Response to Airport Charges Draft Decision Paper

daa – July 2014

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Introduction

Dublin Airport's financial performance remains weak despite volume recovery

Dublin Airport recorded a peak in annual passenger volumes of 23.5m in 2008. In the economic downturn, volumes fell by 22% to the 18.4m recorded in 2010. In the period 2011 to 2012, we saw stabilisation and modest growth. In 2013, we recorded a strong performance of nearly 6% growth. At time of writing, this growth has continued into 2014 and we have seen a rate of 7% (year to date, June 2014).

Despite the good performance on passenger numbers, the trading financials of the regulated entity remain weak. Although the regulatory system ostensibly allowed a rate of return of 7% (real terms) on the Regulated Asset Base (RAB) for the period 2010 to 2014, in practice the massive back-loading of T2 capital remuneration (effective from 2011 onwards) created a structural impediment to achieving a rate of return above circa 4%. The effect of this is evidenced from the results in Exhibit A, taken from our audited regulatory accounts, published on CAR's website. Note that not even fully achieving CAR's forecasts with regard to service quality, operating efficiency and revenue generation (which we did, at aggregate level) could produce a return much above 4%.

Exhibit A: Dublin Airport – Weak Financial Performance

Year	2010	2011	2012	2013
Passenger Numbers	18.4m	18.7m	19.1m	20.2m
% Change in Passenger Number	-10.1%	1.7%	1.9%	5.6%
Turnover	€322m	€348m	€362m	€380m
Profit after Tax (pre exceptionals)	€25m	-€0.4m	€3.5m	€9.7m
PAT as % of Turnover	7.8%	-0.1%	1.0%	2.6%
Return on RAB	7.1%	3.4%	3.6%	4.1%
FFO: Net Debt	9%	8%	9%	11%

daa's proposition is a positive contribution to market development

In our regulatory proposition submission to CAR this April for the period 2015-2019, daa put forward a stretching but achievable forecast for passenger growth of 23.6m by 2019, capital investment proposals totalling €477m, and an operating cost forecast of €218m by 2019 (with specified efficiencies of €4m targeted to reduce the total to €214m). We also forecast commercial revenues to grow to €140m over the period, increasing the subsidy to airport charges by 12% to circa €100m from its current level of €89m per annum.

daa submitted for an increase in the price cap to circa €13.00 (average annual value, 2015-2019) from the current level of €10.68, but formally indicated a pricing promise to keep charges flat in real terms for the full duration of the regulatory period. Why would we look for a price cap higher than our intended price? Because CAR's responsibility it to set a maximum price, not to set the price cap so low that it more or less determines the actual price.

In one sense the higher price cap is academic, since we don't intend to price to it. In another, it is important because Dublin Airport would wish to have the opportunity to demonstrate that we voluntarily price below the cap in response to the competitive conditions that we face in the marketplace, including competition from other airports in Ireland, but particularly competition from other European airports for the scarce and highly mobile resource of airline capacity.

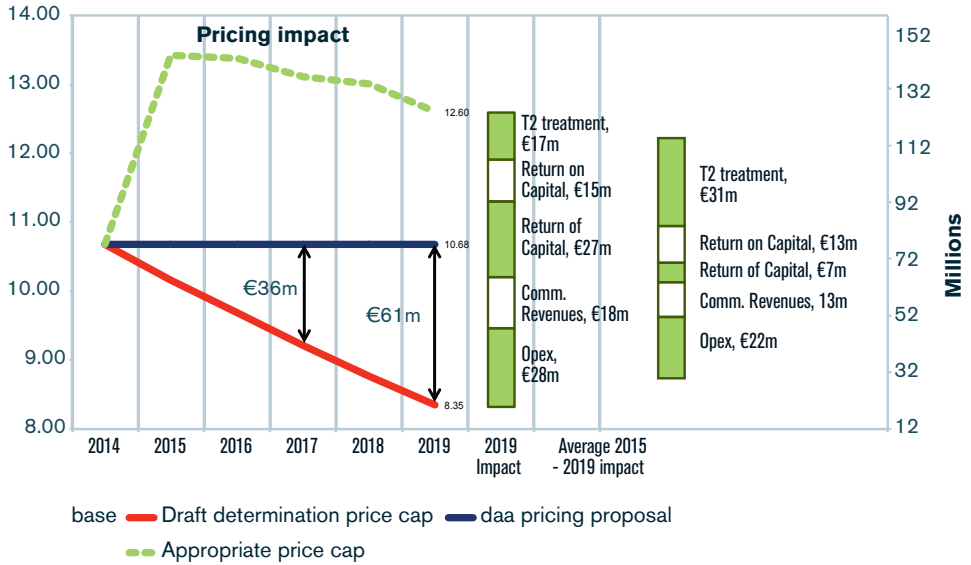
We believe that our proposition represents a good-news story. We said we would deliver flat prices for the next five years (following a three-year period (2011-2014) of prices falling slightly in real terms). At this flat price, which the evidence shows is below average for European airports in our peer group, we proposed to invest €477m in maintaining and developing the commercial and operational assets at Dublin Airport, including creating additional capacity to grow passenger volumes now and in the future, enhancing Ireland's connectivity and the fitness-for-purpose of our infrastructure, as called for in the recently published draft National Aviation Policy. We proposed to maintain service quality at a level that is independently measured to be in the top five in Europe. We proposed operational efficiencies off a cost base that, again, the evidence shows to be competitive.

The impact of CAR's proposals would be highly negative for daa and for the market – contrary to the emerging National Aviation Policy

The proposals in CAR's draft determination, if implemented, would represent a significant set-back for Dublin Airport as a business and for the service that we provide to the Irish people and economy.

Looking firstly at the impact on the business, as shown in Exhibit B, the average annual revenue impact of CAR's proposals is €36m over the course of the determination period, rising to €60m by 2019. This impact is relative not to our indicated 'appropriate price cap', but to our promise of flat pricing. CAR combines its pricing proposals with increased service quality targets and a forecast for traffic growth similar to our own, but likely to be increased by CAR in the final determination, according to the signal in the draft. What would happen if CAR's determination would be unchanged from the draft? daa could either completely degrade the service (not a real option) or maintain the service without the required remuneration, resulting in a severely reduced return on equity (<2% in 2015, falling to 0% by 2019), meaning no dividend would be payable to the shareholder, i.e. the State. This would represent a continuing substantial transfer of value from the State to private undertakings. In fact, we believe that CAR's price setting has taken advantage of the fact that the State is the shareholder, driving down returns to a far lower level than would be acceptable to private shareholders, and relying on the strength of daa group performance and group cash reserves built up through non-repeatable sales of assets outside the till.

Exhibit B: Impact on Dublin Airport revenues of CAR's draft determination proposals



As we enter the next 5-year period of regulation, we face the particular challenge of refinancing up to €700m in debt (comprising a revolving bank-credit facility of €150m, expiring in December 2016, and a Eurobond of €550m, expiring in July 2018). In this regard, the metric of FFO[1]: Net debt is crucial, since this is one of the key factors affecting our Standard and Poor's credit rating, in turn greatly affecting our access to financial markets and the terms which we can command in raising finance. The outturn for this metric in 2013 was 11% (taken from our audited regulatory accounts, published on CAR's website), far off the current threshold of 23% to achieve the BBB+ rating which our financial advisors have indicated is required (and which many of our peer airports have), and even falling below the 13% threshold for BBB.

While CAR has ostensibly targeted a BBB rating (agreeing with our view that the focus of the target should be the regulated entity Dublin Airport, rather than daa group), it has calculated the FFO: Net debt metric incorrectly, i.e. not how Standard and Poor's would calculate it. Correcting for this inaccuracy, and bearing in mind the infeasibility of achieving CAR's forecasts for 2015-2019, we show that the true metric for Dublin Airport would be likely to stay at around 10%, i.e. very close to the current level of 11%. This is far from being an academic point. daa suffered a three notch downgrade in credit rating (from A stable) subsequent to the last major financial transaction in 2008 as a result of the economic downturn and CAR's 2009 determination, and indeed was on 'negative watch' for a period with real risk of a further one or two notch downgrade.

1 Funds From Operation

In summary, in view of the perilous impact of CAR's proposals for both Dublin Airport's profitability and financeability, we do not believe that CAR's draft determination fulfils its legal responsibility to ensure that we can run Dublin Airport on a sustainable and financially viable basis. This appears to us to be contrary to Ministerial Directions to CAR which we reference in Part 2. It would be helpful if CAR in its final determination, could clarify if it understands these Directions, still to apply.

Turning to the implications of CAR's proposals for the development of capacity and service provision, CAR has disallowed €169m of capital investment. Some of these disallowances relate to investment that is mandatory from a compliance perspective, e.g. upgrading the equipment used in T2 to screen hold baggage for explosives and upgrading the passenger search equipment in line with regulatory changes with regard to Liquids, Aerosols and Gels (LAGs) and Explosive Trace Detection (ETD). The remainder of the disallowances relate to capacity enhancement in the terminals and airfield, all of which were proposed on the basis of identified capacity constraints. Where it appeared to us that a capacity constraint would not necessarily be reached in the 2015-2019 period, we proposed a passenger-volume trigger for the investment, i.e. to ensure that the investment would not be delivered before it was required. This was also disallowed by CAR.

In the past, CAR has demonstrated a failure to approve allowances for development infrastructure in good time. This was evident in the delay in the approval for T2 at a time when passenger growth was reaching unprecedented levels and T1 was manifestly over-crowded. T2 has been a highly successful investment, delivered rapidly and without the implementation difficulties that other airports have experienced. It is popular with airlines and passengers, and in fact T2 is now full in the peak morning period at check-in and in the provision of contact stands. T1, the larger of the two terminals, is nearing the end of its design life. However, given both its location and size, it has the capability to be the locus for growth for the next 20 years, if remedial and capacity-enhancing investment is undertaken in the next five-year period. This is our intention, to release the productive capacity of T1. CAR proposes to disallow all our planned development investment in T1. CAR has also proposed to disallow our planned Transfer Facility (despite evidence of highly promising growth in transfers, stimulated by strategic initiatives undertaken by daa over the last number of years) and to postpone the trigger date for the Northern Runway. These disallowances are directly contrary to the draft National Aviation Policy, which calls – inter alia – for Dublin to be developed as a secondary hub, for access to be developed to new and emerging markets and for competition to be stimulated among airlines operating in the Irish market. CAR's only apparent rationale for these disallowances is that growth can be made to occur in off-peak periods, but this proceeds from a misunderstanding of the nature of the business, which is in fact heavily dominated by overnighting aircraft (> 90% of short haul traffic), which must depart in the first wave to maximise use of the asset over the course of the day. Growth continues to come, primarily, from increasing traffic in the peak (e.g. recent Ryanair schedule additions to Madrid, Barcelona, Milan, Rome and Brussels).

In summary, CAR's disallowances will constrain passenger growth over the next five years and delay growth beyond that period. There appears to be a lack of understanding of the dynamic impact of capacity enhancement. For instance, CAR concludes that there is no requirement to invest in facilities to accommodate larger aircraft, e.g. the A380, because no such aircraft operates at Dublin. But of course no such aircraft will operate at Dublin unless adequate facilities are available, nor will an airline commit to scheduling such an aircraft in advance in order to allow daa to secure the resources and undertake the construction. The market simply does not work in this way. There is intense competition to attract an A380, and the airline will deploy the aircraft flexibly

in response to immediate capacity (including airfield manoeuvrability, stands, airbridges, gates, lounges etc.) and demand conditions.

CAR's process and analysis are flawed and put security compliance and service quality at risk

There are numerous flaws of different types in CAR's analysis, which we identify in detail through the course of this document.

- CAR has cast aside daa's forecasting model (based on detailed market intelligence, route level analysis, and iterative consultations with airlines) in preference for its own admittedly simple model, which ignores immediate market intelligence and relies on a single variable (Irish GDP) and an estimated elasticity arising from a questionable econometric analysis.
- CAR's opex forecast is based on findings from a quickly-conducted consultancy report in which there are numerous errors – unexplained differences from daa data provided, staff on the books omitted from the baseline, staff rosters incorrectly calculated, benchmarks inaccurately applied, elasticities without apparent evidential basis. The consultant's 'high ambition' scenario, which CAR in part uses in arriving at its own forecast, calls for the outsourcing of 580 daa staff, with no sound legal analysis with regard to TUPE and the conclusion that any industrial action arising could be 'faced down'. CAR's opex forecast also simply omits large segments of expenditure, including internal labour costs associated with capital project delivery and additional forward-going pension cost, which daa, in common with many businesses across the economy, must incur.
- CAR's commercial revenue forecasts – by 2019 – contain over €18m in errors, inaccuracies and inclusion of elements which are or are proposed to be outside the till. These include a spreadsheet error with an impact of €1.6m, omission of modelled variables in forecasts with an impact of €11.6m and numerous smaller issues which we detail in the document.
- There are also computational errors in the work of E&Y who undertook the review of daa's capex costings on CAR's behalf, and a formula error in the application of the cost of capital.

Just as worrying as the errors are the process blind-spots:

- A more iterative engagement with daa would have facilitated fact-checking, clarifications, error spotting etc., but this was not agreed to by CAR. (The only instance where we saw any of CAR's analysis in advance of the draft determination was the provision – with a tight response time, after a number of requests – of the SDG report, with CAR afterwards indicating that it would not correct any of the identified errors prior to publication.)
- There is, on the whole, a lack of transparency in CAR's decision-making process, for instance as to how they arrived at the proposed price cap, since this was clearly not simply a function of the building-blocks, but also included at least two residual elements in T2 depreciation re-profiling and 'smoothing' (both of which happen to work in daa's favour, testifying to the large size of CAR's cuts in opex and the WACC and elsewhere).
- It is also notable that CAR has apparently neglected to consider arguments presented in our regulatory proposition (e.g. T2 allowance – inflation, Box 2 treatment, unitisation calculation) or done so in a cursory and dismissive manner without engagement with the evidence presented (e.g. inclusion of a Country Risk Premium in the calculation of the WACC).
- The treatment of the T2 reconciliation is an important example of how CAR has gone about its business. In fairness, and this is a statement of fact rather than a criticism, CAR does not apparently have expertise in large-scale capital projects. Nevertheless, at the outset of the T2 approval, CAR arbitrarily cut €25m from the proposed contingency amount, even though its own appointed consultant stated, in reviewing the contingency allowance, that 'RR&V are not risk analysis experts and to fully and scientifically review this procedure and calculation, it may be useful to undertake an independent risk review by an independent expert.' No such expert review occurred. CAR nevertheless made the disallowance. In the event, actual outturn spend against the modelled contingency risks was higher than forecast by daa – contingency by its nature being probabilistic rather that definitive. CAR has made no reference to this issue in the draft determination, no reference to the atypical inflation circumstances which reduced the indexed allowance without in any way reducing cost. Nor was an independent expert appointed to review the outturn expenditure (as was done for future capital expenditure, through the appointment of E&Y), but CAR nevertheless proposes to disallow €150m of expenditure. As we evidence, this disallowance is contrary to international regulatory practice (for example the practice of the UK airport regulator, the CAA) and also contrary to recommendations of the independent Appeal Panel set up by the Minister in respect of a previous CAR determination. We feel there is a lack of accountability evident here.
- There is a lack of integration in CAR's proposals, as with the following examples: (1) Commercial investments are allowed, on the one hand, and the incremental revenue captured in CAR's revenue forecast, but the additional operating cost associated with the investments not included in CAR's opex forecast. (2) CAR's opex forecast assumes that certain capital projects proceed in order to meet compliance requirements and maintain throughput rates, but then the capital projects in question are separately disallowed by CAR in their consideration of capex allowances.
- Such oversights as immediately above are readily fixed. Of greater concern is the evident lack of integrated thinking in relation to key airport services, such as passenger search. Firstly, SDG incorrectly records the current amount of staff on books for passenger search by 50 Full Time Equivalents, roughly 10% of the total. Then CAR's opex allowance assumes a reduction of 100 FTEs in the passenger search function relative to daa's 2019 forecast. At the same time, CAR disallows capex required to meet compliance requirements and maintain throughput rates and simultaneously increases the service quality target by 10 minutes (on a like-for-like basis, as per CAR's own commentary). CAR makes no allowance for the increasing compliance requirements of uncertain effect in relation to LAGs and ETD. In fact, SDG reduced the elasticity for security cost relative to passenger volumes. CAR takes no cognisance of the Article 15 process from which Dublin Airport has recently emerged (where our compliance standards were found inadequate in certain respects), necessitating an additional 100 FTEs to be added to the process, as well as additional capital expenditure. (In simple terms, if compliance requires – for example – more thorough body searches, this takes more time and means that more staff are needed to maintain throughput rates.) The apparent lack of awareness of these issues, despite daa having briefed SDG on them in detail, is indicative of a problematic remoteness in CAR's decision-making.

CAR's proposals would miss an opportunity to provide utility to passengers

CAR's proposed price cut of 22% is not warranted and is not feasible. In the next section of this document we present the evidence that daa is a volume-maximising business, with competitive costs, high quality of service and a commitment to offering customer choice. daa does not display monopolistic behaviour. The purpose of regulation should be to guard against monopolistic behaviour. CAR instead appears to be focussed on finding a price floor, where no return is payable to the owner, the State. This would lead to a transfer of value from the State as shareholder to private shareholders, as well as a degradation of service to airlines and passengers.

The passenger is under-represented in the economic regulation process. Passengers have the classic characteristics of a group whose interests are likely to be neglected – large, anonymous, heterogeneous, dispersed, with no collective organisation or representation. daa has commissioned a scientific analysis of the value passengers would place on our proposed improvements (using choice experiments to reveal preferences in the form of willingness to pay). As we will report, on as statistically significant basis, passengers would be willing to pay for our proposed improvements far more than the implicit cost in terms of impact on airport charges, and in fact daa has proposed to undertake the investments while maintaining flat charges in real terms.

Consultation is not a substitute for informed, evidence-based decision making

There are many objections to CAR's draft determination. In the course of this response, we will engage in detail with CAR's proposals at the level of each individual issue, but to characterise here the impact of the proposals in overall terms, we would say that CAR's draft determination would, if implemented (i) restrict passenger growth, through withholding the capital investment and the operational resources necessary to accommodate and stimulate growth, and (ii) worsen the already weak performance of the regulated entity.

The question of confidence arises. If CAR as regulator tells airlines that Dublin Airport can cut prices dramatically and still provide a high quality of service, this is something that airlines – without necessarily having studied the data in detail – may be inclined to believe, coming as the proposal does with the imprimatur of the regulator. If the airlines then validate CAR's proposals in their responses to CAR's determination, does that mean they validate the analysis or does it mean that they rely on CAR's analysis to be accurate? To put it another way, CAR should not use a positive response to its proposals as implying validation of its analysis. Consultation is not a substitute for evidence. We believe that CAR's evidence in this case is of doubtful quality in so far as it goes and incomplete in its breadth. Moreover, the full details have not been made available for scrutiny.

In conclusion to these introductory comments, we believe that the process followed in setting the price cap in the draft determination is inconsistent with the requirements of the Aviation Regulation Act and with good practice economic regulation. In the remainder of this document, we set out our evidence-based case. Part 1 of the document gives an overview of the key content of the arguments, while Part 2 discusses each building block and issue in detail, with further supporting material provided in the appendices in Part 3.

Part 1: Discussion Document

Section 1: Introduction & Overview

Part I: Discussion Document

1.1: ECONOMIC REGULATION

The purpose of economic regulation should be to set a maximum price, protecting against possible monopolistic behaviour, rather than attempting to find a floor price. There is no evidence of monopolistic behaviour on the part of daa.

The purpose of economic regulation is to protect consumers against market failure, in this instance against possible monopoly behaviour. Broadly, we would make two linked responses to the suggestion of monopoly behaviour on the part of Dublin Airport.

Firstly, Dublin Airport is subject to clear competitive pressures in the marketplace. Dublin accounted for 64% of international air travel to/from the island of Ireland in 2013. This is clearly a strong market position, and demonstrates that Dublin is the only airport on the island with the scale to function as a hub. Nevertheless, Dublin has competitors, i.e. other airports on the island accounting for 36% of the market. Dublin also competes with airports in other countries in attracting airline capacity, in terms of routes and schedules. Through the mobility of their assets, airlines exert considerable competitive pressure on airports. Capacity shifts by airlines in recent years at Dublin Airport have been dramatic – with Ryanair demonstrating a 30% reduction from their peak capacity in 2008, Aer Lingus demonstrating a 17% reduction, and other airlines – in total – demonstrating a massive 44% drop from peak to low-point capacity. This capacity flexibility exerts considerable competitive pressure on Dublin Airport. Dublin also faces considerable market pressure through having over 80% of its traffic concentrated in the two main carriers, Aer Lingus and Ryanair, who, individually and collectively, exert considerable countervailing buyer power.

Secondly, Dublin Airport does not exhibit monopolistic behaviour. Textbook signs of monopoly would include restricted volume, high prices, low service quality, lack of choice, and inefficiency. There is no evidence of these behaviours at Dublin Airport.

- Dublin Airport is volume-maximising. We have a professional team working full-time with existing and potential new carriers to increase capacity on existing routes and to encourage entry on new and existing routes. We also pre-emptively identify struggling schedules and seek to work with the airlines in question to initiate remedial measures. We offer a suite of incentives, including short-haul and long-haul Route Support, a Transfer Incentive Scheme and Marketing Support. In order to encourage growth on existing as well as new routes, we offer GROW[1] support. In total, in 2013, we paid out almost €15m in supports, which was 7% of net airport charges. Our development plans, which CAR proposes to disallow, originate from our analysis of the capacity that increased volume will require and an understanding of how capacity can drive increased volume. Investment must be dynamic. T2 attracted market entry that would not have occurred in its absence (e.g. Emirates). Creating the facilities which could accommodate an A380 aircraft – for example – are a precursor to ever attracting such an aircraft, for which there is intense competition from other airports.
- Dublin airport is not price-maximising, because we can't afford to be. As Exhibit 1.1 illustrates, we have reduced prices in real terms over the period 2011-2014, pricing below the cap, and we indicated a proposal to price flat in real terms also for the next 5 years. This would equate to flat or reduced pricing for a period of 8 years. In comparative terms, our pricing is clearly competitive, and would become more competitive over time through the flat pricing we proposed.

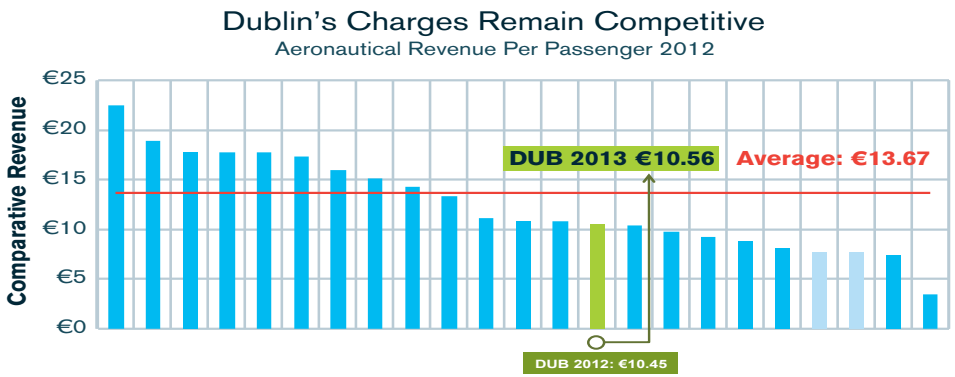
Exhibit 1.1: Pricing 2011 - 2014

Dublin Airport pricing versus cap, 2011-2014				
	2011[1]	**2012**	**2013**	**2014**
Price cap	10.42	10.74	10.65	10.68
Charged price	10.35	10.45	10.56	10.50
Difference	0.07	0.29	0.06	0.13
% increase on previous year		1.0%	1.3%	-0.4%
CPI		1.7%	0.5%	1.5%

Notes: 2014 'Charged price' is an initial estimate. Precise outturn will vary depending on load factors etc. CPI 2014 figure is from ESRI 2013 Autumn Review. Early 2014 inflation results are lower.

1 In order to extend growth support to cover existing as well as new services, daa introduced the GROW scheme for an initial three year period in 2011. It has recently been extended for a further three year period from 2014 to 2016. The key features of the scheme are the following: rebates are paid to carriers who record growth over the previous year's outturn; rebates are only paid if traffic at the airport as a whole has grown; airlines' rebates are proportional to their contribution to total growth.

Exhibit 1.2: Aeronautical charges at peer airports

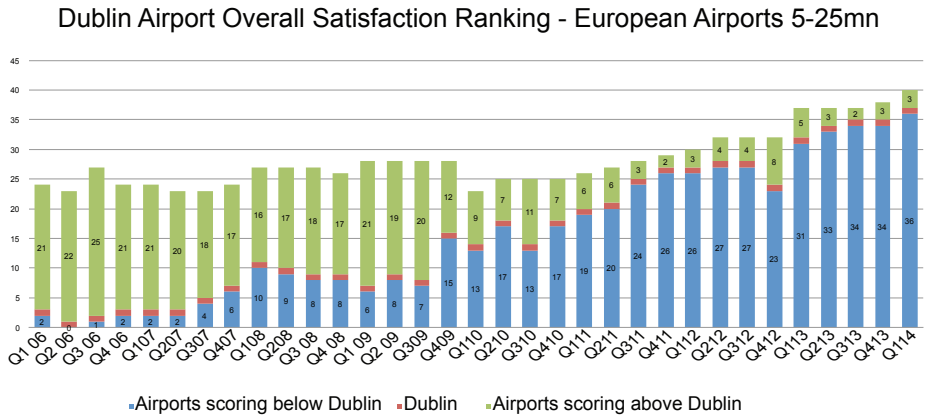


Source: Airports Council International (ACI) Key Performance Indicator Project Individual airport charges cannot be shown for reasons of commercial sensitivity to the airports concerned. Other airports in the table are Athens, Stockholm Arlanda, Amsterdam Schiphol, Brussels, Copenhagen, Frankfurt, Oslo, Gatwick, Heathrow, Lisbon, Milan Malpensa, Munich, Stansted, Vienna, Zurich, Rome Airports, Istanbul Ataturk, Paris Airports, Barcelona, Madrid, Malaga, Palma Mallorca

*Airports in light blue are based on 2011 figures, as 2012 data not yet available, This version suitable for external use

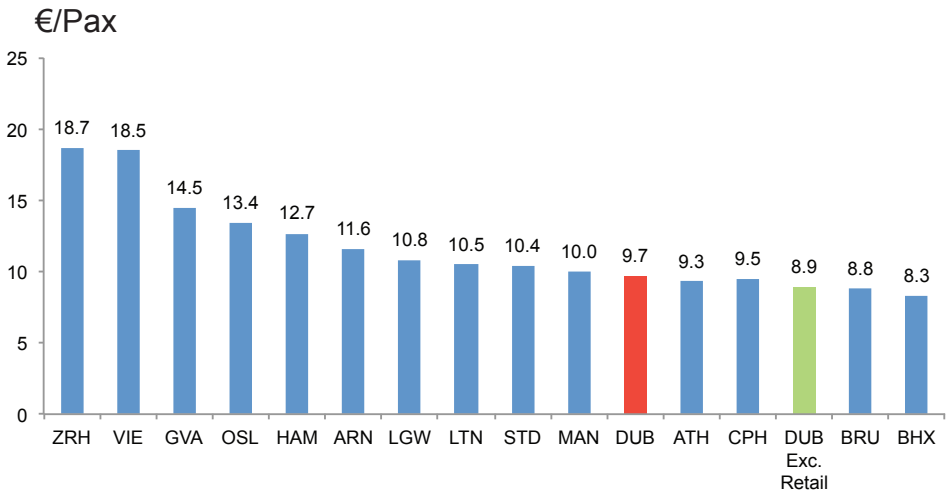
- **Dublin Airport offers high service quality.** We have made a service-quality journey that we are proud of over the last 8 years, rising from the bottom of the peer group to the top.

Exhibit 1.3: Dublin Airport's service quality improvement



- **Dublin Airport is committed to offering choice.** For instance, our development plans, which CAR proposes to disallow, would improve customer experience and release capacity in Terminal 1, facilitating inter-operability and a willingness – for example – among airlines who don't require the US Customs and Border Preclearance facility (CBP) to move to T1, thus freeing up capacity in T2 (which is full in the first wave at check-in and for contact stands).
- **Dublin Airport is not inefficient.** It is clear from the benchmarks assembled both by Booz & Co., commissioned by daa, and by CAR in its Draft Determination, that Dublin is a comparatively efficient airport. Note that the CAR benchmark set includes numerous airports with passenger levels far below Dublin which would not be regarded as proper comparators, but that Dublin nevertheless emerges with below the sample average of opex per pax, i.e., Dublin Airport's operating cost per passenger is lower than the average.

Exhibit 1.4: Opex per pax



Our conclusion from this evidence is that CAR does not appear to be setting a maximum price, which is what its legislative mandate would require, but rather attempting to find a floor price. It is not clear to us why CAR would do this. No other regulator in Europe is pursuing a similar course. Dublin – a medium-sized airport in a peripheral European economy – is subject to a level of economic regulation that is comparable only to the system applied to Heathrow, a global hub of 70m passengers per year. Indeed, the CAA has not sought to cut pricing at Heathrow by the extent which CAR is now proposing for Dublin, and the CAA – as we shall see in Part 2 – takes a far less severe position than CAR in regard to disallowing incurred capital expenditure.

What is clear to us – and we will present the evidence in this regard throughout this document – is that CAR's proposals are not feasible. It is not feasible for Dublin Airport to grow passenger volumes in a five year period by over 3m (or more if CAR updates its passenger forecast as signalled), while at the same time:

- forgoing €169m (35%) of our indicated investment requirement to meet security and safety standards and increase and enhance our capacity,

- reducing operating cost by €24m (13%) per annum by 2019, including – inter alia – a reduction of circa 250 (11%) in the number of Full-Time Equivalent employees (FTEs),
- complying with substantially increasing security compliance standards set by EU legislation,
- performing against a higher set of service quality targets, as set by CAR, including a 10-minute reduction in the maximum allowed queuing time for passenger search (measured on a like-for-like basis, as per CAR's comments).

1.2: NATIONAL AVIATION POLICY

daa's business strategy for Dublin Airport is consistent with the emerging National Aviation Policy (NAP). CAR's proposals are contradictory to the NAP.

For current purposes, the key policy objectives and initiatives set out in the NAP are the following:

- To enhance Ireland's connectivity by ensuring safe, secure and competitive access responsive to the needs of business, tourism and consumers;
- To foster the growth of aviation enterprise in Ireland to support job creation and position Ireland as a recognised global leader in aviation;
- To develop new routes and services, particularly to new and emerging markets;
- To ensure a high level of competition among airlines operating in the Irish market;
- To support the development of Ireland's airports, including the development of Dublin Airport as a secondary hub airport;
- To ensure that the regulatory framework for aviation reflects best international practice and that economic regulation facilitates continued investment in aviation infrastructure at Irish airports to support traffic growth.

The NAP commits to the previously planned review of economic regulation of Dublin Airport. The matter of this review transcends the immediate Draft Determination and we do not address it here. That being said, in the light of the signalled intention imminently to review economic regulation, it would be appropriate for the existing regulator to maintain a 'holding pattern' rather than striking off in a new direction of aggressive price cuts.

Dublin Airport's business strategy is consistent with the NAP, and CAR's Draft Determination is contradictory to it, as the following examples highlight.

Developing Dublin airport as a secondary hub

A hub airport is an airport where local passengers combine with transfer passengers to allow airlines to operate flights to more destinations more frequently than could be supported by local demand alone. Typically, passengers from short-haul flights combine with passengers from the airport's local catchment area to help fill long-haul aircraft. It is this network of flights, transfer passengers and direct passengers that makes a hub airport different. It allows the airport to connect to countries where it wouldn't be able to sustain a direct daily flight from its local catchment area alone. For instance, BA moves short-haul passengers from Europe to Heathrow to feed its long-haul network. Transfers can be within a single carrier, or between carriers who are party to a network agreement (which can take various forms). There is also the possibility of self-transfer, where the passenger travels on separate tickets and personally carries the risk of delay leading to a missed connection. In the case of the airport, developing transfer traffic does a number of things: (i) It increases passenger volumes (every return transfer passenger is a passenger 4 times), exploiting economies of scale from which all players can benefit; (ii) It supports load factors on point-to-point routes, providing greater connectivity for the local catchment population than could otherwise be maintained; (iii) It diversifies risk away from the domestic catchment; (iv) It becomes self-sustaining, since network economies accumulate with scale.

Dublin is already developing transfer traffic, albeit off a small base. Growth in transfer traffic was 22% in 2012, 36% in 2013 (accounting for almost 1 percentage point of the total growth of 6%), and is running at 31% year to date in 2014.

Exhibit1.5: Traffic Performance by Segment 2006-2013

Region (in 000)s	2006	2007	2008	2009	2010	2011	2012	2013
Domestic	772	849	793	611	357	119	60	64
UK	8,587	8,631	8,510	7,533	6,675	6,918	6,827	7,074
Rest of Europe	10,060	11,843	11,924	10,335	9,470	9,702	9,881	10,344
Transatlantic	1,305	1,434	1,617	1,478	1,329	1,405	1,446	1,598
Other Intl	197	231	251	242	265	259	476	531
Transfer	*167*	*235*	*307*	*286*	*324*	*330*	*402*	*548*
Transits	109	64	65	19	10	8	7	8
Total	21,196	23,287	23,467	20,504	18,431	18,741	19,100	20,167
% Growth v Prev. Yr.		10%	1%	-13%	-10%	2%	2%	6%

This development of transfer traffic has not occurred by accident. It reflects years of strategic planning, including securing the CBP facility for T2 (a major competitive advantage for traffic into the US), securing extra manpower for that facility from the US authorities, developing our Transfer Incentive Scheme, and undertaking marketing initiatives with both airline customers and directly ourselves. CAR's disallowance of the proposed new Transfer Facility ignores both the positive

strategic dynamic that is already underway and – more practically – the demonstrated bottleneck at the existing facility. This is currently overcome through siphoning off certain passengers, a tactic which is only workable when they can be separated from arriving flights from other origins, which is not always possible and becomes more difficult with schedule additions.[2] More generally, CAR's disallowance of our proposals to revamp T1 and Piers 2 and 3 and to create additional remote stands at Apron 300R affects in numerous ways the transfer growth dynamic. For example, CAR's proposed capex disallowances make it difficult, to the point of impossible, for us to attract airlines such as Etihad and Emirates from T2 into T1, although they do not use CBP, and compromises the product offered to passengers (underinvestment in T1, longer connection times, longer bus journeys, etc.).

Access to new and emerging markets

At present, there are many markets which cannot be reached from Dublin due to the short length of the runway (2,637m, which is shorter than the runways at Shannon Airport and Belfast International). Exhibit 1.6 provides an illustration of this constraint (shown as a red line).[3]

Exhibit 1.6: Current runway length constrains route reach

daa proposes to build a second main runway at Dublin Airport, parallel to the existing main runway. The second runway (currently specified at 3,110m) would be long enough to serve far-eastern markets. CAR's current trigger for the runway is 23.5m passengers in a 12-month period. We proposed that the trigger be maintained at 23.5m passengers, precisely in order not to delay accessing Far-Eastern markets, and presented a business case for the retention of the trigger at 23.5m on this basis. CAR's Draft Determination would move the trigger out to 25m, and made no reference to the business case presented. This could delay completion of the runway and delivery of new connectivity by 2 years, depending on growth conditions. This delay creates competitive disadvantage as emerging opportunities for new routes from Western Europe to the Far East will be taken by other airports with the capacity to accommodate them, reducing Dublin's opportunity to access finite airline capacity resources.

Ensuring a high level of competition among airlines operating in the Irish market

Capacity facilitates competition. The opening of T2 attracted new airlines into the market (e.g. Emirates) and encouraged the North American and other operators to expand capacity as the product had greatly improved. Newly relocated US carriers US Airways, United and American Airlines each launched a new route in 2011, 2012 and 2013 respectively. The freeing up of capacity in T1 also made it possible to encourage further expansion (e.g. following acquisition of bmi) and to attract new entrants such as Westjet Luxair, Tarom and Air Moldova.

An airline that currently delivers passengers to e.g. London or Amsterdam for onward connection to the Far East will not necessarily welcome additional runway capacity that would facilitate a direct route to Far Eastern destinations. An airline that considers itself to have a competitive advantage in flying from T2 rather than T1 will not necessarily favour a revamp of T1. A T1 airline that observes congestion in T2 – constraining growth – will not necessarily favour a revamp of T1 which would attract airlines from T2 into T1. An airline that controls early morning runway slots will not necessarily favour additional runway capacity that would facilitate entry. An airline that does not operate large aircraft such as an A380 will not necessarily favour additional capacity that would allow a competitor to operate an A380 out of Dublin. And so on. These are not hypothetical examples. This is our understanding from conversations on the ground at Dublin Airport[4]. CAR's reliance on existing airlines to support additional capacity through the determination process is unrealistic. Highly sensitised as CAR is to possible gaming on the part of the regulated utility, it appears partially blind to the gaming manoeuvres of airlines. CAR's conclusion – arrived at without recourse to expert sectoral knowledge – to disallow €169m of capacity investment in this time of potential growth is contrary to the imperatives set out in the NAP.

PASSENGER FORECASTING

CAR's simple and transparent approach to traffic forecasting will result in revenue loss for Dublin Airport

The daa passenger forecast range and scenarios are built using a bottom-up model based on individual routes and route groups. The model reflects current market intelligence for the immediate period ahead and uses GDP for both Ireland and destination countries to predict forward off a market-informed base.

2 See Panel in Section 8: Transfer Business Case

3 The constraint shown is not absolutely definitive because aircraft range is sensitive to a number of factors: the commerciality of flying a particular aircraft on a particular route (i.e. size relative to demand); the willingness of the operator to accept weight restrictions (reducing passengers or cargo); the willingness of an operator to schedule a route in the case where normal weather conditions (temperature and wind) may occasionally require cancellation. Aircraft range also increases over time as new aircraft emerge, reflecting better technology.

4 [redacted]

One of the major policy thrusts in the economic regulation of airports in Ireland and the UK, as well as in Europe under the Airport Charges Directive, is the importance of consultation between the airport and airport users. In the case of daa's passenger forecasts for the period 2015-2019, daa undertook a comprehensive consultation process with airlines between August and October 2013 on both the methodology and substance of our forecasts, as well as eliciting from airlines their own forecasts for themselves and for the totality of traffic at Dublin. The airlines positively agreed with daa's forecasting approach, following which we published a Core forecast, within a range.

Later, during the capex consultation process in Q1 2014, we reminded airlines of our forecasting methodology and again invited comments on the Core forecast. No airline objected either to the methodology or to the specific forecast. The one point of contention was how the forecast should reflect price changes. Since daa has proposed to price flat in real terms, the effect on the forecast, logically, should be zero. In our proposition submission to CAR – which had full view of our engagement with the airlines throughout, and which reviewed our model itself – we slightly amended the early years of the Core forecast, but not the later years, as we consider that short-term fluctuations in 2013/2014 will not necessarily affect the medium-term outturn.

In its Draft Determination, CAR essentially ignored daa's forecast and produced its own forecast based on a simple model. By coincidence, CAR's forecast aligned more or less with daa's Core forecast. However, CAR has signalled that it will update the forecast in the Final Determination on a basis which we would expect to give a significantly higher forecast than daa's for the 2015-2019 period.

Exhibit 1.7: Forecasting model employed by CAR

There are a number of objections to what CAR has done. Firstly, from a process point of view, there is no basis for CAR to cast aside the daa forecast, which was concluded through a long and transparent consultative process. Secondly, the regulator in undertaking its own volume forecasting rather than relying on industry forecasts represents an outlier in terms of international regulatory practice. Thirdly, the CAR model is too simple. In explaining why it has favoured its own model, CAR commended the model as being simple and transparent. Tellingly, no claim to accuracy was made. Indeed, within the context of a regulatory process, simplicity and transparency are virtues, but to elevate these above accuracy, to make no reference to accuracy, is to treat the regulatory process as an end in itself, rather than a means to an end. And this is not an academic issue. Over the period 2010-2014, the regulatory forecast exceeded the actual outturn by a cumulative c. 6m passengers over the 5 years, at a cost to Dublin Airport of approx. €61m - €62m in revenue foregone. (In the preceding decade, CAR relied on daa's forecasts, which sometimes overestimated and sometimes underestimated volumes, leading to net variation of circa zero over the period in its entirety.)

We have a number of specific methodological objections to CAR's model, as set out in Exhibit 1.8. Full details are given in Part 2.

Exhibit 1.8: Methodological objections to CAR's forecasting approach

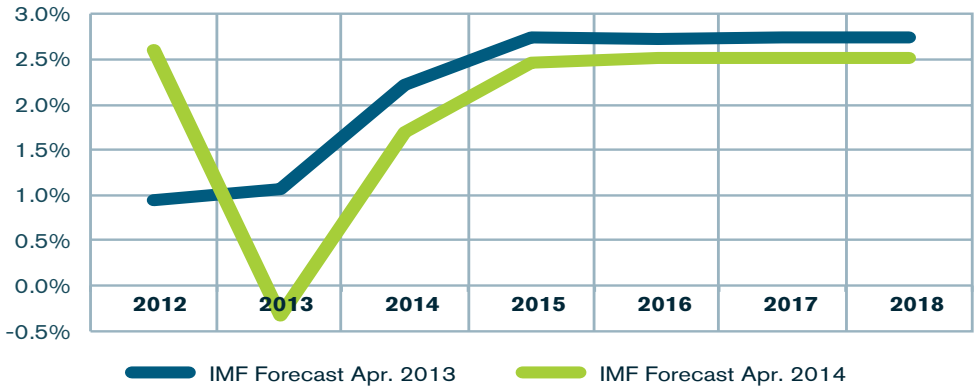
Issue	Detail
Lack of market intelligence	The model takes no account of market intelligence. CAR has not spoken to airlines about their intentions. It has not consulted with daa with regard to emerging patterns in capacity, which are highly flexible and volatile.
Base year assumption	The model is highly sensitive to the base year assumption, which is precisely the year for which market intelligence is most readily available. In the case of 2015, the best basis for prediction is the emerging market intelligence rather than the 2014 outturn.
Econometric analysis	The econometric analysis underpinning CAR's model is weak. Additional time series data has been excluded Dummy variables have had to be used for two years to make the model fit the data. This has been justified on the basis that market intelligence indicates a capacity adjustment by Ryanair in the years in question, but CAR does not take account of available market evidence in regard to the future. The robustness of the model has not been fully tested (e.g. for non-stationary variables)
Reliance on Irish GDP	Approximately half of the traffic arises from non-Irish markets, which is why the daa model uses foreign GDP rates as well as the Irish rate. The CAR model ignores this.
Recent performance above trend	Recent (2010-2014) traffic growth is well ahead of what CAR's model would predict. Accordingly, by the model's own logic, growth in the future will need to be below the elasticity level predicted by the model. However, the model – for the purposes of a 5-year forecast – essentially treats the base year as on trend.

CAR's proposed update of the model is threatening, in that a higher 2014 value rolls through simplistically to every following year. We estimate that an update by CAR of its forecast, as proposed, could lead to a negative revenue impact for Dublin Airport of > €8m per year, on top of the €36m per year negative impact implied by the Draft Determination as it stands.

CAR's model makes no reference to capacity. CAR does not adjust its forecast to reflect that it has disallowed capex which is required in order to accommodate the growth in question. Any upward adjustment to the forecast as it currently stands – which we recommend against – would require full reconsideration by CAR of infrastructure and resourcing issues.

Finally, it is important to note that while CAR proposes to revise its forecast upwards, the underlying growth data which its model uses are actually going in the opposite direction (as per Exhibit 1.9). This highlights the model's excessive sensitivity to immediate outturns which may be well above trend. Further, it underlines the volatility of the CAR model, based as it is on a single variable without adjustment for market intelligence, in changes to the forecast of this single variable.

Exhibit 1.9: IMF forecasts of Irish GDP over time



OPERATING COST

CAR's proposed opex costs proceed from flawed analysis and are not achievable.

In an analysis of potential operating efficiency the current operating expenses are the baseline and set the benchmark against which efficiencies can be plotted. Exhibit 1.10 sets out the two operating cost forecasts which daa provided to CAR (Baseline and 'Improved' - prepared independently by Booz & Co. on daa's behalf), together with the three forecasts which SDG prepared for CAR (Baseline, 'Low Ambition' and 'High Ambition'). CAR's Draft Determination has put forward on opex allowance which – arbitrarily – is the average of the SDG Low Ambition and High Ambition forecasts, shown as 'CAR center point'.

SDG's baseline is incorrect

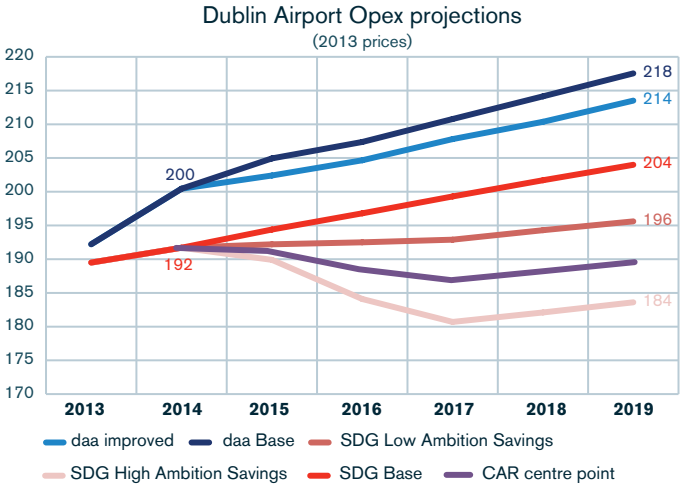
The first point we make is that SDG's baseline is incorrect. In the first instance, the baseline has to reflect the current level of operating cost, i.e. the outturn for 2013 and daa's expected value for 2014. In the case of 2013, SDG's baseline is €2.7m lower than the actual outturn data which daa provided to SDG. This is an apparent error. We have attempted to get clarification on this point from CAR, but this has not been provided.

The discrepancy between daa's expected 2014 outturn and the SDG 2014 baseline figure is €11m. This includes the roll-forward of the 2013 error of €2.7m, as well as other inaccuracies and exclusions, including the following (full list given in Part 2):

- Over the course of 2013, gradually, daa added 100 FTEs to security to address compliance issues following an EU audit. For 2014, SDG used the 2013 cost of this addition rather than the full 12-month cost, meaning that they allowed for 50 FTEs rather than the actual 100. This error was pointed out to CAR, but CAR chose not to correct it prior to publication.
- SDG – by explicit assumption – has excluded increases in pension cost for both the existing deficit, relating to post service, and increased pension contributions relating to increased employee membership and higher company contributions, reflecting changed actuarial assumptions.
- SDG has not included the full cost of 2014 payroll inflation (e.g. increment payments).
- SDG has not included any additional cost to reflect increased passenger demand.
- In rolling forward 2013 to 2014, SDG has not adjusted for accounting treatments which reduced operating cost for exceptional reasons, e.g. accrual releases relating to insurance and bad debts, which were once-off in nature.

The discrepancy between the daa's 2019 baseline forecast and SDG's 2019 baseline forecast is €14m (2013 prices). This includes the roll-forward of the 2014 €11m discrepancy and increases it, principally by using elasticities for the relationship between operating cost and passenger volumes which are too low. For instance, SDG assumes – without providing evidence – that a 1% increase in passenger volumes will require a 0.3% increase in security operating cost. This is an elasticity of 0.3. daa's bottom-up forecast of the security resource requirement produces an elasticity of 0.6. In a previous determination CAR used an elasticity of 1.0. No reason is given for the reduction in elasticity from 1.0 to 0.3. In fact, as compliance requirements have risen, passenger search has become more rather than less labour intensive.

Exhibit 1.10: daa's and SDG's opex forecasts



SDG's starting point (the baseline) is €11m lower than actual expected operating cost in 2014, before the next determination period even starts. This is the assumption of efficiency without any reference to whether or how such efficiencies could be achieved.

SDG's outsourcing proposal is ill-founded

SDG's 'High Ambition' forecast is based nearly entirely on an outsourcing proposal with regard to which we would make the following points:

- Our legal advice from Arthur Cox (Appendix 1) indicates that SDG is wrong in its assumptions as to how TUPE would apply. No proper legal analysis of these matters was conducted by SDG. SDG stated in its report that 'Nothing in this document should be construed as stating a legal opinion and the Commission for Aviation Regulation should take legal advice where relevant.' There is no evidence of CAR having taken such advise with regard to the outsourcing aspects of SDG's recommendations.
- However, regardless of the application of TUPE, the outsourcing savings indicated by SDG could not be generated, because their estimated 'market wage' is too low and they have ignored the overhead and margin cost which a third party provider would levy, as well as the additional cost to daa in managing the third-party provider. (All of these factors are quantified in our later analysis.)
- Moreover, even if outsourcing could be effected in the manner SDG describes, daa would nevertheless retain the cost of the staff thus rendered surplus. A certain portion of these staff could be expected to take voluntary severance (imposing cost) and over time the remainder could be absorbed into other functions, displacing on-going recruitment, but this would take time and additional cost would be incurred over this time.

There is a wider dimension which is relevant here too. daa was able to introduce a green-field cost base for T2 precisely because the T2 operation was explicitly ring-fenced and understood by the pre-existing workforce not to represent a threat. SDG now proposes the T2 terms could be extended across the business, without issue, through outsourcing and that any resultant industrial action could be 'faced down'. This is provocative and unrealistic, and it represents a shifting of the goal posts from one determination to the next. This is a major part of SDG's proposals, with the outsourcing saving estimated at approx. €8m.

Other efficiencies proposed by SDG are also ill-founded

Exhibit 1.11 provides details of other errors / incorrect assumptions in SDG's analysis. This is not an exhaustive list, and full quantified detail is provided in Part 2. To take just one of the examples from below, SDG assumed minimal requirement for marketing spend on the basis that daa is a monopoly. However, this ignores the fact that daa operates in highly competitive market such as car parking (competing both with other carpark providers and other modes of transport) and retail, not to mention the competition for catchment in Ireland (daa advertises for Dublin Airport in Northern Ireland) and abroad (daa assists airlines with Marketing Support and promotes the transfer product with airlines and directly).

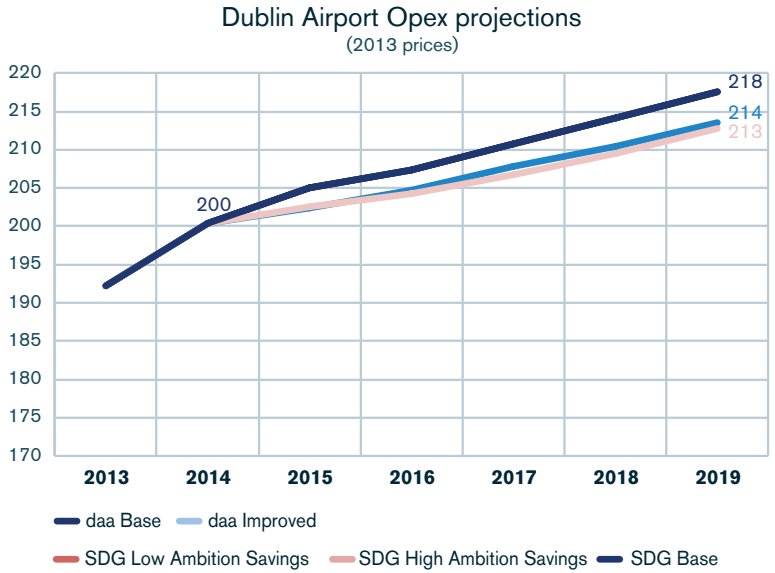
Exhibit 1.11: Other SDG errors / incorrect assumptions

Issue	Impact on 2019 allowance
Misapplication of Gatwick benchmark for HQ cost	€3.6m
Misunderstanding of elements of IT cost and use of incorrect benchmark	€1.2m
Incorrect assumption that daa as a monopoly requires little marketing spend	€1.6m
Internally inconsistent argument (and misinterpretation of data) re cost reduction in Maintenance function through retirement of older employees	€0.8m
Incorrect calculation of security roster, i.e. staff requirement calculated related to central search functions only and erroneously excluded outlying security posts	€0.8m

Correcting for SDG's mistakes

daa has corrected the SDG forecast for the errors and incorrect assumptions identified. Without the outsourcing proposal, the SDG High Ambition forecast loses most of its content, while the other corrections cause the Low Ambition forecast to converge with the daa Improved forecast, although the SDG corrected forecast remains lower. (see Exhibit 1.12)

Exhibit1.12: daa's and SDG's (corrected) opex forecasts



Concluding points on opex

We will focus later – as a case study – on the impact of CAR's opex proposals on the security operation, taken together with the other aspects of CAR's Draft Determination. As a general point, CAR has a duty of care to ensure that the resourcing proposals it puts forward are adequate to meet the service requirements of the airport (including CAR's own service quality targets) at the forecast level of passengers. We do not believe that CAR's proposals meet this criterion. For instance, CAR's implicit proposal to reduce FTEs by 250 (from 2,150 to 1,900) versus daa's 2019 baseline, notwithstanding a volume increase of circa 3m passengers and increasing security compliance requirements of uncertain impact. The danger in this consultation process is that other parties, particularly airlines, impressed by CAR's proposed price cuts, will be happy to assume that the resourcing recommended must be sufficient, simply because the recommendation comes from the regulator.

Two further points at summary level:

- CAR proposes that daa will not be allowed to recoup through airport charges either retrospective remedial pension investment or forward-going additional pension cost. In our view this treatment by CAR of increased pension cost is unreasonable. CAR has already in the past accepted that additional historical pension cost can arise and has provided for it. With regard to forward-going pension cost the increase which daa faces is unavoidable and does not represent an inefficiency. CAR's current position is out of line with domestic and international regulatory practice.
- In our proposition document submitted to CAR in April, we indicated that internal project management costs, which would previously have been treated as capital cost (capitalised payroll), had been explicitly excluded from our CIP capex estimates (generally verified by the EY exercise commissioned by CAR, with variation at individual project level). These costs were estimated at €5m per annum, and should be included in either the capital allowances or in the operating cost allowance. Note that these costs were explicitly excluded in the cost estimates provided to EY for review, and were clearly referenced in our opex submission.

COMMERCIAL REVENUE

As outlined in Exhibit 1.13 there is substantial variation between the CAR commercial revenue forecast and the forecast put forward by Dublin Airport in our regulatory proposition. The variation is due to two sets of differences. Firstly, CAR has included (a) revenues which are currently outside the till and (b) revenues which daa have proposed to remove from the till. Secondly, there are a number of errors and/or methodological weaknesses in CAR's approach which have led to an otherwise unduly high forecast.

Exhibit 1.13: daa's and CAR's commercial revenues forecasts

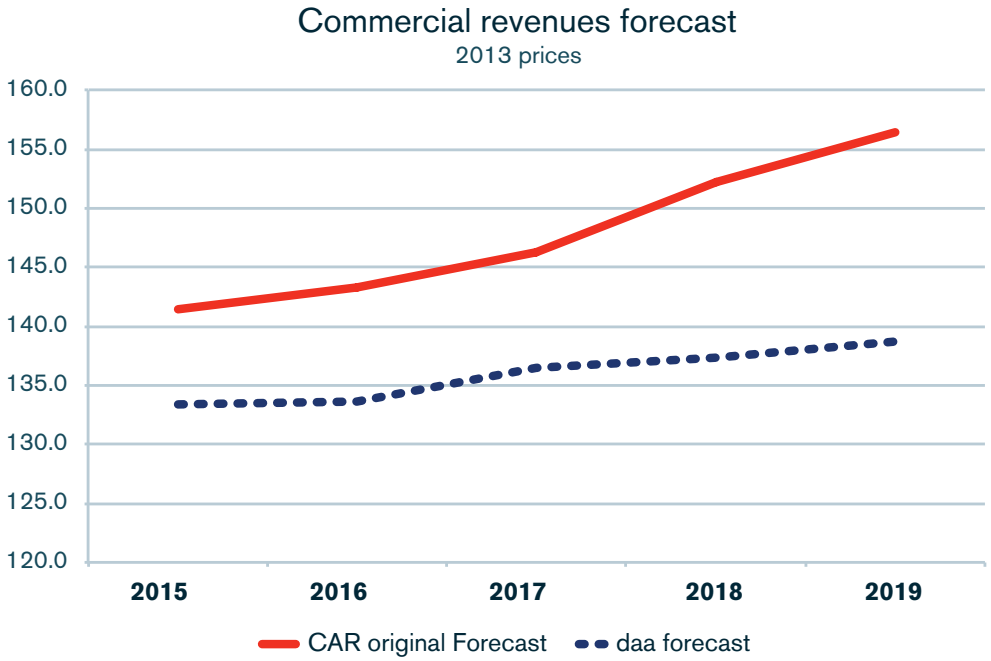


Exhibit 1.14 Summary of ex-RAB assets and ex-till revenues

Category	Asset value	Actual Revenue p.a. 2010 - 2014	CAR Forecast Revenue p.a. 2015 – 2019
Hangar business in till	Included in RAB – Not defined	€0.5	€0.5m
New hangar business outside till	€35m Excluded from RAB	€5.3m	€5.3m
Dublin Airport City Inner Zone	€43m of which €5m owned by RAB	€0.2m in till €1.0m ex till	€1.2m
Dublin Airport City Middle & Outer Zones	Included in RAB – Not defined. Valued at €22m	€0.7m	€0.7m

Proposed exit price, with impact of reducing airport charges by €1.3m p.a.

Proposed exit price, with impact of reducing airport charges by €0.3m p.a.

Incorrectly included by CAR

Inclusion of ex-till revenues

As per the table below, CAR has included hangar income in its forecast that was already explicitly ring-fenced as being outside the till at the last determination (circled in red in the table below). The incomes associated with daa's proposed exit of lands and assets from the central campus area (3 and 4 below) to develop Dublin Airport City should also be excluded from the commercial revenue forecast. These lands and assets are subject to an on-going till exit consultation/valuation process, which is expected to advance over the next two months in parallel with the determination process. Airlines have already agreed in principle, as has CAR, that the Dublin Airport City development should proceed outside the till. (See Appendices 2A and 2B (confidential) for full details of daa's exit proposal. A series of process steps have been discussed with airlines who took part in the confidential consultation process (having signed a Non-Disclosure Agreement), and these steps have been recommended to CAR.)

Adjusting the CAR Commercial Revenue forecast to take account of revenues outside the till narrows the delta between the daa commercial revenue forecast and the CAR commercial revenue forecast to €11m in 2019.

Errors / methodological weaknesses in CAR's revenue forecasting approach

These errors/weaknesses are discussed in detail in Part 2 and are summarised in Exhibit 1.15. As with passenger forecast, daa has used detailed bottom-up models to estimate the different components of commercial revenue while CAR has applied simple top-down models.

Exhibit 1.15: Errors / methodological weaknesses in CAR's revenue forecasting approach

Issue	Impact (All impacts reduce CAR's forecast)
Arithmetical error: CAR has inadvertently added rather than subtracted the cost of goods sold in the retail sales figure used in the retail forecast model.	€1.6m
In estimating its elasticities, CAR has used models which generated both an elasticity (to passengers) and a time trend. CAR has then used the elasticities in its forecast, but not the time trends. CAR has sought to justify this exclusion only in the case of carparking, but the argument is not evidenced by reference to analysis of the market. More generally, if CAR is to use simple top-down models, then it isn't right to pick and choose when the model should be believed and when not – the forecasts become then simply a matter of subjective opinion.	€11.3 (Not all the time trends operate to reduce CAR's forecast, but the net impact is negative.)
Failure to adjust for transfer passengers – An increasing proportion of transfer passengers in the overall forecast (as per daa's Core forecast) implies a reduced average propensity to spend, since transfer passengers use a narrower range of facilities at the airport and hence typically spend less than average. (Other groups of passengers also spend less than average, e.g. LCC passengers.) This sort of effect is illustrative of the benefit of bottom-up rather than top-down passenger forecasting	€1.2m
Incorrect investment uplifts – Where daa has put forward commercial investment, CAR has included the incremental revenue in its forecasts, but with a number of errors. The list below is not exhaustive. Full detail supplied in Part 2. Incorrect assumptions re: time profile of additional revenues ▪ Exclusion of additional opex associated with revenue-generating investment (e.g. more carparking capacity also requires more carpark staff, etc.) ▪ No account taken of disruption effects, i.e. new retail investment disrupts passenger spending while under construction ▪ Disallowance of capital investment amounts not reflected in revenue assumptions ▪ Failure to convert some nominal values into real values, thus over-stating returns	€3.2m

Having fully corrected the CAR forecast, as per the list of problems in Exhibit 1.15, and having excluded revenues which are outside the till or proposed to be outside the till, we find that the residual, corrected CAR forecast is actually lower than the forecast put forward by daa in our regulatory proposition. We recommend that the daa forecast be used by CAR.

FACILITATING GROWTH AT DUBLIN AIRPORT

CAR's proposed capex disallowances will constrain growth at Dublin Airport in the short to medium-term and impede the strategic development of the airport.

In 2013/14 peak hour bottle-necks were recorded on a consistent basis at the following locations:

- Stands and Gates
- Check-in Terminal 2
- Terminal 1 – Central Search facility
- Transfer Facility Terminal 2
- Short-term Parking

To alleviate the terminal and airfield bottle-necks daa proposed building the following facilities:

- Aprons 5G (allowance proposed by CAR) and 300R
- Pier 3 Upgrade
- T1 Central Search Area New Technologies
- New T2 Transfer Facility
- T1 Regeneration of Arrivals, Departures and Façade with an additional project to be triggered when T1 handles 11.5mppa[5]:
- New Security facility on the T1 Mezzanine.

of these projects only Apron 5G was approved by CAR in its Draft Determination.

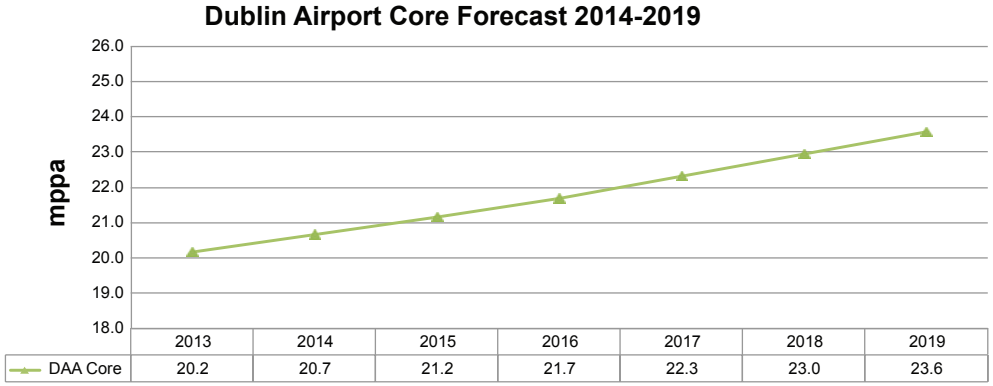
5 The trigger value depends on CAR allowing daa to invest in new Technologies for the Central Search Area in T1. If these Technologies are not allowed, the effective throughput rate in the current area will drop and the need to move to the Mezzanine level is brought forward.

Overview of current and future usage

Traffic increased by 6% in 2013 and has risen by a further 7% in the first half of 2014. Growth is being experienced in nearly all markets with increasing load factors leading to additional slots being requested and in parallel, larger aircraft being brought in to facilitate expanding route demand.

The traffic forecast as shown in exhibit 1.16 presents a significant increase in demand on airport facilities with a CAGR of 2.6% between 2013 and 2019. By the end of this period Dublin Airport is expected to handle a further 3.5 million passengers through its existing facilities, a 17% increase v 2013.

Exhibit 1.16: Dublin Airport Core Traffic Forecast



	2013	2014	2015	2016	2017	2018	2019
DAA Core	20.2	20.7	21.2	21.7	22.3	23.0	23.6

This forecast growth correlates to increased demand on the different capacity processors as shown in Exhibit 1.17, where excess of demand over capacity is shown in red. See later discussion of management of transfer process in T2 in order to deal with current excess demand over capacity. (See Panel in Section)

Exhibit 1.17

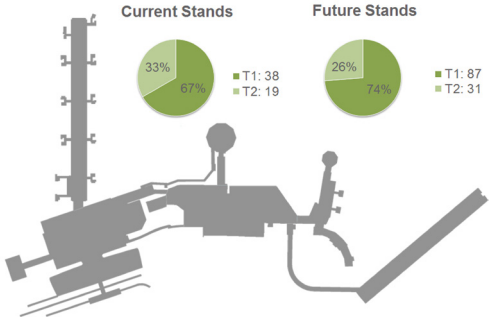
Forecast Scenario	T1 Security	T2 Transfers	T2 Check-in	Stands	Pier 4 Wide Body Demand
Units	Pax/hour	Pax/15 mins.	Desks	Stands	Stands
2013 Demand	2,400	550	56	71	8
Existing Capacity	3,090	163	56	74	8
2019 Core Growth Demand	2,900	650	60	80	10
2019 T1 High Growth	3,600	650	60	83	11

Save for the T1 central search facility, under Core growth, demand exceeds capacity for each of the existing capacity processors.

Strategic Reliance on T1

The 20.2 million passengers in 2013 equates to an annualised utilisation of 56% for T1 and 87% for T2[6]. Although these measures are coarse metrics, they do give an informative overview of both utilised and available capacity across both terminals. Considering the airport as a system of processors and examining the constituent parts of its operating system, the defining overall capacity is that of the weakest link, based on the busy hour demand. Optimising each terminal's overall capacity is achieved through having a balanced across-the-board similar peak hour capacity for all processors.

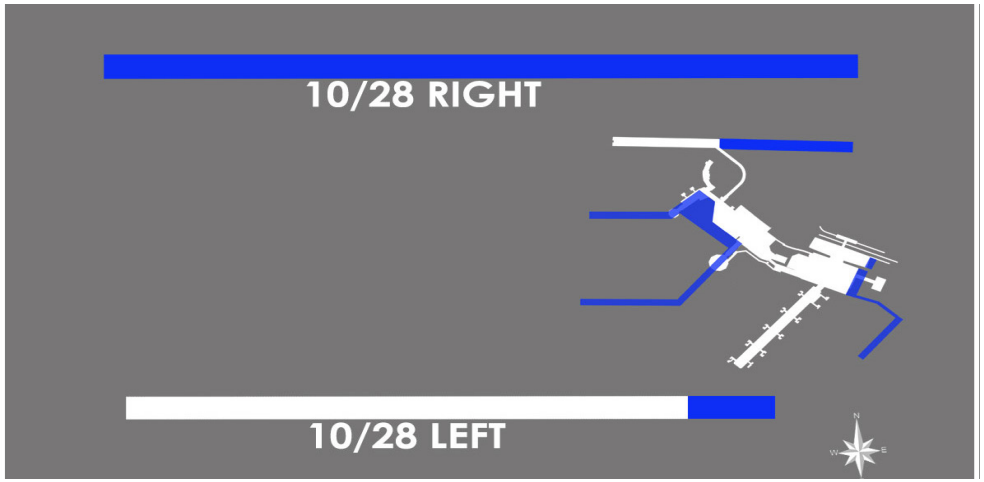
Exhibit 1.18



6 Capacity of T1 is circa 18mppa and T2 is circa 11.5mppa, where both T1 and T2 handled circa 10mpa in 2013.

T2 thus, is at capacity for significant parts of the day. Going forward, the main approach should then be upgrading T1 in order to encourage airlines that currently operate from T2 to relocate and in order to cater for further growth.

Exhibit 1.19: Extract from Dublin Airport Master Plan



As can be seen in Exhibit 1.19 from the Dublin Airport Master plan, the majority of future development (in blue) will be north of T2, including:

- Northern runway
- Expansion of Pier 1
- Rebuilding and expansion of Pier 2
- Rebuilding and expansion of Pier 3
- Expansion of T1

74% of all future contact stands will be associated with T1 making T1 the heart of future growth developments.

Emerging capacity requirements

Given current constraints and forecast growth, daa proposes the following in response:

- **Lack of stand availability, particularly around or close to Pier 4.**

  Functioning in the absence of a 10% stand redundancy goes against international best practice, the consequence of which has already been seen at Dublin Airport, with aircraft being delayed accessing contact stands and also experiencing delays to runway take off and landings.

