

daa price control (2027-2031)

Advice to Aer Lingus on Opex Efficiency

8 September 2026

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Commission and Context

Commission and Context

- We have been retained by Aer Lingus to advise on the efficient level of operating expenditure (Opex) for Dublin Airport for the price control period 2027-2031
- Our work fits within a broader range of studies and advice commissioned by Aer Lingus. We have taken account of these studies where relevant (although note that they are also work in progress)
- Our work consists of two separate pieces of work:
 1. an initial assessment of Dublin Airport Authority (daa)'s proposals and highlighting the key issues and questions that the IAA should address;
 2. advice to Aer Lingus on IAA's draft proposals on Opex
- This report presents both pieces of work in full: our initial assessment of daa's proposals (Part 1) and our assessment of IAA's Draft Determination (Part 2).

Executive Summary

Executive Summary

- This report assesses the efficiency of Dublin Airport's Opex proposals for 2027-2031 in two stages: an initial review of daa's Regulatory Proposition ahead of the IAA's Draft Determination (Part 1), and an assessment of the Draft Determination itself, informed by CEPA's opex efficiency study, against the questions raised in Part 1 (Part 2).
- Part 1: daa's proposals did not supply us with sufficient evidence to assess their proposals. Our assessment concluded:
 1. daa's proposed 2026 baseline was materially higher than IAA's existing allowance, with a [REDACTED] variance concentrated in Security and Facilities & Cleaning
 2. daa's proposed Opex growth to 2031 (opex per passenger up [REDACTED] including CIP) rested heavily on a narrative of the impact of congestion that was not robustly evidenced
 3. We recommended IAA test daa's Security staffing and resilience assumptions, Facilities & Cleaning rostering, and airfield congestion elasticities before accepting the forecast
- Part 2: IAA's Draft Determination, informed by CEPA's opex analysis, addresses the concerns we raised in Part 1:
 1. CEPA's (on behalf of IAA) bottom-up assessment sets a lower, alternative Opex path based on what appear to be more reasonable approaches: €439.5m in 2027 rising to €478.0m by 2031, below daa's proposal in every year
 2. Security: CEPA's operational modelling substantially validates our Part 1 concerns - daa's proposed VCP staffing increase is rejected, its N+1 resilience adjustment is replaced by a targeted 23 FTE allowance, and the resulting €69m baseline is closely aligned with our own assessment and based on well-evidenced grounds.
 3. Facilities & Cleaning: CEPA's independent task model finds daa's baseline materially overstated (c.€37m efficient against daa's c.€49m combined); however, some elements, including the 2025 FTE midpoint and the cleaning service-quality adjustment, may merit even further scrutiny.
 4. Technology & Productivity: a 1% ongoing efficiency challenge, benchmarked against multiple regulatory precedents, addresses our concern that daa's forecast built in no productivity improvement.

Executive Summary

- Overall assessment
 1. CEPA's granular, bottom-up approach is a substantial improvement on generic benchmarking, and gives IAA a strong, defensible basis for the Final Determination. It provides a well-evidenced basis to reject daa's least-evidenced claims, on VCP staffing, the N+1 security buffer, and the airfield congestion elasticity switch.
 2. Two areas offer the clearest opportunity to strengthen the case further: the Facilities & Cleaning settlement (where the FTE midpoint and cleaning quality adjustment currently rest on judgement rather than independent evidence) and Security/Technology productivity (where FTE growth continues despite flat VCP staffing, and the 1% efficiency challenge could be tested against daa's funded capital programme)
 3. We recommend a consultation response which welcomes the overall direction, reinforces IAA's rejection of daa's congestion-based case, focuses further scrutiny on these two areas, and flags CIP27 airfield technology benefits as a marker to revisit at the next determination.

PART 1 – Analysis of daa's proposals

1.1 Approach

Approach

- The purpose of this section of the report is to unpack the extent to which daa's proposals sufficiently demonstrate an efficient level and evolution of Opex, identifying concerns in approach and evidence.
- We have worked on the basis that daa must demonstrate that proposed expenditure is necessary, efficient and appropriately allocated. Where daa has not provided sufficient evidence, the expenditure should not be treated as proven efficient (and therefore not recoverable).
- This is consistent with regulatory precedent that airport charges should be based on efficient costs, and with transparency principles requiring airports to explain the methodology and drivers of proposed charges.
- In order to do this, we have relied on information provided to us under NDA by Aer Lingus, together with documents publicly available from IAA, daa, and other regulators like the CAA.
- Aer Lingus raised a number of questions to the daa on our behalf, but we had no reply at the time of writing (June 2026).
- Finally, we should note that given the lack of information available and the restricted time for analysis, this section constitutes our understanding of daa's Opex proposals up to June 2026 and is provided to inform the regulatory debate and Aer Lingus' discussions with the IAA. It should not be seen as constituting our final advice.

1.2 Efficient level of baseline Opex

Efficient Baseline - Commentary

- A key issue is determining the efficient level of Opex for the start of the next control period, as inefficiency in the baseline from which forecasts are projected would embed inefficiency in future cost projections. There is a significant difference of approximately [REDACTED] in Opex levels between the IAA's decision in the current control period on the efficient level of Opex in 2026 ("IAA forecast") and daa's actual spend (and its proposed opening level of Opex for 2027).
- It may be that some or all of the delta between the IAA and daa totals is efficient spend and may be admissible into the 2027 control total – but some of it may not be efficient.
- In essence, our approach is to ask: *What is the efficient starting level of Opex in 2026?* We attempt to account for the difference between the IAA allowance for 2026 and daa's baseline for 2026 by decomposing the difference into 'buckets':
 - Structural – these costs reflect genuine and lasting change in Opex and may therefore be efficient on a steady-state basis.
 - Transitional – implementation/temporary/disruption costs – these are not to be embedded into Opex permanently.
 - Resilience-related – e.g. congestion or operational resilience required. These costs may be allowable but must be evidenced to distinguish between efficient resilience and over-resourcing/inefficiency.
 - Catch-up – because previous allowances were too low e.g. security – may or may not be real but does it represent efficient steady-state spend?
 - Unexplained – simply not proven efficient.
- Where it is not possible to decompose and assess then we presume spend is not proven efficient and therefore should be disallowed. We offer a set of questions that the IAA should ask of daa and assure itself to determine the spend efficient.
- Our approach is impacted significantly by both the quantity and granularity of evidence provided by daa and the time available between data provision and regulatory deadlines.

Efficient Baseline – Decomposing Difference

- daa Budget 2026 Opex level is approximately [REDACTED] above the IAA forecast determined in the 2022 airport charges decision document.
- Security and Facilities & Cleaning are responsible for the largest component of the [REDACTED]
- Investment in graduates and interns [REDACTED] and digital capability [REDACTED] are reported part of a strategy to strengthen operational resilience, succession planning and productivity.
- Non-payroll cost variance of [REDACTED] is reported to be directly linked to revenue generation, operational delivery, asset resilience and passenger service: Excess cleaning contract costs [REDACTED] and PRM services [REDACTED] reflect third-party service costs, and revenue-generating activities [REDACTED] reflect costs scaled with commercial performance.

Table 1: Total Opex figures for Dublin Airport 2023-2026

	2023	2024	2025	2026B*
daa reported Opex outturn (€m) Source: 2026 proposal document ¹	356	380	[REDACTED]	[REDACTED]
IAA allowance/target (real terms, €m) Source: 2022 decision document ²	304.6	317.7	323.5	328.2
IAA allowance/target (nominal terms, €m) Source: 2022 decision document ²	304.6	349		402

¹NDA Dublin Airport Regulatory Proposition 27-03-2026 (1).pdf – Appendix 2 p.32 *Budget 2026 spend

²Final-Decision-on-the-Maximum-Levels-of-Airport-Charges-at-Dublin-Airport-2023-2026.pdf

Table 2: Opex outturn 2026 and IAA forecast difference decomposition by area

Opex Area	Cost type	Difference	daa explanation of difference
Security	Payroll	[REDACTED]	Structural / Catch-up
Facilities & Cleaning	Payroll	[REDACTED]	Structural / Resilience – congestion related
Digital capability	Payroll	[REDACTED]	Resilience-related – operational resilience
Retail	Payroll	[REDACTED]	Structural – passenger and revenue growth
Cleaning contracts	Non-payroll	[REDACTED]	Structural – passenger growth
PRM services	Non-payroll	[REDACTED]	Structural – passenger growth
Critical asset resilience	Non-payroll	[REDACTED]	Resilience related – operational resilience
Revenue-generating activities	Non-payroll	[REDACTED]	Structural – passenger and revenue growth

Source: NDA Dublin Airport Regulatory Proposition 27-03-2026 (1).pdf

Efficient Baseline – Security, Facilities & Cleaning

Security

Assuming a security FTE elasticity of 1.0¹ with respect to passenger volumes, the expected 5% passenger growth above IAA forecast for 2026 could account for approximately [REDACTED] of the difference between outturn and IAA forecast security Opex as “structural” difference. This leaves approximately [REDACTED] of the difference in security Opex from IAA forecast to be explained. Our analysis of daa’s justifications, or lack thereof, has identified several key areas of challenge. We therefore recommend the IAA should test whether:

- Transitional C3 implementation cost inefficiencies may be evidenced in baseline security Opex costs (e.g. inefficient lane staffing levels, throughput, decision times, IPP) – see analysis in Annex A.1.2-4
- “Resilience” resourcing assumptions and buffers are justified – see analysis in Annex A.1.5
- The additional resourcing of security trainers is necessary and can be explained

Facilities & Cleaning

Assuming a facilities & cleaning FTE elasticity of 1.0¹ with respect to passenger volumes, the expected 5% passenger growth above IAA forecast for 2026 could account for approximately [REDACTED] of the difference between outturn and IAA forecast staffing as “structural” difference. This leaves approximately [REDACTED] additional staffing related Opex to be explained. Our analysis of daa’s justifications, or lack thereof, has identified several key areas of challenge. We therefore recommend the IAA should test whether:

- Reported impact of congestion on cleaning requirements can be sufficiently explained and evidenced – see analysis in Annex A.2
- “Resilience” resourcing assumptions and buffers are justified– see analysis in Annex A.2
- Evidence that the benefits of the ‘New Ways of Working’ contracts implemented post-pandemic have been realised and incorporated into the forward-looking baseline – see analysis in Annex A.2

¹daa’s 2026 Opex proposal uses an elasticity of 1.0 for airfield operations staffing with respect to passenger growth and an elasticity of 0.4 for maintenance staffing. An FTE elasticity of 1 is higher than daa’s implied overall staffing opex elasticity and benchmark elasticities, implying no scale economies are present.

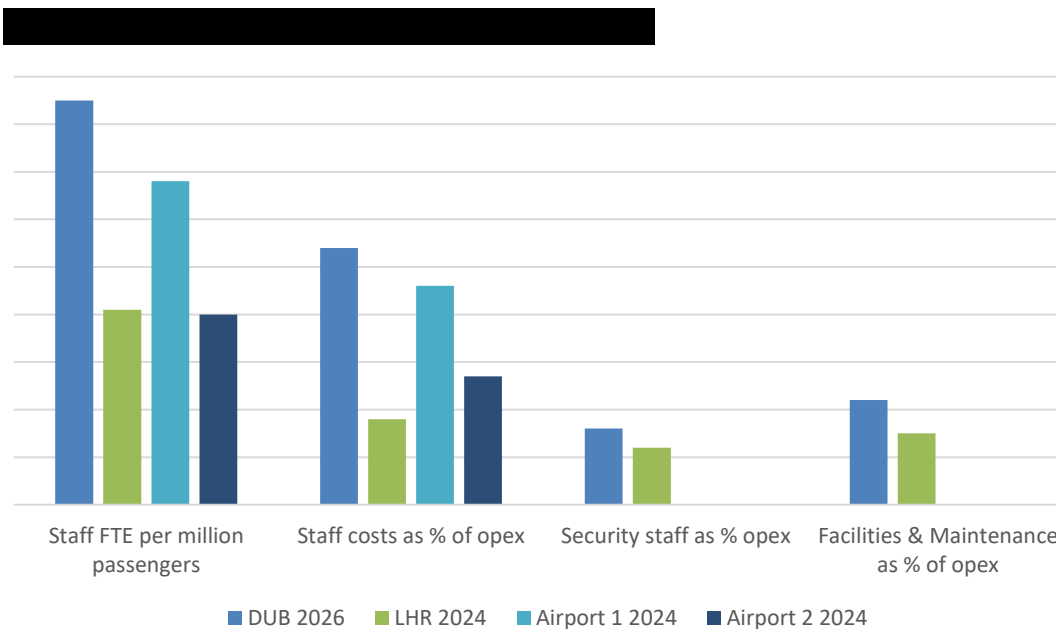
²based on the average cost of security staffing implied by the variance of [REDACTED]



Efficient Baseline – Staffing

Staff top-down benchmarking – see Annex A.3 for full analysis

- Staffing FTE per million passengers is higher at Dublin Airport than benchmarks – [REDACTED]
- The proportion of Opex spent on Security, Facilities & Maintenance (including cleaning) is higher than Heathrow – Dublin Airport is expected to spend [REDACTED]
- Whilst not necessarily indicators of Opex inefficiency, these benchmarks demonstrate that Dublin Airport has higher staff FTEs per passenger and higher staffing costs as a proportion of opex than other airports. This may be expected of larger airports (e.g. due to economies of scale) and those not under constrained operating environments, though daa should be able to sufficiently demonstrate justification for the observed staffing levels. If scale economies are responsible, at least in part, for this difference, we might expect staff costs per passenger to fall as Dublin Airport grows larger.



