 40 mppa.

All the Terminal 2 Passenger Journey projects presented were approved by the Regulator in 2019. We now propose refinements to the scope and costs, noting that the projects fundamentally provide the same benefits and capabilities. The following describes the project details and what has changed since the original determination in 2019.

Project Deliverables

All terminal processors have been re-assessed with resultant projects prioritised; we propose to deliver the following projects within this CIP cycle up to 2026 with the remaining deferred to the next period:-

CIP.20.03.020 - Terminal 2 Check-In Area Optimisation

The existing check-in area will reach its capacity limit during forecasted peak demand hours, resulting in a below standard service level. This project proposes to address the deficit by installing more check-in desks, bag drops positions, and self-service kiosks. The area will also be reconfigured to optimise queue space and improve circulation. The project also proposes to move the PRM facility from its

current location to provide an improved experience for PRMs in a centralised area of the check-in building.

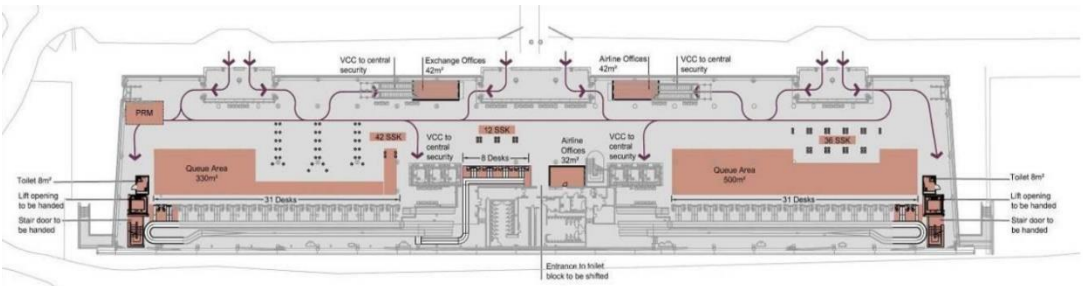


Exhibit 6.25 *- New Terminal 2 Check-in Proposed layout (Indicative)*

CIP.20.03.021 - Terminal 2 Central Search Area Expansion

The existing central security search will reach its capacity limit during forecasted peak demand hours, resulting in a below standard service level. In addition, the current search equipment is nearing its end of life in terms of asset life and regulatory compliance. Therefore, this project proposes reconfiguring and expanding the queue and screening space, allowing for the deployment of the latest screening equipment.

The project will increase the queue space by relocating the air/landside dividing glass wall, including introducing automated e-gates to increase document check processing capacity. The screening area will be expanded in both depth and width, allowing for installation of the latest screening equipment, including automatic tray return and full-body scanning technology.

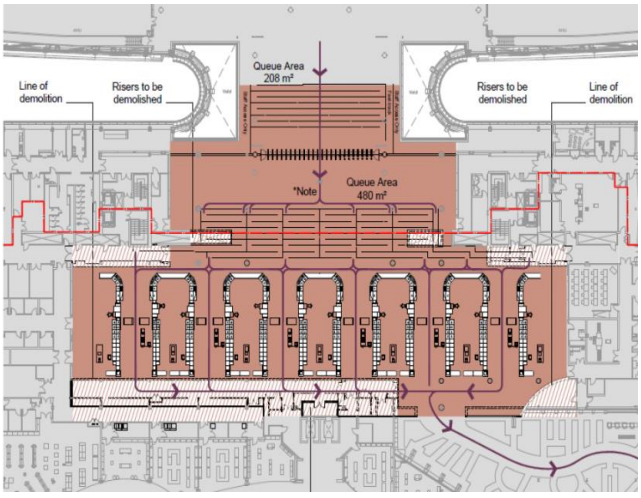


Exhibit 6.26 *- Terminal 2 Central Search Proposed Layout (Indicative)*

The project costs exclude the purchase or installation of security screening equipment which will be captured via the Security Equipment Core allowance.

CIP.20.03.024 - Terminal 2 Immigration Hall Reorientation

The existing Immigration Hall will reach its capacity limit during forecasted peak demand hours, resulting in a below standard service level. This project proposes to address the deficit by installing additional Immigration Officer Booths. The area will also be reconfigured to optimise queue space and improve circulation. Some Immigration Office relocation triggered by the development is envisaged.

What Has Changed

There have been no significant material changes to the project scope for the Terminal 2 Check-In Area Optimisation or Terminal 2 Central Search Area Expansion projects. Baseline project costs have been adjusted to reflect current inflation projections.

CIP.20.03.024 - Terminal 2 Immigration Hall Reorientation

The Terminal 2 Immigration Hall Reorientation project has been updated and optimised to reflect the changes in the Pier 5 design and associated arrivals routing. No change has been made to the originally proposed capacity increase provision. Baseline project costs have also been adjusted to reflect current inflation projections.

Business Case Justification

The Terminal 2 Passenger Journey projects are critical to ensure Dublin Airport meets its future operational and regulatory requirements to maintain the highest level of safety, efficiency, and business resilience, particularly as airport activity is anticipated to grow to around 40 mppa in the coming years. The projects, when combined, provide for a balanced capacity throughput across the terminal, ensuring adherence to both CAR and IATA levels of service.

Project Detail Summary and Costs

CIP.20.03.020 - Terminal 2 Check-In Area Optimisation				
Project Group	Terminal 2 Passenger Journey Group			
Treatment	Flexible			
Asset Life	15 Years			
Project Output	• Modification of existing space for optimised queueing space and improved circulation. • Additional check-in desks, bag drop positions and self-service kiosks. • Improved PRM facilities.			
Construction Programme	**Start**		**End**	
	Q1 2025		Q4 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	52%	10%	38%	-
	€8,200,000	€1,640,000	€5,990,000	€15,820,000
Total	**€15,820,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.021 - Terminal 2 Central Search Area Expansion				
Project Group	Terminal 2 Passenger Journey Group			
Treatment	Flexible			
Asset Life	15 Years			
Project Output	• Increased queuing and screening space. • Installation of automated e-gates to increase document check processing capacity. • Expanded screening area to allow for installation of latest screening equipment, including automatic tray return and full-body scanning technology.			
Construction Programme	**Start**		**End**	
	Q1 2025		Q4 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	52%	10%	38%	-
	€2,900,000	€580,000	€2,110,000	€5,590,000
Total	**€5,590,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.024 - Terminal 2 Immigration Hall Reorientation				
Project Group	Terminal 2 Passenger Journey Group			
Treatment	Flexible			
Asset Life	15 Years			
Project Output	• Additional immigration officer booths. • Optimised queueing and circulation space. • Some relocation of immigration offices is envisaged to be required.			
Construction Programme	**Start**		**End**	
	Q1 2025		Q4 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	52%	10%	38%	-
	€1,540,000	€310,000	€600,000	€2,450,000
Total	**€2,450,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

South Apron Hub Group

CIP.20.03.028/029/030/031/033.1/072/077/078

Project Summary

Dublin Airport proposes a suite of projects to enhance the Terminal 2 transfer hubbing passenger journey experience, improve operational efficiency, and ultimately provide increased transfer hubbing capacity, sized to accommodate peak hour passenger demand through to 40 mppa.

Dublin Airport proposes to deliver the original CIP2020+ Terminal 2 South Apron and associated capacity projects. Given the interdependency and physical connections between many of these elements, we have amalgamated the projects to proceed in this CIP cycle into a single "South Apron Hub" project group. We propose to bring the majority of these projects through the StageGate process in phases, once the final design and exact construction costs are known. We expect to initially bring the enabling projects to StageGate, followed by the larger capacity elements. This will allow us to progress some construction activities while waiting on capacity-related planning approval, minimising programme length.

The original South Apron Hub projects presented were approved by the Regulator in 2019. We now propose refinements to the scope and costs, noting that the projects fundamentally provide the same benefits and capabilities. The following describes the project details and what has changed since the original determination in 2019. One new project has been added, namely South Apron Airside Support Centre.

Project Deliverables

The South Apron Hub comprises several key projects, which we have re-assessed and optimised. We, propose to deliver the following projects, which will commence within this CIP cycle up to 2026:

CIP.20.03.029 - Pier 5

The CIP2020+ Pier 5 enables four wide-body MARS contact stands with US-preclearance (CBP) accessibility. Pier design incorporates maximum flexibility and consists of the following key features:

- Six new apron level non-CBP bus gates.
- Eight new narrow-body first-floor airbridge served contact gates, designed to facilitate CBP and Non-CBP operations (two gates replace existing Pier 4 capacity displaced by the proposed CBP extension).
- First-floor gates can be combined to serve up to four wide-body aircraft.
- The first-floor fixed links have been arranged to allow airbridge or walk-out operations.
- Second-floor arrivals corridor with onward links to either Pier 4 Transfers or Terminal 2 Immigration.
- Secondary bus injection point with vertical circulation core.

Existing Cargo Terminals 1 and 2 require relocation to facilitate the development of Pier 5; the original CIP2020+ submission had proposed the provision of new secure access only to a development site East of the R132, the cost of which was included in the Pier 5 allowance. It was proposed that the displaced Cargo Operators would develop their new facilities in this location under a Design Build Finance Operate Transfer (DBFOT) type arrangement; as such, no provision was made for the actual new warehouse development.

Since 2019, we have consulted with the various Cargo Operators. During this process, a clear preference for a retained-on site solution in close proximity to the airfield, has emerged. We have since collaborated with the Cargo Operators to develop an alternative cargo solution within the footprint of Corballis Park. We now propose to include the new warehouse development costs in the CIP, final costs will be presented at StageGate.

CIP.20.03.030 - Expansion of US Pre-Clearance Facilities

The current facility configuration limits expansion options. Therefore, as part of CIP2020+ proposal, it is proposed to re-orientate and expand the facility to include a minimum of 11 US Transport Security Agency (TSA) screening lanes and 30 CBP officer positions. The configuration will also be tailored to the needs of emerging technologies. Security lanes will be fitted with ATRS equipment. Additional space will accommodate secondary screening, queue space, circulation space and staff accommodation. The intention of the CIP 2020+ scheme was based on connection to Pier 5 via the main Terminal 2 processor building, requiring considerable reconfiguration and operational disruption.

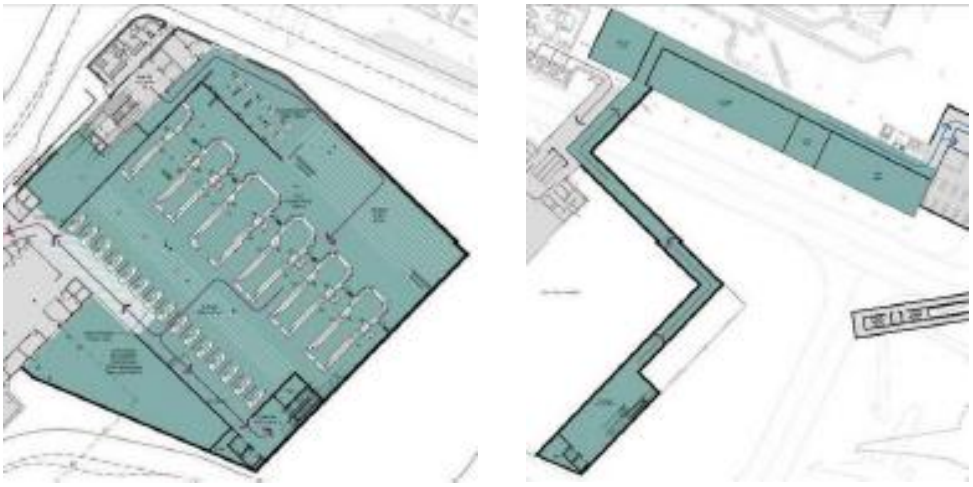


Exhibit 6.27 *– CBP Extension Original Concept Apron and First Floor (Indicative)*

CIP.20.03.031 - South Apron Expansion (Remote Stands, Taxiway and Apron)

Expansion of the South Apron is required to facilitate a new Pier 5 and associated stands, particularly the requirement to relocate nine existing narrow-body stands to the southern edge of the apron and the development of dual Code E taxi lanes, designed to ease congestion; maximise efficiency, and enhance the safety of operations. The South Apron Expansion project includes the following additional elements:

- Diversion of the Cuckoo Stream.
- Attenuation control and storage.
- Demolition and relocation of various ancillary buildings, clearing the site for the proposed development.
- Additional South Apron Ground Service Equipment (GSE) parking.

CIP.20.03.028 - Terminal 2 HBS Early Bag Store and Transfer Lines

Terminal 2 currently has three transfer input lines. As transfer demand is expected to grow dramatically in the future, there will be a need to increase the number of transfer lines. Capacity analysis of the Transfer system had identified a need for a fourth input line required to facilitate the future demand of 40mppa.

Terminal 2 handles all US CBP flights and a significant number of long haul flights. Passengers travelling on these flights may originate in Ireland, or transfer through the Terminal. Airlines' early check-in products and long stop-over transferring passengers have resulted in a significant rise in early bags

being processed through the HBS. These bags arrive at the sorter ahead of the make-up position being available, thus being classed as early bags. The bag sits on the sorter for long periods until a make-up location has been identified. This can cause 'die back' through the system, as no space is available to sort these bags to make-up locations.

With the increasing growth in transfer traffic there is a need for increased connectivity between terminals. The current HBS upgrade provides for a single connection, but capacity analysis indicates that its peak capacity will be exceeded, and a second line is required during this CIP period.

The proposed project will construct an early bag store on the HBS mezzanine of Terminal 2. The lane-based system will have the capacity of 950 bags. The EBS will provide sufficient capacity for the early bag demand upto 40 mppa. The use of an early bag store will assist in reducing the demand on CBP allocated make-up positions, which are forecast to increase beyond the current provision.

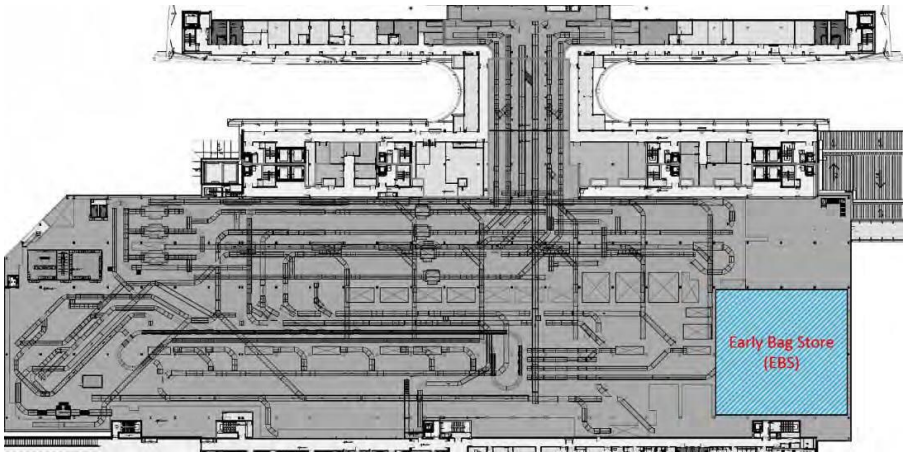


Exhibit 6.28– *Terminal 2 Early Bag Store Location (Indicative)*

CIP.20.03.033.1 - Enablement of Pier 3 for Precleared US-bound Passengers

New Pier 5 will accommodate most of the expected growth in US CBP Precleared demand by providing three additional wide-body contact stands. However, the wide-body stands demand rate may exceed the southern apron's capacity, thus requiring additional wide-body capacity elsewhere. Pier 3 could address this capacity shortfall with a shuttle bus connection and reconfiguration of existing widebody gates to facilitate departures for US-bound flights.

Therefore, this project proposes retrofitting Pier 3 to accommodate both non-US and US-bound operations by providing a shuttle bus operation of US precleared passengers from Pier 4 to Pier 3. This requires the fit-out of a bussing lobby in Pier 4 close to the CBP facility and reconfiguration of the Pier 3 injection point to ensure passenger segregation. Pier 3 will also require reconfiguration at the departure level to enable simultaneous precleared and non-precleared operations by providing new flexible gates. The design would include new individual toilet blocks to accommodate a swing operation.

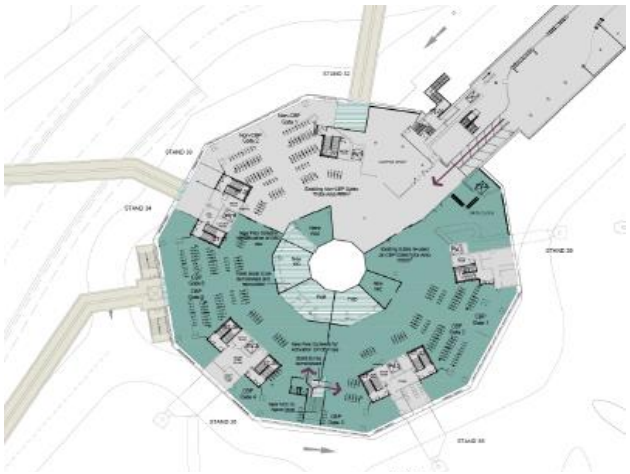


Exhibit 6.29 *– Pier 3 CBP Swing Gate Concept Plan (Indicative)*

CIP.20.03.072 - Transfer Immigration Booths – Pier 4 and Terminal 2

Additional transfer capacity is proposed to facilitate increased transfer hub activity generated by the new Pier 5 and expanded CBP facility up to 40 mppa. This project, therefore, proposes the development of additional transfer passenger document and immigration check capacity via the installation of additional immigration officer booths and automated e-gates within the existing transfer facilities, albeit with some modification.

CIP.20.03.078 – Pier 4 De-Flex

The Pier 4 De-Flex project provides for an apron level corridor to the side of Pier 4, providing flexible routing of departing passengers between apron level gates and airbridge vertical circulation cores, which would otherwise not be possible. This flexibility allows apron level gates to be used when the first-floor gates are required for non-CBP operations. Without De-Flex, delayed CBP flights can block the Pier 4 first floor level from swinging into non-CBP operation.

What Has Changed

The following outlines a sample of the fundamental changes proposed to each project, impacting the original cost profile. The changes reflect scope and design refinement following further operational review, brief development, site survey, and changes in regulation and legislation. All baseline project costs have been adjusted to reflect current inflation projections.

CIP.20.03.029 - Pier 5

Pier 5, while refined, is broadly similar in terms of configuration and footprint. Any changes have evolved following further consultation with stakeholders to provide maximum operational flexibility, reduce construction complexity, and improve overall efficiency and passenger experience. Fundamental changes proposed include:

- Gate lounge configuration better aligned to end-user airline requirements, including automated e-gate document check.
- Additional vertical circulation capacity was added to ensure contingency and continuity of operations.
- Airbridge, fixed links and vertical cores adjusted to accommodate flexible bus operations.
- Rooftop plant is now designed with a perimeter enclosure to ensure consistency of aesthetics.
- The Pier 5 design has also been reviewed and refined from a sustainability perspective, with building fabric and mechanical systems upgraded to comply with new legislation and regulatory requirements. The following summarises a number of the fundamental changes impacting cost: -
- Increased lighting efficacies.
- Increased building fabric performance.
- Higher efficiency heat recovery.
- Future proof for lower temperature Heat Pump and Higher Temperature chiller installations.
- Façade treatments considered to optimise the effects of solar gain.

Exhibit 6.30 *– Refined Pier 5 – External CGI*

As discussed, the original CIP2020+ submission did not include an allowance for displaced cargo warehouse development; it accounted for provision to enable a new Eastlands Cargo Facility to be developed by others. We now propose including new warehouse development costs in the CIP

following consultation with the impacted Cargo Operators and the emergence of a preference for a retained on-site solution close to the airfield. A final solution is yet to be agreed, as such final costs will be presented at StageGate.

CIP.20.03.030 - Expansion of US Pre-Clearance Facilities

Fundamentally the US Pre-Clearance Facility has not changed and is broadly the same configuration, capacity and footprint. We have, however, taken the opportunity to refine and optimise the Pier 5 departure link, which will now stay outside the Terminal 2 main process building. We have also added the first floor to the US Pre-Clearance Facility building footprint, providing enhanced post-CBP passenger amenity space with a second-floor corridor above, accommodating efficient transfer connectivity and third state flexibility – connected to Node 1 of the proposed Pier 5. Fundamental changes proposed include:

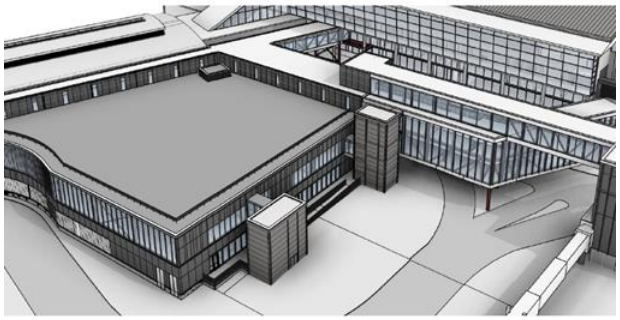


***Exhibit 6.31**– CBP Extension with First Floor*

- Additional US Pre-Clearance Facility first floor including provision for optimised post-CBP Pier 5 link, circulation, seating, retail, F&B including full-service kitchen and airline lounge space. The space will also provide temporary handler accommodation during early South Apron Hub enablement phases. Noting that this project only covers airline lounge, F&B and retail costs up to shell and core, with fit-out covered by the respective commercial project or concessionaires.
- Additional second and third-floor corridor links optimised for arrival and transfer routing, including third state flexibility.

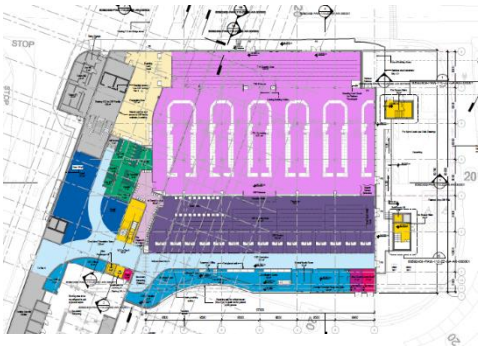


***Exhibit 6.32**– CBP Extension L10 (Indicative)*

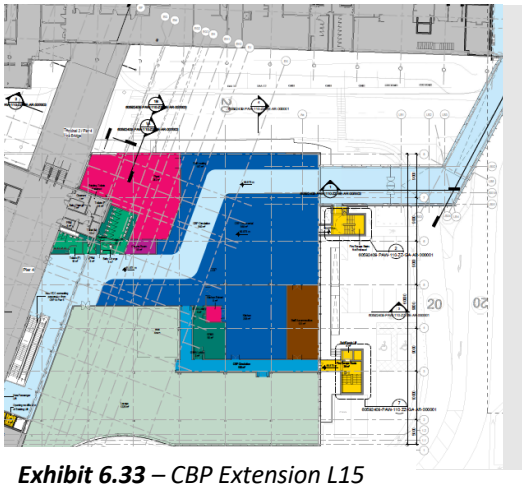


***Exhibit 6.33** – CBP Extension L15 (Indicative)*

The expanded US Pre-Clearance Facility design has also been reviewed and refined from a sustainability perspective, in line with the approach adopted for Pier 5.

CIP.20.03.031 - South Apron Expansion (Remote Stands, Taxiway and Apron)

The South Apron Expansion must expand further to the south following detailed feasibility to mitigate jet blast issues. Other fundamental changes include:

- Increased volume of onsite attenuation, driven by more stringent discharge limits dictated by Irish Water during the course of consultation.
- Development of a de-icing tank storage facility.
- Additional GSE parking/ULD storage.
- Omission of the replacement Passenger Boarding Zone.

Following the consultation process and extensive engagement with a key airline stakeholder, we have committed to finding an optimised solution to transfer passengers between Terminal 2 and the relocated South Apron remote stands, such as reinstating the Passenger Boarding Zone if technically feasible, safe and economical. Feasibility works will be required to find a solution and determine costs, which will be presented to stakeholders via the South Apron Expansion project StageGate process. These costs are not included in this submission.

Exhibit 6.34 *– Refined South Apron Layout (Indicative)*

CIP.20.03.028 - Terminal 2 HBS Early Bag Store and Transfer Lines

No change in scope is anticipated.

CIP.20.03.033.1 - Enablement of Pier 3 for Precleared US-bound passengers

No change in scope is anticipated.

CIP.20.03.072 - Transfer Immigration Booths – Pier 4 and Terminal 2

No change in scope is anticipated.

CIP.20.03.077 – South Apron Airside Support Centre

Demolitions necessary to facilitate the proposed South Apron Hun (SAH) campus result in the requirement to relocate the existing Ground Handler Accommodation to an alternative location in close proximity to the SAH Airfield. Ability to manage future growth represents a key consideration in the context of this relocation, providing space suitable to accommodate longer-term capacity requirements. Subject to modification and refurbishment, the existing Flight Catering Building has been identified as the optimum location. Repurposing this facility also offers a synergy benefit in the context of providing the opportunity to accommodate a construction stage management compound and welfare facility in the heart of the site during SAH construction – offsetting alternative construction site set-up and management costs. The South Apron Airside Support Centre is a new project not previously included in the original CIP2020+ submission

CIP.20.03.078 – Pier 4 De-Flex

No change in scope is anticipated.

Business Case Justification

The South Apron Hub project is critical to ensure Dublin Airport meets its future operational and regulatory requirements to maintain the highest level of safety, efficiency, and business resilience, particularly as airport activity is anticipated to grow to around 40 mppa in the coming years.

Furthermore, with the increased number and frequency of new long-haul routes, particularly long-haul routes to the US, it is anticipated that there will be continued growth in demand for US preclearance throughout the forthcoming CIP period, requiring new CBP enabled gates and stands.

This demand is driven by Ireland's strategic position as a connecting node between the USA and Europe and further leverages Dublin's position as the only European capital with US preclearance. This reflects

the National Aviation Strategy's policy position of developing Dublin Airport as a hub airport. Ultimately this project group enables around 4 million new Terminal 2 passengers a year, the majority taking advantage of the improved transfer and CBP passenger experience. These projects have also been refined to reduce opex as passenger demands increase while providing new commercial opportunities, increasing potential revenue and reducing overall passenger charge.