  While daa welcomes CAR's approval of Apron 5G, it has disallowed the Apron 300R project, which would provide 5 narrow body stands (suitable for turboprop-type aircraft), adjacent to Pier 3. Building Apron 5G and 300R would move stand capacity from 74 to 88. This improves daa's level of redundancy to 11% by 2019 against the Core Forecast.

  Apron 5G is located north of Pier 1, relatively far from Pier 4. This indicates the requirement for long bus journeys and possibly separate double bus operations (to unload and load passengers) from T2, which stakeholders signalled to be problematic in the capex consultations. At the same time, Apron 300R could not replace 5G because it provides fewer, smaller stands, not suitable for narrowbody (and larger) jets. It would also be inefficient from a construction cost point of view to reduce the scale of Apron 5G.

  Pier 4 itself has a capacity of 9 wide body stands but the demand will be as many as 4 stands greater by 2019. Consequently, at least three widebody aircraft will have to be accommodated elsewhere, namely those aircraft that don't involve US Preclearance. The only viable option is improving Pier 3 and T1's facilities in order to attract these carriers into T1.

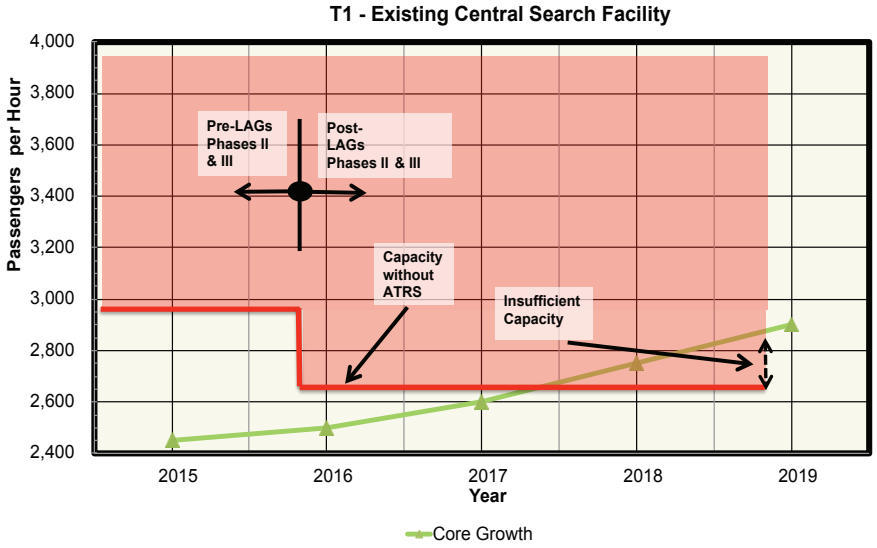
- **Demand for check-in desks exceeds supply in T2.**

  Check-in demand during the summers of 2013 & 2014 has consistently exceeded its capacity of 56 desks. As growth continues, this situation is expected to further deteriorate. The proposed solution to this is to improve T1's facilities in order to attract certain airlines (those with no requirement to use CBP) from T2 into T1, where there is spare check-in capacity. In order to do this the required investment in T1 includes revamping the facade and arrivals facility as well as departures, check-in and security as discussed below.

- **Lack of processing capacity in T1 Central Search Area.**

  T1, despite being sufficiently large to cater for circa 18 million passengers per year, has a singular stress point in its Central Search Area which is curtailing its ability to facilitate additional growth demand. By 2016 Security will be negatively impacted by the introduction of Liquids and Gels legislation (LAGs), Explosive trace detection (ETD) and potentially other legislative requirements, all resulting in increased security screening requirements. If traffic growth remains in line with Dublin Airport's Core forecast, when Phase II LAGs legislation is introduced, an intervention will be required in the form of an Automated Tray Return System at Security. If traffic growth is closer to Dublin Airport's T1 High Growth scenario, a further intervention will be required in the form of new and expanded Security facilities. During the consultation process, daa put forward a trigger of 11.5million passenger throughput in T1 for commencing expenditure on moving the facility to the Mezzanine.

Exhibit 1.20



- **Inadequate capacity to handle transfer demand in T2**

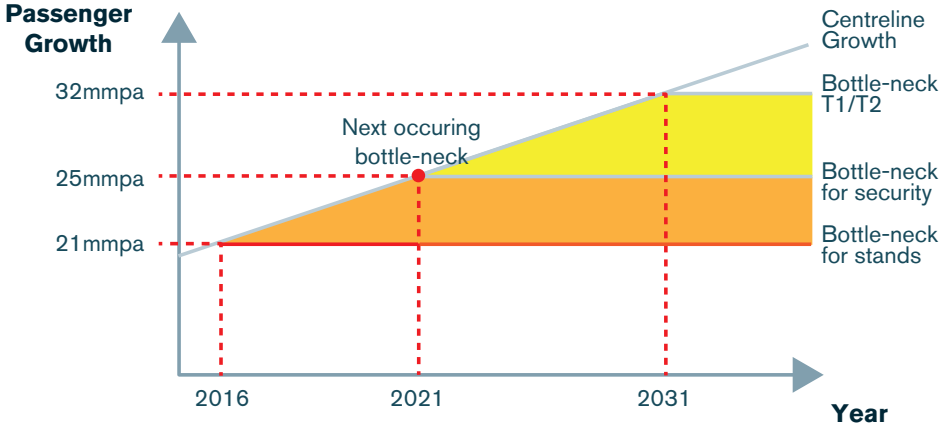
  The transfer facility located in T2 consists of 3 screening lanes and has a capacity of 163 passengers per 15 minutes. From analysis carried out in 2013 and 2014 the maximum queue length experienced on a typical busy day was 360m resulting in a queue time of circa 40 minutes. The required queue area is some 440sqm. With only 160sqm of queue space directly available, it has become a consistent requirement to have up to 200m of people queuing along the corridor in advance of the facility.

  Over the course of this summer season daa have implemented a temporary managed arrangement whereby non-CTA and CTA bound passengers are segregated at source. This has a propensity to reduce transfer passenger demand for the transfer facility, albeit the arrangement is unreliable and will grow even more complicated as more flights are added. (See Panel: in Section for full details.)

1.1.1 Business case

The business case is structured around the same principal used for a factory production process. If the factory process incurs a bottle-neck and a demand remains for extra production this is then assessed on a cost-benefit basis in terms of NPV. The Business Case is prepared on the basis that capacity constraints at the airport are alleviated through the implementation of a number of projects which will collectively allow passenger growth at the airport.

Exhibit 1.21: Dublin Airport capacity bottle-necks



The bottle-neck for stands lies between 21 – 22 mppa. For the purpose of the financial analysis, it has been assumed to be at the upper end range – i.e. 22 mppa. The bottle-neck for security lies at 25 mppa[7] (where this bottle-neck refers to the need to move the facility to the mezzanine area post the CIP15.4.004 Central Search Area New Technologies investment). It is assumed that 2nd parallel runway is constructed based on a capacity of 25 mppa (and proposed trigger of 23.5 mppa) – therefore apportionment of revenues for runway capex & revenues excluded.

The projects included in the business case are Apron 5G, Pier 3 Flexibility, T2 Bussing Facility, the Transfer Facility, T1 Check-in & Security, T1 Arrivals and Façade. Aero-Revenues are calculated by reference to the price cap and pax. Non-Aero Revenues reflect the incremental revenues from these projects and exclude revenues from existing commercial activities (e.g. retail, car, park, etc.) as they are not directly related to projects. Opex reflects incremental payroll and non-payroll costs directly relating to these projects. For example, T2 Bussing Facility includes the estimated cost of cleaning, insuring, maintaining, servicing and manning but excludes non-project specific opex).

7 For the purpose of this business case, the capacity of the T1 security is set at a conservatively high level, however, from a capacity point of view, the required trigger is 11.5 mppa for T1.

Exhibit 1.22: Projects included in the business case

Project	CAR decision	Capex by Project	Total Capex
Apron 5G		€18.2m	€128m
Pier 3 Flexibility (updated see Section 9)	Disallowed	€15.0 + €11.1 =€26.1m	
T2 Bussing Facilities		€13.3m	
Transfer Facility	Disallowed	€21.5m	
T1 Check-in and Security	Disallowed	€38.3m	
T1 Arrivals	Disallowed	€8.9m	
T1 Facade	Disallowed	€0.7m	

Apron 5G, Pier 3 Flexibility, T2 Bussing and Transfer Facility are required to alleviate bottlenecks at ~21-22 mppa. Given T1 Check-in & Security investment is required at 25 mppa, which is the same constraint as 2nd parallel runway, an apportionment of future revenues has been made to fund the T1 Check-in Security - i.e. 38.3/(38.3+245). T1 Arrivals & Façade are critical to rebalancing the airport & increasing the inter-operability between terminals by attracting airlines currently in T2 over to T1.

Exhibit 1.23: Business case summary

	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total
	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m
Capex	(18.2)	(63.7)	(9.6)	(38.3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(128)
Non-Aero Revenue	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.9	1.5	2.0	2.6	8
Opex	0.0	(0.1)	(2.5)	(2.5)	(1.2)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(13)
Aero-Revenue	0.0	0.0	1.0	9.1	16.9	25.3	32.3	33.3	34.3	35.3	36.3	223
Cash flows	**(18)**	**(62)**	**(11)**	**(31)**	**16**	**24**	**31**	**33**	**35**	**36**	**38**	**91**
NPV at 7%	**17**											

The capex of €128m is assumed to have a 20 year asset life. Commercial revenue of €8m and incremental opex of €13m is generated over the life of the asset. Aeronautical Revenue of €223m is assumed by 2025 of which €26.9m in 1st period. Alleviated pax (excl. apportionment) remunerated at the present price cap. The net cash flows are €102m by 2025; -€107m in the first period. The net present value of the Business Case projects is +€17m.

Net impact is €112m reduction in airport charges by 2025 of which +€9m increase in the first period. Given the capacity constraints alleviated, the capex proposal is airport charges dilutive by €0.14/pax in 2019 rising to €0.90 by 2025. Were there no capacity constraints, capex of €128m would add €0.08/pax in 2016 rising to €0.58/pax in 2019 before falling to €0.40/pax by 2025.

PASSENGER WILLINGNESS TO PAY

As stated in our Regulatory Proposition, daa believes that passenger welfare and preference should be given more emphasis in regulatory decision-making as passengers are the ultimate consumers whose welfare is to be served by the outcomes which regulation determines. Passenger welfare is also a crucial factor in determining passenger spend, which in turn feeds the commercial revenue which subsidises airport charges.

Passengers have the classic characteristics of a stakeholder group whose interests are likely to be neglected, namely they form a large, anonymous, heterogeneous, dispersed group, with no collective organisation or representation.

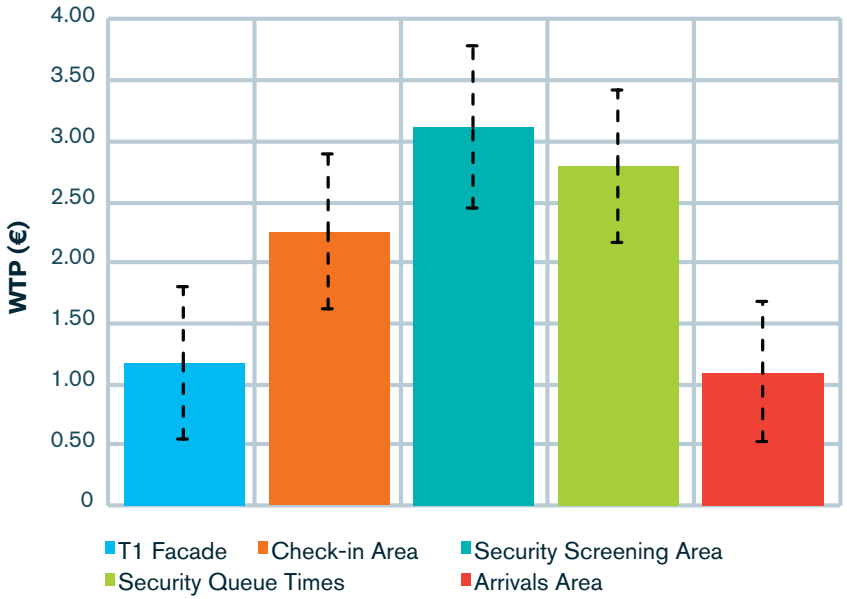
To ascertain the preferences of passengers regarding the Terminal 1 redevelopment plan which has been disallowed by CAR in its Draft Determination, daa engaged NERA to undertake a passenger willingness-to-pay study – a sophisticated preference-revelation analysis - providing objective, empirical analysis of the value passengers place on the proposed redevelopment of Terminal 1.

Summary of Willingness to Pay Study

The main survey consists of 550 completed responses. NERA analysed the composition of the sample, to confirm it is representative of the wider population of passengers who use T1.

Exhibit 1.24 shows an average willingness to pay of a little over €1 for each of the façade and arrivals area improvements, and between €2.26 and €3.11 for each of the check-in area, security screening area and security queue time improvements.

Exhibit1.24: WTP Estimates for Individual T1 Improvements



The study result show that:;

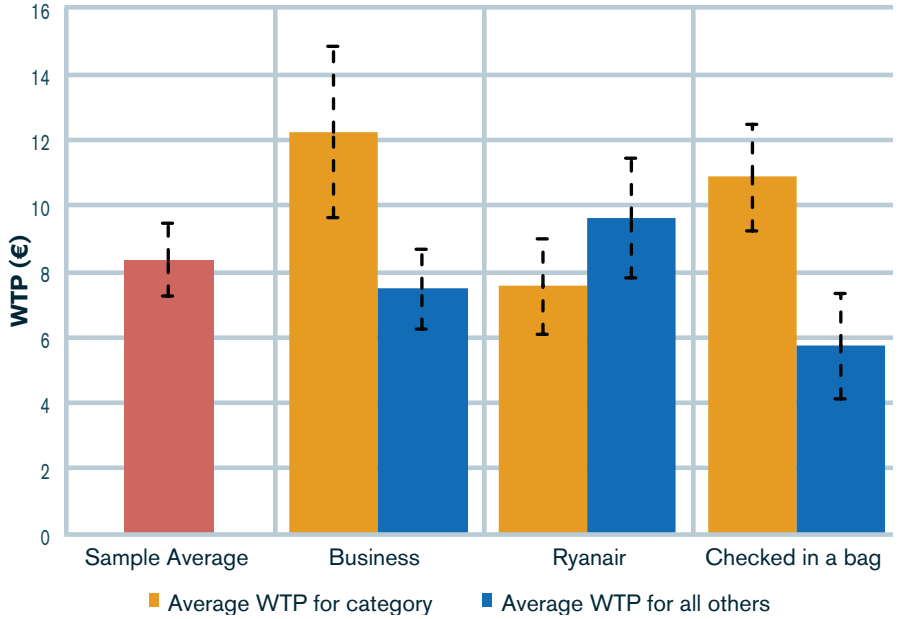
- Ryanair passengers' willingness to pay for each of the improvements is lower on average than that of passengers using other airlines, but their WTP is still positive and statistically significant
- Passengers travelling with another adult, with children under 16, or that live in the UK had higher willingness to pay than the average of all T1 passengers for each of the improvements
- Passengers who checked in bag are willing to pay more for the improvement to the check-in area than the average of all T1 passengers

Exhibit 1.25: WTP by Passenger Type and Individual Improvement

Passenger Group	T1 Façade	Check-in Area	Security Screening Area	Security Queue Times	Arrivals Area
Ryanair	€1.04	€2.00	€2.76	€2.48	€0.97
Travelling as a couple	€1.45	€2.79	€3.85	€3.46	€1.36
Family with Children under 16	€1.76	€3.40	€4.69	€4.21	€1.65
Checked in a Bag	€1.17	€3.33	€3.11	€2.79	€1.10
UK or Northern Ireland Resident	€1.55	€3.00	€4.14	€3.72	€1.46
Average	€1.17	€2.26	€3.11	€2.79	€1.10

Exhibit 1.26 suggests that passengers' average willingness to pay for all the improvements covered by the survey is €8.34.

Exhibit 1.26: WTP Estimates for All T1 Improvements



The study results also demonstrate

Business travellers and passengers checking-in bags had a higher than average willingness to pay.

Ryanair passengers are willing to pay less than other passengers on average, but their willingness to pay is still positive and statistically significant.

Conclusion

This report fills a previously overlooked gap in relation to how passengers (as opposed to airlines and ground handlers) view the trade-off between lower airport charges and improvements in airport facilities.

NERA employed best practice techniques that have been refined over a number of years and a methodology that is used to inform both government investment decisions and increasingly economic regulators' decisions on future capital allowances.

Despite a conservative approach that may understate passengers' true willingness to pay for improvements NERA have generated statistically significant estimates of passengers' WTP that are many times higher than the expected cost of the investments.

It should be noted that while NERA identified some factors that may lead to lower willingness to pay in certain groups of passengers, even in these cases the value associated with daa's proposed improvements is still strongly positive, and many times greater than the expected cost.

Overall, NERA provide strong evidence that daa's proposed improvements to T1 will generate benefits to passengers that are significantly higher than the expected cost of the improvements.

RUNWAY CAPACITY

Runway capacity is complex. We have appointed airfield planning specialists Ricondo to analyse and present the case with clarity, and their detailed report is at Appendix 4.

The elements of daa's case regarding runway capacity can be readily summarised in the 4 Exhibits, 1.27 1.28, 1.29 and 1.30. Every airfield has capacity constraints. There is a point at which the peak is full – shown as 1 in Exhibit 1.27. In a slot-coordinated airport (such as Dublin) point 1 is the declared peak capacity of the airport. As the declared capacity is measured in movements per hour, converting movements per hour to an annual passengers converts point 1 to a range. Ricondo has calculated a 1 range for Dublin with considerable precision. Beyond 1, there is no more growth in the peak, but off-peak growth can continue. Between points 1 and 2 – the range of which will vary from airport to airport – growth is not lost because airlines are prepared to occupy off-peak slots. Beyond 2, the off-peak increasingly loses it attractiveness and growth is lost. In an airport such as Dublin, where demand is heavily predominated by overnighting aircraft, point 2 would be expected to be close to point 1, but the exact location of point 2 on the demand curve cannot be known with certainty,.

Exhibit 1.27: Optimal time for runway capacity increase

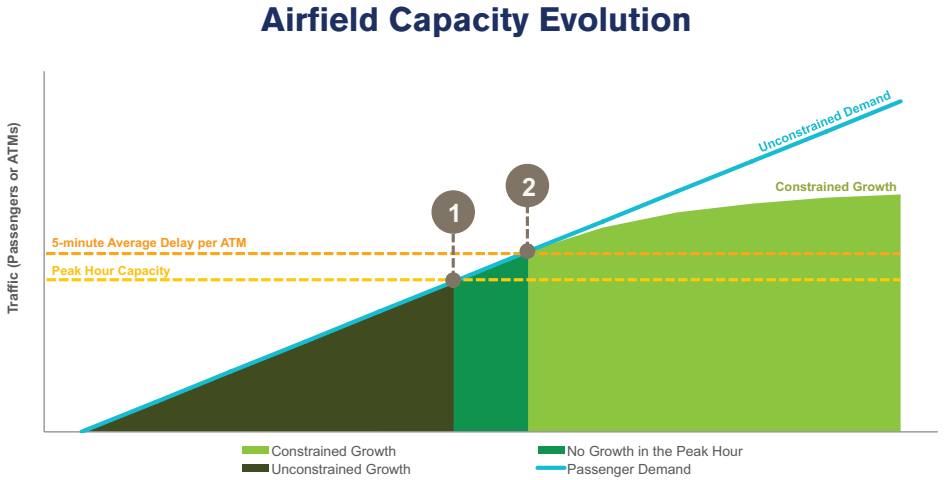


Exhibit 1.28 demonstrates that with the Northern Runway trigger set at 23.5m pax, Dublin will have a period of 3 years in which it has passed range 1 and growth may be constrained. This is highlighted as the orange triangle. Exhibit 1.29 demonstrates that if CAR moves the trigger to 25m, as it proposes, the duration of constrained growth will extend to 5 years. Exhibit 1.30 demonstrates that if daa's proposal to build the line-up points is allowed, with the trigger remaining at 23.5m passengers, no period of constrained growth need occur. This also has the benefit of bringing forward the point at which we can seek to attract point–to-point traffic to the Far East and other destinations currently out of reach, which is consistent with the National Aviation Policy.

We believe that the Ministerial Direction to CAR of 27 October 2009 is also relevant here: "*I am directing you under section 10 of the Aviation Regulation Act 2001 to ensure that the Dublin Airport Authority's financial viability is protected in order to implement Government policy on... the desirability that Dublin Airport should have the terminal and runway facilities to promote direct international air links to key world markets, such as new and fast-developing markets in the Far East and the importance of ongoing and planned infrastructure development in that context.*"

Exhibit 1.28: Runway 10L-28R Implementation at Existing CAR Trigger

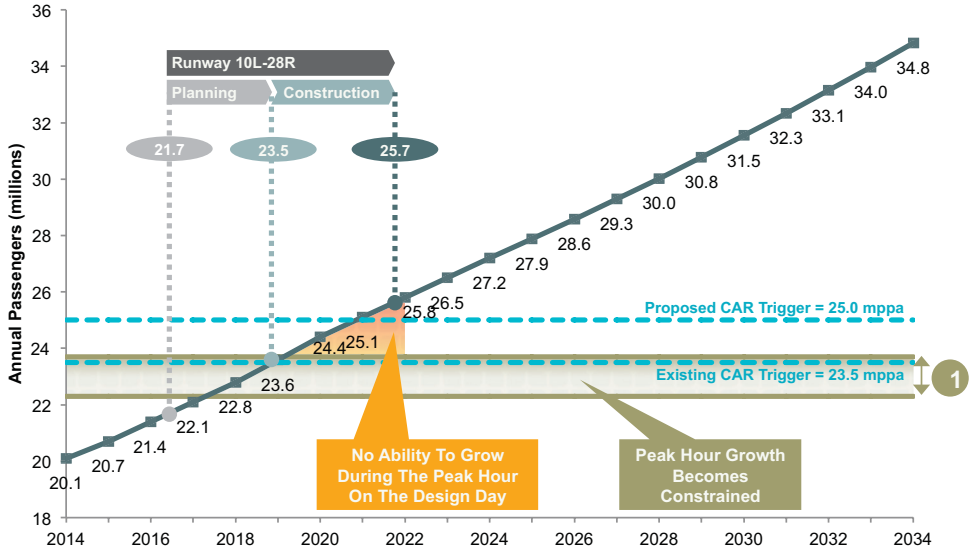


Exhibit 1.29: Runway 10L-28R Implementation at Proposed CAR Trigger

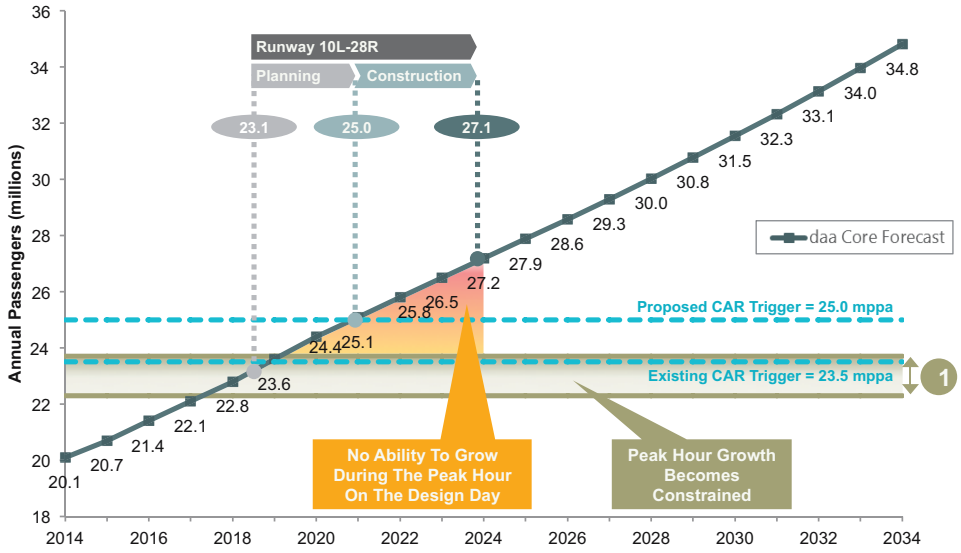
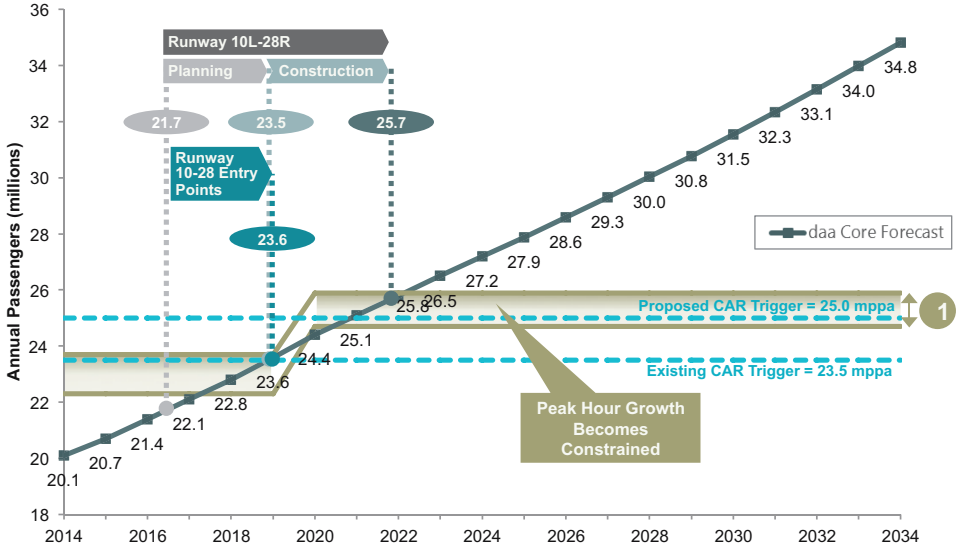


Exhibit 1.30: Runway 10-28 Entry Points at Point 1 Followed by Runway 10L-28R at Existing CAR Trigger



CONSTRAINTS TO OFF-PEAK GROWTH

CAR's preference for off-peak growth rather than investment in peak capacity is under-informed

There appears to be underlying assumption in CAR's Draft Determination that Dublin Airport doesn't necessarily need to expand peak capacity, but rather could make better use of existing off-peak capacity through differentiated pricing and achieve passenger growth in this way. This thinking is encapsulated in the following extract, paragraph 9.6 of CAR's document;

'One of our reasons for encouraging the use of peak and differential pricing is as a means of controlling capital costs at the airport. Where there is spare capacity, operators will understandably operate at the time of day that is most convenient to them. However, in periods when that capacity is fully utilised there are two responses available: building additional capacity or requiring some users to operate at other times. With peak pricing in place, airlines will face better price signals

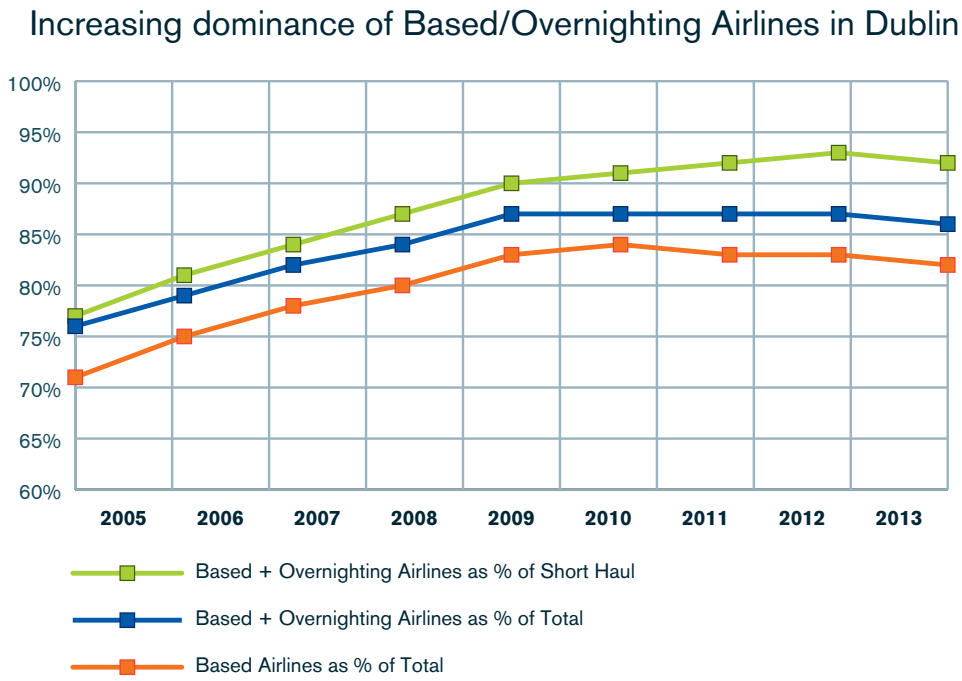
when deciding whether to operate at the busiest hour. When considering the need for investment to provide additional capacity, the willingness of users to pay a premium to operate in the peak hours is something that we may look for when deciding whether there is sufficient demand for the investment.'

This extract suggests a misunderstanding of the nature of the business at Dublin Airport. Airlines schedule flights not according to what is *convenient* to them but according to the *imperatives* of their business in a highly competitive and volatile market.

In simple terms, passenger volumes can come from four major airline sources: (i) home-based carriers (Aer Lingus, Ryanair, Stobart, Cityjet), (ii) network carriers, who may also overnight aircraft at Dublin Airport (e.g. Lufthansa, BA, United, American, Emirates, Etihad), (iii) non-based low cost carriers or LCCs (who have multiple bases, aircraft resources and growth appetite) and (iv) charter traffic. We look at these briefly in turn.

Dublin's traffic and growth is dominated by based and overnighting aircraft which must depart in the first wave in order to maximise utilisation of the asset over the course of day.

Exhibit 1.31: Based/overnighting aircraft at Dublin Airport



The dominance of based and overnighting aircraft is demonstrated in Exhibit 1.16 As a consequence of this increasing dominance, the early-morning peak is busier now than in the peak year, 2008. But could the airlines in question not grow also in the off-peak? Highly instructive in this regard are the recent capacity additions by Ryanair. Ryanair is now openly repositioning itself as a more business-friendly carrier. Business passengers want to leave early in the morning (during the departure peak) and return in the evening. There has also been an increase in the number of people commuting internationally to work, who also must leave early in the morning. As Exhibit 1.17 illustrates, in its recent schedule alterations, Ryanair is focussing on the peak. New flights to Brussels, Barcelona, Milan, Madrid and Rome all depart in the peak, competing directly with Aer Lingus. The Brussels 06:20 departure is particularly interesting in that it represents the relocation of an aircraft from Charleroi (which used to fly Charleroi to Dublin arriving in Dublin at 07:20) to fly out of Dublin in the first wave. This example shows movement from off-peak to peak operation confirming airline preference for peak operation on routes important to the business passenger segment.

Exhibit 1.32: Recent Ryanair schedule additions

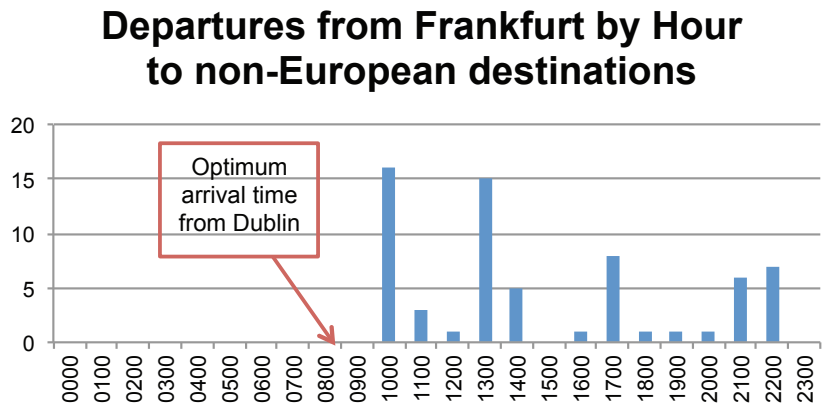
Route	FR Winter 2013 Flight Time	FR Winter 2014 Flight Time	EI Winter 2014 Flight Times
Barcelona	18:10	**06:15,** 17:05	06:40, 17:30
Brussels	07:55, 17:30	**06:20**, 13:10, 18:05	06:40, 12:45, 18:00
Milan	06:25 (4 times a week)	**06:20 (daily)**, 17:30	07:30, 16:15
Madrid	14:10	**06:15**, 16:10	06:30, 16:10
Rome	06:30 (once a week), 16:25	**06:30 (daily),** 16:30	07:10, 15:00

Network carriers feed onward connections at hubs and must schedule departures from Dublin to arrive in good time (but not too early) for those connections

[redacted]

Exhibit 1.33 shows the proportion of connecting passengers by airline. The proportions are high, to the extent that the flights would not be viable without the transfer traffic. This constrains the time window of departure, because the onward connections are not spread evenly throughout the day, but peaked, as Exhibit 1.34 for Frankfurt illustrates.

Exhibit 1.34: Departure Schedule - Frankfurt Airport



Network carriers feeding peak departures at hubs create natural peaks at the feeder airport also, in our case Dublin.

Non-based LCCs and charters do not offer realistic routes for growth

Non-based LCCs – which focus on short-haul point-to-point traffic – are under-represented in Dublin relative to peer airports. This is certainly due to the fierce competitive response which has greeted attempted entries by LCCs in the past, for which provide examples in Part 2. Charter traffic at Dublin has been decimated, particularly through the targeting of popular charter routes to summer and winter holiday destinations by Ryanair and Aer Lingus. Charter traffic was at 2m passengers per year in 2005 and fell to 0.5m by 2013. Accordingly, the main source of growth at Dublin will continue to be from based and network carriers, whose traffic profile will necessarily generate demand spikes. Similarly the emerging transfer business, if successful growth continues, will add to peak rather than off-peak volumes.

CASE STUDY: IMPACT OF CAR'S PROPOSALS ON PASSENGER SCREENING

CAR has disallowed opex and capex resourcing for the passenger search function while increasing the service quality target and ignoring changing compliance requirements. These proposals are difficult to reconcile.

Dublin Airport has recently emerged from an EC audit process in which security levels were found not to meet standards in certain respects. An 'Article 15' notification was issued (see Part 2 for full details), meaning that passengers from Dublin had to be re-screened before transferring out of another European airport. A major programme of rectification was embarked upon, including physical works at a number of locations around the airport and the addition of 100 FTEs (>200 staff) to raise the intensiveness of searches and adherence to standards at passenger screening.

CAR's opex proposals for security take no account of potential implications for compliance levels. Current staffing of security is 550 FTEs. The SDG report, on which CAR has based its opex proposals, erroneously assumes that the current staffing level is 500 FTEs. This error was pointed out; CAR did not correct it in advance of publishing the Draft Determination.

We forecast that security FTEs would need to increase to 602 by 2019 to accommodate the additional 3m passengers in the Core forecast and in the light of increasing compliance burden. CAR's opex allowance is based on a presumption that 496 FTEs in security would be sufficient. This represents a reduction of > 100 FTEs, while passenger volumes and compliance requirements are increasing. CAR's opex forecasts take no account of the rising compliance burden. In fact,

SDG assumes that the elasticity of security cost vis-à-vis passenger volumes has reduced since CAR last reviewed it (from 1.0 to 0.3)

The compliance burden for passenger screening is rising over time, as Exhibit 1.35 sets out.[8] CAR – inexplicably – has disallowed the capital investment requirement to meet the new standards in the case of ETD, LAGs Phase III and HBS Standard 3. CAR has also disallowed investment in automated tray returns intended to counteract lost throughput capability arising from the introduction of the new standards.

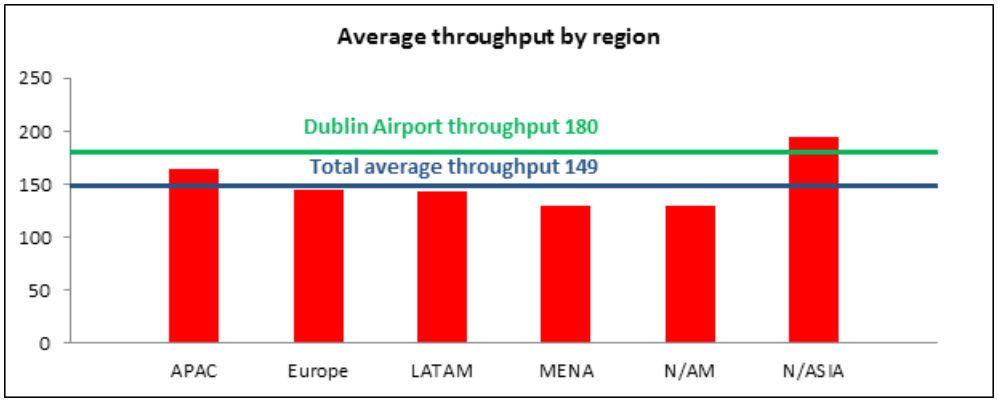
It is important to note the Dublin Airport processing times are among the most efficient in Europe as Exhibit 1.36 from IATA indicates.

Exhibit 1.35: New Regulatory Compliance Requirements 2015-2019

Compliance Requirement	LAGs Phase II	ETD	LAGs Phase III
Brief Description	Capacity to screen clear liquids in clear bottles e.g. water	Capacity to screen / swab Passengers and baggage for explosive traces	Capacity to screen all liquids, aerosols and gels i.e. full removal of existing restrictions
Implementation Date	2015 (date within 2015 not yet confirmed)	1st September 2015	2016 (date within 2016 not yet confirmed)
Equipment Required	12 Type B LAGs Equipment	26 Explosive Trace Detection 8 Security Scanners	29 Type C LAGs Equipment
Cost of Equipment Required	€0.6m	€2.5m	€2.2m

LAGs refers to requirements re screening of Liquids, Aerosols and Gels
ETD is Explosive Trace Detection

Exhibit 1.36: Benchmarking Dublin's Security Processing Rate



Source: IATA

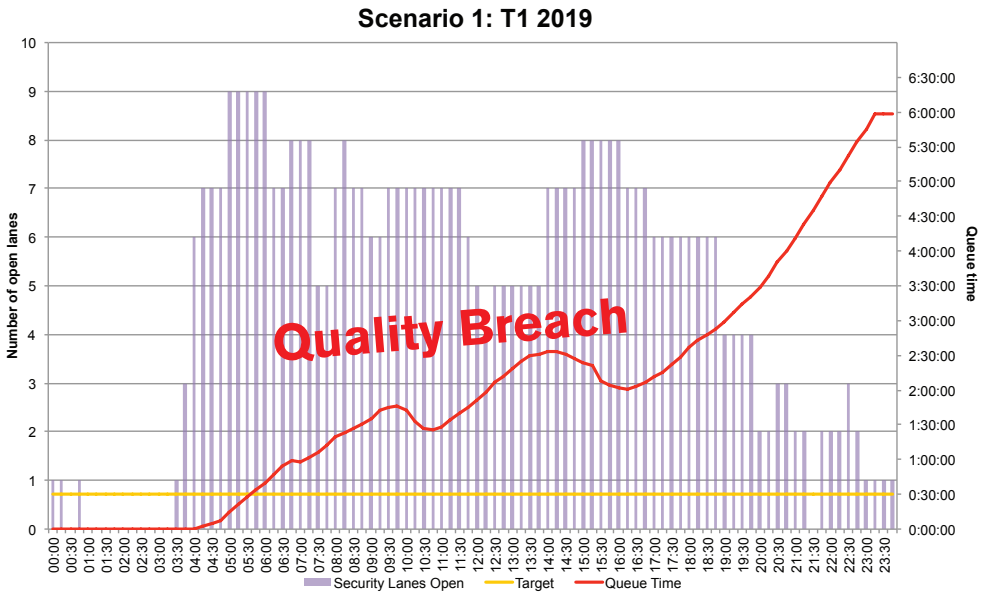
To recap, following Dublin Airport's emergence from an Article 15 situation, which CAR has ignored, in the face of rising compliance burden as set out in legislation[9], which CAR has ignored, CAR has (i) disallowed the capex required to meet the new regulatory requirements and to counteract the throughput impact of the new regulatory requirements, (ii) proposed swingeing operating cost cuts (based in part on an apparently erroneous replication of Dublin Airport rosters – which we have not been allowed to see in detail to analyse), and – additionally – (iii) increased the service quality target for security queuing by 10 minutes on a like for like basis as per CAR's own commentary.

daa maintains in-house capacity-modelling capability – methodologies and outputs for specific airfield and terminal modelling exercises (passenger search in the latter case) were presented to the airlines as part of our capex consultation process. We have used the CAST Terminal simulation tool to examine the impacts of CAR's proposed disallowance of capex and operating resources over the course of the determination period. In Part 2, we present 4 scenarios each for T1 and T2. In summary, with CAR's resourcing levels, the model predicts system breakdown, as the sample graph in Exhibit 1.37 illustrates.

8 Security standards remain in a state of flux and further changes, unanticipated now, may occur and occur rapidly. For example, in the last month it has become a requirement that all digital equipment must be powered up to pass through security on US-bound flights out of the UK. While this requirement does not currently affect Dublin, it shows how quickly and to what extent screening requirements can change in response to identified threats. daa must have sufficient flexibility in security staffing to be able to respond rapidly, comprehensively and effectively to changing security requirements.

9 While the HBS Standard 3 project relates to hold baggage only and therefore does not impact on the passenger screening processing rate, nevertheless its proposed disallowance is indicative of a certain misunderstanding as to the nature of security regulation. The ability of Dublin Airport to maintain business operations is dependent on regulatory compliance (see Section 10.2 for the impact on the business when a negative finding of regulatory compliance was made). By their nature Regulations are mandatory and must be implemented whether airlines agree with them or not. Therefore regulatory compliance cannot be made dependent on airline agreement as CAR suggests in the case of HBS Standard 3.

Exhibit 1.37: Modelled Outcome Scenario 1 T1



CAPEX ALLOWANCES - GENERAL

2015-2019 Allowances

Proposed disallowances (relating to both proposed future spend and historical spend already incurred) dominate our feedback on the capex elements of CAR's Draft Determination. However, aside from the disallowances, CAR's proposed envelope approach to capex is, in general, a step forward in providing daa some scope for flexibly managing capital investment over the 5-year period of the determination. We also welcome CAR's approach – as recommended by ourselves and the airlines in the course of the capex consultation process – to appoint EY to review independently daa's cost estimates for the proposed capex projects.

In addition to the disallowances relating to capacity and strategic projects (already discussed), and notwithstanding the proposed envelope flexibility, CAR's proposed allowances for the 2015-2019 period display a number of deficiencies, which we explain in detail in Part 2 and which are summarised in the table below. Part 2 provides full details of our recommended changes to CAR proposed allowances as they stand.

Exhibit 1.38: summary of CAR proposed disallowances 2015-2019

Issue	Discussion
Disallowance of investments required for regulatory or safety reasons	Investments required for regulatory and safety reasons have been inexplicably disallowed by CAR. The Terminal 2 HBS upgrade is required in law by 2020 and the project will need to commence spend in 2017 in order to meet this deadline. The Airfield Infrastructure Upgrades are recommended by ICAO for large aircraft currently in use at Dublin Airport and others likely to be in use in the short to medium term. Pier 2 segregation is required as a customs measure by the Revenue Commissioners. Central Search equipment is required in order to meet impending changes (as per EU regulations) to the passenger search regime with regard to Liquids And Gels provisions (LAGs), Explosive Trace Detection (ETD) and body scanning.
Computation errors	There are a number of computational errors in the EY report, leading CAR erroneously to reduce the allowances in question. We have identified errors to a total value of €3.03m
Disallowance of IT innovation capex	During the course of the capex consultations, daa – in conjunction with the airlines – appointed KPMG to review daa's proposed capex allowance for IT. The KPMG findings – generally agreed with by EY – included approval for the principle of an IT innovation fund and for the specific amount sought by daa, namely €8m. CAR has only approved allowance for the innovation projects presented as illustrative of the first year spend. No allowance is given for the subsequent years. We present further illustrative examples of innovation work in Part 2.
Variations in EY costings vis-à-vis daa costings	We do not agree with the EY costings in each case. However, we do not propose to dispute them generally, as the envelope approach allows daa to make up in one project allowance what it has lost in another. (In the event of a material move away from the envelope approach, we would contest many of the EY costings.) However, we do at this time dispute certain costings, where the envelope flexibility does not allow daa to make up the difference. The projects in question are: Apron 5G; Bus Lounge Facilities; Pier 3 Flexibility; Central Search Technologies; and Terminal 2 Transfer Facility. The aggregate difference at stake is €12.2m

2010-2014 Disallowances

For the period 2010-2014, Dublin Airport had an aggregate capital allowance of €199.2m, including the HBS trigger allowance. Outturn expenditure for the period is currently estimated at €180.6m. CAR is proposing to disallow €27.3m] of this amount. We object to all of these disallowances, of which key elements are summarised below (not exhaustive). The full list of our recommended amendments to CAR's 2010-2014 allowances is provided in Part 2. Appendix 5 provides details of the latest expected outturn of capex for 2014.

Exhibit 1.39: 2010-2014 disallowances

Issue	Discussion	Amount, €m
T2 – Pier 3 Airside Connecting Corridor	Heavily-used infrastructure which was not included in the original T2 cost estimate or in any other allowance. Use of Pier 3 by T2-based airlines (principally Aer Lingus and Stobart) would not be possible without this infrastructure.	8.5
Projects subject to interim consultation	daa undertook a number of interim consultations with airlines to win approval for capital spend not included in CAR's last determination. Such consultations were exactly as envisaged by CAR's approach. No consultation yielded unanimous agreement from airlines (nor could unanimous agreement realistically ever have been expected – given our collective knowledge of the different players and historical interactions), but each demonstrated broad support, formally submitted and recorded. CAR, inconsistently, arbitrarily, has allowed some but not all of the expenditure in question. This undermines the principle of interim consultation which daa entered into in good faith and conducted systematically, transparently and responsively.	3.1

Capex for revenue-generating projects disallowed, but the associated revenue capture within CAR's commercial revenue forecast	This relates to multiple productive commercial investments undertaken by daa for which there was no allowance. It would be in no one's interest for daa to forgo such projects because of the absence of capital allowance. It would be contrary to regulatory principles and natural fairness for the revenues to be captured by the till, but none of the investment cost included in the RAB. The projects include: Airport Genie / Airport Club, Commercial Concessions, T1 and T2 Executive Lounges, T2 Advertising, Date Service Centre, Carparking.	4.7
Capex for efficiency generating projects disallowed, but the benefits to flow to users over the course of the next determination	These projects include (i) the consolidation of T1 passenger search (after the opening of T2), together with the introduction of automated checking of boarding passes and (ii) work undertaken in preparation for the Northern Runway project.	5.9
Purchase, refurbishment and re-letting of PCB building , now Shamrock House	This project had a net capital cost of €4.1m, with an expected IRR of >14%. The revenue is expected to flow into the till. The acquisition of this building was linked to property transactions with Aer Lingus associated with our till-exit proposal – see Appendices 2A and 2 B (confidential)	4.1
Other	See detail in Part 2.	7.4

Pre 2010 disallowances – T2

It is important to emphasise that the Terminal 2 project was an outstanding success measured against other Irish or international projects. The project achieved and maintained excellent standards of safety for airport users and construction workers. It had no serious accidents or fatalities during 10 million man hours worked. It was designed, built and commissioned at a consistently high level of quality, and in conformance to IATA Level of service C, which represents international best practice. It had a trouble-free opening (in contrast to many recent international airport projects) and has performed a high service level since. It is highly regarded functionally and aesthetically. It was designed, constructed, commissioned and opened in less than five years, in the middle of a live congested airport environment, despite an elongated year-long planning approval process. By any comparison, including with large public projects in Ireland, or with international airport projects, it was delivered speedily and efficiently.

From a cost point of view, it was internationally benchmarked at concept design stage, and signed off by a government appointed verification process. And despite many factors outside the control of the project, and the fast-track delivery demanded by the chronic congestion in the existing terminal building, the outturn cost was just 8% over the indexed concept design stage cost plan. This represents excellent value for money.

In the Draft Determination, CAR is proposing to allow €773m of daa's outturn expenditure on T2. This is consistent – in a mechanical sense – with the original 2007 allowance made by CAR. The result of this proposed decision would be to strand a substantial portion of the total expenditure of €925m incurred in the provision of T2.

daa has submitted to CAR on a number of occasions our views that the full amount of the outturn expenditure should be allowed and the reasons for this. In summary, there are three main points to this argument: (i) that the original contingency disallowance of €25m by CAR was inappropriate – the consultants on whose report the decision was based indicated themselves that they were not expert in contingency matters; (ii) that the use of the CPI deflater (rather than construction price inflation) as a means for defining 'overspend' is wrong; (iii) that the actual additional spend (relative to daa's control budget) of €55m or 8% was within the range of what could be expected (a good outturn, in fact), given the nature of the project and the design stage at which the original costing was undertaken, and bearing in mind particularly the probabilistic rather than definitive nature of contingency estimates.

We have also evidenced our view that CAR's principles for the admission into the RAB of additional capital spend relative to allowance are unduly restrictive, theoretical in nature (bearing no relationship to the realities of large scale construction projects) and represent an outlier in terms of regulatory practice. Other regulated utilities generally do not face the exclusion of normal capital spend from the RAB.

What is striking in CAR's Draft Determination is that CAR has not made any reference to daa's substantive points. There is no reference whatsoever as to the appropriateness of the original contingency disallowance, no reference whatsoever with regard to daa's discussion of the requirement in the procurement approach to contract in nominal prices and the impact of the extreme and unusual deflationary conditions which subsequently reduced daa's allowance but in no way reduced cost.

In Part 2, we introduce a statement from ARUP, who were daa's programme managers for T2, and also append a full report from ARUP. We also provide a notional illustration of the inflation impact on another project, viz. if the Northern Runway project were to run through the same inflation circumstances as experienced during the T2 project, daa would lose €35m in allowance (i.e. have to fund €35m of capital cost without remuneration) in a scenario where it built the runway exactly to the specification, timeline and cost indicated at the outset. Such anomalies should not be allowed to occur in systematic economic regulation, and for the regulator not even to engage in the argument is high-handed and contrary to its legal responsibilities.

CAR has no expertise in large-scale capital projects, but nevertheless has implemented far more stringent rules for disallowance than other regulators. It has not commissioned any evaluation of the T2 outturn spend by an independent expert. The impact of this disallowance is approx. €11m per year to daa. This is a regulatory failure, which – as our evidence will indicate – would not have occurred were Dublin Airport regulated by the UK regulator, the CAA.

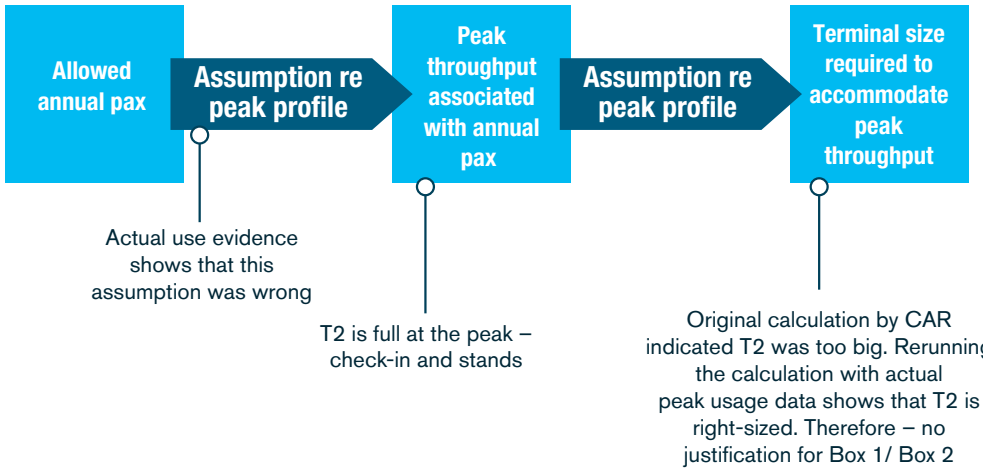
CAPITAL REMUNERATION

Box 2

The capital remuneration treatment of T2 has a number of unusual features. Firstly, CAR took the view at the time of the 2007 Interim Review Decision that daa's specification of the terminal was too large. This is quite a complex issue, which is dealt with fully in the main text. In simple form, CAR allowed the terminal to have a certain annual capacity, 11.5m-13m passengers. It then mapped the annual throughput to a peak hour throughput, i.e. the peak throughput expected at an annual passenger volume of 11.5m-13m. It then multiplied the expected peak throughput by the by size requirement as per IATA Level of Service C, which gave a total area required. With this approach, T2 was calculated to be too large and 27% of the cost (proportionate to the extent of the calculated over-sizing) was deferred as 'Box 2', the value of which is €108m in current prices. We now know the actual peak usage. Re-running CAR's calculation using the actual Annual Pax: Peak Throughput ratio, T2 emerges to be right-sized. Accordingly, the justification for Box 2 falls away. CAR has not engaged with this argumentation. It has made no reference whatsoever to the detailed case we submitted in our proposition in this regard. This is not in keeping with CAR's legal responsibility and it represents the imposition of unfair financial penalty on Dublin Airport.

Exhibit 1.40: T2 is appropriately sized

CAR's sizing calculation for T2



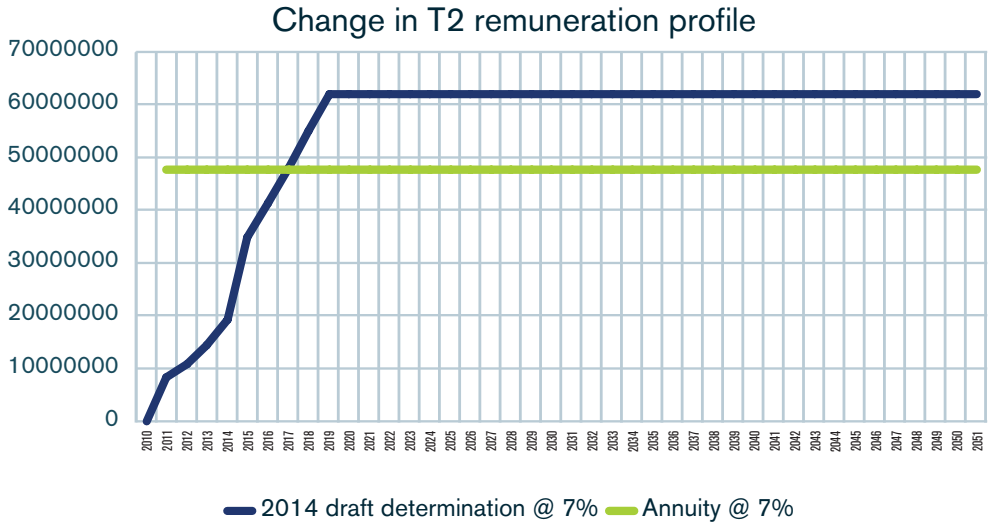
Unitisation

The second unusual feature of T2 remuneration is the unitised approach, which seeks to equalise remuneration not over time (as would be the case with an annuitised approach), but by passenger, based on an assumed passenger forecast over the life of the asset. Put simply, this approach massively backloads the return, and this is illustrated in comparative terms (by reference to the more orthodox remuneration profile allowed to Heathrow for T5) later in Part 2.

Notionally, the regulated entity is indifferent to unitisation because the NPV for the streams of remuneration under the different depreciation scenarios is identical. However, the regulated entity is not indifferent, because its immediate return is suppressed and because the future is inherently uncertain. Regulatory variables and regimes change. Economic circumstances are subject to dramatic cyclical and structural variations. Moreover, the regulated entity's actual discount rate for its own decision-making varies from the discount rate allowed by the regulator. In summary, unitisation is an unorthodox device to delay remuneration for a large piece of infrastructure. Not only is remuneration delayed, but the profile of remuneration remains uncertain (linked as it is with long-term passenger forecasts – problematical in themselves).

Our objection to unitisation – restated in our regulatory proposition document – was twofold: (i) we object in principle for the reasons set out above; (ii) we believe there is an error or logical flaw in the manner in which CAR has applied unitisation, namely unitising the return over the passenger band from 18m to 43m rather than from 18m to 33m, which latter value was the value CAR designated as the total capacity of T1 and T2. In the Draft Determination, CAR has not engaged with these arguments. CAR has adjusted the unitisation profile, which has the effect of reducing the extent of the problem, but does not remove it. The return of capital on T2 remains back-loaded, as Exhibit 1.41 illustrates. The cost to Dublin Airport versus CAR's other preferred method of depreciation, annuitisation, is circa €8m per annum. We submit that CAR should fully undo the unitised approach, its change in the Draft Determination indicating that it recognises that the approach is problematic.

Exhibit 1.41: Current and Proposed T2 Remuneration Profiles



Return on capital – WACC

CAR's proposes to reduce the WACC from 7% to 5.8%. We estimate that the impact of CAR's proposal would be €13m per annum on average across the period 2015-2019.

daa commissioned NERA to conduct an independent valuation of the WACC and also to analyse CAR's proposals. NERA's full report on CAR's proposals is provided at Appendix 6. We highlight some of the key comments in this summary discussion below.

There are four main areas of disagreement with CAR.

No case for reducing the asset beta

The balance of evidence would not support CAR's reduction of the beta value.

NERA stated: '*We note that daa bears significant additional risk compared to traditional utilities, e.g. with respect to changes in demand, deficits on its pension scheme and differences between the cost of new and embedded debt. CAR has not presented any evidence that any of these risks have reduced since 2009. In light of this and the fact that the CAA has increased rather than decreased its estimates of the beta for Heathrow (0.47 to 0.50) and Gatwick (0.52 to 0.56) while other regulators have allowed asset betas for mobile telephony (a lower risk activity than air travel) towards the upper end of CAR's range, there is no reason for CAR to use a lower beta than previously.*'

CAR's approach to the estimation of the real cost of debt is weak

As analysed by NERA, CAR should use the weighted average cost of embedded debt and new debt. Instead, CAR has supplanted actual, observable data with general data which do not apply specifically to daa.

NERA has stated: '*CAR has adopted an inferior methodology in estimating the cost of debt using new debt costs only. The methodologically robust approach is to use a weighted average cost of embedded debt and new debt, in line with UK regulatory precedent. . . . Our approach recognises that daa has raised finance efficiently at different points in the interest rate cycle and that it raises finance over periods longer than the price control period. We note that this approach relies on actual embedded debt costs, which allows daa to recover its efficiently incurred financing costs. . . . This approach also takes into account daa's expected debt issuance and likely debt costs. Given benchmark indices do not allow daa to adequately recovers its debt costs, using forward curves is an improved methodology for setting the cost of new debt (because it represents the market's best expectation of the interest cost in future). . . . We estimate a weighted average cost of debt of 3.09%, based on daa's embedded debt and a forecast of cost of new debt.*'

Serious errors in CAR's estimation of the Risk-Free Rate (RFR)

One of our two most significant objections, particularly in terms of impact on the final WACC, is that CAR has under-estimated the RFR. From a methodological point of view, the focus should be on forward expectations of the RFR, appropriate to the 2015-2019 period, not current and historical conditions. In fact, a forward-looking approach would be consistent with CAR's approach to the Equity Risk Premium.

As the graph below indicates, the expected average value for the RFR for Ireland for 2015-2019 is 1.9% (2.5% by 2019). As per CAR's own analysis, 'headroom' is required on top of this expectation given the inherent volatility of the market. Accordingly, a plausible RFR for the period 2015-2019 must fall within the range 2.0% to 2.6%. This corresponds to the RFR recently set by ComReg at 2.3%. Here, as elsewhere, it is unclear why CAR appears always to be looking to take a line tougher than other regulators. (In Part 2, we look in more detail at the comparative evidence of regulatory decision-making.)

NERA stated: '*CAR's interpretation of recent Irish regulatory precedent (including CER, ComReg and IAA) is highly selective and fails to account for the fact that risk-free rates used in other regulated decisions in 2014 have been in the range of 2.0%-2.6%, a full 50-110bps above CAR's point estimate of 1.5%.*'

Exhibit 1.42: Forward curves for Ireland

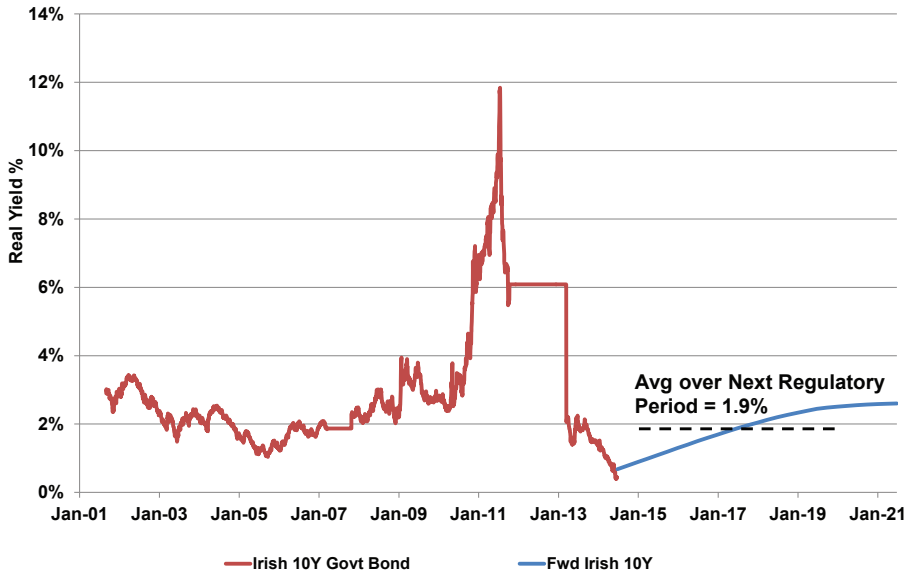


Exhibit 1.43: Blackrock assessment of Ireland's risk profile

Exclusion of Country Risk Premium (CRP)

Our second major objection is CAR's exclusion of a CRP. CAR contends that the theoretical basis for inclusion of a CRP is 'weak'.

Interesting in this regard is the Irish Independent article by Donal O'Donovan of 19 July 2014, which lists Ireland as one of the riskiest markets in the world, according to the BlackRock Sovereign Risk Index, which ranks Ireland just above Nigeria.

The benchmarking analysis presented in Part 2 points to the country risk adjustments being made by economic regulators in other similarly challenged countries – Italy, Portugal and Spain. NERA has also reviewed recent academic literature on the subject and concluded that there is support for country risk adjustment, although not yet full clarity as to how this should be done.

NERA stated: *CAR's characterisation of the theoretical case and regulatory precedent against a Country Risk Premium is highly selective and misleading. . . . As shown above all Irish regulators have included an implicit "country risk premium" by referencing Irish government bond yields and / or precedent. Similarly, regulators in all other countries significantly affected by the sovereign debt crisis continue to include country risk premiums, as we show in our January 2014 report. . . . In concluding that there is no theoretical case for the country risk premium, CAR fails to acknowledge the significant body of academic literature in favour of a country risk premium, the fact that a country risk premium is also applied in all other countries affected by the sovereign debt crisis.*

In earlier submissions to CAR, daa requested that CAR appoint an independent expert third party to estimate the WACC. This is the process that CAR has followed in appointing EY to review capital costs. CAR has made a number of judgements in arriving at the WACC which we believe are questionable and the underlying rationale remains unclear.

FINANCIAL VIABILITY

CAR's Draft Determination fails the test vis-à-vis CAR's responsibility under law to enable daa to operate and develop Dublin Airport in a sustainable and financially viable manner.

We support the above assertion through two evidenced arguments. The first is that CAR's Draft Determination will not allow Dublin Airport to earn a return on equity anywhere near the required

return on equity indicated by CAR's own WACC. The second is that CAR's Draft Determination will not support the financeability of the regulated entity, as ultimately captured in the FFO: Net debt metric.

CAR's arbitrary selection of notional RAB, net debt and finance costs (all lower than regulatory accounts actual/projected rates) and its resultant proposed price cap determination has the effect of:

- Negating Dublin Airport's ability to achieve a sustainable business and generate appropriate profit
- Reducing future capital investment to drive and support growth
- Inhibiting daa's ability to pay a dividend to its shareholder
- Endangering daa's ability to renew its Revolving Credit Facility ("RCF") (€150m maturing in December 2016) and refinance its Eurobond (€550m maturing in July 2018)

CAR's Draft Determination suppresses the return on equity

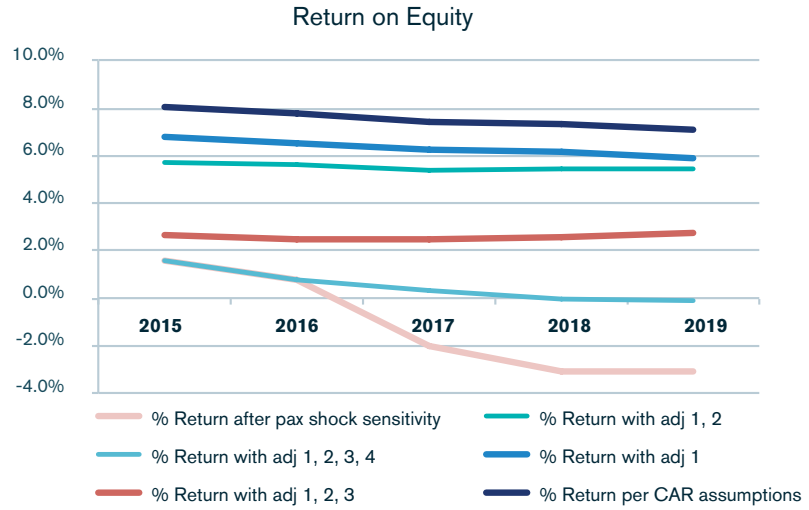
CAR's Draft Determination claims to generate a return on equity of 8.1% in 2015, falling to 7.1% by 2019. However, correctly calculated (adjusted for incorrect RAB, net debt, and other variables (exhibit 1.44)), the return on capital is nearer 1% annually during the regulatory period, a return similar to the yield on German government bonds and lower than CAR's risk free rate of return.

Exhibit 1.44: Adjustments to CAR's indicated return on equity

No.	Issue	Impact on 2019 return on equity
	CAR return	**7.1%**
1.	CAR has excluded from the RAB (permanently or by postponement) >€250m investment in T2. The affects the return on equity denominator.	-1.4%
2.	Actual depreciation costs exceed CAR's allowed depreciation cost due to (i) exclusions from the RAB, (ii) unorthodox capital remuneration, e.g. unitised treatment of T2 depreciation (somewhat corrected in Draft Determination)	-0.4%
3.	The actual cost of daa's debt is higher than the notional cost assumed by CAR (relating to actual debt size, debt reduction profile and the actual unit rate of interest paid)	-2.6%
4.	Dublin Airport cannot achieve CAR's operating and commercial revenue targets, which are based on flawed analysis	-2.8%
	Probable outturn return drops to -0.1%	**-0.1%**
5.	Sensitivity analysis – Medium-sized passenger volume shock (circa 0.33 x the shock 2008-2010 shock)	-2.9%
	Sensitivity return	**-3.1%**

These above adjustments having been made, the return on equity falls from <2% in 2015 to circa 0% by 2019, and moves into negative territory in the event of a medium-sized volume shock. Even assuming Dublin Airport could achieve CAR's infeasible opex and commercial revenue targets, the actual return on equity would not reach 3%, which is far below the notional requirement. The net point here – in our view – is that CAR's Draft Determination takes advantage of the fact that the State is the shareholder in severely constraining (if not eliminating) the return on equity for the regulated utility. CAR's Draft Determination represents a continuation of the severe regulatory policies which have resulted in minimal returns to equity over the current regulatory period 2010-2014, despite daa having met CAR's efficiency and revenue targets at aggregate level. CAR's Draft Determination will undermine (if not eliminate) the ability of Dublin Airport to generate profits from which future dividends could be paid. Such an inability would be contrary to the shareholder's requirement to see a dividend from 2014. (see Appendix 7).

Exhibit 1.45: Return on equity for Dublin Airport



CAR's Draft Determination will not support the financeability of the regulated entity

The FFO: Net Debt metric for the next period (and in particular 2015) will not allow Dublin Airport achieve the required BBB+ credit rating and in fact a BBB- rating is more likely. In addition, CAR has not taken appropriate consideration of Business Risk Profile ("BRP") which may have a further deleterious effect on credit rating.

CAR's Draft Determination, which indicates FFO: Net Debt for Dublin Airport ranging from 20% in 2015 to 40% in 2019 is based on erroneous calculations and assumptions. Corrected calculations show a level of 12.8% in 2015 increasing to 16% in 2019.