Efficient Baseline – Questions for IAA

Table 3: Baseline efficiency questions for IAA by Opex area

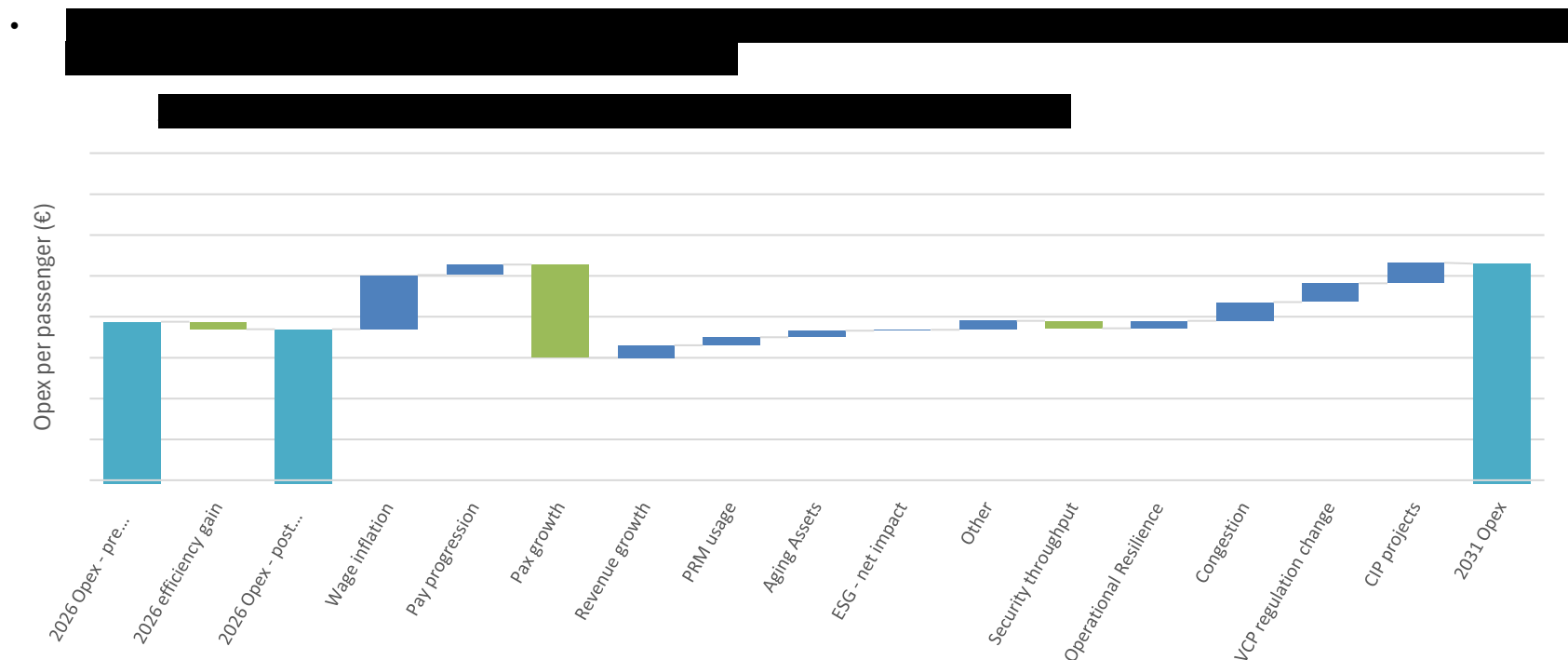
Opex Area	Question	IAA requirement of daa	Assessment
Security	What operational change explains why security staffing Opex is [REDACTED] higher than the IAA forecast for 2026, despite passenger volumes being only [REDACTED] higher?	1. Identify the specific operational drivers of the proposed baseline for security costs 2. Provide evidence behind forecasting the baseline 3. Explain why security costs scale more than the growth in passengers 4. Demonstrate that the resulting cost level is efficient	1. C3 implementation inefficiencies: Have the transitional costs from C3 implementation already been fully absorbed? 2. Staff rostering: Is security rostering demonstrated as efficient? 3. Resilience buffers: Are non-availability assumptions, rostering allowances and resilience buffers demonstrated to be proportionate and necessary? 4. Elasticities: Is security cost and FTE elasticity versus passenger volumes reasonable? 5. Wages: Are security staff costs and average pay rates reasonable?
Facilities & Cleaning	Why is the facilities & cleaning Opex in the baseline claimed to be efficient, despite a combined [REDACTED] variance to IAA allowances in 2026 ([REDACTED])	1. Identify the specific operational drivers of the proposed baseline for facilities and cleaning costs 2. Provide evidence behind forecasting the baseline 3. Demonstrate that the resulting cost level is efficient	1. Congestion: Is the suggested impact of congestion demonstrated and reasonable? 2. Staff rostering: Is current cleaning staff rostering demonstrated as efficient? 3. Resilience buffers: Are resilience buffers, non-availability assumptions and rostering coverage allowances proportionate? 4. Elasticities: Are cost and FTE elasticities (including congestion impacts) reasonable and justified? 5. Wages: Are cleaning & facilities staff costs and average pay rates reasonable?
Other	What explains the remaining variances between daa's baseline and IAA allowances, and how do these relate to broader operational resilience and structural efficiency assumptions?	1. Identify the specific operational drivers of the proposed baseline for all the other costs 2. Provide evidence behind forecasting the baseline and why they are significantly higher than IAA's allowance for 2026 3. Demonstrate that the resulting cost level is efficient	1. Operational resilience: Do digital capability and critical asset resilience costs demonstrate efficiency and productivity gains? 2. Structural costs: Do non-payroll costs associated with revenue-generating activity, PRM services and cleaning contracts scale proportionately with passenger growth?

Source: Clarity analysis

1.3 Efficient evolution of Opex

daa Opex Per Passenger 2026-2031

- Opex per passenger is forecast by daa to increase from [REDACTED]
- daa claims that on a like-for-like basis (excluding congestion impact, VCP regulation change and CIP), Opex per passenger is expected to remain roughly constant, with passenger growth scale benefits and security throughput efficiencies being offset by wage inflation and other growth-related and resilience measures.



- [REDACTED]
- [REDACTED]

- [REDACTED]
- [REDACTED]

Category	Sub-category	Value
Category 1	Sub-category 1.1	Value 1.1
	Sub-category 1.2	Value 1.2
	Sub-category 1.3	Value 1.3
	Sub-category 1.4	Value 1.4
Category 2	Sub-category 2.1	Value 2.1
	Sub-category 2.2	Value 2.2
	Sub-category 2.3	Value 2.3
	Sub-category 2.4	Value 2.4
Category 3	Sub-category 3.1	Value 3.1
	Sub-category 3.2	Value 3.2
	Sub-category 3.3	Value 3.3
	Sub-category 3.4	Value 3.4
Category 4	Sub-category 4.1	Value 4.1
	Sub-category 4.2	Value 4.2
	Sub-category 4.3	Value 4.3
	Sub-category 4.4	Value 4.4
Category 5	Sub-category 5.1	Value 5.1
	Sub-category 5.2	Value 5.2
	Sub-category 5.3	Value 5.3
	Sub-category 5.4	Value 5.4
Category 6	Sub-category 6.1	Value 6.1
	Sub-category 6.2	Value 6.2
	Sub-category 6.3	Value 6.3
	Sub-category 6.4	Value 6.4

1. **Identify the main components of the system.**
 2. **Define the scope and objectives of the project.**
 3. **Conduct a thorough literature review.**
 4. **Develop a detailed project plan.**
 5. **Implement the system and monitor performance.**
 6. **Evaluate the results and make necessary adjustments.**
 7. **Document the findings and conclusions.**
 8. **Present the results to the relevant stakeholders.**
 9. **Conclude the project and disseminate the findings.**
 10. **Reflect on the project and learn from the experience.**

Age Group	Male (%)	Female (%)
18-24	~15	~85
25-34	~25	~75
35-44	~35	~65
45-54	~45	~55
55-64	~55	~45
65-74	~65	~35
75-84	~75	~25
85+	~85	~15

Source: NDA Dublin Airport Regulatory Proposition 27-03-2026 (1).pdf

1.3.1 Airfield Opex & Congestion

Airfield Opex & Congestion - Commentary

- The costly impact of congestion in an already constrained airport environment is key theme of daa's narrative and justification for the evolution of Opex. Implied elasticities of Opex with respect to passenger growth exceed industry benchmarks¹, which daa attributes to congestion impact.
- daa forecasts material growth in airfield Opex over the 2027-2031 period. Airside Operations staffing is forecast to increase from [REDACTED] compared with forecast passenger growth of [REDACTED] over the same period. Our task is to assess whether this proposed evolution of airfield Opex is efficient, proportionate and appropriately evidenced.
- To assess the efficient evolution of airfield Opex we have looked at 3 key themes:
 - The relationship between passenger growth, congestion and airfield Opex (and the appropriate elasticity);
 - The attribution of Opex costs (e.g. including whether costs are genuinely passenger driven and whether they are appropriately accounted for)
 - daa's proposed congestion related uplift
- Our task is complicated because as daa states:
 - *"Opex forecasting for capital projects at Dublin Airport is not commonly undertaken and changes in costs and work practices in recent years, renders many existing cost data obsolete. The CIP27 Opex forecast endeavours to overcome the lack of applicable cost information by generating estimates based on preliminary information available at the time of CIP preparation and in varying degrees of completeness which was supplemented by input from relevant subject matter experts employed in various departments of Dublin Airport."* (Appendix 2 Draft Capital Investment Programme 2027-2031 – Operational Expenditure Report – page 4)
- Where it is not possible to decompose and assess costs, we presume that the associated expenditure has not yet been demonstrated to be efficient and therefore should not automatically be recoverable. Where this is the case, we suggest questions that the IAA ask of daa to determine whether the expenditure is efficient.

¹CAA's Heathrow price controls applied an opex elasticity with respect to passenger volumes of 0.4 to in its H7 final determination and has proposed an elasticity of 0.3 for staffing costs and 0.25 for other opex in H8. [H8 Initial Proposals Section 2: building blocks and incentives](#) [Review of H7 Opex and Commercial Revenues: Final Assessment and Forecasts \(Opex\)](#)

Airfield Opex & Congestion – daa Narrative

- daa states that Dublin Airport is operating in an increasingly constrained and congested environment, and that this materially increases operational complexity and operational intensity over 2027-2031.
- daa uses several elasticities in relation to opex and congestion and the rationale for the use of these different elasticities is not always clear and evidenced.
- daa's position appears to rest on three broad propositions:
 - Passenger growth in a constrained airport environment creates disproportionately greater operational complexity and intensity
 - Live CIP27 construction activity creates additional operational requirements and complexity
 - Operational complexity increasingly scales with congestion, increasing' elasticities with respect to passenger growth
- daa identifies a specific congestion related uplift by 2031
- Table 8 presents daa's opex congestion-specific impact forecast, expected to be [REDACTED]

Table 8: daa forecast Opex congestion impact 2026-2031

*Elasticity of variable with respect to passenger volume growth over the forecast period
 Source: Clarity analysis using [NDA Dublin Airport Regulatory Proposition 27-03-2026 \(1\).pdf](#)

Airfield Opex & Congestion – Passenger Growth, Congestion and Elasticity

- Airfield operations elasticity:
 - daa applies an elasticity of airfield operation costs with respect to passenger volumes of 1.0 in its forecast for the 2027-2031 period. daa quantifies the impact of congestion by comparing to a 'normal operations' baseline elasticity of 0.4, together with additional FTE associated with activities such as increased FOD management and bussing and towing activity. The 'normal operations' elasticity does not appear unreasonable. However, it is not yet clear why daa considers a higher congested elasticity justified for 2027-2031.
 - daa argues that Dublin Airport is materially congested in 2026 yet appears to be assuming a current airfield opex elasticity of 0.4 with respect to passenger volumes. The rationale for the evolution to the congested elasticity is unclear, given that:
 - CIP27 is designed to relieve congestion
 - It is not clear what the operational change is that justifies the proposed increase in airfield opex elasticity with respect to passenger volumes from 0.4 to 1.0
- Passenger growth and operational activity:
 - Current evidence shows that load factors are high, and that incumbent airlines are increasingly looking to uplift aircraft gauge (e.g. Ryanair's 737-max10, and Aer Lingus 321XLR) - see also skylark forecasts for Aer Lingus
 - Declared slot growth is relatively modest
 - Consequently, most likely to see growth largely by growth per ATM rather than significant uptick in ATMs. This is likely to weaken the link between passenger growth and Opex related to movements, stand interventions and towing for example

Airfield Opex & Congestion – Passenger Growth, Congestion and Elasticity

- Congestion:
 - daa expects congestion to have continued impacts on Opex, not limited to the airfield. daa claims to evidence the impact of congestion via the differential between their bottom-up resourcing assessment and a passenger-driven elasticity assumption of 0.7. This difference is said to highlight the operational friction introduced by congestion within a constrained airport environment. daa's estimations of congestion impact (see Table 8 on slide 28) include an additional [REDACTED] above what would be implied by an elasticity of 0.7. Of this, [REDACTED] is attributed to the impact of on Facilities & Cleaning.
- Daa's congestion analysis raises clear concerns:
 - daa's bottom-up resourcing assessment is not clearly evidenced and justified
 - Why is a 0.7 counterfactual elasticity assumption used?
 - A 'normal' operations counterfactual of 0.4 is used elsewhere in the proposal document
 - No elasticity for cleaning costs is made explicit in forecasts. It should be asked whether cleaning costs should increase with passenger volumes at all - benchmarking analysis uses elasticities of cleaning costs with respect to terminal area¹
 - daa does not present evidence of material decline in forecast costs as capacity constraints are relieved over the period
- Crucially, the IAA should test:
 - i. Whether daa has demonstrated that it's taken steps to minimise congestion (e.g. by sequencing work)
 - ii. whether daa has demonstrated that it's taken steps to keep costs as low as possible relative to an unavoidable level of congestion (e.g. by optimising the mix of permanent and agency staff)?

¹CEPA - Dublin Airport Operating Expenditure - Bottom-up Efficiency Assessment 2022.pdf, p.50

Efficient Evolution of Airfield Opex – Cost Attribution

- Appropriate cost attribution:
 - daa modelling of airfield Opex appears to apply the congestion related elasticity with respect to passenger numbers, though not all of these airfield costs may be fundamentally passenger driven.
 - Several of the drivers of airfield opex appear to be non-passenger related. daa cites other drivers such as airfield construction, projects, and safety/compliance. There is thus the risk that daa is estimating Opex costs as a function of passenger forecasts when in fact they may be driven by other factors.
 - Regulatory precedent supports cost-driver-specific Opex modelling rather than blanket passenger elasticities. In H8, the CAA treats facilities and maintenance as terminal-area driven, not passenger-driven, and estimates elasticity of Opex with respect to passenger volumes of only c.0.2. Recent Dublin precedent cited in the CAA's H8 report also treats facilities and maintenance as terminal-area driven.
 - This supports testing whether daa's airfield Opex uplift is genuinely passenger-driven, or whether it should instead be modelled as a function of ATMs, stand activity, affected assets, construction phasing or project-specific drivers.
- Opex and capex allocation:
 - The issue here is where costs should be assigned, and the avoidance of double counting:
 - It may be that some of the Opex would be more correctly reassigned as capex and should be correctly reflected in items such as contractor preliminaries, HSSE allowances and project management. In such cases the spend should be invariant to passenger and count as capex rather than Opex.
 - It is unclear from the documents provided by daa whether these cost lines appear as both Opex and Capex (and therefore there is a risk of a double count) or are assigned as Opex when they are arguably more appropriately treated as capex

Efficient Evolution of Airfield Opex – Congestion related uplift and the CIP27

- Evidence and Quantum
 - daa provides a qualitative explanation for increased operational requirements during 2027-2031 construction activity but:
 - daa acknowledge that elements of CIP27-related Opex rely on SME based assumptions and preliminary data
 - There is limited benchmarking
 - Detailed project by project operational impact modelling has not been provided
 - Consequently, whilst it could be argued that increased airfield construction may lead to increased operational requirements such as increased FOD inspections, daa do not, as yet provide evidence on the scale, duration and efficiency of the proposed uplift in spend.
- Consistency with CIP27
 - daa's case for CIP27 is that it will improve efficiency and relieve operational constraints
 - Yet daa simultaneously assumes a sustained congestion related operational uplift
 - This creates a tension in the daa proposition that is not resolved in the submission, specifically:
 - If CIP27 relieves congestion, what is the basis for the sustained congestion uplift in Opex?;
 - If congestion materially worsens, what are then benefits of CIP27?