Project Detail Summary and Costs

<table>
<tr><th colspan="5">CIP.20.03.029 – Pier 5</th></tr>
<tr><td>Project Group</td><td colspan="4">South Apron Hub Group</td></tr>
<tr><td>Treatment</td><td colspan="4">StageGate</td></tr>
<tr><td>Asset Life</td><td colspan="4">28 Years</td></tr>
<tr><td>Project Output</td><td colspan="4">• Four widebody MARS contact stands with CBP accessibility
• Six new apron level non-CBP bus gates.
• Eight new narrow-body first-floor airbridge served contact gates, designed to facilitate CBP and Non-CBP operations.
• First-floor gates can be combined to serve up to four wide-body aircraft.
• The first-floor fixed links have been arranged to allow airbridge or walk-out operations.
• Second-floor arrivals corridor with onward links to either Pier 4 Transfers or Terminal 2 Immigration.
• Secondary bus injection point with vertical circulation core.</td></tr>
<tr><td rowspan="2">Construction Programme</td><td colspan="2">Start</td><td colspan="2">End</td></tr>
<tr><td colspan="2">Q1 2024</td><td colspan="2">Q1 2029</td></tr>
<tr><td rowspan="3">Level 1 Costs</td><td>Construction</td><td>Design & Management</td><td>Escalation & Contingency</td><td>Total</td></tr>
<tr><td>58%</td><td>16%</td><td>26%</td><td>-</td></tr>
<tr><td>€197,990,000</td><td>€53,830,000</td><td>€87,310,000</td><td>€339,130,000</td></tr>
<tr><td>Total</td><td colspan="4">€339,130,000</td></tr>
<tr><td>Cost Certainty</td><td colspan="4">Class 3</td></tr>
</table>

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.030 – Expansion of US Pre-Clearance Facilities				
Project Group	South Apron Hub Group			
Treatment	StageGate			
Asset Life	25 Years			
Project Output	• Re-orientate and expand CBP facility to include a minimum of 11 US Transport Security (TSA) screening lanes and 30 CBP officer positions. • Security lanes fitted with ATRS equipment. • Additional space will accommodate secondary screening, queue space, circulation space and staff accommodation. • First-floor plant, circulation, passenger amenity space and Pier 5 connectivity. • Optimised arrival, transfer and 3rd State Terminal 2 connections.			
Construction Programme	**Start**		**End**	
	Q1 2025		Q4 2027	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	57%	16%	27%	-
	€49,980,000	€13,770,000	€23,540,000	€87,290,000
Total	**€87,290,000**			
Cost Certainty	Class 3			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.031 – South Apron Expansion (Remote Stands, Taxiway and Apron)				
Project Group	South Apron Hub Group			
Treatment	StageGate			
Asset Life	34 Years			
Project Output	• Dual Code E taxi lanes, designed to ease congestion, maximise efficiency, and enhance safety of operations. • Demolition and relocation of various ancillary buildings, clearing the site for the proposed Pier 5 development. • Relocation of the Passenger Board Zone (now omitted following apron design refinement). • Relocate 9 existing narrow-body stands to the southern edge of the South apron. • Diversion of the Cuckoo Stream. • Attenuation control and storage. • Additional South Apron GSE parking.			
Construction Programme	**Start**		**End**	
	Q3 2025		Q3 2029	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	54%	16%	30%	-
	€113,090,000	€32,370,000	€62,070,000	€207,530,000
Total	**€207,530,000**			
Cost Certainty	Class 3			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.028 – Terminal 2 HBS Early Bag Store and Transfer Lines				
Project Group	South Apron Hub Group			
Treatment	StageGate			
Asset Life	10 Years			
Project Output	• 950 position Early Bag Store. • Additional Inter terminal transfer line. • Development of a fourth transfer Input line and associated vehicle manoeuvring space within the existing baggage sortation hall at apron level.			
Construction Programme	**Start**		**End**	
	Q1 2025		Q3 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	52%	11%	37%	-
	€18,000,000	€3,600,000	€12,810,000	€34,410,000
Total	**€34,410,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.033.1 – Enablement of Pier 3 for Precleared US-bound passengers				
Project Group	South Apron Hub Group			
Treatment	Flexible			
Asset Life	15 Years			
Project Output	• Retrofitting Pier 3 to accommodate both non-US and US-bound operations by providing a shuttle bus operation of US precleared passengers from Pier 4 to Pier 3. • Fit-out of Pier 4 bussing lobby (close to CBP facility) and reconfiguration of Pier 3 injection point to ensure passenger segregation. • New flexible gates on Pier 3 to enable segregation. • New toilet block to accommodate swing allocation of gates.			
Construction Programme	**Start**		**End**	
	Q2 2025		Q2 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	53%	10%	37%	-
	€4,750,000	€950,000	€3,300,000	€9,000,000
Total	**€9,000,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.072 – Transfer Immigration Booths – Pier 4 and T2				
Project Group	South Apron Hub Group			
Treatment	Flexible			
Asset Life	10 Years			
Project Output	• Development of additional transfer passenger documents and immigration check capacity. • Additional immigration officer booths. • Automated e-gates within the existing transfer facilities.			
Construction Programme	**Start**		**End**	
	Q1 2023		Q4 2024	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	51%	10%	39%	-
	€360,000	€70,000	€270,000	€700,000
Total	**€700,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.077 – South Apron Airside Support Centre				
Project Group	South Apron Hub Group			
Treatment	Flexible			
Asset Life	20 Years			
Project Output	• Refurbishment of the existing Flight Catering Building to accommodate a construction stage management compound and welfare facility for the South Apron Hub construction – offsetting alternative construction site set-up and management costs. • In the longer term, this building will be utilised for South Apron Ground Handler Accommodation.			
Construction Programme	**Start**		**End**	
	Q2 2023		Q1 2025	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	74%	11%	15%	-
	€8,590,000	€1,260,000	€1,760,000	€11,610,000
Total	**€11,610,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.03.078 – Pier 4 De-Flex				
Project Group	South Apron Hub Group			
Treatment	Flexible			
Asset Life	15 Years			
Project Output	• Provide flexible routing of departing passengers between apron level gates and airbridge vertical circulation cores. • Allows for apron level gates to be used by CBP operations when the first-floor gates are required for non-CBP operations.			
Construction Programme	**Start**		**End**	
	Q2 2025		Q1 2027	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	49%	10%	41%	-
	€2,140,000	€430,000	€1,770,000	€4,330,000
Total	**€4,330,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

North Apron Development

CIP.20.03.036

Project Summary

Dublin Airport proposes to develop the North Apron Area with the construction of a new Pier 1 East (Module 1), associated contact stands and site development works, to the East of the existing Pier 1.

The North Apron (aprons to the North of Pier 1 and 2) accommodates approximately 58% of the short-haul point-to-point flights operating from Dublin Airport today. In line with the Masterplan and customers expressed preference, the next logical step for the North Apron is the continued development of this stand capacity through the expansion of pier facilities toward the East; this development will provide capacity for approximately 4 million passengers per year.

Dublin Airport propose to deliver a scheme broadly aligned with the intent of the original CIP2020+, however elements of the scheme have been reassessed throughout the design development process, with a focus on consolidation and optimisation of deliverables where possible – please refer to the 'What Has Changed' section below for further details.

Project Deliverables

The CIP2020+ North Apron Development project incorporates the following components:-

Demolitions – Demolition and site clearance of the Old North Terminal Building, Hangar 1 and annexe, Hangar 2 and various small buildings. Diversion of services and utilities.

Module 1 Pier – The Pier 1 East will be built in phases with the first phase, Module 1, delivered as part of CIP2020+. Module 1 will be a two-storey building focused on providing walkout contact stands for short-haul operations. Designed initially with departures located on apron level, with double-height Code C gates for four new narrow-body aircraft walkout contact stands. The building is linked directly

to the Sky Bridge via a departure's corridor and vertical circulation cores. The first floor consists of an arrival's corridor with vertical circulation cores which connect to the stands.

Design for the proposed Module 1 safeguarded potential for a future reception node. The intent of this node was to facilitate transfer passengers, which are not envisaged as a demand requirement for the immediate future.

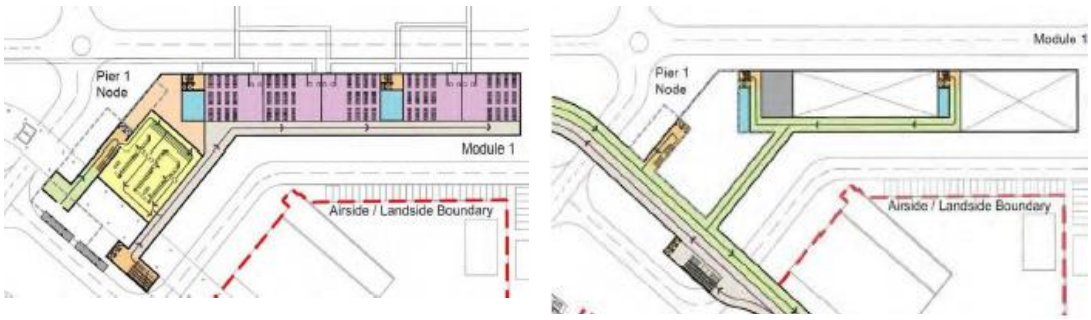


Exhibit 6.35 *– Module 1 Original Apron and First Floor Concept Plan (Indicative)*

Ancillary Support Building – Module 1 and the new Sky Bridge vertical circulation core require demolition of the Old North Terminal and North Apron Handler Accommodation Building, which house the airports Incident Reception Centre, operations training offices, classrooms and apron handler accommodation. The Ancillary Support Building is proposed as a self-contained two-storey stand-alone building in the current Blue Staff Carpark.

Apron Expansion – Associated Apron development works, facilitating stand development and various elements of related pavement construction and rehabilitation.

5H Pre-Boarding Zone (PBZ) – Development of a remote PBZ, serving the proposed Apron 5H.

What Has Changed

The following outlines the key elements of proposed consolidation and optimisation of the scheme. The changes reflect scope and design refinement following further operational review, brief development, site survey, and changes in regulation and legislation. All baseline project costs have been adjusted to reflect current inflation projections.

Demolitions – To maximise the Module 1 Pier extension, there is a proposal to demolish Hangar 3 to provide space for one further walkout MARS stand, comprising two additional narrow-body stands.

Module 1 Pier – The departure level has been moved to the first floor, providing the opportunity for significant optimisation of the asset, within a similar building footprint to the initial proposal. Benefits include:

- Level uninterrupted departures access from the Skybridge.
- Additional departure passenger amenity space including seating; retail offering; F&B; and lounge space. Noting that this capacity project only covers costs up to shell and core, with fit-out covered by the respective commercial project or concessionaires.
- Introduction of elevated fixed links, providing safe walkout access to contact stands and optional use airbridge enablement - allowing passengers to avoid apron road traffic.
- Apron level optimised to accommodate the Handler relocations, replacing the need for a significant stand-alone Ancillary Support Building.
- All contact gates are also arranged to accommodate remote bus operations, providing remote Apron 5G and 5H flexibility – negating the requirement for the development of the PBZ.
- Apron level optimised to include two additional walkout contact gates, which double as bus gates to service remote Aprons 5G and 5H – also negating the requirement for development of PBZ.
- The Module 1 design has also been reviewed and refined from a sustainability perspective, with building fabric and mechanical systems upgraded to comply with new legislation and regulatory requirements. The following summarises a number of the fundamental changes impacting cost: -
- Sustainable heat source technology - centralised air to water heat pumps, reversible to facilitate both heating and cooling. Integration of Thermally Activated Building Structures (TABS) to work in tandem with the proposed heat source.
- Façade treatments considered to optimise the effects of solar gain.

Exhibit 6.36 *– Module 1 Current Proposition*

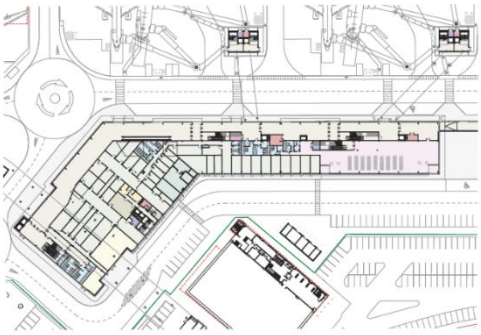


Exhibit 6.37 *– Module 1 Current Proposition L10 (Indicative)*

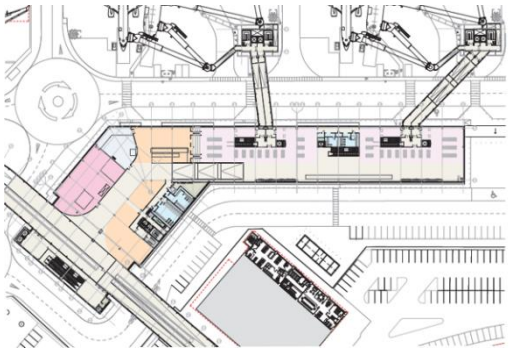


Exhibit 6.38 *– Module 1 Current Proposition L20 (Indicative)*

Skybridge – The Skybridge flow has been swapped to optimise the departure routing, allowing for a seamless connection between the existing Terminal 1, the new Module 1 and the existing Pier 1. All North Apron departing passengers can now benefit from the new amenity space.

Apron Expansion – With the removal of Hangar 3, the extent of the new apron and apron rehabilitation has increased, allowing for the construction of two additional walkout narrow-body stands.

Ancillary Relocations – As a consequence of the extent of demolitions, coupled with the requirements driven from the additional stand capacity, an element of ancillary accommodation will be relocated to an existing greenfield site to the East of Hangar 5. In particular, this site will accommodate the new Incident Reception facility and Airside Management Unit, in addition to GSE storage and battery charging facilities.

Site Clearance and Potential Remediation - The North Apron has been in operational use for decades, and a significant risk of ground contamination exists. The extent of this is not known at this time. Should this risk be realised, it will be raised through the StageGate process.

Business Case Justification

The North Apron Development project is critical to ensure Dublin Airport meets its future operational and regulatory requirements to maintain the highest level of safety, efficiency, and business resilience, particularly as airport activity is anticipated to grow to around 40 mppa in the coming years. The Module 1 element presents the only Terminal 1 served contact gate capacity expansion proposed in this CIP period enabling approximately 4 million additional passengers annually.

The proposed changes to Module 1 and the Sky Bridge provide an improved and efficient passenger experience. At the same time, they provide flexible facilities to accommodate the needs of both low cost and full-service carriers operating from Terminal 1.

Enablement of the optional use Module 1 airbridges mitigates the need to develop complex and costly retrofit airbridges to existing Pier 1 or Pier 2 proposed under original CIP2020+ project CIP 20.03.043A, with the latter not feasible following an internal review. The proposed additional retail, F&B and airline lounge space has the potential to increase commercial revenue while improving the passenger experience. The additional MARs stand provides an opportunity for incremental passenger growth, allied to the preference for contact rather than remote stand operation.

Project Detail Summary and Costs

<table>
<tr><th colspan="5">CIP.20.03.036 – North Apron Development</th></tr>
<tr><td>Project Group</td><td colspan="4">Others</td></tr>
<tr><td>Treatment</td><td colspan="4">StageGate</td></tr>
<tr><td>Asset Life</td><td colspan="4">32 Years</td></tr>
<tr><td>Project Output</td><td colspan="4"><u>Additional North Apron Pier development (Mod 1)</u>
• Existing building demolition.
• Six additional NBE contact stands.
• Four contact gates.
• Two bus gates.
• Four airbridges.
• Passenger amenity space, including seating; retail offering; F&B; and lounge space.
• Skybridge passenger flow optimisation and new VCC.
• Ancillary Support space at apron level.
• Apron Expansion.</td></tr>
<tr><td rowspan="2">Construction Programme</td><td colspan="2">Start</td><td colspan="2">End</td></tr>
<tr><td colspan="2">Q4 2025</td><td colspan="2">Q3 2028</td></tr>
<tr><td rowspan="3">Level 1 Costs</td><td>Construction</td><td>Design & Management</td><td>Escalation & Contingency</td><td>Total</td></tr>
<tr><td>57%</td><td>13%</td><td>30%</td><td>-</td></tr>
<tr><td>€137,220,000</td><td>€32,300,000</td><td>€68,420,000</td><td>€239,940,000</td></tr>
<tr><td>Total</td><td colspan="4">€239,940,000</td></tr>
<tr><td>Cost Certainty</td><td colspan="4">Class 3</td></tr>
</table>

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

West Apron Vehicle Underpass – Pier 3

CIP.20.03.051.2

Project Summary

This project proposes the construction of a vehicle underpass below Runway 16-34 linking Pier 3 to the Western Campus.

The current masterplan envisions an expansion of the airport to the west campus, keeping the crosswind Runway 16-34 operational. To meet future capacity uplift, full use of the west apron and additional aircraft stands will be required. Initially, the underpass will maintain access to existing western critical cargo operations once the North Runway goes live in 2022 and closes the current western access surface crossing. Access to the west via the perimeter road is not a feasible option, as such the underpass is critical to Dublin Airport in both the near and long term.

In the absence of reliable access to the west, the airport's capacity will be restricted to the stand capacity in the eastern campus. Current Cargo, GA and contingency operations allocated to the west will have to be allocated back to eastern campus stands utilising capacity ideally reserved for passenger operations.

Project Deliverables

The original CIP 2020+ project proposed a single cell single lane in each direction underpass. Following a lengthy review, we now propose a dual cell two-lane in both direction underpass, providing greater flexibility, resilience and safety. The underpass will be constructed using cut-and-cover techniques.

The underpass alignment will be at the centre of the airfield linking Pier 3 to the western campus. This alignment optimises the functionality of the underpass by locating it at a central area of the campus, with ease of access via the internal road network from the north and south aprons.

A ramp approximately 210m long will provide access to the underpass from the northern side of Pier 3. The underpass will run below the existing Apron Taxiways 4 and Taxiway F2 before reaching the Runway 16-34, continuing under taxiways H2 and M2 and will then ramp up another approximately 140m to surface level at the west apron.

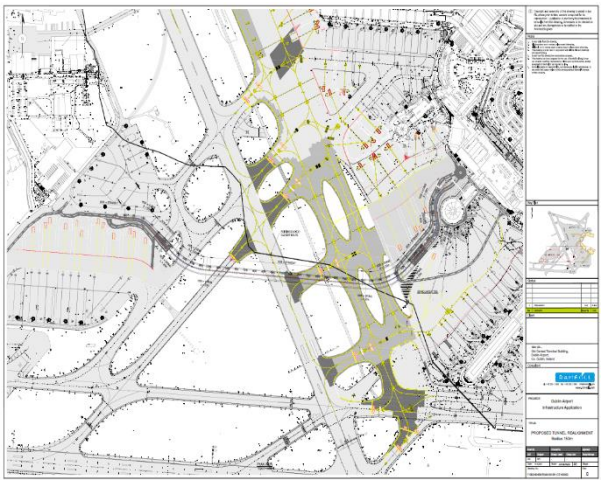


Exhibit 6.39 *– Proposed Alignment (Indicative)*

The underpass alignment results in the need for a reconfiguration of aircraft stands and access roads around Pier 3. The installation of fixed links and new elevated walkways that cross over the new underpass ramp will be required to access some of the reconfigured stands north of Pier 3. This alignment has been designed to safeguard for a possible extension of Pier 3 in the future.

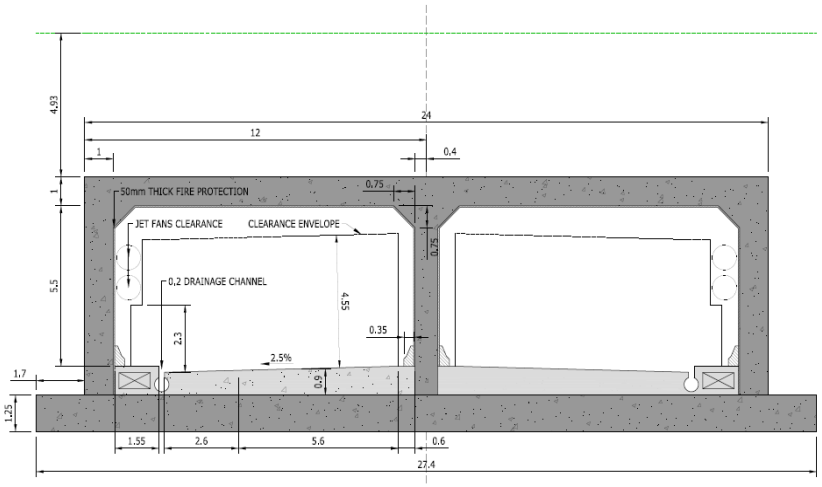


Exhibit 6.40 *– Proposed Section (Indicative)*

What Has Changed

The original project allowed for a single cell underpass with a single lane in each direction. Dublin Airport is now proposing a dual cell with two lanes in each direction for safety, contingency and redundancy reasons. For example, in a single-cell scenario, an accident or incident inside the underpass may close the underpass for several hours until the incident is resolved, repairs made and inspections completed.

A single lane underpass is unlikely to achieve fire cert approval by the local fire authority in order to ensure a place of safety can be provided to allow safe evacuation and firefighting within the underpass. Furthermore, some ground handling equipment is slow-moving. If a single lane underpass were delivered, the journey time from east to West would be dictated by the speed of the slowest moving vehicle, i.e. 15km/hr. Dual lanes allow for a slow-moving lane on the left-hand side and an overtaking / faster vehicle lane on the right, particularly important to efficient future western operations.

Following design development, the original reconfigured Pier 3 stand concept has been refined to take account of jet blast, GSE manoeuvring, airbridge positioning and fixed link alignment. The following summarises the fundamental changes impacting cost:

- Shortening of the original proposed route by approximately 60m.
- Inclusion of “future pipework” to facilitate drainage surface water masterplan.
- Change from single cell to dual cell.

Business Case Justification

The West Apron Underpass Pier 3 project is critical to ensure Dublin Airport meets its future operational and regulatory requirements to maintain the highest level of safety and business resilience, particularly as airport activity is anticipated to grow to around 40 mppa in the coming years. We believe the project presents the safest and most economical, efficient and future-proofed solution to link the east and west campuses triggered now by the activation of the North Runway and new primary taxiway flows.

The underpass ultimately maintains safe and reliable access to existing proposed western aircraft stands, focusing on critical cargo and continency operations. Without the underpass connectivity, these operations will have to be allocated to eastern campus stands utilising capacity ideally reserved for passenger operations.

We believe delaying the underpass would create challenges in the next CIP period due to the lengthy planning and construction period. Enabling the underpass in this CIP period will provide vital stand allocation flexibility and capacity, which will be essential in the next CIP period should we wish to tackle Pier 2 and Pier 3 replacement projects or initial western satellite development.

Project Detail Summary and Costs

CIP.20.03.051.2 – West Apron Vehicle Underpass Pier 3				
Project Group	Others			
Treatment	StageGate			
Asset Life	50 Years			
Project Output	• Provision of a dual cell two-lane underpass linking Pier 3 to the western campus. • Associated underpass services and control systems. • Pier 3 apron stands and apron road reconfiguration. • Pier 3 extended fixed links, VCC and airbridges.			
Construction Programme	**Start**		**End**	
	Q3 2023		Q4 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	62%	6%	32%	-
	€152,630,000	€14,160,000	€78,270,000	€245,060,000
Total	**€245,060,000**			
Cost Certainty	Class 3			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Taxiway R Widening Works

CIP.20.03.074 (New Project)

Project Summary

This project proposes the development of (future) Taxiway R between Link 1 and Link 2 to enable continuous Dual Code E Operations North and South of the Airfield.

The Dublin Airport 40 mppa Masterplan shows Dual Code E taxiways from Link 6 to the South Apron. Implementation of the masterplan design was broken into three phases aligned to forecast demand and adjacent development need:

- Phase 1 – Dual Code E taxiways between Link 2 to Link 6, delivered through PACE.
- Phase 2 - Dual Code E taxiways between Link 1 to South Apron, delivered through PACE.
- Phase 3 – Dual Code E taxiways between Link 1 to Link 2, delivered through this CIP cycle.

Phases 1 and 2 have been delayed and Phase 3 delivery will now likely commence in tandem with Phases 1 and 2 in this CIP period. Therefore, this project requests funding for the Phase 3 element only. All three projects are necessary to increase taxiway capacity and improve efficiency and safety. The Phase 3 works will join up the PACE Phases 1 and 2 to enable unconstrained concurrent Dual Code E aircraft movements North and South of the airfield, ultimately mitigating bottlenecks and delays to Runway 10R and 28L and traffic accessing or egressing from the South Apron.

Project Deliverables

The Phase 3 works will join up the PACE Phases 1 and 2 to enable unconstrained concurrent Dual Code E aircraft movements North and South. The project is primarily made up of taxiway re-alignment and pavement works; however, the following is also envisaged:

- Taxiway pavement expansion (removing grass area)
- Centre and edge taxiway lighting.
- Drainage and attenuation.
- Taxiway markings and signage.
- Re-alignment of stand 404C, with the potential omission of stand 404R.

- Re-alignment of stand 404C lead-in, AVDGS and fuel hydrant.
- Relocation of jet blast fence, apron lighting and GSE parking.

Exhibit 6.41 *– Indicative Dual Code E Phase 3 Scope Boundary (Indicative)*

Business Case Justification

This project is part of a wider suite of airfield taxiway projects necessary to maintain the highest level of safety, efficiency, and business resilience, particularly as airport activity is anticipated to grow to around 40 mppa in the coming years. Furthermore, South Apron activity is expected to grow significantly with the introduction of Pier 5; as such, this project is critical to:

- Maintaining efficient access and egress from the South Apron.
- Reduce taxiway delay.
- Reduce taxi fuel burn and carbon emissions.
- Improving on-time performance.

Project Detail Summary and Costs

CIP.20.03.074 – Taxiway R widening				
Project Group	Others			
Treatment	StageGate			
Asset Life	20 Years			
Project Output	• Widening of Taxiway R to enable unconstrained Dual Code E aircraft movements both North and South. • Enabling works, including re-alignment of stand 404C, with the potential omission of stand 404R.			
Construction Programme	**Start**		**End**	
	Q4 2024		Q3 2025	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	62%	12%	27%	-
	€4,470,000	€890,000	€1,960,000	€7,320,000
Total	**€7,320,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Fuel Hydrant Network

CIP.20.03.075 (New Project)

Project Summary

Dublin Airport proposes the installation of a fuel hydrant system to service aircraft on the end of Pier 1, Pier 3, West Apron, and to provide future-proofing for Apron 5H.