Rothschild opinion

Significant financing requirements and likely market conditions in 2015-19

Unlike the current regulatory period, where daa had no large scale financing requirements due to its pre-funding strategy adopted in 2008, daa has €700m of debt facilities, representing c.50% of its total debt facilities, maturing in the next regulatory period. The debt facilities falling due include the €550m Eurobond that matures in July 2018 and the €150m bank facility that expires in December 2016.

DAA has limited choice of funding options and access to the bond market is critical: it is critical that DAA is able to access the bond markets in order to meet its significant refinancing requirement. In our view, daa faces restricted access to other debt markets as described below:

- *Bank market*: Many European banks continue to limit exposure to Ireland and have embargoes on new lending to Irish corporates. It is not possible for this market to support such a large refinancing of debt. Bank lenders will rely upon the ability of daa to access the bond market to help support their assessment of refinancing risk
- *USPP market*: The US private placement market, which has traditionally offered Irish corporates an alternative financing source to the public bond market, is not yet open to Irish issuers as investors have not yet rediscovered their appetite for Irish issuers exposed to country risk
- *European Investment Bank*: while this lender has been a good source of funding for daa in the past, the EIB has informed daa that it has no credit appetite for additional daa exposure. Further, EIB will only lend for new project expenditure and is unable to directly fund refinancing transactions.

Bond market access is critical and a BBB+ rating is essential for DAA to refinance its maturing debt facilities on optimal terms

[redacted] daa's credit rating of BBB is below the rating of its regulated peers in the utilities and airports space. Debt investors have a large choice of stronger rated airports in 'core' Europe as demonstrated in exhibit 11.6.

[redacted] Therefore, a BBB rated bond will be considered significantly more volatile than a BBB+ rated bond in terms of price given the disproportionate impact of a further downgrade.

Standard and Poor's evaluate daa's business risk and financial risk to determine daa's credit rating. daa's business risk profile is a function of S&P's view of the transport infrastructure sector and the credit risks associated with operating in Ireland generally. It is also a function of daa's own competitive position (a function of its competitive advantage, scale, efficiency and profitability). As a result of its business risk assessment, daa needs to maintain FFO to debt of at least 23% (what S&P describes as a modest financial risk profile) in order to ensure a rating of BBB+.

daa competes for debt funding from the same investor pool as our European peers and seeks to achieve a credit rating of BBB+ against a backdrop of three credit rating downgrades since the last regulatory determination (despite achieving CAR's overall implicit EBITDA targets), from A to BBB which is unprecedented amongst our peers.

We welcome CAR's awareness of the new rating system introduced by S&P. We welcome CAR's move to focus on the FFO: Net Debt metric for Dublin Airport rather than for the daa group. We disagree with CAR's conclusion that it is sufficient for the requirements of financeability to target a BBB rating rather than a BBB+ rating, which is an airport benchmark.

Exhibit 1.46: Credit ratings of peer airports

Heathrow	Gatwick	Brussels	Schiphol	Aeroports de Paris
A-	BBB+	Baa1	A+	A+

Note: All peers above rated by S&P except for Brussels which is rated by Moody's. Baa1 by Moody's is equivalent to BBB+ by Standard and Poor's.

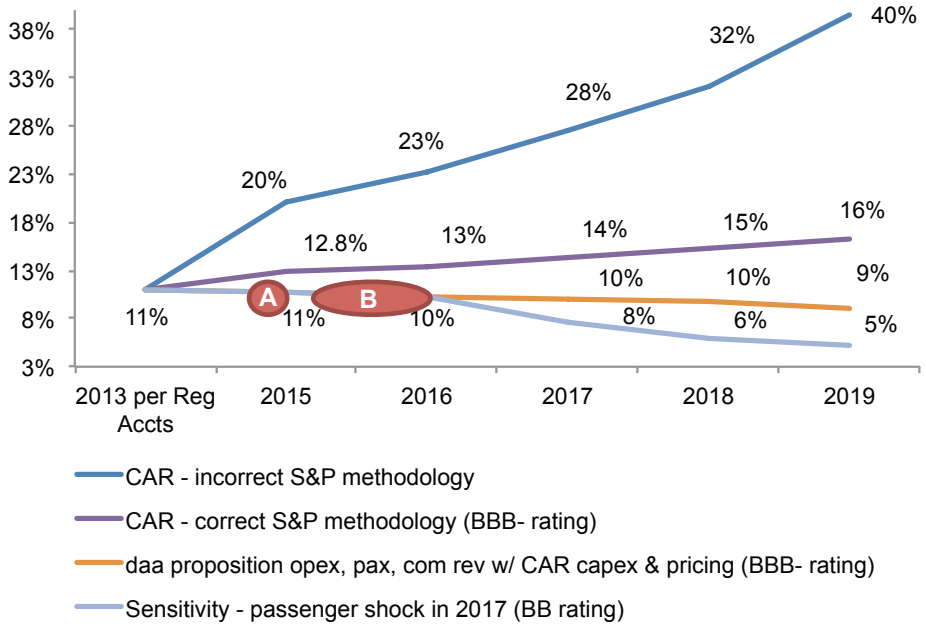
Under the revised S&P methodology, a company's Business Risk Profile ("BRP") and its Financial Risk Profile ("FRP") combine to give it an anchor rating, which is then translated into a final rating by the application of a number of modifiers.

CAR's Draft Determination can affect daa's rating in a number of ways. For present purposes, there are two key routes of influence. The first is by affecting the view which S&P takes of the regulatory regime. The regulatory regime is currently viewed to be 'supportive', and this consideration elevates daa to a 'strong' BRP. The second route of influence is the FRP, which is essentially determined by the FFO: Net Debt metric.

It appears now to be a matter of agreement that the regulated entity must 'pull its weight' in terms of its contribution to the overall FFO: Net Debt metric, with which daa will go to market to refinance the existing debt. This equates to the regulatory entity achieving an appropriate FFO: Net Debt metric. In our view, the FFO: Net Debt target for Dublin Airport should be >23%, which is the requirement for a company with a strong BRP in order to achieve a BBB+ rating.[10] Although CAR explicitly targets a BBB rating, the FFO: Net Debt metrics generated by its modelling approach for 2015-2019 rise from 20% in 2015 to 40% by 2019. However, CAR's approach to modelling the FFO: Net Debt is incorrect, which is to say it does not conform to how S&P calculates an FFO: Net Debt. Correcting CAR's methodology, we see that the FFO: Net Debt falls just at the 13% threshold between BBB and BBB-, in the best case, and – given the infeasibility of CAR's opex and commercial revenue forecasts – in fact must fall into the BBB- territory. It is a further concern that a modest volume shock (approx. 0.33 x the shock experienced between 2008 and 2010) would push Dublin Airport into BB territory.

10 Full details of these bands provided in Part 2..

Exhibit 1.47: FFO: Net debt calculation for Dublin Airport



The full details of the corrections made to CAR's calculation of a credit rating for daa using the S&P methodology are provided in Part 2 - Section 12.

These are not academic matters, since daa must refinance up to €700m of debt by 2018. In order to do this optimally, it will be necessary to refinance at the latest one year in advance of the current maturity date, which implies bringing the previous year's financial performance to market. In the best case scenario, the FFO: Net Debt will be slightly below 13% in that previous year, but in fact would be expected to be close to 10%. This means CAR is not fulfilling its legal responsibility.

There is a further point here of considerable importance. Given the huge economic swings that we have been through in the past decade, CAR must allow for some reasonable variability in its forecasts. As per the exhibit 1.47 above, CAR would place Dublin Airport right at the bottom of the qualification range for BBB, with no margin for disimproved performance, such as might result due to factors outside daa's control.

PROCESS FLAWS

In our response to CAR's Draft Determination, on a section by section basis, we engage with the content of CAR's proposals, and make observations as they arise with regard to the process followed by CAR. Given the large number of process flaws which we have identified, it is appropriate also to bring these points together in an overall review of CAR's process. We do this in the final section of 'Part II: Detailed Materials' and summarise the main points here below.

Under Articles 32(8) and 32(9) of the 2001 Regulation Act CAR is required to "consider any representations" which are made under the act and to "make a report in the determination giving an account of its reasons for making that determination together with its reasons for accepting or rejecting any representations" in making a Determination. In the Draft Determination CAR provides no substantiation of its consideration of numerous aspects of daa's submission and gives no reason for rejecting daa's passenger, opex and commercial revenue forecasts in favour of its own. Detailed elements of daa's submission are not even mentioned by CAR in the draft – see Exhibit 1.49.

Exhibit 1.49: Instances of no engagement by CAR with daa submission

Reference	Topic
Section 6.10	T2 procurement approach, impact of inflation on allowance
Section 6.12	Empirical evidence demonstrating assumptions underpinning CAR's calculation of right size of T2 to be wrong
Section 6.41	Legislation requiring HBS investment
Section 6.41	Impact of LAGs requirements on passenger screening rates
Section 6.46	Customs requirement for Pier 2 segregation
Section 6.46	Requirement for enhancing T1 security capacity
Section 6.46	Evidence for retention of runway trigger at 23.5m
Section 6.62	Evidence presented by NERA supporting inclusion of Country Risk Premium in WACC
Section 6.75	Case for BBB+ rating
Section 6.88	Case for revision of unitisation approach, including methodological application of unitisation approach

The Act also requires that CAR "shall ensure" that all determinations shall be "objectively justified … non-discriminatory, proportionate and transparent" (Section 5(4) of the Act). By disregarding daa's submissions without reason the Draft Determination clearly breaches these core requirements under Section 5 of the Act. In particular the determination cannot be considered objectively

justified in the absence of reasons and CAR cannot be considered to have acted transparently when it fails to disclose reasoning to reject submissions.

Certain areas of CAR's analysis have remained particularly non-transparent, despite repeated representations by daa to have access to the materials, e.g. full details of the SDG workings, including adjustments by SDG to historical cost data used for baseline purposes, basis of SDG's roster calculations, derivation of elasticity assumptions, derivation of cost-saving assumptions re out-sourcing, basis for selection of efficiency benchmarks, basis for assertion re daa gas prices.

CAR has knowingly put into the public domain as a basis for consultation a report (the opex report by SDG) containing material errors which daa had pointed out, e.g. obvious discrepancies with historical data provided by daa and used by SDG as a baseline, including the omission by SDG of 50 FTEs currently on the books, among other apparent errors.

CAR has arbitrarily disallowed projects for which daa secured broad airline approval through interim capex consultations, e.g. T1 roof repairs, Pier 3 refurbishment.

CAR has disallowed projects for which there is a demonstrated legal obligation, e.g. the HBS upgrade for T2, equipment required for LAGs and ETD compliance.

CAR has included in its commercial revenue forecast income which daa earns from investment that was ring-fenced as being outside the till. This is a breach of the stated regulatory policy that the till should not benefit from investment projects in which it has no investment/risk stake.

CAR and its appointed consultants have made numerous methodological and computational errors - see examples in Exhibit 1.50.

Exhibit 1.50: Methodological and computational errors

Errors
Arithmetical error: CAR has inadvertently added rather than subtracted the cost of goods sold in the retail sales figure used in the retail forecast model.
In estimating its revenue elasticities, CAR has used models which generated both an elasticity (to passengers) and a time trend. CAR has then used the elasticities in its forecast, but not the time trends.
Failure to adjust for transfer passengers in revenue forecast – An increasing proportion of transfer passengers in the overall forecast (as per daa's Core forecast) implies a reduced average propensity to spend.
Incorrect investment uplifts – Where daa has put forward commercial investment, CAR has included the incremental revenue in its forecasts, but with a number of errors (detail previously given).
Spreadsheet error in the WACC formula, leading to reduced return for Dublin Airport
Computational errors in the EY report, leading CAR erroneously to reduce the capital allowances in question.

SERVICE QUALITY REGIME

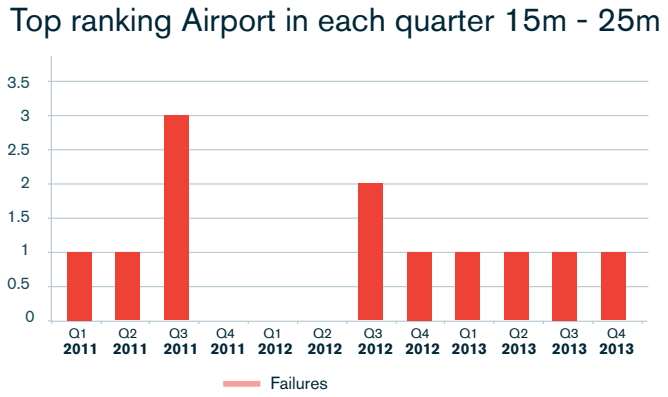
In its Draft Determination, CAR is proposing an increase in the service quality target for the nine ACI/ASQ metrics incorporated in its service quality regime.

Performance above target should not necessarily imply a need to raise targets

- CAR's primary reason for raising the ACI/ASQ targets for Dublin Airport was given as "to reflect the generally better level of service now being offered" at the airport. Dublin has made no secret of its desire to be the best airport in its benchmark group yet it seems to daa a bad incentive from a regulatory point of view to simply raise the targets for the next determination because of the achievements in the current determination period.
- daa believes that any proposal to amend targets should be based on analysis of costs and benefits. Higher is not always better. Performance exceeding target does not necessarily imply a requirement to increase the target and any target increase would require a review of the associated penalty.
- The existing level of targets are sufficiently robust so that reaching (and in some cases exceeding) the current targets allows Dublin to score in the Top 5 for airports in our peer group.
- In addition airline customers have not called for the existing targets to be increased and on this basis they should be retained unchanged for the next Determination period.

Our analysis in Part 2, based on the top ranking airport (in our peer group) in each quarter from 2011-2013 shows multiple failures by these top ranking airports against CAR's proposed new metrics. In its 2013 Issues Paper, CAR suggested that there "may be a trade-off between service quality and price". CAR stated further: "Users wanting revised targets should indicate how much extra they are willing to pay for improved standards (or how much airport charges would need to fall for them to support lower targets). There is also a question about the extent to which revising the quality standard targets would have implications for the daa's costs." All of these points above referenced by CAR in its Issues Paper have been neglected by CAR in the Draft Determination. CAR has now proposed higher targets, not requested by the airlines, while at the same time introducing swingeing opex cuts.

Exhibit 1.51: CAR proposed targets applied to the top ranking Airport in each quarter during the period 2011-2013 in the 15m-25m PAX category



Part 2: Detailed Response

Section 2: Passenger forecasting

2. Passenger forecasting

CAR has proposed a forecast of passenger volume in its Draft Determination which, by coincidence is similar to the passenger volume set out in daa's Regulatory Proposition. However, it has derived this forecast using a simple model which has only three factors with a single variable over the forecast period.

2.1 CAR's forecasting approach

Exhibit 2.1: CAR's forecasting model

In this section daa will make two arguments;

a) That CAR's model is the wrong model for forecasting purposes

b) That if CAR persists in using its own model it will be doubly wrong to update in the manner proposed

Process Objection to the Use of CAR's Forecasting Model

The selection of the forecasting model to use is not merely an academic question - the cost to daa of the delta between CAR's forecast passengers (using CAR's own single variable model but with and elasticity of 1) and actual outturn was c. €61m-€62m over the period of the last determination 2010-2014.

Exhibit 2.2: Financial Impact of CAR's Forecast Pax. Vs. Actual Pax.

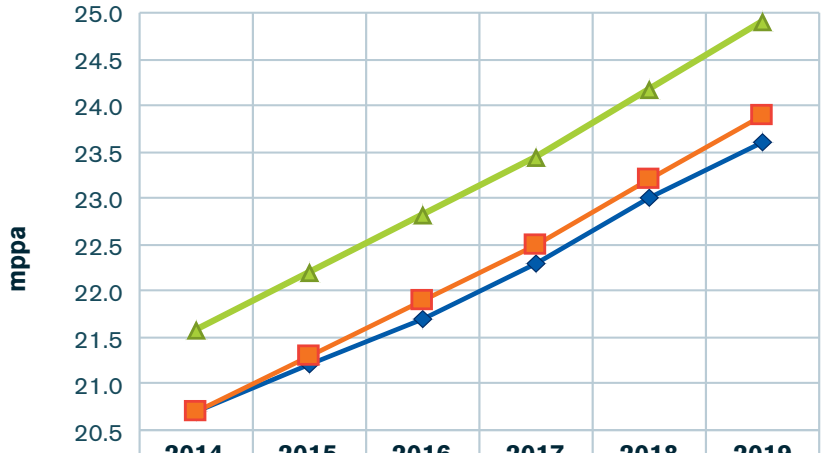
	2010	2011	2012	2013	2014	2010 - 2014
CAR pax ('000)	19,500	19,890	20,487	21,306	22,371	103,554
Actual Pax ('000)	18,431	18,741	19,100	20,167	TBC	-
Difference in pax ('000)	-1,669	-1,149	-1,387	-1,139	-1,170 - -1,265	-
Price cap (€)	9.31	10.42	10.74	10.65	10.68	-
Lost Revenue (€'000)	-9,952	-11,977	-14,897	-12,134	-12,500 - -13,000	-61,460 - -61,960

The Draft Determination contains little reasoning or analysis as to why CAR has not used daa's passengers forecast. This is inconsistent with the statutory obligations of CAR and its role as regulator. CAR is required to consider all submissions and provide reasons for accepting or rejecting these submissions. In accordance with Articles 32(8) and 32(9) of the 2001 Act, CAR "shall consider any representations" which are made under the Act and "shall make a report in the determination giving an account of its reasons for making that determination together with its reasons for accepting or rejecting any representations". The Draft Determination provides no substantiation for how CAR has considered daa's passenger forecast submission and contains no explanation for why daa's submission has been rejected.

While daa and airlines consider it appropriate that the volume risk should be borne by daa the level of this risk must be appropriate. The use of a forecast derived from an overly simple forecasting model places an undue regulatory risk on daa.

These two arguments are considered within the scenario where all the proposed capex in daa's Regulatory Proposition would be allowed. However, these arguments take on additional importance if such allowances for capacity increases at the airport proposed by daa are not made. Passenger growth can only occur if Dublin Airport has the capacity to accommodate such growth. Without allowance of the capacity increasing proposals in daa's Regulatory Proposition, growth will be constrained to below the daa forecast. Airport capacity is not a factor which is considered in the CAR forecasting model, which assumes that all forecasted growth can be accommodated by the airport.

Exhibit 2.3: daa and CAR Traffic Forecasts



	2014	2015	2016	2017	2018	2019
daa core	20.7	21.2	21.7	22.3	23	23.6
CAR	20.7	21.3	21.9	22.5	23.2	23.9
CAR's proposed update	21.6	22.2	22.8	23.5	24.2	24.9

The CAR forecast in Exhibit 2.3 is the forecast presented in Table 3.1 of the Draft Determination. CAR outlined in the Draft Determination how it was likely to update its forecast in the Final Determination and we have used this guidance to prepare the CAR proposed update:

- In section 3.10 CAR stated that "we will revisit this forecast for 2014 to reflect more up-to-date data and are likely to assume that growth in the first eight or nine months of the year will be matched in the remainder of the year." As year to date growth is 7% we have updated the CAR 2014 to the 2013 outturn of 20.167m x 7% = 21.6m. daa believes it would be wrong to use this value as a basis for forecasting.
- In section 3.11 CAR stated "Should the IMF publish an updated forecast for Irish GDP prior to the Final Determination, we will update our passenger forecast accordingly." Our understanding is that the next IMF GDP forecasts are expected in October 2014 and accordingly we have made no adjustment to the GDP figures used in CAR's forecast.

CAR has indicated that they are likely to update their forecast for the Final Determination on the basis of assuming that the year to date 2014 growth would continue for the remainder of the year. This will give a very different forecast to the daa forecast with considerable financial implications likely for daa. The impact of the likely update to the CAR forecast on daa's revenues over the determination period is calculated in exhibit 2.4. We proceed from the view that the daa Core forecast is the accurate of the two.

Exhibit 2.4: Impact of proposed CAR forecast update on daa revenues.

	2015	2016	2017	2018	2019	2015-2019
A. current proposed price cap (€)	10.17	9.68	9.21	8.77	8.35	
B. updated price cap after re-forecast (€)	9.76	9.30	8.82	8.41	8.01	
daa pax forecast (m)	21.2	21.7	22.3	23.0	23.6	
Incremental impact of A vs. B (€m)	8.7	8.3	8.7	8.3	7.9	42.0

The annual incremental impact of a likely updated price cap as shown in exhibit 2.4 above of c. €8m per annum is in addition to the €36m per annum impact already noted between the daa price proposal and CAR's proposed price cap in the Draft Determination.

Furthermore this calculation of the incremental impact does not include the impact of the increased commercial revenue forecast which CAR's approach would predict from a higher passenger forecast (which would not be fully compensated by CAR's opex allowance indexed with insufficient opex elasticity).

2.2 Flaws in CAR's Forecasting Model

CAR's forecasting model is too simple to provide meaningful forecasts in the short to medium term (such as the next determination period). This shortcoming is implicitly recognised by CAR itself when it gives two reasons in support of its own model (paragraph 3.5 of the Draft Determination) – simplicity and transparency, while making no claim for robustness or accuracy for its own model. In fact CAR makes no reference to the importance of accuracy in forecasting.

A review of the short-comings of the CAR model reveals the imbalance between simplicity-transparency-accuracy which it contains:

1. The estimated elasticity value of 1.15 results from weak econometric analysis (see Appendix 8)

- CAR has omitted years of data which, if incorporated, would undermine the strength of the GDP – passenger growth relationship reported
- It was necessary for CAR to use dummy variables for 2006 & 2007 to maintain the 1.15 relationship it had estimated
- CAR does not appear to have addressed the potential problems associated with "non-stationary" variables in time series analysis. (Non-stationary variables are variables where their values in one period are equal to the value in the previous period plus a random shock). Regression analyses including non-stationary series can lead to spurious conclusions, and may often indicate that a relationship exists between variables when it does not. This creates a risk that CAR's simple econometric estimates will find a spuriously strong elasticity.

2. Base year volume is taken blindly into the model with no account taken of market evidence for future years (as was provided for past years through the use of dummy variables).

- The use of market intelligence in the past but not in the future is inconsistent.
- In failing to take account of future market intelligence, CAR's model outputs are highly sensitive to the base year volume.

3. Even assuming the simple model has ability to predict, the base year must be on trend for an accurate forecast in the short to medium term.

- 2010-2014 volume growth is clearly above trend by reference to the model's own elasticity as can be seen in exhibit 2.5.

Exhibit 2.5: Predicted Growth per CAR's model vs. Actual Growth At Dublin Airport

Year	GDP	GDP x 1.15 elasticity	Actual Growth	Predicted vs. Actual Growth
2012	0.2%	0.2%	1.9%	Actual growth higher
2013	-0.3%	-0.4%	5.6%	Actual growth higher
2014	1.7%	2.0%	5.1% (est.)	Actual growth higher

- For the last 3 years, traffic growth has been significantly higher than GDP growth given the applied elasticity. For the 1.15 elasticity applied by CAR to remain appropriate, growth must weaken in the coming years in order to compensate for the strong growth in 2012-14.

4. The model outputs are highly sensitive to GDP forecasts and therefore the timing of the taking of the GDP forecasts can be seen to have a material impact on the forecasts derived for the same time period even in this single variable model.

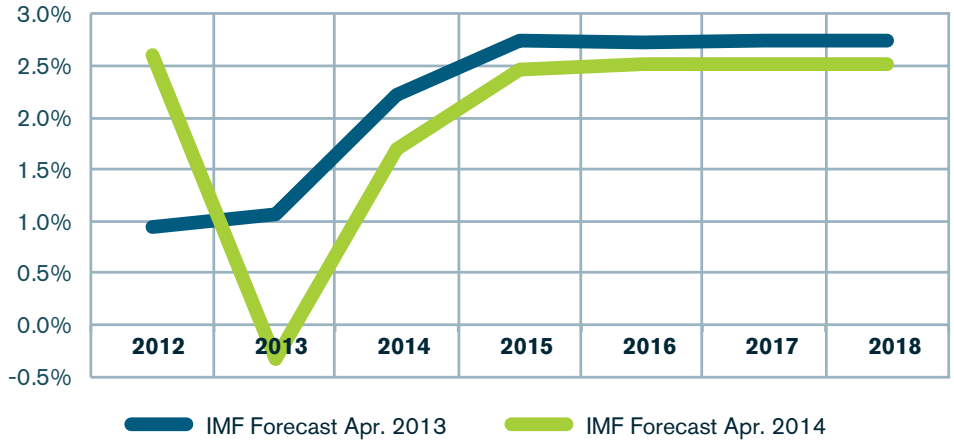
- To illustrate this sensitivity of timing we have calculated the outputs which would be derived from the CAR model:

  i) Taking the 2012 actual volume as the base and applying the IMF's April 2013 GDP forecast versus

  ii) Taking a 2014 outturn of 21.6m, which is the CAR proposed update, as the base and applying the IMF's April 2014 GDP forecast

Case i) results in pax total 2015-2019 of 108.9m while case ii) results in pax total 2015-2019 of 115.5m, a cumulative difference over the period of 6.6m pax.

Exhibit 2.6: IMF Forecasts of Irish GDP



- The result of these model runs show that the forecast would be circa 1.3m passengers lower for 2015 when the IMF's April 2013 forecast is applied to 2013 outturn than when applying IMF's Apr 2014 forecast to a 21.2 outturn for 2014. (See exhibit 2.7). This initial difference would roll forward into the subsequent years. This would have a substantial effect on the price cap outturn and shows how volatile the forecast is to the starting point, even where the timing difference in the starting point is less than a year. daa partly avoids such significant swings in its forecast by using market intelligence to fine-tune the initial years of the forecast with more up to date information.

daa's Forecasting Model

daa's traffic forecast is derived from a sophisticated econometric forecast model. All the major air traffic routes are represented separately in the model, with the remaining routes divided into various groups (i.e. Domestic, UK, North Europe, Southern Europe, Transatlantic, Other Long Haul and Charter). Projections are then made for each route/route group with the results added together at the end of the process to get total passenger and movement forecasts.

The daa traffic forecast model assumes that passenger traffic growth can be expressed as a function of economic growth, and that it is the economic growth of the passenger's country of residence which is relevant.

daa uses the historic relationship between GDP and traffic growth to derive future passenger growth rates from the available GDP forecasts. The relationship is not exact, so in deriving its forecast, daa adjusts the short term output based on local market knowledge and airline input regarding their actual plans. Thus the methodology applied is a mathematical (or econometric) one overlaid in the short term with market based adjustments. daa's current forecasting model is based around the following steps:

- The historical traffic numbers for all of the route/route groups are first inserted into the model.
- Projected GDP growth rates (taken from independent published sources such as ESRI, IMF and others) are then added. These GDP growth rates are weighted in each route/route group by the corresponding country of residence data (which are generated from comprehensive surveys carried out on an on-going basis on behalf of daa[1]) for the route/route group. For example, if London-Dublin traffic is 45% Irish-originating and 55% British-originating, the GDP growth rate used for the forecast is 45% x the Irish GDP forecast + 55% x the British forecast.
- The model extrapolates the annual historical traffic into the future, based on the projected GDP growth rates, country of residence data, and GDP elasticities (based on the observed historical data combined with latest independent estimates of GDP elasticities, e.g. from sources such as Intervistas (for IATA) and the UK Department for Transport).
- daa can then adjust these generated numbers based on expected developments in the future. These adjustments are normally only made for the initial forecast years as this is the time period for which the clearest insights are available. Adjustments for these initial years are based on daa's market intelligence of relevant secondary factors such as:
  - Airline strategies, including route mix, aircraft type, capacity deployment
  - Tourism initiatives
  - Airfares
  - Airport capacity
- For example, the model allows for inclusion of airfare growth rates combined with airfare elasticities, with the latter again derived from independent sources.
- daa's forecasting methodology has been extensively reviewed by independent third parties – while the latest of such reviews was conducted in 2005, the methodology has not materially changed since then.
  - In 2005, Mott MacDonald undertook a review of daa's forecasting methodology for CAR. It concluded that the forecast methodology represents the application of *'best practice'* and that *'the process adopted and the depth of thinking behind the development of the forecasts is impressive'*.
  - As part of the runway planning application in 2005, Fingal County Council commissioned Stanley Associates to independently review the methodology used in the forecasting studies. Stanley Associates gave the opinion that daa's assumptions and conclusions were acceptable.
  - As CAR previously appointed Mott MacDonald to review daa's passenger forecasting model it would be consistent for CAR's model to be reviewed similarly and the results of such review made available.

1. These are detailed surveys conducted every week in the airport by RedC, tracking passenger profiles, using a methodology which ensures statistical representativeness.

Consultation on daa's Forecasting Model

daa has developed a professional forecasting capability over a number of years employing a methodology based on on-going engagement with customers, route/schedule developments, market intelligence and econometric forecasting. In August-October 2013, daa conducted a formal consultation process with airlines on the methodology, inputs, and sources of inputs employed by its forecasting model and the resulting traffic forecast output for 2014-2019.

Of the five airlines which responded to the consultation questions regarding methodology, inputs and source of inputs, all five were in agreement with daa's approach. One other airline, Ryanair, submitted comments on the consultation on traffic forecasting to the effect that there was little value in econometric modelling.

In our capex consultations with airlines during January – April 2014 daa again presented its forecasting methodology and provided a revised traffic forecast taking account of passenger outturn in 2013 and market intelligence regarding airlines' future development which had been gained since the initial forecast was presented in October 2013. Again, in response to the capex consultation no airline objected to any of the following:

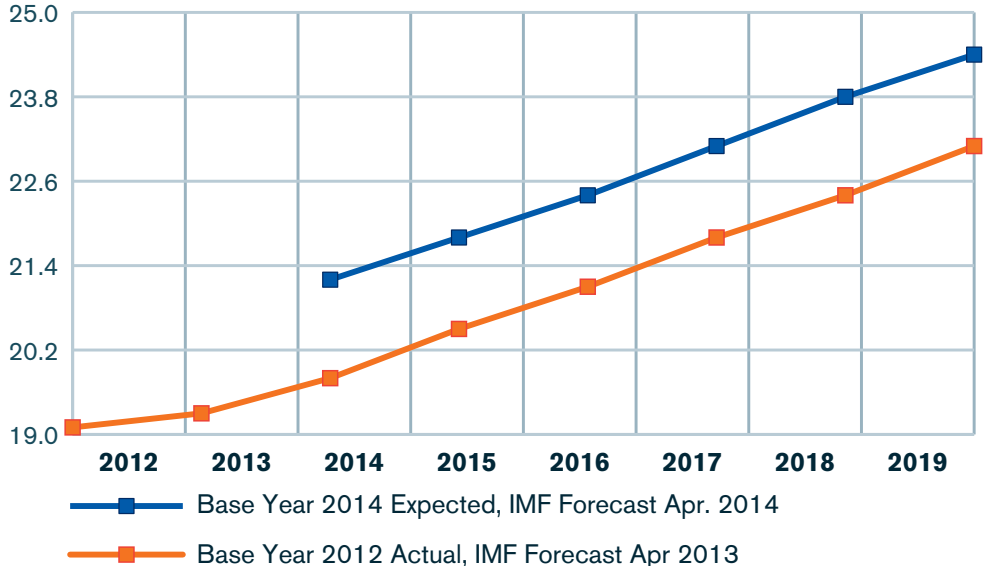
- Methodology
- Input – market maturity
- Input – load factor
- Input – passenger split by country of origin
- Input – GDP by country of passenger origin
- Input – market intelligence
- Output – traffic range forecast 2014-2019

Additionally, no responses were received which indicated airline dissatisfaction with the transparency of daa's forecasting model nor were there any calls for the model to be simplified. In fact, a number of airlines indicated that the level of airport charges was another significant factor which would impact on their growth plan at Dublin Airport. As it was daa's proposition that airline charges would remain flat in real terms over the determination period, and hence be a constant value in the forecast model, airport charges would not impact on the forecast range output.

The traffic forecasting consultation was a successful consultation where there was genuine information exchange between the airlines and daa which provided significant market intelligence to guide the development of the Capital Investment Programme. We are not aware of any efforts by CAR to ascertain similar direct market intelligence from airlines in preparation of its model.

In our Regulatory Proposition daa proposed that daa's traffic forecasts could be subject to further review (as to methodology, parameter values and assumptions) by CAR or its appointed expert. CAR undertook a review of the daa forecasting model in response to this invitation however no conclusion from this review was shared with daa, or to our knowledge, with airlines at that time.

Exhibit 2.7: Forecast variations



5. GDP forecast used in the model refers to Irish GDP only which does not reflect the reality of traffic drivers for Dublin Airport

» Passengers at Dublin Airport are split almost 50:50 between domestic (Ireland country of residence) and foreign passengers. In only taking Irish GDP into account CAR's model effectively ignores the growth driver for half the traffic at the airport, and tellingly the half which has been supplying the growth in recent years.

» The current strong tourism performance may well be counter-cyclical. (CSO figures (Q2 2014) record inbound tourism growth at 7.5% with outbound tourism growth at 0.6%) If anything, the weaker the Irish economy, the more competitive prices are likely to be, which would lead to stronger growth in inbound tourism.

» Transfer growth accounted for 11% of growth in 2014; transfer passengers are wholly unaffected by Irish GDP.Increases in transfers represent up to 1% of the 7% ytd growth in 2014. It is unsafe to regared recent gains in this area as securely embedded in the 'baseline' traffic and this segment cannot be properly forecasted using CAR's Irish GDP based mode.

6. The model takes no account of forward impact of market factors on passenger volume growth

» CAR recognises that real life experience demonstrates the weakness of this approach: 2006 – 2007 dummy variables included to take account of Ryanair capacity increase which is a tacit recognition of the necessity of taking airline capacity plans into account. The daa model has an explicit step in the forecasting methodology to capture this real life effect.

7. The all island performance of airports differs markedly from each other, and from the GDP trend, which is a clear indication that other factors are at play which must be accounted for.

Exhibit 2.8: GDP and variable airport growth rates

Growth rates	2011	2012	2013
GDP	1.4%	0.2%	-0.3%
Knock	11.1%	4.7%	-2.9%
Shannon	-8.0%	-14.2%	0.4%
Cork	-2.6%	-0.9%	-3.5%
Dublin	1.7%	1.9%	5.6%

Domestic prediction versus outcome

The lack of accuracy produced by the CAR model is evident in an examination of the recent history of domestic traffic at Dublin Airport in conjunction with the implicit forecast of domestic traffic from the CAR forecasting model used for the 2010-2014 period, which assumed a 1 to 1 relationship between Irish GDP growth and passenger growth.

Table 2.9: Accuracy of CAR's forecast for domestic segment

Year	CAR's Forecast Pax with Forecast GDP	CAR's Forecast Pax Amended for Actual GDP	Actual Pax	Accuracy of Forecast with Actual GDP
2008	845	845	845	
2009	791	791	635	25% too high
2010	782	782	369	112% too high
2011	798	799	120	566% too high
2012	822	801	61	1213% too high
2013	854	798	65	1128% too high
2014	897			

The forecast derived from this model deviated by more than 1000% from the actual outturn in some years, even allowing for adjustment to actual GDP of the forecast GDP inputs to the model. As the model did not take into account known market intelligence, such as the ending of the Public Service Obligation ("PSO") on certain domestic routes and the considerable pressure on the Cork-Dublin route due to modal competition, it yielded this highly inaccurate forecast. Indeed, as the continuation of the two remaining PSO routes (Dublin-Donegal and Dublin-Kerry) come up for renewal in February 2015 it will be this decision (i.e. market intelligence) more than any other factor which will determine the future path of demand in this segment.

Traffic Forecast Cannot be Viewed in Isolation

Any increase in CAR's passenger volume forecast has a significant impact on other building blocks in the price cap structure.

The most immediately obvious impact is on the price cap but the passenger number also drives the commercial revenues and opex numbers. As daa disagrees with the elasticities proposed by CAR for both commercial revenues and opex the effect of a passenger forecast increase is to widen the delta between CAR's and daa's forecasts of these two building blocks.

daa undertook a comprehensive review of the capacity of each of the airport processors (e.g. stands, check-in, baggage in and baggage out, immigration etc.) based on the daa core forecast and additional sensitivities. The proposals for capex investment brought forward were consistent with providing the required capacity to serve the core passenger forecast.

The likely CAR forecast update will see passenger numbers exceed the daa forecast by 1 million passengers in 2019; therefore to fulfil its regulatory obligations as set out in the Aviation Regulation Act, 2001:

"In making a determination the Commission ….shall have due regard to:

- The level of investment in airport facilities …in order to meet current and prospective needs of those on whom the airport charges may be levied...
- The level and quality of services offered at the airport by the airport authority and the reasonable interests of the users of these services"

CAR must undertake a capacity review to ensure that they allow sufficient capex to provide the necessary capacity to serve the passenger level forecasted (for both their current forecast and the any proposed updated forecast), bearing in mind that passengers forecasted who cannot be accommodated will also result in lost commercial revenues (only partially offset by reduced opex incurred to serve a lower passenger number)

2.3 Important considerations for passenger forecast at Dublin Airport

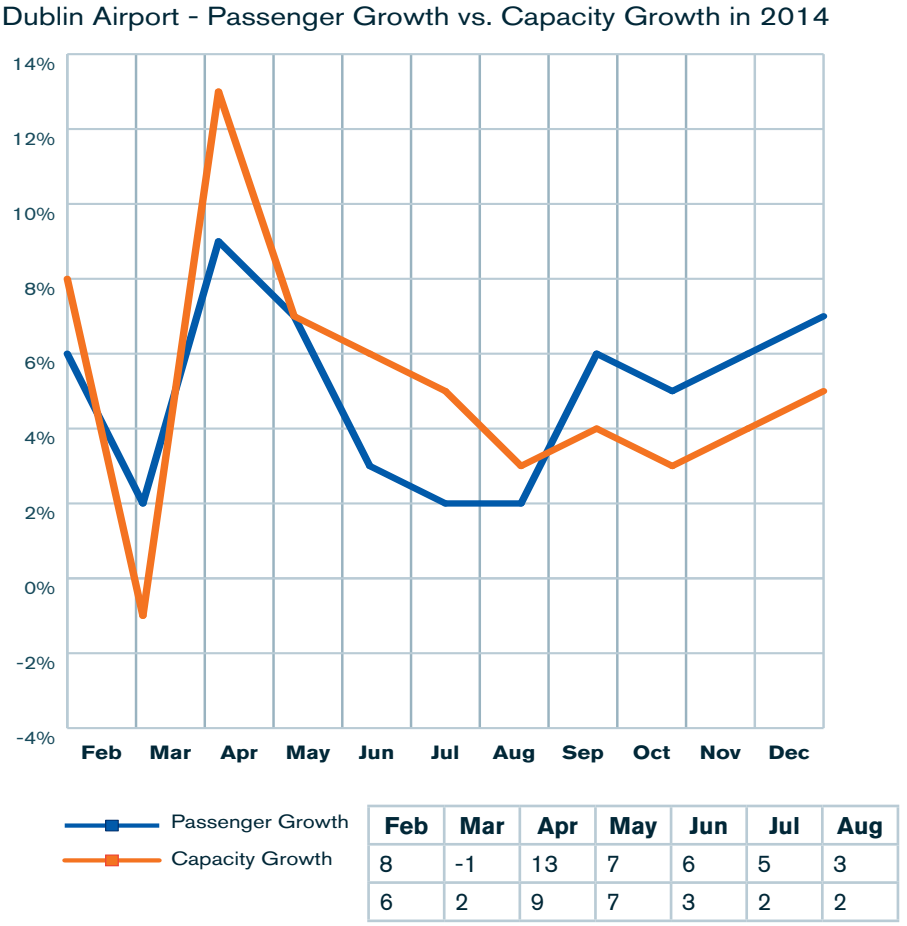
2.3.1 **Existing market intelligence**

CAR's model should not be updated as proposed in the Draft Determination based on the following market intelligence:

- Most of the growth in passenger numbers in 2013 occurred in the second part of the year and continued into the first half of 2014. This recent growth spurt is not sustainable in the medium term:
  - » Capacity growth for the second part of 2014 is only 4% compared with 7% for the first half
  - » Furthermore, while capacity and volume growth were closely aligned in the first half of 2014 this is not always the case and there is ample cause to consider that capacity and volume growth will diverge in the latter part of 2014:
  - » There is currently over capacity on certain routes. Competition is intense and yields have been suffering1

1 [redacted]

Exhibit 2.10: Passenger growth versus capacity growth 2014



	Feb	Mar	Apr	May	Jun	Jul	Aug
Passenger Growth	8	-1	13	7	6	5	3
Capacity Growth	6	2	9	7	3	2	2

Other Market Intelligence is available which strongly suggests that the final months of 2014 will show lower growth than the early part of the year:

- Aer Lingus has issued a profit warning for 2014 of a c. 20% drop in operating profit compared with 2013; this is likely to have a negative impact on capacity in the short term, effecting daa's full year 2014 growth rate[2]..
- CAR has signalled a proposed 4.8% annual price drop to the market. However there is no evidence of this price signal prompting airline capacity growth:

2 [redacted]

- One airline has signalled a reduction in capacity of >10% for Winter 2014 since this time
- No new airline has announced services from Dublin Airport
- No airline has signalled additional routes or frequencies

Therefore it would be unfounded to assume that capacity increases stimulated by a price drop would provide a positive growth impact to offset known negative capacity reduction impacts on growth. In fact, we know from our market intelligence that the market is highly competitive, that growth has been above normal and that there are high pressures on yield. As already indicated, these are factors which the CAR model is unable to predict.

2.3.2 Dublin Airport's capacity for growth

Growth can only occur where there is capacity for the growth to be accommodated. By proposing to disallow projects which sought to align airport (airfield & terminal) capacity to the passenger demand forecast, CAR compounds the flaws apparent in its forecasting methodology.

The Draft Determination proposed disallowing a number of capex projects to increase capacity in specific areas of the airport. These projects had been proposed by daa to align the capacity of each area with the expected demand, as per the daa core forecast. The impact of these proposed disallowances will be to retard passenger growth, as the capacity available will not be sufficient to service the raw demand forecast.

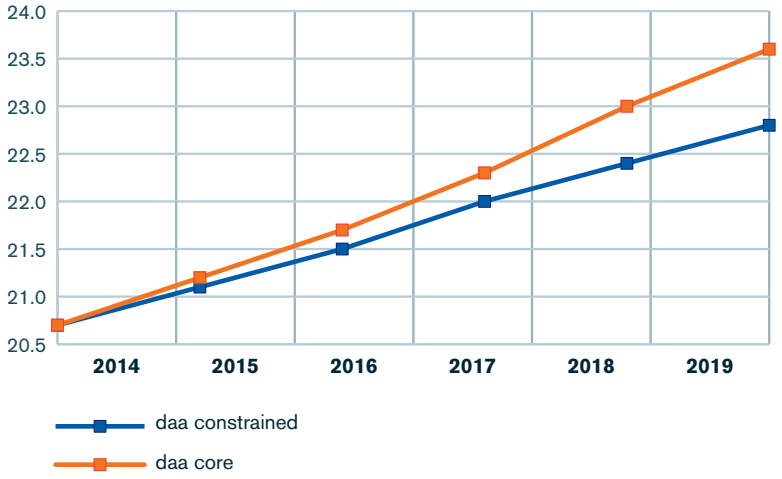
Exhibit 2.11: Processes to Align Demand with Capacity / Identify Unmet Demand

Process to identify necessary capacity increases

Process to identify demand which cannot be accommodated

- daa has undertaken the process outlined in exhibit 2.11 above to identify if all the flights which were forecast in daa's core forecast could be met with the capacity allowed by CAR.

Exhibit 2.12: Traffic Forecasts 2014-2019 Core vs. Constrained by Capex Disallowances



	2014	2015	2016	2017	2018	2019
daa core	20.7	21.2	21.7	22.3	23	23.6
daa constrained	20.7	21.1	21.5	22	22.4	22.8

As seen in exhibit 2.12, by 2019 Dublin Airport's annual throughput is expected to be 0.8 passengers lower than its core forecast because of the lack of capacity development. Furthermore, the annual throughput rebate would be over 2mppa lower than CAR's proposed forecast. In other words, even if CAR's forecast is realistic, Dublin Airport would be unable to handle the level of passengers forecast because of capacity constraints arising from disallowed capex.

The 0.8mppa between daa's core forecast and what the airport will be capable of handling without capacity investment equates to approximately 7,000 movements per annum. These passengers and aircraft movements are lost because of:

- Central Search Area - Lack of New Technologies to Retain current processing rate
- Central Search Area - Staff under-resourcing
- Lack of Terminal Interoperability
- T2 Check-In

Section 3: Opex

3. Opex

CAR's forecast relies on the SDG analysis which is characterised by:

- Failure to engage accurately with the daa cost base
- Flawed assumptions on outsourcing and the savings that would result
- Selective and inconsistent benchmarking

The CAR operating costs building block projections are based on the forecasts prepared by SDG. These forecasts differ markedly from the efficient projections prepared by Booz and put forward by daa in its regulatory proposition. **Exhibit 3.1** graphs the difference between the daa proposition projections and the SDG projections.

There are three main areas of difference between the two sets of projections:

a) Difference in the baseline

b) SDG assumption on outsourcing

c) Errors and assumption differences

This section will look at these three areas.

3.1 Difference in the baseline

As can be seen in exhibit 3.1, there is a large discrepancy between the daa baseline and the SDG baseline leading to a difference of €14m in 2019. This difference can be categorised into three distinct areas:

- 2013 and 2014 starting position
- Elasticity assumptions
- Energy cost inflation

3.1.1 2013 and 2014 starting positions

Both the actual 2013 cost and the budgeted 2014 costs differ from the daa data submitted to SDG and the information submitted as part of daa's regulatory proposition. The difference between the 2014 opening position in the SDG costs and the actual cost to Dublin Airport is €9m.

Exhibit 3.1: daa & SDG opex projections

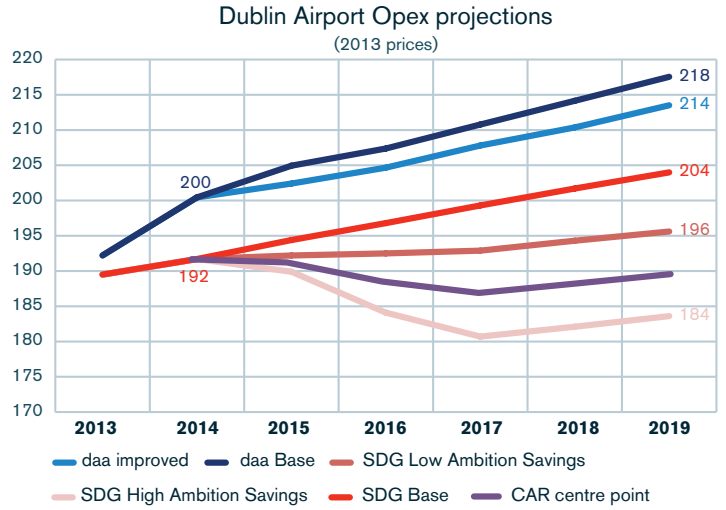


Exhibit 3.2: Difference between daa data submission and SDG report

	2012	2013
Total per data request submission	202.4	202.5
Less Excess charges & allocations of Mat'ls & Services*	12.8	8.6
Total (€m)	**189.6**	**193.9**
Allocations (2012: CRK & SNN / 2013: CRK)	**-3.4**	**-1.7**
Net total costs	**186.1**	**192.2**
Net total costs per SDG	**186.7**	**189.5**
Difference	**-0.6**	**2.7**

**internal charges*

Overall 2012 / 2013 costs and FTEs

The total costs for 2012 and particularly 2013 do not agree to the data request submission made by daa. Exhibit 3.3 shows the differences.

It is not readily transparent how SDG have grouped the costs however there do seem to be some discrepancies between how SDG have grouped costs and the data request response. Exhibit 3.3 illustrates these differences for the 2013 numbers.

Similarly the FTEs do not agree at an overall level and at some of the local levels, particularly for retail and central functions.

Exhibit 3.3: Difference by area between daa data submission for 2013 and SDG report

2013 by area	daa	SDG	Difference
Security staff	21.5	21.4	0.1
Central Function staff	21.5	20.7	0.8
Other staff costs	4.9	5.7	-0.8
Campus Services staff	14.3	14.3	0.0
Airside Operations staff	4.2	4.2	0.0
IT & technology	13.7	13.7	0.0
Facilities & cleaning	21.6	21.6	0.0
Car Parks	5.4	5.4	0.0
Retail	11.6	10.9	0.7
Maintenance	22.9	22.8	0.1
Capital Projects	1.6	1.5	0.1
Utilities	7.6	7.6	0.0
Rent & Rates	13.7	13.7	0.0
Marketing / related costs	6.5	6.5	0.0
Consultancy services	6.1	5.9	0.2
Insurance	2.9	2.9	0.0
Other	7.8	6.3	1.5
PRM	4.4	4.4	0.0
TOTAL	**192.2**	**189.5**	**2.7**

2014 cost base

At an overall level there is a difference of €8m between the SDG report and the daa budget. The bridge set out in exhibit 3.4 shows the steps between the outturn cost in 2013 and the budget for 2014.

The following differences appear to arise, based on comments made in the report, but do not account for the totality of the delta.

- SDG misinterpretation of compliance cost to daa following the audit and security queue time failures. The SDG report states that this resulted in an increase of 50 FTEs. This increase of 50 FTEs reflects only the 2013 cost and not the full year impact of 100 FTEs which is seen in 2014.
- Pension cost due to increase by €2.8m following the setting up of the new pension scheme for all daa staff.
- SDG assumption in relation to security costs elasticity, 30% versus 59% forecast by daa based on bottom up modelling and 100% used by Indecon/Jacobs in 2009. Also, despite allowing for an elasticity of 0.3, SDG has not applied any uplift to security FTEs in 2014 and has held them at the 504 FTE level from 2013 despite passenger demand increase. Also as per the daa business case, payroll costs increase by €0.3m to resource the new, larger CBP facility.
- SDG have used energy price inflation of only 2.8%, compared to the 8% recommended by daa's energy advisors. This has led to a €0.6m delta in energy costs for 2014.
- Non-standard accrual releases included in the 2013 non payroll costs have not been adjusted for:
  - Insurance costs in 2013 included accrual releases of €1.7m in relation to provisions for insurance that have exceeded statutory requirements.
  - Bad Debt costs in 2013 included a provision release of €0.8m following a reduction due to applying a new bad debt provision calculation and less 'older' debtors than the prior year.
  - Legal fees similarly included an accrual release of €0.3m in 2013.

Exhibit 3.4: Operating cost bridge 2013 to 2014.

	€m
2013 Cost per SDG	189.5
SDG 2013 cost differential	2.7
2013 correct cost base	192.2
Security compliance cost - 2014 full year impact	1.1
Payroll inflation	1.7
Pension Cost increase	2.8
Retail cost saving	-0.8
Passenger growth elastic payroll costs (incl €0.3m for new CBP facility)	1.8
Rates Costs	0.4
Energy Costs (price inflation less 2% efficiency target)	0.6
Insurance accrual release 2013	1.7
Bad Debt release 2013	0.8
Legal accrual release 2013	0.3
Other non-pay Costs	0.3
2014 cost base (Note: 2014 nominal prices, 2013 prices €200m)	**203.0**

Pension costs at Dublin Airport

daa currently has issues with both a historical pension deficit and the contributions levels for future service within a new defined contribution pension scheme. daa has historically been a member of the Irish Airlines (General Employees) Superannuation Scheme ("IASS") defined benefit scheme. daa pension costs included in its regulatory proposition reflect the estimated future pension costs facing Dublin Airport plus the costs associated with the implementation of the recommendations of the Irish Labour Court, which were endorsed by the government's Expert Panel, to address the IASS pension deficit. Specifically, the Labour Court has recommended that

- **For past service:** the IASS defined benefit scheme is frozen and that daa makes a lump-sum contribution towards a new defined contribution scheme; and
- **For future service:** daa should increase the rate of contributions to the new scheme.

Past service deficit

In its regulatory proposition, daa noted that the reasons for the accumulation of this pension deficit were (1) reduction in asset values as a result of the financial crisis (2) increased life expectancy (3) fall in German Bond rates (used for valuation purposes) and (4) regulatory changes. As such the deficit is a result of changing factors, not included in actuarial estimates which gave rise to lower costs in earlier years. The multi-employer nature of the scheme and rules of the scheme itself, which provided for an unfunded anomaly and fixed contributions, contributed significantly to the difficulties and were matters outside the control of the daa. Pension deficits within the control of the daa, as was the case with Aer Rianta Supplemental Superannuation Scheme ("ARSSS"), were addressed through increased contributions from employees and daa to eliminate its deficit. This simply was not possible in the multi-employer IASS with its restrictive rules.

The Labour Court Recommendation, as updated by the Expert Panel report, stated daa must inject some €60m into additional pension provision related to the deficit in the IASS. This is higher than previous estimates. Even this significant investment in pensions will still see some staff members, deferred pensioners and pensioners suffer benefit cuts.

Future service contributions

Future service contributions are set to increase for the period 2015 to 2019 due to (i) an increase in staff numbers with access to a company pension fund, and (ii) increased contribution rates due to the changed actuarial estimates referred to above and as set out in the Labour Court Recommendation.

In order to control the liabilities of the pension scheme, daa ceased access to the IASS for all new entrants from 2009. The current situation at Dublin Airport is that circa 1,100 staff members do not have access to a company pension fund. By not allowing any increase in the pension cost at Dublin Airport, CAR is assuming that these staff will remain without a pension scheme. This is not sustainable in the long run and is allowing airport users to profit from the below market cost of these staff.

In CP3/2005, CAR noted that "the Commission accepts, as a matter of principle, that users should bear the efficient costs of remunerating the DAA's employees at Dublin Airport, including pension costs". daa's existing contribution rates are currently below benchmark rates. The Mercer "Defined Contribution Benefits Survey 2012" noted that average employer rates for plans where a defined benefit plan has closed to future accruals is 8.0%. Towers Watson also gives the average contribution rate for defined contributions as 8%. The Labour Court proposal is for contributions for future service to increase from 6.375% to a range between 5% and 10%. The daa estimate of a €2.8m uplift in pension costs for the next determination is based on an average contribution rate of 9%.

By not allowing the cost of the new daa future scheme, CAR is also rejecting costs that have been arrived at through the national labour relations machinery and endorsed by the Shareholder[1].

At 31 July 2014 final agreement has yet to be made with the staff representatives and the new pension arrangements are not yet in place. daa fully expects agreement to be reached by the end of 2014 and for the full new pension cost to be incurred by Dublin Airport for 2015.

In the draft determination, CAR states that it is not allowing the increased pension costs as "a competitive firm would have limited scope to recover such an expense through increasing its prices." However, this ignores the requirement to fund increased future service and is a flawed argument. The current daa pension cost is artificially low due to the delay in resolving the IASS pension issues and setting up the new defined contribution pension scheme. This would be a short term cost reduction for a competitive market firm which would be reversed as soon as the

1 http://www.dttas.ie/press-releases/2014/statement-minister-varadkar-aer-lingus-daa-expert-panel

Comparative Treatment of Pension Costs [2345]

	Ongoing Pension Costs	Pension Deficit Costs
CAA Q6 Review of Heathrow and Gatwick airports	For ongoing pension costs, the CAA sets a maximum allowance for contributions (expressed as a percentage of pensionable pay)[2]. This led to pension contribution caps of 23 to 24 per cent of pensionable salary at Heathrow and 20 per cent at Gatwick.	In the Q6 review CAA commissioned GAD[2] to consider the treatment of deficit repayments. In the case of Heathrow, BAA had a pension deficit valued at £378 million, of which the airport's share was £275 million. GAD concluded that users should meet total pension costs including deficit contributions subject to these costs being efficiently incurred.[3] Gatwick airport had also included an allowance to repair its pension deficit in its submission to the CAA. As with Heathrow, the CAA commissioned GAD to review both the level of ongoing pension contributions, and the treatment of Gatwick's pension deficit. Based on the reasons given for Heathrow, GAD recommended that Gatwick should in principle be allowed to recover deficit repair payments through charges.
Other Regulated Industries in the UK and Ireland	In the 2009 review of electricity distribution companies (DPCR5), Ofgem allowed the full recovery of expected ongoing pension costs. More recently Ofgem along with Ofwat and Ofcom have considered the current efficient level of ongoing pension costs as part of their assessment of broader cost categories rather than looking at pension costs in isolation. This approach was also used by the Competition Commission (CC) in its review of Northern Ireland Electricity (NIE) in March 2014.[4] In Ireland, the Commission for Energy Regulation (CER) includes ongoing pension costs in the personnel cost allowance of ESB[5]	In the energy sector, Ofgem allows companies to **recover all pension deficit related repair payments** from customers for deficits accrued prior to a cut-off date.[6] The repair payments are calculated over a 15 year deficit funding period. The **CC applied Ofgem's approach** in its 2014 review of NIE. Based on a cut-off date of March 2012, the CC allowed NIE to recover all of the historical deficit repair payment from users over a 15 year period. In the water sector, Ofwat allows **the recovery of 50 per cent of the costs associated with addressing the pension deficit** from customers. The approach was first applied in the 2004 price review. In the communications sector, **Ofcom prevented BT from recovering any of the costs of funding its pension deficit from users** during the 2010 periodic review. Ofcom cited regulatory consistency as an important factor, and noted that Ofcom's predecessor Oftel had allowed BT to benefit from pension holidays in the 1990s. In the ESB's 2005 review, CER **allowed €70 million of the requested €110 million deficit repair costs**. The rationale given by CER for its decision was that "the current ESB pension fund deficit has largely arisen due to circumstances that are outside direct control of management (e.g. due to poor investment returns and the fact that longevity of pensioners is increasing).

Given the approach in the CAR Draft Determination to disallow daa's pension costs it is therefore worth noting the approaches taken by regulators in the UK and Ireland to both: (a) the treatment of ongoing pension costs; and (b) the cost of funding a pension deficit.

This review therefore suggests that CAR's decision to disallow any proportion of costs related to daa's pension deficit is generally not consistent with the approaches taken by other regulators. Of the regulators reviewed, only Ofcom disallowed all costs. However, Ofcom's decision was heavily influenced by the approach taken by Oftel to pension holidays in the past (which did not lead to adjustments to BT's allowed revenues). Moreover, historical consistency appears to have also been important for the CAA, and ultimately led it to allow deficit repair payments to be funded by users. It should be noted that daa has not benefited from such holidays in the past.

In addition, other regulators appear also to have considered the importance of the factors that led to the accrual of a pension deficit, as well as the actions taken by companies to address deficits. In the case of the daa, it should be noted that the reasons for the pension deficit have been beyond its control. The experience of other regulators suggests that this, along with any measures taken by daa to address the deficit in the past, could be important considerations in how deficit repair payments are treated.

2 GAD is a non-ministerial UK government department that "provides actuarial analysis to the public sector from the public sector". Other UK regulators have also relied on the services of GAD (for example, Ofgem).

3 Paragraph 6.3, Page 12, GAD (2013), "Advice to the Civil Aviation Authority, Q6 Airport Price Control Review – Review of Pension Costs for Heathrow Airport", September 2013. The statement is also made in the GAD's review of pension costs at Gatwick Airport.

4 CC (2014), "Northern Ireland Electricity Limited Price Determination: Final Determination", March 2014.

5 Pension costs are not discussed in any of the other recent reviews conducted by CER.

6 In the case of electricity DNOs, the cut-off date was in 2010. For other network operators regulated by Ofgem, the cut-off date was in 2012.

pension cost rose to its correct level. For daa however, CAR has allowed only the costs that daa has been incurring during this short run period and therefore restricting daa from increasing costs to its market level.

In regard to the additional pension contributions, CAR comments in the Draft Determination that "it is our view that any contributions daa makes should be funded from Shareholders' Funds, future retained earnings, forgone dividends or equity injections."

We believe the Ministerial Direction to CAR of 3 April 2007 is relevant in this regard: "I am directing that the Commission take due and manifest account of... [t]he need to enable Dublin Airport Authority to operate and develop Dublin Airport in a sustainable and financially viable manner having regard to Government policy that the Dublin Airport Authority should operate on a commercial basis without recourse to Exchequer funding or an equity injection by the state."

3.1.2 Elasticity assumptions

The SDG opex forecast analysis relies on the use of elasticity metrics to project opex costs at both an overall and at a specific cost level. daa believes that while this approach is suitable for certain operating activities where processes are stable, demand is relatively uniform and relationships can be derived analytically (i.e. analysis of historical demand changes), fixed elasticity metrics do not factor in step changes that can result from process or business environment changes and therefore should not be used as the primary basis for estimating future opex costs. SDG have assumed very low elasticity values for security and cleaning & facilities. These elasticities are below both daa's projections and values used by CAR previously. This has led to a variance of €3.1m in 2019.

Security elasticity of 30%

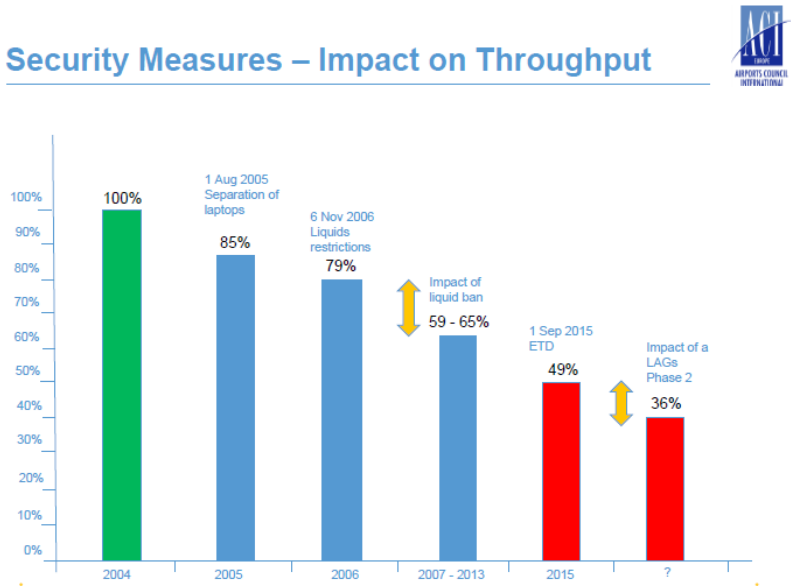
The change in elasticity estimate from 1.0 used in the previous determination to 0.3 in this draft determination is not justified or explained by SDG. The logic behind the selection of 0.3 as the elasticity metric is unclear and not analytically underpinned. By contrast, the security zero-based model developed by Booz anticipates higher staff growth compared to SDG to accommodate passenger growth. Over the projection period, total passenger numbers are expected to increase by 17.1%. The Booz model projects an increase in security staff of 9.7%. This suggests an equivalent overall security elasticity of approximately 0.56.

Exhibit 3.5: Comparative security elasticities

	CAR/SDG 2014	CAR/Indecon 2009	Booz 2014
Security Elasticity	0.3	1.0	0.56

In addition, there are a series of new more onerous security requirements due for implementation which will likely impact on the passenger security process in the next regulatory determination period 2015-2019. This highlights that the elasticity in 2009 should not have been reduced.

Exhibit 3.6: ACI indication of impact on throughput due to changes in regulations



SDG attempt to justify the lower elasticity by reference to the "peaked" nature of demand. In SDG's view, daa will "fill" the periods either side of the peak demand period. As indicated elsewhere, it is not correct to assume that growth will occur in the off-peak periods.

There is no basis for this assertion given that traffic demand at Dublin Airport continues to be peaky and demand for slots for new/additional services by airlines continues to be concentrated towards the peak hours and there is no evidence of traffic demand smoothing out into the shoulder and off peak periods as suggested. This is illustrated in exhibit 3.7 which demonstrates that despite the fact that overall annual passenger traffic declined in the period 2006-2013 the percentage of passengers departing in the peak hour at Dublin Airport grew continuously.

Exhibit 3.7: Peak capacity and Dublin Airport 2006, 2008 & 2013

Year	Annual Pax	Annual Departing in 06:00 + 07:00	% Departing in 06:00 + 07:00	Annual Departing Moves in Peak 60 mins	% Departing in Peak 60 mins
2006	21,196	14,900	15%	10,452	11%
2008	23,467	18,700	18%	11,503	11%
2013	20,167	16,700	20%	11,566	14%

If airlines were willing to grow outside of the current peak, the first area of growth would most likely be to depart earlier in the morning so as to still be able to reach their destination markets at times that work for their business and onward connecting passengers. A move to this time however would mean that daa would have to open security earlier than is currently the case, requiring additional resource.

When daa's security runs close to its maximum capacity queue times accumulate. This is sustainable for relatively short periods, ensuring that queue times are not able to build above their target maximum level. Variability in demand and processing can be contained since the peaky nature of the demand profile ensures there is sufficient operational resilience in the periods either side of these peaks.

However, by following SDG's recommendation, the system will operate at maximum capacity for longer. In that scenario, the periods either side of the current demand peaks no longer provide sufficient operational resilience with which to manage demand and process variability. This increases the risk of exceeding queue time targets.

For these reasons, additional resources must be introduced not only to the periods where average demand has increased, but also to current peak periods to ensure sufficient operational resilience is available to manage demand and process variability.

No elasticity for cleaning and facilities

SDG have not made any allowance for the fact that cleaning requirements will become more onerous as terminal passenger numbers grow. This assumption is clearly incorrect as it makes no sense to believe that increase usage of a facility will not cause additional cleaning and trolley management requirements. Cleaning duties will increase as the required cleaning frequency of toilets and public areas increases with passenger use. This applies to trolleys work load also. Exhibits 3.8 and 3.9 provide a comparison of FTEs against Dublin Terminal 1 passenger demand over a period of 11 years. This indicates a historical relationship between the passenger demand and staffing.

Exhibit 3.8: T1 cleaning staff relationship with passenger growth

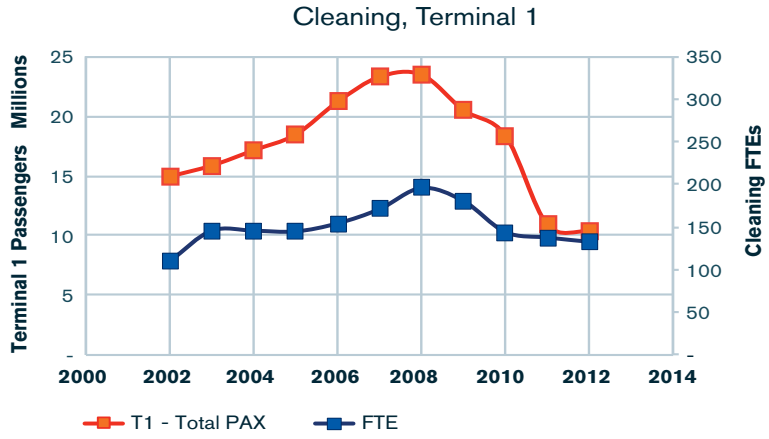
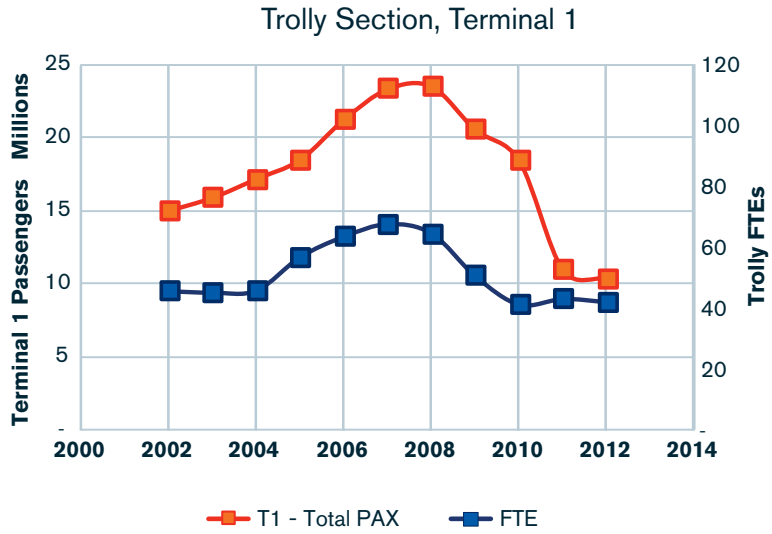


Exhibit 3.9: T1 trolley staff relationship with passenger growth



Capex allowances and disallowances impact on operating costs

In CAR's forecasting of the commercial revenue building block, CAR reflects the impact of the capital expenditure allowances on the commercial revenue, but has not reflected operating costs required for the same commercial projects. CAR has not performed the same exercise for the forecast of operating cost.