Airfield & Congestion – Questions for IAA

(1)

Table 9: Airfield & Congestion questions for IAA by area

Opex Area	Question	IAA requirement of daa	Assessment
Passenger growth, congestion and elasticity	What specific operational change causes airfield elasticity to be assumed to increase from c0.4 under 'normal operations' towards c1.0 for 2027-2031?	1. Identify the specific operational drivers 2. Quantify the incremental activity 3. Demonstrate why airfield costs scale with passenger volumes	1. Is the operational relationship between airfield opex and passenger volumes evidenced? 2. Is the proposed elasticity consistent with observed operational data? 3. Is there sufficient evidence to warrant a change in the elasticity from 0.4 to 1.0?
Passenger growth, congestion and elasticity	To what extent is the quantified impact of congestion on overall Opex justified?	1. Provide evidence of the assumptions made in bottom-up resourcing assessment for Airside Operations and Facilities & Cleaning 2. Demonstrate why these increased requirements are proportionate and necessary	1. Has daa demonstrated that it's taken steps to minimise congestion (e.g. by sequencing work)? 2. Has daa demonstrated that it's taken steps to keep costs as low as possible relative to an unavoidable level of congestion (e.g. by optimising the mix of permanent and agency staff)?
Passenger growth drivers	To what extent does daa expect future passenger growth to arise through increased movements as opposed to higher load factors and larger aircraft gauge?	1. Provide explicit breakdown of where the passenger increase comes from 2. Reconcile these with declared slot capacity and announced airline fleet plans 3. Quantify sensitivity of airfield Opex to lower ATM growth assumptions	1. Whether and what extent passenger growth translates into proportional operational activity growth and spend 2. Does the proposed Opex growth exceed the likely evolution of operational activity?
CIP27 and congestion uplift	If CIP27 relieves operational constraints, why is a sustained congestion related operational uplift required?	1. Explain the evolution of operational congestion over 2027-2031 2. Identify which constraints CIP27 relieves and which remain binding 3. Quantify the expected operational and Opex benefits of CIP27	1. Are daa's congestion assumptions consistent with the stated objectives of CIP27? 2. Are congestion uplifts therefore transitional or enduring?

Source: Clarity analysis

Airfield & Congestion – Questions for IAA

(2)

Table 9: Airfield & Congestion questions for IAA by area (continued)

Opex Area	Question	IAA requirement of daa	Assessment
Cost attribution	Which claimed airfield Opex costs are genuinely passenger driven?	• Separate costs into: ○ passenger driven ○ movement driven ○ construction driven ○ project driven ○ safety driven	1. What is the primary driver for airfield cost area?
Opex and capex allocation	Which of the Opex costs are already included or should be included in CIP27 project budgets?	1. Break down the costs that underpin the specific congestion related uplift 2. Reconcile them against CIP27 project lines	1. Are the proposed activities necessary, proportionate and efficient? 2. Are any of the costs already being allocated through capex? 3. Should any of the Opex charges be classified as capex?
Evidence and benchmarks	What benchmarking have daa used to calculate their proposed airfield operational congestion uplift?	1. Provide external airport comparators 2. Historical Dublin Airport evidence 3. Evidence from previous major airfield construction programmes	1. Is the proposed congestion uplift able to be benchmarked? 2. Are proposed staffing and cost growth proportionate? 3. Does the proposed operational response reflect efficient frontier performance?

Source: Clarity analysis

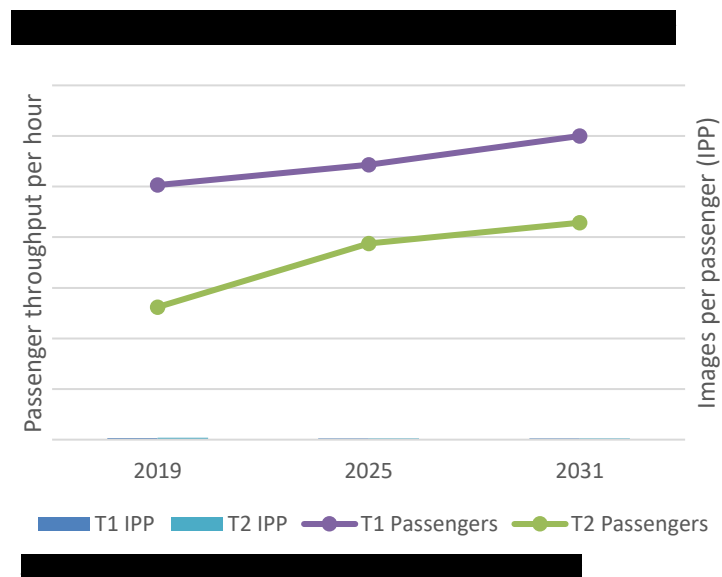
1.3.2 Technology & Productivity

Technology & Productivity - Commentary

- daa has made, and is continuing to make, investments in technology across central search, vehicle control posts (VCPs) and airside screening processes. daa states that its Opex forecast for the 2027-2031 period was developed to reflect both efficiency gains from the optimisation of operational deployment of existing C3 technology in central search, as well as incoming Opex costs from the implementation of new technologies across VCPs over the period.
- daa has projected year-on-year increases in security Opex and FTE, which result in respective increases of [REDACTED] across the period from 2027-2031. Despite this, the daa states that it expects [REDACTED] from security throughput across the period, and Security FTEs per passenger is expected to see a [REDACTED] overall. Our task is to assess whether this proposed evolution of Opex with regard to technology and productivity is efficient, proportionate and appropriately evidenced.
- To assess the efficient evolution of Opex with regard to technology and productivity we have considered 3 key themes:
 - Evidence of efficiency gains, lower resourcing and lower operating costs as a result of C3 technology implementation
 - Projected impact of future technology investments on resourcing and opex
 - Productivity growth / frontier-shift assumptions
- Where it is not possible to decompose and assess costs, we presume that the associated expenditure has not yet been demonstrated to be efficient and therefore should not automatically be recoverable. Where this is the case, we suggest questions that the IAA ask of daa to determine whether the expenditure is efficient.

Efficient Evolution of Technology

- daa has developed the security forecast for the 2027-2031 regulatory period on the basis that the transition to C3 security screening technology in central search has been completed and embedded within day-to-day operations. daa says the forecasting model reflects continued improvements in FTE efficiency as staff familiarity with C3 processes increases and operational deployment is further optimised - reflected in both workforce planning assumptions and throughput expectations.
- Ideally, for a bottom-up efficiency assessment of security Opex forecasts, we would assess the processing capability of each area individually and work up a resource plan to reflect efficient deployment of resources across terminals under new C3 fully operational equipment. However, much of this information is not available to us. Equally, daa has not decomposed their security Opex and staffing forecasts to enable us to understand their assumptions and expected efficiency gains. Consequently, we have only been able to use selected indicators of efficiency to assess and benchmark against. Our main findings are:
 - The expected gains from C3 technology are not clearly explained nor consistently cited. They also remain lower than efficiency gains forecast by comparator airports and daa's own previous forecasts¹ – see Annex B.1.1-3
 - Images per passenger (IPP) reductions from C3 implementation are well below forecasts without explanation. In T1, IPP gains of C3 implementation have only been approximately [REDACTED] with no further reductions expected across the forecast period (See Figure 4). This is only roughly half of the efficiency gains forecast by Dublin Airport in their 2020 CIP document.¹
 - Security FTE and Opex are forecast by daa to increase year-on-year, with FTE forecast to increase by [REDACTED] over the period, and security Opex expected to increase by [REDACTED]. The breakdown and justification of these significant forecast increases is not clear.
 - VCP airside screening requirements are not expected to come into force until 2028, yet FTE increases in the forecast are expected year-on-year, and overall VCP resourcing Opex increase is estimated at a significant [REDACTED].



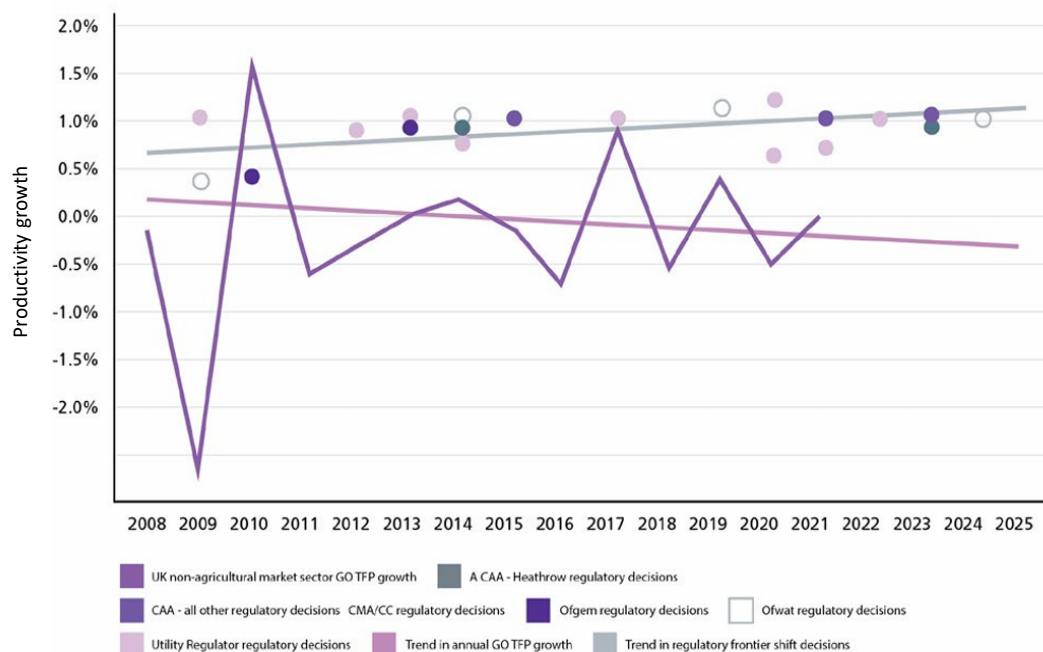
¹Appendix A - CSF1_Redacted

² This is based on an Opex per passenger increase of [REDACTED].

Efficient Evolution of Productivity

- daa does not include any explicit efficiency frontier shift assumptions in its forecasts, which means that no productivity improvements over the period are assumed.
- Historically, regulators have set frontier shift targets to reflect year-on-year productivity growth – see figure 5 below. The trend in regulatory frontier shift decisions has been increasing over time, despite annual productivity growth trend declining.
- The figure shows that CAA regulatory decisions, as well as Ofwat and other utility regulator decisions have all incorporated a positive productivity growth factor
- Heathrow was recommended a frontier-shift target for H8 of 0.3-0.6% a year, which was aimed to reflect both the wider UK economic productivity challenge, and Heathrow's unique circumstances and cost base.
- daa should at a minimum demonstrate why it has proposed that no productivity growth / frontier-shift target is appropriate for its forecast given the operating context

Figure 5: Economic insight analysis of regulator frontier shift targets 2008-2025



Source: [ee-ya-h8-Opex-and-commercial-revenues-report-for-ips-redacted.pdf](#)

Technology & Productivity – Questions for IAA

Table 10: Technology & Productivity questions for IAA by area

Opex Area	Question	IAA requirement of daa	Assessment
Technology	Are appropriate efficiency gains from technology investments reflected in daa forecasts?	1. Demonstrate expected efficiency gains – lower resourcing and lower opex costs – expected from operational deployment and familiarisation of C3 technology implementation	1. Whether daa has shown that these technology investments translate into efficiency gains through metrics such as increased throughput, reduced IPP etc. 2. Whether daa has shown that these technology investments translate into lower staffing intensity 3. Whether daa has shown that these technology investments translate into reductions in operating costs
Technology	Are Opex increases associated with ongoing technology investments proportionate?	1. Demonstrate evidence for forecast resourcing and opex cost increases associated with VCP C3 implementation 2. Demonstrate evidence for forecast resourcing and opex cost increases associated with airside screening requirements	1. Does evidence for VCP resourcing requirements demonstrate efficient rostering and resourcing assumptions? 2. Does evidence for airside screening requirements demonstrate efficient rostering and resourcing assumptions, and alignment with proposed implementation timelines?
Productivity	Why is no mention of a productivity growth/ frontier-shift target made in the forecasts for 2027-2031?	1. Present evidence of consideration of a frontier-shift target 2. Explain why a frontier shift / productivity growth target has or has not been included in the forecast with specific context	1. Has daa demonstrated consideration of productivity growth / frontier shift target for the 2027-2031 period? 2. Has daa provided sufficient evidence to justify a 0% productivity growth target across the 2027-2031 period?

Source: Clarity analysis

1.3.3 Efficient evolution of Opex - Other

Efficient Evolution of Opex – Other – Commentary

- Several other factors affecting the operating model not explicitly covered in the previous sections may have material impact on Opex evolution across the forecast period. These include resourcing and rostering assumptions, linkage between CIP and opex, and inflationary assumptions.
- daa has built in many “resilience” resourcing assumptions such as non-availability and coverage allowances into its staffing forecasts for major Opex categories including for Security, Facilities & Cleaning. To demonstrate efficiency, these resourcing assumptions should be clearly justified and benchmarked.
- daa’s Opex forecast for the impact of CIP27 is produced on a project-by-project basis using first-principles and unit-rate assumptions, drawing on preliminary design information and internal subject-matter input. The approach does not include benchmarking, system-level reconciliation, sensitivity testing, or assessment of utilisation or productivity offsets. To demonstrate efficiency, these projects should be clearly linked to expected efficiency gains in opex.
- Where it is not possible to decompose and assess costs, we presume that the associated expenditure has not yet been demonstrated to be efficient and therefore should not be automatically be recoverable. Where this is the case, we suggest questions that the IAA ask of daa to determine whether the expenditure is efficient.

Efficient Evolution of Opex – Other – Resilience resourcing assumptions

- daa has built in many “resilience” resourcing assumptions into its 2027-2031 forecast modelling, including:
 - A 28% non-availability factor across all staffing areas, to reflect paid time during which staff are not available to work. Benchmarking analysis indicates that this assumption is higher than average evidenced non-availability, for example, in the health sector – see Annex A.1.5.
 - A 12% roster coverage allowance is built into security resourcing, said to reflect additional capacity required to meet operational demand in a service-critical, rostered environment. daa claims this is consistent with benchmark coverage buffers in the range of 10-15% and reflects a cost-conscious approach.
 - Implementation of a new n+1 lane resourcing buffer in security – claimed to represent a staffing resilience measure to protect against role-critical operational failure.
 - Security supervision on a 1:15 ratio of supervisors to front-line security roles, as well as an additional 15% supervisory staffing buffer.
 - A 10% back-up staffing coverage allowance for facilities operations (reducing to 4% by 2031).
 - A further 5% operational resilience buffer in facilities & cleaning to “ensure continuity of service across time-critical services”.
- These resourcing assumptions, particularly when compounded, appear to risk becoming excessive and are not clearly benchmarked. Rostering detail is not provided for any area, so bottom-up efficiency cannot be assessed. The IAA should therefore test:
 - Whether assumptions can be justified through benchmarks.
 - Whether any risk of double counting exists.
 - Whether daa can evidence sufficient rostersing detail to demonstrate it has taken steps to keep staffing costs as low as possible whilst ensuring critical resilience.