We propose to cancel the original CIP2020+ "Hydrant Enablement - Pier 2 and 3" project CIP.20.03.71 given changes in our apron fuelling rollout strategy and replace it with this new "Fuel Hydrant Network" project that will cover the development of hydrants to Pier 3 and the eastern end of Pier 1; in addition to a West Apron into-plane facility and future-proofing for remote Apron 5H. Hydrant enablement of Pier 2 will be re-assessed in the next CIP period, along with the wider strategy for the re-development of the pier.

The provision of fuel hydrants in place of the existing tanker arrangement is considered an optimal fuelling method since it provides an environmentally friendly, fast and reliable method. It also has an overall positive impact on the safety and efficiency of everyday airport operations. This proposed project builds on the existing system serving Pier 1 and Pier 4, and consists of a network of underground pipe, control valves, stand discharge points and remote bowser loading bay.

Enablement of a fuel spur and supporting infrastructure west of Runway 16-34 will be critical to maintaining efficient western apron operations once the North Runway becomes operational in 2022. Once operational, fuel bowsers will no longer be able to access the west aprons via the 16-34 surface crossing.

Exhibit 6.42 *– Example of Hydrant Fuelling*

Project Deliverables

This project is made up of the following deliverables:

Pier 1 (Eastern End) – Extension of existing fuel pipes, installation of control valves and apron discharge points to each aircraft position.

Pier 3 – Extension of existing fuel pipes, control valves, and apron discharge points to each wide-body aircraft position, installed during Underpass aircraft stand realignment works.

West Apron – Limited extension of existing fuel pipe to the west, installation of control valves and the development of a "stop-gap" inter-plane to allow western bowser loading. Noting that the proposed development will have limited capacity until a permanent pipeline is delivered as part of a more holistic western hydrant expansion project in future CIP periods.

Apron 5H – Installation of ducts and sleeves for future hydrant pipe installation to 5H stands. Sleeves to be installed as part of 5H pavement construction from the grass area at the head of 5H to future hydrant pot location at each aircraft position.

Business Case Justification

The Fuel Hydrant Network project is critical to assist Dublin Airport in reaching its sustainability targets, notably the Clean Vehicle Directive and 2021 Climate Action Plan, ultimately working towards Net Zero carbon emission by 2050. These targets benefit all airport stakeholders by providing the necessary credentials and licences to increase airport activity over the coming years and to gain regulatory planning approval to increase the airport's passenger cap from 32 mppa to 40 mppa.

This project reduces our partner airlines reliance on traditional diesel fuel bowsers, which produce emissions during apron transits and fuelling operations. Increasing the number of fuel hydrant enabled stands will allow the utilisation of electric fuelling carts and ultimately reduce apron road and stand equipment congestion, increasing apron worker and walkout passenger safety.

This project will not contribute to reducing Dublin airport's direct carbon emissions but will enable third party users of the fuelling facilities to reduce their emissions by reducing the use of diesel fuel bowsers. With increased fuel hydrant usage, fewer bowsers will need to be screened at our vehicle security gate

posts, reducing security screening demand and potentially the number of Airport Security Officers required at peak times.

Project Detail Summary and Costs

<table>
<tr><th colspan="5">CIP.20.03.075 – Fuel Hydrant Network Works</th></tr>
<tr><td>Project Group</td><td colspan="4">Others</td></tr>
<tr><td>Treatment</td><td colspan="4">StageGate</td></tr>
<tr><td>Asset Life</td><td colspan="4">20 Years</td></tr>
<tr><td>Project Output</td><td colspan="4">• Pier 1 (eastern end) – extension of existing fuel pipes, installation of control valves and apron discharge points to each aircraft position.
• Pier 3 – extension of existing fuel pipes, control valves and apron discharge points to each wide-body aircraft position.
• West Apron – extension of existing fuel pipe to the west, installation of control valves and the development of an “stop-gap” inter-plane to allow western bowser loading with limited future capacity.
• Apron 5H – Installation of ducts and sleeves for future hydrant pipe installation to 5H stands.</td></tr>
<tr><td rowspan="2">Construction Programme</td><td colspan="2">Start</td><td colspan="2">End</td></tr>
<tr><td colspan="2">Q4 2024</td><td colspan="2">Q2 2027</td></tr>
<tr><td rowspan="3">Level 1 Costs</td><td>Construction</td><td>Design & Management</td><td>Escalation & Contingency</td><td>Total</td></tr>
<tr><td>53%</td><td>11%</td><td>36%</td><td>-</td></tr>
<tr><td>€17,350,000</td><td>€3,470,000</td><td>€12,030,000</td><td>€32,860,000</td></tr>
<tr><td>Total</td><td colspan="4">€32,860,000</td></tr>
<tr><td>Cost Certainty</td><td colspan="4">Class 4</td></tr>
</table>

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

De-Icing Consolidation

CIP.20.03.076 (New Project)

Project Summary

Dublin Airport proposes to consolidate existing on-stand de-icing activities to support all stakeholders in severe weather conditions.

In 2020, Dublin Airport reviewed the overall airfield de-icing strategy. This review concluded that on-stand de-icing was the most efficient and sustainable solution considering the current and forecasted Irish climate. The strategy recommended a phased approach with the development of consolidated on stand de-icing facilities in the near term. And ultimately, several overflows and pressure release remote de-icing pads in the medium to long term.

This project aims to address the initial phase and consolidate the fluid strategy across the airfield, develop dedicated glycol storage facilities in the North and South Apron and improve coordination and communications with all stakeholders.

Exhibit 6.43 *– Examples of fluid storage and stand de-icing*

This project is in lieu of the originally CIP2020+ proposed remote de-icing pad at Runway 10R, which has been deferred to the next CIP period allowing time for development of a holistic airfield wide de-icing strategy aligned to our longer-term masterplan. The following key issues drive the de-icing consolidation project: -

Incentivising Minimum and Smart Fluid Usage - The current price-per-litre business approach promotes the overuse of fluid as providers are compensated to spray fluid, which has a negative environmental impact. The overuse is further enhanced by improper de/anti-icing fluid strategies and flight crews' overly conservative de-icing requests.

The price-per-litre approach does not promote glycol mitigation and source reduction strategies, resulting in a misalignment of key priorities between the service providers and the airport. Also, current fluid strategies employing diluted anti-icing fluids do not maximise fluid holdover time in active precipitation conditions, which may result in an unnecessary return to the gates for re-sprays, further congesting stand locations.

Efficiency and Operational Resilience - Currently, each provider maintains its fluid storage and supply (of different fluids in many cases) with infrastructure located at various locations across the airfield and with very little contingency storage in severe weather events. The various service providers employ a wide range of different fluid strategies, resulting in an overall inconsistency in service delivery.

Project Deliverables

The De-Icing Consolidation project is made up of three key components:

Consolidated Fluid Strategy – The preparation of consultancy led consolidated de-icing strategy to include stakeholder involvement. The output will define final proposals and deployment with a move towards efficient and intelligent utilisation of de-icing fluids.

Consolidated Fluid Storage – Provision of new consolidated North Apron de-icing fluid storage and de-icing vehicle park to complement similar proposal to be developed as part of the South Apron Hub expansion.

Improved De-Icing Data Collection – New IT monitoring and recording solution to enable the accurate collection of de-icing data, which will inform future de-icing development and operational planning.
De-Icing Information Sharing and Co-ordinating– Activating the snow module within CDM would enable aircraft allocation to de-icing locations based on readiness, with complete transparency and sharing of de-icing data.

Business Case Justification

Efficient and effective de-icing limits our impact on the environment in line with the sustainability goals of the airlines and airport.

This project has been prepared with the larger Surface Water Environmental Compliance project CIP.20.03.052, in that the future holistic airfield drainage network will accommodate the continuation of on-stand de-icing, albeit optimised via consolidated and standardised de-icing practices proposed by this project.

Furthermore, using the CDM snow module to plan de-icing activity, stand utilisation can be maximised by ensuring aircraft that require de-icing do not incur delay, which benefits the airline on-time performance.

De-Icing Consolidation project will also have an opex benefit, given possible reductions in the amount of glycol needing to be recovered from the apron or treated via the proposed Pollution Control System.

Project Detail Summary and Costs

<table>
<tr><th colspan="5">CIP.20.03.076 – De-Icing Consolidation</th></tr>
<tr><td>Project Group</td><td colspan="4">Others</td></tr>
<tr><td>Treatment</td><td colspan="4">Flexible</td></tr>
<tr><td>Asset Life</td><td colspan="4">7 Years</td></tr>
<tr><td>Project Output</td><td colspan="4">• Consolidated Fluid Strategy.
• Consolidated Fluid Storage.
• Improved De-icing Data Collection.</td></tr>
<tr><td rowspan="2">Construction Programme</td><td colspan="2">Start</td><td colspan="2">End</td></tr>
<tr><td colspan="2">Q4 2022</td><td colspan="2">Q2 2023</td></tr>
<tr><td rowspan="3">Level 1 Costs</td><td>Construction</td><td>Design & Management</td><td>Escalation & Contingency</td><td>Total</td></tr>
<tr><td>71%</td><td>14%</td><td>15%</td><td>-</td></tr>
<tr><td>€941,246</td><td>€188,249</td><td>€198,650</td><td>€1,328,146</td></tr>
<tr><td>Total</td><td colspan="4">€1,328,146</td></tr>
<tr><td>Cost Certainty</td><td colspan="4">Class 4</td></tr>
</table>

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Code E Engine Test Facility

CIP.20.03.079 (New Project)

Dublin Airport proposes to upgrade the existing Code C Engine Test Site (ETS) facility to accommodate Code E aircraft.

Project Summary

Existing Code E engine testing locations will no longer be available with the introduction of the North Runway in 2022 and associated planning condition, which states aircraft engine testing at the northern end of the airfield shall cease and shall be relocated away from populated neighbouring areas to a sound-controlled area in accordance with objectives of the Dublin Airport Local Area Plan 2006.

Therefore, to meet this objective, it is proposed to upgrade the existing Code C engine test site facility to accommodate Code E aircraft or find another suitable location on the airfield for a Code E test facility. The existing Code C facility is located between Taxiways Sierra, Whiskey 1 and Runway 16-34 in the centre of the airfield.

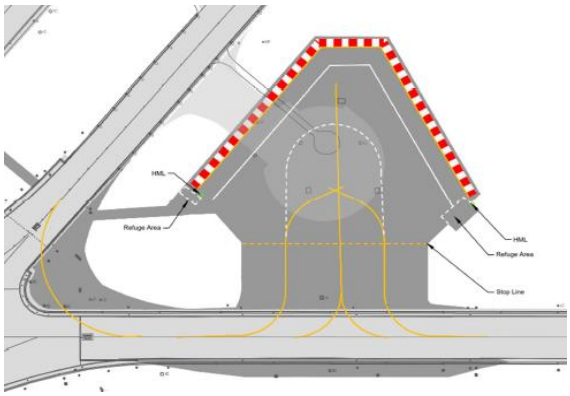


Exhibit 6.44 *– Proposed Code E Engine Test Facility (Indicative)*

Project Deliverables

This facility will be designed to have a high usability factor, minimal operational constraints and accommodate engine testing up to and including full power runs. The main deliverables of this project will include:

- Detailed design and planning.
- Expanded pavement.
- Code E jet blast fencing.
- High master lighting.
- Refuge and equipment storage.
- Drainage and attenuation.

- Taxiway fillets.

Business Case Justification

Currently, Dublin Airport has to close an existing taxiway Whiskey 1 or Sierra or the southern portion of Runway 16-34 to undertake a Code E engine test. Performing these tests on closed taxiways or Runway 16-34 have a negative effect on overall taxiway capacity and aircraft flows at Dublin Airport and will not be feasible in the medium to long term.

An engine run-up is a necessary part of routine engine maintenance or repair and engine change. An engine is brought up to and maintained at specific power settings ranging from idle to take-off settings, depending upon the particular maintenance check being performed. This operation needs to be carried out in a controlled and safe location, with minimal impact to our neighbouring community from a noise perspective.

Over 360 engine tests have taken place in Dublin throughout 2019, averaging one test a day. A vast majority of these were narrowbody aircraft, with 98% of the total test figure; however, Code E tests occur regularly, with a test every six weeks on average.

Project Detail Summary and Costs

CIP.20.03.079 – Code E Engine Test Facility				
Project Group	Others			
Treatment	StageGate			
Asset Life	20 Years			
Project Output	• Provide a Code E Engine Test Site facility. • Code E jet blast fencing. • High mast lighting. • Refuge and equipment storage. • Drainage and attenuation. • Taxiway fillet.			
Construction Programme	**Start**		**End**	
	Q4 2022		Q2 2023	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	61%	12%	27%	-
	€9,760,000	€1,950,000	€4,310,000	€16,020,000
Total	**€16,020,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

10L/28R Taxiway Exit AGL

CIP.20.03.080 (New Project)

Dublin Airport proposes to upgrade the taxiway centreline lead-on Airfield Ground Lights (AGL's) on the Northern and Southern Runways

Project Summary

As part of the Runway 16-34 Low Visibility Procedures (LVP) lighting project, Dublin Airport has committed to demonstrate compliance with the EASA recommendation in regulations CS ADR-DSN.M.710 Taxiway Centre Line Lights and CS ADR-DSN.M.715 Taxiway Centre Line Lights on Taxiways, Runways, Rapid Exit Taxiways or on other Exit Taxiways.

The proposed Runway 16-34 LVP lighting project includes the following parameters (green taxiway centreline lights along Runway 16-34 with Yellow/Green taxiway centreline for entry & exit taxiways. This has been accepted by the Dublin Airport safety regulatory.

On Runway 10R-28L (Southern Runway) the circuitry was reconfigured on Taxiways E1 and S7 as a safeguard measure during the Runway 10R-28L overlay project following discussions at Local Runway Safety Team (LRST) in 2014 and again at LRST in 2020. While these works were safeguarded as part of the runway overlay works, in was agreed to install the yellow / green AGL's at a later date when Dublin Airport was in a position to roll out this lighting configuration to all taxiways, in a holistic manner.

On Runway 10L-28R (Northern Runway), a yellow / green taxiway centreline AGL configuration was installed on all exit (i.e. lead-off) taxiways but lead-on AGL's were not provided, because at the time it was not consistent with other taxiways AGL configurations at Dublin Airport.

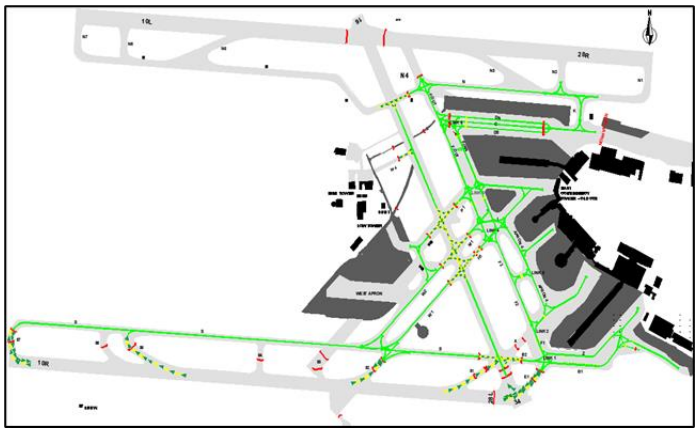


Exhibit 6.45 *– Example image of Yellow / Green lead-on centreline AGL's (Indicative)*

This project is proposing to upgrade all entry (i.e. lead-on) taxiways on the Northern and Southern Runways with Yellow/Green taxiway centreline to comply with the EASA recommendation above. Also, this project is to provide consistent taxiway lighting on all taxiways across the airfield, for all operators.

Project Deliverables

This project will replace existing taxiway centreline fittings associated at all entry points to the Northern and Southern Runways with Yellow / Green AGL fittings including any circuitry reconfiguration, as required.

Business Case Justification

Once the Runway 16-34 LVP lighting project is completed, Runway 16-34 will have a Yellow / Green centreline AGL's configuration on all entry and exits points to Runway 16-34. The North and South Runways will not be aligned to Runway 16-34, and this will introduce taxiway centreline lighting inconsistencies across the airfield.

This project will bring all taxiway AGL centreline lights in line with EASA recommendations in regulation CS ADR-DSN.M.710 Taxiway Centre Line Lights and CS ADR-DSN.M.715 Taxiway Centre Line Lights on Taxiways, Runways and Rapid Exit Taxiways. This is to ensure consistent taxiway colour code lighting on all taxiways across the airfield for all operators.

Project Detail Summary and Costs

CIP.20.03.080 – 10L/28R Taxiway Exit AGL				
Project Group	Others			
Treatment	Flexible			
Asset Life	15 Years			
Project Output	• This project will replace existing taxiway centreline fittings associated at all entry points to the Northern and Southern Runways with Yellow / Green AGL fittings, including any circuitry reconfiguration.			
Construction Programme	**Start**		**End**	
	Q4 2024		Q4 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	€3,230,000	€646,000	€1,360,000	€5,240,000
Total	**€5,240,000**			
Cost Certainty	Class 4			

Apron 5H & North Apron Taxiway Rehabilitation

CIP.20.03.081 (New Project)

Project Summary

Dublin Airport proposes developing new North Apron aircraft parking stands and rehabilitating the associated taxiway way apron.

This project provides 12 remote code C aircraft parking stands (B737, A320), which can be combined to accommodate five widebody stands (A330, B777) in a MARS (Multi Apron Ramp System) configuration. The project also includes the necessary rehabilitation of adjoining North Apron taxiway pavement, which is over 60 years old and at the end of life. The new northern Apron 5H is an eastward extension of Apron 5G, sited on the footprint of Light Aircraft Park Bravo (LAPB) and adjoining grasslands.

Project Deliverables

The original PACE project provided the following deliverables:

- 12 new fully operational remote code C aircraft stands, of which ten also combine to accommodate up to three code E aircraft parking stands in MARS configuration.
- 5,000m^2 of GSE parking in the North Apron area.
- 7,000m^2 of open hangar General Aviation parking. (Now omitted).
- Rehabilitation of the adjoining North Apron Taxiway.
- Associated apron road, pollution control, attenuation, high mast lighting and airfield ground lighting.

Since the original concept was prepared, the project deliverables have increased to include:

- Two additional code E aircraft parking stands in MARS configuration.
- Relocated Sub Station F
- Site clearance and redundant stone stockpile removal
- Potential contaminated soil removal and treatment
- Additional Fingal County Council Development Contribution fees.

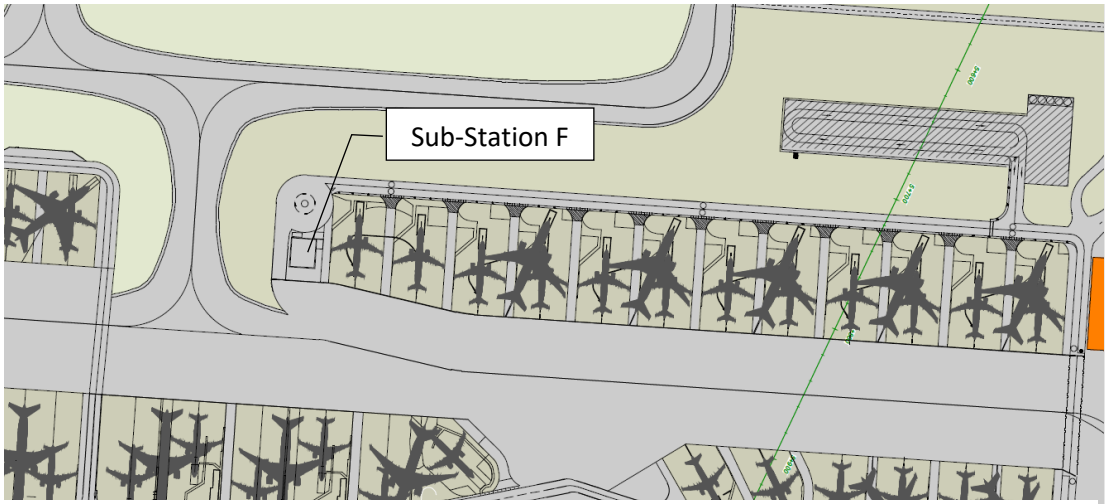


Exhibit 6.46 *– Refined Apron 5H Layout (Indicative)*

What Has Changed

The following outlines the fundamental changes to the project reflecting scope and design refinement following further operational review, brief development, site survey, and changes in regulation and legislation. All baseline project costs have been adjusted to reflect current inflation projections.

Inflation – This original PACE project was prepared in 2017 and approved in 2018; since 2017, significant cost inflation has occurred across the Irish construction industry. Therefore, the original estimate for this project has been revised to bring this project in line with 2022 construction costs.

Additional Widebody Stands – The new stand and taxiway alignment has been refined and optimised to increase the original provision of three widebody MARS stands to five. Additional signage, lighting, and lead in markings are thus required.

Relocated Substation F – The existing substation must be enlarged to accommodate Apron 5G and the new Apron 5H. The existing substation cannot be increased in size in its current location due to constraints imposed by the North Runways parallel taxiway; as such, the existing substation must be removed and re-provided to the western end of the new Apron 5H.

Site Clearance and Redundant Stone Stockpile Removal – The eastern end of new Apron 5H was located atop redundant stone stockpiles. The original project assumed the stone stockpile could be recycled and used across various airfield projects; following review; this was not feasible. The stockpile

thus requires removal, and the resulting site cleared as an enablement phase in advance of constructing the new apron.

Potential Contaminated Soil Removal and Treatment - The existing North Apron has been operational for decades, and a significant risk of ground contamination exists. The extent of this is not known at this time. Should this risk be realised, it could have a high cost for the project. Dublin Airport is currently undertaking site investigation to understand the potential extent of this risk and is proposing a contingency of between €7.5-10 million for use only should this cost materialise. This was not included in the original Apron 5H estimate as Dublin Airport was not aware of this contamination back in 2017.

Additional Fingal County Council Development Contribution fees – In late 2021, Fingal County Council (FCC) granted Planning Permission for Apron 5H and the North Apron Taxiway rehabilitation works. The approval included a condition for Dublin Airport to pay significant Development Contribution fees over and above that originally anticipated. We are currently negotiating reduced contribution fees but have included the additional costs in this update. The total construction cost will be adjusted downwards should the Development Contribution fee be reduced.

Open Hangar General Aviation Parking – The originally proposed 7,000sqm open hangar General Aviation pavement has been omitted from this project to make way for a new third-party code C hangar. In the interim, General Aviation will be accommodated about the eastern aprons when stands are available or about the western apron when the east is full, with access via the perimeter roads. General Aviation will be accommodated on the western apron with access via the CIP2020+ proposed Vehicle Underpass in the medium-term from around 2025 onwards.

Business Case Justification

The new apron will provide much-needed stand capacity required to close a capacity shortfall in the near term and serves as a direct replacement of Aircraft Park Charlie (APC) that was removed to develop the North Runway. All eastern stands were occupied at peak times in 2019, and as Dublin Airport returns to growth, the eastern campus will be fully utilised.

The east end of the adjoining North Apron Taxiway has reached the end of its useful life, and the pavement is deteriorating. Aircraft operating in this area are subject to significant restrictions due to the risk of foreign object debris and are required to shut down engines and be towed across this taxiway. A Pavement Condition Index survey was carried out on the airfield in 2015, which classified

this taxiway as “Poor” and “Very Poor” in places. A significant portion of the apron taxiway is now at the end of its serviceable life.

Project Detail Summary and Costs

CIP.20.03.081 - Apron 5H & North Apron Taxiway Rehabilitation				
Project Group	Terminal 1 Passenger Journey Group			
Treatment	N/A			
Asset Life	32 Years			
Project Output	• 12 NB Stands (5WBE). • 5,000 sqm GSE Parking. • Substation F. • Stockpile Clearance.			
Construction Programme	**Start**		**End**	
	Q3 2022		Q2 2024	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	70%	4%	26%	-
	€55,170,000	€3,110,000	€20,050,000	€78,330,000
Total	**€78,330,000***			
PACE Allowance	**€49,100,000**			
Additional Ask	**€29,230,000***			
Cost Certainty	Class 3			

* Cost may increase by €7.5-10m should additional works be required to remove and treat contaminated soil, subject to ongoing site survey.

** Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

6.13 Commercial Projects

6.13.1 These commercial projects have been reviewed and updated based on cost, scope and programme changes based on inflation, delays due to Covid-19 and changes in scope. Several additional projects have also been added since the determination in 2019 that reflect the airport's needs and that have become apparent since then. There are also projects required to rebuild the commercial offering at the airport as traffic returns over this determination period.

6.13.2 The addition of an extra two years to the determination period has also generated additional projects for consideration. The traffic return will require flexibility to serve our commercial partners and airline customers best. The mix of projects presented in this section delivers what the airport requires to build back after the pandemic and build towards the needs of our passengers' long term.

6.13.3 Project cost, scope, and programme changes are detailed in the project sheets in this section, noting that the original determined and updated cost and construction programme has been presented by project or project group where relevant.

6.13.4 Fundamentally the majority of the commercial projects are refined versions of those submitted, assessed and approved by CAR in 2019.

6.13.5 Since the issue of the Consultation Report, we have omitted several projects, namely Metro Development and Interface and New Kitchen in Terminal 2. The New Kitchen in Terminal 2 is now substantially complete and added to the "Completed Project" section with the project value to enter the CIP2020+ Review opening RAB. Also, following Stakeholder feedback, we have moved the Drop Off / Pick Up project from the sustainability envelope and placed it within the commercial.

6.13.6 ***Table 6.47*** presents a breakdown of our proposed commercial projects by project grouping, including proposed asset life, regulatory treatment and high-level estimated cost. Noting that one project has been marked as being complete.