T2 multi storey car park extension

The T2 multi-storey car par extension is included in the CIP in order to alleviate the capacity constraint on the car park spaces which Dublin Airport will face in the next determination period. The additional two storeys will also result in an increase in operating expenses which were included in the daa business case which resulted in a nominal IRR of 13.7%. Operating costs are projected to increase by €0.45m for rates (€0.25m), maintenance (€0.1m) and three customer service agents (€0.1m). CAR has included revenue uplift for the project but has not reflected the operating expenses.

TSA extension

CAR has included the revenues from the TSA business case in the commercial revenue forecast. The CBP business case also included opex costs of €0.3m required to operate the new facility. CAR has not included these costs in either the opex or commercial revenues. It is completely incorrect to include a revenue stream but to ignore the operating costs associated with it.

Central Search Area – New Technologies

The SDG report states that there is no uplift included in the operating costs forecast for the introduction of new LAGS regulations which are due to come into place in 2016 on the basis that "new technologies should enable the existing processing rate to be maintained." There are two points here; 1) it cannot be known with certainty whether the new technologies will fully counteract the increased resource demand on the security function from these requirements, 2) in any case CAR has not even allowed these technologies - demonstrating the lack of a joined up approach to the formulation of its proposals.

T1 Check-in & Security

The SDG operating cost forecast did not evaluate the capacity of the existing facilities and assumes that the airport does not experience any capacity constraint. The analysis presented by daa during the capex consultation shows that Dublin Airport will reach a capacity constraint when passengers in T1 reach 11.5m per annum. At this point daa would seek to move the security function to a larger area with an increased number of screening lanes. CAR has not allowed the expenditure for T1 security. Without this step change, operating costs will increase due to the inefficiency of managing throughput in a constrained space.

Exhibit 3.10: Comparative cleaning & trolley elasticities

	CAR/SDG 2014	CAR/Indecon 2009	Booz 2014
Elasticity Cleaning	0	N/a	0.2
Elasticity Terminal Facilities	0	0.6	0.7

The implied elasticities in this historical data are ~ 0.3 (cleaning) and ~0.5 (Trolleys). The booz projection used an elasticity 0.2 for cleaning and 0.7 for trolleys, which were informed by this analysis, discussion with daa management and experience.

SDG's elasticity of zero also contradicts the elasticity previously used in CAR's 2009 Determination and in the report compiled by Indecon-Jacobs for CAR in 2009 where the elasticity for terminal staff (including cleaning) was assumed to be 0.6.

Overall elasticity: comparison to other regulatory decisions

daa believes that the elasticity metrics used by SDG are artificially low and underestimate the relationship between passenger demand and operating costs.

Exhibit 3.11: Comparative overall elasticities

	CAR/SDG 2014	CAR/Indecon 2009	UK CC/SDG 2012 Stansted Airport	CAA 2013 Gatwick Airport
Overall Elasticity	0.1	0.24	0.5	0.3

SDG have suggested that they are effectively using an overall elasticity of 0.1 in their opex forecast for 2015-2019. This is lower than the assumptions used by CAR in previous determinations (an average implied elasticity of 0.24 in 2009, and average elasticities of 0.45 for costs and 0.42 for staff numbers in 2005).This is also in contrast to the elasticity metrics used for comparator airports such as Stansted and Gatwick where SDG's own analysis for the Stansted Mid Q5 Review indicated that the elasticity between passenger numbers and opex for Stansted was around 0.5 and similarly in its recent Q6 review, the CAA adopted a higher elasticity of 0.3 for Gatwick Airport.

SDG uses these airports a number of times when benchmarking Dublin Airport's cost base, however ignores them when looking at elasticity. daa points to this as an example of SDG's inconsistent and non-transparent use of benchmarking.

3.1.3 Energy cost inflation

daa's energy costs are made up of electricity costs, 71%, gas costs, 27%, and Oil costs, 1%. SDG has applied energy cost inflation of 2% above CPI, this is in contrast to the nominal energy inflation what is being experienced in the market of circa 8% (real inflation of circa 6%). This incorrect assumption has caused a variance of €2.3m from daa's forecast.

daa has provided advice from its independent consultant, Ineco, supporting its forecast 8% energy price inflation. Exhibit 3.12 shows the inflation experience by daa for electricity prices from 2010 to 2013. This equates to a 9% CAGR over the period.

Exhibit 3.12: Electricity unit prices 2010 to 2013

Year	2010	2011	2012	2013
c/kWh	7.43	7.92	8.66	9.63

The SDG report uses an SEAI report dating back to 2009. daa believes that a more up to date report should be used.

The factors affecting the cost of energy at Dublin Airport are similar to the factors which impact energy costs in the UK. daa has reviewed the UK Department of Energy & Climate Change ("DECC") September 2013 report "Updated energy and emissions projections: 2013" and the price projections included within them. Annex F to this report[7] gives energy price projections under a central, low and high case. Exhibits 3.13 & 3.14 show the central and high projections for electricity, gas and oil in real terms.

Exhibit 3.13: DECC central energy price projections

2013 real prices	2013	2014	2015	2016	2017	2018	2019	CAGR
Electricity	4.7	5.2	5.9	6.1	6.2	6.3	6.2	4.7%
Gas	64	67	70	71	72	74	74	2.5%
Crude Oil ($/bbl)	110	112	113	114	116	117	118	1.2%

Exhibit 3.14: DECC high energy price projections

2013 real prices	2013	2014	2015	2016	2017	2018	2019	CAGR
Electricity	5.3	6.7	7.3	7.6	7.7	7.8	7.9	6.6%
Gas	73	88	91	93	95	98	101	5.4%
Crude Oil ($/bbl)	125	129	132	135	139	143	146	2.6%

As Dublin Airport is on the periphery of the European energy market, daa believes that real price inflation should be forecast within the range of 4.7% to 6.6% for electricity, 2.5% to 5.4% for gas and 1.2% to 2.6% for oil. This is a weighted average real inflation of between 4.1% and 6.3%.

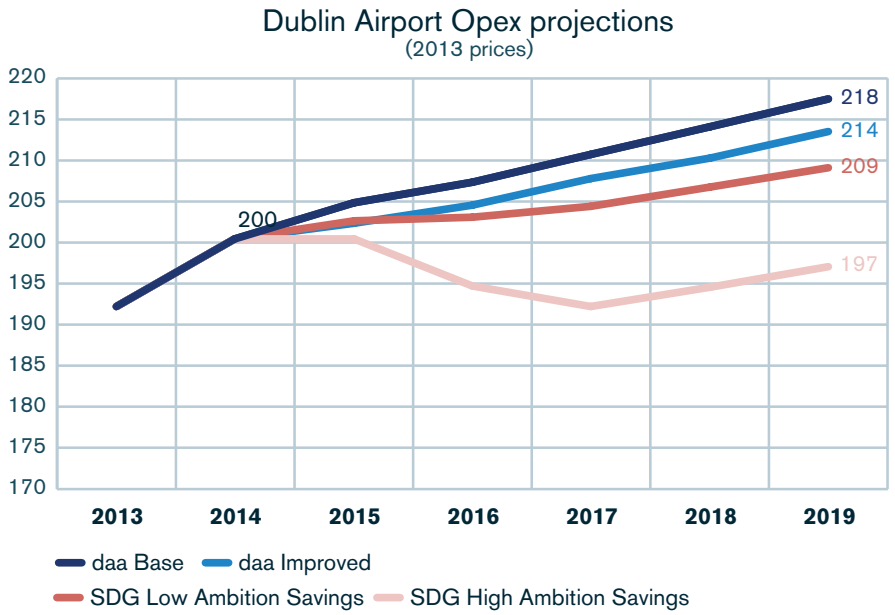
daa also must take the foreign exchange risk on its energy pricing. This can further increase the energy cost at Dublin Airport and the DECC report reference above assumed a FX rate 5% lower than the current GBP/EUR exchange rate.

In the SDG review of utility costs at Gatwick, several references are made to the DECC forecasts and for gas costs the report states; "In our view, the DECC forecast for gas costs represent an appropriate benchmark." Due to the similarity between the Irish and UK energy markets there is no justification to now use a lowed inflation cost for Dublin Airport.

3.1.4 Corrected SDG forecasts due to baseline adjustment

Exhibit 3.16 shows the daa and SDG forecasts with a corrected SDG baseline. This moves the SDG low ambition cost in 2019 to €209m and the high ambition cost to €197m.

Exhibit 3.16: daa & SDG opex projections with baseline correction



7 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/254831/Annex-f-price-growth-assumptions-2013.xls

Exhibit 3.17: Correction to SDG base case

SDG Base case 2019	**204**
2013 & 2014 difference	8.7
Elasticity differences	3.1
Energy cost inflation	2.3
Retail efficiency included in daa base case & SDG low ambition case	(0.8)
Other (incl €0.4m for the new T2 MSCP per daa business case)	0.2
Corrected SDG base = daa Base 2019	**218**

3.2 Outsourcing

daa was able to introduce new terms and conditions for staff hired into T2 by ring-fencing the new terms and conditions from existing employees.

In basing its analysis solely on the variance in employment costs between T1 and T2, with little meaningful analysis of prevailing market rates for similarly experienced staff, SDG is undermining the very basis of this ring-fencing. In effect penalising daa for the introduction of an efficiency.

SDG considered that it would not be possible to unilaterally reduce the unit cost of labour over the time-frame of a determination period as "it is highly unlikely that, with more favourable economic conditions, trade unions would agree to any further reductions in the salaries or other terms and conditions of "legacy" staff." SDG have put forward outsourcing as the mechanism to achieve this. This proposal has not been properly analysed by SDG (nor by CAR) from a legal perspective, e.g. with regard to the application of TUPE[8]. Aside from this point, outsourcing would not achieve the savings put forward by SDG as the SDG report completely omits the management cost and margin of the outsourcing company and also the increased internal cost within the daa of managing the large contracts that would be entailed.

SDG notes that the risk of industrial action "must be considered likely" and that they "can be faced down, albeit incurring some costs and disruption." This is provocative and unrealistic. The costs of disruption could completely dwarf the ostensible savings. In this regard, CAR may be potentially exposing airlines to considerable risk[9].[4]

8 [redacted]

9 [redacted]

Changing economic circumstances affects employee expectations

From 2009 to 2011 daa experienced significant reductions in passenger numbers and sharp falls in passenger related revenue. This required daa to reduce its staff costs urgently and significantly, and to reach agreement with unions on staff reductions and changes to terms and conditions including new entrants rates of pay. Uniquely for a public utility in Ireland ,existing daa staff also agreed to pay reductions on the basis that when matters improved, to certain levels of profit and return on equity, these reductions in pay would be restored. This was a positive reaction, did not cause disruption for passengers and avoided the need for subvention from the state or customers/passengers and remains a positive precedent for daa of company and employees working together to address business needs.

Unions in daa have, in recent months, served a pay claim on daa for 6% (a 3% increase in 2014 and a further 3% increase in 2015). In addition to this they have also sought improvements to other terms and conditions of employment which would incur further cost. The unions have processed these claims through the Labour Relations Commission and when rejected by daa have asked that they be referred to the Labour Court in accordance with our agreements. The Labour Court will hear this case over the coming months.

3.2.1 Outsourcing could not achieve the savings set out

SDG carried out an exercise on page 24 of its report, comparing the "legacy" versus "new" labour costs, which skews the variance between the staff costs in favour of the "new" staff. There are three main differences in the comparability of the "new" and "legacy" staff at Dublin Airport. (daa does not favour the term "legacy," however, for clarity in responding to the SDG report we use the term in this discussion).

a) The "new" staff at Dublin Airport do not currently have access to a company pension scheme. "Legacy" staff currently have access to a pension scheme to which daa contributes 6.375% to these employees. Once the new pension scheme is set up it will apply to all employees for future service. As such the cost of the "new" staff is 6% lower than its normal level of cost. This would increase the average security cost from €33k to €35k.

b) SDG have said that the "new" staff "are assumed to have "catch-up" salary increases reflecting their current lower level of seniority (5% higher in 2014, 3% in 2015 and 1% higher in 2016)." This compounds to an increase of 9.2% by 2017. This would increase the security cost from €35k to €38k. This increase is not included by SDG in their outsourced costings.

c) There is a vast mix of roles, grades and experience between the costs which have been allocated into the four categories in the table (page 24, SDG report). These higher paid roles and more experienced staff are primarily within the "legacy" cost base but perform duties with

a much greater degree of difficulty and responsibility. For example, within the "Retail" category the logistics management, general management and operations managers are more senior "legacy" daa employees with far more responsibility than the group of staff included in the "new" categories.

Salary benchmarking by SDG

In relation to the salary comparisons at the bottom of page 24 of the SDG report, daa questions the relevance of these comparators. Dublin Airport staff are shift workers and work demanding and untypical shift patterns who require the technical skills to perform their tasks but also require a customer service skillset as all staff deal with Dublin Airport's public customers. It is not clear from the report whether these costs include premiums for shift pay and pension costs which would be required to make an appropriate comparison.

Business case for outsourcing

A service provider for security search would reasonably expect to make a 6-7% profit margin (i.e. in-line with the profit margins of leading providers like G4S), after overheads and operating expenses (likely to be at a minimum 10% on top of wages). This suggests a minimum 15% cost increase over internal staff rates.

The simple run-rate saving calculation for security shown in exhibit 3.18 illustrates the effect of this. This ignores important factors that would need to be considered in a full business case, e.g. one-off transition costs. This simple example assumes:

- All security search staff are outsourced
- The outsource provider is able to resource all staff at the highly favourable rates of daa's new contract staff (despite the recovering economy and strengthening jobs market)
- A 7% profit margin and 10% overhead on the staff rates (including all compliance training, recruiting and staff management activities)
- daa will incur additional management costs of €200k to introduce new performance control mechanisms and on-going audit of the service provider

Exhibit 3.18 shows that this aggressive outsourcing suggests no saving, with significant executional costs above this. The example also assumes the outsource provider has reached the same level of operational learning and productivity as daa's existing experienced staff.

Exhibit 3.18: Illustrative security outsource cost comparison

Security search staff FTE (2013)	480
Target security staff cost*/FTE	€38k
Supervisor/mgr FTE	24
Target supervisor/mgr wage/FTE	€55k
Average outsource wages	€19.6m
Service Overheads	8%
Profit Margin	7%
Overhead & Margins	€2.9m
Total cost of service	**€22.5m**
Additional daa management and audit (4 FTEs)	**€0.2m**
Total Cost	**€22.7m**
Current Cost	**€21.5m**
Cost differential	**-€1.2m**

** Total employment costs including pension at 6%*

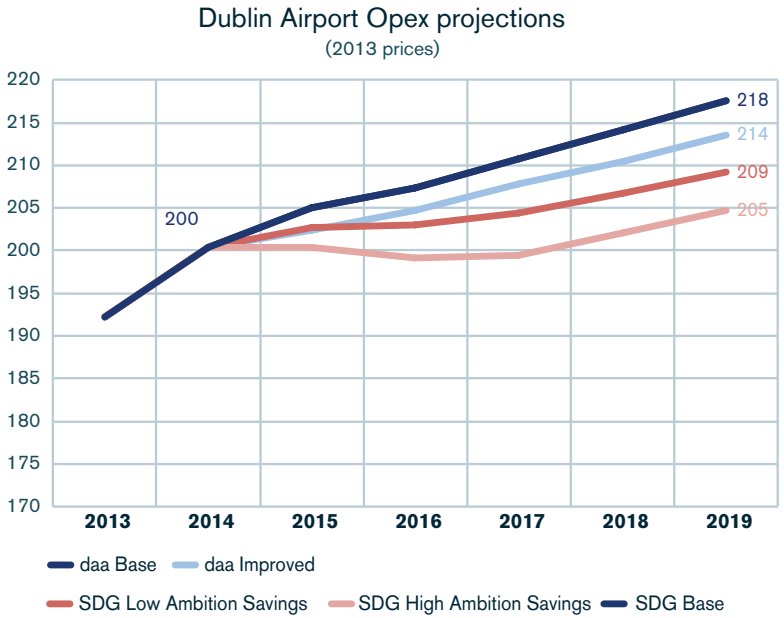
3.2.2 Replaced staff remaining at Dublin Airport

Even if TUPE didn't apply and savings were achieved through outsourcing, SDG have ignored that staff that would be replaced may remain within the business. SDG assumes that daa would outsource 577 staff to achieve a saving of €8m. These 577 staff cost circa €32m per annum and would remain in the business after the outsourcing. It could be assumed that 50% of staff would take voluntary severance immediately (at a cost of circa €40m) and the remaining 50% would be gradually absorbed into the business requirement (i.e. through natural churn rates). The notional annual saving of €8m would therefore result in total severance costs of €40m and total additional operating costs for the surplus staff of €87m. After 11 years the net present value of this at a 7% discount rate would be -€43m. Even if all staff were to opt for VSS 100% of the staff, the net present value of the savings over these 11 years would be -€13m.

3.2.3 **SDG forecast corrected for outsourcing assumption**

Exhibit 3.19 shows the daa and SDG forecasts with a corrected SDG baseline and outsourcing assumption removed. This moves the SDG low ambition cost in 2019 to €209m and the high ambition cost to €205m.

Exhibit 3.19: daa & SDG opex projections with correction of outsourcing assumption



3.3 Other SDG errors and assumption differences

daa have identified eight other areas in which SDG have either erred in their forecast or made invalid assumptions. Exhibit 3.20 sets out these issues, the daa response to them and the 2019 impact on the SDG forecast.

Exhibit 3.20: Remaining issues with SDG forecast

	Issue	Discussion	2019 Impact
1	**Central Functions**	We summarise here our analysis of SDG's comparison of Dublin Airport's Central Functions with Gatwick. The full detail of this comparison is included as an addendum to this section. SDG's efficiency assumptions for Dublin Airport's Central Functions are based solely on an FTE comparison with a report commissioned by Helios on the Central Functions at Gatwick airport. To complete this review, SDG have bundled Airport Management in with Head Office Costs such as Finance, Human Resources or Shared Costs. SDG did not carry out any investigation into whether the bucket of cost they were examining was comparable to the cost areas included in the Helios report on Gatwick. The SDG report benchmarks Dublin Airport against Gatwick solely on a FTE basis. SDG noted that Gatwick has 133 FTEs in its "Central Functions" while Dublin Airport has 265, and due to this difference reduced the Dublin Airport staffing by 58 FTEs or €4.8m. The SDG analysis is flawed, however, as it takes no account of the actual comparability of the activities carried out within the 'Central Functions" at Dublin Airport and Gatwick. Also as the analysis focuses solely on staff number, no consideration is given to the different in-sourcing / out-sourcing model at each airport. As a sense check on the overall efficiency of Dublin Airport compared with Gatwick, daa has considered the overall opex per passenger and opex as a % of turnover both of which are favourable to Dublin Airport despite daa's in-sourcing of the Revenue and Car Parking business.	€3.6m

Exhibit 3.21: Overall opex comparison between Dublin Airport and Gatwick

Gatwick Airport	**2013**	**2012**
Opex (£m)	315	294.2
Passengers ('m)	35.9	34.2
Opex per pax £	8.78	8.59
FX	1.21	1.20
Opex per pax €	**10.62**	**10.31**
Turnover (£m)	577.9	521.7
Opex / Turnover (%)	**55%**	**56%**

Dublin Airport	**2013**	**2012**
Opex (€m)	191.6	186.2
Passengers ('m)	20	19
Opex per pax €	**9.50**	**9.75**
% difference with Gatwick	**-11%**	**-5%**
Turnover (£m)	380.0	361.7
Opex / Turnover (%)	**50%**	**51%**
% difference with Gatwick	**-8%**	**-9%**

<table>
<tr><th></th><th>Issue</th><th>Discussion</th><th>2019 Impact</th></tr>
<tr><td>1</td><td>Central Functions (continued)</td><td>
daa has reviewed the Helios report, its terms of reference and the commentary on it in the CAA and Gatwick publications, and has identified a large number of comparability issues between it and the SDG Central Costs for Dublin Airport. The detail of this review is included in addendum 3.1, in summary daa has found the following:

The Airport Management costs in Dublin include a large bulk of cost (€5m or 70 FTEs) specifically not included in the Helios report.
The Finance function at Dublin Airport includes 22.5 FTEs performing centralised non finance administration roles that are not included in the Gatwick comparison.
The Human Resources department at Gatwick is outsourced to a higher degree than Dublin Airport, does not include operational security training and does not have a retail function to resource.
Procurement is not included in the Helios report on Gatwick.
Commercial FTEs have increased due to new business at Dublin Airport which provide an overall subsidy to airport charges.

The analysis in addendum 3.1 illustrates that Dublin Airport is in fact more efficient that Gatwick Airport and therefore no inefficiency exists in this area. SDG included a total cost reduction of €4.8m for central functions. daa has included efficiencies of €1.2m in this area in the improved forecast and believes that these savings are at the correct level.

As previously mentioned, the SDG report benchmarks Dublin Airport against Gatwick solely on a FTE basis, failing to reflect the level of outsourcing of Gatwick central functions. On an overall basis the Helios report shows that while there were 133 FTEs within the Central Functions at Gatwick, the total costs were €39m with only €15m of these being related to staff costs. Exhibit 3.22 shows that staff costs are only 39% of the overall central function cost at Gatwick, which compares to 70% for Dublin Airport. Reflecting the Dublin Airport level of in-sourcing at Gatwick would increase FTEs at Gatwick from 133 to 238, comparable to Dublin Airport even before all of the difference noted above are taken into account.

Exhibit 3.22: Adjusting for Gatwick outsourcing level
<table>
<tr><th></th><th>£m</th><th>€m</th></tr>
<tr><td>Payroll costs</td><td>15.3</td><td>24.1</td></tr>
<tr><td>Non-payroll operating costs</td><td>23.9</td><td>10.4</td></tr>
<tr><td>Total operating costs</td><td>39.2</td><td>34.5</td></tr>
<tr><td>Pay %</td><td>39%</td><td>70%</td></tr>
<tr><td>FTEs</td><td>133</td><td>265</td></tr>
<tr><td>FTEs adjusted for comparable outsourcing</td><td>238</td><td>265</td></tr>
</table>
The analysis in addendum 3.1 illustrates that Dublin Airport is in fact more efficient that Gatwick Airport and therefore no inefficiency exists in this area. SDG included a total cost reduction of €4.8m for central functions. daa has included efficiencies of €1.2m in this area and believes that these savings are at the correct level.
</td><td></td></tr>
</table>

	Issue	Discussion	2019 Impact
2	**IT Costs**	The SDG report states that IT cost as a percentage of turnover is 3.7%. This fails to reflect two items: ▪ Included in the IT costs are IT services provided to third party users (such as concessionaires, tenants etc.) on which revenue of c. €1m is earned. This revenue should be netted off the gross cost figure for this metric. ▪ The gross IT costs include costs which are allocated to Shannon and Cork in 2012 of €1.7m and Cork only in 2013 of €0.8m. These amounts should also be deducted from the costs when looking at this KPI.	€1.2m

Exhibit 3.23: daa corrected SITA benchmark calculation

	2012	2013
	€m	€m
Turnover per Reg Entity Accounts	365.4	383.8
IT Costs per data request	14.4	14.7
Allocation to SNN / ORK	-1.3	-0.7
IT Commercial Revenue	-0.7	-1.1
Net IT Costs	12.4	12.9
IT costs a % of T/o	**3.4%**	**3.4%**

In the draft determination document, CAR refers also to the SITA benchmark for combined opex and capex. CAR, however, uses an out of date 2011 benchmark which, as shown in Exhibit 3.24, is lower than both Dublin Airport's spend in that year and the most up to date benchmark. Exhibit 3.24 shows the daa calculation for this benchmark and the trend over time. Actual total airport investments in IT&T has increased steadily over the past three years, from an industry average of 4.19% of revenue in 2010, to 4.30% in 2011, rising to 4.90% in 2012, 5.43% in 2013.

Exhibit 3.24: daa corrected SITA benchmark calculation

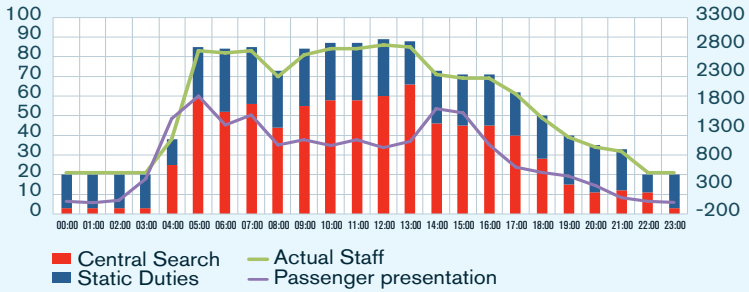
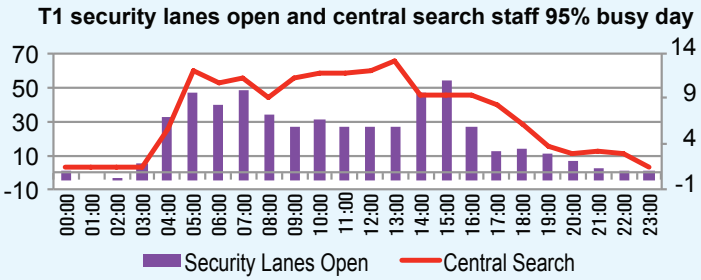
	2010	2011	2012	2013	2014
	Actual	Actual	Actual	Actual	Budget
Dublin Airport Turnover (€m)	321.7	348.6	365.4	383.8	396.6
IT Operating Costs (€m)	12.1	13.7	14.4	14.7	16.7
Capital Spend (€m)	6.1	5.8	4.4	5.7	6.2
IT turnover	-0.7	-0.5	-0.7	-1.1	-0.9
less adjustment for Shannon & Cork	-2.1	-1.8	-1.7	-1.1	-0.9
Adj Dublin Airport Opex & Capex Spend	15.5	17.2	16.4	18.2	21.0
Opex + Capex / Dublin Airport Turnover	4.82%	4.92%	4.49%	4.74%	5.30%
SITA Airport Survey Benchmark	4.19%	4.30%	4.90%	5.43%	TBD(*)
Differential between SITA & DAA Actual	**0.63%**	**0.62%**	**-0.41%**	**-0.69%**	**TBD**
*2014 SITA benchmark not yet available, trend would suggest ~5.8%					

The trend for the SITA benchmark is a CAGR of 9% between 2010 and 2013, if this trend were to continue, the benchmark will be greater than 9% by 2019.

Dublin Airport's IT function also supports the Retail and Car Park businesses both of which are outsourced at Heathrow and Gatwick. As Dublin Airport costs are below the benchmark there is no justification to include any costs reduction in the forecasts.

In 2019, SDG's forecast includes a €1.7m adjustment for IT, daa's "improved" opex forecast includes a €0.5m efficiency target. This difference of €1.2m is not justified and not required.

	Issue	Discussion	2019 Impact
3	**Marketing**	The SDG report states that Dublin Airport operates in a monopoly and does not face direct competition. The assumption that Dublin Airport has a monopoly over consumer demand is incorrect. daa's regulatory proposition shows that Dublin Airport accounts for 64% of international air travel to/ from the island of Ireland in 2013. daa competes strongly for both passengers and airline capacity and there are gains to be made from investment in consumer marketing campaigns in areas such as Northern Ireland. Dublin Airport is also different from many of its UK comparators (including Gatwick and Heathrow) in that it operates its own Retail and Car Park business and must therefore support these businesses with marketing the products. In 2013 €1.7m was spent on marketing relating to Retail and Car Parks. The retail business competes with downtown retailers and destination airports for customers and the car parking business competes locally with 8,000 non daa car park spaces. Benchmarking fails to recognise that most other airports do not have retail or / and car park business to support, i.e. these are concessioned out.	€1.6m
4	**Maintenance costs**	The report shows maintenance costs lower than the benchmarks in terms of both cost per pax and cost per terminal area (lower than Heathrow, Gatwick, Milan, Zurich and similar to the unnamed UK comparators and Vienna). This is achieved even though daa has additional maintenance costs associated with the retail & car parking businesses (2013: €1.4m). Despite this strong performance, SDG imposes a reduction of 2% p.a. (13 FTEs) on the cost with no finding of any inefficiency other than the fact that 24% of maintenance staff are over the age of 50 and therefore nearing the age of retirement. The fact that the workforce may be ageing bears no relationship with the resourcing requirement of the maintenance function. As SDG have stated, the Dublin Airport "*maintenance costs appear reasonable compared with larger international comparators, on both a per-passenger and per-terminal area basis. The unit costs are similar to, or slightly higher than the undisclosed UK airports*" and therefore the same level of resourcing will be required for future periods irrespective of retirements. The data provided to SDG showed only 6 FTEs over the age of 60 (i.e. the population that will reach the age of 65 over the next 5 years). Looking at the source data only 8 FTEs will reach the age of 65 by 2019. The report assumes that 13 FTEs will reach retirement age.	€0.8m

	Issue	Discussion	2019 Impact
5	**Central search workload coverage**	In its draft report, SDG asserts that the security central search at T1 in Dublin Airport is inefficient and operating at 30% above optimal workload coverage. This assertion is based on SDG's analysis whereby it appears to derive a staffing roster for T1 based on passenger presentation for the 95% busy day (29 June 2013) and it then compares this with daa's actual staff roster for T1 that day. While Booz in its opex analysis for daa did identify the potential for increasing roster efficiency it believes that the SDG assertion of 30% inefficiency significantly overstates this opportunity. In the Security Case Study Section, daa shows that the security passenger throughput Dublin is 20% more efficient than IATA's average throughput. daa does not have transparency of the SDG staff requirement analysis and their analysis appears to be based on a different staffing requirement than the Dublin Airport actual staff pattern as illustrated in exhibit 3.25. ▪ SDG roster seems to exclude fixed posts: SDG's staffing roster for T1 appears to be based on the staffing requirements for the security central search area alone i.e. it does not appear to include staffing requirements for the vehicle control posts or other static posts in T1. In the SDG report (pages 29 & 30), the daa staff roster for T1 includes the staffing requirements for the security central search unit plus those of the vehicle control posts and the static posts. Therefore SDG appears to have incorrectly compared its own staffing roster for T1 central search staffing only against the daa full roster for T1 which includes the wider staffing remit for T1 and the outdoor posts. ▪ SDG understates the number of fixed posts: Elsewhere SDG does state that 70 staff are assigned to vehicle control posts. but these do not appear to be included in the SDG roster. There are in fact 88 FTE staff assigned to these positions and a further 39 assigned to staff screening resulting in a total of 128[8] staff that are not part of the central search staff function. ▪ SDG roster does not reflect operational requirements: It is not apparent whether in deriving its staff roster for T1 SDG has, in fact, made an appropriate allowance for staff breaks and potential staff absenteeism. SDG acknowledged on page 28 of its report that the staffing roster should contain a 26% allowance for these factors. ▪ SDG roster does not appear to be compliant: It is not clear whether the roster built by SDG includes split shifts or is in line with working time directives in relation to break periods. Exhibit 3.25 sets out the full T1 planned staff requirements (roster plan including fixed posts) and security lane openings for the 95% busy day for T1 (29 June 2013). This includes the full T1 staff roster requirement including the requirements for outdoor fixed posts and indoor static T1 posts plus an appropriate allowance for staff breaks and absentees. Exhibit 3.25 shows the daa full roster for T1 compared with the daa's roster for the T1 central search area only. This illustrates the staffing requirement in T1 peaks at 60 FTEs for central search whereas SDG have included total staffing, including fixed posts, peaking at 50 FTEs. The SDG roster does not apparently build in any allowance for breaking staff in the passenger lull after the morning peak and before the afternoon peak. **Exhibit 3.25:** T1 security roster for 95% busy day Including central search and static posts   This roster shows how staffing matches demand for the peak and then exceeds demand for the middle part of the day as staff are given breaks. The comparison of the open lanes and the staffing between 09:00 and 13:00 shows these staff breaks. SDG's cost reduction for security efficiency based on this erroneous analysis is €1.8m in 2019. The daa improved forecast assumed stretched target process efficiency of €1m.	€0.8m

	Issue	Discussion	2019 Impact
6	**Further regulatory require-ments for 2015 – 2019 not reflected**	SDG comment "We consider that new technologies should enable the existing processing rate to be maintained" does not adequately acknowledge the implications of new LAG requirements. The precise impact of the new regulations and the remedial impact of the new technologies remains uncertain. daa believes that the investment will counteract the increased resourcing requirement, however, this is yet to be tested. SDG's assertion that technology will restore throughput rates is highly presumptuous. Furthermore, it is probable that the throughput rate of the equipment itself is not the determining factor in overall throughput rate. The human factors involved are likely to prove most challenging given past and current airport experience in introducing new carry-on regulations. Passenger interpretation and behaviour in response to new regulations will result in longer passenger preparation times, higher screening "failure" rates and more manual search checks. Today, airports continue to experience throughput delays caused by passengers misunderstanding of LAGS requirements despite extensive measures to familiarise passengers with these requirements and the time that has elapsed since they were introduced. The full behavioural impact of the new LAGs changes have yet to be fully tested. While these challenges can be partially addressed by actions to support passengers in preparing for screening and additional passenger communications, these measures will require additional resources which have been ignored in the SDG report. Given all of this, it is a major omission by SDG to assume no impact to security resourcing resulting from the regulatory change. In addition to the uncertainty around the ability of the new technologies to impact throughput rates, CAR has not allowed the new technologies into the CIP for 2015 to 2019. Therefore, there is a disconnect between the opex decision and the capex decision within the CAR determination.	Excl from correction
7	**Airside operations**	Due to the technical requirements of the role of outdoor cleaners and the knowledge required of airside and airfield operations these roles are likely always to be filled by experienced and trained operatives/cleaning staff and generally therefore be higher paid than facilities new entrants.	€1.5 Incl in Outsource
8	**Capitalised Payroll**	In the daa regulatory proposition daa proposed change in regulatory accounting practice with regard to capitalised labour. Since daa in-sources certain capital infrastructure management and development functions, payroll costs incurred by Dublin Airport relating to the development of its assets are currently capitalised and treated as capital investment. For the upcoming regulatory period, daa proposed an alternative regulatory treatment for these costs, namely that they would be recorded as operating costs and remunerated as opex through the price-cap formula. Expected payroll costs relating to CIP 2015–2019 were set out. This would be an explicit additional cost. These costs were not included in the capital proposals presented to airlines within the capex consultation process or within the costs that were reviewed by EY. In the draft determination, CAR failed to make any comment on these costs and as such they have been omitted from the price cap for 2015 to 2019. daa would point out again to CAR that it must make a decision whether to allow these costs within the operating costs or capital costs for the determination period. daa's correction of the SDG opex projects does not include this issue however daa recommends that CAR includes this cost in opex rather than within capital costs.	€5.0

8

VCPs:			Terminal Static posts:			**Total**
G1A	13		SEA	12		
Gate 32	18		SED	7		
Cargo	32		Breaks - SEA/SED	6		
Breaks - VCP	17		Transfer	2		
G22/A	8		AutoPass	10		
			FastTrack	3		
	88			39		**128**

Exhibit 3.26: Summary of corrections required to SDG forecast.

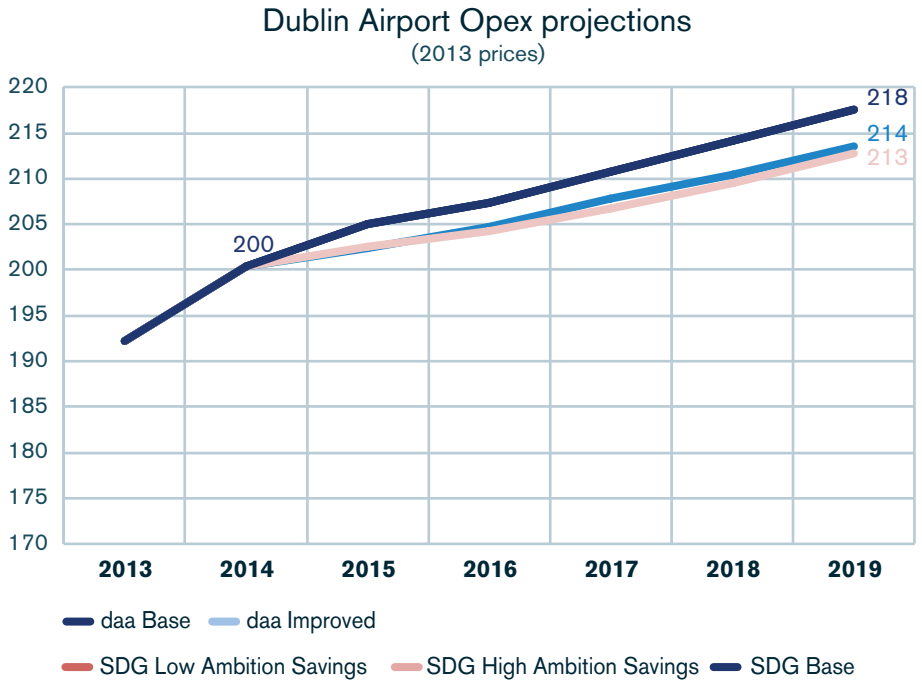
	2019 Impact		
	SDG assumption	daa proposed improved forecast saving	Correction required
	€m	€m	€m
Central functions	4.8	1.2	3.6
IT Costs	1.7	0.5	1.2
Marketing	1.6	0.0	1.6
Maintenance	0.8	0.0	0.8
Central search	1.8	1.0	0.8
Total	**10.7**	**2.7**	**8.0**

3.3.1 SDG forecast corrected for Other SDG errors and assumption differences

Exhibit 3.26 shows the summary of the corrections to the SDG forecast required.

Exhibit 3.27 shows the daa and SDG forecasts with a corrected SDG base line. This removes the SDG low ambition cost in 2019 and moves the high ambition cost to €213m.

Exhibit 3.27: daa & SDG opex projections with correction of outsourcing assumption



3.4 Operating costs summary

daa's analysis has shown that correcting for SDG's errors in 1) the base line, 2) the assumption that outsourcing would lead to savings and 3) other assumption errors, SDG's opex projection is broadly in line with the daa improved forecast.

Addendum 3.1 – Central costs comparison with Gatwick

SDG's efficiency assumptions for Central Functions are based solely on an FTE comparison with a report commissioned by Helios on the Central Functions at Gatwick airport. To complete this review, SDG have bundled Airport Management in with Head Office Costs such as Finance, Human Resources or Shared Costs. SDG did not carry out any investigation into whether the bucket of cost they were examining was comparable to the cost areas included in the Helios report on Gatwick.

The SDG analysis is flawed however as it takes no account of the actual comparability of the activities carried out within the "Central Functions" at Dublin Airport and Gatwick. Also as the analysis focuses solely on the staff numbers, no consideration is given to the different in-sourcing / outsourcing model at each airport. As a sense check on the overall efficiency of Dublin Airport compared with Gatwick, daa has considered the overall opex per passenger and opex as a % of turnover both of which are favourable to Dublin Airport despite daa's in-sourcing of the retail and car parking business.

Exhibit 3A.1: Overall opex comparison between Dublin Airport and Gatwick

Gatwick Airport	**2013**	**2012**
Opex (£m)	315	294.2
Passengers ('m)	35.9	34.2
Opex per pax £	8.78	8.59
FX	1.21	1.20
Opex per pax €	**10.62**	**10.31**
Turnover (£m)	577.9	521.7
Opex / Turnover (%)	**55%**	**56%**

Dublin Airport	**2013**	**2012**
Opex (€m)	191.6	186.2
Passengers ('m)	20	19
Opex per pax €	**9.50**	**9.75**
% difference with Gatwick	**-11%**	**-5%**
Turnover (£m)	380.0	361.7
Opex / Turnover (%)	**50%**	**51%**
% difference with Gatwick	**-8%**	**-9%**

From reviewing the Helios report, its terms of reference and the commentary on it in the CAA and Gatwick publications, there would seem to be a number of costs which are included in SDG's Dublin Airport Central Functions but are not part of the Helios report. The Helios report's terms of reference were to review:

- Finance department costs;
- Business support costs;
- Legal;
- Marketing and communications;
- Strategy, regulation and government affairs;
- Human resources;
- Information technology;
- Management and Board;
- Insurance and other costs.

The Dublin Airport "Airport Management" category submitted to SDG includes business units which would not seem to be included in the same category of "Management and Board" within the Helios report. The Helios report states that the "Management and Board" costs "cover directors' pay and the cost of personal assistants." The "Airport Management costs, however, covers the operational management of the airport, and includes the following functions:

- Airport general management
- Landside services
- Operations planning
- Mail and Print Services
- Stores
- VIP services (which earns revenue)

The total costs for this is €5.0m with 70 FTEs.

The finance functions as defined in each report would also appear to differ. The Dublin Airport finance function includes the Shared Service Centre ("SSC") which performs the duties of Accounts Receivable, Accounts Payable, Credit Control, Balance Sheet and General Ledger Management which are comparable with Gatwick (per Helios report). However the Dublin Airport Shared Service Centre is also used as a business services function where daa have centralised administration functions from throughout the Dublin Airport business in order to gain economy of scale efficiencies. In 2013 there were 18.5 FTEs at a cost of €0.95m performing these administration roles within the SSC. Furthermore, Dublin Airport in-sources its own retail and car parking functions and has finance teams employed to as part of the management of these businesses. In 2013 there were 4 FTEs at a cost of €0.3m on these teams. In order to make a correct comparison between the Dublin Airport and Gatwick finance functions, these 22.5 FTEs and €1.25m of costs must be removed from the Dublin Airport cost.

A further area of difference between Dublin and Gatwick is within Human Resources ("HR") where three comparability issues arise. Firstly Gatwick would appear to outsource some of its HR function with Helios stating that "Staff costs are on average over 80% of HR costs," and "some HR functions were outsourced to Northgate" whereas the Dublin Airport cost is wholly in-sourced (with the exception of recruitment). As the SDG comparison is made on an FTE basis only this would show Dublin unfavourable to Gatwick when Gatwick would still have the cost of these activities but they are included in non-payroll costs. Secondly Gatwick report their operational training staff

outside of the cost reviewed by the Helios report (page 47 of the Helios report states that a recent reduction is HR staff "is due to a move of 15-20 security trainers out of the HR function and a reduction of eight HR staff through restructuring the function and outsourcing"). The Dublin Airport cost base includes 5 FTEs at a cost of €0.3m who are responsible for security training. Thirdly, daa has over 200 FTEs in the retail function at Dublin Airport and employs 2 employees in the HR function specifically for these employees. As Gatwick outsources its retail function, there would be no requirement for such roles. These three differences would suggest that circa 14 FTEs (5 Security training, 2 Retail and 7 being 20% of the balance for outsourcing) should be removed from the daa costs base in order to make a like for like comparison with Gatwick.

The final area of difference is the procurement department in Dublin Airport. There is no reference to a procurement function within the Helios report either as a main function or as a sub function. The Dublin Airport central functions include 14 FTEs at a cost of €0.9m which carry out this activity for Dublin Airport, these costs and FTEs should be removed from the daa costs base in order to make a like for like comparison with Gatwick.

Within the central functions, SDG have reviewed the costs of the Commercial function within Dublin Airport. SDG do not identify any inefficiency in Commercial other than to state that the costs have increased since 2010. In this time period costs increased by €0.3m or 3 FTEs, but revenue also increased by €2.3m. Within the commercial FTEs in 2013 are 3 FTEs who manage the Airport Genie and Airport Club revenue streams which were launched in 2011 and contributed €0.55m of revenue in 2013. As the increase in costs relates to a new business stream which delivers a subsidy to airport charges, there should be no downward adjustment made to commercial operating costs.

As previously mentioned, the SDG report benchmarks Dublin Airport against Gatwick solely on a FTE basis, failing to reflect the level of outsourcing of Gatwick central functions. On an overall basis the Helios report shows that while there were 133 FTEs within the Central Functions at Gatwick, the total costs were €39m with only €15m of these being related to staff costs. Exhibit 3A.2 shows that staff costs are only 39% of the overall central function cost at Gatwick, which compares to 70% for Dublin Airport. Reflecting the Dublin Airport level of in-sourcing at Gatwick would increase FTEs at Gatwick from 133 to 238, comparable to Dublin Airport even before all of the difference noted above are taken into account.

Exhibit 3A.2: Adjusting for Gatwick outsourcing level

	£m	€m
Payroll costs	15.3	24.1
Non-payroll operating costs	23.9	10.4
Total operating costs	**39.2**	**34.5**
Pay %	39%	70%
FTEs	133	265
FTEs adjusted for comparable outsourcing	**238**	**265**

Section 4: Commercial Revenues

4. Commercial revenue

CAR's commercial revenue forecast includes €6.5m that is (or is proposed to be) excluded from the till. CAR's forecasting approach includes a further €17m (2019) of errors / inconsistencies.

CAR's methodology for forecasting commercial revenues takes the 2013 revenue at Dublin Airport and rolls it forward to 2019 based on assumed elasticities plus uplifts for commercial investments.

Exhibit 4.1 shows the forecast revenues by daa and CAR in real terms. The divergence between the two forecasts is due to two differences, which we consider in turn in this section:

- CAR's 2013 opening position includes revenues which should be treated as ex-till. This relates to revenues generated by (i) assets currently outside of the till and (ii) assets which daa is proposing to exit from the till.
- CAR's forecasting approach and errors in its application.

Exhibit 4.1: CAR forecast commercial revenues

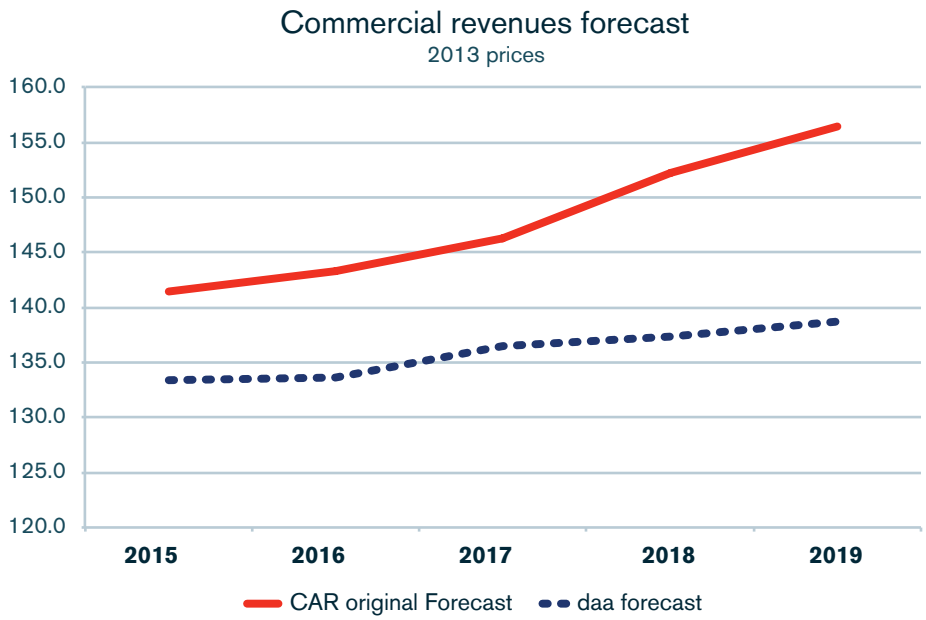


Exhibit 4.2: CAR treatment of ex-till revenues

Category	Asset value	Actual Revenue p.a. 2010 - 2014	CAR Forecast Revenue p.a. 2015 – 2019
Hangar business in till	Included in RAB – Not defined	€0.5	€0.5m
New hangar business outside till	€35m Excluded from RAB	€5.3m	€5.3m
Dublin Airport City Inner Zone	€43m of which €5m owned by RAB	€0.2m in till €1.0m ex till	€1.2m
Dublin Airport City Middle & Outer Zones	Included in RAB – Not defined. Valued at €22m	€0.7m	€0.7m

Proposed exit price, with impact of reducing airport charges by €1.3m p.a.

Proposed exit price, with impact of reducing airport charges by €0.3m p.a.

Incorrectly included by CAR

4.1 CAR treatment of ex-till revenues

The 2013 revenues include some lines of revenues, totalling €6.5m, which are delivered by assets which are not in the RAB. The CAR methodology has included this revenue in the regulatory forecasts for 2015 to 2019.

Approach adopted by UK regulators to commercial revenue forecast

In general, the UK Civil Aviation Authority (CAA) and Competition Commission (CC) have not used elasticities similar to CAR's estimates to generate forecasts of future commercial revenues. Instead, for the last two reviews, the CAA has engaged consultants to carry out a detailed review of potential future commercial revenues:

- these reviews have considered a larger number of separate categories of revenue, rather than the very high level categories used by CAR;
- for many categories of revenue, the consultants have carried out a detailed review of recent trends in revenues per passenger, the specific factors that have affected these past trends, and considered a range of different possible reasons why revenues (per passenger) in the forthcoming control period may be higher or lower than those suggested by recent trends;
- the consultants have generally taken each airport's own forecasts as their starting point, and identified specific reasons for adopting more (or less) challenging assumptions;
- the consultants have also had detailed discussions with a range of stakeholders, including both the airport operator and those involved in commercial activities; and
- the regulators have explained the reasons for adopting particular assumptions in relation to specific revenue categories, and both airports and airlines have been able to comment on these.

As a result, the CAA and CC have been able to take full account of a wide range of different factors affecting commercial revenues, and adopt pragmatic assumptions that reflect the underlying business conditions relevant to each separate revenue stream. These reflect both demand side (e.g. macroeconomic conditions, changes in passenger mix) and supply side (e.g. redevelopment programmes, or the impact of security processing on the average time each passenger spends in retail areas) changes that may affect commercial revenues.

Other observations on the experience of recent UK reviews of airport charges are that:

- during the most recent review, the CAA's consultants (Steer Davies Gleave) reported that Heathrow has developed an econometric model that it uses to generate its own forecasts. However, unlike CAR's, this is a very detailed model which projects revenues for a large number of separate categories. Steer Davies Gleave reported that, on average, there are around 40 drivers for each category of revenue;
- under the CAA's "constructive engagement", the projections have already been subject to extensive consultation with airlines before they are reviewed by the CAA's consultants.

4.1.1 Hangar transaction

As part of the capex consultations for the 2009 – 2014 CIP, daa put forward an investment proposal for the hangars at Dublin Airport. This was rejected by the airlines and in CAR's final determination for the period 2010 - 2014, published in December 2009, CAR decided to exclude all amounts for hangar capex, "in the absence of user support for the project," and also to adjust its forecast for hangar revenue down by €1.6m per annum.

The commercial situation around the hangar transaction was fluid throughout 2009. In the second half of 2009, daa finalised an agreement with SRT to buy out their leasehold agreement and take full ownership of the hangars for a sum of €22m, including fees. Subsequent to this, daa spent €13m on refurbishing the hangars to bring the total investment to €35m. None of this €35m is included in the RAB.

The rental income for the hangars was €5.3m in 2013, and as the airlines chose not to support this project and the cost of investment is not in the RAB, this income should be removed from the commercial revenue forecasts.

In the 2009 final determination CAR stated that by not including the investment in the RAB it was "protecting the interests of current and prospective users since not allowing such an investment to enter the RAB means users do not bear the risk that future airport charges will have to be higher should the project prove less commercially attractive than the DAA envisages". As the project has been a commercial success it would be now unjust to include the revenues that are being earned on the mature project.

Inclusion of these revenues was a complete surprise to daa and is an instance of regulatory inconsistency and uncertainty.

The most obvious conclusion to be drawn from the statements included in the 2009 final determination was that daa was to take this investment at its own risk. It is unexpected, therefore, for the draft determination to now state that "*there was no proposal at the time to remove this revenue stream from the regulatory till.*" There was no reference to a requirement for an exit proposal in 2009 and to make this statement now is to move the goal posts after the event.

4.1.2 Dublin Airport City proposed till exit and enabling transactions

The full daa submission on the proposed till exit for Dublin Airport City is included in appendix 2. Related to the till exit, daa invested €45m in two assets which has not been funded by the till:

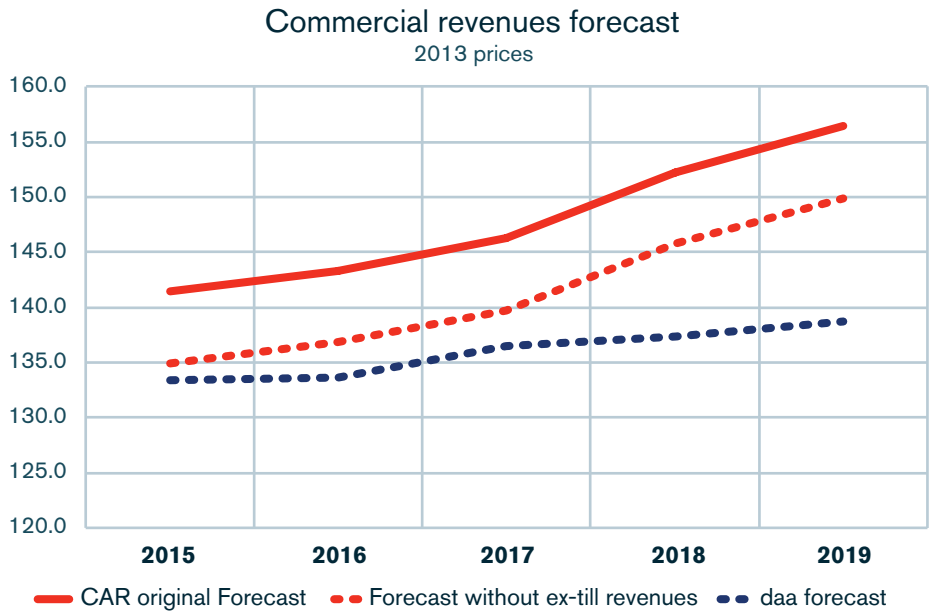
- Purchase in 2009 of Aer Lingus leasehold interest in Head Office Building site
- Purchase in 2013 of the leasehold interest in the Clarion Hotel site from the receiver of International Airport Hotel (IAHL) and associated capital expenditure

daa proposes the exit from the till of the lands and assets in question. daa calculates that this would have the impact of a €1.6m per annum reduction in the aeronautical revenue requirement, all other things equal. These assets were earning revenues of €1.2m in 2013, €0.2m of which is generated on assets within the till. If a decision is reached to proceed to exit these assets from the till this €1.2m should be excluded. If the €45m of asset purchases are not included in the RAB the €1.0m of revenues relating to these assets should be excluded from the 2013 revenues.

4.1.3 Correcting the CAR forecast for ex-till revenues

Exhibit 4.3 shows the CAR forecast for commercial revenues, corrected to remove this €6.5m of ex-till revenues. This shows the step change in the CAR forecast towards the daa forecast.

Exhibit 4.3: CAR forecast corrected for ex-till revenues



4.2 CAR's forecasting approach and errors in its application

daa's commercial revenue forecast is based on a detailed bottom-up approach including an in-depth explanation for each income category. CAR, however, has continued to use a simple forecasting model with which daa has significant reservations about both in terms of the reliability of the estimates and the way that CAR has used these elasticities to forecast future revenues.

daa has identified a number of issues both with CAR's methodology and its application:

- Regression analysis CoGS error
- Failure to include time trends
- Failure to adjust for the increase in transfer passengers
- Incorrect investment uplifts

4.2.1 **Regression analysis CoGS error**

For retail revenues, moreover, daa believes that CAR has made a serious error in its analysis. It has estimated an elasticity of 0.91 for retail revenues, which include both direct retail and concession revenues. It has defined these revenues as:

total retail sales + total concessions revenues – cost of goods sold

However, it has not taken account of the fact that the cost of goods sold already appears as a negative entry in the dataset supplied by daa. Therefore, CAR has actually added rather than subtracted the cost of goods sold when calculating net retail revenues. If CAR had carried out this adjustment correctly, it would have estimated an elasticity for retail revenues of 0.74 rather than 0.91.

Correcting for this error reduces the commercial revenue forecast in 2019 by €1.6m.

4.2.2 **Failure to include time trends**

CAR has applied elasticities that it estimated from equations including a time trend. But it has not taken account of these time trends when generating its forecasts of future revenues. For retail, car parking and property concessions revenues, the time trend associated with the elasticity estimate used by CAR was negative. Exhibit 4.4 shows the annual trend estimated by CAR[1], and also the change in 2019 revenues that would result from including the time trends in CAR's forecasts. There are three points to note in relation to the application by daa of the time trends:

- the time trend for retail comes from a regression with the correct treatment of CoGS;
- the time trends are calculated from the exact coefficients, rather than the rounded figures shown in the Appendix 3 to CAR's Draft Determination; and
- advertising is included, even though it is not shown in the Draft Determination Appendix 3.

Exhibit 4.4: Time trends and impact on 2019 revenues

	Trend (% per year)	**Impact on 2019 revenue (€m)**
Retail	-1.4%	-4.9
Car parking	-5.5%	-8.4
Property concessions	-1.2%	-1.2
Other revenues	5.4%	2.7
Advertising	2.4%	0.6
Total		**-11.3**

In most cases, CAR does not explain or justify its apparent decision not to apply the time trends alongside the corresponding elasticities. However, for car park revenues, CAR suggests some specific reasons why the previous negative time trend might not continue.

The negative time trends can be explained for retail by the reduced propensity to spend as an individual passenger's number of trips per annum increases, reduced tobacco income and the shifting of the airport retailing model away from the higher margin pure duty-free type offering to being in more direct competition with "down-town" and online retail.

Car parking income has been directly impacted by the effects of the current economic environment, as income has decreased from €38.5m in 2007 to €23.5m in 2011, before recovering to €25.6m in 2013. The negative time trend is not a surprise to daa as this business has had continued competition in the market, improvements to public transport and increase in 'drop-off traffic.' It has only been through continued price competitiveness and high levels of targeted promotional activity that growth occurred in 2012 and 2013. This business is also experiencing capacity constraints at certain parts of the week which is constraining its growth.

The negative time trend on property concessions reflects the reduction in the banking concession revenues which have declined from 34% of this category to 17% between 2005 and 2013 as the bank at Dublin Airport changed strategy.

The positive trend for advertising reflects an effective doubling of the advertising space at Dublin Airport from the construction of T2. Arguably it would not be expected for this trend to continue and that the inclusion of both this trend and the uplift for the advertising pods is a double count of

1 The trend coefficients shown in Appendix 3 of the draft determination are generated from monthly data, and therefore need to be multiplied by 12 to show the annual time trend.

the benefit of investment. In order to maintain consistency, daa has included the time trend in its correction of the CAR forecast.

The positive trend for other revenues of 5.4% is very high and the data behind this shows that it reflects where three significant investments were made in order to deliver increased revenues:

1. As part of the construction of T2, daa included an additional lounge facility in the new terminal. This delivered a significant increase in daa's lounge capacity and immediately contributed to increased revenues. Lounge revenue in 2011 was €0.4m (35%) higher than 2010 despite less than a 2% increase in capacity. In 2013, revenues were €2.9m, some €0.9m and 48% higher than the peak of 2008 despite passengers being 14% lower.
2. Also as part of the construction of T2, daa introduced Fixed Electrical Ground Power ("FEGP") units which provides the aircraft using T2 with electrical charging rather than using the mobile generators. This was a completely new revenue stream at Dublin Airport and delivers revenue of €0.4m per annum.
3. Airport Genie was launched in 2011 after a capital investment of €0.5m, which provided for additional services to be provided to passengers including Fast-Track through security, Assisted Services and Comfort (Lounge) offerings. Airport Club was also launched in 2011, which provided an opportunity for frequent passengers to avail of Commercial products such as Fast-Track and discounts on Lounges, VIP or Car Parking, depending on membership (Green, Silver or Gold). Neither of these revenue streams existed prior to 2011 and they delivered revenues of €0.5m in 2013.

While a passenger elasticity of 1.3 coupled with a time trend of +5.4% leads to a significant growth in "other revenues" it does reflect the reality of recent years where daa has sought to deliver new revenue streams in order to compensate for falling returns in the traditional airport businesses. If the trends in retail and car parking suggested by the CAR model, correctly including time trends, were to occur daa would continue to seek substitute revenue streams.

Ideally, CAR should not rely on simple econometric analysis. But given it has adopted this approach, then it is an error to apply the estimated elasticity and not the time trend. Essentially, it has adopted a particular model that, among those it has estimated, it believes can provide the best explanation of changes in commercial revenues. But it has then ignored part of this model, for no apparent reason.

4.2.3 Failure to adjust for the increase in transfer passengers

The application of the elasticity assumption also does not reflect the change in passenger profile which is currently occurring in Dublin Airport with very strong growth in transfer passengers. The daa core forecast for passengers assumes that transfer passengers will grow by a CAGR of 11% between 2013 and 2019, doubling the 2013 number over the period. Exhibit 4.5 shows the impact on 2019 revenues of correcting this omission.

While transfer passengers consume much fewer resources in terms of capital expenditure and operating costs, they are also less valuable to the retail business as these passengers have already travelled through an airport retail offering and circa 60% are diverted down a node at one of the gates and completely bypass the retail areas at Dublin Airport. Passenger data shows that sales are lower on the flights that have high transfer passenger numbers where penetration drops to 5% for transfer passengers versus 20% for normal passengers.

Transfer passengers do not use the car park and property concession businesses as these passengers do not drive to or rent cars at Dublin Airport and do not use the hotels or bank facility there either. The elasticity for car park & property concession revenues should therefore only be applied to non-transfer passenger growth.

Exhibit 4.5: Adjusting for transfer passengers, impact on 2019 revenues

	Transfer pax correction (€m)
Retail	-0.7
Car parking	-0.4
Property concessions	-0.1
Total	**-1.2**

4.2.4 Incorrect investment uplifts

Exhibit 4.6: Correcting for incorrect investment uplifts, impact on revenues

	2015	2016	2017	2018	2019
CAR total uplifts for investment	2.2	3.2	3.3	6.3	7.4
daa total uplifts for investment	-.7	2.5	1.8	5.4	4.2
Difference	**-2.9**	**-.7**	**-1.5**	**-.9**	**-3.2**

In applying uplifts for the commercial revenue capex projects to its simple commercial revenue forecast CAR has made a number of errors which have overstated the revenue forecast for the period 2015 – 2019. Exhibit 4.6 shows the impact of correcting for these errors on the 2019 forecast revenues. These errors can be categorised into the following three areas:

- CAR states that the uplifts are based on the IRR's stated in the daa capex presentations and CIP papers. These IRR's however are nominal, for CAR to include them in their commercial revenue model which is in real terms; these IRR's must first be adjusted. CAR has also included these IRR's as a flat return with the same revenue achieved in each year after the project is

delivered. In reality the revenues will commence with a lower return and grow as the either the business matures or a capacity releasing asset begins to fill with the growing demand.

- Some of the projects that deliver commercial revenue uplifts will also require additional operating costs; however CAR and SDG have not included these costs in the opex forecasts. In order to reflect the true impact of these projects on the business these costs need to be included in either the opex forecast or by reducing the revenue uplift in the commercial revenue forecasts.
- Some of the commercial projects will create disruption to the existing business during the period of their construction. CAR has not recognised this impact in its revenue forecasts.

Retail refurbishments

The retail business will undergo two refurbishments over the period in order to maintain the existing level of revenue. The first refresh will take place in 2016 in T2 as the shops will then be 5 years old and T1 will also be refreshed in 2019, five years after the 2014 refurbishment which is currently ongoing. Both of these projects have been allowed in the draft determination. daa's experience has shown that passenger average spends decline by 9% during a refurbishment but CAR has not included this impact in its forecasts.

T2 MSCP

The T2 multi-storey car park extension is included in the CIP in order to alleviate the capacity constraint on the car park spaces which Dublin Airport will face in the next determination period. As such, to both continue the elasticity assumption out past the construction of the extension and to uplift revenues for the extension is a double count of the benefit of this project. The daa business case for this project was based on the fact that the short term car parking revenue will not be able to grow past 2016 without this project.

The construction of the additional two storeys in the T2 multi-storey car park will require taking the existing top floor out of service for the year of construction. The impact of this is estimated at €0.8m.

The additional two storeys will also result in an increase in operating expenses which were included in the daa business case which resulted in a nominal IRR of 13.7% on daa's stated investment cost of €12.3m. This reduced to 11.0% on the EY capex cost of €15.8m. Operating costs are projected to increase by €0.45m for rates (€0.25m), maintenance (€0.1m) and three customer service agents (€0.1m). These costs should be included in CAR's operating cost forecast, and we have made this correction in the opex section.

In Section 10, daa outlines how the feasibility study for the T2 MSCP has identified the benefit of constructing the four floors included in the existing planning permission. daa's updated business case would deliver an IRR of 11.2% on a capex cost of €26.9m.

Cargo Terminal Development investment return overstated

daa proposed a €2.2m investment for Cargo Terminal Development which would generate a return of €0.325m p.a. or 13% IRR. CAR has allowed only 78% of the proposed costs or €1.7m for this project but has assumed revenue of €0.39m p.a., thus overstating the revenue on the project. The reduced investment will reduce the ability of daa to earn the revenue assumed in the business case in which case the revenue should be reduced pro-rata by 22%, not increased by 20%.

Advertising pods

Included in the daa CIP was a project for Digital Advertising Pods, costing €1.0m, aimed to deliver an increase in advertising revenues. daa expect the full €1m investment to generate incremental incomes of €0.2m - €0.3m p.a. from 2015 onwards. CAR has only allowed for 60% of the cost of delivering the advertising sites and has included an uplift of €0.8m which vastly overstates the return that is possible. At an investment of €0.6m, this project will only provide incremental revenues of €0.15m.

CBP business case

CAR has included the revenues per the daa business model for this investment. However, this business model was prepared in nominal prices and must be adjusted for projected inflation. daa's inflation assumptions would see prices 9% higher in 2019, meaning that CAR have overstated revenues by up to €0.2m in 2019.

The CBP business case also included opex costs of €0.3m required to operate the new facility. CAR has not included these costs in either the opex or commercial revenues. It is incorrect to include a revenue stream but to ignore the operating costs associated with it.

Potential double count in CAR's methodology

daa has corrected the CAR commercial revenue forecast using CAR's methodology of rolling forward 2013 revenues based on elasticities and also applying an uplift to these revenues for approved investments. However, it is inconsistent to (a) estimate elasticities based on all historic revenues (including those generated by previous investments), and (b) use these elasticities for forecasting, but then add the incremental revenues from future investments on top of these forecasts. As stripping out the historic incremental impacts of past investments is impractical, daa believes that the correct approach would be to adjust for the impact of future investments when the nature of that investment is clearly and significantly very different from anything that has happened in the past. The historic period reviewed by CAR included significant investment in the commercial businesses, most notably the bringing online of T2, which effectively doubled the footprint of many of the revenue streams such a retail, short term car parking, advertising and lounges.

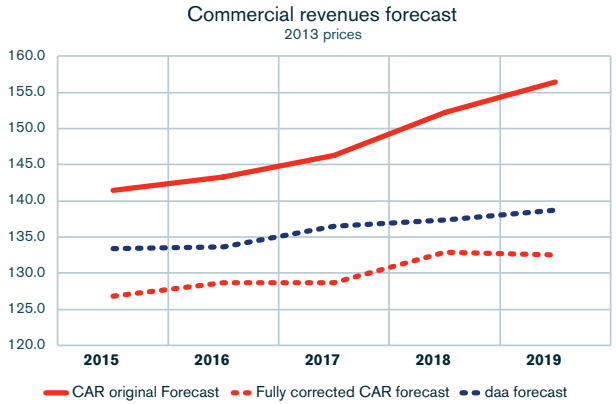
4.2.5 Correcting the CAR forecast for forecasting approach and errors in application

The total impact of correcting the CAR forecast approach reduces the 2019 revenues by €17m. Exhibit 4.8 shows the CAR forecast for commercial revenues, corrected to remove this €6.5m of ex-till revenues and also the forecasting approach and errors in its application.

Exhibit 4.7: Correcting forecasting approach and errors in application, impact on 2019 revenues

	Retail regression analysis error (€m)	Include time trends (€m)	Transfer pax correction (€m)	Investment uplift correction (€m)	Total (€m)
Retail	-1.6	-4.9	-0.7	-2.3	-9.4
Car parking		-8.4	-0.4	-0.1	-8.9
Property concessions		-1.2	-0.1	0.0	-1.4
Other revenues		2.7		-0.2	2.5
Advertising		0.6		-0.7	-0.1
Total	**-1.6**	**-11.3**	**-1.2**	**-3.2**	**-17.3**

Exhibit 4.8: CAR forecast corrected for ex-till, forecasting approach and errors in application



ATI revenue at Dublin Airport

In the 2009 final determination CAR introduced a sub cap for Access to Installation ("ATI") revenues at Dublin Airport. For the period 2010-2014 this applied only to check in desk revenues. daa opposes this sub cap as it is disproportionate and incentivises airlines to increase their use of these facilities.

daa's check in desk revenue forecast for 2010-2014 was based on the feedback from airlines that the usage of check in desks was to continue to decline over the regulatory period.