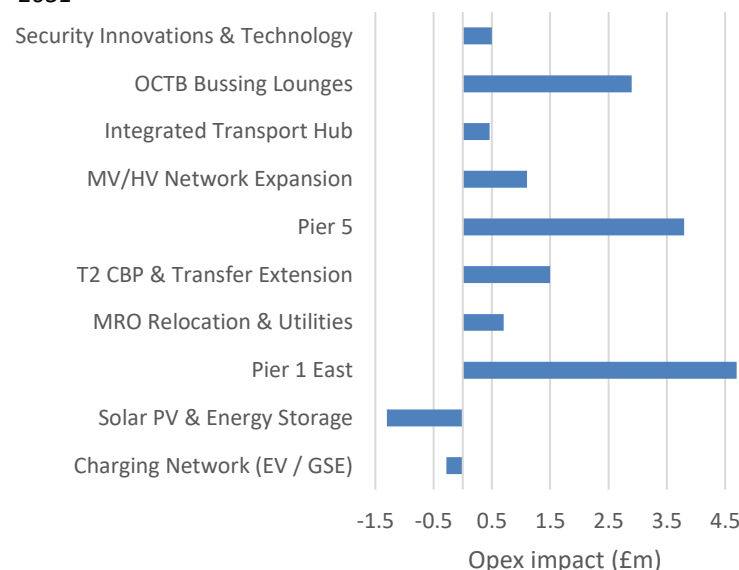
Efficient Evolution of Opex – CIP27

- daa's Opex estimates for CIP27 are produced on a project-by-project basis using first-principles and unit-rate assumptions, drawing on preliminary design information and internal subject-matter input.
- The approach does not include benchmarking, system-level reconciliation, sensitivity testing, or assessment of utilisation or productivity offsets. The figure below illustrates the impact on Opex per year for these projects.
- Energy and charging projects generate modest net Opex savings, driven by avoided electricity purchases and user-charging revenues outweighing maintenance and operating costs.
- All other major CIP27 projects drive structural Opex increases, reflecting the operation of new or expanded assets (piers, CBP facilities, utilities and transport infrastructure), with costs arising from maintenance, cleaning, utilities, staffing, rates and specialist operations (e.g. bussing and security technology).

Daa's CIP Opex impact analysis raises clear challenges:

1. What evidence underpins the stated Opex impacts for each major CIP project, beyond the high-level first principles approach?
2. How have these project-level Opex impacts been tested for efficiency, including benchmarking, sensitivity analysis or alternative operating assumptions?
3. Where CIP projects generate additional operating costs, what assessment has been undertaken of offsetting Opex savings elsewhere in the operating model (e.g. productivity, utilisation, technology-enabled efficiencies)?

Figure 6: daa forecast impact on CIP27 projects on Opex across 2027-2031



Source: Clarity analysis using [Dublin Airport Capital Investment Plan 2027-2031.pdf](#)

Other Opex – Questions for IAA

Table 11: Other Opex - questions for IAA by area

Opex Area	Question	IAA requirement of daa	Assessment
Resilience resourcing assumptions	Are resilience resourcing assumptions sufficiently justified?	1. Provide detail of benchmarks for assumptions and allowances 2. Provide staff rostering details used to inform bottom-up modelling approach	1. Can allowances and be justified through benchmarks? 2. Do resilience assumptions align with performance/quality commitments and expectations? 3. Does any risk of double counting exist? 4. Can daa demonstrate it has taken steps to keep staffing costs as low as possible whilst ensuring critical resilience?
CIP27	Are the Opex impacts of CIP projects appropriately evidenced and offset by efficiency gains or Opex savings elsewhere in daa's forecasts?	1. Provide details on the methodology behind the Opex impacts. 2. Provide details on the Opex efficiencies that the capital projects would generate.	1. What evidence underpins the stated Opex impacts for each major CIP project? 2. How have these project-level Opex impacts been tested for efficiency, including benchmarking, sensitivity analysis or alternative operating assumptions? 3. Where CIP projects generate additional operating costs, what assessment has been undertaken of offsetting Opex savings elsewhere?

Source: Clarity analysis

PART 2 – IAA Draft Determination Review

2.1 IAA Draft Determination and Approach

IAA Opex forecast 2027-2031

- IAA commissioned CEPA to produce an independent forecast of Dublin Airport's efficient Opex for 2027-2031, using a three-stage framework:
 - Estimate the efficient 2025 Opex baseline
 - Project the baseline forward using passenger volumes and category-specific cost drivers
 - Adjust for step changes, including service standard changes and CIP27 impacts
- CEPA applies a similar framework as daa, tested throughout against external benchmarks, historical data and precedent rather than daa's internal assumptions.
- The table below illustrates IAA's proposed target total and per passenger-opex forecasts over the period, compared to daa's proposals. IAA's forecast target is lower than daa's forecast in each year, with IAA's proposed target reaching €478.0m by 2031, compared to daa's forecast of [REDACTED].
- Under IAA's forecast, total opex grows in real terms each year, while opex per passenger declines, reflecting the scope to spread largely fixed costs across a larger passenger base.
- The following slides review IAA's opex assessment in the Draft Determination and supporting CEPA report, against the assessment criteria set out in Part 1 of this report.

Table 12: IAA's proposed total and per-passenger opex forecast, 2025-2031

	2025b	2026f	2027f	2028f	2029f	2030f	2031f
IAA Total Opex (€m, real)	415.3	428.5	439.5	450.1	459.7	468.7	478.0
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
IAA Opex per passenger (€)	11.4	11.3	11.1	11.0	10.9	10.8	10.7
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Source: CEPA, Microsoft Word - Draft Determination [Note: 2025 reflects CEPA's estimate of an efficient baseline], NDA Dublin Airport Regulatory Proposition 27-03-2026 (1).pdf

Note: IAA and daa opex figures are based on the same passenger forecast

Approach

- The purpose of this section of the report is to assess the IAA's Draft Determination and supporting CEPA opex efficiency study against the questions and concerns we raised in Part 1, and to identify where daa's Regulatory Proposition has been adequately tested and where evidence gaps remain.
- We have worked on the basis that the Draft Determination should demonstrate that CEPA's assessment addresses the specific concerns raised in Part 1, using bottom-up evidence and benchmarking rather than restating daa's own proposals. Where it is not clear that CEPA's evidence is not able to fully resolve a concern, we have identified this as an outstanding query for IAA to consider ahead of the Final Determination.
- For each Opex area, we have reviewed CEPA's assessment against the questions set out in Part 1, formed a view on the strength of the evidence provided, and, where useful, tested the sensitivity of key judgement calls using our own analysis, set out in Annex C.
- We have provided an indicative evidence status colouring of green where we believe Opex assumptions are well evidenced, and purple where the analysis could benefit from further scrutiny.
- We have relied on the IAA's Draft Determination¹ and CEPA's Dublin Airport Opex Efficiency Study² for this assessment, together with the underlying analysis and data extracts made available to us.
- As with Part 1, this assessment reflects the information published or made available to us at the time of writing. Where category-specific chapters or supporting data were not available, we have noted this as a gap rather than inferring a conclusion.
- Finally, we should note that given the time available for this analysis, this section constitutes our assessment of the Draft Determination up to August 2026 and is provided to inform Aer Lingus' consultation response to the IAA.

¹Microsoft Word - Draft Determination

²Dublin Airport Opex Efficiency Study: 2027–2031

2.2 Efficient baseline assessment

Efficient Baseline – IAA assessment review

Table 13: Baseline efficiency Draft Determination review by Opex area

Opex Area	Question on daa proposals	Our suggested assessment criteria for IAA	Our review summary of IAA's Draft Determination and areas for further consideration for Final Determination
Security	What operational change explains why security staffing Opex is c.35% higher than the IAA forecast for 2026 under the previous determination, despite passenger volumes being only c.5% higher?	C3 implementation inefficiencies: Have the transitional costs from C3 implementation already been fully absorbed? Staff rostering: Is security rostering demonstrated as efficient? Resilience buffers: Are non-availability assumptions, rostering allowances and resilience buffers demonstrated to be proportionate and necessary? Elasticities: Is security cost and FTE elasticity versus passenger volumes reasonable? Wages: Are security staff costs and average pay rates reasonable?	CEPA conducts an independent deep-dive security efficiency and benchmarking assessment, which concludes: - C3 was still bedding in operationally during 2025, leaving scope for further productivity improvements over the next determination period. Achieved throughput appears to be materially below planned throughput in a number of lanes. - Lane staffing is above operational requirements on average, with a gap between lanes used and lanes required, though this finding is sensitive to throughput assumptions. - Rostering evaluation showed higher than necessary staffing levels in both 2024 and 2025, but efficiency improved over the period: the average rostering efficiency gap narrowed from 14% in 2024 to 6.5% in 2025. - The evidence supports a specific resilience allowance, but not daa's proposed N+1 adjustment. IAA's proposed security opex is not built directly from daa's proposals. It uses CEPA's evidence, including bottom-up operational modelling, to inform its own assumptions: - daa's lane throughput assumptions (higher than 2025 achieved levels) - daa's staffing templates (conversion of lanes needed into daily staff hours and annual FTE requirements) are accepted as broadly reasonable (provided throughput improves as planned) - a 28% non-availability allowance and a 12% roster coverage allowance (in line with daa proposals) - a targeted resilience allowance of 23 FTEs a year, replacing daa's proposed N+1 staffing arrangement - real wage assumptions are based on the latest Central Bank of Ireland forecasts The result is an efficient security baseline of €69m, against daa's proposed €70.3m. CEPA's operational benchmarking supports this baseline: Dublin's central search productivity is comparatively strong against a sample of comparator terminals, and queue-time evidence is consistent with regulatory targets. Overview: CEPA's evidence and bottom-up modelling here are well-evidenced; the resulting €69m baseline appears generally well supported.

Source: Clarity analysis

Efficient Baseline – IAA assessment

Table 13: Baseline efficiency Draft Determination review by Opex area (continued)

Opex Area	Question on daa proposals	Our suggested assessment criteria for IAA	Our review summary of IAA's Draft Determination and areas for further consideration for Final Determination
Facilities & Cleaning	Why is the facilities & cleaning Opex in the baseline claimed to be efficient, despite a combined €12m variance to IAA allowances in 2026 ?	1. Congestion: Is the suggested impact of congestion demonstrated and reasonable? 2. Staff rostering: Is current cleaning staff rostering demonstrated as efficient? 3. Resilience buffers: Are resilience buffers, non-availability assumptions and rostering coverage allowances proportionate? 4. Elasticities: Are cost and FTE elasticities (including congestion impacts) reasonable and justified? 5. Wages: Are cleaning & facilities staff costs and average pay rates reasonable?	CEPA assesses the evidence for daa's proposed Facilities and Cleaning efficient baseline Opex, building an independent, bottom-up task model of the efficient baseline. The efficient Facilities and Cleaning baseline CEPA proposes is €27m payroll and €10m non-payroll, materially below daa's baseline of €35.7m payroll and €13.3m non-payroll. Facilities CEPA finds insufficient evidence to support daa's proposed Facilities staffing increase. daa has not provided a detailed audit trail showing why FTE numbers need to increase from 278 in 2022 to 300. While there are plausible arguments for increased operational need, given passenger growth, higher terminal density and landside congestion since 2022, there is insufficient evidence on the right level of resource. CEPA's key concerns with daa's model are: 1. It does not demonstrate how busier shoulder periods, weekly variation or seasonal flattening convert into annual FTE requirements. 2. Several assumptions overlap: daa applies shrinkage, coverage and separate resilience allowances. While each may have a role in principle, daa has not shown that they address distinct requirements, and the coverage and resilience adjustments in particular risk double-counting flexibility already built into the model. CEPA therefore builds its own bottom-up task model to estimate the efficient baseline level of Facilities Opex. This takes daa's task model and adjusts it where assumptions are not well evidenced: removing the roster coverage allowance, since the staffing model assumes no daily variation in activity requirements, and reducing shrinkage (i.e. absence, training, leave etc.) to 25% based on updated absence assumptions. For 2025, IAA takes the midpoint between daa's forecast Facilities staffing (300 FTE) and CEPA's task-model estimate (282 FTE), arriving at 291 FTE. Outstanding query for IAA: should CEPA's own task-model estimate of efficient Facilities FTE be used instead of the midpoint, given the evidence gaps identified in daa's model? Overview: CEPA's task-model approach appears reasonable, though the midpoint settlement and the €0.9m quality adjustment are judgement calls rather than independently evidenced, and are where we see the clearest opportunity to strengthen the case.

Source: Clarity analysis

Efficient Baseline – IAA assessment

Table 13: Baseline efficiency Draft Determination review by Opex area (continued)

Opex Area	Question on daa proposals	Our suggested assessment criteria for IAA	Our review summary of IAA's Draft Determination and areas for further consideration for Final Determination
Facilities & Cleaning	Why is the facilities & cleaning Opex in the baseline claimed to be efficient, despite a combined €12m variance to IAA allowances in 2026 ?	Congestion: Is the suggested impact of congestion demonstrated and reasonable? Staff rostering: Is current cleaning staff rostering demonstrated as efficient? Resilience buffers: Are resilience buffers, non-availability assumptions and rostering coverage allowances proportionate? Elasticities: Are cost and FTE elasticities (including congestion impacts) reasonable and justified? Wages: Are cleaning & facilities staff costs and average pay rates reasonable?	Cleaning CEPA's analysis finds that while pay-related costs are broadly consistent with the levels assumed in the 2022 Decision, non-pay cleaning costs sit above the adjusted forecast without sufficient evidence that the full increase is explained by wage pressures, higher standards or higher passenger-related cleaning requirements. CEPA therefore forecasts a lower efficient Cleaning expenditure, using benchmarked unit costs applied to passenger volumes and terminal area. For 2025, outturn non-pay cleaning costs were €12.5m, against a benchmarked efficient estimate of €9.3m before any service-quality adjustment. CEPA adds a €0.9m service-quality adjustment, to reflect the possibility that daa's cleaning standards require expenditure above the benchmark. This gives an efficient non-pay baseline of €10.2m and a total Cleaning baseline of €18.3m, against daa's €20.2m: a €1.9m reduction, and an efficiency challenge of 9.3% concentrated in outsourced cleaning. Outstanding query for IAA: is the €0.9m quality adjustment too generous, given it is not independently evidenced and only efficient if required to meet service quality standards? On wages, CEPA finds no need for a further payroll efficiency adjustment. Facilities & Cleaning payroll growth was reviewed as part of the 2022 Decision, and the increase since then is broadly consistent with that assessment. Unit payroll costs are forecast using the same bottom-up attrition-curve and pay-band progression methodology applied to Security and Retail, reflecting recent workforce growth concentrated in frontline roles. Overview: the benchmarking approach is reasonable, but the €0.9m quality adjustment would benefit from independent evidence.