Code	Name	CIP2020+ Review		
		Asset Life	Treatment	Cost
Commercial Projects				
Car Parks Group				
CIP.20.04.001	Car Parking Management System (Maintenance & upgrade)	10 Years	Flexible	€3.98m
CIP.20.04.005	Long Term Car Parking - Eastland's (2000 spaces)	20 Years	Flexible	€13.07m
CIP.20.04.007	Terminal 2 Multi-Storey Car Park (680 spaces)	25 Years	Flexible	€22.36m
CIP.20.04.009	Staff Car Park	20 Years	Flexible	€7.25m
Food and Beverage Group				
CIP.20.04.003	New Food & Beverage Fit out (T1X)	20 Years	Flexible	€3.37m
CIP.20.04.023	Food & Beverage Provision & Fit-out – Post CBP	20 Years	Flexible	€4.46m
CIP.20.04.030	New Kitchen in Terminal 2	20 Years	Completed	€2.26m
Other Projects				
CIP.20.04.002	Car Hire Consolidation Centre	20 Years	Deliverable	€33.00m
CIP.20.04.004	Digital Advertising Infrastructure	5 Years	Flexible	€8.33m
CIP.20.04.016	Platinum Services Upgrade Works	10 Years	Flexible	€7.13m
CIP.20.04.017	Airline Lounges - Expansion, Upgrade & New	12 Years	Flexible	€16.81m
CIP.20.04.018	Fast Track Improvements	7 Years	Flexible	€6.87m
CIP.20.04.021	West Apron - Accommodation & Welfare Facilities	25 Years	Flexible	€2.93m
CIP.20.04.025	Commercial Property Refurbishment	7 Years	Flexible	€6.89m
CIP.20.04.032	Drop Off / Pickup	5 Years	Flexible	€5.24m
CIP.20.04.031	Fuel farm welfare	20 Years	Flexible	€4.06m
CIP.20.04.034	OCTB Refurb	20 Years	StageGate	€9.05m
CIP.20.07.010	Office Consolidation & Refurbishment	25 Years	Flexible	€19.79m
CIP.20.08.001	Retail Refurbishments, Upgrades and New Developments	5 Years	Flexible	€11.71m
CIP.20.08.002	Retail Marketing & Media Installation	5 Years	Flexible	€1.90m
			Total	**£190.46m**

Table 6.47 – CIP2020+ Review Commercial Projects

Car Parks Group

CIP.20.04.001/005/007/009

Project Summary

Dublin Airport proposes a suite of projects to upgrade and increase car park capacity, sized to accommodate passenger demand through to 40 mppa.

Dublin Airport proposes to deliver the majority of the original CIP2020+ Commercial Car Park projects. Given their inter-dependencies and similarities, we have amalgamated the projects to proceed in this CIP cycle into a single "Car Parks" project group. We request that this group be treated as a single flexible envelope allowing us to expedite delivery and react to our passenger and staff needs as we rebound from Covid and grow towards 40 mppa.

Project Deliverables

All car park projects have been re-assessed with resultant projects prioritised; we propose to deliver the following projects within this CIP cycle up to 2026, noting that the Terminal 1 Multi-Storey Carpark project CIP.20.04.06 will be deferred to the next CIP period.

CIP.20.04.001 - Car Parking Management System

The existing car park management system (installed in 2006) allows efficient and effective management of front-end customer operations. This equipment enables delivery of service as well as collection of revenue. To continue the running of car parks and upgrade our capability, the asset will need to be replaced, as the existing car park management system at Dublin Airport is now end of life (the existing system has a 10-year asset life), with current version support concluding at the end of 2022. This project consists of replacing the following equipment across the four short term car parks and the three long term car parks:

- 24 entry terminals.
- 16 exit terminals.
- 21 pay stations.
- 34 barriers.

Exhibit 6.48 *– Pay Station*

- 34 CCTV cameras.
- 34 ANPR (Auto Number Plate Recognition) cameras.
- Provision of new sensor technology hardware (focus on specific sections of short-term car parks for premium paying customers).

CIP.20.04.005 - Long Term Car Parking - Eastland's

This project proposes to add approximately 2,000 new spaces to the existing Express Red Car Park, our highest quality long-term car park. The new spaces will be built on a greenfield site and deliver a porous, permeable paving solution, with adequate lighting, kerbing and signage (aligned with the existing standard in Express Red Car Park). This carpark is immediately parallel to the existing Red Car Park, resulting in efficient bussing and existing entry/egress infrastructure.

CIP.20.04.007 - Terminal 2 Multi-Storey Car Park

This project provides two new floors at the existing Terminal 2 Short Term (circa. 680 spaces). The added capacity will be built on top of the Terminal 2 Multi-Storey Car Park (two levels). This allows a direct connection to existing infrastructure, thus eliminating the need to build additional entry/exit points. The existing lift shafts will need to be extended to reach the two new floors.

***Exhibit 6.49**– T2 MSCP*

CIP.20.04.009 - Staff Car Park

Staff car parks are currently full to capacity and fragmented around the campus. Over the period of the CIP, Dublin Airport and Dublin Airport Central developments will re-purpose approximately 1,000 staff car park spaces inside the central campus. These need to be replaced and augmented with net new spaces to accommodate increased airport and partner airline staff and crew as the airport grows to 40 mppa. The staff car park project will deliver a North bound and a South bound staff car park. The car park will be built modularly, with the first phase delivering up to 1,000 staff car parks spaces to accommodate the projected shortfall in demand in 2023. Further phases will replace any existing staff car park spaces lost due to campus developments.

What Has Changed

Since the original CIP2020+ submission in 2019, minimal change has been made to the majority of the Car Park projects in terms of scope. However, all the projects have been cost adjusted to reflect current inflation projections and delivery programmes. One project for expansion to the Terminal 1 Multi-Storey Carpark has been deferred to the next CIP period beyond 2026, given its possible dependencies on the Metro Station and terminal connection strategy, which has not yet been finalised.

Business Case Justification

Car parking is a crucial passenger and staff requirement at Dublin Airport, even with our plans to increase Public Transport modal share to 40%. Therefore, our mission is to provide a quality and reliable product at yield managed prices for those passengers and staff who cannot avail of alternative modes of transport. For each project, we have developed high-level commercial business cases that demonstrate the commercial value of these projects and present for each revenue, NPV, IRR and payback values.

Project Detail Summary and Costs

CIP.20.04.001 - Car Parking Management System				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	10 Years			
Project Output	• 24 entry terminals, 16 exit terminals, 21 pay stations, 34 barriers, 34 CCTV cameras, 34 ANPR (Auto Number Plate Recognition) cameras. • Provision of new sensor technology hardware (focus on specific sections of short-term car parks for premium paying customers).			
Construction Programme	**Start**		**End**	
	Q2 2024		Q3 2025	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	63%	5%	32%	-
	€2,500,000	€190,000	€1,290,000	€3,980,000
Total	**€3,980,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.04.005 - Long Term Car Parking - Eastland's				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	20 Years			
Project Output	• Approximately 2,000 new spaces to the existing Express Red Car Park. • Permeable paving solution with adequate lighting, kerbing and signage.			
EBITDA Impact	€1.8mpa			
IRR	13.3%			
NPV	€29.1 m			
Payback Period	7 years 3 months			
Construction Programme	**Start**		**End**	
	Q2 2026		Q1 2028	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	53%	11%	36%	-
	€6,970,000	€1,390,000	€4,710,000	€13,070,000
Total	**€13,070,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.04.007 - Terminal 2 Multi-Storey Car Park				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	25 Years			
Project Output	• Two new Terminal 2 Short Term floors (circa. 680 spaces). • Extension of existing lift shafts to reach new levels.			
EBITDA Impact	€2.5mpa			
IRR	10.8%			
NPV	€29.6 m			
Payback Period	9 years 6 months			
Construction Programme	**Start**		**End**	
	Q1 2023		Q2 2025	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	54%	8%	38%	-
	€12,130,000	€1,820,000	€8,420,000	€22,360,000
Total	**€22,360,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.04.009 - Staff Car Park				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	20 Years			
Project Output	• 1,000 new staff car park spaces. • Permeable paving solution with adequate lighting, kerbing and signage.			
EBITDA Impact	€1.1mpa			
IRR	15.8%			
NPV	€17.0 m			
Payback Period	7 years 0 months			
Construction Programme	**Start**		**End**	
	Q2 2023		Q3 2025	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	61%	8%	31%	-
	€4,440,000	€555,000	€2,250,000	€7,250,000
Total	**€7,250,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Food and Beverage Group

CIP.20.04.003/023

Project Summary

Dublin Airport proposes a suite of projects to upgrade and increase food and beverage capacity, choice and experience across Terminal 1 and Terminal 2 designed to accommodate passenger demand through to 40 mppa.

Dublin Airport proposes to deliver all of the original CIP2020+ food and beverage and new kitchen projects. Given their inter-dependencies and similarities, we have amalgamated the projects to proceed in this CIP cycle into a single "Food and Beverage" project group. We request that this cluster be treated as a single flexible envelope allowing us to expedite delivery and react to our food and beverage partner and passenger needs as we rebound from Covid and grow towards 40 mppa.

Project Deliverables

All food and beverage projects have been re-assessed with resultant projects prioritised; we propose to deliver the following projects within this CIP cycle up to 2026:

CIP.20.04.003 - New Food & Beverage Fit-out (T1X)

Today there are 40 food and beverage units across Terminal 1 and Terminal 2 in Dublin. Despite increased passenger numbers in recent years, food and beverage passenger average spending has remained flat since 2015 as food and beverage facilities have become capacity constrained. Current estimates suggest that the International Departures Lounge facilities at Terminal 1 are currently under catered for food and beverage by approximately 80%.

Exhibit 6.50 *– Current T1X Food and Beverage*

This project proposes the development of a new flagship food and beverage space at T1X. This unit will include a 98sqm kitchen producing fresh food and delivering a quality food and beverage experience for passengers. The project will include:

- New shell and core space with services, suitable for 700sq.m.
- Consolidated staff welfare facilities.
- New storage facilities.
- Fit-out costs by concessionaires.

CIP.20.04.023 – New Food and Beverage Fitout – Post CBP

The US CBP Preclearance facility at Terminal 2 is a purpose-built facility that allows US bound passengers to undertake all US immigration, customs and agriculture inspections at Dublin Airport before departure. Since its introduction, Dublin Airport has witnessed a steady growth in transatlantic passengers and use of the CBP facility. This, in turn, has put increased pressure on the small food and beverage offering currently in the area. Post CBP food and beverage demand are anticipated to increase, given our plans to increase CBP capacity and extend the processing space.

The food and beverage passenger experience is considered poor due to the constrained environment. The small range and overcrowding compounds this issue. Currently, there is no full production kitchen or storage facilities post-CBP to allow for the production of fresh F&B to step change the offering in this area. Today, there is 168sq.m. of food and beverage space, which is considered 63% below industry benchmarks by 2024. These capacity constraints have led to penetration drops over the summer months, impacting the average transaction value. An opportunity exists to improve the passenger experience by providing upgraded and new food and beverage offering post-CBP designed to increase capacity and choice and provide a quality passenger experience while increasing sales and average transaction value.

This project proposes the following:

- The Construction of new food and beverage space adjacent to 51st and Green which has not yet been started. This space is currently underutilised ramp accommodation. The costs will include existing space clearance and shell and core works with fit-out costs covered by concessionaires.

What Has Changed

Since the original CIP2020+ submission in 2019, minimal change has been made to the New Food and Beverage Fit out (T1X) projects in terms of scope. All the projects have been cost adjusted to reflect

current inflation projections and delivery programmes. Allowances have been added for landlord responsibilities and contractor preliminaries where appropriate.

Business Case Justification

Food and beverage are critical aspects of the airport's passenger experience proposition. To ensure a good service and quality experience, food and beverage capacity must match demand, which is set to increase as the airport grows to 40 mppa over the coming years. Passengers expect the food and beverage experience to be a premium extension of the terminal passenger journey, with a choice of efficient and comfortable offerings, providing quality food and drink; as such, the infrastructure should be developed to match.

For each project, we have developed high-level commercial business cases that demonstrate the commercial value of these projects and present for each revenue, NPV, IRR and payback values.

Project Detail Summary and Costs

CIP.20.04.003 - New Food and Beverage Fitout – T1X				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	20 Years			
Project Output	• New shell and core space with services, suitable for 700sq.m. • Consolidated staff welfare facilities. • New storage facilities. • Fit-out costs by concessionaires.			
EBITDA Impact	€0.2mpa			
IRR	15.8%			
NPV	€5.6 m			
Payback Period	3 years 4 months			
Construction Programme	**Start**		**End**	
	Q1 2023		Q3 2023	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	66%	5%	29%	-
	€2,210,000	€170,000	€990,000	€3,370,000
Total	**€3,370,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

CIP.20.04.023 - Food & Beverage Provision & Fit-out – Post CBP				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	20 Years			
Project Output	• New F&B space adjacent to 51st and Green. • Costs include existing space clearance and shell and core works with fit-out costs covered by concessionaires.			
EBITDA Impact	€0.4mpa			
IRR	19.9%			
NPV	€11.2 m			
Payback Period	9 years 1 month			
Construction Programme	**Start**		**End**	
	Q1 2025		Q4 2025	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	68%	5%	27%	-
	€3,030,000	€230,000	€1,200,000	€4,460,000
Total	**€4,460,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Car Hire Consolidation

CIP.20.04.002

Project Summary

This project identifies the need to upgrade the existing Eastlands car hire facility at Dublin Airport, including additional car rental spaces.

Car hire facilities are critical for maintaining existing car hire operations and to satisfying passenger's needs. The existing compound buildings have several maintenance and structural issues, and there are ongoing opex costs to maintain these buildings in the Eastlands.

The most common customer complaint concerning car hire is wait-time at all three locations (Terminal 1, Terminal 2 and Eastlands). The existing Eastlands facilities have minimal storage for ready / return vehicles.

***Exhibit 6.51**– Existing Eastlands Car Hire Facility*

Project Deliverables

This project aims to deliver an expanded and upgraded car hire facility to allow for modernisation and improved quality of service at Dublin Airport developed in three phases with phases one and two delivered in this CIP period up to 2026 and phase three in the next CIP period:

Phase 1 – Additional parking spaces to provide circa 4,000 additional car hire storage and return space to the rear of the compounds. To be delivered in this CIP period with costs included in this commercial project.

Phase 2 – Expansion and upgrades to the existing compounds buildings/infrastructure, this includes extending the maintenance and servicing areas to the rear of the compounds and replacing many of the end-of-life assets, for example roller doors, skylights, roof leaks etc. To be delivered in this CIP period with costs included in this commercial project.

Phase 3 – Additional Mobility improvements including pedestrian access and a cycle lane to be included. A dedicated area to be provided for car transporters and other heavy vehicles to load and offload safely. To be delivered in the next CIP period with costs included in a future CIP commercial project beyond 2026.

As Car Hire does not drive airport capacity this project will be proceeding with statutory planning in the near future to progress with delivering benefits as early as possible.

What Has Changed

Since the original CIP2020+ submission in 2019, the Car Hire Consolidation projects has been reviewed and further developed with parking requirements and scope updated following consultation with car hire operators. We have also split the works into three phases noting that all cost rates have been adjusted to reflect current inflation projections and delivery programmes.

Business Case Justification

Car Hire is a critical aspect of the airports surface access proposition, providing passengers with onward connectivity options. To ensure a good service and quality experience, hire car facilities must match passenger expectations.

Car Hire companies also partner with many airlines, providing a vital revenue stream improving the commercial viability of many air routes. Furthermore, airlines expect the car hire experience to be an extension of the terminal passenger journey; as such, the infrastructure should be developed to match.

We have developed a high-level commercial business case that demonstrates the commercial value of this project and present revenue, NPV, IRR and payback values.

Project Detail Summary and Costs

CIP.20.04.002 - Car Hire Consolidation Centre				
Project Group	Commercial			
Treatment	Deliverable			
Asset Life	20 Years			
Project Output	• 4,000 additional car hire storage and return spaces to the rear of the compounds. • Expansion and upgrades to the existing compounds buildings / infrastructure, extending the maintenance and servicing areas to the rear of the compounds. • Replacing many of the end-of-life assets.			
EBITDA Impact	€3.3mpa			
IRR	9.7%			
NPV	€32.1 m			
Payback Period	14 years 2 months			
Construction Programme	**Start**		**End**	
	Q2 2023		Q4 2025	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	64%	5%	31%	-
	€21,260,000	€1,590,000	€10,140,000	€33,000,000
Total	**€33,000,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Digital Advertising Infrastructure

CIP.20.04.004

Project Summary

This project proposes updating Dublin Airport AerPod digital advertisements in Terminal 1 and 2.

This expansion in digital advertising will see Dublin Airport lead the way in the Irish and international digital advertising arena with the proposed installation of large LED 'statement' digital formats in both Terminal 1 and 2. Together with the existing digital Aer Pod network, these new formats will provide Dublin Airport with the single largest digital advertising footprint in the market. Currently digital advertising footprint accounts for only circa 15% of our total advertising inventory yet contributes 35+% of total revenue. This is set to increase over the coming years with all forecasts (domestic and international) pointing to DOOH (Digital Out of Home) as the only segment set to grow.

In terms of technical format specifics, the main driver of this growth will be delivered via larger digital displays and formats, which are more ergonomically advantageous for the advertisers (with lower production costs Vs. vinyl printing), enable more flexible creative opportunities with immediate and responsive copy changes and generate higher customer engagement and personalization especially if programmatically optimized.

AerPod Replacement Project

Currently, Dublin Airport has 64 AerPods for commercial digital advertisement. The 64 AerPods are LED units and expand across both Terminal 1 and 2. The current AerPods are 70" display units, out of warranty, and at the end of their expected technology lifespan. These 70" displays are obsolete, old technology and are now superseded by 75" displays. The 75" screens will deliver 14.8% larger area of display, 32% reduction in energy consumption, 4K UHD capability and remote live view of how content is playing on the display. The 75" screen is also the new display size of large signage networks,

Exhibit 6.52 *–Existing AerPod*

benefiting from standardized display production and economies of scale. The hardware upgrade to a 4K digital signage player provides sharper, more detailed content, improved colour handling, improved image definition, improved image depth and a more immersive experience. This will result in a significant upgrade to the Dublin Airport digital advertising network, delivering confidence to the advertising market.

Project Deliverables

AerPod Replacement

This project includes replacing 64 existing AerPod screens and replacing them with a similar number of new generation Samsung 75" 4K UHD 700 displays distributed across Terminal 1 and 2.

Exhibit 6.53 *–Existing Skybridge Display*

Digital Expansion Programme

Following on from the success of the Skybridge lower digitization, the Guinness Storehouse screen in Terminal 1 and the Sky Screen in Terminal 2, we will continue to convert static ad sites to digital sites to meet the market needs. We propose the following:

- Upgrade of at least three existing key advertising static sites to digital LED formats Terminal 1 (or similar).
- Upgrade of at least three existing key advertising static sites to digital LED formats in Terminal 2 (or similar).
- T1 LED displays – will cover the complete digitization of the remaining existing static advertising sites on the Terminal 1 Skybridge

What Has Changed

The original CIP2020+ project proposed the replacement of three AerPods, due to the remaining now being at end of life we propose to increase replacement to 64 AerPods. The original CIP2020+ project proposed the installation of three large LED format displaces, we now propose to increase this to seven.

Business Case Justification

The new AerPods will be more attractive to the advertising market with the ability to increase the number of advertisements in rotation from 6 to 10. The new AerPod will be made in Ireland with local support and low carbon footprint. They will also have a 5-year warranty. The new displays will provide a significant energy saving assuming an estimated 32% reduction in energy use.

Similarly, the conversion of static ads to digital screens will be more attractive to the advertising market with the ability to increase the number of advertisements in rotation from 1 to 10. We have developed a high-level commercial business case that demonstrates the commercial value of this project and present revenue, NPV, IRR and payback values.

Project Detail Summary and Costs

<table>
<tr><th colspan="5">CIP.20.04.004 - Digital Advertising Infrastructure</th></tr>
<tr><td>Project Group</td><td colspan="4">Commercial</td></tr>
<tr><td>Treatment</td><td colspan="4">Flexible</td></tr>
<tr><td>Asset Life</td><td colspan="4">5 Years</td></tr>
<tr><td>Project Output</td><td colspan="4">AerPods
• Replacement of 64 existing AerPod screens with new generation Samsung 75” 4K UHD 700 displays across Terminals 1 and 2.
Digital Expansion Programme
• Converting static as sites to digital sites to meet market needs.
• At least 3 sites in T1.
• At least 3 sites in T2.
• Complete digitalisation of the remaining static sites on the T1 Skybridge.</td></tr>
<tr><td>EBITDA Impact</td><td colspan="4">€0.8mpa</td></tr>
<tr><td>IRR</td><td colspan="4">12%</td></tr>
<tr><td>NPV</td><td colspan="4">€0.4 m</td></tr>
<tr><td>Payback Period</td><td colspan="4">3 years 7 months</td></tr>
<tr><td rowspan="3">Construction Programme</td><td colspan="2">Start</td><td colspan="2">End</td></tr>
<tr><td colspan="2">Q2 2022</td><td colspan="2">Q4 2024</td></tr>
<tr><td rowspan="3">Level 1 Costs</td><td>Construction</td><td>Design & Management</td><td>Escalation & Contingency</td><td>Total</td></tr>
<tr><td>75%</td><td>4%</td><td>21%</td><td>-</td></tr>
<tr><td>€6,230,000</td><td>€310,000</td><td>€1,760,000</td><td>€8,330,000</td></tr>
<tr><td>Total</td><td colspan="4">€8,330,000</td></tr>
<tr><td>Cost Certainty</td><td colspan="4">Class 4</td></tr>
</table>

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Platinum Services

CIP.20.04.016

Project Summary

This project proposes upgrading the existing Platinum Services product at Dublin Airport.

Platinum Services is a 24-hour private terminal at Dublin Airport, open 7 days a week, with on-demand services to meet individual premium client needs whether departing, arriving or simply in need of a place to conduct business on the airport campus.

Platinum Services has experienced significant growth over the past 18 months, with demand for services outpacing available supply. We, therefore, propose the following project elements to alleviate this problem and unlock incremental revenue:

- Platinum General Upgrades.
- Platinum Ground Floor Expansion.
- Platinum First Floor Expansion.
- Platinum Carpark Management.

Exhibit 6.54 *– Platinum Services*

Project Deliverables

This Platinum Services project includes the following deliverables: -

Platinum General Upgrades - Platinum Service suites require continuous improvement and investment to meet customer expectations. With increasing passenger numbers, the maintenance of the suites has become more critical. This project element will provide new soft furnishing, fixtures, lighting, design features and kitchen upgrades.

Platinum Ground Floor Reconfiguration - Currently, Platinum Services operates seven ground floor suites, one of which is a designated meeting room facility. During busy periods, there are 70+ movements on peak days. Suite availability becomes a capacity constraint.

This is to facilitate a new product, Platinum Express, so we now need to reconfigure suite 4 into a communal suite enabling self-service catering options and workspace areas.

Requirement to upgrade the Presidential Suite to a higher spec and standard, this will include installing ensuite facilities, garden furniture upgrade, sound-proofing and updated décor.

Redesign of current kitchen and install kitchen cooking and serving equipment to facilitate an onsite chef.

Platinum First Floor Expansion

This project element proposes an extension of existing product and services delivered in rooms directly above the current physical footprint at Collinstown House. The proposed plan would see four new private suites including private bathroom facilities, a new boardroom with capacity for up to 12 persons, a storeroom, new office/staff kitchen area and male and female toilets. An elevator will also be required to facilitate access from the current ground floor area.

On completion of the above works in Collinstown House, the option to repurpose one of the existing ground floor suites into a communal suite is also available. This would further support revenue growth by enabling the creation of Platinum Express, a bespoke product that caters to time-sensitive passengers who wish to utilise the efficiency of our private security screening and transportation to/from the aircraft.

Platinum Carpark Management

Platinum Services currently manages all customer car parking via a manual, non-automated system. With no ticketed access/exit control capabilities currently in place, the business is estimated to be losing between 20% – 30% of the annual car parking revenue. The proposed solution is to install a ticketed controlled system and upgrade the Platinum Services car park product offering in-line with other Dublin Airport car parks.

What Has Changed

Since 2019, Platinum Service demand has exceeded forecast expectations; there is now a requirement for additional lounge and carpark management. The following elements have now been added to the project:

- Platinum first floor expansion.
- Platinum ground floor reconfiguration and upgrade.
- Platinum carpark management.

New allowances for contractor preliminaries and contingency have been included to reflect the increased scope and complexity of the project.

Business Case Justification

Platinum Services is a critical aspect of the airport's Premium Commercial and General Aviation passenger experience proposition, providing passengers with choice. To ensure a good service and quality experience, Platinum Service facility capacity must match demand, which will increase as the airport grows to 40 mppa over the coming years and has already been evident since 2019.

Dublin Airport Platinum Services provides a vital revenue stream, providing premium access into and out of Dublin. Furthermore, Platinum users require an enhanced premium experience over the standard terminal passenger journey; as such, the infrastructure should be developed to match.

We have developed a high-level commercial business case that demonstrates the commercial value of this project and present revenue, NPV, IRR and payback values.

Project Detail Summary and Costs

CIP.20.04.016 - Platinum Services Upgrade Works				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	10 Years			
Project Output	• Platinum General Upgrade. • Platinum Ground Floor Reconfiguration. • Platinum First Floor Expansion. • Platinum Carpark Management.			
Revenue Impact	€0.5mpa			
IRR	16%			
NPV	€6.2 m			
Payback Period	8 years 7 months			
Construction Programme	**Start**		**End**	
	Q1 2022		Q4 2023	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	64%	5%	31%	-
	€4,550,000	€340,000	€2,240,000	€7,130,000
Total	**€7,130,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Airline Lounges

CIP.20.04.017

Project Summary

This project identifies the benefits and proposes the upgrading and expansion of existing Airline Lounges and the development of new Airline Lounge opportunities to serve both Terminal 1 and Terminal 2 passengers.

Dublin Airport proposes relocating the existing Terminal 1 airline lounge and refreshing and expanding the existing Terminal 2 airline lounges. Also, following the refinement of the original CBP Extension building, a new post-CBP airline lounge will be developed. Given the inter-dependencies and similarities, we have amalgamated the elements to proceed in this CIP cycle into a single "Airline Lounges" project.

Our airline lounges offer a tranquil setting, comfortable, air-conditioned spaces with a range of lounge offerings (complimentary drinks, snacks, newspapers etc.) Dublin Airport currently operates the following lounges:

Exhibit 6.55– *Existing Terminal 1 Airline Lounge*

- Terminal 1 Lounge.
- Terminal 2 Lounge.
- Eastern.
- 51st and Green.

This project is broken down into the following three elements:

- Airline Lounge Upgrade.
- Increased Airline Lounge Capacity.
- Airline Lounge Relocation.