Check in desk revenue in 2013 was €2.2m or 0.6% of total revenues at Dublin Airport. As such check in desks are not a revenue generating activity of major significance for Dublin Airport. In order to increase the FFO: Net Debt of the regulated entity by 1% daa would require a 430% increase in check in desk revenues. To achieve a 1% increase in Return on RAB daa would require a 770% increase in check in desk revenues. Setting a sub cap for this revenue clearly goes against the "proportionality" principle of good regulation.

The level of charges is approved by CAR following consultation with the airlines and is set at a level that simply recovers the cost of providing the assets. daa charges for the use of check in desks in order to influence their efficient usage. By setting a revenue cap for check in desks, CAR passes the volume risk totally to the daa. Airlines can increase their usage of check in desks without any increase in the total charges that will apply to them. There is also no incentive for airlines to reduce their usage as the overall cost of check in desks will not reduce.

With regard to CAR's proposed clawback of "excess" ATI revenues, daa contrasts CAR's treatment of these revenues with its treatment of PRM costs and revenues which are also regulated by CAR. PRM costs are consulted on with users, including involvement in the procurement process. EU regulations allow the airport to recover the costs of providing PRM services, however, as CAR includes the PRM revenues within the price cap, daa only recover the costs that CAR includes in the opex building block forecast on which daa takes both the usage and passenger volume risk. Over the period 2010 – 2014 daa made an overall loss of €1.8m, which is comparable to the gain made on the increased usage in the ATI revenues. These variances are just some of the wins and gains that occur within the building block process and it is neither proportional nor consistent to adjust for one variation over others.

For the upcoming determination period, Dublin Airport's ATI revenue is likely to increase to €4.5m as daa intends to charge for the use of CUTE and CUSS at Dublin Airport.

4.3 Commercial revenue summary

daa has corrected the CAR commercial revenue forecast for the inclusion of ex-till revenues and the forecasting approach and errors in application. This has reduced the 2019 revenues from €156.4m to €132.6m, €6.2m below the daa forecast. This highlights the level of ambition in daa's forecasts, when assessed on an appropriate basis.

daa has consistently recommended against a simple econometric approach to forecasting commercial revenues and instead proposed a detailed, bottom up analysis.

daa has found evidence of autocorrelation in some of the commercial revenue regressions (e.g. car parking, property concessions and other revenues). This suggests that the estimation is inefficient (i.e. the estimated standard errors are larger than they could be with a properly specified model), and could indicate that the model is poorly specified. This could potentially lead to errors, including the omission of dynamic effects. As far as daa is aware, CAR has not tested for such effects.

Potential problems can arise with "non-stationary" variables in time series analysis. Regressions including non-stationary series can lead to spurious conclusions, and may often indicate that a relationship exists between variables when it does not. The relatively short time period covered by CAR's analysis, and the disruption caused during this period by the global financial crisis and the opening of T2, means that daa has not been able to find statistical evidence of non-stationarity. However, visual inspection of the data suggest that several of the variables could be non-stationary, which would lead to a risk that CAR's regressions would identify spurious correlations.

daa's review of actual vs fitted charts for each category of revenue (except property rentals and CBP revenues, for which CAR did not apply an elasticity) also raise questions about whether some data are outliers. The charts suggest that CAR's estimated relationship with passenger volumes is a rather poor predictor of future revenues, especially for property concessions and advertising revenues, as well as the other categories. This is not surprising, as CAR's analysis considers only a single explanatory variable, and therefore does not reflect the many other factors likely to influence each revenue stream. The problem of omitted variables can lead to biased estimates of coefficients for those variables that are included in the analysis.

As daa's forecast is more robust than CAR's and also comes to a higher revenue figure, daa believes that CAR should uses the daa forecast for commercial revenues in the building blocks calculation of the aeronautical revenue requirement.

Section 5: Rolling incentives

5. Rolling incentives

Operating costs

daa welcomes the extension of rolling incentives for operating expenses in the draft determination but has three concerns about the manner in which CAR is seeking to apply them.

1. The cost categories to which CAR is seeking to apply the rolling incentives are not used by daa in the day-to-day management of Dublin Airport. These categories came from a bespoke data request from SDG in relation to the review of operating costs.
2. The data behind these categories is also based on the current structure of the Dublin Airport organisation which could change over the life of the determination period leading to comparability issues with targets versus outturn.
3. The categories included in the rolling incentives include a mix of Dublin Airport only and Shared costs. A portion of the shared costs are allocated to Cork Airport but there is a lack of transparency as to how these allocations have been applied by SDG and CAR to the gross costs have applied different allocations between Dublin and Cork than daa use. There will therefore be a difference between the reported costs and the target costs that will relate to this different treatment rather than any efficiency under or over performance.

daa recommends that all of the operating costs at Dublin Airport are included in the rolling incentives and that the gross costs (before allocations) are stated as the target. This would avoid the issue of the existing categorisation and potential future categorisation changes. daa can see that there may be some issues relating to fluctuations with passengers but as operating costs are not completely elastic with passengers any loss or gain from passenger movements within the rolling incentives are outweighed by the loss or gain in revenues.

Commercial revenue

daa also welcomes the inclusion of rolling incentives within the commercial revenue building block in the draft determination and the use of a per passenger target for retail and car park revenues. However, the daa does not see why CAR would not include all commercial revenues within the scheme. For the rolling incentives for operating cost CAR has excluded costs which vary with passenger yet within commercial revenue CAR has included only revenues which vary with passengers.

It is also illogical to have a rolling incentive higher than the revenue included in the building blocks, this effectively removes the rolling incentive for car park revenues. It is not relevant that there is a revenue uplift related to the revenue stream as the forecast takes into account the uplift and the timing of the investment.

daa recommends that CAR includes all revenues within the rolling incentives scheme at the level they are forecast in the building block. daa believes that the per passenger target should remain for retail, car parking and advertising but that all other revenues are not passenger elastic and should be set as a gross revenue target. The worked example in exhibit 5.1 shows the how the rolling incentive would work in both an increased and decreased passenger outturn scenario for retail and property rental income.

Exhibit 5.1: Worked example of commercial revenue proposed rolling incentives

Commercial Revenue 2016	Retail	Property Rents
CAR PAX Forecast	21.9	21.9
CAR forecast revenues	58.1	21.8
CAR forecast/PAX	2.65	1.00
Scenario 1 pax growth above CAR forecast		
Pax outturn	23.0	23.0
Revenue outturn	62.1	22.5
Outturn/PAX	2.70	0.98
Revenue outturn vs. CAR forecast	4.0	0.7
Outturn/PAX vs. CAR forecast/PAX	0.05	-0.02
Rolling incentive amount	**1.0**	**0.7**
*Rolling incentive for retail is €1.0m (€0.05*21.9m pax), while for property rent it is €0.7m (€22.5m - €21.8m).*		
Scenario 2 pax growth below CAR forecast		
Pax outturn	20.8	20.8
Revenue outturn	56.2	22.5
Outturn/PAX	2.70	1.08
Revenue outturn vs. CAR forecast	-1.9	0.7
Outturn/PAX vs. CAR forecast/PAX	0.05	0.09
Rolling incentive amount	**1.0**	**0.7**

*Rolling incentive for retail is €1.0m (€0.05*21.9m pax), while for property rent it is €0.7m (€22.5m - €21.8m).*

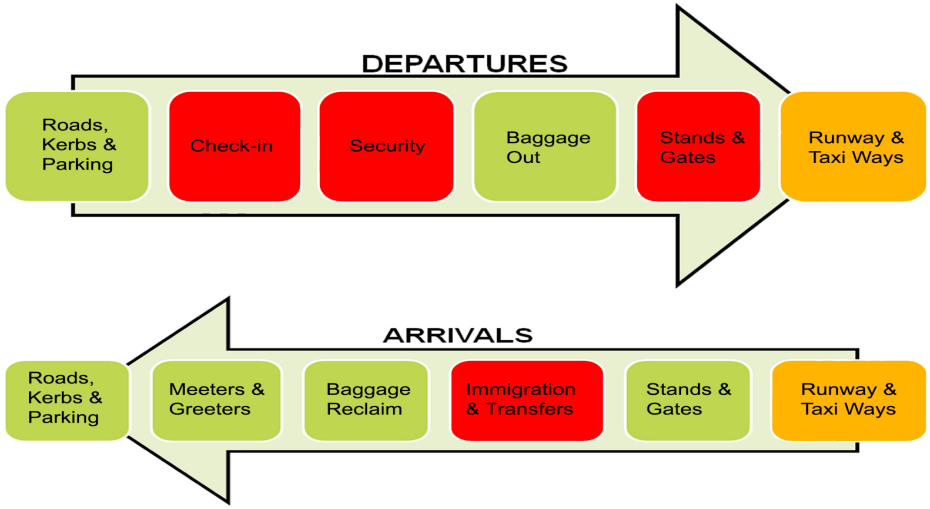
Section 6: Facilitating Growth at Dublin Airport

6. Facilitating Growth at Dublin Airport

6.1 Aligning capacity at Dublin Airport

Dublin Airport can only grow to the extent that it has capacity to grow. In essence, the airport is a system of inter-connecting operating processes with the airport's overall capacity ultimately defined by the capacity of the weakest line in the chain at peak demand, i.e. busiest hour (see Exhibit 6.1). Optimising the airport's overall capacity is achieved through having a balanced across-the-board similar peak hour capacity for all processors, and this will facilitate growth at the airport.

Exhibit 6.1: Departures and Arrivals Process Map



In 2013/14 bottle-necks were recorded on a consistent basis at the following locations (highlighted in red in Exhibit 6.1):

- Stands and gates
- T1 Central Search facility
- T2 Check-in
- T2 Transfer facility

These are the facilities that daa proposes to build to remove these bottle-necks:

- Aprons 5G (CAR proposes to allow) and 300R
- Pier 3 Upgrade
- T1 Central Search Area New Technologies
- New T2 Transfer Facility
- T1 Regeneration of Arrivals, Departures and Facade
- T2 Bus Lounge (CAR proposes to allow)

With a further project which will be triggered on T1 handling 11.5mppa[1]:

- New Security facility on the T1 Mezzanine.

1 The trigger value depends on CAR allowing daa to invest in new Technologies for the Central Search Area in T1. If these Technologies are not allowed, the effective throughput rate in the current area will drop and the need to move to the Mezzanine level is brought forward.

Investment in T1 now will fix short term bottle-necks and also fix in with Dublin Airport's long term master plan, as T1 is the locus of future growth at the airport.

6.1.1 Demand

Traffic increased by 6% in 2013 and has risen by a further 7% in the first half of 2014. Growth is being experienced in nearly all markets with increasing load factors leading to additional slots being requested and in parallel, larger aircraft being brought in to facilitate expanding route demand.

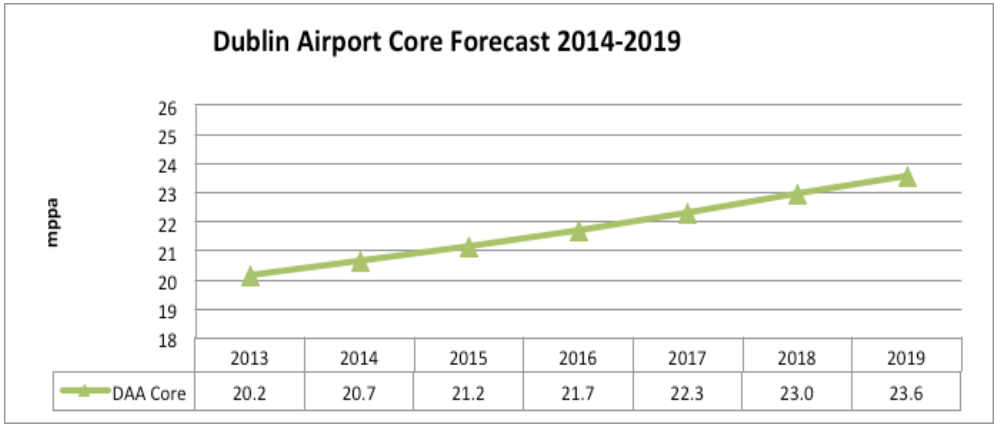
The demands on all processors vary significantly by hourly, daily and monthly periods over any one year. Looking at the range of daily throughput recorded for 2013 alone underlines the impact placed on the airport as a result of such high concentrations of traffic in peak time:

Exhibit 6.2: Variability in Daily Demand - 2013

LOW	MEAN	MEDIAN	PEAK
35,000 pax/day	55,000 pax/day	56,000 pax/day	75,000 pax/day

The traffic forecast as shown in Exhibit 6.3 presents a significant increase in demand on airport facilities with a CAGR of 2.6% between 2013 and 2019. By the end of this period Dublin airport is expected to handle a further 3.5 million passengers through its existing facilities, a 17% increase.

Exhibit 6.3: Core Forecast 2014-2019



Based on this forecast, daily throughput would be set to rise above current traffic levels as follows:

Exhibit 6.4: Variability in Daily Demand - 2019

LOW	MEAN	MEDIAN	PEAK
+5,000 pax/day	+10,000 pax/day	+10,000 pax/day	+12,000 pax/day

The demand represents growth across both terminals. Peak day passenger throughput will see average increases of circa +12,000 passengers per day, representing significant extra demand on the existing facilities.

Moreover, the transfer market at Dublin Airport is seeing significant growth. In 2013 the annual transfer throughput was almost 550,000 passengers. This is forecast to reach over 700,000 passengers in 2014 and under the Core growth scenario, by 2019, 1 million transfer passengers are expected to be handled.

In the absence of taking appropriate measures to address growing demand in areas of the business where significant stress points currently exist, deterioration accelerates from both an operational, commercial and reputational viewpoint.

In the context of the various critical processors classified as bottle-necks, this growth correlates to increased 2019 demand as follows (all values highlighted in red represent a demand over current capacity):

Exhibit 6.5: Capacity Bottle-necks 2019

Forecast Scenario	T1 Security	T2 Transfers	T2 Check-in	Stands*	Pier 4 Code D+E size aircraft
Units	Pax/hour	Pax/15 mins.	Desks	Stands	Stands
2013 Actual	2,400	550	56	71	9
Existing Capacity	3,090	163	56	74	9
2019 Core Growth Demand	2,900	650	60	81	13
2019 T1 High Growth Demand	3,600	650	60	89	15

*Refers to stands on the apron east of Runway 16-34, excluding standby aircraft

For example, based on the Core growth forecast, T1 is seeing an expected increase of 500 passengers per hour during the peak hour in T1 (i.e. rising from 2400 passengers per hour to 2900 passengers per hour), where the capacity is 3,090 passengers per hour.

Save for the T1 central search facility, under Core growth, demand exceeds capacity for each of the existing capacity bottlenecks.

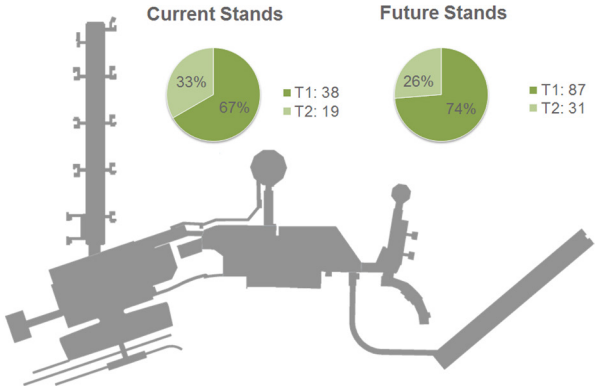
6.1.2 Capacity

Where an airport's infrastructure and opex are constrained, the airport's ability to meet growing demands is controlled by two inversely related parameters: Level of Service (LOS) and passenger numbers. The higher the Level of Service, the lower the passenger handling capability of the airport.

daa is committed to offering an "optimum" Level of Service C in accordance with the IATA ADRM to both its airline and passenger customers. In addition, daa is committed to meeting its goal of being a top 5 airport in Europe for service quality and it is also prescribed to meet CAR's service quality metrics.

In the event that the proposed Opex and Capex measures are not allowed, Dublin Airport will be restricted in its ability to facilitate the projected growth with consequential impact to all stakeholders.

Exhibit 6.6: Stand Utilisation Current and Future

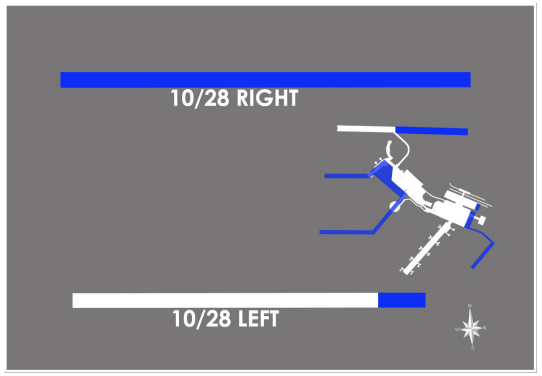


The 20.2 million passengers in 2013 equates to an annualised utilisation of 56% for T1 and 87% for T2[2]. Although these measures are coarse metrics, they do give an informative overview of both utilised and available capacity across both terminals.

2 Capacity of T1 is circa 18mppa and T2 is circa 11.5mppa, where both T1 and T2 handled circa 10mpa in 2013.

T2 thus, is at capacity for significant parts of the day. Going forward, the main approach should then be upgrading T1 in order to attract airlines that currently operate from T2 and to cater for further growth.

Exhibit 6.7: Extract from Dublin Airport Master Plan



In advance of examining the impact of peak hour bottle-necks on the airport operation system, we first look at how long term growth at Dublin airport will be accommodated.

As can be seen in Exhibit 6.7 from the Dublin Airport Master plan, the majority of horizon development (in blue) will be north of T2, including:

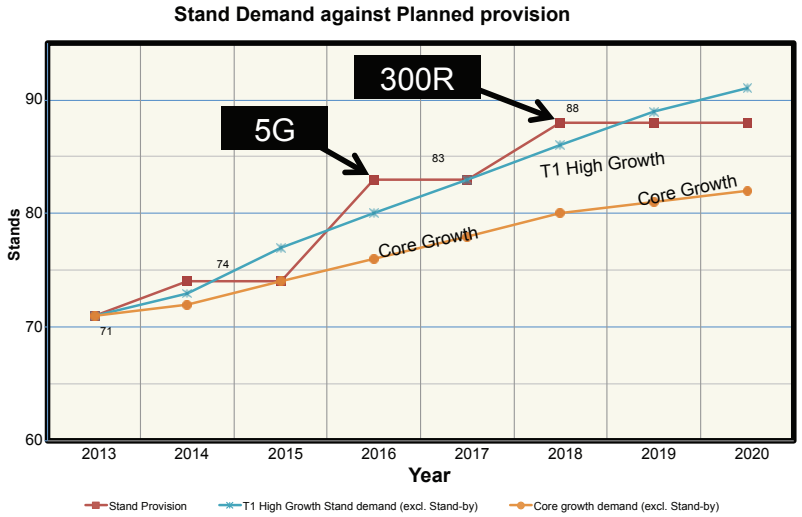
- Northern runway
- Expansion of Pier 1
- Rebuilding and expansion of Pier 2
- Rebuilding and expansion of Pier 3
- Expansion of T1

74% of all future contact stands will be associated with T1 making T1 the heart of future growth needs.

Stands & gates

Issue: Lack of stand availability, particularly around or close to Pier 4.
Solution: 1). Build Aprons 5G and 300R.
2). Attract some existing and future airlines to T1 by improving T1 facilities.

Exhibit 6.8: Stand Planned Capacity and Demand



Dublin Airport is at capacity for stands, having reached the trigger point for 5G a number of times this year[3]. 5G meets expected future demand under Core growth up to 2019 but it only gives a small cushion should the airport grow above this level. Functioning in the absence of a 10% stand redundancy goes against industry best practice, the consequence of which has already been seen at Dublin Airport, with aircraft being delayed accessing contact stands and also experiencing delays to runway take off and landings.

While daa's welcomes CAR's approval of Apron 5G, it has disallowed the Apron 300R project, which would provide 5 narrow body stands (suitable for turboprop-type aircraft), adjacent to Pier 3. Apron 300R has a number of advantages for the airport:

- Building Apron 5G and 300R would move stand capacity from 74 to 88. This improves daa's level of redundancy to 8% by 2019 against the Core Forecast.
- Apron 5G is located north of Pier 1, relatively far from Pier 4. This indicates the requirement for long bus journeys and possibly separate double bus operations (to unload and load passengers) from T2, which stakeholders signalled to be problematic in the capex consultations.

  "Is it one extreme of the Airport serving remote aprons at the other extreme of the Airport. For whatever airline who operates through that bussing serving 5G stands that is not a particularly attractive proposition". Colin Spear – IATA

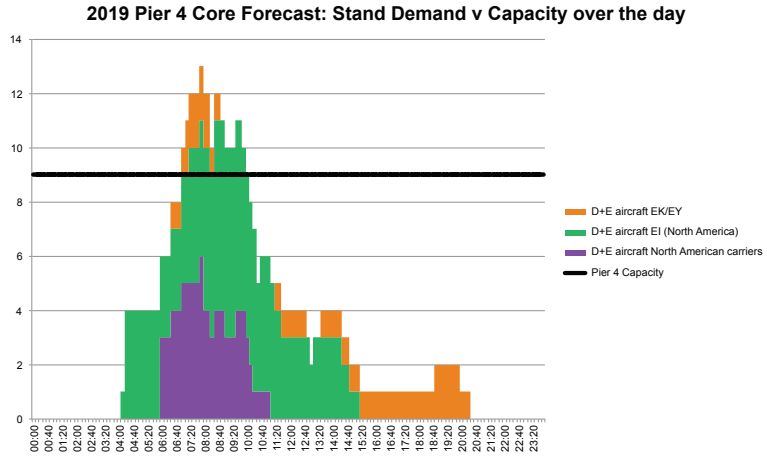
  "I just can't see that with journey times alone you would get passengers from that area to 5G and get an aircraft out on time. It is just too far, it is too long and it is too convoluted". Ger Kenny – Sky Handling

3 daa will shortly submit to CAR on this matter.

At the same time, Apron 300R could not replace 5G because it provides fewer, smaller stands, not suitable for narrowbody (and larger) jets. It would also be inefficient from a construction cost point of view to reduce the scale of Apron 5G. This means that both 5G and 300R are required; 5G to provide the capacity and 300R to provide operational efficiency.

Pier 4 itself has a capacity of 9 wide body stands but the demand will be as many as 4 stands greater by 2019.

Exhibit 6.9: Pier 4 Stand Capacity and Demand



These flights are as follows:

- Six Transatlantic (non Aer Lingus) code D&E Aircraft
- Four-five Aer Lingus (EI) code D&E aircraft
- Two Emirates/Etihad (EK/EY) code D&E aircraft

Consequently, at least three widebody aircraft will have to be accommodated elsewhere, namely those aircraft that don't involve US Preclearance. While these aircraft could use remote stands, from a product point of view this would not be acceptable to these long haul carriers. The only remaining viable option is then improving Pier 3 and T1's facilities in order to attract these carriers into T1.

T2 Check-in

Issue: Demand for check-in desks exceeding supply in T2.

Solution: Attract some existing and future airlines to T1 by improving T1 facilities.

Exhibit 6.10: Check-in desk capacity and demand: T2

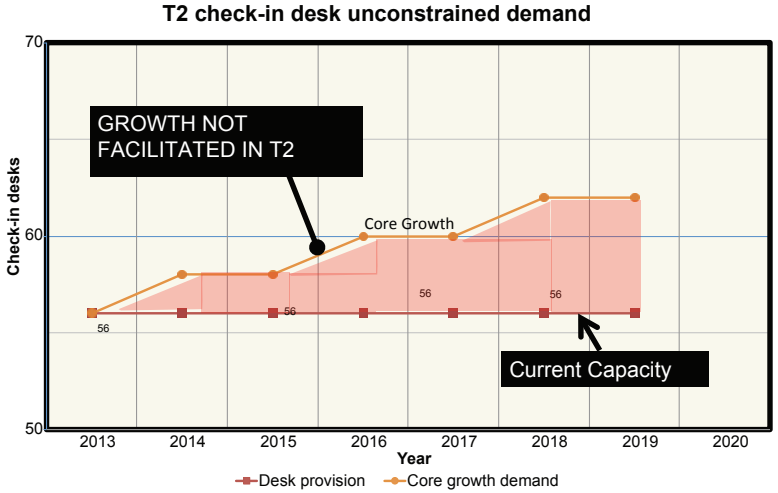
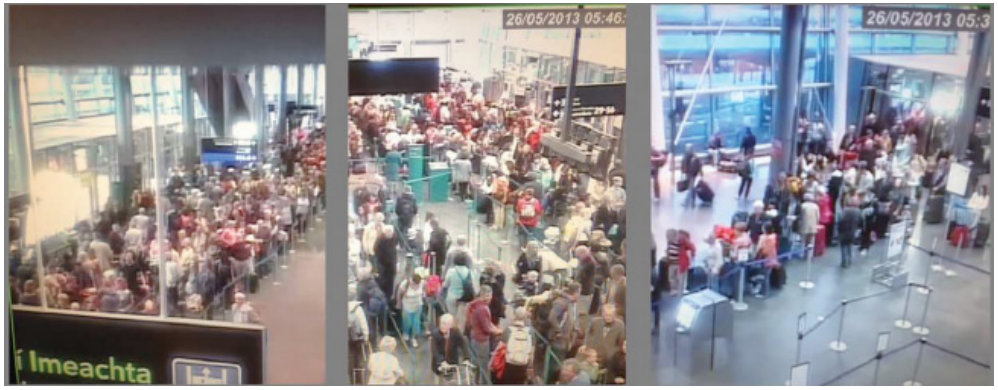


Exhibit 6.11: Check-in queues: T2



As shown in Exhibit 6.10, check-in demand during the summers of 2013 & 2014 has consistently exceeded its capacity of 56 desks. The impact of processing more passengers than the facility's capacity is evident from the images taken in 2013 (Exhibit 6.11), demonstrating overcrowding and a poor environment for customers.

This situation is expected to further deteriorate in subsequent years. In fact, Dublin Airport has already added some provisional check in desks to cater for demand in T2 but these desks have no direct access to the baggage facilities and require additional opex to operate them. Thus, additional growth in T2 during the peak hours cannot be efficiently accommodated.

T1 central search area

Issue: Lack of processing capacity in T1 Central Search Area.
Solution: "Central Search Area New Technologies" with a Trigger Project "New Security facility on the T1 Mezzanine".

T1, despite being sufficiently large to cater for circa 18 million passengers per year, has a singular stress point in its Central Search Area which is curtailing its ability to facilitate additional growth demand. The typical peak hour processing rate per unit in the Search Area is currently at 180 passengers (which is what Dublin Airport has used in its modelling). In accordance with the IATA ADRM[4], this rate can be converted into an effective processing capacity of 3090[5] pax/hour.

Queue times for the period Jan 2013 through to July 2014 are presented in Exhibit 6.13. Even with a 7% increase in passengers in the first half of 2014, a significant step change improvement is noted. This is the result of a) additional resources being deployed and b) significant process improvement measures being implemented in 2013. The 95th percentile maximum queue times in T2 have reduced from 18 minutes period to a more consistent 8 minutes period. Likewise in T1 these similarly measured queue times have reduced from 22 minutes to 14 minutes. Clearly these improvements would not have been achieved without the aforementioned interventions.

4 ADRM is IATA's Airport Development Reference Manual. See http://www.iata.org/publications/Pages/airport-development.aspx
5 This is lower than Dublin Airport's declared capacity for T1 of 3,375, which is a historical figure calculated prior to the reconfiguration of T1.

Exhibit 6.12: T1 Longest queue per day Jan '13 to present

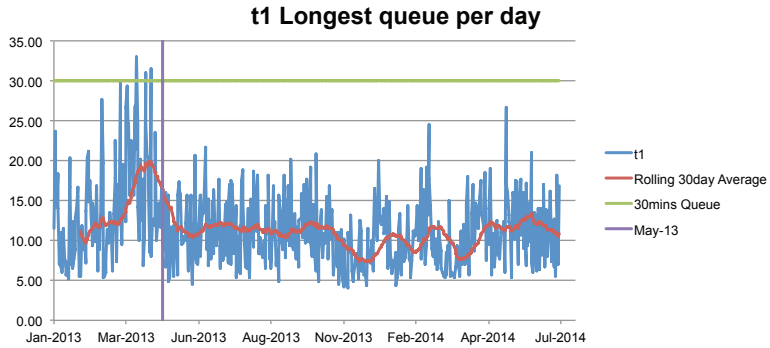


Exhibit 6.13: Security Queues T1 and T2

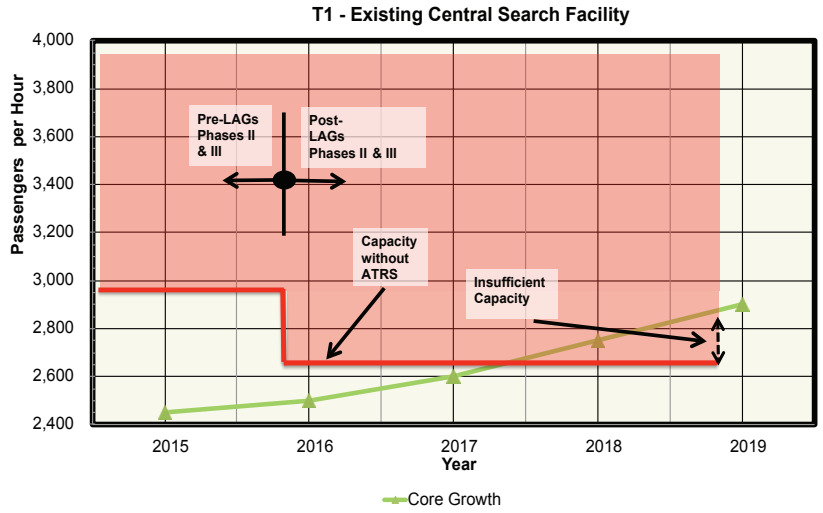
While CAR's Security target is for a maximum waiting time of 30 minutes, the IATA ADRM bases its LOS on an average annual waiting time. The ADRM indicates that LOS C equates to an average annual waiting time of 5 to 10 minutes. The average measured queue times in the T1 central search facility for the period July 2013 to July 2014 was approximately 11 minutes. This equates to a LOS D i.e. sub-optimum. Furthermore, for the period in 2013 prior to the introduction of additional security staffing, the LOS would have been classified as LOS E.

Exhibit 6.14: Extract from IATA ADRM

		SPACE STANDARDS FOR WAITING AREAS (m^2/pax)			WAITING TIME STANDARDS FOR PROCESSING FACILITIES (Minutes)		
Passenger Terminal Processor					Economy Class		
ADRM 9th Edition **ADRM 10th Edition**		A B Over design	C Optimum	D E Suboptimum	A B Over design	C Optimum	D E Suboptimum
Public Departure Hall		>2.3	2.3	<2.3			
Check-in	Self-Service Boarding Pass / Tagging	>1.8	1.3 - 1.8	<1.3	0	0-2	>2
	Bag Drop Desk (queue width 1.4 - 1.6 m)	>1.8	1.3 - 1.8	<1.3	0	0-5	> 5
	Check-in Desk (queue width 1.4 - 1.6 m)	>1.8	1.3 - 1.8	<1.3	<10	10-20	>20
Security Checkpoint (queue width: 1.2 m)		>1.2	1.0 - 1.2	<1	<5	5-10	>10
Emigration (Passport Control) (queue width: 1.2 m)		>1.2	1.0 - 1.2	<1	<5	5-10	>10

With further growth forecast, these conditions will only deteriorate further if CAR doesn't allow daa to make the appropriate investments. (see Section 8).

Exhibit 6.15: Central Search Capacity and Demand



T1 central search has a current capacity of 3090 pax/hour. By 2016 this will be negatively impacted by the introduction of Liquids and Gels legislation (LAGs), Explosive trace detection (ETD) and

potentially other legislative requirements, all resulting in increased security screening requirements. Resultant throughput rates are not known in the industry but are expected to fall by around 15% off their current processing rate. Such an impact without the introduction of compensatory measures would result in a throughput rate of circa 2700 pax/hour as shown in Exhibit 6.15. If traffic growth remains in line with Dublin Airport's Core forecast, when Phase II LAGs legislation is introduced, an intervention will be required in the form of: Phase a) ATRS[6]

If traffic growth is closer to Dublin Airport's T1 High Growth scenario a further intervention will be required in the form of: Phase b) new and dedicated expanded Security facilities

In the consultation process, Phase b) was presented with an associated trigger of 11.5million passenger throughput in T1.

T2 Transfer facility

Issue: Inadequate capacity to handle transfer demand in T2.
Solution: Build new T2 Transfer Facility.

Exhibit 6.16: Queuing in the Transfer corridor: T2

The transfer facility located in T2 consists of 3 X-Ray processors (hence 3 screening lanes) and has a capacity of 163 per 15 minutes. From analysis carried out in 2013 and 2014 the maximum queue length experienced on a typical busy day was 360m resulting in a queue time of circa 40 minutes. The required queue area is some 440sqm. With only 160sqm of queue space directly available, it has become a consistent requirement to have up to 200m of people queuing along the corridor in advance of the facility. The security camera image in Exhibit 6.16 shows a 130m queue for the transfer facility extending back into the pier.

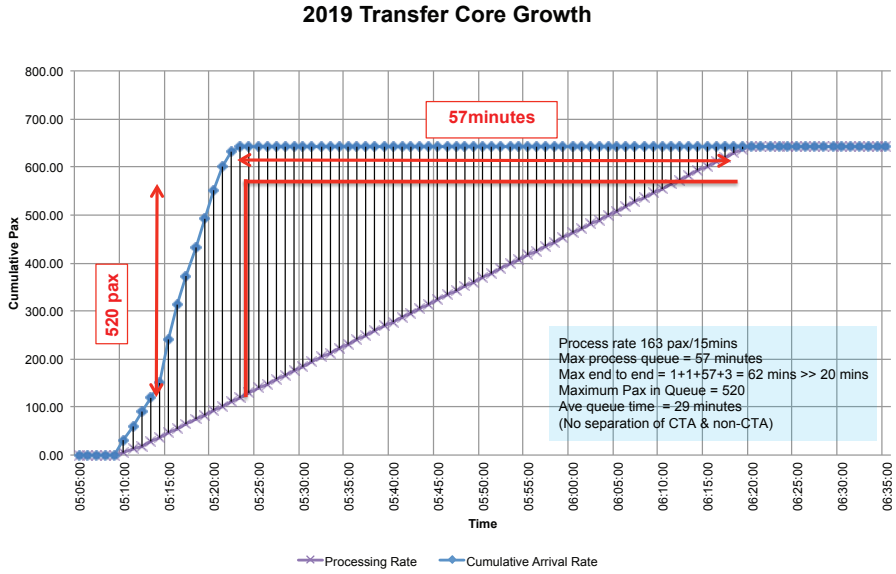
6 ATRS is the Automated Tray Return System in Security

Under the Core growth scenario, the current peak hour demand for transfers will increase further to 650 passengers per 15 minute period. Queue lengths are currently classified as suboptimal and will worsen to LOS E+ in accordance with the IATA ADRM, an unacceptable level.

Over the course of this summer season daa have implemented a temporary managed arrangement whereby non-CTA and CTA bound passengers are segregated at source. This has a propensity to reduce transfer passenger demand for the transfer facility, albeit the arrangement is unreliable. On three occasions in June 2014 it was not possible to implement the segregation due to mixed use demand on Pier 4 (see Panel)

Exhibit 6.17 illustrates how current processing capacity faced with Core Growth demand would lead to queues of up to 57 minutes by 2019. Passengers are arriving in a wave, with over 600 passengers arriving in a 15 minute period but the facility can only process 163 passengers per 15 minute period, so large queues develop.

Exhibit 6.17: Clearing the transfer wave in the 05:00 hour



In contrast, the proposed new transfer facility would drastically shorten queue times. Based on the core forecast for 2019, with an estimated total of 1.0m million passengers using the facility, given the new Transfer Facility with 10 processors in operation, with a processing rate of 185 pax/hour, the end-to-end queue time is expected to be circa 12 minutes at the peak.

Managed Solution to Transfer Passenger Screening in Terminal 2

Due to the capacity constraints in the transfer facility, daa has introduced a new process for transfer passengers in Terminal 2, in order to maximise the capacity of the existing transfer facility during the peak hour of demand. This process applies to:

1. passengers arriving on flights into Pier 4
2. from airports with similar security standards to Dublin
3. and transferring to destinations outside of the Common Travel Area (CTA)[1]

Upon arrival at Dublin, these passengers are injected into the departures level on Pier 4, without the need to clear Transfer Immigration and security screening. This involves a number of steps to ensure compliance with immigration and security screening requirements. The process involves:

1. Passengers enter Pier 4 in the normal manner and proceed to arrivals level
2. Upon arrival on upper level, passengers travelling to Non CTA and CTA destinations are identified and segregated (via signage and announcements)
3. Passengers transferring to CTA destinations and passengers disembarking at Dublin are directed from Pier 4 as per normal channels.
5. Upon arrival at the controlled transfer injection point passengers must present their boarding card for inspection which is scanned and it is confirmed that the passenger has valid boarding card for travel to a Non CTA destination.
6. If at this point a passenger does not have a boarding card or is travelling to a CTA destination, passenger will be requested to re-enter arrivals level and follow normal channels.

This process is resource intensive., with approximately 8 staff dedicated to this solution each morning. Depending on arrival times of US aircraft this process can last approximately 1 hour. In advance of operation the following procedures must be completed:

1. a security sweep must be performed of the entire Pier
2. doors to each airbridge must be checked to ensure they are closed
3. Escalators must be reversed to ensure they are moving downward from the arrivals level to departures level
4. Staff must be positioned at the entry to the node on the arrivals level equipped with hand-held boarding card readers, to verify boarding cards
5. A staff member must be positioned at the entry point to the node at the departures level to ensure no departing passengers try to gain entry to the arrivals level.

1 Common Travel Area comprises the Republic of Ireland, United Kingdom, Isle of Man, Jersey and Guernsey.

Risks

Implementation of this process is dependent on a number of factors:

1. Flights must arrive into Pier 4. Passengers arriving on flights into Pier 3 must go through the full Transfer Immigration and Screening process
2. Passengers arriving to Pier 4 must remain segregated from other passengers arriving from countries with a different security standard e.g. from Canada or UAE
3. There must be a node available on Pier 4 to implement the process. Departing flights take priority at the nodes, and require at least 40 minutes for the departures process
4. Delays to arriving flights may mean that all nodes on Pier 4 are in use for other flights and the process can't be implemented.
5. Hand-held boarding card readers must be available
6. If new flights are added or airlines change the times of their flights into the same period of the day as these transfer flights, the operation of this solution will become even more challenging, requiring more manpower, and possible complaints from airlines as they are moved around in order to accommodate these transfer flights and reduced operational flexibility.
7. In the event that the 'One-Stop Security' regulations were to change and all passengers were required to be screened, Dublin Airport's transfer product would be well below sub-optimum.

Due to the operational complexity of the solution as described above, there were 3 occasions in June 2014 (7th, 13th, 19th) where it was not possible to use the process or it had to be suspended during the course of operations where it was not possible to use the process, or it had to be suspended during the course of operations.

T1 age & condition

Issue: Deterioration of T1.
Solution: Regeneration of the arrivals, departures & façade.

The ability of existing infrastructure in T1 to support and service demand relies primarily upon a terminal building dating back to 1972 with a useful design life of 50 years.

Exhibit 6.18: T1 1972

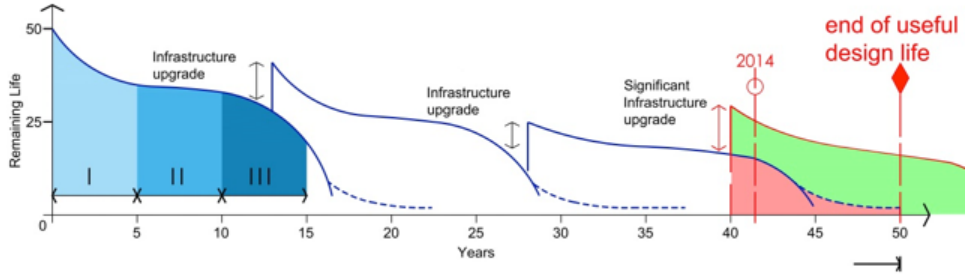
The service life of T1 began after construction completed in 1972, at which point operating conditions, levels of service, and reliability were at their highest levels, and routine maintenance was able to sustain "near original" terminal conditions. Over the course of the terminal's 42 year service life, deterioration of the terminal's condition has naturally occurred with age. Also, since 1972, there have been many changes in areas like Technology, Retail, Security and Check-in. T1's service life is as much affected by its ability to perform those functions as by the condition of the building's equipment, components, and systems. As a result, T1 now requires refurbishment or renewal to extend its service life to beyond its useful design life.

It is normal that terminal buildings undergo a series of renewal cycles during which building components and systems are refurbished, and even undergo significant changes to the original layout of interior spaces.

Exhibit 6.19 from the ACRP[7] Report 68 clearly identifies a need to make key interventions in terms of asset rehabilitation in order to properly and safely prolong its useful life. Functional obsolescence is not an impacting factor on T1, the building has the capability to accommodate foreseeable operational needs within the building's fabric. On the other hand, for the airport to secure reasonable surety that the building will continue safely beyond its originally certified useful life it is imperative that an intervention is made at this point in time. Deterioration towards the end of a service life has been found to be exponential in nature. The reader is referred to the current plans of Heathrow to demolish its own T1 building of similar age, after previously demolishing T2.

7 ACRP is the *Airport Cooperative Research Program*

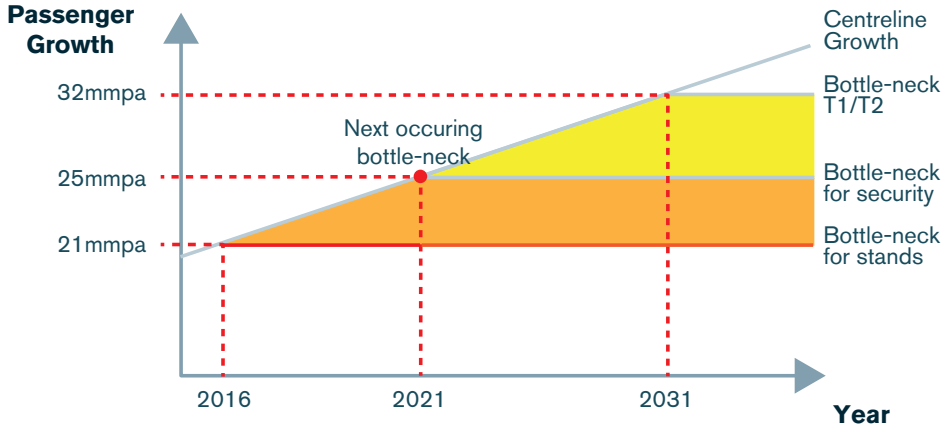
Exhibit 6.19: Extending service life through timely investment



6.1.3 Business case

The business case is structured around the same principal used for a factory production process. If the factory process incurs a bottle-neck and a demand remains for extra production this is then assessed on a cost-benefit basis in terms of NPV. The Business Case is prepared on the basis that capacity constraints at the airport are alleviated through the implementation of a number of projects which will collectively allow passenger growth at the airport.

Exhibit 6.20: Dublin Airport capacity bottle-necks



The bottle-neck for stands lies between 21 – 22 mppa. For the purpose of the financial analysis, it has been assumed to be at the upper end range – i.e. 22 mppa. The bottle-neck for security lies at 25 mppa[8] (where this bottle-neck refers to the need to move the facility to the mezzanine area post the CIP15.4.004 Central Search Area New Technologies investment). It is assumed that 2nd parallel runway is constructed based on a capacity of 25 mppa (and proposed trigger of 23.5 mppa) – therefore apportionment of revenues for runway capex & revenues excluded.

The projects included in the business case are Apron 5G, Pier 3 Flexibility, T2 Bussing Facility, the Transfer Facility, T1 Check-in & Security, T1 Arrivals and Façade. Aero-Revenues are calculated by reference to the price cap and pax. Non-Aero Revenues reflect the incremental revenues from these projects and exclude revenues from existing commercial activities (e.g. retail, car, park, etc.) as they are not directly related to projects. Opex reflects incremental payroll and non-payroll costs directly relating to these projects. For example, T2 Bussing Facility includes the estimated cost of cleaning, insuring, maintaining, servicing and manning but excludes non-project specific opex).

Exhibit 6.21: Projects included in the business case

Project	CAR decision	Capex by Project	Total Capex
Apron 5G		€18.2m	€128m
Pier 3 Flexibility (updated see Section 9)	Disallowed	€15.0 + €11.1 =€26.1m	
T2 Bussing Facilities		€13.3m	
Transfer Facility	Disallowed	€21.5m	
T1 Check-in and Security	Disallowed	€38.3m	
T1 Arrivals	Disallowed	€8.9m	
T1 Facade	Disallowed	€0.7m	

Apron 5G, Pier 3 Flexibility, T2 Bussing and Transfer Facility are required to alleviate bottlenecks at ~21-22 mppa. Given T1 Check-in & Security investment is required at 25 mppa, which is the same constraint as 2nd parallel runway, an apportionment of future revenues has been made to fund the T1 Check-in Security - i.e. 38.3/(38.3+245). T1 Arrivals & Façade are critical to rebalancing the airport & increasing the inter-operability between terminals by attracting airlines currently in T2 over to T1.

8 For the purpose of this business case, the capacity of the T1 security is set at a conservatively high level, however, from a capacity point of view, the required trigger is 11.5 mppa for T1.

Exhibit 6.22: Business case summary[9]

	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total
	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m
Capex	(18.2)	(63.7)	(9.6)	(38.3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(128)
Non-Aero Revenue	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.9	1.5	2.0	2.6	8
Opex	0.0	(0.1)	(2.5)	(2.5)	(1.2)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(13)
Aero-Revenue	0.0	0.0	1.0	9.1	16.9	25.3	32.3	33.3	34.3	35.3	36.3	223
Cash flows	**(18)**	**(62)**	**(11)**	**(31)**	**16**	**24**	**31**	**33**	**35**	**36**	**38**	**91**
NPV at 7%	**17**											

The capex of €128m is assumed to have a 20 year asset life. Commercial revenue of €8m and incremental opex of €13m is generated over the life of the asset. Aeronautical Revenue of €223m is assumed by 2025 of which €26.9m in 1st period. Alleviated pax (excl. apportionment) remunerated at the present price cap. The net cash flows are €102m by 2025; -€107m in the first period. The net present value of the Business Case projects is +€17m.

Net impact is €112m reduction in airport charges by 2025 of which +€9m increase in the first period. Given the capacity constraints alleviated, the capex proposal is airport charges dilutive by €0.14/pax in 2019 rising to €0.90 by 2025. Were there no capacity constraints, capex of €128m would add €0.08/pax in 2016 rising to €0.58/pax in 2019 before falling to €0.40/pax by 2025.

9 The business case in exhibit 6.22 has been updated to reflect the increased cost of the Pier 3 flexibility project. Exhibit 6.22A below shows the business case as it was presented at the capex consultation

Exhibit 6.22A: previous business case summary.

	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total
	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m	€'m
Capex	(18.2)	(51.3)	(9.6)	(38.3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(117)
Non-Aero Revenue	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.9	1.5	2.0	2.6	8
Opex	0.0	(0.1)	(2.5)	(2.5)	(1.2)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(13)
Aero-Revenue	0.0	0.0	1.0	9.1	16.9	25.3	32.3	33.3	34.3	35.3	36.3	223
Cash flows	**(18)**	**(51)**	**(11)**	**(31)**	**16**	**24**	**31**	**33**	**35**	**36**	**38**	**102**
NPV at 7%	**27**											

6.2 Passengers' willingness To pay: T1 improvements

As stated in our Regulatory Proposition, daa believes that passenger welfare and preference should be given more emphasis in regulatory decision-making as passengers are the ultimate consumers whose welfare is to be served by the outcomes which regulation determines. Passenger welfare is also a crucial factor in determining passenger spend, which in turn feeds the commercial revenue which subsidises airport charges. Passengers have the classic characteristics of a stakeholder group whose interests are likely to be neglected, namely they form a large, anonymous, heterogeneous, dispersed group, with no collective organisation or representation.

To ascertain the preferences of passengers regarding the Terminal 1 redevelopment plan which has been disallowed thus far by CAR in its Draft Determination, daa engaged NERA to undertake a passenger willingness-to-pay study – a sophisticated preference-revelation analysis - providing objective, empirical analysis of the value passengers place on the proposed redevelopment of Terminal 1. A summary of the study findings are presented here - the complete study report is available as Appendix 3).

Summary of Willingness to Pay Study

The main survey consists of 550 completed responses. NERA analysed the composition of the sample to confirm it is representative of the wider population of passengers who use T1.

Stated Preference (SP) techniques were used to estimate how much extra (on top of their current fare) passengers are willing to pay for improvements to T1. SP studies have been used in the UK to value the impacts of regulated company projects and programmes in a number of industries, including as an input to regulatory reviews.

Both Gatwick and Heathrow have commissioned SP studies to estimate passengers' willingness to pay for proposed improvements. In its Final Proposals on the regulation of Heathrow from April 2014, the UK CAA noted that "***the CAA acknowledges the value of research of this kind in gauging consumer preferences and relative priorites.***[1]" In fact, the CAA has also commissioned an SP study directly, which it used alongside the SP study commissioned by Gatwick, in deciding which capex schemes to includes in its projections for Gatwick.

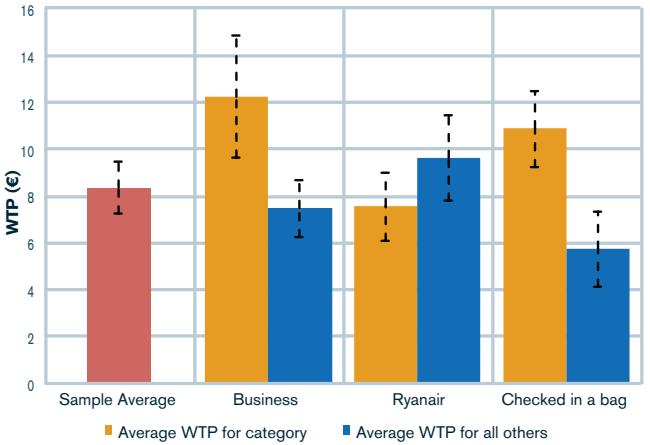
The study was based on only those parts of the T1 development programme that are expected to provide benefits mainly to passengers (rather than airlines). The three projects concerned are:

- T1 Facade (€0.7m)
- T1 Arrivals (€8.9m)
- T1 Check-in and Security (€38.3m)

with a combined cost of €48m, which is calculated to add approx €0.20 per passenger to airport charges over a period of 25 years.

In the dichotomous choice contingent valuation (DCCV) exercises the respondent was initially asked to choose between two options. The improvement option was associated with a higher fare while the 'as now' option was associated with a €2.50 fare reduction (broadly consistent with the reduction in airport charges implied by CAR's Draft Determination). Even when offered this reduction in fares, there was a collective appetite for the improvement option which was confirmed when the average willingness to pay for all improvements was shown to be €8.34 (see Exhibit 6.23). The results of this study challenge CAR's expectation that 'the generality of users will prefer a lower price cap' as per paragraph 2.8 of the Draft Determination.

Exhibit 6.23: WTP Estimates for All Improvements



Business travellers and passengers checking-in bags had a higher than average willingness to pay.

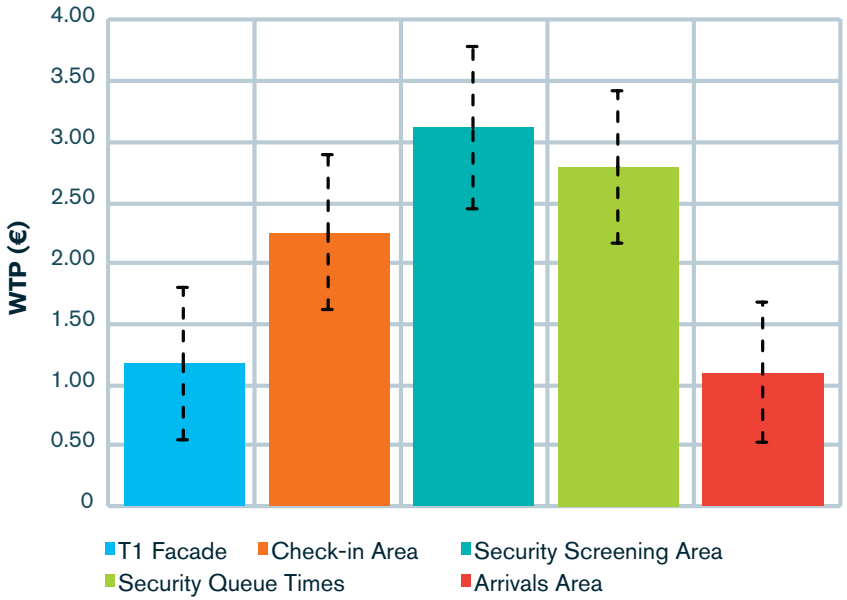
1. CAA (2013), "Economic regulation at Heathrow from April 2014: Final Proposals", 3 October 2013, paragraph 11.9

Ryanair passengers are willing to pay less than other passengers on average, but their willingness to pay is still positive (over €7) and statistically significant.

The study also allowed the expected benefits of the projects to be valued individually as well as in their totality. The three projects are expected to provide the following benefits:

- improved, more modern outward appearance of the T1 facade making it clearly identifiable as a separate terminal
- lighter and brighter ambience in the check-in area with increased toilet facilities and the provision of self-service check-in kiosks and bag drop facilities
- improved layout and better queueing and redress areas for security screening
- reduction in security queue times
- improved arrivals areas with a 'modern Irish' welcome for arriving passengers, clearer wayfinding and more space and better facilities for 'meeters and greeters'

Exhibit 6.24: Average WTP Estimates for Individual Improvements



As can be seen from Exhibit 6.24 each of the benefits evaluated individually had a positive value to the respondents on average in excess of the cost of provision. An average willingness to pay of slightly above €1 for each of the façade and arrivals area improvements, and between €2.26 and €3.11 for each of the check-in area, security screening area and security queue time improvements, was found.

The study further investigated the willingness to pay expressed to elicit whether the projects were valued differently by different passenger types, and the results of this analysis are shown in Exhibit 6.25.

Exhibit 6.25: Summary of WTP by passenger group

Passenger Group	T1 Façade	Check-in Area	Security Screening Area	Security Queue Times	Arrivals Area
Ryanair	€1.04	€2.00	€2.76	€2.48	€0.97
Travelling as a couple	€1.45	€2.79	€3.85	€3.46	€1.36
Family with Children under 16	€1.76	€3.40	€4.69	€4.21	€1.65
Checked in a Bag	€1.17	€3.33	€3.11	€2.79	€1.10
UK or Northern Ireland Resident	€1.55	€3.00	€4.14	€3.72	€1.46
Average	€1.17	€2.26	€3.11	€2.79	€1.10

- Ryanair passengers' willingness to pay for each of the improvements is lower on average than that of passengers using other airlines, but their WTP is still positive and statistically significant;
- Passengers travelling with another adult, with children under 16, or that live in the UK had higher willingness to pay than the average of all T1 passengers for each of the improvements;
- Passengers who checked in a bag are willing to pay more for the improvement to the check-in area than the average of all T1 passengers.

Conclusion

This report fills a previously overlooked gap in relation to how passengers (as opposed to airlines and ground handlers) view the trade-off between lower airport charges and improvements in airport facilities.

NERA employed best practice techniques that have been refined over a number of years and a methodology that is used to inform both government investment decisions and increasingly economic regulators' decisions on future capital allowances.

Despite a conservative approach that may understate passengers' true willingness to pay for improvements NERA have generated statistically significant estimates of passengers' WTP that are many times higher than the expected cost of the investments.

It should be noted that while NERA identified some factors that may lead to lower willingness to pay in certain groups of passengers, even in these cases the value associated with daa's proposed improvements is still strongly positive, and many times greater than the expected cost.

Overall, NERA provide strong evidence that daa's proposed improvements to T1 will generate benefits to passengers that are significantly higher than the expected cost of the improvements.

NERA's full report is available at Appendix 3.

6.3 Runway capacity

The growth and development of Dublin Airport has benefited over many decades from a continuous focus on the future through long-term planning, safeguarding of land, and timely and economically justified implementation of capacity improvements. In keeping with this approach, daa proposed that the 23.5 million passenger per annum (mppa) trigger for the Northern Parallel Runway set by CAR in the 2009 Final Determination should not be increased; this trigger value already represents a small delay in the provision of this important infrastructure necessary for sustained future growth of the airport. However, in the Draft Determination CAR has set out conditions which will unjustifiably delay the operational delivery of the Northern Parallel Runway:

The trigger for the Northern Parallel Runway is increased from 23.5 mppa to 25 mppa and this increased trigger is to be achieved without the additional peak capacity to be delivered through the additional line up points to the existing runway.

This proposed change to the value of the trigger for the second runway is inconsistent with an economic analysis of the appropriate timing of additional runway capacity delivery.

6.3.1 Identifying Appropriate Timing of Additional Runway Capacity - General

There are 3 identifiable stages of runway capacity utilisation:

A. Unconstrained growth – there is sufficient runway capacity to satisfy demand over all time periods of the day;

B. Growth constrained in the peak – the peak[1] period at the airport can no longer accommodate additional flights, but there remains sufficient off-peak capacity for overall growth to continue; and

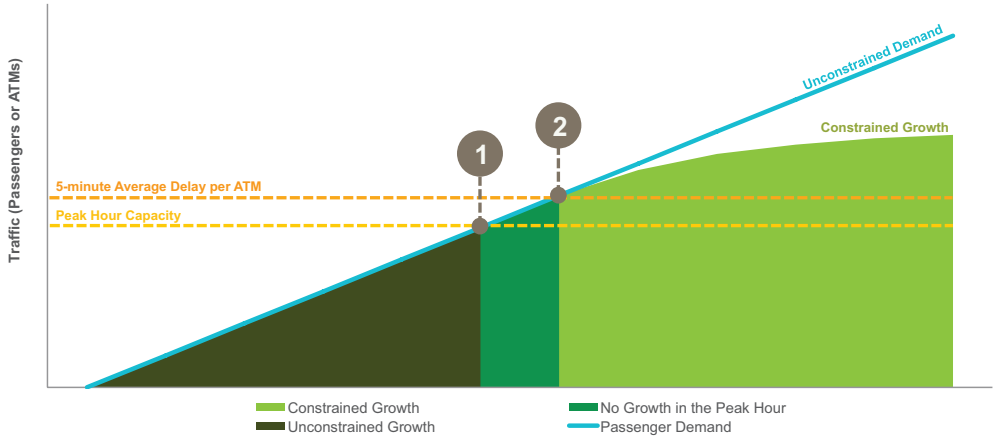
C. Growth constrained both peak and off-peak – in this stage, although unfilled off-peak capacity remains, the time periods in which this off-peak capacity is available are not economically attractive to airlines and demand for air transport therefore remains unfilled. Aircraft movement growth at the airport slows progressively and eventually tapers off, without all theoretical capacity being filled.

To simplify the analysis we examine a single-runway airport selecting the appropriate point to deliver a second runway (which is the appropriate case for Dublin Airport).

In Exhibit 6.26 below stage A ends at point 1 and stage B at point 2.

Exhibit 6.26:

Airfield Capacity Evolution



It is relatively straight forward to ascertain point 1 in the analysis – each airport (subject to slot allocation rules as Dublin is) will have a peak which is of particular relevance to its carrier base, and a defined capacity for that peak[2]. Once all defined capacity at the relevant peak is taken up

1 There can be multiple peaks at an airport e.g. the peak of departure movements, the peak of arrival movements and the peak of total movements over the day as well as local peaks at different times across the day.

2 Enhancements to the current declared capacity are possible to an extent, as evidenced by the plan proposed by the Runway Process Improvement Committee and approved by the IAA, however these enhancements represent only a small % increase in declared capacity.

the airport has moved into stage B. Defining point 2 is somewhat more complex – it is difficult to ascertain, except in hindsight, where demand for air transport deviates from availability of air transport (point 2 and beyond). A proxy commonly used in the US, where there is no slot allocation, is to position point 2 where there is an average 5 minute delay per movement over the entire day. After this point it is considered that growth will slow to an extent that demand will remain unfulfilled irrespective of notionally 'available' runway capacity.

In practice, where slot allocation rules apply, such an average delay in movements across the day will not be allowed – the allocation of additional slots will cease before such a mean delay per movement could occur. Therefore, determining point 2 at an airport with slot allocation is somewhat more difficult; however it is possible to make certain observations about the likely range between point 1 and point 2.

6.3.2 Identifying Appropriate Timing of Additional Runway Capacity – Dublin Airport

To ensure a robust analysis of existing airfield capacity from Dublin Airport's runway infrastructure and to calculate an appropriate time for the construction of the second runway based on a sound evidence-based rationale, daa engaged Ricondo & Associates, to assess the capacity of the existing airfield and identify capacity-enhancing improvements up to and including the proposed Northern Parallel Runway. Ricondo & Associates (R&A) are an internationally recognised aviation consulting firm.

R&A developed a dynamic airfield simulation model for Dublin Airport to assess the operational implications of traffic growth scenarios on the existing airfield infrastructure as well as to test the benefits of infrastructure development options. The model calculates performance in terms of throughput rates and delay experienced per air traffic movement (ATM). The simulation results were analysed to help establish two key points to define the capacity of the airfield at Dublin Airport:

- **Point 1:** Achievable peak hour departure throughput is 37 departures (with 5 arrival movements in the same hour) for the existing airfield. The estimated annual passenger volume associated with Point 1, is 22.3 to 23.7 mppa. (note: point 1 becomes a range rather than a value due to the necessarily imprecise mapping of movements to passengers with variables such as aircraft type and load factors coming into play for the passenger number)
- **Point 2:** The activity level at which the magnitude of delay is severe and overall traffic growth is curtailed. Point 2 cannot be precisely determined; however Table 1 quantifies the simulated average delay per aircraft movement during the peak 30-minute period (the slot regulator's metric) and the peak 2-hour period, illustrating the increasing magnitude of delay incurred as demand grows beyond Point 1.

R&A is an internationally recognised aviation consultancy specialising in strategic planning and business advisory services dedicated to airports and aviation. Founded in 1989, the company is headquartered in Chicago and serves clients throughout the United States and around the globe, including 11 of the Top 30 busiest airports in the world. The company is owned and operated by its senior officers and employs more than 125 full-time staff.

Exhibit 6.27: Average Delay per ATM for the Existing Airfield (West Flow, Minutes)

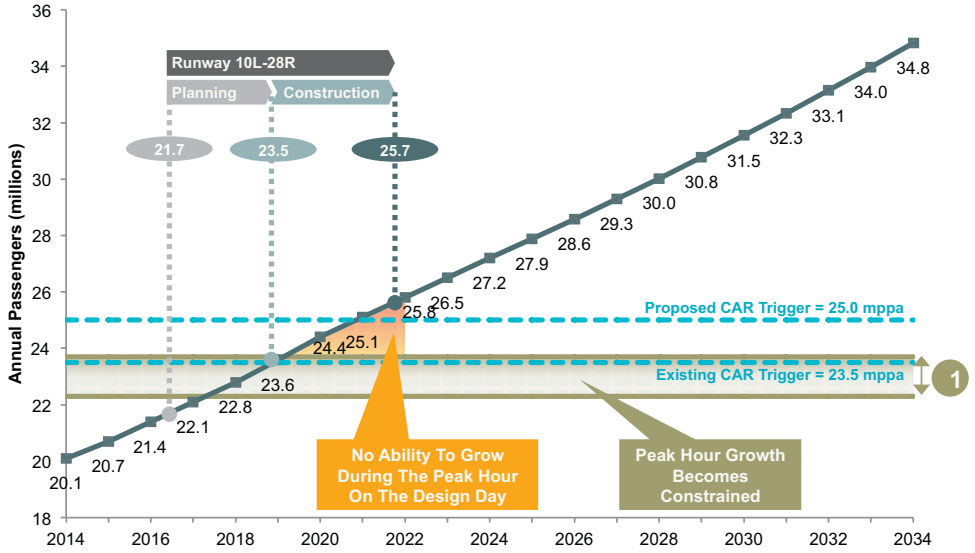
Forecast Scenario	Peak 30-Minute Period		Peak 2-Hour Period	
	Departure Delay	Total Delay	Departure Delay	Total Delay
2014 Baseline	8.2	7.7	5.5	4.9
2019 Core	14.4	12.6	11.1	9.0
2024 Core	32.0	20.4	19.2	16.4

Source: Dublin Airport Airfield Masterplan Update, July 2014
Prepared by: Ricondo & Associates, Inc. July 2014

The R&A simulation analysis indicates that peak period delays during the design day accelerate rapidly beyond Point 1, indicating that Point 2 is quite close in time to Point 1. This can be readily understood given Dublin Airport's geography at the western edge of its primary market (with time zone implications for arriving and departing aircraft), location on an island with limited ground transport alternatives to the majority of destinations served from the airport, and the prevalence of based carriers requiring early morning departure slots. These factors all drive a range between Point 1 and Point 2 for Dublin Airport which is narrow compared to other European airports (also slot regulated). Given that the range between Point 1 and Point 2 is narrow for Dublin and given the difficulty of ascertaining Point 2 with accuracy, except in hindsight, to avoid curtailment of traffic growth Point 1 should be established as the trigger for additional capacity development at Dublin Airport.

Exhibit 6.28 demonstrates that with the Northern Parallel Runway trigger set at 23.5 mppa (million passengers per annum), Dublin will have a period of at least three years in which it has passed range 1 (i.e. 22.3 to 23.7 mppa) where growth in the peak is constrained, and where overall growth may be constrained. This is highlighted as the orange triangle.

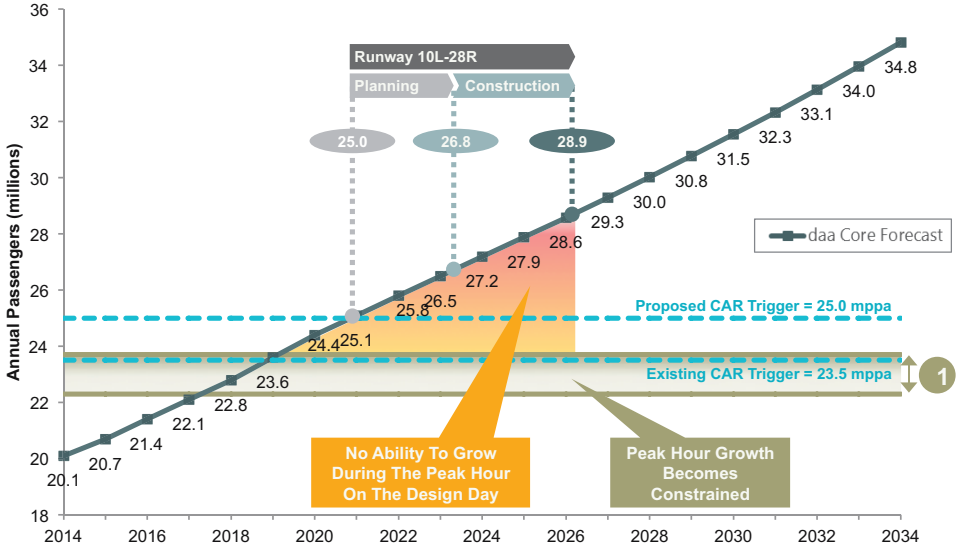
Exhibit 6.28: Runway 10L-28R Implementation at Existing CAR Trigger



CAR's Draft Determination for the 2015-2019 period suggests that the trigger for the Runway 10L-28R project (including the construction and planning phases) be established at 25.0 mppa without capacity-enhancing improvements to the existing airfield. The resulting timing of additional airfield capacity relative to Core forecast growth and the range for Point 1 is shown in Exhibit 6.29 This highlights that the proposed CAR trigger would result in Dublin Airport (and our airline customers) having no ability to grow in the peak hour for 5 years. The corresponding level of delay that would be experienced over the design day at time of commissioning the Northern Parallel Runway is shown in Exhibit 6.30. Severe congestion occurs in the morning and late afternoon peak periods, reaching a maximum of 32 minutes per departure delay in the busiest 30-minute period. The slot allocation system will not allow such a level of delay and in actuality airlines will have their flights moved out of the peak 30 minute window. However, as Exhibit 6.30 shows, even across 2 hours, delays average 19 minutes per flight, compared to the required 10 minutes. This means that airlines would have to move their flight times quite significantly in order to be accommodated. The level of delay will worsen until the runway is operational. Such escalating delays will inevitably lead to airlines limiting their growth in Dublin and risks aircraft re-location from Dublin to competitor airports where such levels of delay are not experienced.