Source: Clarity analysis

Efficient Baseline – IAA assessment

Table 13: Baseline efficiency Draft Determination review by Opex area (continued)

Opex Area	Question on daa proposals	Our suggested assessment criteria for IAA	Our review summary of IAA's Draft Determination and areas for further consideration for Final Determination
Other	What explains the remaining variances between daa's baseline and IAA allowances, and how do these relate to broader operational resilience and structural efficiency assumptions?	Operational resilience: Do digital capability and critical asset resilience costs demonstrate efficiency and productivity gains? Structural costs: Do non-payroll costs associated with revenue-generating activity, PRM services and cleaning contracts scale proportionately with passenger growth?	CEPA systematically worked through each remaining component of Opex, testing daa's baseline forecast against the available evidence and applying its own benchmarking and modelling where appropriate. The areas of daa's opex baseline not accepted as efficient by IAA are: - Central Functions: benchmarking evidence supports instead using the 2025 outturn as the starting point for efficient opex, so the assessment focuses on sub-functions where staffing has grown materially since 2025 and targeted functional benchmarks are available. For HR, external benchmarks and insufficient evidence for the current staffing level lead CEPA to set HR staffing on a glidepath from the 2025 outturn towards a lower, benchmarked target. - IT: the efficient baseline is reduced to 3% of revenue, from a 2025 outturn of 3.2%. The efficiency challenge is concentrated in IT pay, as daa has not provided sufficient evidence that the scale of its IT staffing growth, including additional digital capability (+18 FTE) and cyber (+5 FTE) roles, is genuinely additional to benchmarked efficient expenditure. - Rents: the temporary rent uplift is removed from the baseline. - Car Parks: using a payroll cost assumption consistent with Facilities and Cleaning gives an efficient baseline payroll cost of €3.9m, against daa's €4.3m outturn. - Utilities: efficient gas expenditure is reduced, as daa's implied gas unit price sits above the Irish non-domestic average for its consumption band. - Consultancy: a downward adjustment is applied based on benchmarking, to incentivise improved efficiency. Other opex lines are individually reviewed and accepted where evidenced. For example, for PRM, the cost increase is attributed to higher PRM usage rather than inefficient delivery, and is supported by benchmarking. Overview: IAA's category-by-category approach is reasonable overall, though sub-function analysis such as the HR staffing glidepath and baseline could benefit from further exploration to provide a transparent justification for the adopted approach.

Source: Clarity analysis

2.3 Efficient evolution assessment

Airfield & Congestion – IAA assessment

Table 14: Airfield & Congestion Draft Determination review by Opex area

Opex Area	Question on daa proposals	Our suggested assessment criteria for IAA	Our review summary of IAA's Draft Determination and areas for further consideration for Final Determination
Passenger growth, congestion and elasticity of airfield opex wrt passengers	What specific operational change causes airfield elasticity to be assumed to increase from c0.4 under 'normal operations' towards c1.0 for 2027-2031?	1. Is the operational relationship between airfield opex and passenger volumes evidenced? 2. Is the proposed elasticity consistent with observed operational data? 3. Is there sufficient evidence to warrant a change in the elasticity from 0.4 to 1.0?	CEPA's Airside Operations chapter directly investigates and quantifies elasticity: • CEPA's own Dublin-specific elasticity estimate is 0.42 (95% CI 0.18–0.65), cross-checked against comparator airports (0.66–0.86) and consistent with the CAA's H8 approach for Heathrow. • CEPA explicitly rejects daa's proposed switch to a 1.0 elasticity from 2026, on the basis that elasticities capture average historical relationships across a full traffic cycle and are not designed to model step changes or time-limited construction pressures. • This gives a strong, quantified basis for challenging daa's elasticity assumption directly, citing CEPA's own published evidence. Overview: CEPA's rejection of the elasticity switch is clearly reasoned and quantified; while we have not independently verified the underlying analysis, it directly supports the concerns raised in Part 1.
Passenger growth, congestion and elasticity of airfield opex wrt passengers	To what extent is the quantified impact of congestion on overall Opex justified?	1. Has daa demonstrated that it's taken steps to minimise congestion (e.g. by sequencing work)? 2. Has daa demonstrated that it's taken steps to keep costs as low as possible relative to an unavoidable level of congestion (e.g. by optimising the mix of permanent and agency staff)?	CEPA's quantifies daa's proposed impact of congestion and rejects it: • daa's proposed uplift (elasticity switch to 1.0, plus 6 FOD FTEs from 2030) would take Airside Operations from 83 FTEs (2025) to 114 FTEs by 2031. • CEPA rejects the elasticity switch and each of daa's four proposed step changes individually (1 FTE Airfield Management, 1 FTE Airside Standards and Planning, 6 FTEs escort operations, 6 FTEs FOD mitigation), in each case for lack of a phased, project-specific workload profile. • CEPA notes Dublin Airport delivered major runway, taxiway and apron works in current and previous determination periods without needing additional staffing – a strong cross-check that daa has not shown genuine additionality. • CEPA's retained baseline is 83 to 88 FTEs by 2031, a 26 FTE (30%) gap to daa's proposal, entirely on step changes. Overview: CEPA's rejection of daa's proposed step changes is clearly reasoned, and the historical cross-check is a useful sanity check.

Source: Clarity analysis

Airfield & Congestion – IAA assessment

Table 14: Airfield & Congestion Draft Determination review by Opex area (continued)

Opex Area	Question on daa proposals	Our suggested assessment criteria for IAA	Our review summary of IAA's Draft Determination and areas for further consideration for Final Determination
Passenger growth drivers	To what extent does daa expect future passenger growth to arise through increased movements as opposed to higher load factors and larger aircraft gauge?	- Whether and what extent passenger growth translates into proportional operational activity growth and spend - Does the proposed Opex growth exceed the likely evolution of operational activity?	CEPA directly investigates and addresses this: - CEPA's estimated elasticity of aircraft movements to passenger volumes at Dublin Airport is 0.70 (95% CI 0.65–0.76), confirming passengers are a defensible proxy driver of airfield workload (staffing, opex) even though aircraft movements are the primary driver of airfield workload. - CEPA also estimated elasticities for each of the five Airside Operations sub-teams individually; while estimates vary, they confirm that Airside opex is only weakly driven by passenger volumes overall, and CEPA reasonably declines to apply them mechanically given short time series and wide confidence intervals. - This supports the view that growth via upgauging and load factor gains should not translate proportionately into Airside Operations staffing growth. As a marker for the next determination, we would note that continued upgauging and fleet densification are likely to further weaken the passenger-movements relationship over time. Overview: CEPA's evidence on the movements-to-passenger elasticity is convincing, as is its decision not to apply sub-team elasticities mechanically.
CIP27 and congestion uplift	If CIP27 relieves operational constraints, why is a sustained congestion related operational uplift required?	- Are daa's congestion assumptions consistent with the stated objectives of CIP27? - Are congestion uplifts therefore transitional or enduring?	A detailed review of CIP27-related capital costs is outside the scope of this report; our comments here relate solely to the treatment of associated Opex impacts. CEPA directly investigates and addresses the CIP-congestion interaction: - CIP27.06.03 (€10m of airfield technology, including Advanced Visual Docking Guidance Systems, smart stand technologies and automated FOD detection) is treated as a future opex-reducing benefit by daa, not a basis for a current-period reduction, because entry-into-service dates aren't specified and most stand-specific investment is concentrated in 2030-2031. - This means the associated opex-reduction benefits are expected to arise mainly in the following determination period, not 2027-2031. - This investment means any congestion-related opex increases should be transitional and tied to specific evidenced projects, not a standing allowance – consistent with CEPA's finding elsewhere that daa "has overstated the impact" of capacity constraints. Overview: CEPA's acceptance of CIP27 as a future opex-reducing benefit rather than a current cost offset is reasonable, though the benefit allocation question should be revisited at the next determination. CEPA's conclusion that congestion-related opex increases should be transitional and rejection of proposed congestion impacts are also in support of this.

Source: Clarity analysis

Airfield & Congestion – IAA assessment

Table 14: Airfield & Congestion Draft Determination review by Opex area (continued)

Opex Area	Question on daa proposals	Our suggested assessment criteria for IAA	Our review summary of IAA's Draft Determination and areas for further consideration for Final Determination
Cost attribution	Which claimed airfield Opex costs are genuinely passenger driven?	1. What is the primary driver for airfield cost area?	CEPA investigates the full attribution rationale: - CEPA finds that Airfield Management and the Airside Management Unit scale more than proportionately with traffic in a congested environment (elasticities estimated as 1.42 and 1.39). - CEPA considers that Airside Standards and Planning is driven by governance and compliance workload rather than passenger throughput. - CEPA finds that Stand and Gate Allocation and Airside Facilities & FOD are largely fixed, driven by stand inventory and airfield footprint rather than passenger volumes (elasticities near zero). Overview: CEPA only finds evidence that Airfield Management opex areas are genuinely driven by passenger volumes. CEPA's attribution rationale is well evidenced, though the wide confidence intervals on sub-team elasticities would benefit from further data over time.
Opex and capex allocation	Which of the Opex costs are already included or should be included in CIP27 project budgets?	- Are the proposed activities necessary, proportionate and efficient? - Are any of the costs already being allocated through capex? - Should any of the Opex charges be classified as capex?	CEPA investigates this reconciliation question: - A Need-Additionality-Efficiency framework is used by CEPA to assess proposed CIP-related opex impacts: all four of daa's proposed CIP-related Airside Operations step changes are rejected for lack of a phased, project-specific workload profile. - CIP27.06.03 technology investment is treated as a future opex upside, not an immediate saving or cost. - There is no Airside-specific opex/capex misallocation accepted in CEPA's forecast: the entire proposed step-change uplift (83 to 114 FTEs) is rejected, and the 0.4-elasticity baseline is proposed instead (83 to 88 FTEs). Overview: CEPA appears to have adopted a robust approach to the opex/capex reconciliation question raised in Part 1.

Source: Clarity analysis

Airfield & Congestion – IAA assessment

Table 14: Airfield & Congestion Draft Determination review by Opex area (continued)

Opex Area	Question on daa proposals	Our suggested assessment criteria for IAA	Our review summary of IAA's Draft Determination and areas for further consideration for Final Determination
Evidence and benchmarks	What benchmarking have daa used to calculate their proposed airfield operational congestion uplift?	1. Is the proposed congestion uplift able to be benchmarked? 2. Are proposed staffing and cost growth proportionate? 3. Does the proposed operational response reflect efficient frontier performance?	CEPA provides two direct benchmarks: • Aircraft movements per Airside Operations FTE sits close to a 15-year high in 2025, supporting the view that the function has already absorbed traffic growth without proportionate headcount growth. • CEPAs estimated aggregate elasticity of movements to passengers (0.70) is cross-checked against comparator airports' range of 0.66-0.86. • A direct historical cross-check: Dublin Airport delivered major runway, taxiway and apron works during current and previous determination periods without needing additional Airside Operations staffing, undermining daa's case that the 2027-2031 CIP programme is qualitatively different. Overview: the benchmarking evidence provided is well supported by comparators and historical precedent.

Source: Clarity analysis

Technology & Productivity – IAA assessment

Table 15: Technology & Productivity Draft Determination review by Opex area

Opex Area	Question on daa proposals	Our suggested assessment criteria for IAA	Our review summary of IAA's Draft Determination and areas for further consideration for Final Determination
Technology	Are appropriate efficiency gains from technology investments reflected in daa forecasts?	- Whether daa has shown that these technology investments translate into efficiency gains through metrics such as increased throughput, reduced IPP etc. - Whether daa has shown that these technology investments translate into lower staffing intensity - Whether daa has shown that these technology investments translate into reductions in operating costs	CEPA uses first-hand evidence (including a process efficiency review¹, operational analysis and benchmarking²) to inform its security forecast assumptions, rather than taking daa's proposals as given, and builds its own bottom-up operational model. We support this approach. However, due to data limitations, CEPA adopts daa's throughput and staffing-per-lane assumptions, tested against operational evidence and comparator benchmarking. The limitation is that existing evidence at Dublin Airport does not yet reflect the full operational benefit of C3, so daa's assumptions and staffing templates are not fully evidenced and may not be ambitious enough. The modelling would benefit from further evidence to support the proposed efficiency gains from technology investment and to justify the staffing requirements. Outstanding queries for IAA: We support CEPA's approach in principle, but the Draft Determination does not appear to fully evidence or quantify technology-driven productivity gains and would benefit from further data to support these assumptions. CEPA treats APIDS (automated prohibited item detection) as a potential throughput upside only, not built into the forecast, given uncertainty on timing and scale. Should some allowance be made for it now? Overview: CEPA's approach is reasonable in principle, but the productivity gains from technology investment would benefit from further evidence and quantification.

Source: Clarity analysis

¹ [security-efficiency-study---annex-c.pdf](#)

² [security-efficiency-study---annex-b.pdf](#)

Technology & Productivity – IAA assessment

Table 15: Technology & Productivity Draft Determination review by Opex area (continued)

Opex Area	Question on daa proposals	Our suggested assessment criteria for IAA	Our review summary of IAA's Draft Determination and areas for further consideration for Final Determination
Technology	Are Opex increases associated with ongoing technology investments proportionate?	- Does evidence for VCP resourcing requirements demonstrate efficient rostering and resourcing assumptions? - Does evidence for airside screening requirements demonstrate efficient rostering and resourcing assumptions, and alignment with proposed implementation timelines?	CEPA rejects daa's proposed VCP staffing increase of 151 FTEs across 2027-2031 and instead holds staffing constant at 131 FTEs throughout the period. CEPA's reasoning is that the efficient response should rely on upstream supplier controls, delivery consolidation and booking, and the proposed consolidated security and screening centre (CIP27.02.15), rather than dispersed VCP screening. This is a strongly argued and well-quantified position. However, not all areas of Security staffing appear to be challenged to the same extent or supported by sufficient evidence. Outstanding query for IAA: With VCP staffing held flat and efficiency gains from technology, why does total Security FTE still rise across the period? The growth is concentrated in ASU staffing and associated Team Supervisors, and the evidence for this is not clear. daa's rostering and resourcing assumptions, such as a 28% non-availability allowance and a 12% roster coverage allowance, are accepted but not fully evidenced as efficient. Further evidence and benchmarking on efficient rostering and marginal staffing increments would strengthen this. Overview: CEPA's rejection of daa's VCP staffing increase is strongly argued and quantified; the residual growth in ASU and Team Supervisor FTE would benefit from further justification.
Productivity	Why is no mention of a productivity growth/ frontier-shift target made in the forecasts for 2027-2031?	- Has daa demonstrated consideration of productivity growth / frontier shift target for the 2027-2031 period? - Has daa provided sufficient evidence to justify a 0% productivity growth target across the 2027-2031 period?	CEPA notes that daa does not build any productivity growth into its forecast and does not justify why this would be appropriate. IAA's proposed forecast instead includes a 1% a year ongoing efficiency challenge on wage-linked Opex not already assessed bottom-up, benchmarked against Frontier Economics' 0.6% (daa, 2019), the UK CAA's proposed 1% H8 challenge, and CEPA's own 0.5% to 1.0% range for ESB Networks. The challenge is not applied to Security, passthrough or regulated costs, or CPI-linked lines, to avoid double counting. Outstanding query for IAA: is 1% sufficiently ambitious given daa's funded technology and capital investment programme? The figure is in line with precedent, such as the H8 efficiency challenge, but could CIP and technology investment arguably support a higher figure?