Project Deliverables

Airline Lounge Upgrades

Airline lounge products need continuous improvement and investment to meet customer expectations. With increasing passenger numbers, the maintenance of airline lounge space has become more challenging. Therefore, an ongoing airline lounge upgrades programme is required to maintain the required standard. Upgrade works to existing Terminal 2 Lounge, Eastern and 51st and Green are required over the 2020-2026 CIP period with works to include:

- Supply and installation of all kitchen equipment.
- Internal fit-out and decoration.
- Varying seating types.
- Charging points/ plug sockets.
- Spa-like shower facilities.
- Improved servery to display a variety of food (chill well, additional fridges etc.)
- New look and feel furnishings, lighting, etc.

Increased Lounge Capacity

Over the previous regulatory period (2014 – 2019), significant growth in passenger levels has pushed airline lounges to capacity at peak hours. The airline lounges are mainly utilised by wholesale (airline) passengers. Still, as new and current airlines add capacity on Dublin Airport routes, the airline's passenger base using our lounges continues to increase. More recently, the addition of new long-haul routes pre-covid has seen more extended airline lounge dwell time by new passengers resulting in pinch points at certain times throughout the day, impacting our customer experience.

We, therefore, propose the expansion of two existing lounges. The current Eastern and Terminal 2 Lounge is at capacity at peak times, with the latter also requiring a refresh. This project element proposes the development of a new upper-level mezzanine floor in each lounge, including a light refresh of the Eastern and a full refit of the Terminal 2 Lounge.

Terminal 1 Airline Lounge Relocation

The existing Terminal 1 Airline Lounge space located airside at mezzanine level is required to develop Terminal 1 Central Search Relocation to Mezzanine Level project CIP.20.03.012. Therefore, the current lounge will be displaced to a new location at the departure level. The shell and core element of the relocated airline lounge will be provided by CIP project Terminal 1 Departure Lounge (IDL) Reorientation and Rehabilitation CIP.20.03.013, with this commercial project providing the fit-out funding.

What Has Changed

Since the original CIP2020+ submission in 2019, we have reviewed the airline lounge offering; and made several changes to benefit from new terminal expansion project opportunities. The original “Mezzanine Level in Terminal 2” project has been re-defined to allow for mezzanine expansion of the existing Eastern and Terminal 2 Airline Lounge.

The original “Pier 1 Lounge”, which will now form part of Module 1, has been deferred to the next CIP cycle beyond 2026, given Module 1 will not be delivered until 2028. The fit-out required for the relocated Terminal 1 Airline Lounge has been included with shell and core cost provided by capacity project Terminal 1 Departure Lounge (IDL) Reorientation and Rehabilitation CIP.20.03.013.

All the project rates have been cost adjusted to reflect current inflation projections and delivery programme.

Business Case Justification

Airline Lounges are a critical aspect of the airport's passenger experience proposition. To ensure a good service and quality experience, airline lounges capacity must match demand, which is set to increase as the airport grows to 40 mppa over the coming years.

Our airline lounge product is also partnered with many airlines, providing a vital revenue stream and improving many air routes' commercial viability. Furthermore, airlines and passengers expect the airline lounge experience to be a premium extension of the terminal passenger journey; as such, the infrastructure should be developed to match.

We have developed a high-level commercial business case that demonstrates the commercial value of this project and present revenue, NPV, IRR and payback values.

Project Detail Summary and Costs

CIP.20.04.017 - Airline Lounges - Expansion, Upgrade & New				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	12 Years			
Project Output	• Airline Lounge Upgrades – kitchen equipment, internal fit-out and decoration, seating types, charging points, spa-like shower facilities, food servery, new look furnishings, lighting, etc. • Increased Lounge Capacity – expansion of Eastern and Terminal 2 Lounge (mezzanine floor). • Terminal 1 Airline Lounge Relocation – moved to the departure level.			
	T2 Lounge Expansion		Eastern Lounge Expansion	
EBITDA Impact	€0.3mpa		€0.3mpa	
IRR	25%		11%	
NPV	€4.2 m		€1.1 m	
Payback Period	5 years 8 months		6 years 0 months	
Construction Programme	**Start**		**End**	
	Q2 2022		Q3 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	63%	5%	32%	-
	€10,520,000	€790,000	€5,510,000	€16,810,000
Total	**€16,810,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Fast Track Improvements

CIP.20.04.018

Project Summary

This project proposes improvements to the existing Terminal 1 Fast Track and Staff Screening facilities at Dublin Airport, as well as the development of a Fast-Track Arrivals product in both terminals.

Terminal 1 Security Screening FastTrack has experienced significant growth over the past years and has successfully pivoted into a leisure product, proving to be very popular in a Covid/post-Covid environment. During peak hours, demand for the product has outpaced current capacity, particularly in Terminal 1. Likewise, Platinum Service demand has also increased in the same period.

Exhibit 6.56 *– Initial design for T1 FastTrack*

Project Deliverables

This project is divided into four elements:

Fast Track Stop Gap Refurbishment

This project proposes the expansion and refurbishment of Terminal 1 Fast Track. The project will enhance the existing Terminal 1 Fast Track facility to increase capacity and improve the passenger

experience. Proposed as a "stop-gap" measure until delivery of the new Mezzanine Central Search Facility, Reconfigured IDL and relocated Fast Track projects.

Staff Security Screening Move

The expansion of the existing Fast Track facility by providing two search lanes, made possible by the utilisation of the existing Terminal 1 Departures staff screening area and lanes. This requires a relocation of the current staff screening area to a new location, providing the benefits of increased efficiencies for Security. This too is proposed as an interim measure until delivery of the new Mezzanine Central Search Facility and relocated Fast Track facility.

Relocated Terminal 1 Fast Track Facility

The existing fast track facility will require relocation with development of the Mezzanine Central Search Facility and Reconfigured IDL. This project allows for costs associated with the fit out, the relocated Fast Track facility shell and core costs have been included in commercial project CIP.20.03.013 Terminal 1 Departure Lounge (IDL) Reorientation and Rehabilitation. Security equipment costs are covered by Security Core allowance.

Fast Track Arrivals

This project proposes a dedicated 'queue skip' channel through passport control and immigration process. This service is available in many other international airports. Several of Dublin Airports newest 4- and 5-star airlines have requested an Arrival Fast Track type product with the intention to use it for their first class, business class and frequent flyer customers. The proposal is to contract directly with airlines, charging them a fixed fee per passenger. This would then be extended to our online sales channel and permit sale on self-service kiosks if capacity is available. This product would be introduced in both Terminals.

What Has Changed

Due to capacity constraints, Fast Track requires 2 dedicated security lanes, resulting in the requirement for staff screening to move to a new location as well as the additional interim and staff lane changes noted above.

Minimal change has been made to the Relocated Terminal 1 Fast Track Facility in terms of size and location. Costs for fit out have however been included, which were previously excluded in the original submission, and not captured by any other project.

All the project elements have been cost adjusted to reflect current inflation projections and delivery programme. Allowances have been included for contractor preliminaries, design and management and contingency to reflect the complexity and operational interface of the project.

Business Case Justification

Fast Track is a critical aspect of the airport's passenger experience proposition, providing passengers with choice. To ensure a good service and quality experience, Fast Track screening facility capacity must match demand, which is set to increase as the airport grows to 40 mppa over the coming years.

Dublin Airport Fast Track also partners with many airlines, providing a vital revenue stream and improving many air routes' commercial viability. Furthermore, airlines expect the Fast-Track experience to be an enhancement over the standard terminal passenger journey; as such, the infrastructure should be developed to match.

We have developed a high-level commercial business case that demonstrates the commercial value of this project and present revenue, NPV, IRR and payback values.

Project Detail Summary and Costs

CIP.20.04.018 - Fast Track Improvements				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	7 Years			
Project Output	• Fast track stop-gap refurbishment – expansion and enhancement to increase capacity and passenger experience until delivery of new projects. • Staff security screening move – providing two search lanes, utilising existing T1 departures staff screening area and lanes. • Relocated terminal 1 fast track facility. • Fast track arrivals – dedicated queue skip channel through passport control and immigration process. Both T1 and T2.			
EBITDA Impact	€0.6mpa			
IRR	14%			
NPV	€1.6 m			
Payback Period	4 years 12 months			
Construction Programme	**Start**		**End**	
	Q1 2022		Q1 2027	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	69%	14%	17%	-
	€4,760,000	€950,000	€1,150,000	€6,870,000
Total	**€6,870,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

West Apron Accommodation and Welfare Facilities

CIP.20.04.021

Project Summary

This project proposes the development of new accommodation and welfare facilities on the West Apron.

Dublin Airport has eased Eastern Apron congestion in the short term by relocating dedicated cargo flights to the west apron and third-country transition flights. Several cargo aircraft now operate from the West Apron, but there is a shortfall in accommodation and welfare facilities in that location. The lack of facilities is one of the critical reasons operators/handlers/line maintenance companies are reluctant to operate from West Apron.

Furthermore, it is also foreseen that the West Apron will facilitate increased parking and overflow parking for home-based carriers "standby aircraft" and General Aviation, respectively. Collectively, this drives the requirement for the development of office and storage accommodation to service the significantly increased Line Maintenance, Ground Handling, Cargo Handlers, General Aviation and airline activity in the area.

Exhibit 6.57 *– West Apron-Accommodation & Welfare Facilities Potential Location*

Project Deliverables

This project proposes to rectify the current lack of facilities by delivering the following:

- Development of West Apron accommodation building in-line with demand.
- Preparation of a Western MRO development feasibility, to inform the next phase of western ancillary development.

It is expected that the West Apron Services Accommodation will go into full occupancy immediately. The expected breakdown of the property is estimated to be 40% storage accommodation, 60% office accommodation.

What Has Changed

Since the original CIP2020+ submission in 2019, some minor changes have been made to the West Apron Accommodation and Welfare Facilities projects in terms of scope following design refinement. The project has also been cost adjusted to reflect current inflation projections and delivery programme and an allowance has been included for contractor preliminaries.

Following stakeholder feedback during the consultation process, we have included provision for the preparation of a Western MRO development feasibility. This feasibility will determine the best location for new and replacement MRO development and the optimal funding mechanism to deliver within this decade informing the next CIP period.

Business Case Justification

West Apron Accommodation and Welfare Facilities is a critical aspect of the airport Western Apron operations proposition and an essential requirement for existing operators to move operations from the east to the western campus. Not providing the facility, cargo and transit operations may need to move back east, occupying stands and capacity better used for passenger operations.

We estimate that the proposed West Apron Accommodation and Welfare Facilities project will increase commercial revenue by approximately €150k per year over and above current levels. We have developed a high-level commercial business case that demonstrates the commercial value of this project and present revenue, NPV, IRR and payback values.

Project Detail Summary and Costs

CIP.20.04.021 - West Apron - Accommodation & Welfare Facilities				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	25 Years			
Project Output	• Development of West Apron accommodation building and associated services • Western MRO development feasibility.			
EBTIDA Impact	€0.3mpa			
IRR	8.0%			
NPV	€1.2 m			
Payback Period	10 years 10 months			
Construction Programme	**Start**		**End**	
	Q1 2023		Q3 2023	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	71%	12%	17%	-
	€2,070,000	€360,000	€500,000	€2,930,000
Total	**€2,930,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Commercial Property Refurbishment

CIP.20.04.025

Project Summary

This project identifies the need for ongoing Commercial Property Refurbishment at Dublin Airport

Much of the commercial properties across campus and terminals at Dublin Airport are 50 years old. They require significant ongoing refurbishment to bring it to a fit for purpose standard expected for existing and potential commercial occupants. Accommodation is considered sub-standard in several areas across the terminals and piers (ramp accommodation) and requires refurbishment works in advance of occupation by licence fee-paying customers.

Investment typically includes fitting out of offices, furniture, minor mechanical and electrical services, minor life safety systems and IT. Property accommodation includes but is not limited to cargo terminal buildings and warehouse facilities, hangar accommodation, terminal/ramp accommodation, airline and campus offices. These projects are typically undertaken at short notice when a potential customer has requested specific areas and agreed commercial terms.

An allowance in the 2015 – 2019 CIP of €10.6m was granted for commercial property refurbishments. This aided the refurbishment of Skybridge House and several more minor refurbishments (Cargo 3/4, terminal office space, etc.). A similar allowance for the forthcoming period is required to maintain building standards, protect the current revenue stream and seek potential revenue opportunities.

Exhibit 6.58 *– Cargo Terminal 2*

Project Deliverables

This project proposes to refurbish between 500 – 1,500sqm of existing commercial property per year over the CIP period up to 2026. Providing fit for purpose tenant accommodation, refurbished or altered office space and quality fit for purpose ramp accommodation.

What Has Changed

Since the original CIP2020+ submission in 2019, minimal change has been made to the Commercial Property Refurbishment projects in terms of scope. However, the project has been cost adjusted to reflect current inflation projections, delivery programme and the need to maintain assets over a longer period.

Business Case Justification

Commercial Property Refurbishment is a critical aspect of the airport's commercial property proposition to provide quality fit for purpose space for partner airlines, handlers and commercial tenants. It is an essential requirement for their efficient, comfortable and safe operations. This project primarily supports the retention of existing tenants to maintain revenues and tenant property specifications over the term. As such, this project does not conform to traditional business case norms in terms of NPV or IRR; we do, however, anticipate a payback through continued tenant revenue.

Project Detail Summary and Costs

CIP.20.04.025 - Commercial Property Refurbishment				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	7 Years			
Project Output	• Refurbish of between 500 – 1,500sqm of existing commercial property per year over the CIP period up to 2026. • Providing fit for purpose tenant accommodation, refurbished or altered office space and quality fit for purpose ramp accommodation.			
Construction Programme	**Start**		**End**	
	Q2 2022		Q4 2025	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	65%	5%	30%	-
	€4,500,000	€340,000	€2,050,000	€6,890,000
Total	**€6,890,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Fuel Farm Welfare

CIP.20.04.031 (New Project)

Project Summary

This project identifies a new requirement for an extension to the existing accommodation building within the Fuel Farm to accommodate existing and potentially future Into Plane Operators who are currently unable to be accommodated within the existing building due to capacity constraints.

The current building was built in 2015 by Exolum as part of a concession agreement that redeveloped the fuel farm, enabled the hydrant system to Pier 4 and is delivering the hydrant to Pier 1.

One of the key deliverables of the original project was that we have essentially removed barriers to entry for new fuel suppliers, e.g. no buy-in costs etc. Since 2017/2018 there has been considerable interest from many fuel suppliers. These fuel suppliers were looking at global deals with major airlines, hence the interest in Dublin (one if not the only Open Access Airport in Europe). This project has helped lower fuel costs for the airlines due to the efficiency of using the hydrant system. Initially, there were two central Into Plane operators operating out of Dublin Airport; however, there is now a third Into Plane operator. The market is potentially open to more, subject to them being afforded a Licence from the Regulator.

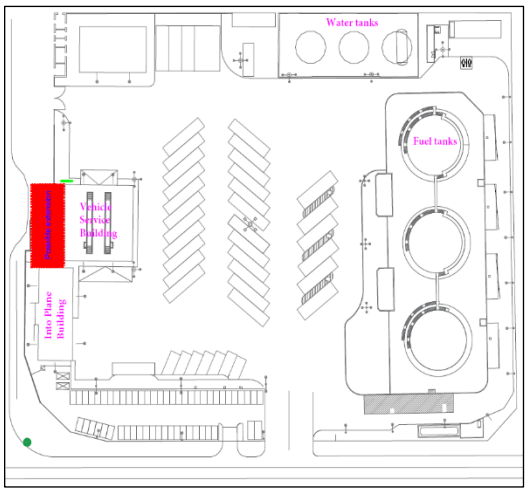


Exhibit 6.59 *– Fuel Farm Welfare, Proposed in Red (Indicative)*

Project Deliverables

This project proposes to add additional office space and welfare facilities for the third Into Plane Operator. The office space will be a modular building similar to the existing building of approximately 500sqm. We anticipate the project costs will include for:

- Detailed feasibility study.

- Development of design, including preparation and submission of a planning application to Fingal County Council.
- Construction of modular buildings with sustainable characteristics in line with current building regulations.

Business Case Justification

As part of Dublin Airports regulatory requirements, we have to provide fair and non-discriminatory access to and usage of the fuel farm facilities to all Into Plane Operators. There is a current need to relocate an existing Into Plane Operator to new accommodation within the fuel farm.

We have developed a high-level commercial business case that demonstrates the commercial value of this project and present revenue, NPV, IRR and payback values.

Project Detail Summary and Costs

CIP.20.04.031 - Fuel farm welfare				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	20 Years			
Project Output	• Detailed feasibility study. • Development of design, including preparation and submission of a planning application to Fingal County Council. • Construction of modular buildings with sustainable characteristics in line with current building regulations.			
EBITDA Impact	€0.3mpa			
IRR	5.0%			
NPV	€0.4 m			
Payback Period	12 years 0 months			
Construction Programme	**Start**		**End**	
	Q1 2023		Q4 2024	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	64%	13%	23%	-
	€2,600,000	€520,000	€940,000	€4,060,000
Total	**€4,060,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

OCTB Refurbishment

CIP.20.04.034 (New Project)

Project Summary

This project identifies new opportunities for the existing Old Central Terminal Building at Dublin Airport and proposes light refurbishment to create a new commercial proposition.

The Old Central Terminal Building, originally designed to accommodate 100,000 passengers per annum, officially opened on 19th January 1940 and has remained in continuous operational use. In recent times the building has been split into a landside and airside space; the landside has primarily been used for airport office accommodation. In 2021, the offices were vacated and thus this section of the building now sits idle. The ground level airside space continues to be used as apron bus gates and will be upgraded under CIP project CIP.20.03.017 to maintain this function.

Given the building's historical and protected nature, we are keen to find a new use for the landside portion to compliment the airside. However, any new users will require a light refurbishment of the internal spaces. Developing the old terminal into a new commercial offering will preserve the building and allow others to enjoy the space while providing Dublin Airport with revenue-generating opportunities.

Exhibit 6.60 *– OCTB*

Project Deliverables

This project proposes a light refurbishment of the Old Central Terminal Building to create a new commercial proposition; further work is required to confirm the exact deliverables through feasibility and market research; however, we anticipate the development will comprise one of the following or similar:

- General Office accommodation.

- Airline or Handler accommodation.
- Business and meeting centre space.

We anticipate the project costs will include for:

- Feasibility study.
- Development of design and planning if required.
- Light refurbishment of all three landside floors.
- Modification and improvements to the adjoining front elevation landscaping and access.

Business Case Justification

Refurbishment of the Old Central Terminal Building is essential to maintain its long-term viability and ensure its continued upkeep, particularly given its historical and protected nature. Furthermore, commercial property refurbishment is a critical aspect of the airport's commercial property proposition to provide quality fit for purpose space for commercial tenants while providing a credible means for Dublin Airport to generate additional revenue to ultimately reduce the passenger charge.

We have developed a high-level commercial business case that demonstrates the commercial value of this project and present revenue, NPV, IRR and payback values.

Project Detail Summary and Costs

CIP.20.04.034 - OCTB Refurb				
Project Group	Commercial			
Treatment	StageGate			
Asset Life	20 Years			
Project Output	• Light refurbishment of Old Central Terminal Building to create a new commercial proposition; further work required to confirm exact deliverables through feasibility and market research.			
EBITDA Impact	€1.3mpa			
IRR	13%			
NPV	€10.1 m			
Payback Period	7 years 2 months			
Construction Programme	**Start**		**End**	
	Q1 2023		Q4 2023	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	67%	13%	20%	-
	€6,030,000	€1,210,000	€1,810,000	€9,050,000
Total	**€9,050,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Office Consolidation and Refurbishment

CIP.20.07.010

Project Summary

This project proposes a refurbishment of terminal staff office space to consolidate and increase capacity.

Currently, Dublin Airport has several staff offices located in a number of buildings around the Dublin Airport Campus. Several buildings such as Cargo 1 and the North Terminal require demolishment in the near term due to proposed North and South Apron enhancing projects and will require many staff to be rehoused. Additionally, some of the office space occupied is aged and requires significant investment in the absence of this project. Thus, there is an opportunity to upgrade facilities and consolidate staff to increase commercial space and revenue at Dublin Airport and reduce annual opex running costs.

Project Deliverables

This project proposes an entire strip out, repair and refurbishment of Terminal 1 Levels 4 and 5, including an additional Level 5 light well. The refurbished space provides increased and consolidated office and welfare space for airport and partner stakeholders. The project costs include full office and welfare fit out.

What Has Changed

Since the original CIP2020+ submission in 2019, the project scope has been better defined and following site survey and design refinement, refurbishment of the building is more complex and demanding than anticipated given the building's age. The original CIP submission allowed for the development of circa 4,500 sqm. The current refurbishment project includes Levels 4 and 5 and measures up to circa 12,000 sqm plus Level 6 (roof) which includes the creation of a consolidated plant enclosure. The project has also been cost adjusted to reflect current inflation projections and delivery programme.

The proposed development is part of an ongoing programme of capital investment at the airport and delivers a range of important benefits, including the reuse and reconfiguration of existing upper levels to achieve:

- Enhanced energy Efficiency and Sustainability Gains.
- Operational Improvements.
- Enhanced Working Environment.
- Enhanced mobility includes the provision of cycle parking facilities at Level 10, at the base of the existing spirals.

Business Case Justification

This project will fund the refurbishment of Levels 4 and 5 located in Terminal 1. It will increase the capacity allowance for staff in that location by 100%, which will allow Dublin Airport to vacate staff from Cloghran House and Cargo 6 buildings and let them to respective tenants. Additionally, operating costs incurred from these buildings will reduce as the costs will be passed onto tenants. Current annual running costs include repairs and maintenance, light and heat, Fingal County Council property rates and rent payable to Dublin Airport Central. Office Consolidation and Refurbishment is a critical aspect of the airport's "always better" proposition to provide quality fit for purpose space for staff and stakeholders. It is an essential requirement for their efficient, comfortable and safe operations.

Project Detail Summary and Costs

CIP.20.07.010 - Office Consolidation & Refurbishment				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	25 Years			
Project Output	• This project proposes an entire strip out, repair and refurbishment of Terminal 1 Levels 4 and 5, including an additional Level 5 light well. • The refurbished space provides increased and consolidated office and welfare space for airport and partner stakeholders. • The project costs include full office and welfare fit-out.			
Construction Programme	**Start**		**End**	
	Q2 2023		Q4 2024	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	58%	9%	33%	-
	€11,570,000	€1,740,000	€6,490,000	€19,790,000
Total	**€19,790,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Drop Off / Pickup

CIP.20.04.032

Project Summary

Dublin Airport proposes to introduce a paid drop off and pick up facility at Terminal 1 and Terminal 2 kerbside, with a dedicated free drop off and pick up zone to be located remote of the terminal forecourts.

The project has multiple drivers including removal of congestion and traffic build up on the departure roads, extend the asset life of existing infrastructure, together with introducing a product and associated commercial return.

Project Deliverables

The proposed drop off / pick up solution will be similar to many peer airports across Europe, whereby each vehicle accessing the kerb will be required to pay a charge based on kerb dwell time.

Dublin Airport proposes to introduce a paid drop off and pick up facility at Dublin Airport. The drop off / pick up project will deliver the physical infrastructure together with the technology solution to enable a paid access to the kerbside at both Terminal 1 and Terminal 2.

Dublin Airport will continue to offer free drop off / pick up, remote of the terminals in the Red Car Park, with a shuttle bus providing access to and from the terminal buildings.

Business Case Justification

Increase Road Capacity – The campus roads are at capacity at peak times and will not suffice at 40mppa, if customer behaviour and usage remain the same. Traffic management analysis completed in 2018 identified that terminal kerbside locations were reaching capacity with congestion and drop off delays experienced at peak times, particularly pronounced on the Terminal 1 departure kerb. Such congestion is forecast to increase as we return to pre-pandemic passenger levels and grow to 40 mppa.

Developing additional kerb capacity while a possible solution would be highly disruptive, complex and expensive to deliver. Space constraints limit options for expansion with a requirement to make throughput on the existing road network more efficient. By managing kerb dwell time with the introduction of drop off / pick up facility will allow for the retention of the existing kerb infrastructure which will provide sufficient Terminal kerb capacity out to 40 mppa.

Reducing Congestion - The drop off / pick up project will reduce kerbside congestion and manage capacity by reducing traffic and public vehicles accessing the 'horseshoe' and ensure the scarce resources of surface access is managed in as efficient a way as possible.

Introduce New Product – Users of the campus roads can be unsure of what is permitted due to inconsistent enforcement, with clear demand for kerbside drop off and pick up at the terminal forecourt. The drop off / pick up will enable activity in a controlled environment providing consistent and convenient solution

Commercial Return – The drop off / pick up project will deliver a positive business case with significant revenue opportunity.

Shift the Modal Split - The project aims to reduce car journeys to and from the airport and to encourage a greater use of public transport. This is a first step towards more sustainable mobility at Dublin Airport, and aligns with our sustainability ambitions.

We have developed a high-level commercial business case that demonstrates the commercial value of this project and present revenue, NPV, IRR and payback values.

Project Detail Summary and Costs

CIP.20.04.032 - Drop Off / Pick Up				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	5 Years			
Project Output	• The drop off / pick up project will deliver the physical infrastructure together with the technology solution to enable paid access to the kerbside at both Terminal 1 and Terminal 2. • Dublin Airport will continue to offer free drop off / pick up, remote of the terminals in the Red Car Park, with a shuttle bus providing access to and from the terminal buildings.			
EBITDA Impact	€1.5mpa			
IRR	23%			
NPV	€7.3 m			
Payback Period	3 years 7 months			
Construction Programme	**Start**		**End**	
	Q1 2023		Q2 2024	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	70%	14%	16%	-
	€3,670,000	€730,000	€830,000	€5,240,000
Total	**€5,240,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Retail Refurbishments, Upgrades & New Developments

CIP.20.08.001

Project Summary

This project refurbishes, upgrades, and expands existing retail offerings at Dublin Airport across both terminals and associated piers.

Retail is a critical contributor to improving passenger experience and increasing commercial revenue at Dublin Airport. Investing in new customer-focused retail opportunities can dramatically improve the customer experience and help increase overall passenger spending.

Dublin Airport has many secondary stores operated by ARI strategically located in Terminal 1 and Terminal 2 to provide passengers either a primary or secondary opportunity to shop. This project seeks to provide new store locations aligned with our development strategy and refresh and expand existing locations, including the introduction of new Perfume and Cosmetic (P&C) vendors and refresh existing P&C vendors under an existing 50/50 cost-share agreement, to ensure we adapt to the changing passenger profile and maximise revenue operatives.