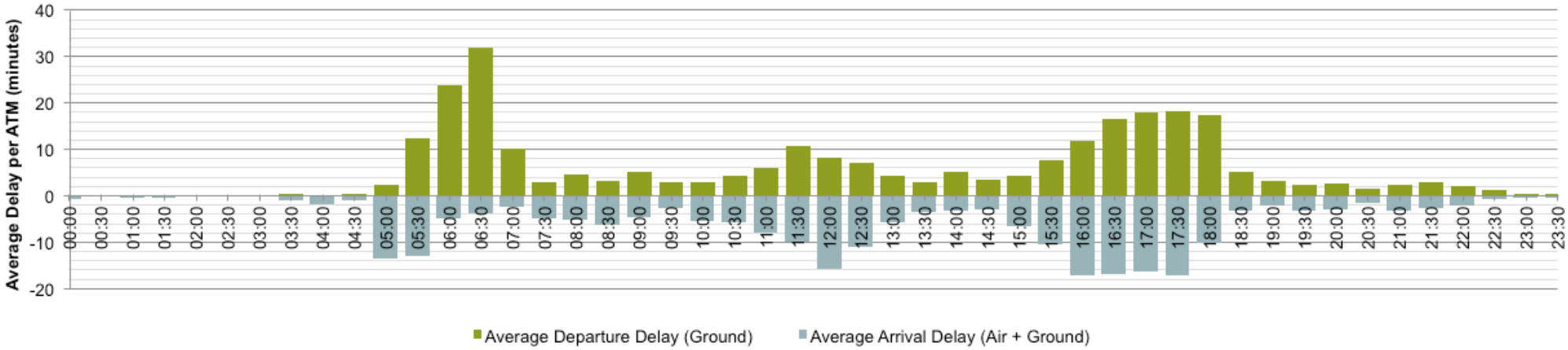
In conclusion, the level of aircraft delay that would occur with a trigger higher than 23.5 mppa, the duration required to construct Runway 10L-28R, and the likelihood of growth being constrained outside the peak also, indicates the importance of the trigger for additional capacity being maintained at 23.5 mppa.

Exhibit 6.29: Runway 10L-28R Planning and Implementation at Proposed CAR Trigger



SOURCE: Dublin Airport Airfield Capacity Analysis, July 2014|
PREPARED BY: Ricondo & Associates, Inc., July 2014

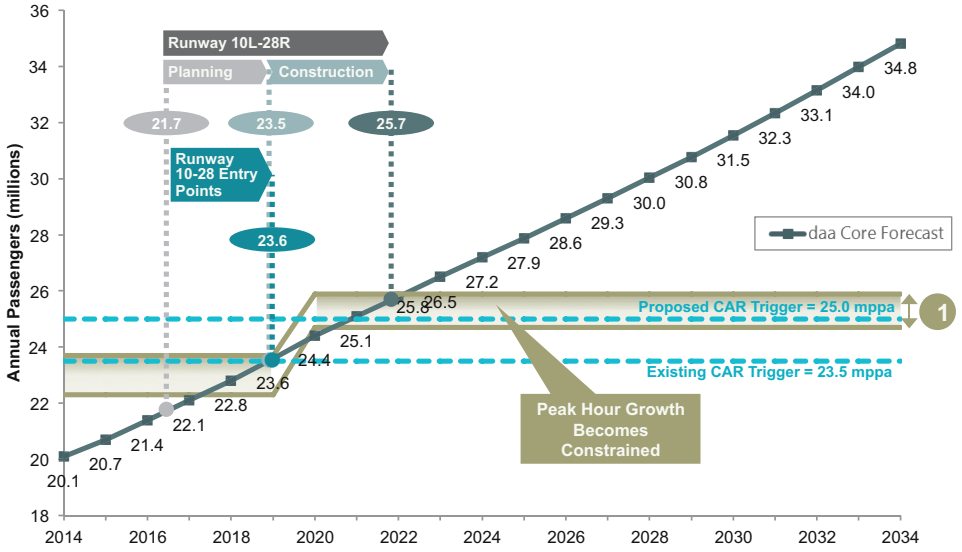
Exhibit 6.30 Average 2024 Runway 28 Design Day Delay per ATM Prior to Provision of Additional Capacity



Source: Dublin Airport Airfield Masterplan Update, July 2014
Prepared by: Ricondo & Associates, Inc., July 2014

daa has proposed the building of additional line up points at either end of the existing Runway 10-28. This infrastructure is Phase 4 of the capacity enhancement programme agreed by the Runway Process Improvement Group (RPIG)[3] which is currently underway. Exhibit 6.31demonstrates that where daa's proposal to build the line-up points on the existing runway is allowed, with the trigger for the Northern Parallel Runway remaining at 23.5m, no period of constrained growth should occur, as per Ricondo's expert analysis. (full details of the Ricondo analysis are contained in Appendix 4). Therefore, to avoid constrained growth in the departure peak and likely constrained growth off-peak, daa recommends that our proposal be accepted.

Exhibit 6.31: Runway 10-28 Entry Points at Point 1 Followed by Runway 10L-28R at Existing CAR Trigger



Setting the trigger at this value has another important benefit - it brings forward the point at which daa could seek to attract point-to-point traffic to the Far East and other destinations currently out of reach, which is consistent with the draft National Aviation Policy.

3 The RPIG was formed in April 2013, consists of key stakeholder representatives from airlines, IAA and daa and with the aim of delivering the maximum capacity for Runway 10-28 through the adoption of international best practices and standards for air traffic control. The RPIG has set out a work programme in 4 Phases to increase the maximum number of departures in the peak departure hour for Dublin Airport from 31 to 39. Phases 1 through 3 of the capacity enhancing programme reduce deparature-departure airspace separations and reduce in-trail separations for aircraft entering UK airspace to allow 37 departures in the peak departure hour. Phase 1 of the programme has been completed increasing the number of departures in the peak departure hour from 31 to 33. Phase 4 of the programme requires additional infrastructure - line up points to both ends of Runway 10-28 - to provide the final two additional departure slots in the work programme.

In conclusion, the level of aircraft delay which would occur with a trigger higher than 23.5m, the duration required to construct the Northern Parallel Runway, and the constraining impact on growth absent capacity expansion, demonstrates that the trigger for additional capacity be maintained at 23.5m, together with the allowance of additional line-up points on the existing runway. The incremental revenues which could be gained from new destinations served from the new longer runway also provide support for the 23.5m trigger value.

In addition to increasing the trigger value for the Northern Parallel Runway to 23.5 mppa the Draft Determination also includes additional projects within the runway allowance, as discussed below.

6.3.3 Incorporation of Additional Projects in the Runway Trigger

In addition to increasing the trigger value for the Northern Parallel Runway the Draft Determination also proposes altering the nature of the trigger (i.e. the project set triggered at 25mppa) and we address this change of nature here.

Design and Planning Application Fees

CAR's Draft Determination has included fees required to secure a planning permission within the overall 25mppa trigger for the Northern Parallel Runway project. It is not appropriate to include the fees associated with securing a planning permission for the Northern Parallel Runway within the overall trigger for the following reasons:

- The Irish planning system is complex and, particularly for projects of the scale and scope of Runway Infrastructure, protracted.
- Considerable pre-planning consultation may take place prior to the lodgement of a planning application. Following this, it is not uncommon for Strategic Infrastructure planning applications to be in the system for a further year and more. The length of time such an application takes is often associated with the level of sensitivity of the project.
- Following the grant of any planning permission, the conditions attached must be reviewed and responded to, in large part, prior to the commencement of development.
- The requirement to consult, and liaise with numerous bodies and statutory authorities means that the planning process can take years
- While a successful planning application for the northern parallel runway can be targeted for a certain date, it is not possible to define exactly when a planning permission will be secured. The planning process is ultimately determined by external bodies, and therefore daa does not have full control over the timing by which a planning permission will be in place.

In this regard, it is wholly inappropriate to link the runway planning fees to a proposed overall trigger. Design and planning application fees were not linked to the overall runway trigger in the 2009 Final Determination and CAR has not set out any reasoning behind its proposed change of approach. We therefore propose that a consistent approach be maintained in relation to the design and planning application fees, that they be decoupled from the runway trigger and allowed to progress in advance of this event.

House Buy-out Allowance

In the Capital Investment Programme 2015-2019 – Proposals daa included a proposal to buy out 10 houses within the 69 dB (decibel) contour of the Northern Parallel Runway. This house buy out allowance would allow daa to progress the Northern Parallel Runway in the most economically efficient manner. Triggering an allowance for house buy out will lead to an economically inefficient outcome whereby, in a free market, this will inevitably lead to a spike in the purchase price demanded for house purchase once the trigger is reached. If the house buy out scheme is maintained outside of any trigger, it will enable daa to voluntarily purchase houses as they come up for sale without adding an artificial floor (such as the would be the likely effect of the imposition of a compulsory purchase order) to the market for houses within the 69dB contour. Additionally, as it appears that the housing market is just past the trough, and it is likely that house prices will continue to rise at least in the short term. It will be more efficient for the airport and airport users if daa has the ability to proceed with house buy out at the current time.

We further request that the allowance be based on the purchase of 10 houses as was originally proposed. The current proposed (triggered) allowance is based on the purchase of 6 houses (at current prices in a rising market), although no explanation of this reduced scope has been given.

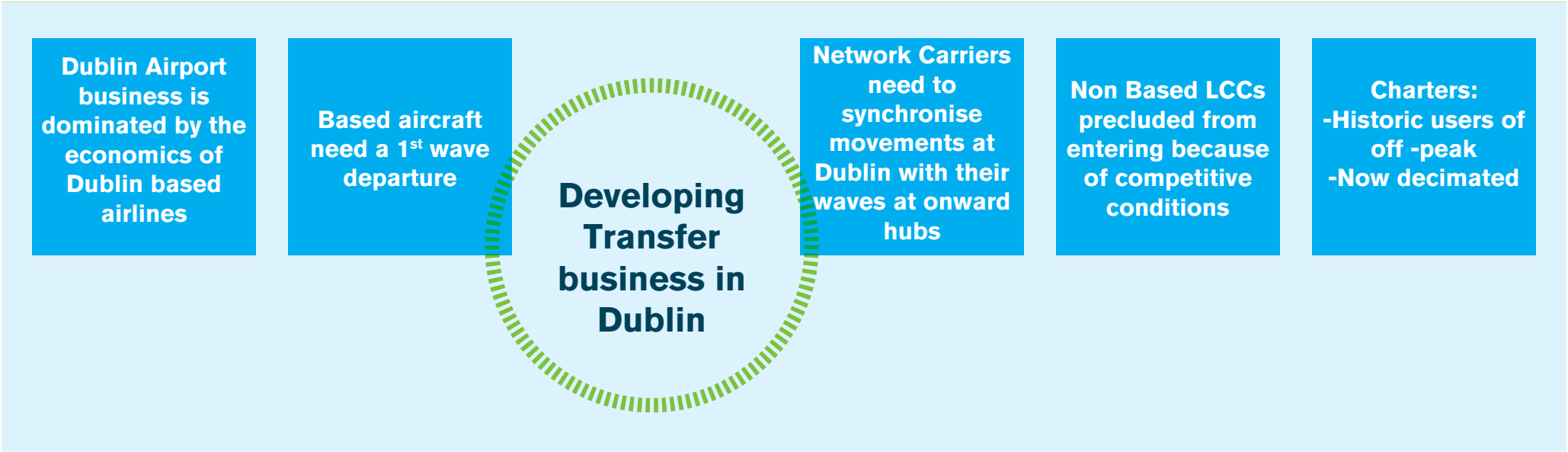
Other Issues

In section 6.51 of the Draft Determination CAR considers other factors which could influence the operational delivery and use of a second runway at Dublin Airport, in particular the need for a second Air Traffic Control tower and air space restrictions in place over Dublin. IAA, as the providers of ATC and the regulatory body with responsibility for Irish airspace, has signalled to us that neither of these factors will be an inhibiting factor on the operational delivery and use of a second runway at Dublin Airport.

6.4 Constrained ability to Grow off-peak

6.4.1 **Introduction**

Exhibit 6.32: Dublin Airport's Business Environment



Economics of Based Carrier Operation

- The logic of a based aircraft operation is that aircraft overnight in the airport, leave early in the morning and operate to and from that airport for the rest of the day until they return at night. A based aircraft can operate between 2 and 4 departures every day from its base, depending on sector lengths.
- An essential part of this operation is an early morning departure time (e.g. 06:00 or early 07:00 hour) and a late night return (e.g. 23:00). This ensures that the aircraft is fully utilised during normal working hours, maximising opportunities to generate revenue. Without this ability, an airline would choose to base their aircraft elsewhere, where they can operate across the day. EasyJet closed its base in Dortmund in 2008, partly because of the 10pm curfew there. "*EasyJet said its problems in reaching an acceptable level of profitability in Dortmund had been exacerbated by the early 10pm night-time curfew on operations, which had eroded its competitiveness.*[1]

Early morning departures and night returns also ensure that business passengers can do a day return. Given that business passengers have a higher willingness to pay; this is an important revenue stream for all carriers.

6.4.2 Dublin Airport's business is dominated by the economics of Dublin based and overnighting scheduled airlines.

Dublin Airport has 4 based airlines:

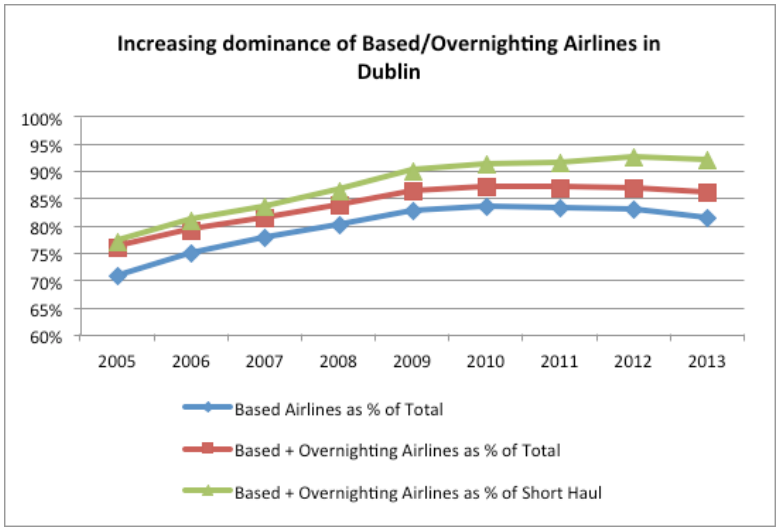
- Aer Lingus
- Ryanair
- Stobart Air
- Cityjet

Additionally, it has a number of overnighting airlines that leave in the morning:

- British Airways
- Lufthansa
- BA (previously the bmi operation)
- Flybe[2] [2]

Exhibit 6.33 shows how based scheduled airlines have become hugely dominant in Dublin since 2005. In that year, just over 70% of passengers were handled by the 4 based airlines but this increased until it broke 80% in 2008 and in 2013 82% of all passengers were handled by these 4 airlines. When you include the overnighting airlines, they account for an even greater share of the total market from the airport (86%). If you exclude long haul, this becomes 92% (where it was 77% in 2005). Clearly, Dublin Airport's traffic is dominated by based and overnighting carriers, especially in the short haul market.

Exhibit 6.33: Based & Overnighting Aircraft at Dublin Airport



The traffic profile in Dublin has become relatively more peaked because based airlines have become increasingly dominant and need to depart in the first wave. Dublin has more overnighting aircraft than in its peak year for passengers (2008) and more departures from those aircraft.

1. http://www.ft.com/cms/s/0/6b05c396-38e1-11dd-8aed-0000779fd2ac.html
2. Flybe has an overnighting aircraft at Dublin Airport since 2014 only and so are not accounted for in the 'based+overnighting airlines' category in the historical data shown in Exhibit 6.33. Malev had an overnighting aircraft during the period shown in Exhibit 6.33 but no longer do so.

Connecting Traffic

Exhibit 6.34 Transfers by Airline 2014

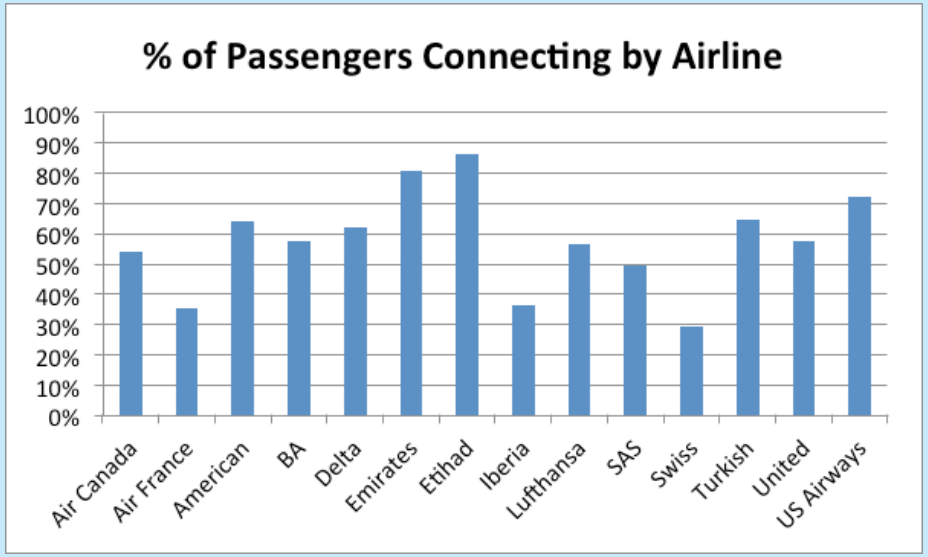
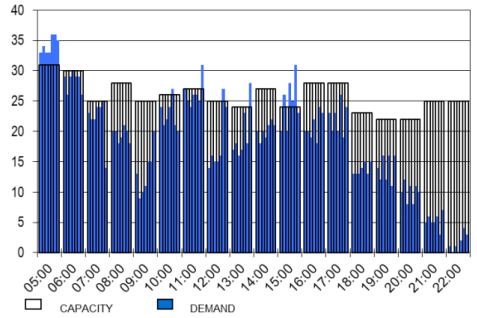


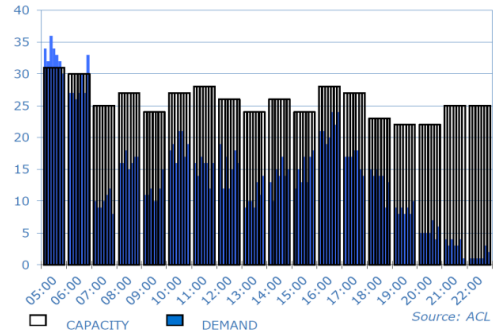
Exhibit 6.34 shows the % of passengers connecting by airline[3]. It should be clear that for all these carriers, if a significant portion of these connecting passengers were lost, the viability of these flights would be seriously affected. These flights have to feed the waves at their hubs, so there is little ability to make significant changes to the timing of these flights.

Exhibit 6.35: Initial Slot Demands by Season

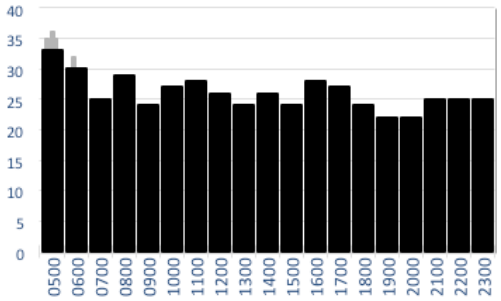
Summer 2008



Summer 2012



Summer 2014



3 Source: DAA Market Research 2013Q2 to 2014Q1

Exhibit 6.36: Overnighting aircraft of based carriers increasing

Detail	2006	2008	2013
Aer Lingus /Ryanair /Stobart Air Overnighting Aircraft	35	45	47
Aer Lingus/Ryanair /Stobart Air Daily Departures on Overnight A/C	129	153	157
All Based/Overnighting Carrier Share of S/H Dublin	81%	87%	92%

Business model changes since 2007 have exacerbated this trend towards a more peaky profile.

The Ryanair of 2014 is fundamentally different to the Ryanair of 2007. It has publicly re-positioned itself to become a carrier with wider focus and appeal to corporate and family markets, both of which drive specific scheduling requirements. Ryanair has already begun competing in more business orientated destinations, offering competition and consumer choice. This requires it to offer schedules in these markets which are competitive with other carriers. In essence this will continue to build demand for peak hour capacity that will not be satisfied by moving to off-peak scheduling. This can be shown by its release on the 20th Mar 2014[1] of its winter schedule, which included a number of new routes but also "increased frequencies on 21 business routes".

Exhibit 6.37: EI and FR schedule comparison - selected routes

Route	FR Winter 2013 Flight Time	FR Winter 2014 Flight Time	EI Competitive Flight Time
Barcelona	18:10	**06:15,** 17:05	06:40, 17:30
Brussels	07:55, 17:30	**06:20**, 13:10, 18:05	06:40, 12:45, 18:00
Milan	06:25 (4 times a week)	**06:20 (daily)**, 17:30	07:30, 16:15
Madrid	14:10	**06:15**, 16:10	06:30, 16:10
Rome	06:30 (once a week), 16:25	**06:30 (daily),** 16:30	07:10, 15:00

It is clear from Exhibit 6.37 that Ryanair is using based aircraft to increase frequency on these business focused routes in Europe for the coming winter. All departures are leaving between 06:15 and 06:30 compared to departures across the day previously (see times in bold in Exhibit 6.37). Its offering must be competitive with Aer Lingus in order to compete in this business market. Indeed, Ryanair's service to Brussels Charleroi is an interesting example as it used to operate a Charleroi based aircraft to run this flight but it has now switched to a Dublin based aircraft in order to compete more directly for the business market. A Ryanair departure at 06:20 was preferred to its previous 07:55 departure. Essentially, departures in the 06:00 hour/early in the 07:00 hour are the times that business passengers want.

One of the biggest changes for Aer Lingus in recent years has been the rise of its franchise operation Aer Lingus Regional. This allowed it to operate high frequency services to the UK using smaller aircraft in order to cater for the business passenger. Aer Lingus's CEO explained its approach in 2011[4].

"They provide frequency on routes we can't with our A320s," says Mueller. "If you fly only once a day, you do not attract business travellers, because they don't want to overnight. The amount of business passengers we have on the ATR is much more than we anticipated. We have a really nice potential based on a win-win, and we see potential to expand that."

In 2014, Aer Lingus Regional offered regular morning flights to the following destinations. Pre-2010, it (or its predecessor, Aer Arann) served none of these routes with a morning service:

- Edinburgh, Glasgow (both daily)
- Bristol, Cardiff and Newcastle (6 times a week)

Aer Lingus is also focusing on transfer passengers, connecting its arriving long haul passengers at around 05:00 onto the departures from 06:00 onwards. Exhibits 6.38 and 6.39[5] show how important this wave is compared to the rest of the day. Transatlantic arrivals later in the day do not offer the same level of connections. To offer a competitive product for transfers, the connecting time is critical. Offering flights after 08:00 means that such passengers have to wait over 3 hours to make their connecting flight. Other airports can offer a connecting time of less than 60 minutes. The 06:00 to 07:30 bank is thus ideal for transfers. For departures, short haul arrivals at around 09:00 connect onto its transatlantic departures from 10:00 onwards. While arrivals from 12:00 on can connect onto departures at 13:00 to 16:00.

4 http://www.flightglobal.com/news/articles/interview-aer-lingus-chief-executive-christoph-mueller-358706/
5 Based on monthly flights in Sept 2014

Exhibit 6.38: Aer Lingus Summer 2014 transatlantic arrivals

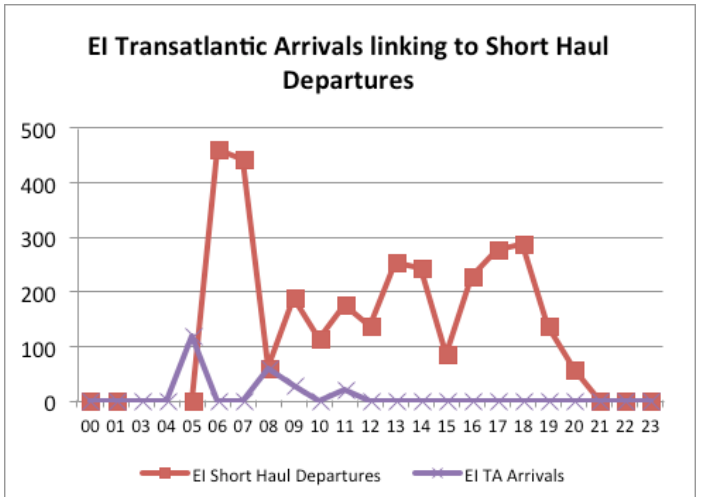
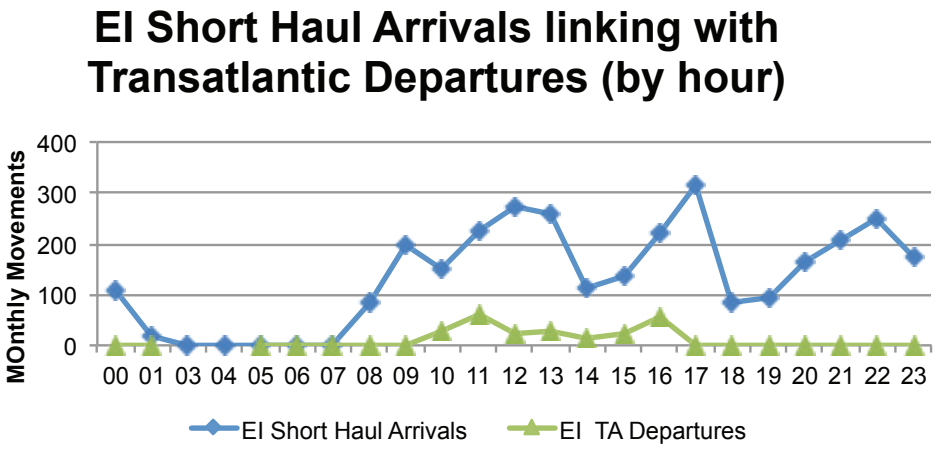


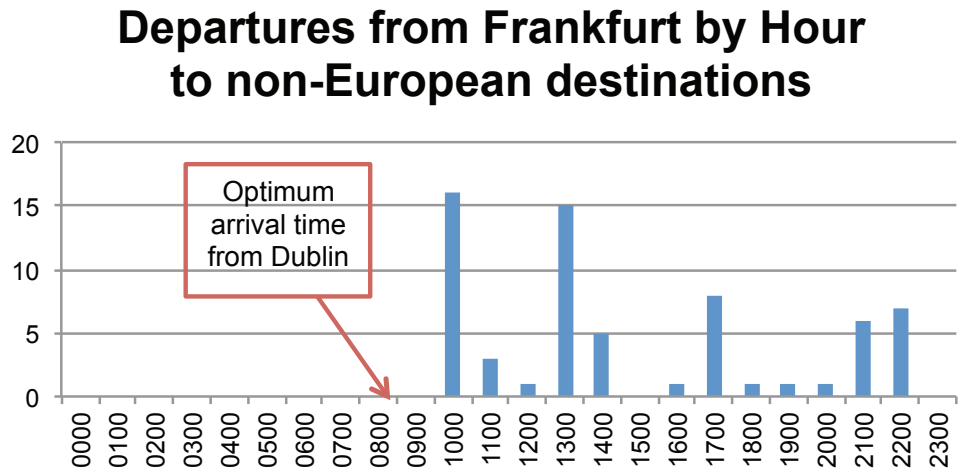
Exhibit 6.39: Aer Lingus Summer 2014 short haul arrivals



6.4.3 The requirements of network carriers also produce peak profile traffic

The requirements of network carriers also lead to little flexibility regarding operational times in Dublin. These carriers are highly dependent on generating connecting traffic via their own hub airports. This means that schedules in Dublin are totally driven by the requirement to fit in with schedules at the carrier's home base airport. If a strong connecting schedule cannot be provided in Dublin because of the lack of facilities, the commercial viability of the flight is completely undermined and it simply will not operate.

Exhibit 6.40: Example of Hub Airport - Frankfurt



For example, Lufthansa has a 05:45 departure to Frankfurt every day. While this may suggest some ability to operate pre-0600, this flight has a clearly defined reason to operate at this time, as it arrives in Frankfurt at 08:45 and can then connect into Frankfurt's departing wave in the 10:00 hour. Exhibit 6.40[6] shows departures from Frankfurt by hour to non-European destinations. Being able to connect with flights leaving in the 10:00 period is clearly critical. If it departed even a half hour later, it would miss a significant portion of those Frankfurt's flights (especially if any delay with the arriving flight is factored in).

Other major European hubs like Heathrow and Amsterdam) are closer to Dublin and thus don't need as early a departure as the Frankfurt flight. At the same time, if 06:30 was the ideal time for

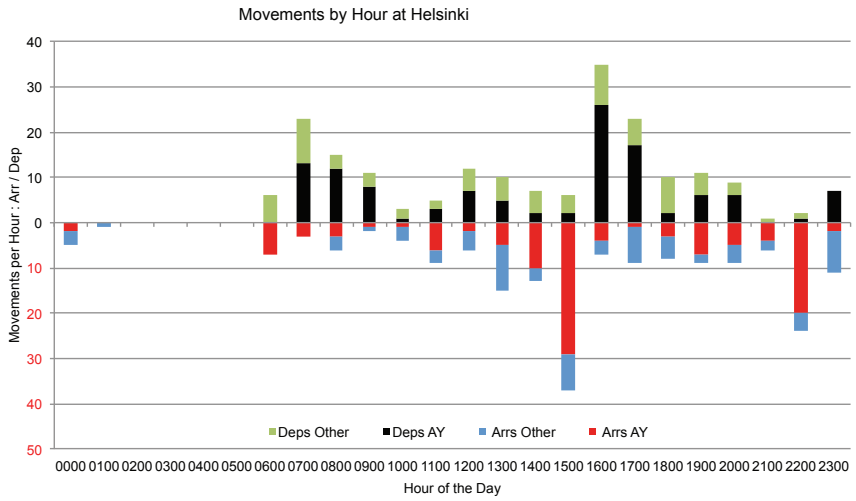
6 Based on monthly flights in Sept 2014

Lufthansa to feed its Frankfurt hub but Dublin could only offer a 07:30 time at the earliest then it would likely choose not to operate at all rather than operating this sub-optimal time, where it would miss most of its departing wave.

An alternative which Exhibit 6.40 could be seen to suggest would be to target the later wave of departures from Frankfurt at 13:00. However, of the 16 destinations with departures in the 10:00 wave only 7 have a second departure later in the day, thus greatly reducing the connecting options. Targeting the 13:00 Frankfurt departure wave would require an 08:45 departure from Dublin, which is too late for business passengers travelling to Frankfurt as a final destination. Thus a departure from Dublin to meet the 10:00 Frankfurt departure wave is the only solution which will cover both the business and onward-transferring passenger segments.

Helsinki is a role model airport for Dublin, in that it has created a niche market position based on its location as a gateway to Europe. Whilst timings at the Helsinki hub vary from peak hour operations at Dublin, the principle of the hub creating high peak hour demand is amply demonstrated in Exhibit 6.41 (with a significant peak in arrivals at 14:00 and 15:00 followed by a peak in departures at 16:00 and 17:00).

Exhibit 6.41: Example of Hub Airport - Helsinki



Long haul carriers have a similar issue. A third Emirates flight, a potential option within the life of the forecast, will require a peak hour operation at Dublin because of the scheduling requirements in Dubai. The times it operates in Manchester are a good indication of when Emirates would need to operate in Dublin, as it has broadly matched those times in Dublin with its initial two services. Based on Exhibit 6.42, the third flight would then arrive in the 07:00 hour and leave at around 10:00. Operating outside these scheduling windows makes such a service a commercial impossibility.

Exhibit 6.42: Comparison of Emirates' scheduling at Dub and Man

Manchester Arrival	Manchester Departure	Dublin Arrival	Dublin Departure
07:40	10:00		
11:55	14:05	12:05	13:50
19:15	21:00	20:50[7]	22:20

6.4.4 Market Entry by LCCs precluded by Competitive Conditions.

LCC entry into the Irish market has consistently been punished by the incumbent, resulting in it exiting the market. Examples are as follows:

- Go's entry and exit from the Dublin-Scottish market in 2001.
- easyJet's entry into the Irish-London Gatwick market in 2005 and departure in 2006
- Wizz's entry and exit from into the Cork-Polish/Vilnius market.

The LCC market segment in Europe is the only one characterised by significant growth potential, driven by confirmed aircraft fleet expansion and a willingness to enter into aggressive market share wars. On the other hand, the success of Ryanair in particular and its willingness to aggressively compete head-on in the Irish market place with any new incumbent, has massively restricted Dublin Airport's capability to attract other LCCs. An examination of peer group airports in Exhibit 6.43[8] indicates the marked differences between them and Dublin in market presence and share of mainstream LCC brands who continue to be the growth engine at competitor airports. Dublin is not an attractive market place for LCCs who are in growth mode and might potentially utilise off-peak capacity.

Exhibit 6.43: LCC traffic at Dublin and competitor airports

Manchester LCCs (21m Pax in 2013)	Gatwick LCCs (35m Pax in 2013)	Dublin LCCs (20m Pax in 2013)
Ryanair 11%	easyJet 40%	Ryanair 37%
Flybe 9%	Norwegian 6%	Flybe 1%
easyJet 9%	Monarch 5%	Norwegian <1%
Monarch 8%	Flybe 3%	
Jet2 6%	Ryanair 2%	

7 Starting in Sept 2014.
8 *Source: IATA AIS Scheduling Agent*

Norwegian 1%	Vueling 1%	

6.4.5 The Demise of Charters

It is also important to note that the charter airline market, whose passengers may theoretically be more price sensitive and less schedule sensitive has ceased to become a significant player in the Dublin market place. Short haul charter has essentially been totally replaced by scheduled services from both Ryanair and Aer Lingus. Long haul charter has never been successfully operated from anywhere in Ireland, and there would appear to be too small a population base in the Irish market to support this segment in any major way. Off peak growth from this market segment is therefore extremely difficult to envisage.

Exhibit 6.44 shows show charter traffic has declined from a strong position in Dublin Airport to almost insignificance.

Exhibit 6.44: Charter traffic by year 2004 - 2013

Year	Charter Pax (millions)	% Share of Dublin
2004	2.0	12%
2005	2.0	11%
2006	1.8	9%
2007	1.8	8%
2008	1.6	7%
2009	1.0	5%
2010	0.6	3%
2011	0.5	3%
2012	0.4	2%
2013	0.5	2%

Case Study: Wizz market exit. [3]

On 2 August 2012 Ryanair announced its intention to enter the market with four routes from Cork to Poland (and one to Vilnius), all of which were currently served by Wizz Air[9].

Ryanair explicitly focused on Wizz in its press announcement (‘*5 New Cork Winter Routes - 50% Cheaper than Wizz*’). This follows a concerted and publicly-declared strategy to target Wizz Air across Europe[10].

A number of the aspects of this competitive move by Ryanair can be emphasised. Firstly, Ryanair’s selected operational days exactly matched the Wizz operational days on the directly competed routes. This is set out in Exhibit 6.45 with Wizz shown in red and Ryanair shown in blue.

Exhibit 6.45 also highlights that Ryanair was operating higher frequency on all competing routes. It was operating around 33% more flights than Wizz in total on a monthly basis on the competing Polish routes, and its aircraft are also larger.

Exhibit 6.45: Ryanair & Wizz schedules November 2012

Route	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Warsaw			07:15 20:55		07:15		07:15 20:55
Vilnius	07:15 16:55				15:35 16:55		
Wroclaw				07:15 19:15			14:55 19:15
Poznan							19:10
Katowice	14:55		14:55 19:05		14:55		19:05
Gdansk		07:15 12:40				07:15 12:40	

A particularly relevant point is that Cork is not a base for Wizz, so it has no vital strategic interest in maintaining a presence in the market. This is relevant in the context of daa’s argument, with regard to the likelihood of non-based carriers having an appetite to compete with Ryanair.

Exhibits 6.46 and 6.47 show how, from Jan 2013, Wizz began to reduce its presence in Cork until all services ended in May. Ryanair also began to cut services after Wizz had exited the market.

9 http://www.ryanair.com/en/news/5-new-cork-winter-routes-50-percent-cheaper-than-wizz
10 http://www.anna.aero/2012/02/08/ryanair-announces-eight-routes-to-warsaw-modlin/
http://blogs.ft.com/beyond-brics/2012/02/14/585891/#axzz24HTzdZkm
11 Ryanair flies to Krakow on a different day to Wizz’s competing flight to Katowice. The cities of Katowice and Krakow are geographically close, but the market is not identical.

Exhibit 6.46: Wizz Movements to Poland/Lithuania by month

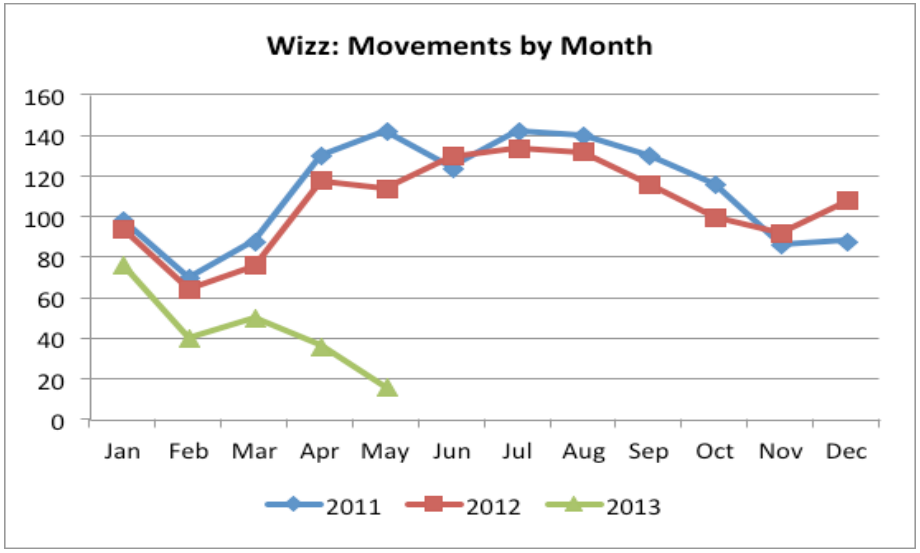
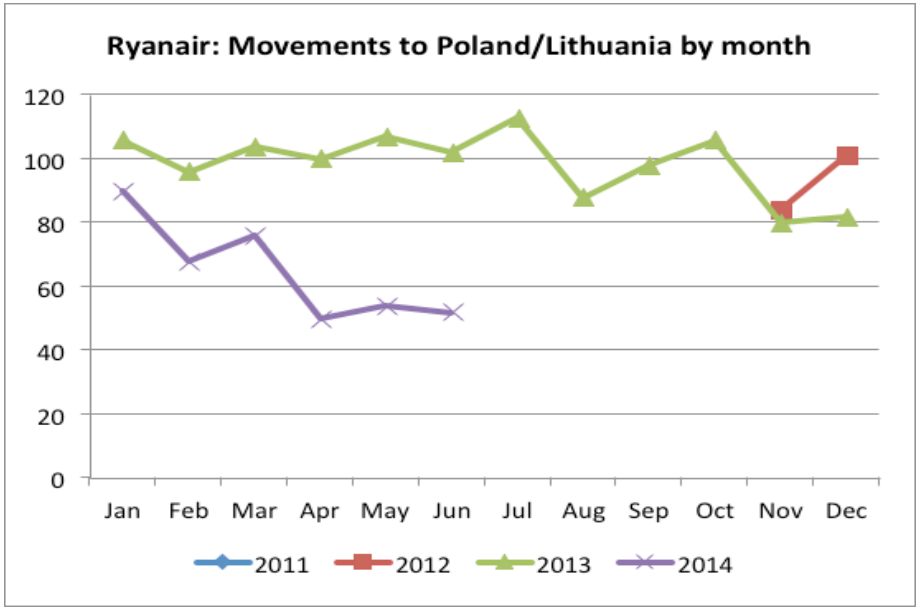


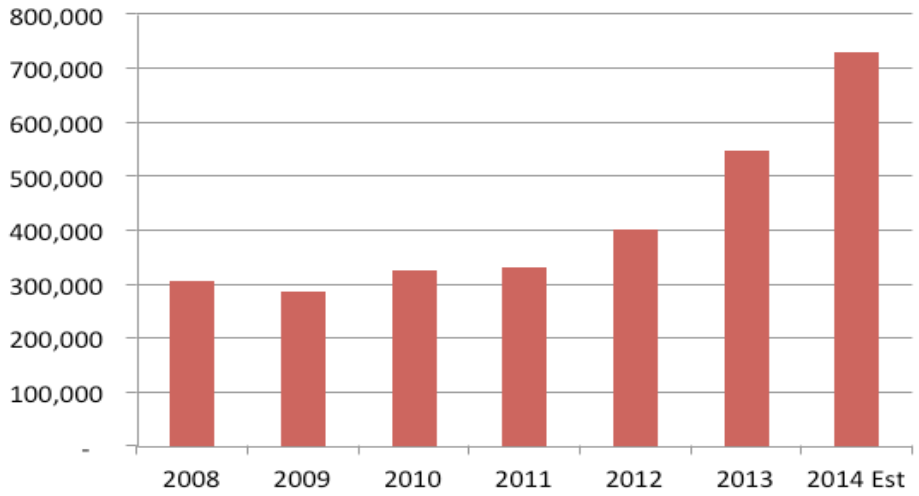
Exhibit 6.47: Ryanair Movements to Poland/Lithuania by month



6.5 Transfers business case

Since 2011, the number of transfers using Dublin Airport has increased from 330k to 700k+ in 2014, circa 16% of the total growth in this period.

Exhibit 6.48: Annual Transfer Passengers at Dublin Airport



A number of points should be made about Transfers:

- The emerging National Aviation Plan calls for the development of Dublin Airport as a secondary hub airport. Restricting the airport's ability to grow transfers runs contradictory to this target.
- While a primary hub can connect passengers to anywhere in the world, a secondary hub focuses on particular markets. In Dublin Airport's case this transfer market is North American to/from Europe, which takes advantage of the airport's optimum geographic position between the two markets. The indirect market[1] from the current European network to North America, restricting destinations to those served by Aer Lingus, is 44m passengers per annum. Thus, a small piece of this market can generate significant passenger numbers from Dublin.
- Growing the transfer business in Dublin also takes advantage of the airport's US Preclearance facility, which is unique amongst the hub airports in Europe.
- In a good domestic economic environment, passenger forecasts are expected to be positive but transfers are not driven by economic conditions in Ireland. In fact, the weaker the conditions are in Ireland, the more focus will be put on transfers to ensure the sustainability of flights. That is one of the key advantages of transfers. Thus, in some ways, the performance of transfers can be inversely correlated with the economic climate. An example of this can be seen in Dublin, as Aer Lingus began to focus on this market in 2011/2012, as Ireland was still struggling to pick itself out of its economic malaise. Aer Lingus's CEO stated that[2] "Transfer traffic has enabled us to compensate for the weakness of the Irish economy".
- While US Preclearance is an attractive product, significant queues at security would quickly undermine any positive benefits from it. More importantly, transfers have no intrinsic reason for using Dublin Airport. If the transfer product fails at Dublin, these passengers can easily transfer at any other European or North American hub instead. Thus, Dublin Airport has to work hard to maintain the transfers it already has, in addition to seeking growth. CAR's Draft Determination would create significant hurdles for Dublin Airport to do so.
- When growing transfers, the Minimum Connecting Time (MCT) is of critical concern. This is the time between the arriving and departing flight. Airlines and passengers prefer this to be as short as possible without there being a significant risk that passengers will miss their flights. Dublin has to compete with these times. Since Dublin Airport's departure peak into Europe is in the 06:00 hour, Aer Lingus schedules its transatlantic arrival peak in the 05:00 hour to feed into these European flights. To maximise the connecting opportunities, these transfers arrive in a very short 15 minute window[3]. If the flights were later, there would be a risk of missing the connecting flight and if earlier, the MCT wouldn't be competitive with other airports. Thus, growing this business will inherently lead to increases in peaks.

Exhibit 6.49 : MCT at European hub airports[4]

Airport	MCT
Copenhagen	45
Vienna	25
Manchester	30
Stockholm	30
Berlin	60
Brussels	30
Milan Malpensa	60

- Transfer passengers can then be seen as completely separate from O&D (origin and destination or point-to-point) passengers. If the airport loses transfer passengers, it can't easily pick up a substitute. In fact, the loss of transfer passengers makes it more difficult to increase O&D passengers, as the economics of some routes may not be sustainable without the transfer

1 The indirect market refers to those passengers that make connecting flights

2 http://www.flightglobal.com/news/articles/interview-aer-lingus-chief-executive-christoph-mueller-358706/
3 In 2014, there were 4 transatlantic arrival flights between 05:05 and 05:20
4 Sourced from azworldairports.com and airport websites

segment. This means that the loss of transfer passengers may lead to the potential loss of the entire route for the airport and relevant airline.

- Transfer traffic has been fundamental to the introduction of new direct long haul services in the last 12 months to San Francisco and Toronto for instance. [redacted] This means that without transfers, Dublin Airport would have lost not only the transfer passengers on the route but also the O&D passengers. Some of these passengers would have used connecting flights to travel to/from Ireland without the direct link however such indirect links can never replace the stimulatory effect of having a direct link. If the route is heavily Irish outbound, the stimulatory effect is smaller, as passengers may choose to simply travel elsewhere, but based on daa research, 62% of O&D passengers on flights to North America are non-Irish. This high proportion will only result in increased losses for Dublin, as these non-Irish can choose not to travel at all or travel elsewhere, resulting in increased losses for Dublin.

- Similarly in 2013, Aer Lingus expanded its services to Boston and Chicago. It operated Boston at 14 departures per week, up 3 departures from Summer 2012 and Chicago 11 departures per week, up 4 departures from Summer 2012. The Boston route grew by 45,000[5] passengers with transfers accounting for 63% of the growth. Chicago grew by 52,000 passengers with transfers accounting for 35% of the growth. It should be clear that if a significant proportion of this transfer traffic disappeared, the viability of these extra flights would decrease. This means that Dublin would lose both the transfer passengers and a significant portion of the O&D passengers.
- The transfer corridor has a current handling capacity for 163 passengers per 15 minute period. In 2013, demand was for 550 passengers per 15 minutes, increasing to 650 over the next 5 years according to the Core Growth forecast. This clearly leads to sub-optimum levels of services.
- The current managed solution model for T2 transfer passengers is too fragile for sustainable business growth (see Panel: One-Stop Transfer Passenger Screening in Terminal 2). Without it and the new transfer facility, there would be a significant dilution of the transfer product and Dublin's potential to develop as a hub.
- Exhibit 9.1 highlights how the overall price cap is reduced by the existence of transfer passengers and affiliated passengers (i.e. passengers on flights/routes that would not exist except for transfer passengers). Average transfer passengers for the period 2015 to 2019 will be 0.9m. In addition to this, these transfer passengers will enable c. 0.3m more passengers annually, as these passengers travel on flights which would not be commercially viable without transfer passengers. Therefore, without transfers, the average figure for CAR's passenger forecast would be 21.4m compared to the full CAR forecast of 22.6m. The average revenue requirement without the transfer facility is €236.8m, or €238.6m with the facility. A difference of only €1.8m. The table then shows an average price cap calculated on the Revenue Requirements without the T2 Transfer facility divided by the CAR passenger forecast with no transfers (or affiliated passengers). For the period 2015-2019, the price cap is 5% lower by including the transfer facility and transfer passengers.

Conclusion

To safeguard this rapidly expanding part of the business in Dublin, the new Transfer facility must be built. This would put Dublin in a very strong position to take a significant slice in the very large North America - Europe business. Otherwise, not only would part of Dublin Airport's future growth be at considerable risk but also a portion of its current traffic base.

Exhibit 6.50: Benefit of Transfers

Benefit of Transfers	2015	2016	2017	2018	2019
Required Revenues without Transfers	216.4	212.1	207.7	203.5	199.3
Required Revenues with Transfers	217.7	213.6	209.6	205.6	201.7
Cost of Transfers (Opex & New Facility)	1.3	1.5	1.8	2.1	2.4
CAR forecast passengers without transfers and affiliated passengers	20.3	20.9	21.4	22.0	22.6
CAR forecast passengers	21.3	21.9	22.5	23.2	23.9
Transfer Passengers	.8	.9	.9	1.0	1.0
Affiliated pax: Non Transfer passengers depending on routes with high Transfer Volume (assuming 75% spill[3])	.2	.2	.2	.2	.2
Price cap without transfer passengers	10.67	10.15	9.69	9.25	8.81
Price cap with transfer passengers & T2 Transfer Facility	10.23	9.75	9.30	8.86	8.45
% reduction due to transfers	**-4%**	**-4%**	**-4%**	**-4%**	**-4%**

5 Based on IATA AirportIS BSP data (April – October 2012 and 2013).

6 If there is no direct route, one can assume that a portion of the O&D passengers on this route would still make the journey. For this analysis, it is assumed to be 25%, with 75% been lost or "spilled". The stimulatory effect of a new route can be between x and y (get from SOR).

Section 7: Regulatory quality performance system

7. Regulatory quality performance system

CAR's primary reason for raising the ACI/ASQ targets for Dublin Airport was given as "to reflect the generally better level of service now being offered" at the airport.

daa believes that any proposal to amend targets should be based on analysis of costs and benefits. Higher is not always better. Performance exceeding target does not necessarily imply a requirement to increase the target and any target increase would require a review of the associated penalty.

The existing level of targets are sufficiently robust so that reaching (and in some cases exceeding) the current targets, allows Dublin to score in the Top 5 for airports in our peer group.

Airline customers have not called for the existing targets to be increased and, on this basis, they should be retained unchanged for the next Determination period.

daa has carried out a review of the potential impact of the proposed increase in the target ACI/ASQ metrics on peer airports and found **retrospective failures to be 98 out of a possible 144**.

Dublin has made no secret of its desire to be the best airport in its benchmark group yet it seems to daa a bad incentive from a regulatory point of view to simply raise the targets for the next determination because of the achievements in the current determination period. In its Draft Determination, CAR is proposing an increase in the service quality target for the nine ACI/ASQ metrics incorporated in its service quality regime details of which are set out in exhibit 7.1.

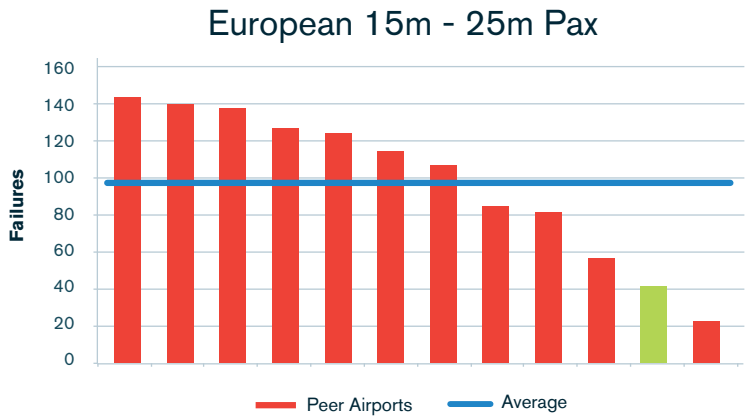
Exhibit 7.1: Service Quality Targets

CAR Service Quality Targets	Source	Current Target	Draft Target	Draft target currently being reached
% of passengers queuing for less than 30 minutes	DAA	100	100	✔
% of time out-bound baggage handling system unavailable for more than 30 min	DAA	0	0	✔
% of time in-bound baggage handling system available	DAA	99	99	✔
All Passengers (overall satisfaction)	ACI	**3.5**	**4.00**	✔
Ease of way finding through airport	ACI	**3.7**	**4.00**	✔
Flight information screens	ACI	**3.8**	**4.00**	✔
Cleanliness of airport terminal	ACI	**3.6**	**4.00**	✔
Cleanliness of washrooms / toilets	ACI	**3.3**	**3.86**	✔
Comfort of waiting / gate areas	ACI	**3.0**	**3.42**	✔
Courtesy, helpfulness of airport staff	ACI	**3.8**	**4.00**	✔
Courtesy, helpfulness of security staff	ACI	**3.8**	**3.98**	✔
Internet / Wi-Fi	ACI	**3.1**	**3.47**	✔

7.1 Impact of CAR's target on Dublin Airport's peer airports

daa has looked at the retrospective impact of imposing the proposed targets on a number of Dublin Airport's ACI/ASQ peer airports (European Airports 15m-25m Pax) over the period 2010-2013. As illustrated in exhibit 7.2, these new proposed targets would have proved highly challenging across the peer group with the average number of retrospective failures shown to be 98 out of a possible 144. Compared to its peer airport group Dublin Airport, performed relatively well with a potential 41 retrospective failures.

Exhibit 7.2: CAR proposed targets applied to European Airports 15m-25m Pax 2010-2013



Source: ACI ASQ 2010-2013, Airports Quarterly Reports. Note: The following airports were used in this study; Copenhagen, Dublin, Düsseldorf, Lisbon, Manchester, Milan Malpensa, Oslo, Palma de Mallorca, Stansted, Stockholm Arlanda, Vienna, Zurich.

In addition, daa looked at the number of retrospective failures that the top ranked airport (European 15-25m Pax) in each quarter would have incurred over the 2011-2013 period. Despite their top-ranking status these airports would still have incurred retrospective failures against CAR's proposed new targets over that period in all but three of the quarters (exhibit 7.3).

Exhibit 7.3: CAR proposed targets applied to the top ranking Airport in each quarter during the period 2011-2013 (15m-25m pax category)

7.2 Implications for Dublin Airport

The financial penalties calculated for retrospective SQM failures over the period 2010-2013 it is apparent that proposed increased targets could have notable financial repercussions.

Dublin Airport	2010 €m	2011 €m	2012 €m	2013 €m	Total 2010-2013 €m
Retrospective Financial Penalty	2.7	1.6	0.8	0.0	5.0

It should be noted that the combined effect of the potentially higher SQM targets coupled with the extremely challenging proposed operating cost per pax CAR allowance will prove a highly ambitious overall target for Dublin Airport over the period 2015-2019.

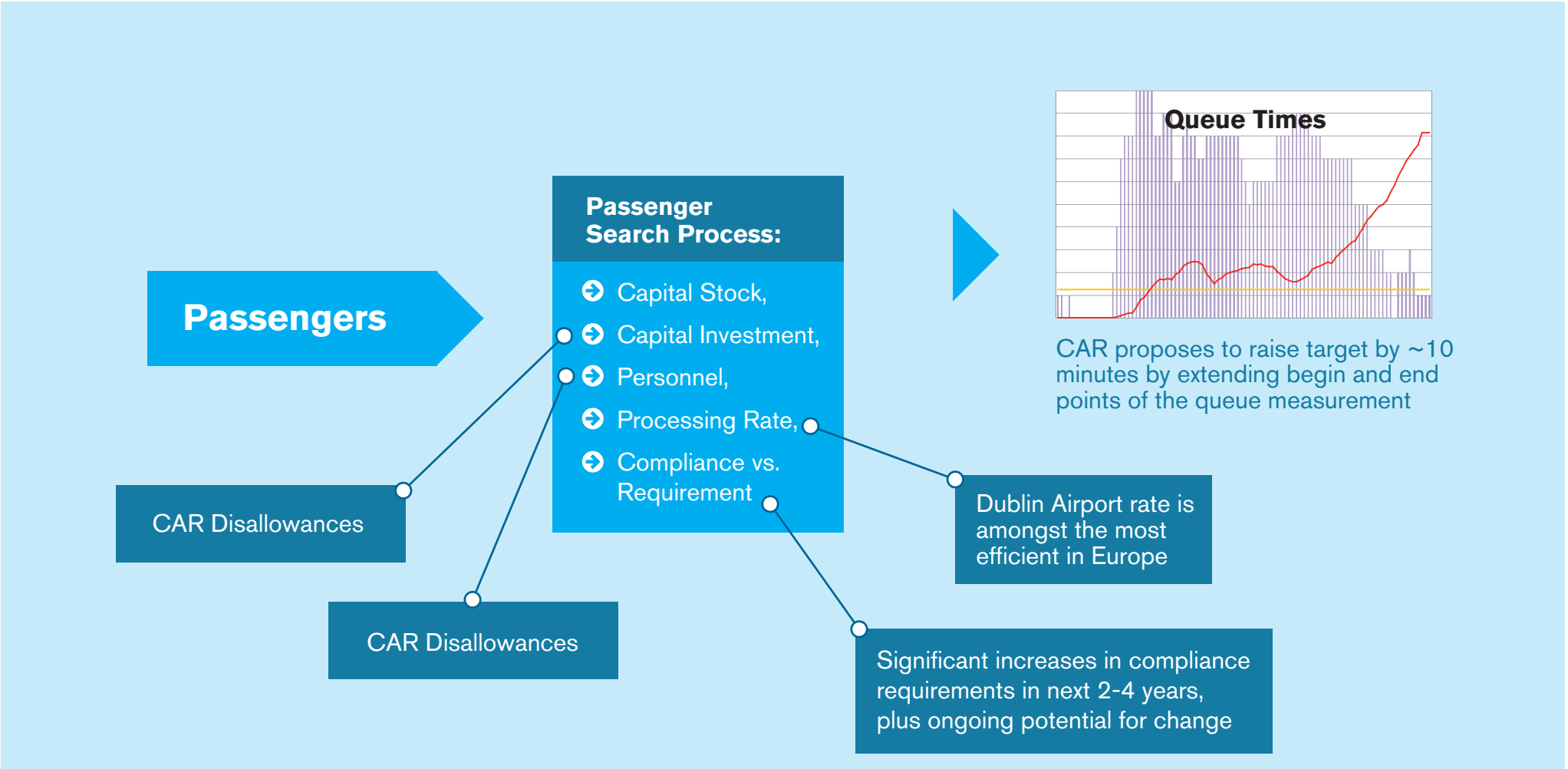
It is therefore clear from the above analysis that in order for Dublin Airport is to be safeguarded from potential SQM failures arising from the proposed increased targets Dublin Airport will need to maintain a position within the top five performing airports for its peer airport group. There does not appear to be a basis in regulatory principle for requiring Dublin to consistently maintain such a high standard, well above the general performance of peer airports.

While Dublin Airport has performed in the top 5 airports since quarter 1 2013 this was achieved by incurring the necessary level of operating expenditure. In this instance it appears that CAR is seeking to cement the quality of service achievement while cutting the operating expenditure allowance. It stands to reason that increased passenger numbers coupled with reductions in operating expenditure would see a drop in ACI ASQ scores. For Dublin to avoid financial penalties associated with target failures the airport would need to maintain its current service level while accommodating increased passenger numbers and lowering its operating expenditure.

Section 8: Security case study

8. Security Case Study

Exhibit 8.1: Impact of CAR's proposals: security case study



8.1 Changing passenger search requirements

Passenger numbers are forecasted to grow from 20.2m in 2013 to 23.6m in 2019, an increase of 17% in passengers requiring security screening over the period. Additionally the following known changes to security screening regulations will come in to effect over the period.

Exhibit 8.2: Known future security screening regulations

Compliance Requirement	LAGs Phase II	ETD	LAGs Phase III
Brief Description	Capacity to screen clear liquids in clear bottles e.g. water	Capacity to screen / swab Passengers and baggage for explosive traces	Capacity to screen all liquids, aerosols and gels i.e. full removal of existing restrictions
Implementation Date	2015 (date within 2015 not yet confirmed)	1st September 2015	2016 (date within 2016 not yet confirmed)
Equipment Required	12 Type B LAGs Equipment	26 Explosive Trace Detection 8 Security Scanners	29 Type C LAGs Equipment
Cost of Equipment Required	€0.6m	€2.5m	€2.2m
Throughput Rate after Implementation	170	170	153

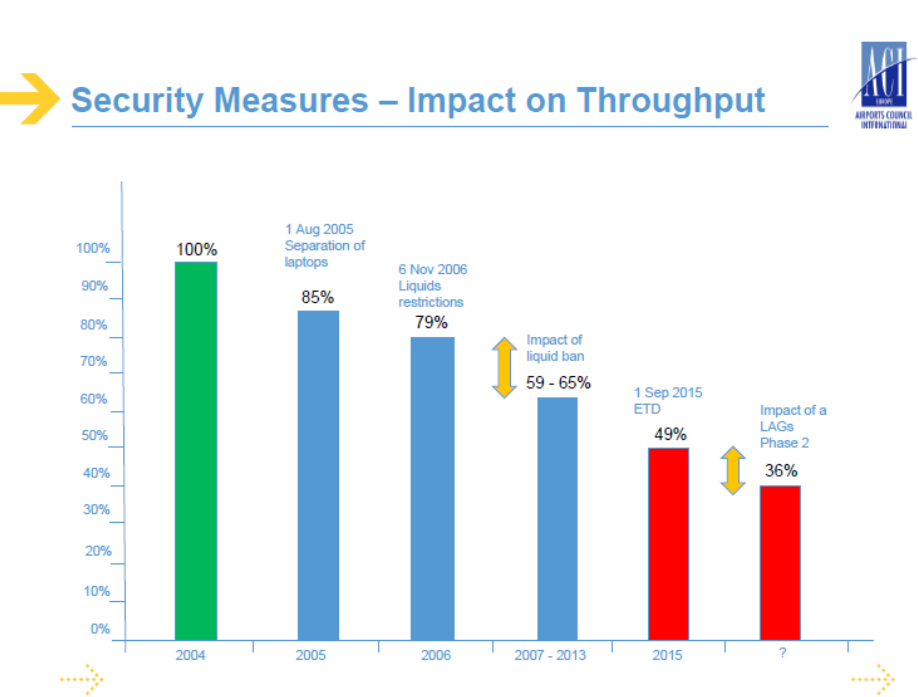
*LAGs refers to requirements on the screening of Liquids, Aerosols and Gels ETD is Explosive Trace Detection

It is essential that processing throughput is not adversely affected following the introduction of these new compliance measures, as CAR queue targets will still apply. To combat the effects the new regulations will have on the throughput rate, automated lane software and automated tray return solutions will need to be put in place. Automated lane software will allow for a lane's performance to be measured effectively thus ensuring that the associated process efficiencies are maximized while an Automated Tray Return Solution ("ATRS") will remove the manual element

ACI Analysis of Impact of Regulatory Changes on Throughput Rates

ACI (Airport Council International) engages in on going analysis of the impact of screening regulations on passenger throughput rates in security.

Exhibit 8.3: ACI indication of throughput due to changes in regulations



- The above data from ACI shows the processing rate at security progressively dropping over time in response to the introduction of enhanced screening requirements. The processing rate is expected to be only 36% of the 2004 processing rate following the introduction of new LAGs legislation in 2016. This rate for Dublin is approximately 153 passengers per security lane per hour.

from the relocation of trays to the security preparation area and hence reduce preparation delay as passengers wait for empty trays to pack into. 18 meter lanes provide extra space for passengers both before and after screening for preparation and gathering of belongings, (allowing more passenger to be preparing for screening and wait for screened baggage or gather their belongings) thus allowing a greater flow of passenger through the lane.

It should be noted that in addition to these known changes in security requirements the possibility for further changes over the period must also be considered. For example, in the last month it has become a requirement that all digital equipment must be powered up to pass through security on US-bound flights out of the UK. While this requirement does not currently affect Dublin, it shows how rapidly and to what extent screening requirements can change in response to identified threats. daa must have sufficient flexibility in security staffing to be able to respond rapidly, comprehensively and effectively to changing security requirements.

8.2 Modelling the impact of security capex and opex proposed allowances in the Draft Determination

CAST Terminal simulation models have been completed to assess the overall impact of the Draft Determination's Opex and Capex restrictions on the Security Screening Operation for daa's Core Growth schedules in both terminals. Three scenarios have been simulated for each terminal:

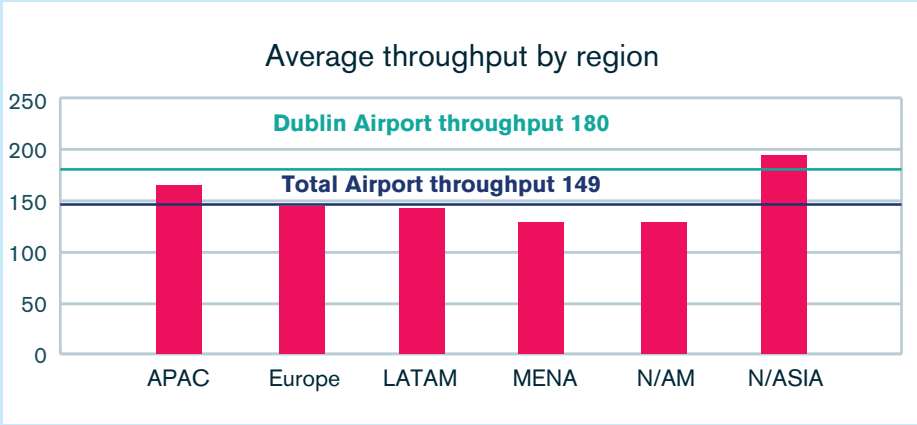
1. CAR Allowed Opex with CAR Allowed Capex as per draft decisions on Opex and Capex
   - » As the initial run showed system breakdown in T2 with queues failing to clear by end of day, we remodelled this first scenario by reallocating one security lane from T1 to T2 from 03: to .
2. CAR Allowed Opex with Required Capex Investment
3. Required Opex with Required Capex Investment

Benchmarking Dublin Airport's Throughput Rate

The benchmark rate used by Dublin Airport in modelling resource requirements for security screening is 180 passengers per lane per hour. This rate compares very favourably internationally.

A 2012 IATA report (http://www.iata.org/whatwedo/stb/Documents/pf-guide-security-2012.pdf) provides further evidence of Dublin Airport's strong performance in this respect. Exhibit x8.4is an excerpt from this report, recording an average throughput in Europe of 145 passengers per hour per lane. This confirms that Dublin Airport's security screening is efficient and our 180 pax/lane/hr. rate represents a high level of performance relative to other airports implementing the same compliance standards.

Exhibit 8.4: Average throughput achieved by airports, IATA report 2012



Separately, benchmarking conducted by Dublin Airport versus 4 other leading UK airports indicate that Dublin airport has the highest number of passengers per security operative in its 2014 budget (vs data at other airports for 2012 or 2011).

Description of Modelling Approach

daa's security queue modelling is performed with CAST Terminal. This is a 3D fast simulation system and it can be used to model all passenger movements in the terminal from the kerbside to boarding at the gate. Airport users of CAST Terminal include Heathrow, Gatwick, Dubai, Zurich, Copenhagen and major aviation consultancy users include Mott MacDonald, Leigh Fisher and Jacobs. During the capex consultation meetings held January – March 2014 airlines and other stakeholders were given a demonstration of CAST Terminal's capability in modelling security queue times based on modification of resource inputs.