Source: Clarity analysis

Other Opex – IAA assessment

Table 16: Other Opex Draft Determination review by Opex area

Opex Area	Question on daa proposals	Our suggested assessment criteria for IAA	Our review summary of IAA's Draft Determination and areas for further consideration for Final Determination
Resilience resourcing	Are resilience resourcing assumptions sufficiently justified?	- Can allowances and be justified through benchmarks? - Do resilience assumptions align with performance/quality commitments and expectations? - Does any risk of double counting exist? - Can daa demonstrate it has taken steps to keep staffing costs as low as possible whilst ensuring critical resilience?	CEPA's Security resilience approach uses: - a 28% non-availability allowance, in line with daa's proposal; - a 12% roster coverage allowance, reduced from a 15% rule of thumb, reflecting improved rostering tools; and - a Monte Carlo analysis identifying material queue-risk concentrated in Terminal 1 during summer months. This produces a targeted allowance of approximately 23 FTEs a year, rejecting daa's blanket N+1 lane adjustment as unevidenced and disproportionate. Queries for IAA: The level of scrutiny applied to Security/VCP resilience assumptions is not visible for all other opex areas, such as Facilities & Cleaning. We would welcome further analysis in these areas. daa's wider Security ancillary role resourcing assumptions, such as a 1:15 supervisor ratio and a 15% buffer, are accepted but not independently evidenced. We would welcome further analysis in these areas. Resourcing and resilience assumptions elsewhere could be strengthened through further evidence, benchmarking and performance commitments. Evidence that staffing costs are being kept as low as possible while ensuring critical resilience would provide better evidence of efficiency. Overview: CEPA's approach to resilience resourcing is well evidenced in some areas, but the same rigour has not been extended to all areas and would benefit from further benchmarking.
CIP27	Are the Opex impacts of CIP projects appropriately evidenced and offset by efficiency gains or Opex savings elsewhere in daa's forecasts?	- What evidence underpins the stated Opex impacts for each major CIP project? - How have these project-level Opex impacts been tested for efficiency, including benchmarking, sensitivity analysis or alternative operating assumptions? - Where CIP projects generate additional operating costs, what assessment has been undertaken of offsetting Opex savings elsewhere?	CEPA rejects the Opex impacts from CIP projects in daa's proposal and conducts its own assessment: - CEPA includes only €9.4 million of additional CIP-related Opex across 2027-2031, reflecting projects it considers sufficiently evidenced. - A three-part Need-Additionality-Efficiency test is applied to every step change; in Maintenance this meant accepting c.60% of daa's proposed CIP-related cost increases and applying a further 50% challenge to the accepted commercial uplift. - CEPA also finds that daa's proposition focused on Opex increases from CIP with less attention to potential savings and has corrected for this through its step-change assessment and top-down efficiency challenge. Outstanding query for IAA: CEPA's approach is sensible in principle, though can further transparency be provided for how the methodology for quantifying Opex savings from CIP investment benefits have been incorporated into the Opex assessment? Overview: CEPA's approach is reasonable in principle, though we'd welcome IAA setting out how CIP-related opex savings will be tracked and reconciled at the next determination.

Source: Clarity analysis

2.4 Summary and conclusions

Summary of findings

This section brings together our review of the Draft Determination and CEPA's opex efficiency study against the concerns raised in Part 1. Our findings by opex area are:

- **Security:** CEPA's bottom-up modelling and benchmarking approach is clearly documented and appears reasonable; while it is not within our remit to reproduce or independently verify the underlying data and regression analysis, the resulting €69m baseline appears broadly reasonable, though it could benefit further from additional evidence to support resilience assumptions.
- **Facilities & Cleaning:** the task-model approach appears reasonable, though the FTE settlement and the €0.9m cleaning quality adjustment appear to rest on judgement calls that would benefit from further evidence.
- **Other Baseline (Central Functions etc.):** the category-by-category approach appears reasonable overall, though sub-function analysis such as the HR staffing glidepath may benefit from further evidence.
- **Airfield & Congestion:** CEPA's approach is clearly documented and appears reasonable, though we have not independently verified the underlying analysis. CEPA's rejection of daa's proposed elasticity switch and step changes directly supports the concerns raised in Part 1.
- **Technology & Productivity:** CEPA's rejection of daa's VCP staffing increase appears reasoned with evidence, and the 1% efficiency challenge is based on a reasonable set of benchmarked comparators. The productivity gains expected from technology investment, and the residual growth in Security FTE, would benefit from further evidence.
- **Other Opex:** the level of scrutiny CEPA applied to Security's resilience assumptions has not been extended consistently to other staffing areas, and the methodology for quantifying CIP-related opex savings would benefit from greater transparency.

Overall, CEPA's approach substantially addresses the concerns raised in Part 1. It is not within our remit to reproduce CEPA's underlying analysis, but the approach taken appears sensible and well-documented. The residual gaps identified are set out as outstanding queries for IAA on the following slide, with our recommended focus for consultation set out in our conclusions.

Outstanding queries of IAA

Proposed items for inclusion in Aer Lingus' response to IAA, include:

- **Facilities & Cleaning:** should CEPA's own task-model estimate of efficient Facilities FTE (282) be used instead of the midpoint (291)? Is the €0.9m cleaning quality adjustment too generous, given it is not independently evidenced?
- **Central Functions:** does the HR staffing glidepath imply the 2025 baseline is not itself considered efficient?
- **Airfield & Congestion:** IAA could signal that it expects the 0.4 elasticity to reduce further at the next determination, reflecting up-gauging and fleet densification.
- **Technology:** productivity gains from technology investment are not yet fully evidenced or quantified. With VCP staffing held flat, why does total Security FTE still rise across the period? Ancillary role and rostering assumptions (28% non-availability, 12% roster coverage) are accepted but not independently evidenced.
- **Productivity:** is the 1% ongoing efficiency challenge sufficiently ambitious given daa's funded technology and capital investment programme?
- **Other Opex – Resilience:** the level of scrutiny CEPA applied to some of Security's resilience assumptions has not been extended consistently to other staffing areas, such as Facilities & Cleaning and IT. Why not?
- **Other Opex – CIP27:** CEPA's approach is supported in principle, but the methodology for quantifying Opex savings from CIP investment remains unclear.

Conclusions and areas for further clarification

CEPA's Draft Determination represents a significant improvement on generic benchmarking, and its rejection of daa's least well documented claims, the VCP staffing increase, the N+1 security buffer, and the congestion-driven elasticity switch, is well evidenced and should be maintained through to the Final Determination. Of the outstanding queries set out, we see an opportunity to seek targeted clarification on particular issues: Security productivity, the calibration of ongoing efficiency, the remaining congestion-related Opex allowances and the quantification of Opex benefits from CIP investment.

We suggest that consultation response focuses on the following areas, where further clarification would be valuable:

- **Security productivity:** given the significance of Security within the overall Opex allowance, it would be helpful to understand in greater detail how productivity improvements from C3 maturity, APIDS, process learning and wider operational optimisation have been reflected in the allowance. While the Draft Determination recognises these benefits, further transparency on the underlying assumptions would help stakeholders understand the final position. For example, our Annex B analysis of C3 throughput gains (materially below daa's own 2020 forecasts) suggests the 1% efficiency challenge may not be ambitious enough given the scale of technology investment.
- **Congestion-related costs and CIP:** the Draft Determination challenges the idea that congestion should automatically result in higher efficient Opex. It would be helpful for IAA to provide further detail on which congestion-related costs remain in the final allowance, and why. A key principle for Aer Lingus is that where airport users fund significant capital investment, they should also see the resulting benefits, in automation, productivity, operational simplification and energy efficiency. The Draft Determination recognises this principle, and we see merit in encouraging additional transparency on how these benefits have been quantified and incorporated into the Opex assessment. CIP27.06.03 airfield technology investment (c.€10m) is treated as a future opex benefit rather than a current saving, since most of the investment lands in 2030-31. We'd suggest IAA note this now, so the expected saving is tracked and reconciled at the next determination.
- **Facilities & Cleaning:** our benchmarking of resilience assumptions (Annex A.2, A.1.5) suggests the FTE midpoint and cleaning quality adjustment may more generous than the evidence requires. A clearer reconciliation from daa's proposed Opex forecast to the efficient allowance ultimately adopted by IAA would help stakeholders understand the justifications for accepted proposals and principal adjustments made and improve transparency around the regulatory assessment process.

Further analysis could usefully strengthen the evidence base in places, including the long-term impact of automation, staffing productivity assumptions, quantification of CIP-related efficiencies, and the use of external benchmarking as a supplementary cross-check. We see these as opportunities for further development and research, not as criticisms of the underlying methodology, which we consider to be robust and directionally sound.

Appendices

APPENDIX A – BASELINE EFFICIENCY ANALYSIS

This appendix sets out our detailed analysis supporting the baseline efficiency questions raised, covering Security, Facilities & Cleaning, and top-down benchmarking against comparator airports. It provides the underlying evidence and calculations referenced in the main body of the report.

A.1 – Security

A.1.1 – Security FTEs

- In 2026, Security FTEs are expected to be [REDACTED] higher than the IAA forecast of 881 FTEs, where passenger volume is only 5% above IAA forecast. This additional staffing translates to a [REDACTED] between IAA forecast security costs, and daa's 2026 Budget security costs.
- daa states that the variance in security costs [REDACTED] represents necessary costs rather than a discretionary uplift - they claim that without this higher level of frontline resourcing, the airport could not safely and reliably accommodate passenger growth achieved within a constrained footprint whilst meeting required service standards.

Assessment: *The CEPA (2022) Opex assessment¹ uses an ASU security FTE elasticity with respect to passenger volumes of 0.88-0.89, and daa has previously used 1.0 in forecasts. The variance demonstrates a much higher elasticity than both CEPA and daa's previous forecasts – reflecting 269 additional FTE above what would be expected from a security FTE elasticity of 1.0 with respect to above forecast passenger growth – this expansion is not grounded in clear, evidence backed justification.*

Assuming a security FTE elasticity of 1 with respect to passenger volumes, the expected 5% passenger growth above IAA forecast for 2026 could account for approximately [REDACTED] of the difference between outturn and IAA forecast security Opex, leaving approximately [REDACTED] additional security Opex to be explained.

A.1.2 – C3 implementation

- daa claims that the 2026 baseline incorporates the full operational effects of the transition to C3 security screening as already absorbed into the cost base.
- However, daa also says in their 2026 proposal document:
 - “Delivering predictable processing in a live reconfigured environment requires greater coordination, flexibility and management intervention.” (Appendix 2 p.27)
 - Resourcing is “dependent on continued operational learning and the bedding-in of newer technologies and processes” (Appendix 2 p.27)
 - “While security capacity has been enhanced through the C3 programme, operational performance depends on ensuring staffing levels and flow management are aligned with peak presentation.” (Appendix 2 p.27)
 - “The roll out of C3 equipment has been completed between May 2023 and December 2025 across central search in T1 and T2, with roll out across other security posts (e.g. staff screening, VCPs) continuing into 2026.”

Assessment: *These statements suggest that the current security operating baseline is not likely to be efficient - some of the security operating cost incurred up to 2027 is likely reflecting inefficiencies and bedding-in costs related to C3 implementation that should not be embedded into Opex costs permanently.*

¹CEPA - Dublin Airport Operating Expenditure - Bottom-up Efficiency Assessment 2022.pdf

A.1 – Security

A.1.3 – C3 Lane staffing

- daa says introduction of C3 security screening technology has fundamentally changed the lane operating model and materially increased staffing requirements. Under the legacy model, staffing averaged 12 FTEs per lane in Terminal 1 and 8 FTEs per lane in Terminal 2; however, the C3 configuration requires 18 FTEs for a short lane and 23 FTEs for a long lane. This increase reflects the additional roles required to support image analysis, passenger flow management and compliance with enhanced screening procedures associated with the new technology, representing a structural rather than discretionary uplift in staffing.

Assessment:

- The CEPA (2022) Opex assessment¹ indicates that Dublin Airport expected the introduction of C3 scanning would increase staffing per pair of lanes to increase to 15 FTE. What is Dublin Airports justification for the current 18-23 FTEs per lane? These figures are likely to be including inefficiencies rather than reflecting a structural change in FTE requirements.**
- HAL's H8 Opex assessment² benchmarking:**
 - It is considered that lane staffing at Heathrow is optimised at 6 FTE and an hourly throughput of 170 passengers per lane – reflecting an hourly passenger throughput per FTE of approximately 28.*
 - Table A on the right presents comparative security lane capacity metrics for a number of airports taken from table A1.3.3, with the addition of Dublin Airport 2025 metrics as reported in their 2026 proposal. The table demonstrates that Dublin Airports 2025 hourly passenger throughput per FTE is in the region of 11-18, significantly lower than Heathrow, who also has C3 equipment, and all other confidential airport benchmarks*

Source: Clarity analysis using [ee-ya-h8-Opex-and-commercial-revenues-report-for-ips-redacted.pdf](#);

¹CEPA - Dublin Airport Operating Expenditure - Bottom-up Efficiency Assessment 2022.pdf

²ee-ya-h8-Opex-and-commercial-revenues-report-for-ips-redacted.pdf

A.1 – Security

A.1.4 – Throughput, staff tenure and decision times

- T1 security tray throughput is reported to have reduced from 420 trays/hour in Terminal 1 and 315/hour in Terminal 2 in 2019 to 380/hour and 350/hour in 2025 in Terminals 1 and 2, respectively. daa claims this reflects a combination of structural and workforce-related factors rather than inefficiency – however both of these are below daa forecast tray throughput for C3 and ATRS as reported in the CEPA (2022) opex assessment¹, presented in table B. daa forecasts tray throughput increases to 420 in Terminal 1 and 380 in Terminal 2 for next forecast period.
- Average staff tenure has fallen materially, with approx. 85% of staff with >1.5 years experience in 2019 compared to approx. 65% in 2025 – reducing familiarity with new screening technologies and processes.
- Decision times have increased significantly due to complexity of C3 equipment, with average decision times rising from approx. 6.5 to 16 seconds.
- IPP reported T1 1.67 and T2 1.92 IPP baseline in 2019, IPP currently reported at 1.4 (16% reduction in T1, 28% reduction in T2) in both terminals and forecast to remain constant

Assessment: Current security Opex likely includes inefficiency related to C3 equipment and staffing 'bedding in' issues, evidenced by underperformance compared to previous forecasts and benchmarks.