To support this objective, we need to ensure that the appropriate logistics structure and equipment are in place, and that sufficient operational contingency is available to react to unforeseen opportunities or rectify unforeseen issues. Therefore, included in this project budget is new logistics equipment and a yearly operational contingency figure.

The following is considered within this project:

Location of Offerings - A lot of passenger time is spent at departure gates with no core category representation or opportunity to purchase last-minute gifts and beauty purchases. Provision of purchases in these locations maximises the experience for airport guests.

Space Constraints - Most of the retail space in the pier shops and arrivals cannot maximise current potential due to space constraints for all categories. Retail space has not developed proportionally to passenger growth over recent years. Improving retail space would allow Liquor and Confectionery to

improve range and product selection vastly. The focus would be on core categories, sub-categories such as Whiskey and last-minute gifting opportunities.

Penetration - We seek to increase penetration, conversion and profitability by leveraging key benefits, including improved customer experience from retail theatre, technology and innovations in the category and a full array of brand availability.

The Passenger - We seek to continue providing retailing opportunities for all passengers. Most passengers are captured within the Terminal 1 and Terminal 2 main store areas; however, there is a requirement to ensure secondary opportunities are provided in piers. These shops focus on the passenger demographic and present key items / best sellers specific to that location, informed through customer insights and behavioural analysis.

IT - The IT infrastructure will be updated and reconfigured to meet the needs of the business and expand the customer experience.

Project Deliverables

This project will deliver the following outputs:

- Expanded and redeveloped Pier 1 retail store, including shell, core and fit-out.
- New Module 1 retail store, including fit-out with shell provided by North Apron capacity project.
- New Pier 4 transfer node retail store, including shell, core and fit-out.
- New and upgraded Pier 4/5 post-CBP retail stores, core and fit-out with shell provided by South Apron Hub.
- New Southern Gates retail store, including shell, core and fit-out.
- Upgraded Terminal 1 and 2 Arrivals retail store, including shell, core and fit-out.
- New ARI concept stores, including shell, core and fit-out.
- P&C 50/50 New and Refresh brands.
- 2 new logistics adjustable platforms.
- Electric pallet trucks and equipment.
- Operational contingency.

What Has Changed

Since the original CIP2020+ submission in 2019, minimal change has been made to the Retail Refurbishments, Upgrade and New Development project in terms of scope. However, the project has been cost adjusted to include additional fit-out of new retail floor space in Module 1; the capacity project will provide the shell and core cost with this ARI project covering the retail fit-out. Costs have also been updated to reflect current inflation projections and delivery programmes.

Business Case Justification

Dublin Airport and ARI seek to maximise our shareholders' retailing opportunities and revenues by ensuring all retailing locations are fully aligned with the Dublin Airport expansion strategy. New stores are located to ensure passengers that may not have had the opportunity to shop within the main Duty-Free stores in Terminal 1 or Terminal 2 have an opportunity to purchase close to their gate. Therefore, the Retail Refurbishments, Upgrade and New Development project is a critical aspect of the airport's passenger experience proposition, providing passengers with retail choice and entertainment.

We have developed a high-level commercial business case that demonstrates the commercial value of this project and present revenue, NPV, IRR and payback values.

Project Detail Summary and Costs

CIP.20.08.001 - Retail Refurbishments, Upgrades and New Developments				
Project Group	Commercial			
Treatment	Flexible			
Asset Life	5 Years			
Project Output	• Expanded and redeveloped Pier 1 retail store, including shell, core and fit-out. • New Module 1 retail store, including fit-out with shell provided by North Apron capacity project. • New Pier 4 transfer node retail store, including shell, core and fit-out. • New and upgraded Pier 4/5 post-CBP retail stores, core and fit-out with shell provided by South Apron Hub. • New Southern Gates retail store, including shell, core and fit-out. • Upgraded Terminal 1 and 2 Arrivals retail store, including shell, core and fit-out. • New ARI concept stores, including shell, core and fit-out. • P&C 50/50 New and Refresh brands. • 2 new logistics adjustable platforms. • Electric pallet trucks and equipment. • Operational contingency.			
EBTIDA Impact	€2.5mpa			
IRR	8.3%			
NPV	€1.6 m			
Payback Period	5 years 0 months			
Construction Programme	**Start**		**End**	
	Q1 2023		Q4 2024	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	61%	0%	39%	-
	€7,130,000	€0	€4,580,000	€11,710,000
Total	**€11,710,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Retail Marketing and Media Installation

CIP.20.08.002

Project Summary

This project identifies and proposes new Marketing and Media opportunities at Dublin Airport.

Dublin Airport and ARI are developing new, innovative retail technology initiatives to improve the customer experience in our various shops across both Terminal 1 and 2. Emphasising our "Experience is everything" core values proposition. Three strands support this value-based proposition promise:

- To deliver the most outstanding shopping experiences.
- To make shopping easier for our customers.
- To find innovative ways of making things better for our customers.

Exhibit 6.61– *Media for FIDS*

Exhibit 6.62 *- Media for in Store*

A significant element of the designs we incorporate into our stores include the supply and installation of various elements of retail technology and digital media. The benefits of integration of retail technologies and digital rich media as part of retail store development are 3-fold:

- Digital rich media has been proven to generate engagement, traffic and footfall into stores, enhance brand attractiveness, and encourage passengers to shop/buy inside the store zone. High-quality content and communications can both engage and inform passengers as part of the passenger journey with the right products, services and information at the right time. Digital also works as part of the overall store design strategy to enhance the store shopping experience.

- Offering additional instore digital touchpoints as part of promotional agreements with key suppliers can enhance overall contract negotiations, margins and terms. This is now a significant component of promotional negotiations and is frequently requested by suppliers.
- Utilising digital can offer more effective ways of managing collateral to reduce the need for print and traditional point of sale installation.

Project Deliverables

This project will deliver a suite of new media installations delivering a new retail experience media strategy. Installations will include FIDs, interactive displays, video walls and various forms of store branding.

What Has Changed

Since the original CIP2020+ submission in 2019, minimal change has been made to the Retail Marketing and Media Installation project in terms of scope. However, the project has been cost adjusted to reflect current inflation projections and delivery programmes.

Business Case Justification

Dublin Airport and ARI seek to maximise our shareholders' retailing opportunities and revenues by ensuring all retailing locations are fully aligned with the Dublin Airport "Experience is everything" core values proposition.

Therefore, the Retail Marketing and Media Installation project is a critical aspect of the airport's passenger experience proposition, providing passengers with a quality, engaging and entertaining retail experience meeting commercial, passenger and strategic objectives.

Commercial - Marketing and media are designed through a customer-first approach, and there is a balance between informative communications, brand advertising and retail store communications. The potential return on investments can be identified both directly through supplier revenues, margin enhancements and indirectly through engagement, increased penetration and additional dwell time spent in-store, plus customer satisfaction tracking with our overall instore experience measures.

The Passenger - The use of strategically located media installations will add significantly to the passenger experience. New installations will inform, engage, delight and add a sense of theatre to the journey.

Strategy - The strategy is to engage passengers with the right message at the right time in an engaging way that compliments the overall store experience and, where appropriate, link the on and offline shopping experience

We have developed a high-level commercial business case that demonstrates the commercial value of this project and present revenue, NPV, IRR and payback values.

Project Detail Summary and Costs

<table>
<tr><th colspan="5">CIP.20.08.002 - Retail Marketing & Media Installation</th></tr>
<tr><td>Project Group</td><td colspan="4">Commercial</td></tr>
<tr><td>Treatment</td><td colspan="4">Flexible</td></tr>
<tr><td>Asset Life</td><td colspan="4">5 Years</td></tr>
<tr><td>Project Output</td><td colspan="4">• A suite of new media installations delivering a new retail experience media strategy.
• Installations will include FIDs, interactive displays, video walls and various forms of store branding.</td></tr>
<tr><td>EBITDA Impact</td><td colspan="4">€0.5mpa</td></tr>
<tr><td>IRR</td><td colspan="4">10%</td></tr>
<tr><td>NPV</td><td colspan="4">€0.4 m</td></tr>
<tr><td>Payback Period</td><td colspan="4">4 years 7 months</td></tr>
<tr><td rowspan="4">Construction Programme</td><td colspan="2">Start</td><td colspan="2">End</td></tr>
<tr><td colspan="2">Q2 2022</td><td colspan="2">Q4 2024</td></tr>
<tr><td rowspan="3">Level 1 Costs</td><td>Construction</td><td>Design & Management</td><td>Escalation & Contingency</td><td>Total</td></tr>
<tr><td>79%</td><td>0%</td><td>21%</td><td>-</td></tr>
<tr><td>€1,500,000</td><td>€0</td><td>€400,000</td><td>€1,900,000</td></tr>
<tr><td>Total</td><td colspan="4">€1,900,000</td></tr>
<tr><td>Cost Certainty</td><td colspan="4">Class 4</td></tr>
</table>

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

6.14 Sustainability Projects

6.14.1 **Dublin Airport is committed to achieving net-zero carbon emissions by 2050. In 2019, post submission of our Capital Investment Plan, the government set an ambitious target of a 30% reduction in emissions by 2030. It was anticipated that the measures included in the CIP, would largely achieve this goal through a mix of anticipated reduced grid emissions, demolition of the older building stock and replacement with new facilities, and development of a solar farm and other small energy projects. However, it was anticipated that a gap to the 30% target remained.**

6.14.2 As discussed in ***section 4.2***, the government published the Climate Action and Low Carbon Development (Amendment) Bill 2020, which established a mechanism of 5 yearly Carbon Budgets, and in November 2021 published the Climate Action Plan 2021, which commits Ireland to a legally binding target of net-zero greenhouse gas emissions no later than 2050, and a reduction of 51% by 2030.

6.14.3 These legislative requirements to reduce carbon emissions represent a significant challenge. In particular, given the terminal buildings' scale, the requirement to reduce their emissions by 50% by 2030 is significant. In addition to this, we are also now required to achieve improved energy ratings in our terminals and also electrify our fleet under the Clean Vehicle Directive.

6.14.4 Given the scale of these requirements and the timelines associated with the review of the CIP, it has not been possible to develop detailed feasibility studies. Projects have been included here on the basis of proposals considered, but not included, as part of the 2019 submission and, where appropriate, scaled to meet the new targets. In the context of Terminal 1 where there is significant complexity in identifying appropriate solutions, we have requested appropriate funding to work through this as the first stage of that development. Recognising the significant uncertainty associated with these projects, we have requested that the majority of the sustainability projects be considered through the StageGate process, allowing the most appropriate solutions to be developed and consulted over the coming months.

6.14.5 Traditionally, the development of carbon offsetting and energy efficiency infrastructure was evaluated both in the context of environmental sustainability and the economic benefits they would realise. However, given the scale of ambition of the new targets, while there will be economic benefits, the scale of investment will require us to evaluate opportunities predominantly in the context of carbon

reduction. That said, through the StageGate process and following concept refinement and feasibility, we will clarify where opex and operational benefits are attributed to each project. We have also included projects that will assist airport users in achieving their carbon goals and our ambitions as an airport to be an exemplar in sustainable aviation. These projects include the electrification of the ramp, passenger vehicle charging and investment in the infrastructure of sustainable aviation fuel.

6.14.6 The Carbon reduction waterfall chart presented by ***exhibit 6.63*** indicatively demonstrates our overall approach to achieving the carbon reduction targets. We propose to implement all three phases within this CIP period but recognise some of the larger projects will also roll into the next period:

6.14.7 **Phase 1** - achieves a reduction through the replacement of ageing building stock, development of the solar farm and other small energy efficiency projects, and the anticipated improvement in the national grids carbon efficiency. It was anticipated that these would have substantially achieved the previous 30% target, but a 'gap to target' would remain.

6.14.8 **Phase 2** - covers known projects which will assist in achieving the revised 50% reduction target, including projects such as the second stage of the photovoltaic solar farm. Again, with these projects, significant steps will be taken towards the 50% reduction target, but a gap will remain.

6.14.9 **Phase 3 -** will seek to close that gap and set a path to net-zero by 2050.

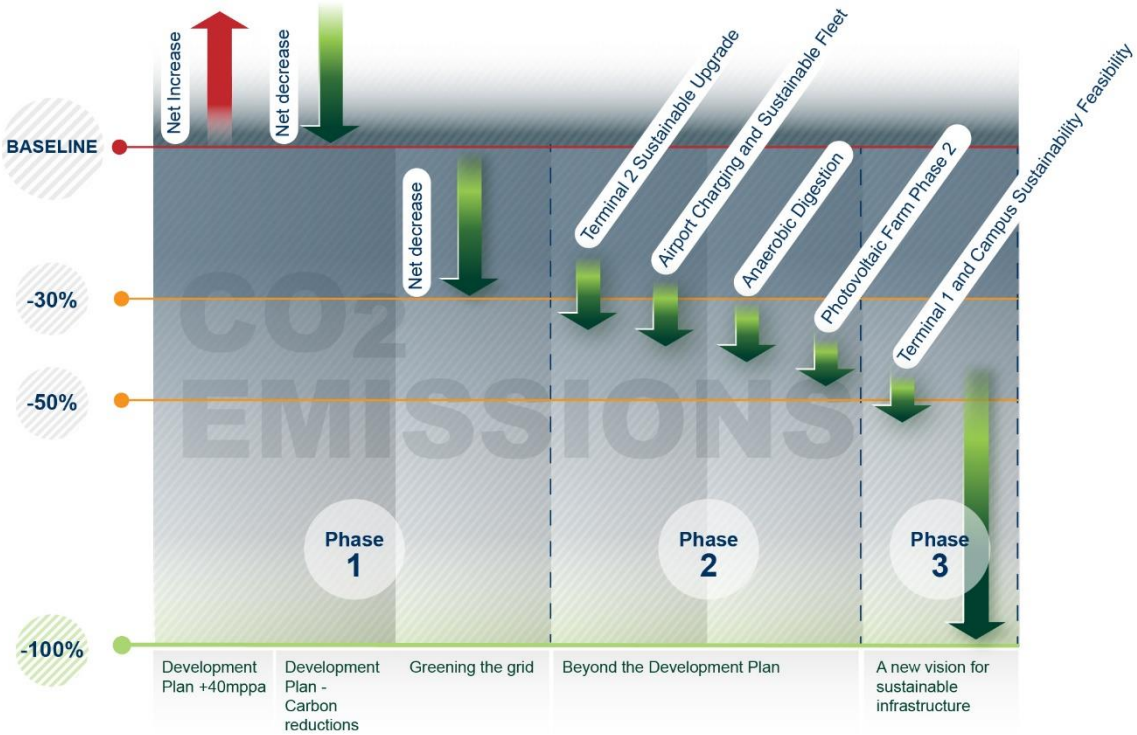


Exhibit 6.63 *– Sustainability Projects Carbon Reduction Road Map*

6.14.10 Policy Trade-Offs

As part of the pre-consultation submission Dublin Airport set out the rationale and drivers for the range of sustainability projects proposed as part of this CIP. As well as proposed projects' aims and desired benefits, in this final submission we are elaborating on the potential trade-offs between government policies and how the proposed projects seek to address these in an efficient and sustainable manner.

6.14.11 Carbon reduction is central to the government's climate change agenda, and as such is one of the main desired outcomes of the CIP sustainability projects. However, there are also a broad range of other sustainability and climate change policies which the projects seek to address. In most cases, this is statutory legislation with which Dublin airport is required to comply, and therefore limited trade-offs exist between the solutions proposed to meet these requirements.

6.14.12 **Carbon Reduction and Airport Expansion -** At the fundamental level, the carbon reducing projects are proposed to meet the trade-off between additional infrastructure to deliver increased capacity and the requirement to reduce Scope 1 & 2 Carbon emissions against the 2016 – 2018 baseline. This means that as well as decarbonising our existing operations and assets, Dublin airport is required to meet the increased energy needs of new infrastructure and increased passenger numbers without emitting any more carbon as a result. This drives the need to generate more renewable energy on the airport campus through projects such as anaerobic digestion and PV Solar Farm Phase 2, and take measures to improve the energy efficiency of our assets through projects such as the Terminal 1 and 2 sustainable heating upgrades.

6.14.13 **Projects that satisfy several requirements -** In addition to tackling carbon reduction and the additional carbon that would otherwise arise from increased passenger numbers, the proposed projects have been chosen because they offer synergies across more than one requirement, with each project seeking to address several desired outcomes. For example, the Terminal 1 and 2 sustainable heating projects address Climate Action Plan (2021) requirements to improve building efficiency by 50% and provide 50% space heating from renewable energy, as well as being required to achieve our 2030 and 2050 carbon reduction requirements. These projects also have the added benefit of protecting the airport from some of the impact of future changes in energy prices.

6.14.14 The legislation and benefits that each of the projects are intended to meet is represented in ***exhibit 6.64*** below. It should be noted that this list is not exhaustive but is provided to articulate that projects are selected to achieve broad strategic aims as well as individual policy drivers.

6.14.15 **Scope 3 Carbon Emissions –** Scope 3 emissions are defined as all other indirect emissions within an organisation's value chain. This means that for Dublin Airport, this includes the emissions of airlines, cargo operators, ground handling agents, concessionaires, passengers and staff, among others. Current national legislation on carbon reductions identify these emissions as the responsibility of the emitting organisation, not Dublin Airport. However, Dublin Airport recognises the need to build partnership across industry and government to work together to address the advancing impact of climate change, maximise sectoral carbon reduction in addition to complying with the letter of the legislation. To achieve these shared aims Dublin Airport has proposed investments such as the airport charging, alternative fuels and FEGP expansion projects. It should be recognised that carbon reduction legislation continues to be implemented progressively. It is likely that in the regulatory period, the government will mandate new targets for Scope 3 emissions requiring organisations to support decarbonisation of their supply chain and users.

6.14.16 **Fingal County Council Local Area Plan** - As well compliance with national and European Union legislation, the sustainability projects are proposed to demonstrate that the development of the airport is aligned with government policy. This is important because these projects effectively give the airport licence to grow. Future planning applications to increase the airport capacity cap and develop new infrastructure will need to be accompanied by a suite of sustainability measures to demonstrate compliance with policy as reflected in the Local Area Plan. This will be required for future planning applications to be successful.

	CIP.20.09.001	CIP.20.09.002	CIP.20.09.003	CIP.20.09.004	CIP.20.09.005	CIP.20.09.006	CIP.20.09.007	CIP.20.09.008	CIP.20.09.009	CIP.20.03.052
	Airport Charging	Alternate Fuels	Anaerobic Digestion	Sustainable Fleet	Fixed Electrical Ground Power Phase 3	Photovoltaic Farm Phase 2	Mobility Improvements	Terminal 2 Sustainable Upgrade	Terminal 1 Sustainable Upgrade Feasibility	Surface Water Management
Statutory Legislation										
Climate Action Plan - Scope 1 51% Reduction in Carbon by 2030	✓		✓	✓		✓		✓	✓	
Climate Action Plan - Scope 2 51% Reduction in Carbon by 2030						✓				
Climate Action Plan - Net Zero (Scope 1 & 2) Net Zero Carbon Emissions by 2050	✓		✓	✓		✓		✓	✓	
Climate Action Plan 50% renewable space heating by 2030			✓					✓	✓	
Climate Action Plan & Circular Economy Bill (2021) Circular Economy & Biomethane Production		✓	✓							
Climate Action Plan Improve energy efficiency by 50% by 2030								✓	✓	
Fit for 55 EU Commission - Alternative Fuels Directive	✓	✓			✓					
Clean Vehicle Directive Electrify daa fleet and suppliers	✓			✓			✓			
Water Framework Directive										✓
Fingal County Council - Local Area Plan Licence to Develop and Grow	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Non-Legislative Requirements										
Facilitate Electrification of assets (Fleet & Buildings)	✓					✓				
Scope 3 Emissions Enabling others to reduce their carbon emissions	✓	✓			✓	✓	✓			
Hedging against future increasing energy costs		✓	✓		✓	✓		✓	✓	
Airport Carbon Accreditation (ACA Level 4+)	✓	✓	✓	✓	✓	✓		✓	✓	
Improve local area Water Quality										✓
Improve Airport Air Quality	✓			✓	✓		✓	✓	✓	
Carbon Reduction required										
28000t 2050 Target Reductions 14000t 2030 Target Reductions 5500t Gap to 2030 Target	↑		↓ 1500t	↓ 600t	↑	↓ 2500t		↓ 3500t	↓ TBC	
Absolute reduction required in Dublin Airport's Scope 1 & 2 Carbon Emissions as measured against 2016-2018 baseline. *28,000t reduction in Carbon by 2050 assumes energy needs remain constant. In reality additional carbon reducing infrastructure is required to offset additional energy needs associated with capacity growth and infrastructure expansion.*	Increased electrical load. Carbon offset by PV solar		Reduced fossil fuel emissions for heating ancillary buildings	Reduced fossil fuel emissions	Increased electrical load. Carbon offset by PV solar	Offset carbon from increased electrical load		Reduced fossil fuel emissions Increased electrical load.	Reduced emissions in future CIP. Increased electrical load.	

Table 6.64 – Sustainability Projects Requirements Matrix

6.14.17 ***Table 6.65*** presents a breakdown of our proposed sustainability projects, proposed asset life, regulatory treatment and high-level estimated cost, which we will continue to refine through concept and feasibility development and report and consult on through the StageGate process. Most of the larger and more complex projects are proposed to be StageGate, with the Sustainability Fleet and Mobility Improvement projects Flexible.

Code	Name	CIP2020+ Review		
		Asset Life	Treatment	Cost
CIP.20.03.052	Surface Water Environmental Compliance	20 Years	StageGate	€102.77m
CIP.20.09.001	Airport Charging	15 Years	StageGate	€80.13m
CIP.20.09.002	Alternate Fuels	20 Years	StageGate	€1.54m
CIP.20.09.003	Anaerobic Digestion	15 Years	StageGate	€9.59m
CIP.20.09.004	Sustainable Fleet	5 Years	Flexible	€18.53m
CIP.20.09.005	Fixed Electrical Ground Power Phase 3	15 Years	StageGate	€12.46m
CIP.20.09.006	Photovoltaic Solar Farm Phase 2	15 Years	StageGate	€38.60m
CIP.20.09.007	Mobility Improvements	5 Years	Flexible	€13.95m
CIP.20.09.008	Terminal 2 Sustainable Upgrade	15 Years	StageGate	€110.64m
CIP.20.09.009	Terminal 1 and Campus Sustainability Feasibility	15 Years	StageGate	€6.37m
			Total	**€394.58m**

Table 6.65 – CIP2020+ Review Sustainability Projects

Surface Water Environmental Compliance

CIP.20.03.052

Project Summary

This project proposes the development of storage and treatment facilities for pollution runoff, especially surface water loaded with de-icing contaminants.

For airport authorities, management and treatment of surface water runoff, especially for the de-icing agents infused surface water, is a challenging and costly problem. Statutory regulators and water utilities are enforcing stricter restrictions; therefore, the airport authorities must develop and implement effective surface water runoff management strategies.

The existing surface water infrastructure at Dublin Airport does not meet best practices. It is likely that stricter licencing conditions on discharge flows and loads into the receiving surface water streams will come into place in the near future. As the anticipated passenger growth continues, additional pressure will further overload the inadequate water infrastructure.

In general, the objective of this project is source control for surface water contaminants, namely de-icing chemicals and, in particular, aircraft de-icing/anti-icing (glycols). Where new airfield infrastructure is planned, it is necessary to provide appropriate accompanying drainage infrastructure, usually surface water attenuation and polluted water detection/storage.

Project Deliverables

This project is a refinement to the original CIP2020+ project with the same project number and name. It proposes upgrading the existing surface water collection network, diverting the existing Cuckoo stream through the airfield, and providing additional storage and treatment facilities for polluted runoff.

This project will ultimately improve the water quality in local waterways. This will be achieved by separating clean water from polluted runoff and providing a more controlled pollution management system, which will reduce the risk of insufficient storage being available to cater for pollution events.

It is anticipated that the proposed infrastructure will be implemented over three CIP phases. Only funding for Phase 1 of the overall project is proposed in this CIP period. This includes constructing a downstream centralised storage and treatment facility for polluted runoff and associated pumping stations, network reconfiguration works, a diversion of the Cuckoo stream, and construction of a roof water interceptor sewer.

What Has Changed

The project cost has increased since the original project was submitted in 2019; the cost increase is primarily driven by:

- Completion of the North-South sewer. The North-South Sewer is the construction of a new 2km sewer to provide additional drainage capacity for contaminated surface water that will drain from newly paved areas in the north of the airfield, specifically for the North Runway and Apron 5H.
- Bird strike mitigation. As noted in 2019 submission, open-air ponds have been replaced with underground storage where required. The cost of underground attenuation and pollution control tanks with associated underground pipelines has increased the estimated cost.

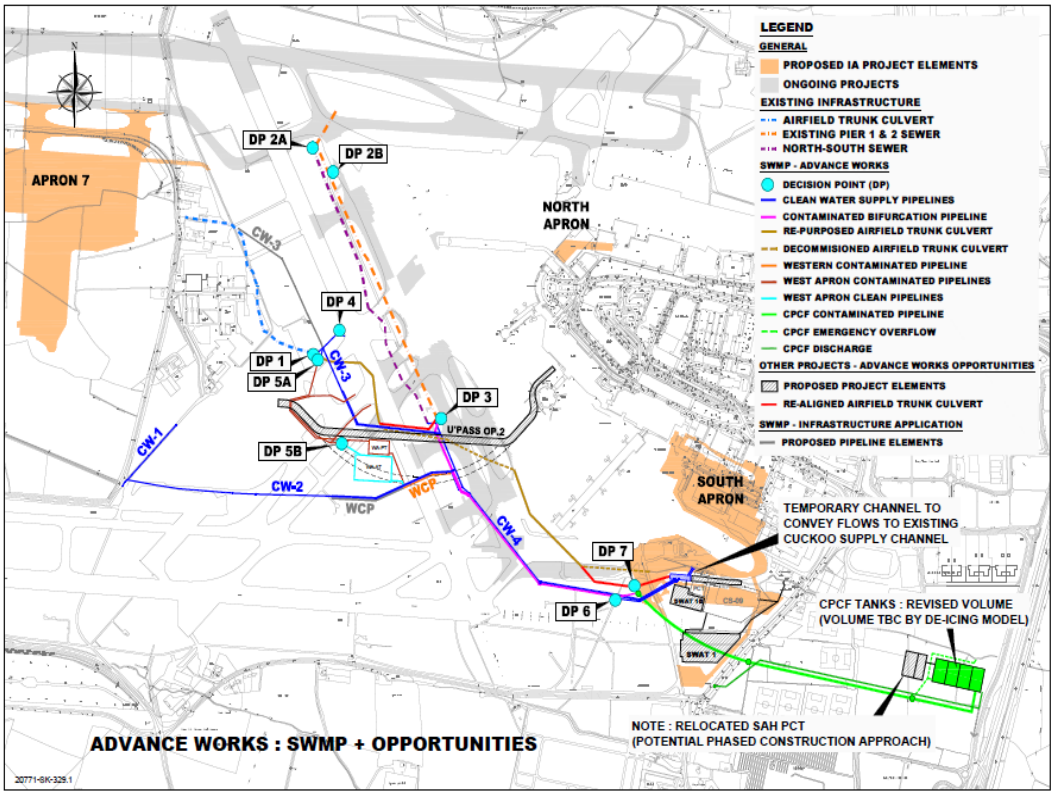


Exhibit 6.66 *– Evolving Surface Water Network Phase 1 (Indicative)*

Business Case Justification

The Surface Water Environmental Compliance project is critical to assist Dublin Airport in reaching its sustainability targets. These targets benefit all airport stakeholders by providing the necessary credentials and licences to increase airport activity over the coming years and to gain regulatory planning approval to increase the airport's passenger capacity.