Uses of CAST Terminal include:

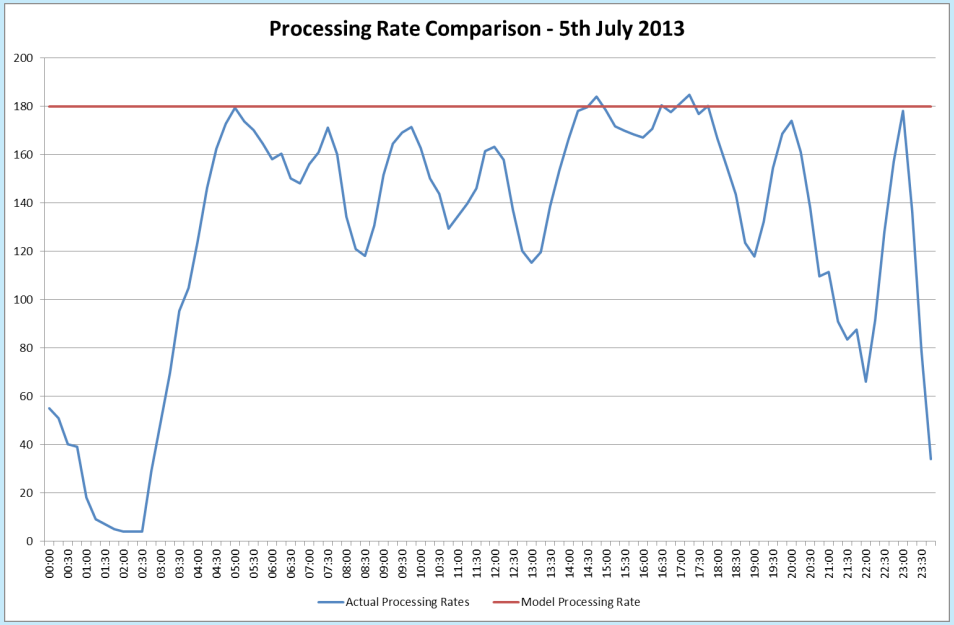
- Modelling very realistic passenger behaviours in terms of how quickly people move and / or interact with airport infrastructure
- Identifying of where bottlenecks occur in the system
- Determining the number of facilities needed in an area
- Examining different operational strategies at the airport
- Displaying the cause and effect of planning decisions.

In the modelling performed by daa to ascertain the impact on the security queue times in T1 and T2 based on the proposals for capex and opex put forward in the Draft Determination the following key assumptions are incorporated:

1. The processing rate per security lane is 153 passengers with the CAR allowed capex.
2. The processing rate per security lane is 180 passengers per hour where the security equipment proposed by daa for Capex investment is in place as to maintain a 180 rate per lane once the increased security compliance regulations come into effect requires 18m security lanes with ATRS.
3. The number of security lanes open at any time during the simulations where CAR Allowed Opex is modelled based on the number open at that time on 5th July 2013. 5th July 2013 is a 95% typical busy day in that year, and it is the 95% typical busy day that is used in modelling rather than the very peak day. The impact of CAR's opex proposals on base number of security staff in 2015 and elasticity of security staff gives that the number of security staff they allow, and hence number of security lanes which can be opened.
4. In the simulation with Required Opex the model has been allowed to open security lanes as required to maintain the security queue below the 30 minute target.
5. The flight schedule used in the simulations is the flight schedule which matches the daa Core Growth passenger forecast for a 95% typical day in 2019.
6. The load factors are based on historic performance and forecast growth. The load factor allows the number of passengers per departing flight to be calculated.
7. The arrival to screening profile used in the simulations is generated from historic data. The arrival to screening profile is essentially the relationship between the scheduled departure time of a flight and the times at which passengers for that flight will present to security for screening.

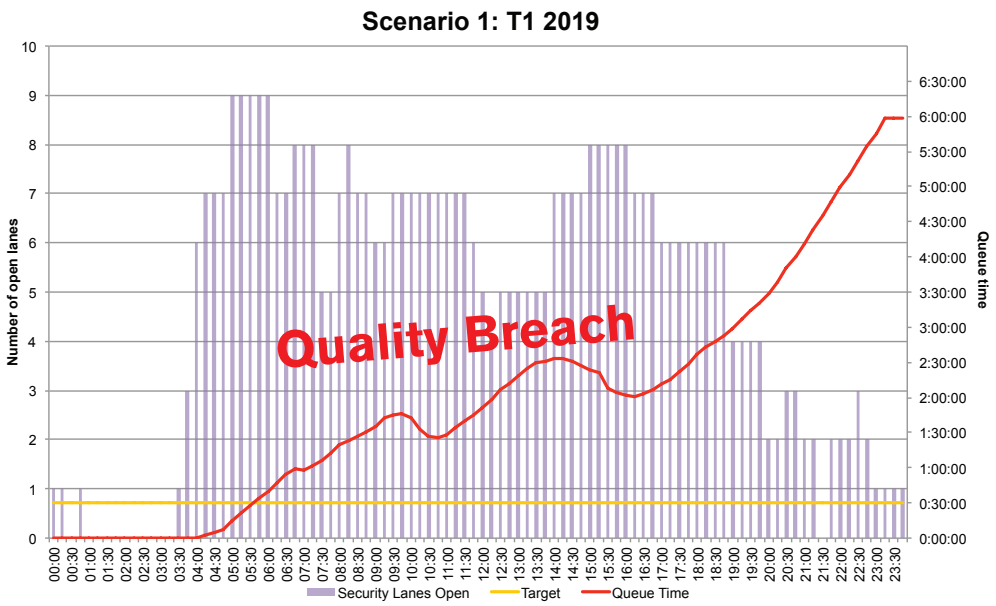
The peak rate is used rather than the average rates so in using it daa is assuming higher rate than would be expected.

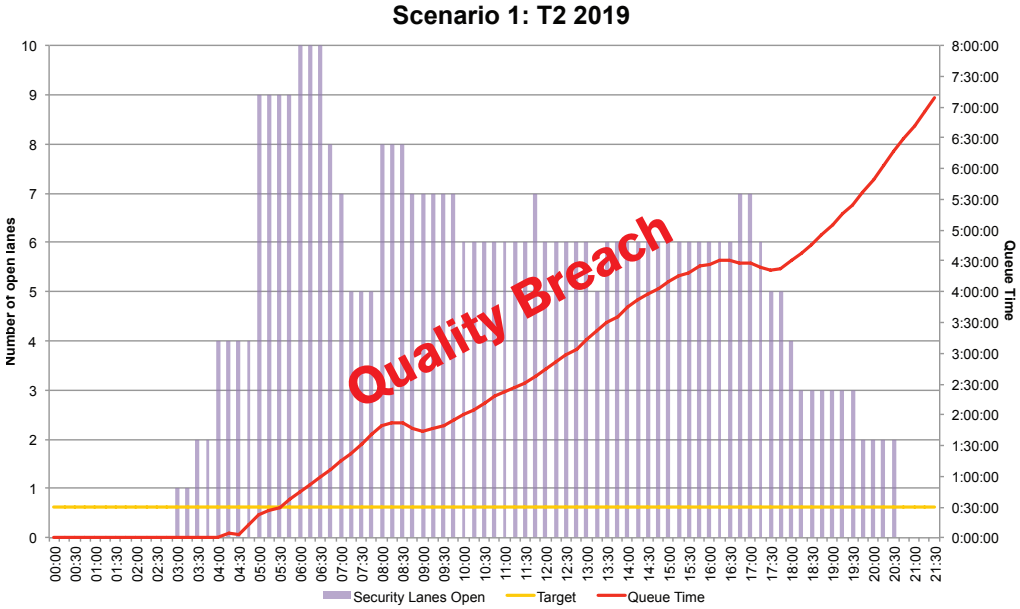
Exhibit 8.5: Processing rate over 95% busy day



A lower throughput rate during off-peak periods does not imply the screening process is inefficient. Higher volumes of passengers drive higher processing rates. Throughput naturally drops off as demand decreases.

Exhibit 8.6: CAR Allowed Opex with CAR Allowed Capex: Rebalanced Resources Between Terminals

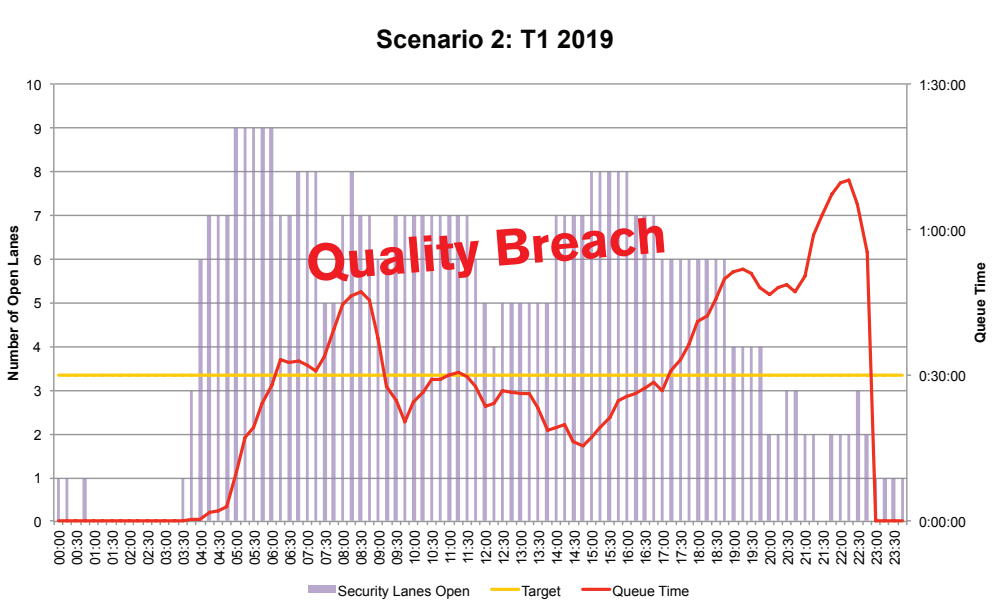


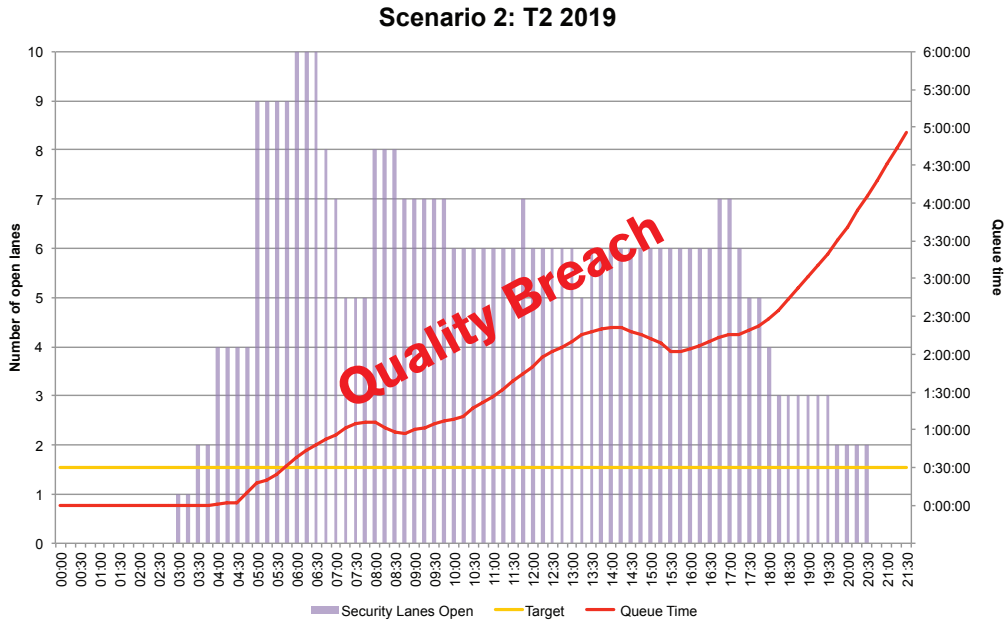


The results show that in a scenario where the processing rate drops to 153 passengers per lane per hour and less than the required number of security lanes can be opened, security queue times in both terminals rapidly breach the 30 minute queue target and remain above the target throughout the remainder of the day. In Terminal 1, queues increase from 1 hour to over 1:45 hours during the same time period. In Terminal 2, queue times reach over 2 hours by 08:00 and continue to grow through the day as lane closures which must take place later in the day (given the CAR allowed opex) remove the ability to process the backlog of passengers. In this scenario the queue in Terminal 2 never clears before the facility closes at the end of the day – a total system break-down.

The very clear result of the CAST Terminal simulation is that the 30 minute queue target **cannot** be met with CAR allowed Opex and CAR allowed Capex.

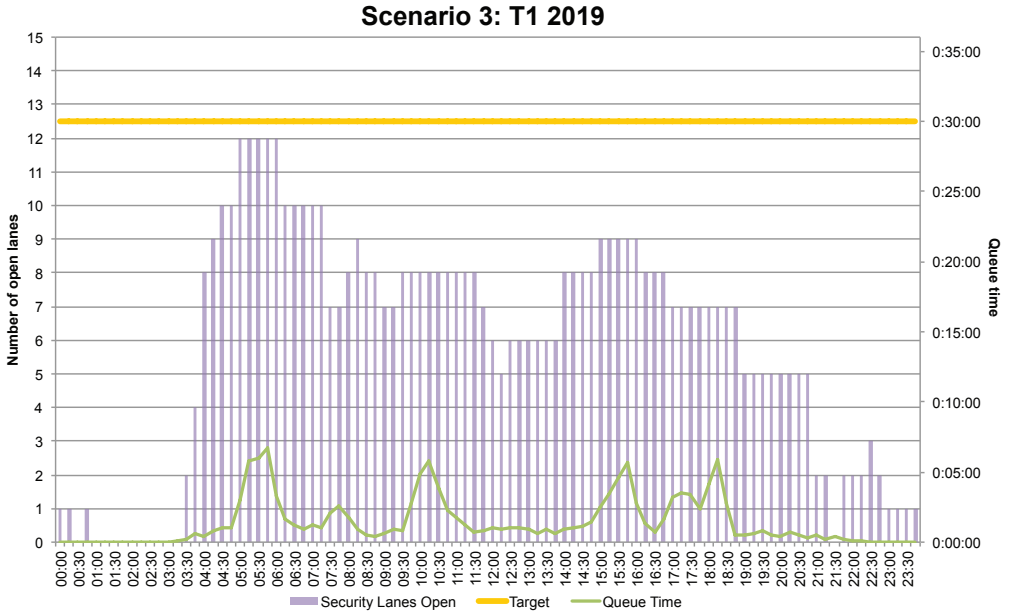
Exhibit 8.7: CAR Allowed Opex with Required Capex Investment

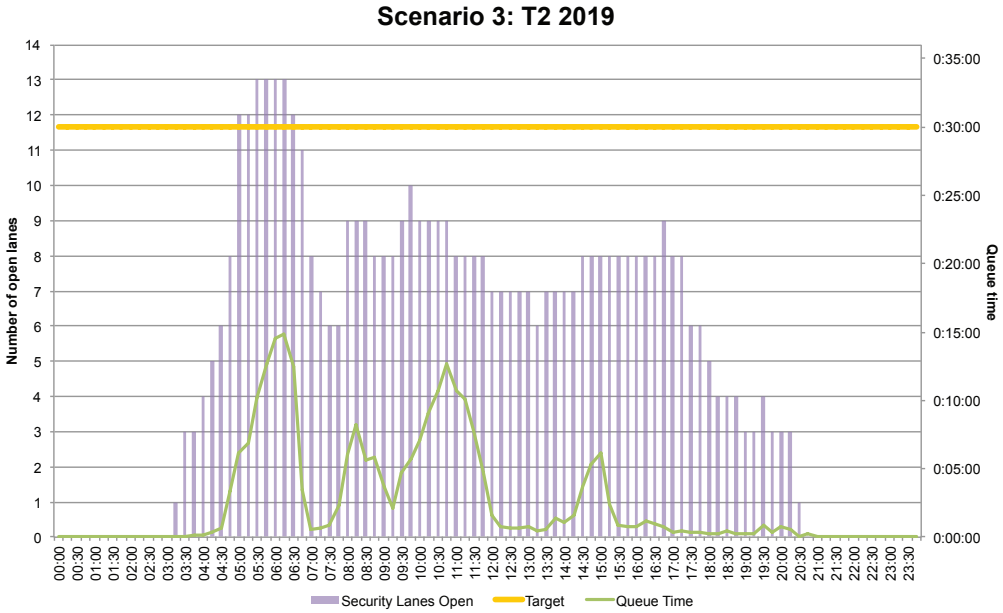




Results for both terminals show with sufficient Capex investment, which maintains the processing rate at 180 passengers per lane per hour, it is possible to reduce the overall queue. Again, the simulations show he security queue target of 30 minutes will be breached early morning in both terminals (note: a security queue target breach is recorded, and financial penalty applied to daa, if a single passenger queues for 30 minutes). Even with a processing rate of 180 pax./lane/hour more security lanes must be opened than is possible with the security staffing level allowed by CAR – additional Opex will be required to deliver the 30 minute maximum queue length.

Exhibit 8.8: Required Opex with Required Capex Investment





Results from this scenario show security queue times under the 30 minute target in both terminals – the level of service which daa must deliver.

The results from the three scenarios that were simulated show that:

1. Lack of capital investment in projects such as ATRS will lead to serious reductions in Dublin Airport's ability to process passengers at security. Queue times will become unmanageable and the 30 minute queue standard will be breached for long periods of the day in both terminals.
2. The security staffing levels as set out by CAR in the Draft Determination are not sufficient to process the 2019 passenger numbers even at the highly efficient rate of 180 passengers per lane per hour. Additional security staff to allow the opening of additional lanes will be required to allow the processing of all passengers within the 30 minute queue target in 2019.

The 2019 forecast passenger numbers were modelled through CAST Terminal as this represents the highest number of passengers over the period 2015-2019 and so shows the end stage outcome of the CAR proposals on security capex and opex. It should be noted that security queue target breaches will begin to occur much earlier in the regulatory period.

Conclusion

From the above, it is clear that the proposals contained in CAR's Draft Determination relating to security – both on capex and opex – will lead to greatly increased security queue lengths. This will negatively impact on the passenger experience, airlines' punctuality performance and daa's ability to attract new airlines (or indeed, retain existing airline customers).

Lack of capital investment in efficiency projects means that the current highly efficient security processing rate at Dublin Airport cannot be maintained once new regulations come into force, capacity restrictions will be encountered in the near future and queue times will be unmanageable. IAA, the Appropriate Authority in the State responsible for co-ordination and monitoring the implementation of the National Civil Aviation Security Programme for Ireland, advised, as outlined by The International Civil Aviation Organisation (ICAO),"movement through a passenger screening checkpoint should be quick and efficient, at the same time affording the opportunity to detect weapons and other dangerous devices, articles and substances. As passenger queues at passenger screening checkpoints adjacent to public areas could be targeted for attack, passenger throughput levels should be as high as possible'.

ICAO also notes that it is often not possible to accelerate the screening process and suggests options to improve the passenger experience such as assigning more screeners at each screening point and optimising the space utilisation.

CAR has made an insufficient allowance for security staff numbers resulting from the following errors and unrealistic assumptions:

- Reduced staff numbers in 2015 based on an incorrect calculation of 2014 security staff numbers
- This initial error is compounded by rostering errors which over-estimate staff availability over the period
- The elasticity assumed for security staff is too low for this labour-intensive process.

Combined, these three factors will cause security queue targets to be breached in both terminals even if investment is made to maintain the highly efficient 180 pax./lane/hr. processing rate.

There remains one further grave implication of CAR's signalled approach to the allowance of capital investment at security:

- Lack of capital investment in regulatory required screening equipment means Dublin Airport will be unable to fulfil its security regulatory requirements and could result in the imposition of a further Article 15.

The Imposition of an Article 15 on Dublin Airport

Security compliance at airports is subject to audit by external bodies, in Dublin's case this is the IAA. Dublin Airport was the subject of an Article 15 in May 2012. The implications of this Article 15 are set out below – it is a key goal of Dublin Airport that we will not be subject to a second Article 15 over the regulatory period 2015-2019.

Exhibit 8.9: Summary of Article 15 implications

What is an Article 15?	It is a notification of serious deficiencies to Appropriate Authorities whereby an appropriate authority shall be promptly informed if an inspection at an airport in its territory discloses a serious deficiency which is deemed to have a significant impact on the overall level of aviation security in the EU Community. This information shall also be communicated promptly to the appropriate authorities of all other Member States. Appropriate Authorities shall also be promptly informed when the European Commission has credible information about rectification action, including compensatory measures, confirming that deficiencies notified under this Article no longer have a significant impact on the overall level of aviation security in the Community.
Is it common and have other airports in Europe received Article 15?	It is not common although the European Commission has, on occasion, issued this sanction.
What are the consequences of an Article 15 for an airport?	The commission will inform all member states on the status of the given airport. All passengers transferring from the member state issued with the Article 15 must be re-screened before transferring out of another European airport. This means that passengers departing an airport issued with such an article are regarded as originating from a third State.
When and why did Dublin get an Article 15?	Dublin was notified of the Article 15 during May 2012. The reasons cited were serious deficiencies which had been identified by the commission during a previous inspection in March 2012. During its formal re-inspection three specific areas were adjudged not to have been comprehensively addressed and the Article 15 was issued on that basis.
What did Dublin have to do to lift the Article 15?	Infrastructure was built for the purpose of processing different categories of airport supplies and specialised screening teams were introduced to the area where this specialised activity takes place. Important adjustments were also made to the boundary demarcations at Dublin Airport and similarly comprehensive changes made in how General Aviation movements are dealt with.

Scheduling Note

Dublin Airport is a coordinated airport under Council Regulation (EEC) No 95/93 on common rules for the allocation of slots at Community airports, as amended by Regulation (EC) No 793/2004. These common rules for the allocation of slots at Community airports are based on the principles governing the system of slot allocation (IATA Worldwide Slot Guidelines), in order to ensure the access of air carriers to congested airports of the Community on the basis of principles of neutrality, transparency and non-discrimination.

IATA's World Wide Slot Guidelines (WSG) provides the global air transport community with a single set of standards for the management of airport slots. Section 6.9 of the WSG deals with Reduction in Airport Capacity. In paragraph 6.9.1 the WSG states:

"A reduction in capacity from the previous equivalent season should be avoided wherever possible...In any case, airlines' historic slots must be honoured"

Paragraph 6.9.2 states:

"…a reduction to a level that cannot accommodate established historic slots must be avoided in all but the most exceptional circumstances."

Under the Regulations Dublin Airport is required to formally declare runway and terminal capacity parameters on a seasonal basis, twice per year. These capacity limits are assessed, taking into account all relevant technical, operational and environmental constraints.

For T1 and T2, the maximum number of departing and arriving passengers per hour is declared based upon an analysis of the capacity of arriving and departing passenger facilities and identifying the main constraining elements.

As the airport operates as an integrated system, it is the terminal area with the lowest throughput level that defines the capacity limit for the entire arrival or departure flow. Additional capacity which is available in less constrained terminal components does not increase the ability of the limiting element to cope with peak traffic, and, as such, does not increase the overall capacity assessment.

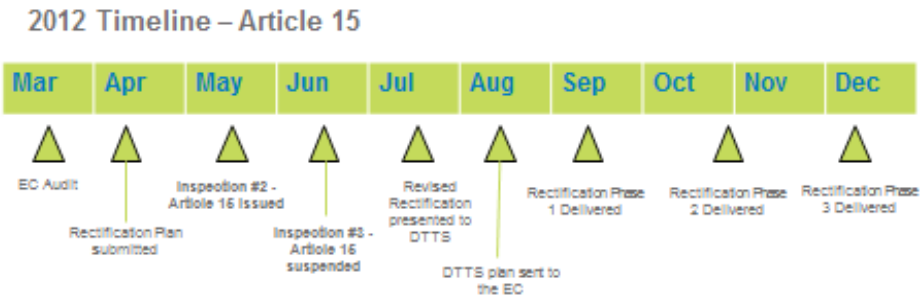
The terminal scheduling limits for T1 and T2 are constrained by the capacity at passenger screening. Changes in compliance requirements, due to come into effect in 2016, will cause the processing rate at screening to fall. Recent indications from ACI suggest that for Dublin Airport the rate will drop from approximately 180 passengers per security lane per hour to 153 if the Central Search Area – New Technologies project does not go ahead. The capacity of the screening areas in both terminals will be reduced. In T1, capacity will reduce from 3,090 passengers per hour to 2,680 passengers per hour. This will have an impact on flights that have rights to historic slots as demand from these will exceed the new capacity of the screening area.

Paragraph 6.9.1 of the WSG sets out that Dublin Airport must honour airlines historic slots. In doing so, the reduction in capacity will have a severe impact on the level of service experienced by passengers and airlines, with long queues and resulting significant impact on airline punctuality.

How long did it take?	It took approx. 6 months to implement a wide ranging corrective action plan which addressed at source the main headline issues and underlying problems which served to create conditions for the Article 15. The corrective actions plan was issued to DTTAS and then to the Commission as the evidence file and the Article 15 was subsequently lifted on that basis following a further inspection by the European Commission during October 2012.
What lessons were learnt?	That an Article 15 comes about as a result of prolonged under-investment in the security function - its people, its infrastructure and its equipment.
What is being done to ensure an Article 15 does not re-occur?	A large investment and real focus upon security investment, strategy, governance and compliance has flowed, however much needs to be done in maintaining advances. Security audits, inspections, surveys and observations are conducted regularly, rectifications identified are robustly closed, and an ongoing quality control framework has been built in order to schedule inspections of all aspects of the entire security programme at Dublin Airport with weekly reporting of the security KPI dashboard.

As can be seen in exhibit 8.10, rectifying an Article 15 is a long and expensive process.

Exhibit 8.10: Timeline of daa's Article 15



Reputational damage to daa at home and internationally – all EU member states notified re Dublin Airport status post the Article 15. This effectively meant that passengers transferring from Dublin would have to be rescreened before transferring out of another European airport.

Rectification costs into the millions – capex/opex and associated changes to how we conducted our business:

- New security post
- New security structure – Group security manager and compliance team
- 100 additional security officers and new ways of working
- Central search areas redesigned to allow for more working space for officers

Timeline above demonstrates the level of detail and time required to sufficiently address deficiencies

Continued regulation changes create additional measures pertaining to an EU inspection and potentially more opex requirement:

- Lags Screening
- Explosive trace detection requirements

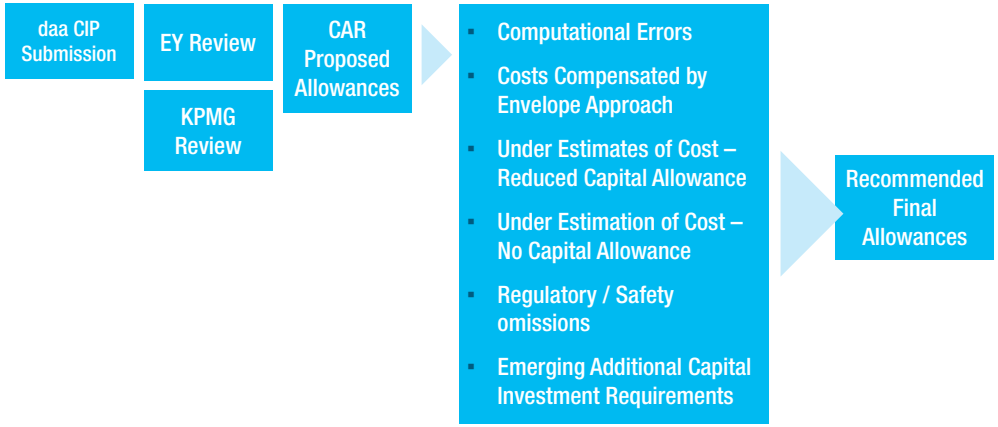
Section 9: Capex

9. Capital expenditure allowances – general

Proposed disallowances (relating to both proposed future spend and historical spend already incurred) dominate our feedback on the capex elements of CAR's draft determination. However, aside from the disallowances, CAR's proposed envelope approach to capex is, in general, a step forward in providing daa some scope for flexibly managing capital investment over the 5-year period of the determination. We also welcome CAR's approach – as recommended by ourselves and the airlines in the course of the capex consultation process – to appoint EY to review independently daa's cost estimates for the proposed capex projects. There are three primary sections to this chapter

- 2015-2019 General Allowances
- 2010 – 2014 Disallowances
- Pre – 2010 Disallowances

The layout of this subsection is presented graphically below.



9.1 2015-2019 general allowances

This subsection outlines the process undertaken in regard to the daa submission of CIP 2015 – 2019, the EY and KPMG reviews, the CAR proposed allowances in its Draft Determination 2014 and the specific issues that daa wishes to address. daa provides a full justification for its recommended final allowances.

daa welcome the appointment of Ernst & Young (EY) and their report of 26 May 2014 in relation to the cost benchmarking process, as an independent verification of the costs submitted by daa. We also welcome the envelope approach proposed by CAR in relation to flexibility within the groupings. We believe that this is essential, as within a five year period it is very difficult to predict what unforeseen projects may arise from capital maintenance, through growth to revenue opportunities. We do however have a number of concerns in relation to this approach which are detailed below.

KPMG were appointed by a steering group consisting of daa and airline representatives to review the four IT related proposals in the CIP 2015-2019 – Proposals. The tasks assigned to KPMG were to:

- Examine the rationale of projects proposed for funding and make an assessment of the necessity for each project
- Assess the cost proposed for each project
- Quantify the opex savings arising from individual projects where appropriate, time permitting.

daa CIP Submission 2015 - 2019

daa's Capital Investment Programme (CIP) presented daa proposals for capital investment at Dublin Airport for the period 2015-2019. These proposals were submitted to CAR in April 2014 following an extensive programme of consultation with users

Projects were grouped as follows;

Project Type	CIP Proposals 2015-2019 Amount (€m)
Tranche 1: Capital Maintenance	186
Tranche 2: Business Development	183
Tranche 3: Contingent	86
Other	22
Total	477

EY Review

Ernst & Young were appointed by CAR in March 2014 to review the projected cost of daa's capital expenditure plan, for 2015 to 2019. The assessment reviewed the cost of the projects in the CIP to determine whether or not the daa costs were reasonable as described in the CIP. The assessment comprised 54 individual projects and is based on the final CIP issued 9 April 2014.

Key Findings from EY review:

- daa total CIP value is €848m compared to the EY/TPS assessment of €879m
- This amounts to an overall variance of 3.6% (€30.7m)
- 30 projects had a higher cost estimate than expected resulting in a total negative variance of €49.3m
- 23 projects were found to have a lower cost estimate than expected resulting in a total positive variance of €79.9m
- 1 project was estimated at the same cost

KPMG Review

Key Findings from KPMG review:

- Rationale for bringing forward projects is robust and individual projects within the four proposals are justified
- Costs of 41 projects found to be reasonable with 3 projects found to be potentially understated and 1 project potentially overstated
- A budget of €1.6m per annum for Business Innovation Investment was said to be justified for an organisation of the size, type and complexity of Dublin Airport.

CAR Proposed Allowances

The following projects have been allowed by CAR in its Draft Determination. As daa proposed these projects in support of our capital maintenance and development plans we welcome their allowance.

Exhibit 9.1: CAR Proposed Allowances

Category	Project	€m
Airfield Maintenance	Runway 16/34 Pavement Rehabilitation	21.6
Airfield Maintenance	Apron Rehabilitation	22.3
Airfield Maintenance	Airfield and Apron Road	1.7
Airfield Maintenance	Airfield Taxiway Rehabilitation	12.5
Airfield Maintenance	Overlay Runway 10-28	29.6
Airfield Maintenance	Airfield Pollution Control	22.5
Airfield Maintenance	Airfield Lighting Upgrade (Runway 10-28)	8.3
Airfield Maintenance	Taxiway AGL Upgrade	3.6
Airfield Maintenance	Airfield Vehicles and Equipment	5.8
Business Development	Apron Development 5G	16.1
Business Development	Bus Lounge Facilities	12.0
Business Development	Fixed Electrical Ground Power Terminal 1	1.2
Business Development	Pier 1 Enclosed Gate Rooms	1.6
Business Development	Cargo Gate Redevelopment	1.7
Business Development	Airport Screening Centre	0.9
Business Development	Consolidated Staff car park	1.7

CAR Proposed Allowances - continued

Category	Project	€m
IT	IT Technology and Lifecycle Management	15.5
IT	IT Business Systems Investment	16.1
IT	Retail IT	1.6
IT	IT Business Innovation Investment	1.9
Landside & Terminal Maintenance	Light Fleet	2.5
Landside & Terminal Maintenance	Car parks Maintenance	2.7
Landside & Terminal Maintenance	External Roads	2.4
Landside & Terminal Maintenance	Landside Infrastructure Utilities	5.0
Landside & Terminal Maintenance	Terminal 1 Roof Repairs/Upgrades	7.8
Landside & Terminal Maintenance	Terminal 1 Baggage Reconciliation System	1.2
Landside & Terminal Maintenance	Terminal 1 Critical Equipment Upgrades	8.0
Landside & Terminal Maintenance	HVAC & BMS Upgrades	4.8
Commercial Revenues	Retail Refurbishments	17.5
Commercial Revenues	Commercial Hanger Infrastructure	0.9
Commercial Revenues	Cargo Terminal Development	1.7
Commercial Revenues	Digital Advertising Pods	0.6
Commercial Revenues	Commercial Property Refurbishments	10.9
Commercial Revenues	Long Term Car Park Resurface	6.1
Commercial Revenues	Consolidated Car Rental Centre	7.9
Commercial Revenues	Completion of Terminal 2 Multi-storey car park	15.8
Other	Minor Projects	10.8
Other	Programme Management	3.1
Total		**308**

9.1.1 Computational Errors

Where there appear to be a number of computational errors in the EY evaluation they should be corrected. These are detailed below.

Exhibit 9.2: Computational Errors

Project Title	Daa Submitted	EY / CAR Allowed / Estimated	EY Arithmetic Correction	Description of error
CIP 15.7.102 T1 Roofs Upgrade	€7.9m	€7.772m	€7.802m	Arithmetic error in summary €5,585,000 + €588,000 + €922,000 + €707,000 = €7,802,000
CIP 15.4.004 Central Search Area – New Technologies	€ 11.6m	€11.1m	€11.4m	Arithmetic error in summary €9,932,200 + €1,489,800 = €11,422,000. Since we later recommend a revision of the costing methodology correction of this error may not arise.
CIP 15.6.047 Apron Development 5G	€ 18.2m	€16.1m	€16.6m	Arithmetic error in works estimate €11,910,000 + €600,000 + €650,000 + €500,000 + €50,000 = €13,710,000 not €13,210,000
CIP 15.8.200 Programme Management	€3.5m	€3.1m	€5.3m	Arithmetic error in the calculation €162.5k x 5people x 5 years = € 4,062.5k €124k x 2 people x 5 years = € 1,240k Total = €5,302.5k

9.1.2 Costs Compensated by Envelope Approach

In some cases, we do not agree with the EY costings in each case. However, we do not propose to dispute them generally, as the envelope approach allows daa to make up in one project allowance what it has lost in another. (In the event of a material move away from the envelope approach, we would contest some of the EY costings). These specific projects and groupings are detailed in Exhibit 9.3. Further detail on the specific projects is included in Appendix 10.

Exhibit 9.3: Costs Compensated by Envelope Approach

Grouping	daa Submitted	EY / CAR Allowed	Reference
Airfield Maintenance Grouping	€ 124.0m	€127.8m	CIP 15.6.001 – Runway 16-34 pavement Rehabilitation (€ 24.3m v €21.6m allowed) CIP 15.6.055 – Taxiway Rehabilitation (€ 16m v €12.5m allowed)
Revenue Project Grouping	€55.4m	€61.5m	CIP 15.2.009 Consolidated Car Rental centre (€10.0m v €7.9m allowed)
Landside & Terminals Maintenance	€35.7m	€34.4m	CIP 15.7.104 T1 HVAC & BMS Upgrades €7.4m Vs €4.8m allowed CIP 15.3.004 Landside Infrastructure Car parks €4.5m vs €2.7m allowed

9.1.3 Under Estimates of Cost – Reduced Capital Allowance

In regard to certain specific projects put forward by daa in its CIP2015-2019, the capital allowance allowed by CAR is lower than anticipated and there is limited or no flexibility within the capital expenditure grouping to compensate for this. In this instance daa would request that the particular projects be re-evaluated and that the full capital allowance should be included by CAR in its Final Determination. The details of these projects are as follows and the specific requirement for re-evaluation is set out below.

Exhibit 9.4: Under Estimates of Cost – Reduced Capital Allowance

CIP Reference	Project Title	Project Grouping	daa Submitted	EY / CAR Allowed
CIP 15.6.047	Apron Phase 5g	Business Development	€18.2m	€16.1m
CIP 15.7.120	Bus Lounge Facilities	Business Development	€13.3m	€12.0m
CIP 15.8.009c	Business Innovation Investment	Information Technology	€8m	€1. 9m

CIP 15.6.047 – Apron Development 5G (€18.2m v €16.1m allowed)

The EY estimate for this project is too low as it is based on an incorrect assumption relating to the average thickness of the concrete apron.

This project was fully designed in order to issue tenders for award of the construction contract in 2008. The design of pavement thickness, drainage requirements, underground services, interfaces with adjoining works were all completed and issued to the market for tender. The daa estimate is based on an average tender return from 2008, based on the full design for 5G adjusted for inflation in tender prices based on published price data.

EY have benchmarked output costs for various thickness of concrete for each stand type, as follows:

- 450mm Code E
- 400mm Code D
- 350mm Code C

It is not practical to develop the apron stands at Dublin Airport on this basis as this type of design would preclude any adjustment of the apron to facilitate any required changes to aircraft stand layout in response to future demand (for example MARS configuration i.e. multiple aircraft size capability).

The key difference to be noted in the different approaches arriving at the capital expenditure estimate for this project is that the daa approach takes into account the particular site conditions and restrictions of the 5g scope of works. On the basis that the daa estimate methodology is more robust based on detailed design and tendered rates and as the EY assumption on concrete specification is different to what is proposed for the project we request that the original allowance of €18.2m is restored.

CIP 15.7.120 – Bus Lounge Facilities (€13.3m v €12m allowed)

The main difference in the EY and daa estimates are -€600k in contingency allowance and -€800k in allowance for external works.

EY suggest that this project is a lower risk category than other projects in the CIP as it is of relatively low complexity. EY suggest 15% contingency vs 20% proposed by daa. A 20% contingency is appropriate for this project within the CIP as;

1. The project is at early concept design stage and will be subject to significant design development.
2. A feature of the project is a bridge link to T2 and construction of a 110m internal elevated walkway through the baggage hall connecting passengers back to departures within T2. This is a complex and challenging aspect of this project. We know from recent projects that due to the complexity of services and systems in T2 that modifications and alterations are difficult to estimate accurately and there is significant buildability and cost risk associated with this feature of the Bus Lounge Project.
3. The daa estimate allows for the removal of the existing apron across the full site area including areas required for trafficking and loading of buses. The existing apron must be removed, in order for new services for the Bus Lounge to be installed underground; new Apron Road and parking bays to be constructed and traffic lights, road marking and pedestrian safety features all to be installed. Our estimate allows for €200/m2 for reinstating of bus traffic and parking areas to required levels whereas the EY estimate allows €70m2 assuming that the existing pavement can be resurfaced. The EY assumption is incorrect and the allowance should be increased for the actual scope required for external works.

On the basis that the contingency provision is too low due to T2 interface risk and that the external works is based on retaining the existing pavement which will not be possible, daa submits that the allowance for this project should be increased to €13.3m.

CIP 15.8.009c Business Innovation Investment €8.0m vs €1. 9m allowance

EY only allowed the sample projects indicated for 2015/2016 and made no allowance for developing technologies over the full period of the determination. daa recognises that it must plan for and adopt new approaches in order to actively support the evolution of service provision for passengers and airlines and to continue to be competitive. In this context, the innovative use of Information Technology will be essential to successfully enable and deliver in the following areas:

- Operating efficiencies
- Faster and more efficient passenger flows
- New revenue streams, driven by increased retail and services opportunities.

The KPMG findings included approval for the principle of an IT innovation fund and for the specific amount sought by daa, namely €8m.

daa has further reviewed where innovation investment is likely to make a real difference to our business and considers that additional projects set out below (2016 to 2019) should be provided for under this investment heading. The focus of these innovation projects is to deliver an integrated travel and leisure 'experience', provide additional relevant information and give customers more control than ever before over their journey. These investments will benefit customers using the full range of Dublin Airport services. The list of projects is outlined below and full details are set out in Appendix 12 (confidential);

Exhibit 9.5: Business Innovation Investment

Initiative	2015	2016	2017	2018	2019	Total
Self Service Bag Drop	€250,000		€500,000		€250,000	€1,000,000
SMART BAG Service		€200,000		€200,000		€400,000
Self Service Boarding Gates	€250,000			€250,000		€500,000
Additional Mobile App Services	€100,000		€150,000		€150,000	€400,000
Automated Border Controls for Incoming Passengers (Biometrics) in conjunction with Dept of Justice	€400,000		€200,000		€200,000	€800,000
Virtual Desktop Infrastructure(VDI)	€750,000			€200,000		€950,000
Transport Integration Hub		€200,000		€200,000		€400,000
Near Field Communications (Retail & Security)		€200,000		€200,000		€400,000
Enable Electronic Travel Mobile Boarding Pass (e.g Jet Blue)		€300,000		€250,000		€550,000
Regulatory evolution of security processes		€300,000	€250,000	€300,000		€850,000
Extend Wi-Fi capability to Airfield		€150,000	€150,000	€150,000	€150,000	€600,000
CDM deployment		€400,000				€400,000
Aircraft Docking Guidance System (ADGS)			750,000			€750,000
Summary Total	**1,750,000**	**1,750,000**	**2,000,000**	**1,750,000**	**750,000**	**8,000,000**

9.1.4 Under Estimation of Cost – No Capital Allowance

There are also a number of projects where the capital costs were not allowed by CAR and where their respective EY estimate is significantly lower than anticipated. In these instances, daa would request that the particular projects be re-evaluated, that the corrections in the estimates be made based on the additional information which is being submitted and the appropriate capital allowances should then be included by CAR in the Final Determination. The details of these projects are as follows and the specific requirement for re-evaluation is set out below.

Exhibit 9.6: Under Estimation of Cost – No Capital Allowance

CIP Reference	Project Title	Project Grouping	daa Submitted	EY Estimate
CIP 15.7.116	Pier 3 Flexibility	Business Development	€15m	€10.5m
CIP 15.4.004	Central Search Area New Technologies	Business Development	€11.6m	€11.1m
CIP 15.7.117	Terminal 2 Transfer Facility	Business Development	€21.5m	€18.7m

CIP 15.7.116 – Pier 3 Flexibility (€ 15m v € 10.5m EY)

It is not possible to precisely correlate the EY estimate to the Mott McDonald/EC Harris (MMD/ECH) estimate prepared for Pier 3 Flexibility and to fully identify where exactly the variance arises between the different elements. The MMD/ECH estimate is made up of over 40 line items whereas the EY estimate comprises 6 line items. Nevertheless the key areas where variances exist have been noted as follows

1. Airbridges - MMD/ECH estimate allows €0.5m / for each of the 4 airbridges and allows €0.5m for upgrading the power supplies to the pier to cater for additional power requirements. EY reference €600k for 6 No. airbridges. €600k is wholly insufficient to deliver the Code F airbridge requirements and for upgrading the power supply. 19 Airbridges for T2 cost €9m in 2010 averaging €475k each. The allowance should be increased by €1.9m for this item.
2. Contingency – EY allowed €1.375m Vs €2.5m MMD/ECH. EY estimated a lower percentage allowance for contingency on a much lower capital estimate. The allowance by MMD/ECH is based on the fact that the project is at early concept design stage and the work involves extensive refurbishment and rehabilitation works which by their nature are difficult to accurately forecast. The contingency allowance is insufficient and should be increased to €2.5m
3. Operational Restrictions - EY have made no allowance for abnormal costs associated with working airside. EY have allowed abnormal costs on other projects which require works to be done Airside (15.5.001, 15.7.104, 15.3.001, 15.7.102, 15.7.119, 15.7.121, 15.7.120). This project will be subject to significant restrictions in contractors working practices requiring night time and shift working as well as getting manpower and materials airside for all of the works. Airfield operational restrictions will also apply to significant elements of works. MMD/ECH have estimated the abnormal construction costs associated with working airside and on ramp at €1.0m which sum is required.
4. Phasing Requirements - The delivery sequence for this project will involve maintaining airline and passenger access to gates; stands and pier facilities for the duration of the project. This will increase the time necessary to complete the work and impact on Contractors supervision. MMD/ECH have allowed €0.5m in their budget estimate for phasing and this sum should be added to the total allowed

In summary the following items need to be added to the EY estimate

Airbridges correct allowance	€1.90m
Contingency correct allowance	€1.13m
Abnormal Costs allowance	€1.00m
Phasing Allowance	€0.50m
Total	**€4.53m**

CIP 15.4.004 – Central Search Area New technologies (€ 11.6m v € 11.1m EY)

There is a computational error referenced for this project in Exhibit 9.1, however in this instance we are requesting a review of the costing methodology.

The variance on this project is related to the rate for automated lane €175k(daa) v € 130k (EY). daa believes that its Automated lane costs estimates are accurate on the following basis;

	Cost per Lane	No. of lanes	Total Cost
EY estimate	€130,000	32	€4,160,000
daa estimate	€175,000	32	€5,600,000

daa is currently trialling two automated lanes in Terminal 1 at Dublin Airport to confirm the benefits of using this technology in the future. These lanes have been loaned to daa by McDonald Humfrey and Smiths Detection/Herbert Systems, two of the suppliers for this equipment. To verify its cost estimate daa requested these two companies to provide indicative costs for these lanes and their associated equipment.

	Smiths Detection/ Herbert Systems	McDonald Humfrey
Auto Tray return system (including remote screening)	€167,500	€172,200 (STG£138,000)

The average for these two estimates is €170,000. In addition to this, daa has allowed a further €5,000 to cover shipping and other incidental set up costs giving a total of €175,000 per lane.

Based on the above analysis, daa recommends that the CAR should use a cost estimate of €175,000 per lane for the automated lane equipment. It is worth noting that this equipment will include remote screening capabilities which daa considers to be important in its efforts to reduce

passenger throughput times through the security checkpoints and to further optimise security staffing costs

CIP 15.7.117 – Terminal 2 Transfer Facility (€ 21.5m v € 18.7m EY)

The key areas where variances exist are as follows;

1. Contingency – EY allowed €2.40m Vs €2.90m MMD/ECH. EY allowed a lower percentage for contingency on a lower capital estimate. The allowance by MMD/ECH is based on the fact that the project is at a very early concept design stage and the work involves extensive refurbishment and rehabilitation works and is to be constructed on the existing baggage hall roof with no disturbance to operations. The contingency allowance is insufficient and should be increased to €2.90m
2. Operational Restrictions - EY have made no allowance for abnormal costs associated with working airside in this project. EY have allowed abnormal costs on other projects which require works to be done Airside (15.5.001, 15.7.104, 15.3.001, 15.7.102, 15.7.119, 15.7.121, 15.7.120) This project will be subject to significant restrictions in working practices requiring night time and shift working as well as getting manpower and materials airside for all of the works. Crainage restrictions will necessitate lifting of all heavy materials. MMD/ECH have estimated the abnormal construction costs associated with working airside and on the ramp at €1.20m.
3. Phasing Requirements - The delivery sequence for this project will involve maintaining airline and passenger access to gates, stands and pier facilities for the duration of the project. This will increase the time necessary to complete the work and impact on contractors supervision. MMD/ECH have allowed €0.6m in their budget estimate for phasing and this sum should be added to the total allowed.

The EY estimate does not allow for Section 48 Contributions to FCC. The budget for this item is €345k.

In summary the following items need to be added to the EY estimate.

Contingency correct allowance	€0.50m
Abnormal Costs allowance	€1.20m
Phasing allowance	€0.60m
Section 48 contributions	€0.35m
Total	€2.65m

9.1.5 Regulatory / Safety Omissions

There are a number of projects that are an absolute requirement from a regulatory and safety perspective that CAR have **not** allowed. We request that CAR re-examine these projects and that the respective allowances be included in the final determination. A summary of the projects and the project justification are given below.

Exhibit 9.7: Regulatory / Safety Omissions

Project	daa submission	Reason for not allowing
T2 HBS Standard 3 15.4.003	€ 13m	CAR has disallowed the expenditure on this project on the basis of the following statement, "We are unpersuaded by the need to upgrade the hold-baggage screens in Terminal 2 during the forthcoming regulatory period (should the daa find itself in a situation where an upgrade is mandatory, we would expect users to be receptive to supporting additional spend on this item"
Airfield Infrastructure Upgrades for New Large Aircraft 15.6.007	€1.5m	CAR has disallowed the expenditure on this project on the basis of the following statement, "The projects relating to large aircraft (A380s) also seems unnecessary, given the absence of firm commitments from A380 operators."
Pier 2 Segregation 15.7.111	€18m	CAR has disallowed the expenditure on this project on the basis of the following statement, "The Pier 2 segregation option appears to be an expensive option for an ageing pier which will be replaced at some stage in the future."
Central Search Area New Technology 15.4.004	€11.6m	CAR has disallowed the expenditure on this project, however no reasoning has been provided.

CIP 15.4.003 – Terminal 2 HBS Standard 3 (€ 13m v € 0 allowance)

In Ireland, the mandatory screening of all outbound hold baggage is based on EDS (Explosive Detection System) technology integrated into the Baggage Handling System (BHS) at each Airport. The use of EDS technology in European Airports is regulated by the European Commission via Directives enacted throughout the member states. There are currently three Standards for EDS screening equipment.

The timeline for implementation of EDS equipment is set out in "Commission Implementing Regulation (EU) No 1087/2011 of 27 October 2011" which replaces point 12.4.2 of Chapter 12 of the Annex to Regulation (EU) No 185/2010 and states:

In Chapter 12 of the Annex to Regulation (EU) No 185/2010, point 12.4.2 is replaced by the following:

'12.4.2. **Standards for EDS**

12.4.2.1. There shall be three standards for EDS. Detailed requirements on these standards are laid down in a separate Commission Decision.

12.4.2.2. All EDS shall meet standard 1.

12.4.2.3. Standard 1 shall expire on 1 September 2012.

12.4.2.4. The appropriate authority may permit standard 1 EDS installed between 1 January 2003 and 1 September 2006 to continue to be used until 1 January 2014 at the latest.

12.4.2.5. Standard 2 shall apply to all EDS installed as from 1 January 2007, unless a contract to install EDS that meets standard 1 has been placed before 19 October 2006.

12.4.2.6. All EDS shall meet standard 2 by 1 September 2012 at the latest, unless point 12.4.2.4 applies.

12.4.2.7. Standard 2 shall expire on 1 September 2020.

12.4.2.8. The appropriate authority may permit standard 2 EDS installed between 1 January 2011 and 1 September 2014 to continue to be used until 1 September 2022 at the latest.

12.4.2.9. The appropriate authority shall inform the Commission when it grants permission to permit standard 2 EDS to continue to be used as of 1 September 2020.

12.4.2.10. Standard 3 shall apply to all EDS installed as from 1 September 2014.

12.4.2.11. All EDS shall meet standard 3 by 1 September 2020 at the latest, unless point 12.4.2.8 applies.'

As the existing Standard 2 machines in Terminal 2 were originally brought into operation in November 2010 they will currently expire on 1 September 2020. From this date, all EDS equipment must meet Standard 3 screening capability. Therefore in accordance with EU legislation new EDS Standard 3 machines must be operational by September 2020. In order to achieve this date the following outlines the key milestones;

- Appoint design consultants – Q2 2017
- Main contract award – Q1 2018
- Construction Period – 2 years, phased to maintain operations.
- Project completion – Q1 2020

CIP 15.6.007 Airfield Infrastructure Upgrades for New Large Aircraft (€1.5m)

This particular project relates to the newer generation large aircraft belonging to the ICAO Annex 14, Vol. 1 Aerodrome Reference code E classification, i.e. the Boeing 777-300ER and the Airbus A340-600 aircraft. ICAO Circular 305 AN/177 'Operation of New Larger Aeroplanes at Existing Aerodromes (dated June 2004) makes specific reference to the aircraft types above, recognising that their 'very long fuselage' and associated wheel span and wheelbase (distance from the nose wheel gear to the main landing gear) dimensions can cause problems and require changes to many aspects of existing aerodrome infrastructure such as aerodrome stands, holding positions, taxiway curves and intersections that had previously been designed for other aircraft, e.g. B747.

Most of the taxiway infrastructure associated with Runway 10-28 was designed using the B747 as the critical aircraft, as it was the largest aircraft type in relation to undercarriage configuration at the time of design. This aircraft however had greater manoeuvring capability when compared to the new larger aircraft, i.e. B777-300ER and A340-600 of the same ICAO aircraft classification.

The taxiways curves / intersections included in this paper have been identified as needing pavement adjustments (e.g. taxiway fillets) to allow aircraft track the taxiway centreline pavement marking with cockpit-over-centreline steering guidance, in line with ICAO requirements (DOC9157 AN/901 Aerodrome Design Manual Part 2 Taxiways, Aprons and Holding Bays), to provide the necessary outer main gear to pavement edge safety clearance. Currently, flight crew have to reduce taxi speed significantly to use a judgemental over-steering technique at the curved taxiway areas and intersections included in this paper. This reduces aircraft runway exit / entry efficiency and increases the risk of aircraft deviation potentially onto non-pavement areas, particularly during hours of darkness, or on wet pavement or a combination of both.

The project sheet and the presentation material to users as part of the consultation process explicitly identify the above aircraft types and not the A380.

Annual B777-300ER aircraft movement and Runway 10-28 taxiway usage data for the period 2012 – 2014 year to date are provided in Exhibit 9.8.

Exhibit 9.8: Aircraft Movements and Taxiway Usage

Aircraft Type	2012	2013	2014 (year to date)
B777-300ER	488	1,070	692

Taxiway	2012	2013	2014 (to 30th Jun.)
B7	175	179	119
E1	309	349	202
E6	300 (estimate)	242	142

CIP 15.7.111 Pier 2 Segregation (€18m)

Pier 2 is currently unsegregated, meaning departing and arriving passengers can mix within the pier. At present, a managed solution is in place using anti-pass back doors to avoid contamination of other piers and imposing restrictions set out by the Revenue Commissioners in relation to origins and destinations of flights within the pier. In addition, the anti-pass back doors provide a poor customer experience where passengers travelling with airlines operating out of Pier 2 do not have full access to a full range of airport facilities and in the event that passengers enter this pier by mistake, they are required to exit through arrivals and re-enter through central security search.

The Revenue Commissioners have requested that daa put forward a proposal for the segregation of the pier:

Conditions of Appointment for Dublin Airport as a Customs Airport by The Revenue Commissioners

2.2 Pier A in its current (March 2010) layout is approved for the integration of inbound and outbound passengers as a temporary arrangement. The temporary approval will be reviewed with a view to implementing full segregation of inbound and outbound passengers on this pier when capital expenditure funding is approved for this purpose as part of the Commission for Aviation Regulation (CAR) determination . The current determination period is January 2010 to December 2013.

The DAA will include a capital expenditure business case to achieve this segregation as part of its capital expenditure proposals for the next determination period.

CIP 15.4.004 Central Search Area New Technology

This project addresses an immediate regulatory requirement in relation to passenger screening and the knock-on effect this project has on central search capacity.

Current Commission Implementing Regulation (EU) No 246/2013 requires the screening of clear liquids and gels to be in place by 2015 (LAG's Phase 2) and all liquids and gels by 2016 (LAG's Phase 3). In order to comply with this legislation, additional LAG's Type 'B' and Type 'C' equipment must be in place by the above dates. In order to combat the effects of the new regulations on the existing central search processing capability, an automated tray return solution will need to be installed, to maintain acceptable processing times.

(d) in Chapter 12, point 12.7.1.1 is replaced by the following:

'12.7.1.1 LEDS equipment shall be able to detect and to indicate by means of an alarm specified and higher individual quantities of threat materials in LAGs.';

(e) in Chapter 12, point 12.7.2 is replaced by the following:

'12.7.2. Standards for Liquid Explosive Detection Systems (LEDS) equipment

12.7.2.1. There shall be three standards for LEDS equipment. Detailed requirements on these standards are laid down in a separate Commission Decision.

12.7.2.2. All LEDS equipment shall meet standard 1.

LEDS equipment meeting standard 1 may be used until 30 January 2016 at the latest.

12.7.2.3. Standard 2 shall apply to all LEDS equipment installed as from the day of the entry in force of this Regulation.

All LEDS equipment shall meet standard 2 with effect from 31 January 2016 at the latest.'.

In addition, since this project was submitted in the amount of €11.6m, we have been advised of new screening requirements, (see section 11.1.6) whereby additional equipment is required for compliance with the new legislation, resulting in a project increase of €1.5m. This demonstrates how quickly and to what extend screening requirements can change in response to identified threats.

It is essential that this project, in the increased amount of €13.1m is allowed in the Final determination, to maintain security compliance at Dublin Airport.

9.1.6 Emerging Additional Capital Investment Requirements

Since the submission of the CIP 2015-2019 in April 2014, some additional capital investment requirements have materialised and we would like capital allowances increased to accommodate these projects. The specific projects are set out below.

Exhibit 9.9: Additional Capital Investment Requirements

Additional CAPEX requirement	Original CIP submission (€)	Revised CIP submission (€)	Project Increase (€)
CIP 15.4.004 – Central Search Area New technologies	11.6m	13.1m	1.5m
CIP 15.4.007 – Central Search Equipment Capital Maintenance (New Project)	0	2.7m	2.7m
CBP Lounge (New Project)	0	2.0m	2.0m
T2 MSCP	12.3m	26.9m	14.6m
Pier 3 Flexibility	15m	27.4.m	12.4m
Total			**33.2m**

CIP 15.4.004 – Central Search Area New technologies

Since CIP 2015 – 2019 was submitted following an extensive period of consultation with the airlines, additional requirements in relation to security screening have emerged as a result of a recent amendment to European legislation. The specific legislation is detailed below and this has driven the requirement for additional security screening equipment.

EUROPEAN
COMMISSION

Brussels, 17.3.2014
C(2014) 1635 final

ANNEX 1

Limited

Notified to daa by the IAA on 23 June 2014

ANNEX

to Decision C(2010) 774

COMMISSION IMPLEMENTING DECISION

amending Commission Decision C(2010) 774 as regards clarification, harmonisation and simplification of the use of explosive trace detection
(Text with EEA relevance)

4.1.3 Where passengers have passed through WTMD equipment and did not cause it to alarm, between 10% and 20% of those passengers shall be subjected to a hand search, or be screened by a security scanner, EDD or ETD in order to detect prohibited articles.

From 1 September 2015 at the latest, where passengers have passed through WTMD equipment and did not cause it to alarm, between 10% and 20% of those passengers shall be subjected to screening by either:

(a) a security scanner

(b) ETD

(c) a hand search

(d) EDD

If option (c) is used, in addition, at least 10% of all passengers shall be screened by ETD or EDD and the percentage of passengers selected for hand search may be reduced to 5%.

Hand searches shall be performed in accordance with Attachment 4-A.

Passengers shall be selected on a continuous random basis.

From 1 September 201 Dublin Airport will be required to use either ETD (Explosive Trace Detection) or Security Scanning equipment to secondary screen passengers who activate when walking through the Walk Through Metal Detection (WTMD) system at the terminal security checkpoints.

daa has planned to conduct trials in Q1 2015 to determine which technology it should use (or a combination of both). This will determine the precise equipment requirements which will be needed. In the meantime, it has made an initial estimate on what will most likely be needed in addition to that already indicated in CIP 15.4.004. The estimated cost of the additional equipment, Explosive Trace Detection (6 No. units) and Security Scanners (8 No.) is €1.5m and the project has been revised to reflect this new requirement.

CIP 15.4.007 – Central Search Equipment Capital Maintenance (New Project)

Following a recent internal life cycle review of all central search equipment, daa has identified additional equipment not included in CIP 2015 – 2019 which will reach its end of life prior to the end of December 2019. This equipment will need to be replaced if operations are to be conducted or continued in an efficient and effective manner.

There are 17 Walk Through Metal Detectors and 17 X-Ray machines, all in Terminal 1 which were installed between 2005 and 2007. While the equipment is maintained in accordance with the manufacturer's recommendations and in line with best practice, the equipment reaches end of life after 10 to 12 years and will need to be replaced in this regulatory period. The X-Ray equipment will be replaced with 'Type D' equipment and the WTMDs will be replaced with equipment similar to existing units. The estimated cost of the WTMDs is €0.17m and the estimated cost of the X-Ray machines is €2.55m.

This additional €2.72m should now be included in the final allowance.

CBP Lounge (€2m)

daa's executive lounge in T2 has delivered 10% growth for the past 2 years and is currently operating at capacity. Also, daa has received a direct request from airlines to improve the customer experience in CBP, by providing a lounge for business class passengers.

daa had originally planned on refurbishing the T2 lounge during 2014, however due to the capacity constraint being experienced and the interest from customers to a new product after the CBP facility, daa has re-examined its lounge strategy and now plans to deliver a new lounge in 2015 which will be available to customers of any airline operating from CBP. This investment will cost €2.0m to complete and will deliver an IRR of 11% (nominal). We would expect the associated revenue to be excluded from the till in the event that this capital expenditure is not allowed.

This project provides an opportunity to deliver a "best in class" lounge product, allowing daa to become the pre-eminent operator of lounges at Dublin Airport. The space identified for the lounge is currently unoccupied office space, and has interesting views of the airfield.

CIP 15.2.006 T2 MSCP

Since CIP 2015 – 2019 was submitted we have completed a feasibility study in relation to the construction of T2 MSCP – planning permission exists for the construction of an additional 4 floors whilst the original CIP submission was for the construction of an additional 2 floor during the upcoming regulatory period. This feasibility study has highlighted the practicalities and efficiencies associated with the full build out of this car park, as opposed to constructing the additional 2 levels as per the original CIP submission. Completion must take place by 2019 according to the current planning permission. The feasibility study also identified operational and constructibility issues associated with completing the build out of this car park at a later stage. The business case has been updated on the basis of a full build out and it shows, an IRR of 11.2% (compared to 11.0% fon the €15.8m update EY cost).

The costs associated with the additional levels are as follows;

- Additional levels 3 & 4 - €15.8m for 753 spaces @ average cost of €20,983 / space (Based on EY estimate).
- Additional levels 3, 4, 5 & 6 - € 26.9m for 1,436 spaces @ average cost of €18,773 / space (based on EY estimate for levels 3 & 4 and daa estimate for levels 5 & 6).
- The build out of the additional levels would be dependent on a revision to the existing Short Term cap which we would pursue immediately.

On the basis of the strong business case for this additional build out of the T2 MSCP, we propose that this additional spend in the amount of €26.9m be included in the Final Determination.

Pier 3 Flexibility

In response to this breaking news and having sought further detail on the requirements necessary to accommodate an Airbus A380 on Pier 3, to cater for the demand generated by c.600 passengers on a single service, we need to amend our original submission and

Handling More Wide-Body Demands[1]

- One of Dublin Airport's customer airlines has confirmed that it is reviewing in detail the possibility of operating an Airbus A380 on a daily basis on its Dublin route within the next 18 to 24 months. See Appendix 13 (confidential).
- It is expected that an A380 operation would be configured to handle up to 600 passengers in a 2 or 3 class configuration.
- In catering for this demand we need to consider the implications of moving up to 600 passengers on a single service through the existing infrastructure to enable a 2 hour turnaround. In our proposition submission we considered some of the terminal and airside requirements needed to facilitate, not only this specific A380 demand, but also the flexibility to handle additional wide body aircraft services, including Boeing 777, Boeing 787 and Airbus A350 etc.
- In order to provide for this newly articulated demand, daa has now revised the plan to create additional flexibility, i.e. a larger gate lounge area with airbridge connections to multiple stands, in wide or narrow body configuration. This flexibility will be highly advantageous as more departure gates can be provided in the location under consideration. Other necessary revisions to our original submission are set out in the table below.
- In order to accommodate these growth opportunities the amount of capital expenditure sought under the heading 'Pier 3 Flexibility' has been amended from our original CIP submission. In summary, daa is seeking an increase in the amount sought by €11.1m.

Expenditure Area	Original Amount Sought	Additional Amount Sought	Revised Total
Upper gate lounge extension	1.6m	5.9m	7.5m
Fixed link node	6.4m	1.8m	8.2m
Extension/alternation to baggage carousels	0.0m	0.9m	0.9m
Improvements to baggage reclaim hall	0.0m	2.5m	2.5m
Total		**11.1m**	

- See project costings in Appendix 17. (confidential)
- Dublin Airport has also been approached by another airline currently operating the A380 to establish the airport's ability to accommodate this aircraft.

[redacted]

increase the amount sought by €12.4m. This additional amount includes a c.700m2 extension to Pier 3 gate lounge on the upper level at c. €7.0m, additional works to the departure & arrival journey and additional works to the baggage hall, at c. €4m, and general improvement works to Terminal 1, not included in other Terminal 1 development projects at c. € 1.4m.

9.2 2010 – 2014 disallowances

There are a number of projects in the reconciliation of CIP 2010 to 2014 that CAR has not allowed, and where daa argues that these disallowances are incorrect and that capital allowances for these projects should be included in the Final Determination. The details of the projects and the rationale for the allowance in the CIP 2010 to 2014 of their full expenditure are set out in this subsection.

Exhibit 9.10 sets out the categories of projects which will be discussed.

Exhibit 9.10: 2010 – 2014 Disallowances

Type	Projects	Recommendation
Rollover Project	Repairs to Departures Road (CIP3.033)	It is recommended that this allowance be rolled over to CIP 2015 – 2019 in the amount of €4.2m – Details below.
T2 Related	Pier 3 Connecting Corridor	€8.5m should be included in the 2010 to 2014 allowances and enter the RAB – Details below
Consulted but disallowed	Pier 3 Refurbishment (€1.5m) Terminal 1 Roofs (€2.4m)	€1.5m and €2.4m should be allowed in the 2010 to 2014 allowances on the basis that there was substantive airline support. Terminal 1 Roofs where consulted in relation to the amount of €1.5m, however the outturn cost following tender returns will be €2.4m and this should be allowed in the Final Determination.
Revenue generating	Airport Genie / Airport Club Commercial Concessions Executive Lounges 2013 Advertising Data Service Centre	€3.0m should be included in the 2010 to 2014 allowances as the associated revenues are being accounted for and included in CAR's commercial revenue forecast.
Efficiency Generating	T1 Departures Strategy (Security consolidation) - €3.1m T1 Redevelopment - € 1m Runway Fees - €1.3m	€5.4m should be included in the 2010 to 2014 allowances and enter the RAB.
Projects held over in previous determination	Runway 10-28 Stopbars Voice & Data Comms corridor	Projects are now complete and the amount disallowed in previous determinations should enter the RAB.

9.2.1 Disallowed/Not Reconciled Projects

Rollover Project

Repairs to Departures Road CIP 3.033 (€4.2m)

Structural Consultants were appointed in July 2012 and a report was issued in January 2013 which recommended that repairs be carried out within the next financial year. The consultant also recommended that the full extent of the departures road be handed over to the contractor in order to sufficiently complete the works. This is very different to what was originally envisaged and has resulted in numerous stakeholder engagements / review of traffic management / review of logistics, all of which has not allowed the works to progress in line with original timelines, to be complete by end 2014.

It has recently been established that the time of minimum disruption to affected tenants and other stakeholders, and therefore the ideal time to complete this work, is September to November. On that basis to allow for works to be designed and tendered it is necessary to carry out these works in 2015 and it is proposed to rollover this project, as it is essential that it is carried out. Ref: Principle & Special Inspection Report, T1 Departures Ramp, March 2013.

T2 Related

Pier 3 Connecting Corridor (€8.5m)

In 2012 the annual usage of this facility was 293,000 passengers and 2,100 flights, this increased in 2013 to 416,000 passengers and 4,600 flights.

Over 38,000 passengers have used this facility on average per month in 2014 (YTD), and this increases to over 50,000 passengers in the peak months. The peak day usage in 2014 (YTD) is over 2,900 passengers. In the first 6 months of 2014, some 231,000 passengers and 3,100 flights used the Pier 3 connectivity corridor.

Pier 3 connecting corridor is a very important piece of infrastructure not covered elsewhere in the CIP. This project was a T2 follow-on project not included in the original T2 brief, but undertaken at the outset of the 2010-2014 period. This facility provides essential flexibility where arriving passengers on Pier 3 can collect luggage in Terminal 2 and exit at Terminal 2 thereby increasing the number of contact stands for arriving passengers at Terminal 2. The project was imperative for airport operations, allowing Pier 3 to be used as a Terminal 2 pier (as well as a Terminal 1 pier).