For example:

- Evidence from ACI cited in the CEPA (2022) Opex assessment¹ cites an average screening decision time of 8-11 seconds with C3 technology – the current daa reported 16 seconds is significantly higher.*
- Evidence from ACI cited in the CEPA (2022) Opex assessment¹ cites a reduction in images per passenger (IPP) of 30% when using C3 technology, which should lead to an overall increase in passenger throughput despite increased decision times*
- Dublin Airport tray throughput figures are lower than previous daa own forecasts suggest (see table B)*
- Reported IPP reduction is less than 30% implied by evidence from ACI (particularly for T1) and not expected to reduce further*
- CEPA modelling implies overall ASU resourcing requirements could reduce approx. 26% with C3 technology – Dublin Airport security resourcing has instead increased significantly*

¹CEPA - Dublin Airport Operating Expenditure - Bottom-up Efficiency Assessment 2022.pdf

Table B: daa forecast tray throughput rates 2022

	T1	T2
Trays per hour - 2022	420	315
Trays per hour – C3 and ATRS	400	375
Change	-5%	+19%

Source: [CEPA - Dublin Airport Operating Expenditure - Bottom-up Efficiency Assessment 2022.pdf](#)

Table C: Key parameters used in CEPA 2022 security modelling

		In-lane		Pax (Trays/IPP)
	Terminal	FTE	Trays	IPP
2019 Baseline	T1	12	420	1.67
	T2	8	315	1.92
Summer 2022	T1	12	384	1.67
	T2	8	288	1.92
Post C3 and ATRS introduction from 2034	T1	15	365	1.17
	T2	15	342	1.35

Source: [CEPA - Dublin Airport Operating Expenditure - Bottom-up Efficiency Assessment 2022.pdf](#)

A.1 – Security

A.1.5 – Rostering and resilience buffers

- daa does not provide a detailed breakdown of the current security staffing and rostering operating models
- daa says the absence of a passenger cap during winter season required maintenance of higher base level of trained security officers for a longer portion of the year, rather than flexing staffing only around peak summer periods. This increased baseline staffing requirements in order to ensure resilience, continuity of service and compliance during shoulder and off-peak months
- Security staffing assumptions for forecast modelling includes a 28% non-availability factor, a 12% rostering allowance and n+1 resourcing, cited as necessary and benchmarked resilience measures
- daa performance data demonstrates that in 2025, the % of passengers experiencing a security queue time of less than 20 minutes was 95-98.7% measured on a monthly basis. The proposed security queue performance metric is >90% in 20 minutes.

Assessment:

- **Baseline and roster staffing allowances cannot be fully decomposed but likely incorporates unnecessary buffers justified as necessary resilience requirements. Baseline modelling is already based around busy day expectations and includes a specific 28% non-availability factor, 12% rostering allowance and n+1 lane resourcing cited as resilience measures – is additional base FTE during the winter season really needed above this?**
- **Benchmarking evidence of NHS trust staffing unavailability and headroom data was reviewed. The reported mean headroom and components across 20 NHS trusts was as set out in the table below, with overall recorded unavailability across 87 trusts varying from 16%-34%. daa cites an assumption of 18% annual leave and public holidays, and a further 7-8% for sickness leave. These figures are higher than NHS staffing assumptions.**

Table D: NHS staffing unavailability assumptions

	Total unavailability headroom (%)	Annual leave (%)	Sickness (%)	Study leave (%)	Parenting (%)	Working day (%)
Mean (%)	22.1	14.3	4.0	2.6	2.3	1.8

Source: *British Journal of Nursing - Staff unavailability and safe staffing: are headroom allowances 'realistic'? - British Journal of Nursing (2020)*

- **The high security processing time performance and increasing trend across time may indicate that current security staffing levels are above efficient levels and not optimising use of available security lane capacity. Similar overperformance at Heathrow led to the determination that HAL is overprotective of queue time parameters to an extent that is not optimising use of available security lane capacity (opening more lanes with more staff than is strictly required)¹.**

¹ [ee-ya-h8-Opex-and-commercial-revenues-report-for-ips-redacted.pdf](#)

A.2 – Facilities & Cleaning

A.2.1 Congestion and passenger-density impacts

- daa states that the variance in facilities & cleaning staffing costs [REDACTED] and cleaning contract costs [REDACTED] between IAA's forecast and daa's 2026 Budget represents necessary costs rather than a discretionary uplift. They claim that higher passenger volumes in constrained circulation space translates into higher than linear scaling service intensity requirements, and that requirements must be adjusted for passenger density, peak usage and constrained circulation, including targeted adjustments for pinch points in high density areas.
- daa states that as passenger numbers increase without a corresponding step-change in available space, three effects intensify:
 - More frequent washroom and touchpoint cleaning cycles because density increases usage rates and the visibility of cleanliness standards;
 - More rapid response interventions because spills, litter build-up and minor failures become operational blockers in constrained routes; and
 - Higher facilities attendance to monitor the performance of lifts, escalators, doors, HVAC and critical services available under greater utilisation and reduced slack.

Assessment:

- *Daa's 2026 Budget facilities & cleaning FTE is [REDACTED] – this is [REDACTED] higher than the IAA's forecast (450 FTE). Given passenger growth in 2026 is expected to be 5% above forecast, using a generous elasticity of 1.0 with respect to passenger growth (daa forecast reports an airfield operations elasticity 1.0 and a maintenance staffing elasticity of 0.4,) passenger growth would only account for a [REDACTED] increase – leaving [REDACTED] additional increase to be explained. Daa does not clearly evidence how, as it is claimed in this context, passenger growth in a constrained operating space results in this necessary additional staffing.*
- *The CEPA (2022) Opex assessment¹ used elasticities of 0.4 for facilities FTEs with respect to passenger volumes, 0.4 for cleaning FTEs per terminal area, and 1.0 for non-pay costs with respect to wage growth. Cleaning costs are modelled dependent on terminal area to be cleaned, and not expected to change with passenger growth. These elasticities would yield an even larger unexplained component of variance. daa should be able to evidence, beyond narrative, why these elasticities are not appropriate in the airports current operating environment.*
- *The daa proposal document does not provide evidence of the benefits of 'New Ways of Working' contracts since the pandemic, which were reported in the CEPA (2022) Opex assessment as expecting to improve rostering flexibility and improve efficiency of staff.¹*

¹CEPA - Dublin Airport Operating Expenditure - Bottom-up Efficiency Assessment 2022.pdf

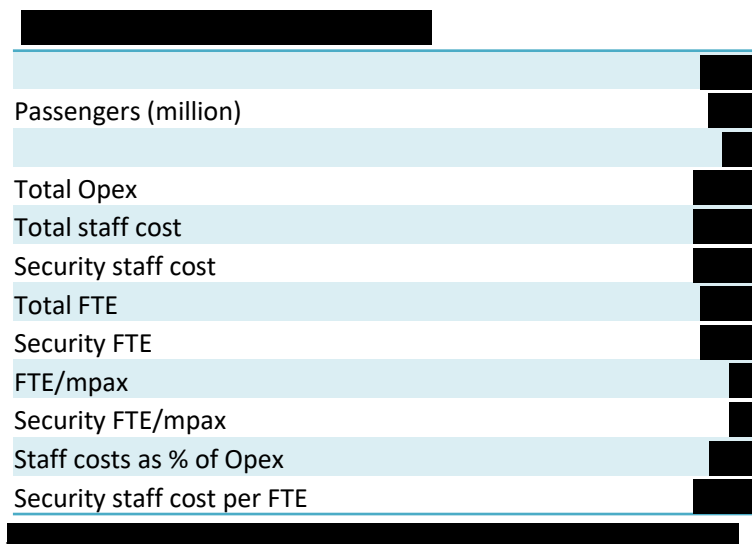
A.3 – Top-down benchmarking

A.3 Benchmarking Opex figures to HAL and other airports

- Table E on the left presents daa's 2026 Budget key Opex lines obtained from the daa proposal document.
- Table F on the right presents the proportion of total Opex comprised by key areas within daa's 2026 Budget compared to reported Heathrow Airport's 2024 figures.

Assessment:

- In 2026, daa is expected to spend a higher proportion of their Opex on Security and Facilities & Maintenance (including cleaning) than Heathrow Airport reported in 2024.*
- These figures cannot be directly compared and do not present evidence of inefficiency, however, daa should be able to explain why this is the case given specific operating context, and evidence proportionality of their opex spend.*



Key Opex Lines	daa's 2026 Budget	Heathrow Airport 2024
Passengers (million)	~100	~100
Total Opex	~100	~100
Total staff cost	~100	~100
Security staff cost	~100	~100
Total FTE	~100	~100
Security FTE	~100	~100
FTE/mpax	~100	~100
Security FTE/mpax	~100	~100
Staff costs as % of Opex	~100	~100
Security staff cost per FTE	~100	~100

Table F: Dublin vs. Heathrow proportion of Opex by area



Key Areas	daa's 2026 Budget	Heathrow Airport 2024
Security and Facilities & Maintenance (including cleaning)	~12%	~12%
Other areas	~15%	~15%
Total	~7%	~7%

Source: Clarity analysis using NDA Dublin Airport Regulatory Proposition 27-03-2026 (1).pdf; ee-ya-h8-Opex-and-commercial-revenues-report-for-ips-redacted.pdf

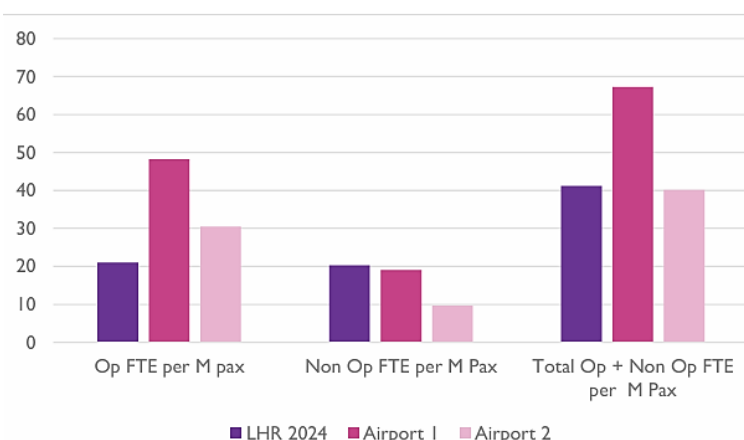
A.3 – Top-down benchmarking

- Figure A on the left presents staff FTE per million passengers at Heathrow and confidential comparator airports in 2024, from the HAL H8 Opex recommendations report.
- Figure B on the right presents staff costs as a proportion of total opex at Heathrow and confidential comparator airports in 2024, from the HAL H8 Opex recommendations report.

Assessment:

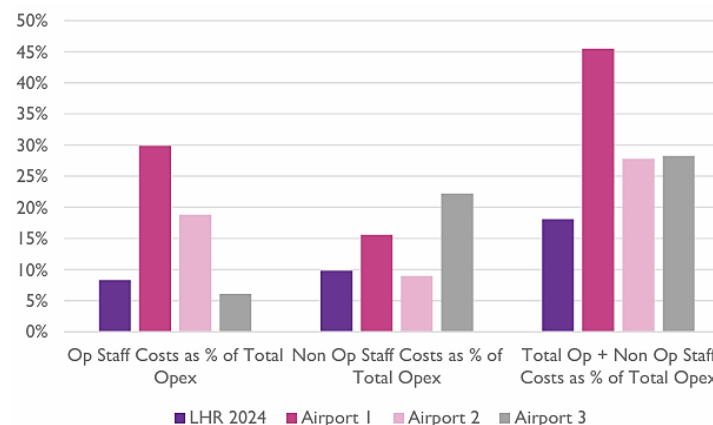
- In 2026, Dublin Airport staff FTE per million passengers is expected to be 85 – significantly higher than LHR and confidential airports from 2024 HAL H8 report***
- In 2026, Dublin Airport expects to spend 54% of Opex on staff costs – this is significantly higher than Heathrow (18%) and the three other benchmarked airports from 2024 in H8 report***
- In 2026, Dublin Airport security FTE per million passengers is expected to be 32 - in the middle of HAL benchmarks.***
- These figures cannot be directly compared and do not present evidence of inefficiency, however, daa should be able to explain why this is the case given specific operating context, and evidence proportionality of their opex spend.***

Figure A: Staff FTE per million passengers at Heathrow and comparator airports (2024 CPI Prices)



Source: [ee-ya-h8-Opex-and-commercial-revenues-report-for-ips-redacted.pdf](#)

Figure B: Staff Costs as a % of total opex at Heathrow and comparator airports (2024 CPI Prices)



Source: [ee-ya-h8-Opex-and-commercial-revenues-report-for-ips-redacted.pdf](#)

APPENDIX B – EFFICIENT EVOLUTION ANALYSIS

This appendix sets out our detailed analysis supporting the efficient evolution questions raised, covering technology-driven efficiency gains and productivity benchmarking against other regulated entities. It provides the underlying evidence and calculations referenced in the main body of the report.

B.1 – Technology

B.1.1 Central Search IPP and Throughput

Expected efficiency gains from C3:

- Dublin Airport stated in their 2020 CIP document¹ that they expected images per person (IPP) reductions to enable greater passenger screening (than X-ray) by approximately 100pph/lane in T1 and 45pph/lane in T2, reducing the number of lanes required as well as associated capital and operational costs.
- CEPA (2022) Opex assessment¹ reports expected benefits and statistics of C3 systems detailed by ACI's Smart Security Implementation guide:
 - Reduction in images per passenger (IPP) of approximately 30% when using C3
 - An expected overall increase in passenger throughput with C3 as compared with X-ray scanning (despite higher screening time)

Assessment:

- *Passenger throughput gains in line with forecast and ACI expectations have been realised in T2, but not in T1.*
- *In T1, IPP gains of C3 implementation have only been approximately 16%, with no further reductions expected across the forecast period. This is only roughly half of the efficiency gains forecast by Dublin Airport in their 2020 CIP document.*

Table G: daa's outturn and forecast security throughput metrics

	2019	2020	2021	2022	2023	2024	2025	2026
T1	100	100	100	100	100	100	100	100
T2	100	100	100	100	100	100	100	100
T3	100	100	100	100	100	100	100	100
T4	100	100	100	100	100	100	100	100
T5	100	100	100	100	100	100	100	100
T6	100	100	100	100	100	100	100	100
T7	100	100	100	100	100	100	100	100
T8	100	100	100	100	100	100	100	100
T9	100	100	100	100	100	100	100	100
T10	100	100	100	100	100	100	100	100
T11	100	100	100	100	100	100	100	100
T12	100	100	100	100	100	100	100	100
T13	100	100	100	100	100	100	100	100
T14	100	100	100	100	100	100	100	100
T15	100	100	100	100	100	100	100	100
T16	100	100	100	100	100	100	100	100
T17	100	100	100	100	100	100	100	100
T18	100	100	100	100	100	100	100	100
T19	100	100	100	100	100	100	100	100
T20	100	100	100	100	100	100	100	100

¹CEPA - Dublin Airport Operating Expenditure - Bottom-up Efficiency Assessment 2022.pdf

Source: Clarity analysis using ¹Appendix A - CSF1 Redacted; CEPA - Dublin Airport Operating Expenditure - Bottom-up Efficiency Assessment 2022.pdf; NDA Dublin Airport Regulatory Proposition 27-03-2026 (1).pdf

B.1 – Technology

B.1.2 Security staffing and costs

- Security staffing Opex includes:
 - Central search & FastTrack
 - Vehicle control posts
 - Supervisors & Managers
 - Equipment testers
 - Training partners
- daa has said that Managers, Equipment tests and Training partners are forecast to remain at current levels.
- Overall, Security FTE is forecast to rise by [REDACTED] across the forecast period, with overall security staffing Opex expected to increase [REDACTED]
- Central Search
 - daa has not explicitly provided the expected central search FTE reduction and operating cost savings in their forecasts for the 2027-2031 period but has indicated an expected efficiency saving of security throughput pay of [REDACTED] embedded in the forecast. There are no expected efficiencies in 2026.
 - Despite previously saying C3 implementation would increase average FTE per security lane from 12 to 15 FTE, daa has reported current levels of 18-23 FTE per lane and does not break down forecast FTE reductions going forward to evidence this.