Surface Water Environmental Compliance project will also have an opex benefit, due to possible reductions in manual apron glycol recovery and annual fees for licensed sewer discharge. We estimate that the project will help us reduce opex compared to the current operating norms. The exact benefit will be qualified through feasibility and reported via the StageGate process.

Project Detail Summary and Costs

CIP.20.03.052 - Surface Water Environmental Compliance				
Project Group	Sustainability			
Treatment	StageGate			
Asset Life	20 Years			
Project Output	• Upgrading the existing surface water collection network, diverting the existing Cuckoo stream through the airfield, providing additional storage and treatment facilities for polluted runoff. • This project will ultimately improve the water quality in local waterways. This will be achieved by separating clean water from polluted runoff and providing a more controlled pollution management system, which will reduce the risk of insufficient storage being available to cater for pollution events.			
Anticipated Carbon Reduction**	N/A			
Construction Programme	**Start**		**End**	
	Q3 2024		Q4 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	65%	13%	22%	-
	€66,490,000	€13,300,000	€22,980,000	€102,770,000
Total	€102,770,000			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.
** High-level estimate subject to project feasibility and further design.

Airport Charging

CIP.20.09.001 (New Project)

Project Summary

This project proposes the development of charging infrastructure for electric vehicles across the airport campus, providing charging for Dublin Airport, airlines, handlers, public transport and public vehicles.

This project is required to achieve the airport's environmental and social governance strategy (ESG) objectives and comply with the EU Clean Vehicle Directive. The project will be delivered in three stages:

Stage 1 – Charging Facilities for Dublin Airport fleet and car park bussing.
Stage 2 – Airside Charging Facilities for third parties.
Stage 3 – Charging facilities for car parks, car hire and other areas on the broader campus.

This additional charging infrastructure will increase electrical load peak capacity requirements to the existing airport distribution network; therefore, this project will also assess and upgrade the existing substation, switchgear and electrical cabling network to maintain operational resilience.

Exhibit 6.67 *– Examples of Electric Vehicles*

As part of Stage 1, Dublin airport will provide charging at strategic locations on the landside and airside for the Dublin Airport fleet. These locations will be subject to a feasibility study and assessment of the airport electrical network. Distributed opportunity charging locations will be provided for landside buses at the terminal and car park locations.

Stage 2 will involve the delivery of potentially three large, centralised charging locations airside, one in the north of the airfield, one in the south and one in the west. These will be for use by all Airport vehicles to enable the ramp to become fully electrified for light vehicles by 2025. The potential for charging at the head of stands or other locations will be included in the feasibility study at this stage.

Stage 3 will look at landside charging for public and staff vehicles. Centralised rapid charging hubs will be explored as well as a dedicated public charging product at car park and car hire locations. Provision for charging of larger heavy fleet vehicles, such as fire trucks, will be considered alongside other alternative fuelling arrangements.

Project Objective

Dublin Airport seeks to comply with EU Directives and Regulations, lead in sustainable development, and reduce carbon emissions. This project seeks to contribute to achieving regulatory compliance and the airport's carbon reduction targets by providing charging infrastructure to facilitate the airport fleet moving away from fossil fuel-powered vehicles and promoting the use of electric vehicles by providing more sustainable options to airport operators, stakeholders and passengers.

Furthermore, the project seeks to improve the airport fleet's performance and reliability, improve air quality, and reduce opex fuel costs.

The original CIP2020+ allocated €1.6m to deploy electric vehicle charger facilities, including underground ducting, civil works, electric charge facilities and associated futureproofing. This represented a modest investment in charging facilities. This scope was set in the context of the National Policy Framework on Alternative Fuels, which supported electric vehicle adoption but without a statutory Regulation or Directive. This new project builds on the original to now address a much more ambitious target and to comply with recent regulatory changes, including:

Clean Vehicle Directive - Sets minimum targets for 'clean' (low- and zero-emission) vehicles in public procurements.

Directive (EU) 2018/844 – Energy Performance of Buildings Directive - By 2025, both existing and new non-domestic buildings must provide charging infrastructure

European Union (Deployment of alternative fuels infrastructure) regulations 2018 – Mandating recharging or sustainable refuelling infrastructure deployment.

Fit for 55 2021 - The European Commission mandate to meet climate targets of at least a 55% reduction in greenhouse gas emissions by 2030 compared to 1990 levels and net-zero by 2050.

The impact of these regulatory changes is that by 2025, 100% of the new Dublin Airport light vehicle fleet and 10% of the heavy fleet will need to be clean vehicles. By 2025, 45% of landside and airside bussing operations will need to use zero-emission buses. As such, significant charging infrastructure will be required for the Dublin Airport fleet, bus operations and other third-party users. Additional publicly accessible charging infrastructure will also be required for passenger use.

It should be recognised that the above governing regulations and directives have only recently been passed into law in Ireland. As such, the project technical requirements are still to be defined in detail. Through feasibility and concept design the requirements and scope of this project will be developed. It is Dublin Airports ambition to meet or exceed the targets set by the government in this important area.

At present airlines and ground handling agents have not fully developed their plans and timescales for transitioning their GSE fleet to electric vehicles. We will collaborate with these stakeholders to develop an EV charging capability and roll out plan that supports their sustainability and business objectives as well as those of Dublin Airport.

Project Deliverables

This project, therefore, proposes to build off the smaller original CIP2020+ project "CIP.20.01.071 Electric Charger Network Facilities" to now deliver the following additional components subject to an initial and detailed feasibility study which will include stakeholder input:

Stage 1

Airside – Maintenance Base, Snow Base, Fire Station and Operational Fleet Charging – Providing charging for Dublin Airports light and heavy maintenance fleet such as vans, trucks and tractors.

Landside – Bus and Coach Charging – Providing charging for Dublin Airports fleet of carpark shuttle and third-party public transport buses and coaches.

Landside – Police Station and Dog Section Charging – Providing charge points for Dublin Airports police and dog units.

Stage 2

Airside - North Apron Consolidated Remote GSE Charging – Providing vehicle charging for airline and handler equipment such as trucks, vans, apron buses, tractors, tugs, baggage dollies, and loaders that can be staged remotely.

Airside - South Apron Consolidated Remote GSE Charging – Providing vehicle charging for airline and handler equipment such as trucks, vans, apron buses, tractors, tugs, baggage dollies, and loaders that can be staged remotely.

Airside - West Apron Consolidated Remote GSE Charging – Providing vehicle charging for airline and handler equipment such as trucks, vans, apron buses, tractors, tugs, baggage dollies, and loaders that can be staged remotely.

Airside - Deployment of Upfront GSE Charging – Providing vehicle charging for airline and handler equipment tugs and loaders that need to be staged close to the apron operation, as well as opportunity charge points for airside buses.

Stage 3

Landside – Taxi Charging – Providing additional rapid chargers for dedicated use by public hire taxis

Landside – Public Carpark and Car Hire Charging – Dedicated charge points at short term parking spaces for passenger vehicles, commercial premium and car hire offering

Landside – Consolidated Public Charging Hub – A hub facility with rapid chargers for use by passengers and staff including waiting area, café and convenience store.

***Exhibit 6.68**– Example of Consolidated Public Charging Hub*

Business Case Justification

The Airport Charging project is central to assist Dublin Airport in reaching its sustainability targets, and supporting airport users to meet their own carbon reduction targets. These targets benefits all airport stakeholders by providing the necessary credentials and licences to increase airport activity over the coming years and to gain regulatory planning approval to increase the airport's passenger cap from 32 mppa to 40 mppa.

Airport Charging will also have an opex benefit, due to expected lower and more predictable energy costs. We estimate that the project will help us reduce opex compared to sourcing traditional grid energy supplies. The exact benefit will be qualified through feasibility and reported via the StageGate process.

Project Detail Summary and Costs

As noted above, the statutory requirements that this project seeks to address have only recently been passed into law, and as such the feasibility and concept design for this project is yet to be undertaken. At this stage we have provided a budget estimate based on an appropriate number of chargers and associated infrastructure to address the anticipated charging needs of airport users and stakeholders during this CIP period. Final requirements and costs will be confirmed and consulted on via the StageGate process.

CIP.20.09.001 - Airport Charging				
Project Group	Sustainability			
Treatment	StageGate			
Asset Life	15 Years			
Project Output	<u>Stage 1:</u> • Airside – Maintenance Base, Snow Base, Fire Station and Operational Fleet Charging. • Landside – Bus and Coach Charging, Police Station and Dog Section Charging. <u>Stage 2:</u> • Airside – North, South, and West Apron Consolidated Remote GSE Charging. • Deployment of Upfront GSE Charging.			
Anticipated Carbon Reduction**	• Scope 3 Emissions – This project enables others to reduce their Carbon emissions • This project enables the electrification of Dublin Airport fleet vehicles.			
Construction Programme	**Start**		**End**	
	Q2 2023		Q4 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	64%	13%	23%	
	€51,220,000	€10,240,000	€18,670,000	€80,130,000
Total	**€80,130,000**			
Cost Certainty	Class 4			

* Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.
** High-level estimate subject to project feasibility and further design.
*** Land acquisition costs are excluded from the estimate.

Alternative Fuels

CIP.20.09.002 (New Project)

Project Summary

This project proposes to create a transition and development plan for infrastructure for the implementation of Sustainable Aviation Fuel (SAF) at Dublin Airport. This project will also include research and feasibility for the enablement of Hydrogen and other alternative aviation fuel sources at Dublin Airport.

Many European airports already have or plan to enable SAF, and many of the airlines that operate at Dublin Airport have trialled or plan to trial SAF in the near future. It is becoming clear that SAF will play a significant role in the de-carbonisation of air travel, help both airports and airlines achieve their sustainability objectives, and meet legislative requirements.

This project will cover research, planning, feasibility, option development & concept design costs associated with the enablement of SAF at Dublin Airport within this CIP period and further research and trials into future Hydrogen or other alternative aviation fuels in conjunction with partner suppliers and airlines. We are only beginning our SAF implementation journey, but following consultation with local aviation fuel suppliers, anticipate initial infrastructure requirements may include additional SAF fuel storage, fuel blending, fuel testing and hydrant system modifications.

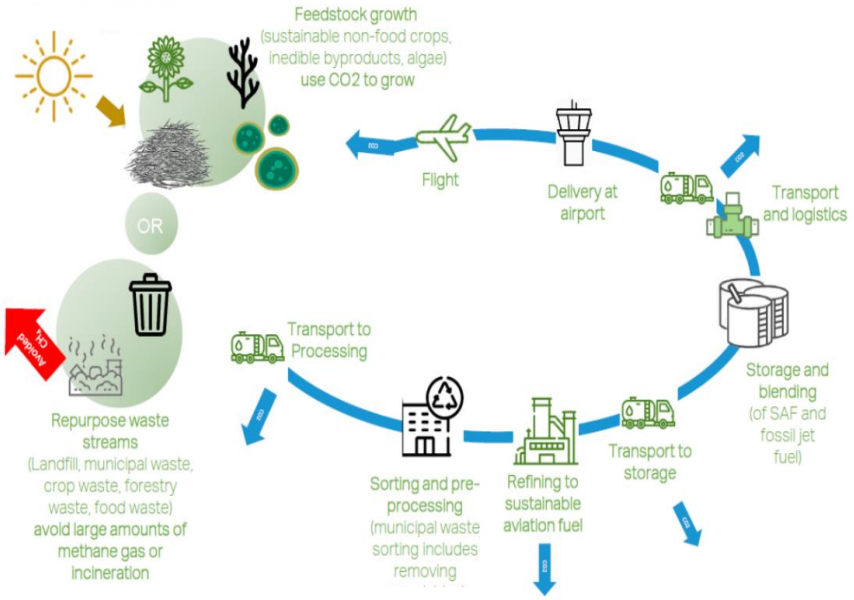


Exhibit 6.69 *– What is SAF (Source IATA)*

Project Deliverables

This project proposes to create a solution and implementation plan for delivery of fuel infrastructure including alternatives such as SAF at Dublin Airport up to and including demand anticipated at 40 mppa; further work is required to confirm the exact deliverables; however, we anticipate the following and will confirm final output and costs via the StageGate process:

- SAF research, consultation, trails, feasibility study and implementation plan.
- Concept design and planning.
- Hydrogen and alternative fuel research and trails.
- Delivery of initial required infrastructure

Business Case Justification

The Alternative Fuels project is critical to assist Dublin Airport and our partner airlines in reaching sustainability targets, providing the necessary credentials and licences to increase airport activity over the coming years and gain regulatory planning approval to increase the airport's passenger cap from 32 mppa to 40 mppa. Many of our partner airlines plan to shift from traditional fuel to alternatives in the coming years, and, while the Alternative Fuels project does not directly reduce Dublin Airport carbon emissions, it is essential to facilitating sustainable air traffic growth over the longer-term. We are therefore mandated to provide the necessary infrastructure.

Project Detail Summary and Costs

As noted above, the exact deliverables to be provided under this project are still to be determined. In response to new government requirements, and in anticipation of this CIP review, Dublin Airport is engaging specialists to assess the infrastructure required for delivering sustainable aviation fuel at Dublin airport. At this stage we have provided a budget estimate for initial study and feasibility with final requirements and costs to be confirmed and consulted on via the StageGate process.

CIP.20.09.002 – Alternative Fuels				
Project Group	Sustainability			
Treatment	StageGate			
Asset Life	20 Years			
Project Output	• A clear implementation plan and initial delivery of fuel infrastructure including alternatives such as SAF at Dublin Airport upto and including demand anticipated at 40 mppa; • Further work is required to confirm the exact deliverables.			
Anticipated Carbon Reduction**	Scope 3 Emissions – This project enables others to reduce their Carbon emissions			
Construction Programme	**Start**		**End**	
	Q1 2024		Q4 2025	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	0%	91%	9%	
	-	€1,400,000	€140,000	€1,540,000
Total	**€1,540,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.
** High-level estimate subject to project feasibility and further design.

Anaerobic Digestion

CIP.20.09.003 (New Project)

Project Summary

This project proposes the development of an Anaerobic Digestion at Dublin Airport.

Dublin Airport is mandated to reduce its absolute carbon emissions by half by 2030, with the ultimate ambition to eliminate fossil fuels in the built environment by 2050 entirely. A detailed review of all planned projects within CIP2020+ that contribute to carbon emissions (positively or negatively) has demonstrated a significant gap to our 2030 51% absolute reduction target.

An anaerobic digestor was identified as having high potential for reducing Dublin Airports carbon emissions while also decreasing some of our dependence on fossil fuels through the use of biomethane generated on-site. In addition to the carbon-reducing benefits, the project positively impacts the airports' broader sustainability objectives. The anaerobic digestion process supports a circular economy and reduces waste generation on-site as it can use food waste as a feedstock to produce the biogas.

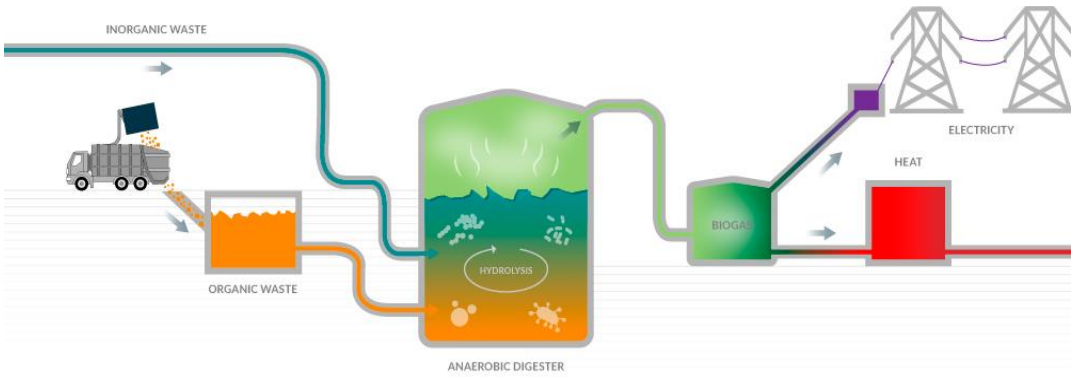


Exhibit 6.70 *– Anaerobic Digestion Process (source dumpsters.com)*

An anaerobic digestor would help contribute to both company and legally mandated targets, including:

- 51% reduction in Greenhouse Gas Emissions by 2030 (2021 Climate Action Plan).
- 50% Energy Efficiency improvement by 2030 (2021 Climate Action Plan).
- Net Zero by 2050 (2021 Climate Action Plan).

- 25% reduction in fossil fuels (Company Ambition).
- NZEB Renewable Energy Requirement (New Builds and Renovations).
- Achieving ACA Level 4/4+.
- License to operate and grow.

Project Deliverables

The project was identified as part of an overall high-level review on energy performance at Dublin Airport, which was completed in 2019. Further conceptual work has been undertaken in 2022 and this project is now planned to contribute to the airport's sustainability plan regarding carbon reduction, fossil fuel reduction, waste reduction and the circular economy. As such, further work is required to confirm the exact project deliverables; however, we anticipate the following and will confirm final output and costs via the StageGate process:

- Full Feasibility study to include assessment of locations, available feedstocks, environmental benefits, revenue opportunities and potential opex savings.
- Infrastructure delivery including detailed design, planning, procurement, construction and commissioning.
- Measurement of benefits realisation, including carbon reduction, reduction of waste and net reduction in imported energy.

Business Case Justification

The anaerobic digestor project is critical to assist Dublin Airport in reaching its sustainability targets, particularly the 2021 Climate Action Plan, ultimately working towards Net Zero carbon emission by 2050. This target benefits all airport stakeholders by providing the necessary credentials and licences to increase airport activity over the coming years and to gain regulatory planning approval to increase the airport's passenger cap from 32 mppa to 40 mppa.

Anaerobic Digestor will also have an opex benefit, due to expected lower and more predictable energy costs. We estimate that the project will help us reduce opex compared to sourcing traditional grid energy supplies. The exact benefit will be qualified through feasibility and reported via the StageGate process.

Project Detail Summary and Costs

CIP.20.09.003 – Anaerobic Digestion				
Project Group	Sustainability			
Treatment	StageGate			
Asset Life	15 Years			
Project Output	• Full Feasibility study to include assessment of locations, available feedstocks, environmental benefits, revenue opportunities and potential opex savings. • Infrastructure delivery including detailed design, planning, procurement, construction and commissioning. • Measurement of benefits realisation, including carbon reduction, reduction of waste and net reduction in imported energy.			
Anticipated Carbon Reduction**	Up to 1500t Carbon per year			
Construction Programme	**Start**		**End**	
	Q2 2024		Q4 2025	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	61%	12%	27%	-
	€5,840,000	€1,170,000	€2,580,000	€9,590,000
Total	**€9,590,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.
** High-level estimate subject to project feasibility and further design.

Sustainable Fleet

CIP.20.09.004 (New Project)

Project Summary

This project proposes to provide an efficient and effective Light and Heavy Vehicle Fleet to meet the needs of the business and the airport sustainable development objectives.

The Clean Vehicle Directive sets out minimum targets for 'clean' (low- and zero-emission) vehicles in public procurements. It requires life cycle costing to be completed as part of tenders awarded after 2nd August 2022, and this will be reported on and audited. Older vehicles can be used in new contracts so long as the overall life cycle makes sense and 45% of service/fleet are low emission / alternative fuel by 2025.

Dublin Airport is therefore putting in place a strategy to transition the appropriate vehicles, such as the light fleet made up of operational cars, jeeps and vans as well as the heavy fleet made up of sweepers, tractors, snow and ice clearing vehicles, over to zero or low emission vehicles in line with the Clean Vehicle Directive and Dublin Airports Air Quality Policy.

This project proposes to:

- Comply with all EU and Dublin Airport directives and policies.
- Replace all current fleet for LEV sustainable options by 2025.
- Introduction of additional vehicles to bolster fleet due to vehicle charging downtime.
- Replacement of two existing foam tenders.
- Replacement of current diesel-driven compact sweepers and forklifts with new zero-emissions variants.

This project will have a positive impact on both light and heavy fleet OPEX:

- Fleet maintenance costs will increase if vehicles are not replaced at the end of their useful life.
- Front line vehicles such as Fire Service and Airside Operations must remain in service to carry out critical inspection and "Follow-me" roles. Running costs will increase if vehicles are not replaced on a timely basis.

- The airport's general operation and maintenance will be put at risk if vehicles are not functioning efficiently.
- With the transition to LEV's OPEX, less use of fossil fuels and servicing requirements will reduce.

Project Deliverables

Sustainable Light Fleet

This deliverable proposes to maintain mobility within the airport-wide campus while complying with the Climate Action Plan, Clean Vehicles Directive and Dublin Airport Air Quality Policy by providing an effective Light Vehicle Fleet that meets the needs of the business.

This deliverable proposes to optimise the number of vehicles in use and the vehicle type to ensure they are fit-for-purpose while complying with all sustainability directives. The plan will see all light fleet vehicles transitioned to ZEV or PHEV by 2025.

Due to the introduction of the Clean Vehicle Directive, Climate action plan and Dublin Airport Air Quality Policy, along with the CIP extension into 2025 and 2026, it has been necessary to re-evaluate the fleet replacement plan to incorporate the complete light fleet transition to electric vehicles.
This project builds on the original CIP2020+ light fleet replacement project CIP.20.01.069, which requested funding to the sum of €2,408,000 for vehicle replacements and new vehicles for additional infrastructure. This project in the previous CIP was underfunded as actual vehicle prices on the market have been found to be higher than those allowed for in the CIP. Furthermore, whenever the transition to electric vehicles is factored into these planned replacements, the costs of procuring EVs is greater than diesel equivalents.

Dublin Airport estimate 44 vehicle replacements can be funded from this original allowance at market rates. Dublin Airport has an overall requirement to replace 116 light fleet vehicles and procure an additional 15 light fleet vehicles in the CIP period.

Therefore, this new project proposes to replace 72 vehicles and augment our fleet with an additional 15 (87 in total) vehicles to offset vehicle downtime related to electric vehicle charging and allow for new assets to be operated and maintained, such as the North runway.

Sustainable Heavy Fleet

This deliverable proposes to provide an efficient and effective Heavy Vehicle Fleet to meet the needs of the business and its operational readiness while complying with the Climate Action Plan, Clean Vehicles Directive and Dublin Airport Air Quality Policy.

Due to the introduction of the Clean Vehicle Directive, Climate action plan and Dublin Airport Air Quality Policy, along with the CIP extension into 2025 and 2026, it has been necessary to re-evaluate the fleet replacement plan to incorporate the transition of a portion of the heavy fleet to electric vehicles.

This project builds on the original CIP2020+ heavy fleet replacement project CIP.20.01.065, which requested funding to the sum of €11,040,000 for vehicle replacements and new vehicles for additional infrastructure. This project in the previous CIP was underfunded as actual vehicle prices on the market have been found to be higher than those allowed for in the CIP.

The capital investment required to obtain and make ready fleet vehicles has been directly impacted by the increasing cost of material and market supply shortages, with manufacturers increasing their vehicles' prices quarterly. This, coupled with the additional cost of acquiring electric vehicles, has caused a significant increase in capital investment required to comply with legal directives.

To date the CIP.20.01.065 project has replaced 10 vehicles, and Dublin Airport estimate a further 9 vehicle replacements can be funded from this original allowance at market rates. Dublin Airport has an overall requirement to replace 50 heavy fleet vehicles and procure an additional 7 heavy fleet vehicles in the CIP period.

Therefore, this new project proposes to replace 31 vehicles and augment our fleet with an additional 7 (38 in total) vehicles for new assets to be operated and maintained, such as the North runway.

Business Case Justification

The Light and Heavy Sustainable Fleets projects are critical to assist Dublin Airport in reaching its sustainability targets, particularly the Clean Vehicle Directive and 2021 Climate Action Plan, ultimately working towards Net Zero carbon emission by 2050. These targets benefit all airport stakeholders by providing the necessary credentials and licences to increase airport activity over the coming years and to gain regulatory planning approval to increase the airport's passenger cap from 32 mppa to 40 mppa.

Replacing the Light and Heavy vehicles with sustainable alternatives will also have an opex benefit, given fuel costs will be lower and could even benefit from on-site energy generation. Vehicle maintenance is also anticipated to be less demanding and frequent.

Project Detail Summary and Costs

CIP.20.09.004 – Sustainable Fleet				
Project Group	Sustainability			
Treatment	Flexible			
Asset Life	5 Years			
Project Output	Sustainable Light Fleet: • 72 vehicle replacements and augment the fleet with an additional 15, to offset vehicle downtime related to electric vehicle charging and new assets. Sustainable Heavy Fleet: • 31 vehicle replacements and augment the fleet with an additional 7, for new assets to be maintained.			
Anticipated Carbon Reduction**	Up to 600t Carbon per year			
Construction Programme	**Start**		**End**	
	Q4 2022		Q4 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	87%	-	13%	
	€16,070,000	-	€2,460,000	€18,530,000
Total	**€18,530,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.
** High-level estimate subject to project feasibility and further design.

Fixed Electrical Ground Power Phase 3

CIP.20.09.005 (New Project)

Project Summary

This project is proposed to expand Fixed Electrical Ground Power (FEGP) to all remaining airfield contact and remote stands.

Fixed Electrical Ground Power (FEGP) units have been installed at Dublin Airport through 2 previous rollout phases; this project now proposes a third phase enabling all remaining contact and remote stand. FEGP provides efficient, quiet and sustainable mains electrical power to aircraft while they are on stand during turnarounds and while parked for overnight maintenance activities.

Where FEGP is not available, diesel ground power units (GPU) or the aircraft's own Auxiliary Power Unit (APU) are used with both generating greater noise, carbon and other emissions; as such, FEGP is a more efficient technology which assists both the airport and airlines in reducing their carbon footprint, while also reducing noise levels to the benefit of airport stakeholders and the local community.

Exhibit 6.71 *– Example of FEGP*

The key objectives of this FEGP project are to:

- Install fixed electrical ground power to all remaining contact and remote stands not already enabled.
- Realise the environmental benefits of drawing power from the grid instead of GPUs or APUs, significantly reducing carbon emissions, enabling users to meet their sustainability targets.
- Improve Dublin Airport's energy performance and reduce carbon emissions to meet Climate Action Plan 2021 targets and more comprehensive regulatory and voluntary requirements, targets and objectives.
- Assist in the airports objective to achieve Airport Carbon Accreditation ((ACA) Level 4 certification, bringing Dublin Airport into line with competitor airports.

Project Deliverables

This project seeks to install a further 45 new FEGP units to the following locations:

- MRO stands on the North Apron.
- Remote stands on the triangle.
- Stands at the western end of Pier 1.
- Remote stands on the West Apron.

The project will also reconfigure and re-use the existing FEGP units associated with the underpass realigned stands around Pier 3.

The project excludes upgrade of the existing medium voltage network connection and additional associated infrastructure.

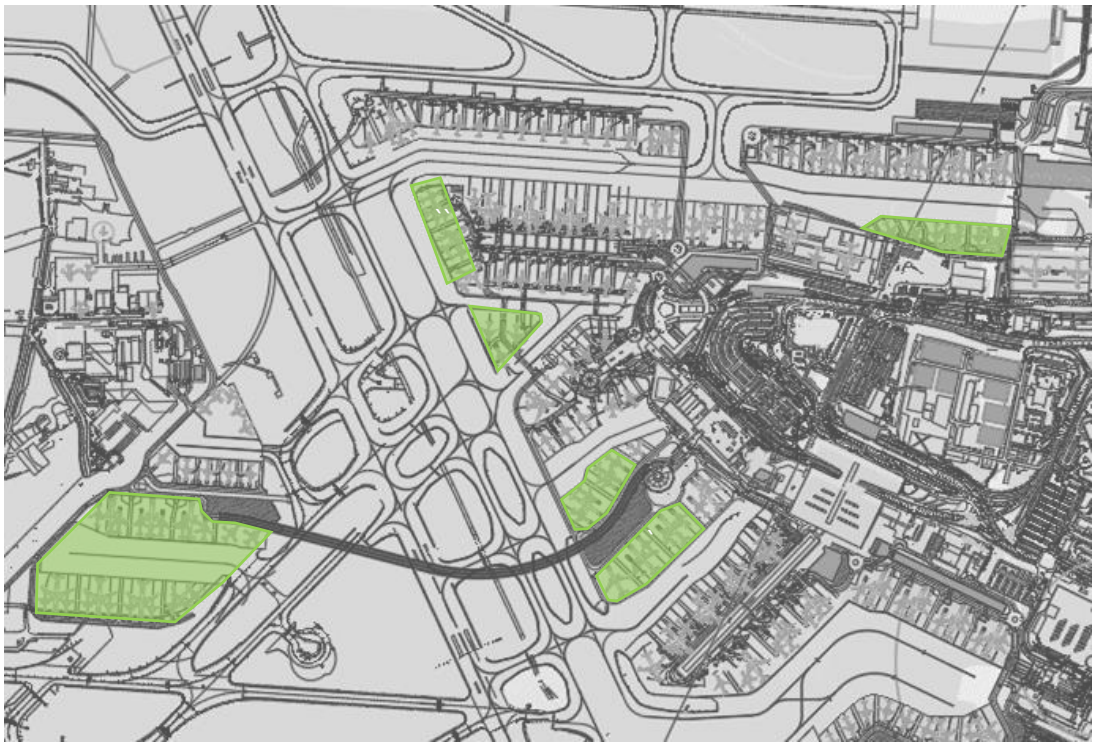


Exhibit 6.72 *– Proposed FEGP Phase 3 Locations (Indicative)*

Business Case Justification

The Fixed Electrical Ground Power project is critical to assist Dublin Airport in reaching its sustainability targets, particularly the Alternative Fuels Directive. This target benefits all airport stakeholders by providing the necessary credentials and licences to increase airport activity over the coming years and to gain regulatory planning approval to increase the airport's passenger cap from 32 mppa to 40 mppa.

This project will not contribute directly to Dublin Airports carbon reduction targets but will support airlines and ground handlers reducing carbon emissions through reduction in use of diesel Ground Power Units. Fixed Electrical Ground Power will also have an opex benefit for our partner airlines, due to expected lower and more predictable energy costs. We estimate that the project will help us reduce airline opex compared to sourcing traditional grid energy supplies or the use of Ground or Aircraft Auxiliary Power Units. The exact benefit will be qualified through feasibility and reported via the StageGate process.

Project Detail Summary and Costs

CIP.20.09.005 – Fixed Electrical Ground Power Phase 3				
Project Group	Sustainability			
Treatment	StageGate			
Asset Life	15 Years			
Project Output	• 45 new FEGP units in the following locations: MRO Stands on the North Apron, Remote Stands on the triangle, Stands at the eastern end of Pier 1, Remote stands on the West Apron. • Reconfigure and re-use existing FEGP units associated with the underpass realigned stands around Pier 3.			
Anticipated Carbon Reduction**	Scope 3 Emissions – This project enables others to reduce their Carbon emissions			
Construction Programme	**Start**		**End**	
	Q2 2025		Q3 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	63%	2%	35%	-
	€7,870,000	€260,000	€4,340,000	€12,460,000
Total	**€12,460,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.
** High-level estimate subject to project feasibility and further design.

Photovoltaic Solar Farm Phase 2

CIP.20.09.006 (New Project)

Project Summary

This project proposes the development of additional Solar Photovoltaic Solar Farms for onsite generation of renewable electricity to facilitate a reduction in carbon emissions and energy costs.

This project seeks to undertake a detailed assessment of the solar PV potential of previously identified sites and take opportunities forward for detailed design and development to meet Dublin Airport voluntary and regulatory carbon reduction targets. The Climate Action Plan, first released in 2019 and updated in 2021, put a requirement on the public sector for the first time to deliver absolute reductions in carbon emissions. A detailed review of all projects in the planning phase that are contributing to carbon emissions (positively or negatively) has demonstrated a significant gap to 51% by 2030 reduction target. This target is one of many that Dublin Airport is legally obliged to meet or has voluntarily committed to; others include:

- 51% reduction in Greenhouse Gas Emissions by 2030 (2021 Climate Action Plan).
- 50% Energy Efficiency improvement by 2030 (2021 Climate Action Plan).
- Net Zero by 2050 (2021 Climate Action Plan).
- 25% reduction in fossil fuels (Company Ambition).
- Achieving ACA (Airport Carbon Accreditation) Level 4/4+ (Company Ambition).
- Building Regulations Part L Nearly Zero Energy Building (NZEB Renewable energy requirement).
- License to operate and grow.

Dublin Airport has already implemented a small-scale Solar PV array as part of a shift towards renewable energy generation and is currently generating 90,000kWh per annum. In 2019 a feasibility study was completed on behalf of the airport to identify suitable technologies that could improve the overall energy efficiency of the airport. Solar PV was determined to have the greatest potential for minimal operational impact, carbon reductions and lowest risk.

Several locations were identified within the campus boundary as being potentially suitable for a Solar PV farm. One of these sites, located south of runway 10R-28L is currently undergoing detailed engineering design for an 8.5MW solar PV plant. This project was originally conceived as a 7.0MW facility and submitted as part of the original CIP2020+ submission as project CIP.20.07.030 and is expected to seek planning permission in Q1 2022.

However, since CIP 2020, additional targets have been implemented for the public sector to align with the government's National Climate Action Plan. Solar PV has worked well at Dublin Airport and is a proven technology across several airports globally. To reach our 2030 and eventually our 2050 targets, it is essential to invest in reliable renewable energy projects.

Project Deliverables

This project builds off the original CIP2020+ project CIP.20.07.030 and proposes an additional solar photovoltaic farm development phase. This additional phase comprises sites first identified in the earlier study prepared for the initial phase.
This project aims to develop the capacity of onsite renewable electricity further to reduce carbon emissions. Key project deliverables include the following:

- Feasibility study of the identified locations, including glint and glare assessment.
- Detailed electrical design, including integration to the Dublin Airport MV network.
- Detailed civil design.
- Environmental risk assessment.
- Preparation of planning permission.
- Procurement and installation of solar PV farm.
- Procurement and installation associated battery storage and network systems.

This second phase will deliver a greater size of Solar PV at the location of the CIP.20.07.030 project which will bring an increase in capacity of 2MW from the existing site. This project also proposes the development of new PV Farm sites some of which may require land purchase.

In addition to the PV element, this project will also include battery storage and control systems in order to better leverage the benefits of onsite renewable generation, while maintaining airport system resilience and flexibility. The battery storage capability will allow the airport to manage the campus electrical load, store extra energy and trim electricity imports at peak hours. The battery may also allow Dublin Airport to gain revenue by participating in demand-side management schemes, reducing the

Airport's operational costs. Detailed feasibility will be undertaken for this scope to determine the most suitable configuration and control for the battery storage system to balance the benefits of carbon reduction and OPEX savings.

Business Case Justification

The Photovoltaic Solar Farm Phase 2 project is critical to assist Dublin Airport in reaching its sustainability targets, particularly the 2021 Climate Action Plan, ultimately working towards Net Zero carbon emission by 2050, while continuing to grow. This target benefits all airport stakeholders by providing the necessary credentials and licences to increase airport activity over the coming years and to gain regulatory planning approval to increase the airport's passenger cap from 32 mppa to 40 mppa.

This project will reduce Dublin Airports overall carbon emissions and offset increases associated with infrastructural changes and capacity growth.

Photovoltaic Solar Farm Phase 2 will also have an opex benefit, due to expected lower and more predictable energy costs. We estimate that the project will help us reduce opex compared to sourcing traditional grid energy supplies. The exact benefit will be qualified through feasibility and reported via the StageGate process.

Project Detail Summary and Costs

CIP.20.09.006 – Photovoltaic Farm Phase 2				
Project Group	Sustainability			
Treatment	StageGate			
Asset Life	15 Years			
Project Output	• An additional photovoltaic solar farm phase including development of several new sites. • Increase in capacity of 2MW from the currently being developed • Additional battery storage and control systems in order to better leverage the benefits of onsite renewable generation.			
Anticipated Carbon Reduction**	Up to 2500t Carbon saving per Year This will offset carbon from increased electrical energy requirements from infrastructural growth and electrification of heating and vehicles.			
Construction Programme	**Start**		**End**	
	Q4 2023		Q3 2025	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	57%	11%	32%	-
	€21,960,000	€4,390,000	€12,260,000	€38,600,000
Total	**€38,600,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.
** High-level estimate subject to project feasibility and further design.

Mobility Improvement

CIP.20.09.007 (New Project)

Project Summary

Over the past decade, Dublin Airport has seen significant changes in how passengers travel to and from the airport, with over 50% of passengers now taking public transport. Looking to the future, investment in the development of public transport, including Bus Connects, is critical to both the future growth of the airport and our commitment to sustainable development.

Public transport provision at Dublin Airport is primarily via bus, most of which is facilitated from bus stops located north of the T1 multi-storey carpark, about an area referred to as the Ground Transport Centre accessed from Terminal 1 via the Atrium. In the medium to long term, the Ground Transport Centre will also incorporate the Airport Metrolink Station; the Metrolink, however, is not envisaged to be operational until around 2037.

Therefore, Dublin Airport recognises a need to provide quality, attractive and safe bus infrastructure in the near term to enable new public transport initiatives such as Bus Connect and promote and encourage increased public transport usage by airport passengers and staff.

Upgrades to public transport infrastructure and campus walking and cycling improvements are vital components to improve overall airport mobility and our general sustainability objectives.

In the recent publication of the National Transport Authority's Greater Dublin Area Transport Strategy 2022 to 2042, they predict that the overall number of people that access Dublin Airport increases by 66% in 2042 with the strategy in place compared to 2016. Additionally, they predict that the numbers travelling by public transport is forecast to almost triple by 2042. Ambitious active travel cycling and walking modal splits are also envisaged in line with government targets/aspirations.

Project Deliverables

This project is now proposed as an alternative to the original CIP2020+ project "CIP.20.03.006 Terminal 1 Kerb", deferred until final Metro Station proposals are known. The new project proposes to provide the following deliverables:

Dublin Airport Journey Planner App/Portal

We propose to develop a Journey Planning Online Interactive MMP Guide/Menu - real time information digitally for most commonly used commuter and travel routes. In addition, this will enable us to efficiently produce personal travel plans for staff.

Terminal 1 Multi Storey Carpark Atrium Refurbishment

Light refurbishment of the Terminal 1 Multi-Storey Carpark Atrium space, designed to enhance the public transport passenger experience, through real time transport information displays and improving general wayfinding between Terminal 1 and the bus and coach kerbs.

Ground Transport Centre Bus Lane Upgrades

In line with the BusConnects program, we propose Bus Parking and Lane upgrades including kerb, lighting, wayfinding, information display and bus shelter realignment, upgrade, and replacement; designed to improve and encourage public bus utilisation.

General Mobility Improvements

General allowance for a suite of campus-wide mobility initiatives, including new walking and cycle lanes, cycle shelters, cycle changing, and shower facilities for use by staff.

Business Case Justification

The Mobility Improvements project is critical to assist Dublin Airport in reaching its sustainability targets, notably the Clean Vehicle Directive and 2021 Climate Action Plan, ultimately working towards Net Zero carbon emission by 2050. These targets benefit all airport stakeholders by providing the necessary credentials and licences to increase airport activity over the coming years. Indeed, the Local Area Development Plan and National Transit Authority have a strong focus on mobility improvements and active measures will need to be developed to gain regulatory planning approval to increase the airport's passenger cap from 32 mppa to 40 mppa.

The Mobility Improvements project will also improve the attractiveness of airport public transport and help persuade passengers and staff to shift to more sustainable modes of transport, helping to reduce overall carbon emissions and surrounding road network congestion. This project will not contribute directly to achieving Dublin Airports carbon reduction targets but will create opportunity for others to make more sustainable travel choices.

In the recent publication of the National Transport Authority's Greater Dublin Area Transport Strategy 2022 to 2042, they predict that the overall number of people that access Dublin Airport increases by 66% in 2042 with the strategy in place compared to 2016. Additionally, they predict that the numbers travelling by public transport is forecast to almost triple by 2042. Ambitious active travel cycling and walking modal splits are also envisaged in line with government targets/aspirations.

Project Detail Summary and Costs

CIP.20.09.007 – Mobility Improvements				
Project Group	Sustainability			
Treatment	Flexible			
Asset Life	5 Years			
Project Output	• Dublin Airport Journey Planner App/Portal. • Terminal 1 Multi Storey Carpark Atrium Refurbishment. • Ground Transport Centre Bus Lane Upgrades. • General Mobility Improvements.			
Anticipated Carbon Reduction**	Scope 3 Emissions – This project enables others to reduce their Carbon emissions			
Construction Programme	**Start**		**End**	
	Q1 2023		Q4 2026	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	66%	12%	22%	-
	€9,270,000	€1,670,000	€3,010,000	€13,950,000
Total	**€13,950,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.

Terminal 2 Sustainable Upgrade

CIP.20.09.008 (New Project)

Project Summary

This project seeks to replace the existing fossil fuel heating system in Terminal 2 with a renewable energy alternative to reduce carbon emissions on site.

The government has mandated that Dublin Airport reduce its absolute carbon emissions by 51% from a baseline of 2016-2018 by 2030. This target comes directly from the Climate Action Plan. The target specifies a 51% reduction in emissions produced directly by Dublin Airport, including gas heating and on-site transport. Removing natural gas from Terminal 2 would deliver a significant portion of this target.

This renewable heating project will therefore contribute significantly to Dublin Airport's legal and voluntary obligations:

- Achieve 50% Energy Efficiency Improvement by 2030 (Public Sector Climate Action Plan).
- Achieve 51% Absolute Carbon Reduction by 2030 (Climate Action Plan 2021).
- Achieve 50% Space heating from renewable energy by 2030 (Climate Action Plan 2021).
- Commence journey to Net Zero Carbon by 2050.
- Achieving Airport Carbon Accreditation Level 4/4+.
- 25% Fossil Fuel Reduction.
- Ensure energy efficiency and carbon improvements as required by SI 426 (per Energy Efficiency Directive) and the resultant ISO 50001 Energy Management Standard to meet the legal requirement.

Currently, the space heating and hot water for Terminal 2 and its Pier comes from a single Combined Heat and Power (CHP) unit and three boilers, all running on natural gas. The natural gas used in Terminal 2 represents 40% of all-natural gas used by the airport and 15% of total carbon emissions. This project will essentially eliminate the use of fossil fuels from Terminal 2.

Project Deliverables

The main objective of this project will be to replace the fossil fuel-based heating system with a new heating system powered by more sustainable energy sources. The project will also include any required upgrades to the building fabric, pipework and ancillary equipment to facilitate the new heating system.

A feasibility study is commencing to determine the most appropriate technology from a financial, operational and environmental perspective. The project will complete a thermal model of the building, including a full review of the entire building envelope and heating system. As such, further work is required to confirm the exact project deliverables; however, we anticipate the following and will confirm final output and costs via the StageGate process:

- Feasibility study including thermal modelling and assessment of available technology, financial and environmental analysis. Compatibility assessment of existing building and systems. Option Selection.
- Detailed design of chosen solution.
- Procurement and Construction of building envelope improvements – This may include enhancements to glazing, doors, roof and wall insulation and cladding.
- Procurement and installation of a new low carbon space and water heating system – the solution will depend on available technology in the market, available space on the airport and compatibility with existing systems.
- Procurement and installation of upgrades to existing HVAC system and replacement of hot water pipework.

Business Case Justification

The Terminal 2 Sustainable Upgrade project is central to enabling Dublin Airport to reach its sustainability targets, particularly the 2021 Climate Action Plan, ultimately working towards Net Zero carbon emission by 2050. This target benefits all airport stakeholders by providing the necessary credentials and licences to increase airport activity over the coming years and to gain regulatory planning approval to increase the airport's passenger cap from 32 mppa to 40 mppa.

This project will realise a significant environmental benefit for the airport and would achieve a substantial portion to close the remaining gap to the 51% reduction in absolute carbon emissions required to be achieved by 2030.

Terminal 2 Sustainable Upgrade will also have an opex benefit, due to expected lower and more predictable energy costs. We estimate that the project will help us reduce opex compared to traditional heating methods. The exact benefit will be qualified through feasibility and reported via the StageGate process.

Project Detail Summary and Costs

As noted above, in response to new government requirements, Dublin Airport have recently established a project to undertake detailed feasibility for this scope. Dublin Airport has procured a supplier for this study and detailed work is now commencing. At this stage we have provided a budget estimate assuming we will have to improve the efficiency of the building envelope and replace core elements of the heating, water and ventilation systems.

CIP.20.09.008 – Terminal 2 Sustainable Upgrade				
Project Group	Sustainability			
Treatment	StageGate			
Asset Life	15 Years			
Project Output	• Replace the fossil fuel based heating system with a new heating system powered by more sustainable energy sources. • Includes any required upgrades to the building fabric, pipework and ancillary equipment to facilitate the new heating system.			
Anticipated Carbon Reduction**	Up to 3500t carbon reduction per year			
Construction Programme	**Start**		**End**	
	Q1 2024		Q2 2027	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	65%	13%	22%	-
	€71,990,000	€14,400,000	€24,240,000	€110,640,000
Total	**€110,640,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.
** High-level estimate subject to project feasibility and further design.

Terminal 1 and Campus Sustainability Feasibility

CIP.20.09.009 (New Project)

Project Summary

This project proposes preparing a feasibility study into campus-wide fossil fuel usage and developing a sustainable strategy for the upgrade or replacement of Terminal 1 and interconnected buildings. The output of which will inform future planning and CIP development.

As a public sector organisation, Dublin Airport is subject to several government targets related to energy. The Climate Action Plan initially released in 2019 and updated in 2021, put a requirement on the public sector for the first time to deliver an absolute reduction in carbon emissions by 2030. A detailed review of all Dublin Airport infrastructural projects currently in the planning phase that contribute to carbon emissions (positively or negatively) has demonstrated a significant gap to our 2030 reduction target. This target is one of many that Dublin Airport is legally obliged to meet or has voluntarily committed to; others include:

- 51% reduction in Greenhouse Gas Emissions by 2030 (2021 Climate Action Plan).
- 50% Energy Efficiency improvement by 2030 (2021 Climate Action Plan).
- Achieve 50% Space heating from renewable energy by 2030 (Climate Action Plan 2021).
- Net Zero by 2050 (Climate Action Plan 2021).
- 25% reduction in fossil fuels (Company Ambition).
- Achieving ACA Level 4/4+.
- License to operate and grow.
- Part L NZEB (Renewable energy requirement).

Terminal 1 and its Piers accounts for 53% of gas usage and 18.5% of direct carbon emissions at Dublin Airport, making it the single largest contributor within the airport's portfolio. The main terminal building dates back to the early 1970s, with extensions added as recently as 2020. The building is heated centrally by natural gas from two boilers and two CHPs. There is a significant challenge in transitioning a 50-year-old building, particularly a unique building such as a terminal, from a fossil fuel-based heating system to a renewable alternative.

However, it is a challenge that must be addressed now, from a planning perspective initially, as Dublin Airport will need to make significant Terminal 1 changes in the next CIP period should we want to reach net-zero and remove fossil fuel technology.

Project Deliverables

The overall objective of this project will be to complete a feasibility study to determine what options are available for converting Terminal 1, associated Piers and connected campus buildings away from fossil fuel-based heating systems to renewable energy alternatives.

There is a high-level understanding of the options that would be suitable for this; however, due to the level of investment and impact on operations this project would entail, it is necessary to complete a detailed feasibility study to narrow down the projects and better quantify their impact.

For Terminal 1, another option requires consideration as part of the study. Due to the nature and age of the main terminal building, the costs of retrofitting a new heating system may not be practical, feasible or present the best solution from a financial and energy perspective. It is expected that the feasibility study will include:

- Complete energy balance analysis of Terminal 1, Piers 2 and 3 and selected campus buildings.
- Complete thermodynamic model (IES).
- Survey and review the existing building envelope, glazing, shading and insulation.
- Identification and technical appraisal of suitable renewable technologies or alternative solutions.
- High-level cost and benefit analysis of alternatives.
- Environmental and financial analysis of the options.
- Holistic masterplan review.
- Implementation plan.

Business Case Justification

The Terminal 1 Sustainable Upgrade project is critical to assist Dublin Airport in reaching its sustainability targets, mainly working towards Net Zero carbon emission by 2050. This target benefits all airport stakeholders by providing the necessary credentials and licences to increase airport activity over the coming years.

Exact benefits will be realised on completion of the feasibility but are expected to significantly impact terminal energy consumption and carbon emissions while lowering both energy and maintenance opex.

Project Detail Summary and Costs

CIP.20.09.009 – Terminal 1 and Campus Sustainability Feasibility				
Project Group	Sustainability			
Treatment	StageGate			
Asset Life	15 Years			
Project Output	• A feasibility study to determine what options are available for converting Terminal 1, associated Piers and connected campus buildings away from fossil fuel-based heating systems to renewable energy alternatives.			
Anticipated Carbon Reduction**	This to be determined through load monitoring, surveys and detailed feasibility			
Construction Programme	**Start**		**End**	
	Q2 2023		Q2 2025	
Level 1 Costs	**Construction**	Design & Management	Escalation & Contingency	**Total**
	-	85%	15%	-
	-	€5,410,000	€950,000	€6,370,000
Total	**€6,370,000**			
Cost Certainty	Class 4			

*Level 2 and 3 costs provided to CAR/IFS for cost efficiency assessment.
** High-level estimate subject to project feasibility and further design.
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6.15 Spend to End of 2022

6.15.1 ***Table 6.73*** presents projects by envelope grouping since 2019; that have substantially progressed through planning, design and construction or have been or are nearing completion. We propose that the total spend anticipated by the end of 2022 enters the CIP2020+ Review opening RAB.

Envelope	Spend to End of 2022
Core (including T1 and T2 HBS)	€352.00m*
Capacity Projects	€60.90m
Commercial Projects	€22.90
Sustainability Projects	€12.10
Total	**€447.90m**

* Subject to final T1 and T2 HBS costs, currently at StageGate 3 IFS review.

Table 6.73 – CIP2020+ Review Projects Spend to end of 2022

6.15.2 **PACE South Apron Passenger Boarding Zone (PBZ)**

A consequence of the extended South Apron Hub delivery programme is the retention of the existing South Apron Passenger Boarding Zone (PBZ) to the end of 2028. By this time, the facility will have been in operation for eleven years and facilitated to the benefit of Terminal 2 airlines, approximately twelve to thirteen million outbound passengers. Given the operational period extension, the current temporary planning application will need to be extended beyond the current permission of 2024.

6.15.3 Initially, we had suggested a 15-year asset life for the PBZ, adjusted to 20 years by CAR; with the extended operational period, the facility will have operated for 66% of its initially intended asset life.

6.15.4 To date, only €1.6m of the capital cost to develop the PBZ has been allowed to enter the RAB, with the remaining balance of €19.7m carried by Dublin Airport; even though in this period, Terminal 2 airlines will have significantly benefited from its use.

6.15.5 We request car add the remaining balance of €19.7m to develop the PBZ to the CIP2020+ Review opening RAB or part off taking operational life and airline utilisation into account. The current PBZ will continue to be a key piece of enabling infrastructure to handle increasing passenger numbers until pier 5 is delivered.