Table H: daa's forecast security opex figures 2026-2031

	2026	2027	2028	2029	2030	2031
Passengers	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Security staff cost	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Security FTE	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Security FTE/mpax	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Security staff cost/FTE	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Table I: daa's forecast security throughput efficiency gains 2026-2031

	2026	2027	2028	2029	2030	2031
	€m	€m	€m	€m	€m	€m
Security throughput efficiencies	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

B.1 – Technology

- Vehicle Control Posts
 - Two main factors are affecting vehicle control post staffing:
 - i. C3 is continuing to be rolled out across other security posts including VCPs throughout 2026.
 - ii. New EC regulations on searches are expected to require stepped increased airside screening from 2028 onwards.
 - Dublin Airport has indicated that their preliminary analysis of the impact of these changes is to double the level of VCP staffing.

Assessment: It is not clear why security FTE and Opex rise year-on-year across the entire forecast period, despite expected C3 roll-out completion in 2026 and implementation of airside screening not expected until 2028. The year-on-year efficiency gains from new technologies vs. additional costs from new technologies are not disaggregated and evidenced.

B.1.3 Efficiencies

- daa states that productivity improvements in security throughput are expected to create efficiency cost savings. It is also noted that there appears a discrepancy in efficiency savings projections - the efficiency section they claim security throughput is forecast to improve 17% in T1 over the period, whereas in the security section this figure is 11%.
- Security FTEs per passenger are expected to reduce as a result of existing investment – delivering an efficiency of 0.7% before throughput gains, increasing to 9.3% with throughput gains, and remaining at a positive 5.4% efficiency improvement even when including operational resilience provisions (including an additional lane).
- HAL's H8 recommendations¹ proposed efficient baseline figures include a 3.2% efficiency adjustment from "efficiencies from Ctix familiarity throughout H7".

¹Source: [ee-ya-h8-Opex-and-commercial-revenues-report-for-ips-redacted.pdf](#)

Table J: daa's forecast security FTE/pax for 2026-2031

Security FTE/pax	2026	2027	2028	2029	2030	2031	2031 vs 2026
	€m	€m	€m	€m	€m	€m	
Before throughput	■	■	■	■	■	■	■
Excluding resilience	■	■	■	■	■	■	■
Including resilience	■	■	■	■	■	■	■

Assessment:

- **daa's expected efficiency gains from the C3 technology are neither consistently referenced nor clearly explained. In addition, these gains remain lower than those forecast by comparator airports and daa's own previous forecasts.**

B.2 – Efficiency benchmarking

B.2 HAL Opex per passenger benchmarking

- HAL Benchmarking:

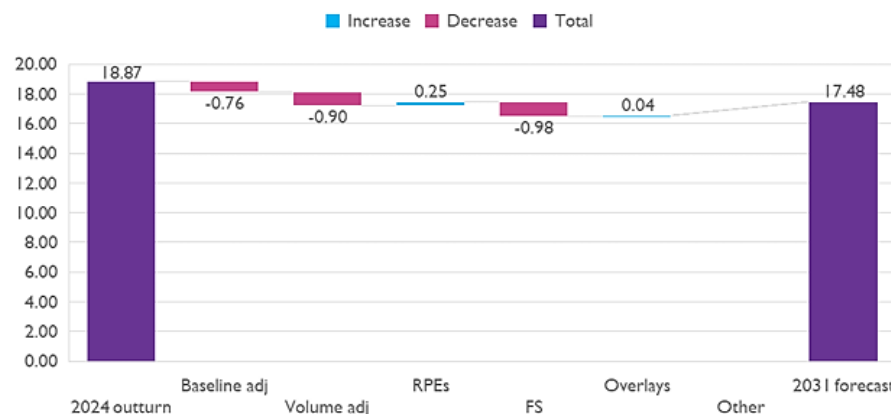
Proposed H8 Opex per passenger forecast figures for 2031 decrease over the period from an outturn of £18.90 per passenger to £17.50 per passenger by 2031. The downward adjustments include:

- a baseline efficiency correction (-£0.8 per passenger, 2024 CPI)
- volume effects from economies of scale (-£0.9 per passenger, 2024 CPI)
- frontier-shift productivity improvement (-£1.0 per passenger, 2024 CPI)

Assessment:

- *Neither a baseline efficiency correction nor a frontier-shift productivity improvement is included in daa forecasts for the efficient evolution of opex from 2027-2031. daa should be able to justify why these adjustments are not necessary.*
- *Heathrow's Opex per passenger is expected to decrease over the period, whereas Dublin Airports Opex per passenger is forecast increase across the period (when excluding CIP), and even increase slightly when VCP resourcing, congestion impacts and CIP are excluded.*

Figure C: Opex per passenger evolution from HAL 2024 baseline to 2031 forecast (£, 2024, CPI)



Source: [ee-ya-h8-Opex-and-commercial-revenues-report-for-ips-redacted.pdf](#)

APPENDIX C – OPEX SENSITIVITY TESTING

This appendix sets out our sensitivity testing of the key judgement calls underpinning IAA's Draft Determination and CEPA's opex efficiency study, quantifying how far the efficient opex allowance could move if specific assumptions were revisited.

C.1 Draft Determination Opex Forecast

- The table below presents CEPA's opex forecast, disaggregated by cost category based on daa's underlying passenger projections
- The following slides test the sensitivity of IAA's opex forecast to components we identified as not independently evidenced, and therefore more uncertain. Where the lack of evidence points toward a downward adjustment, we test in that direction only; where the direction is unclear, we test both ways.
- To note: we do not explore any impact that changes to passenger projections would have on the opex forecast – this is out of scope of our analysis

Table K: CEPA's opex forecast 2025-2031

	2025 (€m)	2026 (€m)	2027 (€m)	2028 (€m)	2029 (€m)	2030 (€m)	2031 (€m)
Pay							
Security	69.0	73.3	75.8	78.7	81.2	83.5	86.3
Central Functions	39.9	39.9	39.9	40.0	40.0	40.1	40.1
Facilities and Cleaning	27.5	28.3	28.9	29.5	30.0	30.5	30.9
Campus Services	23.2	23.3	23.5	23.7	23.9	24.1	24.3
Retail	22.4	22.8	23.4	24.6	25.1	26.2	26.6
Maintenance	21.2	22.7	22.8	23.1	23.3	23.5	23.8
IT	11.4	11.5	11.6	11.7	11.9	12.0	12.2
Airside Operations	8.0	8.2	8.3	8.5	8.6	8.8	8.9
Capital Projects	4.6	4.6	4.6	4.6	4.6	4.6	4.7
Car Parks	3.9	4.0	4.1	4.2	4.3	4.4	4.5
Non-pay							
Other Non-Staff	42.2	44.1	47.9	49.1	49.7	50.3	50.9
Rent-Rates	28.7	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Maintenance	24.2	25.8	26.0	26.4	27.5	29.4	30.0
PRM	16.2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
IT	14.1	14.3	14.9	15.6	16.3	17.4	18.2
Car Parks	8.9	9.0	9.2	9.3	9.5	9.6	9.7
Utilities	11.7	10.5	10.4	8.7	9.7	10.0	10.3
Facilities and Cleaning	10.2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Consulting	10.0	10.1	10.1	10.1	10.2	10.2	10.2
Other Staff	8.1	8.3	8.4	8.4	8.5	8.6	8.6
Marketing	5.0	5.1	5.2	5.3	5.4	5.4	5.5
Insurance	4.9	5.1	5.2	5.3	5.4	5.5	5.6
Totals							
Total pay	231.0	238.5	242.7	248.5	252.9	257.7	262.1
Total non-pay	184.3	190.0	196.2	198.8	204.2	210.8	215.7
Total opex	415.3	428.5	438.9	447.3	457.1	468.5	477.8
Opex per passenger (€)	11.40	11.30	11.13	10.97	10.88	10.83	10.74

Source: Dublin Airport Opex Efficiency Study: 2027–2031

C.2 Opex Sensitivity Analysis Summary

Table L: Summary of opex sensitivity analysis

Area	Assumption challenge / Outstanding query	Sensitivity test	Opex Impact*, €m	Source / basis
Baseline efficiency				
Facilities	Should CEPA's own task-model estimate of efficient Facilities FTE (282) be used instead of the midpoint (291), given the evidence gaps identified in daa's model?	Use CEPA Facilities payroll forecast instead of midpoint between CEPA and daa forecast	-€2.00m (2025)	CEPA report, p.66 Facilities payroll forecast 2025: CEPA €19.4m, daa €21.4m
Cleaning	Is the €0.9m cleaning service-quality adjustment too generous, given it is not independently evidenced?	Remove cleaning-service quality adjustment entirely, reflecting that it is not independently evidenced	-€0.90m (2025)	CEPA report, full removal of CEPA's €0.9m adjustment, reflecting that it is not independently evidenced
Capital projects	Are non-capitalised Capital Projects FTEs duplicated within capitalised project-management costs or external delivery support?	A 10% downward adjustment to account for likely partial overlap	-€0.46m (2025)	CEPA report, Section 20; Capital Projects payroll €4.6m / 38 FTE baseline. Illustrative 10% downward adjustment if overlap between non-capitalised FTE and capitalised costs exists
Wider sensitivity testing on forecasts				
Rostering allowances (Security)	daa's security rostering assumptions (28% non-availability, 12% roster coverage) are accepted but not independently evidenced as efficient - further evidence on efficient rostering and marginal staffing increments would help.	Test both allowances at -5pp against the accepted baseline	-€6.14m (2027) to -€6.90m (2031), both allowances combined	CEPA report, Section 4.4.2 (28% non-availability / 12% roster coverage baseline, applied to Table 4.3 payroll)
Ancillary role assumptions (Security)	CEPA applies a 1:15 supervisor-to-officer ratio, with a 15% buffer for supervisors undertaking other duties, to size Team Supervisor FTE. Are these parameters appropriately conservative?	Test the supervisor ratio at 1:18 and the buffer at 0%, individually and combined	-€1.01m (2027) to -€1.14m (2031), ratio and buffer combined	CEPA report, Section 4.4 (Team Supervisor FTE and ratio)
Ongoing efficiency (all areas)	Is the 1% ongoing efficiency challenge a sufficiently ambitious given daa's funded technology and capital investment programme?	0.5-1.5% ongoing efficiency challenge	Range of +€0.8m (0.5% test) to -€0.8m (1.5% test) in 2031, relative to IAA's 1.00% Draft Determination position.	Illustrative only. Assumes wage-linked opex not already assessed bottom-up is c.35% of total opex; this share has not been independently verified against CEPA's underlying model.
CIP27 (opex acceptance rate)	CEPA's €9.4m aggregate CIP27 figure is built from category-specific Need-Additionality-Efficiency tests, with an ~60% acceptance rate demonstrated in Maintenance. That ratio is a judgement call, not a derived constant.	Test the aggregate CIP27 opex figure at acceptance rates of 40% and 80% to see how sensitive the €9.4m figure is to that judgement	€6.27m at 40% acceptance; €9.4m at CEPA's implied c.60%; €12.53m at 80% (cumulative, 2027-2031).	CEPA report (€9.4m aggregate; c.60% acceptance rate demonstrated in Maintenance, used as a proxy for the blended rate)

Source: Clarity analysis, *Opex Impact vs. CEPA/IAA forecast

C.3 Opex Sensitivity Analysis – Detailed Forecast Assumptions

Table M: Detailed forecast sensitivity assumptions

Test area	Scenario / parameter tested	Opex impact vs. IAA/CEPA forecast	Basis / notes
1. Non-availability and roster coverage allowances			
Non-availability allowance	28% (baseline) → 23% (-5pp)	2027: -€2.93m; 2031: -€3.29m	CEPA Section 4.4.2, applied to CEPA's Table 4.3 Security payroll forecast; Opex impact calculated as scale factor multiplied by security payroll.
Roster coverage allowance	12% (baseline) → 7% (-5pp)	2027: -€3.34m; 2031: -€3.76m	CEPA Section 4.4.2; , applied to CEPA's Table 4.3 Security payroll forecast; Opex impact calculated as scale factor multiplied by security payroll.
Combined (both allowances)	Both tested together (23% non-availability and 7% roster coverage)	2027: -€6.14m; 2031: -€6.90m	Illustrative; not a recommended adjustment
2. Ancillary role assumptions (Team Supervisors)			
Supervisor ratio	1:15 (baseline) → 1:18 officers per supervisor	2027: -€0.61m; 2031: -€0.69m	CEPA Section 4.4.4; ratio applies before resilience/non-productive time adjustment. Team Supervisor FTE held flat at 59-60 (Table 4.2); tested via proportional scaling, as CEPA's exact pre-loading base is not published
Ancillary buffer	15% (baseline) → 0%	2027: -€0.48m; 2031: -€0.54m	Buffer for supervisors undertaking other duties (CEPA Section 4.4)
3. CIP27-related opex: acceptance-rate sensitivity			
Low test	40% acceptance rate	-€3.13m (cumulative, 2027-2031)	Scales CEPA's €9.4m aggregate proportionately
High test	80% acceptance rate	+€3.13m (cumulative, 2027-2031)	Scales CEPA's €9.4m aggregate proportionately
4. Ongoing efficiency challenge: calibration sensitivity			
Low test	0.50% p.a.	2027: +€0.77m; 2031: +€0.84m	Illustrative; assumes c.35% wage-linked base (unverified)
High test	1.50% p.a.	2027: -€0.77m; 2031: -€0.84m	Illustrative; assumes c.35% wage-linked base (unverified)

Source: Clarity analysis

Note: the central scenario for each case is the IAA forecast, which implies an opex impact of €0m

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