The implications for the operation of not having built this infrastructure would have been:

The circa 20 flights using this facility every day from c.0530 to c.2345 (mainly Aer Lingus and Stobart Air) could not have used T2 (without a bus operation), with consequent implications for the check-in and baggage operations of those airlines. Pier 3 is also used by other US carriers arriving early in the morning when there are no stands available at Pier 4, to avoid delays on the ramp waiting for an aircraft to vacate from Pier 4 – on occasion this delay could be up to 1 hour, the alternative option would be a remote stand and bus which is not a product US carriers want to offer at Dublin

There would be no flexibility in using Pier 3 as an inbound pier for T2 without having a bussing operation, resulting in poor passenger experience and increased cost to the airlines. If such a solution was put in place, the stands on Pier 3 would have to be treated as non-contact (remote) stands for Terminal 2. The only alternative for this is that airlines using Pier 3 and currently processing through Terminal 2 would have to put in place a dual operation to allow passengers to exit through Terminal 1, which would lead to a unsustainable cost base for the airlines and confusion for the passenger and people meeting them.

€8.5m should be included in the 2010 to 2014 allowances and enter the RAB.

Consulted But Disallowed

Pier 3 Refurbishment (€1.5m)

On the basis that 3 out of 4 users who responded to the consultation supported this project, it should be allowed. (See Panel).

Refurbishment of Terminal 1 Roofs (€1.5m)

On the basis that 3 out of 4 users who responded to the consultation supported this project, it should be allowed. (See Panel)

Revenue Generating

Revenue Generating Projects (€3.0m)

These projects are generating revenue which is already being included in the price cap model.

CAR has not allowed €3.0m of commercial revenue projects which will deliver €3.2m per annum in revenues in 2014 and €2.6m in 2013.

Exhibit 9.11: Revenue Forecast

Table 5.1: Commercial Revenues Forecast

	2013	2014	2015	2016	2017	2018	2019
Total, €m	132.2	134.6	141.4	143.3	146.3	152.3	156.4
Per Passenger, €	6.55	6.50	6.64	6.54	6.49	6.56	6.55

Source: 2013 DAA outturns, 2014-2019 CAR forecasts

2013 base year includes €2.6m commercial revenue delivered by disallowed projects

As these revenues fall into the base year of CAR's commercial revenue forecast, they are included within the price cap building blocks as a subsidy to airport charges. Exhibit 9.12 below gives a summary of these projects and the corresponding revenues.

Summary of disallowed commercial projects

Exhibit 9.12: Airport Genie / Airport Club

	Capex Cost	Revenue
	€m	€m
Airport Genie / Airport Club	0.5	0.7
Commercial Concessions	0.7	0.2
Executive Lounges 2013	0.6	0.1
Advertising	0.4	1.4
Data Service Centre	0.8	0.2
Total	**3.0**	**2.6**

Airport Genie / Airport Club (€0.5m capex)

Airport Genie & Airport Club revenue forecast

	2015	2016	2017	2018	2019
	€m	€m	€m	€m	€m
Airport Genie Revenue per daa forecast	0.56	0.58	0.60	0.62	0.64
Airport Club Revenue per daa forecast	0.15	0.16	0.16	0.17	0.17
Incremental Revenue from project	(0.71)	(0.74)	(0.76)	(0.78)	(0.81)
Revised Forecast Revenue	**0**	**0**	**0**	**0**	**0**

Airport Genie was launched in 2011, which provided for additional services to be provided to passengers including Fast-Track through security, Assisted Services and Comfort (Lounge) offerings. Airport Club was also launched in 2011, which provided an opportunity for frequent passengers to avail of Commercial products such as Fast-Track and discounts on Lounges, VIP or Car Parking, depending on membership (Green, Silver or Gold). Neither of these capital investments were allowed in the 2010-2014 determination, yet all the revenues from Airport Genie and Airport Club have been incorporated into the Commercial Revenue forecast going forward. Excluding this un-remunerated capex, daa's forecast of commercial revenues would be an average €0.76m p.a. less than previously forecasted during the 2015-2019 CAR determination period.

Commercial Concessions (€0.7m capex)

Commercial Concessions revenue forecast

Exhibit 9.13: Commercial Concessions

	2015	2016	2017	2018	2019
	€m	€m	€m	€m	€m
Revenue per daa forecast	20.07	20.81	21.16	21.68	22.26
Incremental Revenue from project	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)
Revised Forecast Revenue	**19.85**	**20.59**	**20.94**	**21.46**	**22.04**

Commercial Concessions invested €0.7m capex for Car Rental projects in the 2010-2014 CAR determination period, which allowed for all of the Car Rental companies to become Free-Sale operators. This resulted in a more competitive and higher bids being submitted for the current tender 2014 - 2016, while also allowing daa justification for increasing the Percentage Fee to 10.5%. Excluding this un-remunerated capex, Commercial Concession revenue would be an average €0.22m pa less than forecasted during the 2015-2019 CAR determination period.

T1 Executive Lounges (€0.56 capex)

Overall executive Lounge revenue forecast

Exhibit 9.14: Executive Lounges Revenues

	2015	2016	2017	2018	2019
	€m	€m	€m	€m	€m
Revenue per daa forecast	2.00	2.21	2.46	2.56	2.64
Incremental Revenue from project	(0.07)	(0.09)	(0.09)	(0.09)	(0.09)
Revised Forecast Revenue	**1.92**	**2.12**	**2.37**	**2.47**	**2.55**

The nature of the Executive Lounge business is that refurbishment works are frequently required to meet the standards of the passengers. In 2013, the daa invested €0.6m to increase capacity of the Lounge by extending the facility into the neighbouring BMI Lounge and providing for a complete refurbishment and modernisation. 2014 revenue in T1 Lounge is expected to reach €1.50m, +€0.163m v 2013, following this refurbishment. Including an adjustment for increased pax and the BMI rent foregone, Executive Lounge revenue would be expected to be on average €0.09m lower than forecasted during the determination period.

T2 Advertising (€0.4 capex)

Overall advertising revenue forecast

Exhibit 9.15: Advertising Revenues

	2015	2016	2017	2018	2019
	€m	€m	€m	€m	€m
Revenue per daa forecast	3.70	3.95	4.23	4.41	4.61
Incremental Revenue from project	(1.38)	(1.52)	(1.67)	(1.77)	(1.88)
Revised Forecast Revenue	**2.32**	**2.43**	**2.56**	**2.64**	**2.73**

No allowance was made during the construction of T2 for the Advertising light boxes. Since the construction of T2, €0.4m capex has been spent on the installation of the light boxes in T2, which have been forecasted to yield an average €1.64m over the 2015-2019 CAR determination period.

Data Service Centre (€0.8m capex)

IT revenue forecast

Exhibit 9.16: IT Revenues

	2015	2016	2017	2018	2019
	€m	€m	€m	€m	€m
Revenue per daa forecast	0.71	0.72	0.74	0.75	0.76
Incremental Revenue from project	(0.23)	(0.23)	(0.23)	(0.23)	(0.23)
Revised Forecast Revenue	**0.48**	**0.49**	**0.51**	**0.52**	**0.53**

Interim Capex Consultations 2010 – 2014

The process followed for interim consultations is detailed below;

- Advance distribution of the project details and presentation materials
- Consultation meeting open to all stakeholders and CAR
- Opportunity for stakeholders to submit clarification questions to daa.
- daa responds with requested information
- Final written submissions from stakeholders containing their level of agreement with the project.

Exhibit 9.17: Consultation Outturns

Project	Date Consulted	daa conclusion	Outcome
Runway 16-34 Stop Bars €1.6m	May 2012	Broad support	Allowed
Refurbishment of existing MSCP car park €1.1m	May 2013	Broad support	Uncertain
Pier 3 Refurbishment €1.5m	January 2013	Broad support	Not Allowed
Terminal 1 Roofs €1.5m	January 2013	Broad support	Not Allowed
T2 TSA Relocation €4.8m	August 2013	Broad support	Allowed

Conclusion

The basis for CAR's disallowance of certain projects that were the subject of interim consultations appears inconsistent and given the difficulty involved in securing unanimous support for investment from airport users, we believe that all of this expenditure should be allowed in the capital allowance in the Final Determination.

In November 2011, daa entered into a five year commercial agreement (with option for annual extension thereafter) with IBM Ireland Ltd (IBM) for IT hosting location, power, cooling and other services required, to support the provision of campus data centre services for Aer Lingus' IT operations. The centre began live operations during May 2012 following investment in fit out of €0.8m by daa. The annual revenue arising for daa comes to €230k and this has been included in the daa forecasts for the period 2015 to 2019.

Efficiency Generating

Terminal 1 Departures Strategy (Security Consolidation) (€3.1m).

This project took place in late 2011 and was aimed at maximising efficiencies through the consolidation of Security Screening Points and increasing the footfall through the entire T1 retail offering.

These works facilitated c. €530k annual OPEX savings through consolidation of the security screening posts and also delivered improved customer service. These savings remain in the baseline in 2013 that SDG have used for their opex forecasts.

T1 sales in the months post the closure of the gates show that passenger average spends increased by 2.3% for Jan 2012 through to September 2012 with growth falling flat around the anniversary of the Screening Point A closure. That relates to an increase of €0.4m sales, €0.2m margin per year.

Having the space available from the closure of Screening Point A resulted in additional retail space being available. Boots and WH Smith operate in this area now and generate income of €0.9m for Boots and €1.8m for WH Smith. This is not all new income as the shops were relocated but Easons had looked to close down in its old position and the new WH Smith position has led to a 6% increase in revenues. This also provided for an improved passenger experience with increased preparation area in the old Easons space and improved queue management and AutoPass boarding facilities.

Terminal 1 Redevelopment €1.0m

This is an essential project involving optioneering, planning and design to extend the life of the existing 42 year terminal to accommodate growth in passengers at Dublin Airport for the next two decades.

Runway Fees - €1.3m

In CIP 2010 to 2014, CAR allowed €4.2m in fees associated with the planning permission of the North Parallel Runway. €1.3m will have been expended on this by the end of 2014 and should be allowed by CAR.

In 2009/ 2010 daa appointed a multi-disciplinary team to prepare and lodge a planning application to address the onerous conditions that apply to the extant planning permission for the northern parallel runway (Conditions 3 & 5: - Prevents use of new runway between 2300-0700 and limits all airport movements between 2300-0700 to 65 per night, over a three month average).

In the context of reviewing the onerous conditions that were imposed on the previous permission, daa engaged specialist aviation noise experts to provide a strategic and sustainable approach to additional runway development at Dublin Airport. Whilst a revised planning application has not progressed to date, the studies form an essential pre-requisite for daa in order to have a firm position on environmental noise prior to the adoption of a new Dublin Airport Local Area Plan in 2015 but which the local authority will be drafting in 2014. All of the studies undertaken to date will inform the preparation of the new Local Area Plan, which is essential in order to progress a successful planning application for a new runway.

It is further critical that daa provides the local authority with the necessary information in order to safeguard appropriate land use planning in the vicinity of the Airport. Noise contours extend beyond the area of the Local Area Plan, and into the adjoining counties. If this land is not safeguarded from inappropriate land uses, the northern parallel runway will ultimately cost more to deliver as considerable additional house and other buyouts may be required.

The studies undertaken to date are therefore not nugatory, and are essential in order for daa to secure a revised planning permission. If daa does not seek to protect this interest (either through a planning application or statutory plan reviews), the northern runway will ultimately prove more costly to deliver.

Projects held over in previous determination

The following projects were not fully allowed in the previous determination and the disallowed amounts should now be included in the RAB as they are complete. Annual spend is detailed in Exhibit 9.28.

Exhibit 9.18: Projects held over in previous determination

CIP Ref.	2007	2008	2009	2010	2011	Grand Total
CIP 6.037 Runway 10/28 stopbars		5,244	1,631,368	696,546	-703	2,332,455
CIP 9.016 Voice & Data comms cor	2,092	875,593	1,649,501	1,034,880	-43,080	3,518,986
Grand Total	**2,092**	**880,837**	**3,280,868**	**1,731,427**	**-43,783**	**5,851,441**

Interim Consultation Projects

Runway 16-34 Stop Bars (€1.6m)

Two airlines attended the capex consultation meeting (Aer Lingus and Cityjet) and four submitted written comments, with all four supporting the project (Aer Lingus, Cityjet, Etihad, Ryanair).[1]

Refurbishment of existing MSCP car park €1.1m

€2.9m (€3m in 2012 terms) was allowed by CAR in CIP 2010 to 2014, however, following a structural survey in July 2012 it became apparent that additional work was required to protect the life of the structure and therefore the associated revenue generated by the car park.

1 In our response to consultation we recorded Ryanair as not supporting the project however they wrote to us after to indicate that they did in fact support the project.

Consultation in this regard took place in May 2013 where users were notified of an increase of €1.1m in the project cost to €4m. There were three responses from users, two clear endorsements of the expenditure from Aer Lingus and US Airways and a non-committal response from Ryanair.

Pier 3 Refurbishment €1.5m

The refurbishment of Pier 3 was consulted on with users in January 2013. Seven airlines attended the capex consultation meeting and of the seven airlines, four submitted written comments, with three supporting the project (Aer Lingus, US Airways, United Airlines).

Terminal 1 Roofs €2.5m

The refurbishment of T1 Roofs was consulted with users in January 2013. Seven airlines attended the capex consultation meeting and of the seven airlines, four submitted written comments, with three supporting the project (Aer Lingus, US Airways, United Airlines) and one (Ryanair) non-committal.

T2 TSA Relocation €4.8m

The relocation of the TSA facility in T2 was consulted on with users in August 2013. Four airlines attended the capex consultation meeting (BA, Lufthansa, United and US Airways) and 4 submitted written comments with 3 supporting the project (Aer Arann, Aer Lingus and US Airways) and 1 (Ryanair) stating only that the costs of the project should be borne by users of the TSA facility.

9.2.2 Finalised Expenditure Forecast

The expected outturn for 2014 has been updated since previously submitted and there have been some changes to the expected outturn. In addition, some improvement in the categorisation of projects has taken place to give a more accurate reconciliation against the project groupings. The specific details in relation to the forecast project spend is included in Appendix 5 (confidential). The high level grouping is detailed in Exhibit 9.19.

Exhibit 9.19: Finalised Expenditure Forecast

Project Grouping	2010 - 2013	Forecast 2014	Total
Airport Operations	€32.7	€11.9	€44.6
Landside Infrastructure	€5.0	€9.5	€14.5
Piers & Terminals	€24.5	€5.3	€29.8
Plant & Equipment	€0.2	€1.1	€1.3
Retail	€ 4.5	€6.5	€11.0
Revenue	€4.8	€1.1	€6.0
Stands & Airfield	€20.7	€7.2	€27.9
Utilities	€7.2	€5.1	€12.4
Programme Management & Contingency	€15.7	€4.9	€20.6
Trigger (HBS)	€10.2	€1.3	€11.5
Totals	**125.6**	**53.9**	**179.5**

Based on the full review of the spend in 2014, a number of amendments have been made and these include;

- the expected outturn for each project has been updated
- a number of projects identified since the previous submission have been included.
- a small number of projects have been reclassified into more appropriate categories and these are identified below

Landside Infrastructure

CIP 3.033 Repairs to Departures Road (€4.3m) – This has been reduced on the basis that work will not be completed until 2015 and we have requested to roll over to CIP 2015 as detailed above.

CIP 2.008 Maintenance of listed buildings has increased by €0.8m. The increase relates to;

- Old CTB roof cost increase from €0.4m to €0.8m.
- Increased scope of works carried out to listed building interiors and exteriors (excluding roof works), eg. Castlemoate House and Old CTB - €0.4m

Re-categorisation of works to convert car park to public use - €0.7m. This was previously in the Revenue category at a higher estimated cost of €1.1m and has been re-categorised on the basis that no revenue is expected in the current period.

The requirement for additional capex within this category has been identified since the previous submission as detailed below

- Delivery of real time bus information - €0.4m

- Telecoms infrastructure - daa will acquire €1.4m worth of telecommunications infrastructure at Dublin Airport in 2014. The ducting and cabling will enable the airport to increase the capacity of its telephony and ability to provide broadband services at the airport some of which will be sold to third party users.
- Works associated with car park planning conditions - €0.9m

With regard to Paragraph 6.29 of the Commission Paper 1/2014 we can confirm that CIP 1.06 Refurbishment of existing MSCP and CIP 3.035 Internal secondary Campus roads have been completed.

Piers & Terminals

The cost within this category has reduced since the previous submission, due to the following;

- The outturn cost for the TSA Facility Expansion has reduced by €0.3m.
- Reduced works on T1 redevelopment to what was anticipated reduced by €0.5m.

Plant & Equipment

The requirement for additional capex within this category has been identified since the previous submission as detailed below

- UPS System upgrade € 0.4m
- Critical airport operational plant (Runway transformers, SAC element of Baggage Handling etc.) € 0.3m.

Revenue

With regard to Paragraph 6.53 of the Commission Paper 1/2014 the capex associated with the digital advertising pods will be transferred into the next regulatory period- €0.5m.

Re-categorisation of works to convert car park to public use (-€1.1m). This has now been re-categorised as Landside Infrastructure at a lower estimated cost of €0.7m.

Stands & Airfields

With regard to Paragraph 6.53 of the Commission Paper 1/2014 capex associated with the following projects will be transferred into the next regulatory period

- Runway 16-34 pavement rehabilitation - € 2.8m
- Airfield taxiway rehabilitation - € 2m
- Overlay runway - € 0.3m

Utilities

The requirement for additional capex within this category has been identified since the previous submission as detailed below;

- Potable water resilience €0.7m
- Energy Management System € 0.7m

CIP 9.024 Fuel farm redevelopment has increased by €1.2m due to the requirement to engage consultants to prepare and manage a DFBOT process. A DFBOT process was agreed by airlines in consultation in September 2013. In order to pursue the DFBOT development option, given the complex nature of the DFBOT contract, daa has sought the advisory services from specialist consultants to:

- write the DFBOT tender documentation and to evaluate the tender submissions.
- provide legal guidance in the area of fuel facility contracts, covering complex issues like TARBOX and liability
- to prepare and submit the amendment to the planning application for relocating the into-plane facility airside

Furthermore, as part of a due diligence programme, daa has completed several essential surveys to assess the condition of the fuel facility.

CIP 9.022 Airfield Pollution Control has increased by €0.6m as we have added essential additional measures to safeguard against contamination of groundwater.

Programme Management & Contingency

The expected outturn on T1 Life Safety system upgrade has increased by €0.2m.

PCB investment

As part of the same set of transactions in which daa purchased the Head Office Building site from Aer Lingus, the pre-existing PCB leasehold was also transferred from Aer Lingus to daa. This building was subsequently refurbished by daa at a net cost to daa of €4.1m and has been re-let, resulting in an IRR for the investment of 14.2% over the life the new lease.

Note:

- For reasons of tenant confidentiality, details of rent, lease terms etc. are not stated in this document, but are available to CAR on request.
- There was no capital allowance available to daa in the 2010-2014 determination period to cover this investment. A proposal for an allowance that would have covered expenditure of this type was disallowed by CAR in the 2009 final determination (CIP 2.015 – 9.55-9.56 of CAR CP3/2009).

In the capex reconciliation submitted to CAR in the run-up to the draft determination, daa presented the PCB investment asset out in daa's proposal for till exits of commercial development sites at Dublin Airport. For further details of this proposal see Appendices 2A and 2B (confidential). However, this asset was not included in the CBRE valuation as it is outside the Dublin Airport City zone (not included in the FCC 'high technology' zoning).

In the event of a decision that commercial properties outside the Dublin Airport City zone (such as Ryanair Head Office Building, TASC building etc.) would compete with Dublin Airport City and that these properties should therefore be excluded from the till, a further independent valuation of

these particular properties would need to be undertaken. PCB would fall into this category. In the event that CAR does not require such an exclusion, the PCB investment should be included in the 2015 starting RAB. This would be daa's recommendation – as we believe the separate zoning corresponds to separate market segmentation. In the event of a contrary decision, i.e. to exclude PCB from the RAB, the revenue associated with this investment should also be excluded.

9.3 Pre - 2010 disallowances

1. Introductory Comment

2. Statement from ARUP

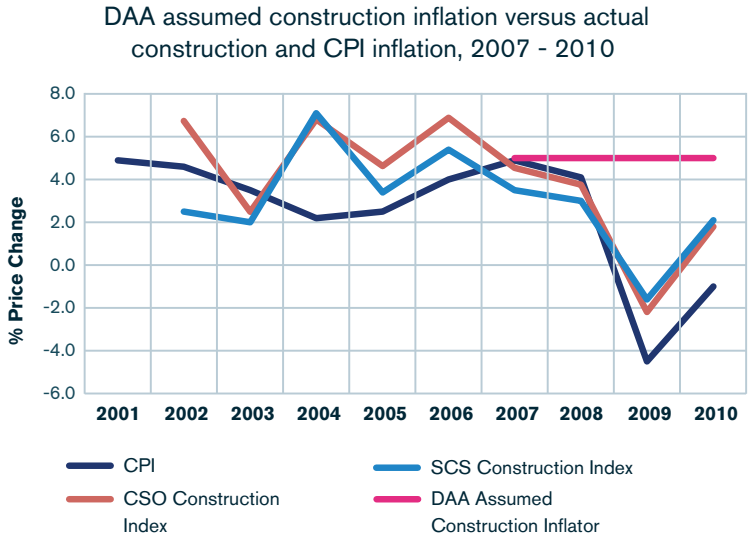
9.3.1 **Introductory Comment**

In its Draft Determination, CAR allowed €773m of daa's outturn expenditure on T2 and T2 Associated Projects. The result of this proposed decision would be a stranding of a portion (17%) of the total expenditure of €925m incurred in the provision of T2 and the T2 Associated Projects.

With regard to the T2 disallowances daa would make the following points;

- Contingency Costs - CAR erroneously disallowed €27m of the projected cost (2006 prices) at the outset of the project. This cost was incurred and is now treated by CAR as over-spend. Of the €27m disallowance €25m related to contingency costs which CAR disallowed on the basis that the contingency amount specified in the daa cost plan was viewed as being too high by CAR's appointed consultant (Rogerson and Reddan with Vector Management (RVV))
- daa has previously disputed the disallowance in question, highlighting the inherent weaknesses in the RVV approach, to which RVV themselves had referred. daa also emphasised the scientific approach that it had used to estimate contingency. This was based on a range of risk workshops, attended by a multi-disciplinary team of project management, design, operations and construction professionals and chaired by an expert in the use of statistical methods for the quantification of project-related risks. The project contingency was computed based on the 80th percentile derived from the application of a Monte-Carlo simulation model. This means there is an 80% chance that the contingency amount is sufficient. In the event, the contingency amount put forward in Cost Plan No. 1 was not sufficient.
- At the time, daa also emphasised that the complex multi-package approach to the construction project, the aggressive timeline and the challenges of the live operating environment all argued against any reduction in contingency. In fact, contingency of €99m, at 16% of budget, was relatively low. For a fast-track project of this scale and complexity, bearing in mind the level of completeness of design at point of tender, daa would argue that the contingency allowance should have been of the order of 25% to 30% in order to correspond to industry standards of risk management.
- Inflation Treatment - CAR's T2 Main Project allowance was originally set in 2006 prices, based on a cost report in 2006 prices, which explicitly indicated that construction inflation had not been accounted for. CAR is now reporting an overspend in 2013 prices, using CPI as the deflater. daa believes that this approach is incorrect and objects to use of CPI rather than construction price inflation based on the following
- Construction contracts are agreed in nominal prices. In the case of T2, in accordance with best practice, the contracts were fixed-price lump-sum contracts, in which the contractor takes the risk on inflation, pricing in his expectation of inflation, at the outset, within the context of the competitive bidding process.
- At T2 tender stage construction inflation was forecast at c. 5% per annum due to the level of demand in the market for construction supplies and services. daa were advised to expect at least this level of inflation buy-out in its contracts for T2, an estimate which was valid, evidence-based, and entirely appropriate given the economic circumstances at the time.
- As it transpired, construction sector and CPI inflation fell abruptly into negative values due to the severe economic downturn (see graph below). Given the fixed-price nature of the contracts into which daa had entered (in accordance with industry best practice and Government guidelines), daa received no benefit from the unexpected price deflation.
- In considering this matter, the issue is not whether daa's inflation assumption was demonstrated to be correct, but rather (i) that it was necessary that such an assumption be made, and (ii) that the value of the assumption was reasonable.

Exhibit 9.20: daa Construction Inflation vs. Actual Construction and CPI Inflation 2007-2010



Note: The construction indices used here are the CSO's Building and Construction index, including wages and materials, and the Society of Chartered Surveyors' Construction Cost Index.

- Additional Spend -the outturn cost of T2 Main Projects was higher than originally budgeted by daa based on the original 2006 cost report on which CAR based its allowance. The amount of the additional spend was approximately €55m in nominal terms where
- This represented an overspend of 8% relative to budget, which compares favourably with documented international experience of large scale construction projects.
- The selected design-build approach was Construction Management, which facilitates early commencement of construction and rapid delivery timelines. A defining feature of Construction Management is that the project commences at an early stage of design, which reduces early cost certainty. Within this approach, post-tender cost variation is anticipated, although in this case it exceeded what was estimated. While it is not possible definitively to itemise post-tender cost variation as between what was anticipated and what was not, generally the additional spend was due to project prolongation and site changes, i.e. project delay and its associated costs and the accumulation of necessary changes which occurred during construction.

CAR Treatment of Additional Capital Spends

daa contends that CAR's principles for the admissions into the RAB of additional capital spend relative allowances are unduly restrictive and represent an outlier in terms of regulatory practice.

In its 2009 Determination, CAR set out its principles for RAB roll-forward, including how to deal with instances in which the outturn cost of a capital project exceeded the allowance. CAR's view was that such instances must fall into one of three categories: (i) additional spend resulting from changes to users' requirements, (ii) additional spend due to factors outside of daa's control, and (iii) additional spend due to factors inside daa's control. With regard to (ii), factors outside of daa's control were narrowly defined as consisting of (a) unforeseen environmental costs, (b) unforeseen planning obligations or planning-related contributions, and (c) unforeseen safety or legal obligations. In simple terms, subject to conditions with regard to user consultation and agreement, additional spends could be allowed into the RAB in the case of (i) and (ii), but not (iii).

daa regards these principles as unduly penal. In particular, they do not reflect empirical evidence that large-scale capital projects frequently exceed budget without this necessarily reflecting systematic inefficiency on the part of the principals or agents involved. Costs may be higher than expected simply because of the difficulty of forecasting cost up to five years or more in advance (for projects that may not yet be fully specified), or as a result of wider changes affecting the regional, national or global economy. Construction projects are inherently uncertain. Cost is estimated, necessarily, on the basis of incomplete information. Contingency allowances are probabilistic rather than absolute. Reflecting these realities, successive Aviation Appeal Panels have argued against retrospective capital disallowance. The 2006 Panel concluded as follows on this point:

'The Panel considers that . . . RAB disallowances . . . are only justified in the event of some manifest deficiency in the performance of the regulated company, such as would be considered to be outside normal commercial parameters . . . Given the uncertainties surrounding capital projects, there is scope for a variety of views about what is the most efficient way forward, each of which might be considered reasonable. Only if daa can be shown to have strayed outside the bounds of reasonable conduct or made an unreasonable decision about the type of capital expenditure incurred should there be any 'disallowance' issue for the Commission to consider.'[2]

While the 2010 Panel further stated:

'The Panel is concerned that capital markets might react negatively if the approach to regulation here is seen to disallow large tranches of past investment, as such retrospective adjustment almost invariably gives rise to regulatory uncertainty. The Panel considers that the circumstances under which RAB disallowances might be legitimately justified are in circumstances where (i) the investment is obviously imprudent or (ii) there is some manifest deficiency in the performance of the regulated entity. In considering the latter requirement, merely operating at less than maximum efficiency is not sufficient (most companies fall short of this standard in some areas). Rather, ex post disallowance should be only be contemplated where the performance of the regulated company can be considered to fall outside normal commercial parameters.'[3]

The admitted bias which CAR's capex principles establish towards disallowing capital cost over-runs is in marked contrast – for example – to the practice of the UK Civil Aviation Authority (CAA) in its treatment of Heathrow, Gatwick and Stansted airports. The following examples are illustrative:

- In the case of Heathrow's capex programme of £5bn for the period 2008-2014, the CAA excluded retrospectively only £30m, relating to inefficiencies in procurement processes for the Terminal 3 Integrated Baggage Project. The CAA commissioned reviews of Heathrow's capex efficiency, which concluded that Heathrow's approach was reasonable apart from that one case.[4]
- In the case of the Stansted opening RAB for 2008, the CAA included £193m of unanticipated expansion cost, with only one exclusion of £37m (reflecting 40-50% of the expenditure in question), again based on a study.[5]

In summary, the CAA's policy remains that actual expenditure will be added to the RAB, except where there is demonstrable inefficiency.

Where regulated utilities bear risks of additional capital spend, typically one of two different types of approach is seen to apply: (i) a narrow filter and high penalty, (ii) a wide filter and low penalty. In the case of (i), the narrow filter would mean only manifest inefficiency would be regarded as overspend, but with the high penalty of whole or partial disallowance. In the case of (ii), the wide filter would mean that all expenditure above allowance would be penalised, but with a low penalty, e.g. financing costs foregone for the regulatory period in which the expenditure was incurred. In the case of CAR's capex principles, there is both a wide filter and a high penalty, and this exposes daa to higher capex-related risks than most regulated firms.

daa contends that the full amount of this additional spend plus the original disallowance should be admitted to the Regulatory Asset Base (RAB). daa believes that CAR's principles for the admission into the RAB of additional capital spend are unduly restrictive and represent an outlier in terms of regulatory practice. In particular, daa would emphasise that risk of additional construction spend is not covered within daa's allowed WACC. Other regulated utilities generally do not face the exclusion from the RAB of normal additional capital spends. Accordingly, insofar as daa's beta value is benchmarked against those of other regulated utilities, it does not include an allowance for the scale of risk faced by daa. The risks associated with capital overspends are likely to be asymmetric. The basic CAPM model cannot take account of asymmetric risks, and therefore an additional adjustment would be required for capital overspend risks to be covered by daa's allowed cost of capital. The asymmetry reflects (i) the general tendency for large-scale capital projects to exceed budget, (ii) the asymmetric treatment by CAR of capital overspends versus capital underspends, and (iii) daa's capital intensivity as a business.

2 The Aviation Appeal Panel, Decision, April 2006, paragraphs 6.4.7 and 6.4.13.

3 Aviation Appeals Panel 2010, Decision on the Appeal of Dublin Airport Authority, March 2010, paragraph 8.5.12.

4 Civil Aviation Authority, Economic regulation at Heathrow from April 2014: notice of the proposed licence, January 2014, Appendix H.

5 Competition Commission, Stansted Airport Ltd: Q5 price control review, October 2008, paragraph 6.22 and Appendix D, paragraph 54.

Treatment of Inflation Regulatory Precedent

daa has reviewed the measure of inflation considered by regulators in the UK and Ireland when setting allowances for capital expenditure. As the table below illustrates all of the regulators whose approaches have been reviewed consider the question of the appropriate measure of inflation for capital expenditure. Moreover, many of these regulators rely on some measure of input prices, rather than general price inflation measures such as CPI or the Retail Price Index (RPI). In the case of the Commission for Energy Regulation (CER), while allowances are based on a measure of general prices, the regulator acknowledges the importance of differences between input prices and general prices, and cites other regulatory mechanisms that could address deviations between the two.

Regulator	Approach
Civil Aviation Authority (UK)	Explicitly accounted for construction price inflation in Q5 determination (RPI + 2%). Adopted RPI in Q6 review reflecting lower forecast of construction price relative to RPI, and uncertainty surrounding forecasting.
Ofgem	Made an allowance for real price effects - the expected change in input prices relative to general inflation.
Competition Commission (Northern Ireland)	Made an allowance for real price effects - the expected change in input prices relative to general inflation.
Ofwat	Used construction price inflation in determining capex allowance during past review (2009). Following a move to a totex approach, Ofwat is not setting capex allowances and construction price inflation is not used explicitly in setting totex baselines. Allowed revenues will be indexed by RPI.
Commission for Energy Regulation	Used general price inflation (HICP), but acknowledged importance of the potential for input prices to be different. Stated that input prices are taken into account in other ways within the regulatory model, including in ex-post capital expenditure reviews.

Illustration of the Impact of T2 Inflation Circumstances on Runway Project Investment

To illustrate the potential serious risks arising from the use of a similar methodology going forward, daa looked at the likely impact of a similar approach as applied to the Dublin Airport runway project.

Construction sector projects are contracted in nominal rather than real prices, and the treatment of cost variation in labour and materials over the course of the contract has to be specified at the outset. T2 was contracted on the basis of fixed-price lump-sum contracts, as envisaged in the Department of Finance document *Capital Works Management Framework – Guidance Note for Public Works Contracts*[6]. This means that the contractor accepts the risk of increases in the cost of labour and materials within the fixed-price period. Accordingly, contractor tender prices will implicitly reflect expected construction sector inflation, within the context of a competitive bidding process. Construction on T2 commenced during a period of high inflation which directly followed a period of deflation. The contracts for T2 were placed in 2006 when construction inflation was running at 5% per annum and in order to reduce the risk of the project, daa contracted at this level of inflation for the duration of the construction period. daa did not therefore benefit from the subsequent deflation which was unforeseen at this time. The table below shows the construction price and consumer price inflation for the period 2006 to 2011.

Construction price inflation and consumer price inflation 2006 - 2011

	2006	2007	2008	2009	2010	2011
Building and construction prices	5.8%	4.9%	3.4%	-1.5%	1.1%	-2.4%
Consumer prices	4.0%	4.9%	4.1%	-4.5%	-1.0%	2.6%

This profile of inflation resulted in the CAR allowed cost differing dramatically from the actual amount spent.

Within the development of airport facilities, multi-year construction projects are common which means that due to this treatment daa will continue to face the risk that undisputed spend on a project is disallowed. An upcoming example of this is the runway project which will take three years to construct. The table below examines the impact on the runway cost if it was contracted at in 2008 and the same inflation profile for 2009 to 2011 was to occur. daa would contract at an inflation rate of 3.4% (being the construction inflation for 2008) giving a total cost of the contract of €311m, however CAR would deflate their cost allowance from €290m to €276m resulting in disallowed cost for daa of €35m, despite coming in on budget for the construction contract.

Illustration of 2009 - 2011 inflation impact on expected runway spend profile

		Year 1	Year 2	Year 3	Total
		€m	€m	€m	€m
Cost of runway (real)		38.4	194.5	57.1	290
Contract at 3.4% construction inflation	100%	103%	107%	111%	
Contract price @ 3.4% inflation		39.7	208.0	63.2	310.8
Consumer price inflation	100%	96%	95%	97%	
Cost of runway nominal @ CPI		36.6	183.9	55.4	276.0
Variance					-34.8
% Variance					-11%

This risk is asymmetrical to daa as while CAR would disallow cost where inflation runs below a contracted inflation, CAR would not allow daa to benefit from a contract which resulted in savings compared to outturn inflation. The table below illustrates the impact of daa once again contracting at the prevailing 3.4% construction inflation and CPI running at 5%. In this situation daa's cost would be lower than CAR's reconciliation for CPI but daa's saving of €10m would not be allowed into the RAB.

Illustration of asymmetry in CAR's inflation treatment

		Year 1	Year 2	Year 3	Total
		€m	€m	€m	€m
Cost of runway (real)		38.4	194.5	57.1	290
Contract at 3.4% construction inflation	100%	103%	107%	111%	
Contract price @ 3.4% inflation		39.7	208.0	63.2	310.8
CPI at 5%	100%	105%	110%	116%	
Cost of runway nominal @ 5% CPI		40	214	66	321
Variance					10
% variance					3%

6 Department of Finance, April 2007

9.3.2 Statement from ARUP

In response to the CAR Draft Determination and specifically the disallowance of T2 costs, daa commissioned its T2 advisory consultants ARUP to give its views on the reasons why CAR should allow the total of the outturn capital expenditure that daa incurred in providing the T2 facility. This ARUP report is contained in Appendix 14. A summary of ARUP's views are set out as follows.

Arup Commentary on CAR Approach

Cost Plan 1 as a basis for the determination

It is submitted that CAR have incorrectly used Cost Plan no 1, issued in September 2006, as a regulatory budget, considering any spend over and above the estimate included in Cost Plan no 1 to be "overspend", while setting onerous and impractical conditions on allowing any expenditure not included within Cost Plan no 1.

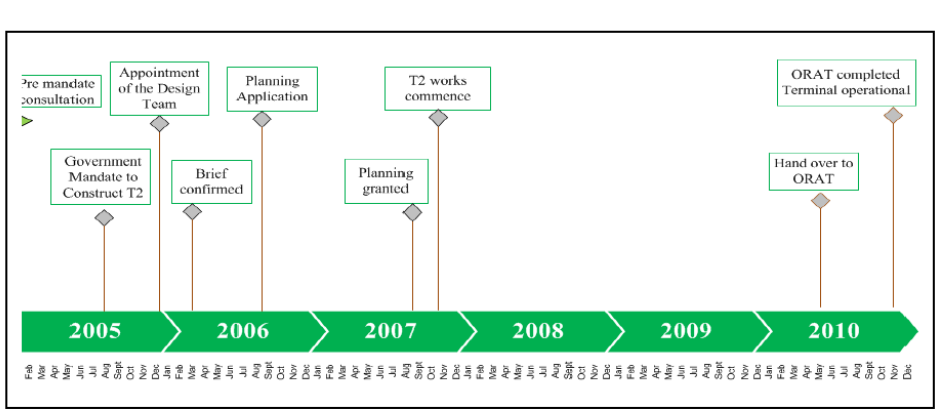
It is further submitted that Cost Plan no 1 was not an estimate of likely maximum outturn cost, being based on a concept design and the information to hand at the time on material issues outside the control of the project, including site conditions, operational constraints and regulatory factors.

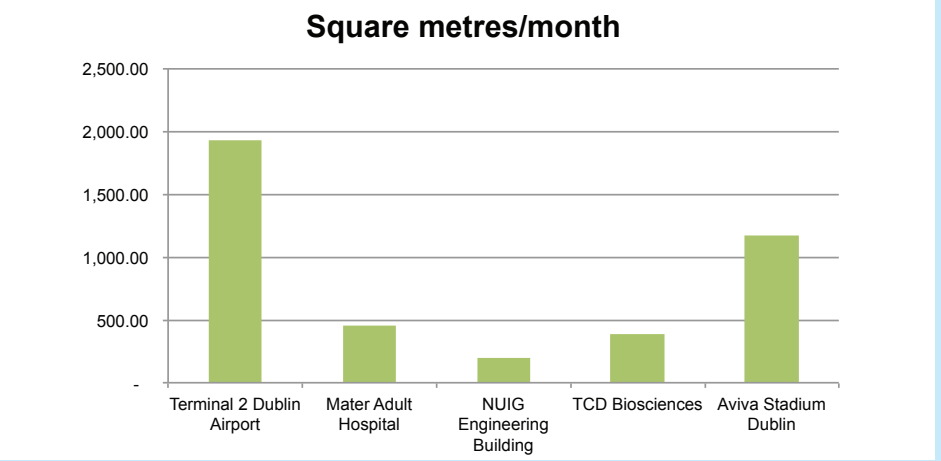
CAR should in fact base their allowance on the project outturn cost, rigorously reviewed against best practice in the procurement and cost management of large complex infrastructure projects, and validate this against appropriate benchmark projects, both in Ireland and abroad.

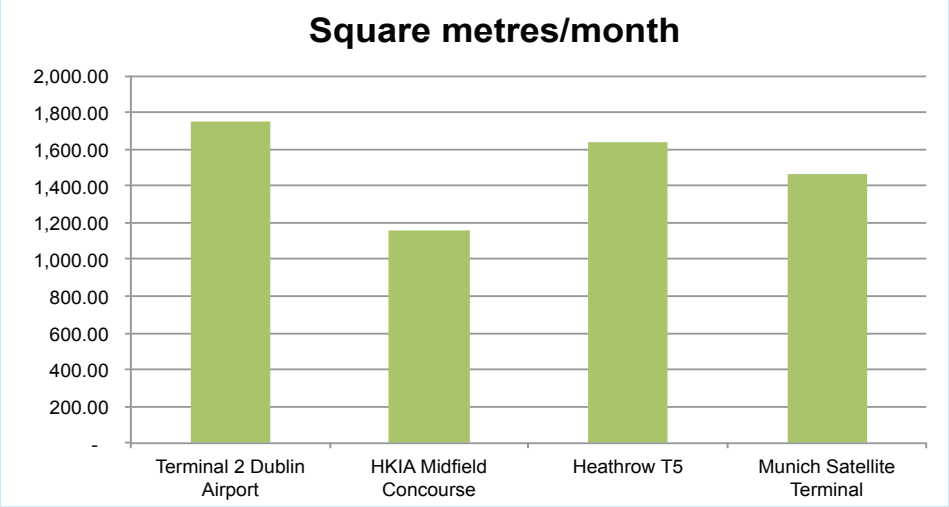
CAR should also allow the estimate made for construction inflation at the time of Cost Plan no 1. The inflation calculation was based on construction inflation forecasts at the time and the risk of construction inflation was passed to the Trade Contractors at tender stage. These tenders were generally returned in 2007, at the peak of construction inflation in the Irish market and DAA received no benefit from the reduction in inflation that transpired after 2008. This approach is in line with other projects in the Irish market and internationally.

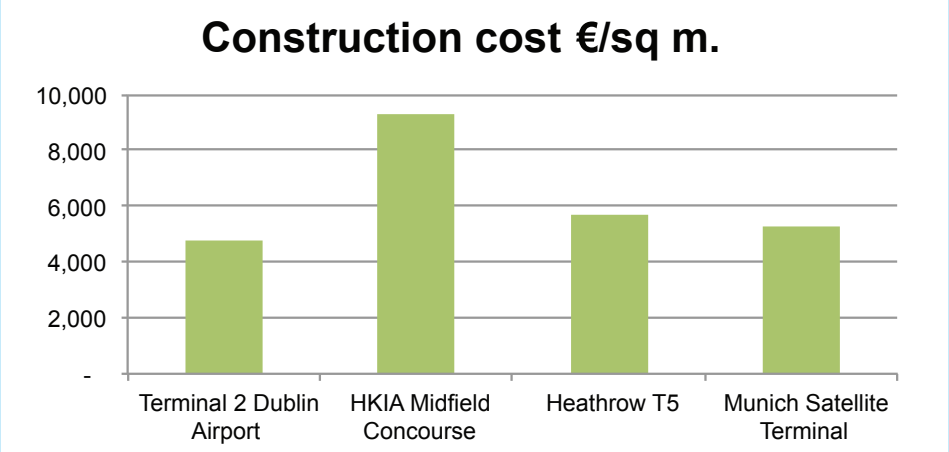
T2 was a successful project

It is worth noting that the Terminal 2 project was an outstanding success measured against other Irish or international projects. The project achieved and maintained excellent standards of safety for airport users and construction workers. It had no serious accidents or fatalities during 10 million man hours worked. It was designed, constructed, commissioned and opened in less than five years, in the middle of a live congested airport environment, despite an elongated year-long planning approval process. By any comparison, including with large public projects in Ireland, or with international airport projects, it was delivered speedily and efficiently.









From a cost point of view, it was internationally benchmarked at concept design stage, and signed off by a government appointed verification process. Despite many factors outside the control of the project, and the fast-track delivery demanded by the chronic congestion in the existing terminal building, the outturn cost was just 8% over the concept design stage cost plan. It represents excellent value for money.

The drivers for success for this project

To understand the case for allowing the outturn capital expenditure, it is necessary to understand the project drivers, and the procurement and delivery strategies. To understand these, it is necessary to understand the environment in which these strategies were formulated.

In summer 2005 the Minister for Transport issued a policy direction to CAR supporting the construction as quickly as possible, of a new terminal and pier at Dublin Airport. The new terminal building was to be 50,000 square meters in size, and was to have an estimated cost of between E150 million and E200 million, depending on the design. The terminal was to be built by DAA and opened in 2009.

The design team immediately started a comprehensive stakeholder engagement process which included detailed discussions with Aer Lingus who were emerging a likely lead tenant for the new Terminal. Are Lingus had ambitious growth plans and it quickly became obvious that the proposed terminal was too small. Following a three month review, an updated plan for the terminal was signed off in early April 2006. It called for a new terminal to be built in two phases, a first Phase of 75,000 square metres and a second phase with a further 20,000 square metres. The new pier, Pier E, was sized at 25,000 square metres.

Aligning the delivery strategy to the project drivers

In parallel with the concept design work, DAA and the design team were weighing up the options for the procurement and delivery of the project. All project delivery strategies balance early cost certainty against speed of delivery. The primary driver for this project was speed of delivery. A graphic comparison between the Traditional and Construction Management emphasis on the primary project drivers shows:-

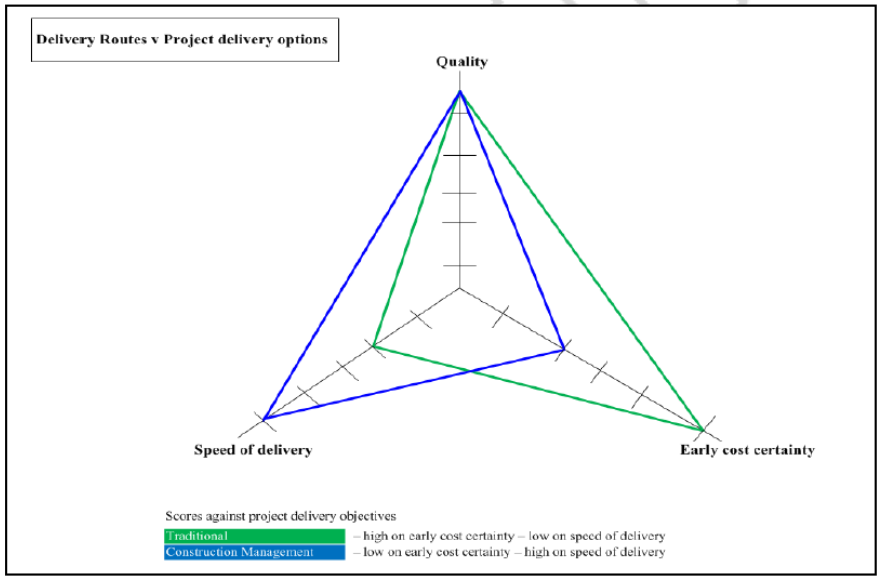


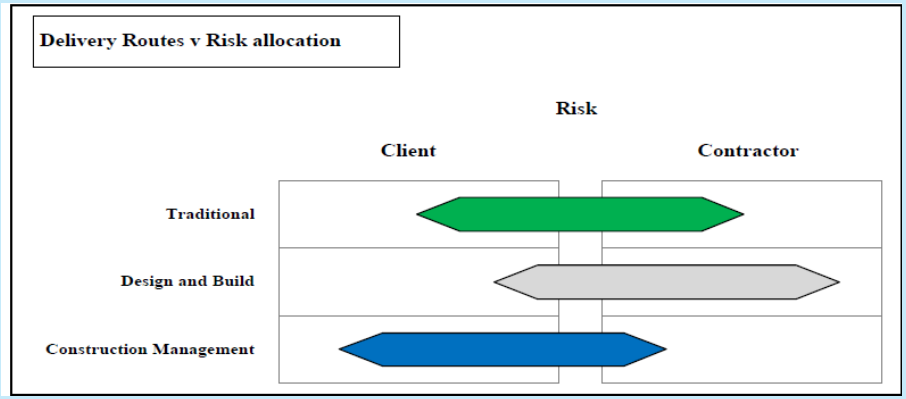
Figure ES.4

This was a significant development in the history of the project. DAA was now faced with building a much bigger terminal and a new pier on a constrained site in the middle of a live airport. There were going to be significantly bigger impacts on landside and airside infrastructure. Passenger numbers were still increasing and there was pressure from airport stakeholders, government and the public to deliver the new facilities as quickly as possible.

It was therefore decided to develop a "fast-track" procurement and delivery strategy which would overlap as many of the project activities as was possible. An optimal procurement route meant overlapping the design and construction. It should be noted that the project also successfully overlapped the planning process and design, and later, ORAT (Operational Readiness and Transition) and construction/commissioning to save time.

The procurement and delivery strategy chosen to accomplish this was a form of what is called "construction management" where separate contractors are appointed to carry out different "packages" of construction work in sequence following completion of the design of those packages. This allows the foundation works to be constructed while the detailed design of the terminal IT systems or fit-out is being carried out for example. The overall design concept is used to ensure that the different packages "fit" together as construction advances.

This construction management strategy meant that cost certainty would gradually increase as the project progressed. The construction packages are bought before a fully detailed and integrated design has been completed and other elements are not fully defined. The Client takes on many of the risks that could be bought out in a traditional approach such as environmental and ground conditions risk, logistics risk, interface risk between the packages and with the live airport environment, and regulatory risk.



It is these non-design risks which are particularly significant in the case of the Terminal 2 project. Constructing a new terminal and pier together with new landside and airside access infrastructure, in essence a new airport facility, in the middle of a live, congested operational airport environment is a highly complex and risky undertaking. And these risks were not yet fully understood or defined when Cost Plan no 1 was made in September 2006.

Risk and Contingency on T2

However, it was decided within Cost Plan no 1 to make an initial estimate of the cost to the project of these risks which would not be bought out within the packages. This was described in the Cost Plan as a project contingency and it was based on a comprehensive risk appraisal of the project covering all the known and anticipated risks and a probabilistic Monte-Carlo model. This resulted in a Project contingency figure equal to approximately 15% of the total estimated cost of the packages included in Cost Plan no 1.

It is important to understand that the contingency was not intended to represent an estimate of the likely maximum cost of the risks. This was the starting point for a risk management exercise that was continued throughout the project as part of the strict cost control processes already referred to. Projects of the scale of Terminal 2 typically have contingencies in the range 20% to 30% assigned to them at concept design stage in order to anticipate their maximum outturn cost. The 15% contingency included in Cost Plan no 1 is well below this range.

Changes to the project

Apart from the changes to the brief, the biggest impact on the project programme was the delay to the Planning process. A positive decision was received from Fingal but this was appealed to An Bord Pleanála and a final decision was received in August 2007, a delay of 9 months.

DAA carried on with the design development and the procurement of packages during this time and enabling works were started on site, therefore the delay was mitigated as much as possible and the construction of the Terminal building which was scheduled to start on 2 April 2007 commenced on 3 October 2007, 6 months late.

The other major impact came from significant changes, relatively late in the construction and design stage, as a result of negotiations with the Fire Officer on the Fire Strategy for T2. The terminal and Pier could not open to the public until a Fire Cert had been issued. The Fire Officer took an onerous view of the guidance and regulations and, despite Arup having successfully designed and implemented other projects in accordance with our interpretation of the codes, additional fire safety measures were insisted upon. The Project team could have engaged in a protracted process of justifying the Arup interpretation of the codes to the Fire Officer and trying to win him over to our view. On other projects where time was not the primary driver this would have been the approach. For this project, in the interest of completing and opening the buildings, DAA agreed to the additional measures and instructions were issued to the Trade Contractors which caused a significant delay and financial impact to the project.

To mitigate these delays, at the later stages of the project, detailed completion and commissioning programmes were developed and integrated with the DAA's ORAT plans to ensure that the opening date of November 2010 was achieved.

Determination on the basis of outturn cost

For aviation projects, the established principles that are applied by, for example CAA, are to allow overruns against budget where projects have been properly managed and every effort have been made to mitigate risk during all stages. The correct basis for the determination of the costs of T2 is the outturn cost and not Cost Plan 1 which was a Concept Stage estimate with many aspects of the delivery of the project still unknown.

The T2 project had particular challenges around delivering a complex project in a live airport environment in as short a timescale as possible, a nine month delay to the Planning process and changes required to obtain a Fire Cert. However, the appropriate delivery strategy was adopted, the project was carefully managed, risks were mitigated where this was possible and the project was delivered within 8% of the initial Concept Cost Plan. The project was a success in all aspects including its financial management and this should be reflected in the CAR Determination.

Conclusion

In summary, daa requests the following adjustments to CIP 2015 to 2019 allowances in the Final Determination.

Exhibit 9.21: daa recommendation -2015-2019 capex allowances

Project Grouping	Grouping Title	daa submitted	CAR Allowed	Recommendation	Recommended Final allowance
Envelope 1	Airfield Maintenance	124.0	127.8	No Change	127.8
Envelope 2 - Allowed	**Business Development**	**38.2**	**35.2**	**Full Allowance**	**38.2**
Envelope 2 - Disallowed	Business Development	80.4	0.0	Full Allowance and Pier 3 Flexibility & Central Search additional costs	95.7
Envelope 2 Total		**118.6**	**35.2**		**133.9**
Envelope 3	Information Technology	41.0	35.1	Full Allowance	41.0
Envelope 4	Landside & Terminals Maintenance	35.7	34.4	Rollover of repairs to Departures Road	38.6
Envelope 5	Revenue	55.4	61.5	Additional CBP Lounge & T2 MSCP	78.1
Envelope 6	Other Projects	13.5	14.0	Error Corrected	16.2
Summary Total		**388.2**	**308.0**		**435.6**
Envelope 7*	Contingent (Trigger) Projects	86.3	0.0	Full Allowance	86.3
Summary Total		**474.5**	**308.0**		**521.9**
Envelope 8	Northern Runway Projects	245.1	296.3	No Change	296.3
Summary Total	**0**	**719.6**	**604.3**		**818.2**

*Runway 10-28 Extension excluded from this total as runway trigger of 23.5 mppa is sought. In the event of a higher trigger daa would seek this additional €55m allowance for Runway Extension as detailed in our Regulatory Proposition

daa requests the following adjustments in the reconciliation of the CIP 2010 to 2014 allowances in the Final Determination.

Exhibit 9.22: daa recommendation - 2010-2014 capex reconciliation

Project Grouping	Grouping Title	daa submitted - Feb 2014	CAR Allowed draft determination	daa submitted - July 2014	Recommended Final allowance
Envelope 1	Airport Operations	44.5	45	44.6	44.6
Envelope 2	Landside Infrastructure	14.0	14	14.5	14.5
Envelope 3	Piers & Terminals	30.7	13	29.8	29.8
Envelope 4	Plant & Equipment	0.5	0.5	1.3	1.3
Envelope 5	Retail	11.1	11	11.0	11.0
Envelope 6	Revenue	8.2	3	6.0	6.0
Envelope 7	Stands & Airfield	33.1	27	27.9	27.9
Envelope 8	Utilities	9.2	9	12.4	12.4
Envelope 9	Programme Management	20.3	20	20.6	20.6
Previous Determination	Runway 10-28 Stopbars - CIP 6.037	0.0	0	0.5	0.5
Previous Determination	Voice & Data Comms Corridors - CIP 9.016	0.0	0	0.6	0.6
Summary Total		**171.4**	**142**	**169.1**	**169.1**
Trigger	HBS	10.9	11	11.5	11.5
Summary Total		**182.3**	**153**	**180.6**	**180.6**
PCB				4.1	4.1
Total		**182.3**	**153**	**184.7**	**184.7**

In addition daa requests that CAR in setting its opening RAB for 2015 allows for the total expenditure incurred in the provision of T2 and its Associated projects.

Section 10: Capital Remuneration

10. Capital Remuneration

10.1 Return on Capital

In its Draft Determination, CAR has estimated a weighted average cost of capital (WACC) range of 3.8%-5.9% (real, pre-tax). CAR selected a point of estimate of 5.8% as its proposed regulated weighted average cost of capital (WACC) for 2015-2019, this is towards the top end of its range, but is nevertheless 1.2% below the level set at the 2009 Determination. In addition 5.8% is significantly lower than the range recommended by NERA as the appropriate WACC for Dublin Airport for the next regulatory period 2015-2019 in its analysis on behalf of daa.

10.1.1 Serious Errors in CAR's Estimation of the Risk Free Rate

daa believes CAR has made serious errors in setting a risk-free rate of 1.5%, as a result of which it has underestimated the overall cost of capital. In combination with failing to include a specific country risk premium (CRP) in the cost of capital, CAR's estimate results in an underestimate of the "risk-free rate" for Irish investments. These errors in the CAR's methodology for estimating the risk-free rate and the country risk premium are as follows

- CAR reviews current and historic market conditions for German and Irish government bonds and concludes that there is *"little empirical evidence to support a real risk-free rate plus country-risk premium above 1.5%"*. However, CAR is setting the risk-free rate for the future regulatory

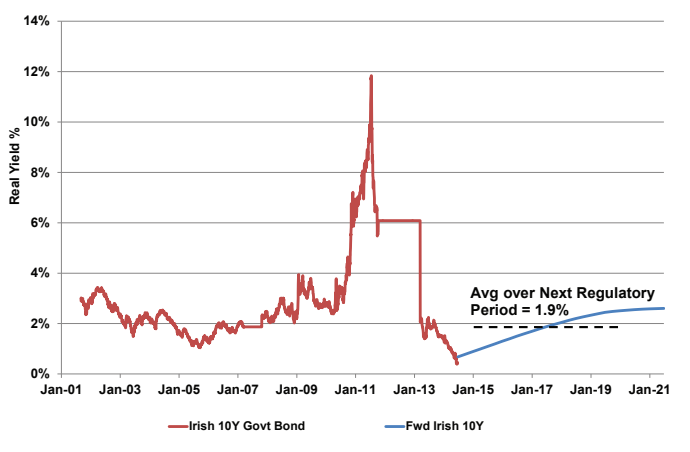
The Risk Free Rate of Return

The real risk-free rate is the price that investors demand to exchange certain current consumption for certain future consumption. In practice there is no true risk-free rate that can be observed, especially in countries where the government bond yield is not risk-free, such as Ireland.

The risk-free rate for Ireland is likely to be different to that of the United Kingdom for example since the price investors are willing to pay to exchange certain current consumption in Ireland for certain future consumption is likely to be higher in a smaller potentially more risky economy. If the evidence shows that investors do indeed pay a higher price, then an additional allowance for the country-specific risk must be added to the risk-free rate.

The most common method for deriving the real risk-free rate has been to use the yields on indexed linked gilts (ILGs) as an estimate. There are strong indications that these rates are currently biased downward and that the true risk-free rate can be better estimated using a swap-based approach. However, recent revelations about manipulations of LIBOR and the current state of the CDS market (CDS are a required for the swap rate approach) render this approach unusable at the current time. Another alternative to using ILG yields is the use of deflated nominal gilts, which may be less biased by inelastic pension fund demand generated by regulations limiting the type of asset classes these investors are allowed to hold. In its derivation of the real risk-free rate NERA looked at real risk-free rates from long-term risk-free rates for the Eurozone and add a country-risk premium to calculate the Irish risk-free rate.

Exhibit 10.1: Forward Curves for Ireland



Source: Bloomberg data up to 20 June 2014; Note: NERA use a long-run CPI inflation estimate of 2.0%, based on the long-run forecast by Consensus Economics, source: Consensus Forecasts Global Outlook: 2013-2023 (October 2013)

Exhibit 10.2:

The components of CAR's calculation of the WACC are as follows

Gearing x Real Cost of Debt + (1-Gearing) x Real Pre-tax Cost of Equity = Real Pre-tax WACC

0.5 x 3% + (1 - 0.5) x 8.57% = 5.8%

No Evidence to Support Gearing

Approach to Cost of Debt is Weak

Risk Free Rate + Debt Premium = Real Cost of Debt

1.5% + 1.5% = 3.0%

No Country Risk Premium

No Case for Reducing the Beta

Risk Free Rate + Country Risk Premium + Equity Risk Premium x Equity Beta = Real Cost of Equity (Post Tax)

1.5% + 0% + 5.0 x 1.2 = 7.5%

Serious Errors in Estimation of the Risk Free Rate

$$\frac{\text{Cost of Equity (Post Tax) (7.5\%)}}{\text{1-tax rate (12.5\%)}} = \text{Real Cost of Equity (Pre Tax) (8.57\%)}$$

period, which runs from 2015 to 2019. Therefore focus should be on forward expectations of the risk-free rate appropriate to the 2015-2019 period and not current and historic conditions.

- Expected average value for the risk-free rate for Ireland for 2015-2019 is 1.9% (2.5% by 2019)
- As per CAR's own analysis 'headroom' is required on top of this expectation given inherent market volatility therefore a plausible risk-free rate would fall within the range of 2%-2.6%.
- CAR has carried out a selective and misleading interpretation of the latest Irish regulatory precedent to support its lower risk-free rate.
- The exclusion by CAR of a country risk premium is erroneous and based on an incomplete and erratic review of academic literature and regulatory precedent. CAR has failed to acknowledge the significant body of academic literature in favour of a country risk premium and how a country risk premium is applied in all other countries affected by the sovereign debt crisis. In addition CAR has chosen to ignore the fact that Ireland has been identified as being one of the riskiest markets globally for investment.

10.1.2 Weak Approach to the Cost of Debt

For the cost of debt, CAR estimates a range of 2.5%-3.0%, and selects the top end of its range as its point estimate. daa believes that CAR's approach to the cost of debt is weak where

Country Risk Premium Regulatory Precedent

European countries with similar credit ratings to Ireland's would include Spain, Italy and Portugal where Standard and Poor's current credit rating for Italy is BBB, for Portugal is BB and for Spain is BBB-. These countries are characterised by significant country-specific risks as they face financial and economic crises. daa has reviewed if and how regulatory precedent with respect to cost of capital determination in these countries takes into account country risk premium.

Italy - AEEG

Recent Italian regulatory decisions in the energy sector by the regulator AEEG have calculated the risk-free rate based on the **1-year average of the Italian 10-year government bond rate. Consequentially, the regulators have accounted for the country-specific risk in the financing of Italian firms**. The market risk premium on the other hand has remained unchanged from previous regulatory decisions at 4.0%. Likewise, the beta estimate also reflects no additional systematic risk and is unaffected by country risk. **AEEG's approach of using Italian bond yields ensures that in the cost of debt calculation country risk is again allowed for through a spread on the risk-free rate in the form of Italian government bonds**.

Portugal -ERSE

ERSE, the Portuguese energy regulator, has changed its CAPM methodology in light of the financial crisis faced by Portugal. There are two channels through which ERSE acknowledges that financing costs of regulated firms are correlated with government financing costs. Firstly, the additional risk may be remunerated via an explicit spread on the market risk premium of the firms or alternatively, it may be remunerated by using the Portuguese government bond rate as a measure of the risk-free rate. In previous regulatory decisions, the risk-free rate was based on the average of AAA-rated Euro government bonds. However, in its latest regulatory decisions ERSE does not set its risk-free rate according to AAA-rated bonds any more. In the gas transmission and distribution sector for instance (regulatory period July 2013-June 2016), **ERSE instead uses an average of AAA-rated 5-year Bonds and the rate of interest of 10-year Portuguese government bonds in order to set the CAPM risk-free rate.** Hence, the country risk reflected by low credit ratings of Portuguese bonds is accounted for in the cost of capital determination of firms in the energy sector. Moreover, the risk-free rate is updated every year, displaying changes in government bond rates.

Previously the market risk premium channel was employed in order to include the effects of higher financing costs; the country risk was partly compensated via a higher market risk premium of approximately 6.5%, compared to the current market risk premium of 3.75 - 4.0%. **In Portugal the cost of debt allows for country risk through a spread on the risk-free rate via Portuguese government bonds**.

Spain - Government

In Spain regulatory cost of capital is not calculated via a CAPM or WACC approach, but instead determined by the respective government ministry. In recent regulatory decisions the cost of capital has been defined **as the yield of Spanish government bonds plus a certain premium, which in fact can be viewed as a spread on Spanish bonds. Therefore, the Spanish country risk and the resulting impact on corporate financing opportunities are considered in the allowance of rate of returns in the Spanish energy market regulation**.

Overall, there are different options of including country-specific risks in the calculation of cost of capital in regulated industries. What is common in regulatory precedent in Italy, Spain, and Portugal is that the respective regulators, despite methodological differences, all take into account country risk in the financing costs of regulated firms in one way or the other.

The academic literature also supports the inclusion of a CRP for riskier countries. Although there is no established methodology for how the risk premium should be incorporated into the cost of capital, the academic literature has offered a number of valid approaches to remunerate country-specific risk.

Damodaran (2011) discusses whether equity risk premium should vary across countries[1]. He notes that country-specific is only immaterial if it is idiosyncratic, i.e. that it will not spill over to other countries, or if all investors invest in global portfolios. However, both of these assumptions are difficult to sustain in reality. The first is unlikely to hold since correlation between countries is high with possibility of contagion. Moreover, the second is also refuted by evidence that investors tend to have a home bias in portfolios. Thus, Damodaran (2011) concludes *"equity risk premiums do vary across countries, with higher equity risk premiums applying to riskier countries".*

Damodaran (2011) provides three alternatives methods by which the equity risk premium may be estimated:

- Country default spreads: These may be calculated as the difference between government bond yields across countries, default spreads based on credit ratings or credit-default swap spreads;
- Relative equity market volatility: The equity risk premium for a benchmark country, for example Germany, may be increased by the relative volatility of the country in question. This approach may be of less merit because equity market volatility are also affected by market illiquidity; and
- Scaled default spread: Under this approach, the above two methods are combined. The country default spread is scaled by the relative volatility of the equity index of the country in question to the volatility of the government bond. Again, this approach may be weakened by market illiquidity.

1 Damodaran, A. (2011): "Equity Risk Premiums (ERP): Determination, Estimation and Implications", Stern School of Business.

Bali and Cakici (2006) also support the inclusion of a CRP in the CAPM framework[2]: *"we investigate the significance of a cross-sectional relation between risk and return on countries' stock market indices, and find that the world market risk is not, but country-specific total and idiosyncratic risks are significantly priced in an ICAPM framework with partial integration. The results also indicate that the prices of total and idiosyncratic risks are not the same across countries."*

Again, this supports the view that the cost of capital must make an allowance for the difference in risks faced by an investor across countries. The academic literature has also previously produced empirical estimates of the equity risk premium in different countries and therefore the CRP. Fernandez et al (2011) produced a survey of 56 countries, combining evidence from academics, analysts and companies[3]. They estimated the average market risk premium as 6.0% in Ireland in 2011 and 5.4% in Germany, implying a CRP of 60bps.

The academic evidence shows that the CRP must be included in the CAPM framework. Although there is no established methodology for incorporating the risk premium, there is a firm consensus that the cost of capital must include this factor.

2 Bali, T ,Cakici, N, (2010): "World market risk, country-specific risk and expected returns in international stock markets", Journal of banking & finance, Vol 34 (6), p1152-1165.

3 Fernandez, P, Aguirreamalloa, J, Corres, L (May 2011): "Market risk premium used in 56 countries in 2011: A survey with 6,014 answers", Working Paper WP-920, p3.

- CAR should have used a weighted cost of embedded and new debt which would have resulted in an estimated cost of debt of 3.09% and which would recognise that daa has raised finance efficiently at different points in the interest rate cycle and that it raises finance over periods longer than the regulatory determination period.

No Case for Reducing the Asset Beta

CAR estimates a range of 0.5-0.6 for the asset beta and it uses 0.6 as its point estimate because it considers daa faces more systematic risk than comparators. There is however no case for reducing the asset beta given that:

- CAR provides no reason for lowering the beta for daa in an environment where other regulators have seen the need to increase betas for airports. Implicitly CAR's baseline estimate implies that the it considers the risk differential between daa and Gatwick Airport to have more than halved from a difference of 9 points (0.61 to 0.52) to 4 points (0.60 to 0.56) while the bottom end of its range implies that it considers daa to be about as risky as Heathrow Airport, an extremely questionable notion.

No Evidence to Support Gearing

CAR estimates a notional gearing range of 50%-60% and selects 50% as its point estimate where:

- The only supporting evidence that CAR provides to support this value is that its final estimate is similar to the CAA's final estimates for Heathrow and Gatwick airports.

Conclusion

In response to the Draft Determination, NERA carried out a review of CAR's proposed cost of capital, full details of which are contained in Appendix 6. This review identified a number of substantial errors and inconsistencies in CAR's methodology used in the Draft Determination for estimating the WACC:

- In its derivation of the risk-free rate failure to take account of projected increases in government bond yields to c.2.5% real by the end of the period (1.9% on average)
- Incomplete and misleading interpretation of recent Irish regulatory precedent, where all regulators include at least an implicit country risk premium by way of reference to either Irish government bond yields and / or precedent
- Incomplete and erratic review of the theoretical literature and regulatory precedent on the country risk premium for the cost of equity that is not borne out by the empirical evidence on the forward spread between German and Irish government bond yields
- Use of an inferior methodology on the cost of debt compared to the standard UK approach. By only considering the cost of new debt, CAR is exposing daa to significant risk around costs which daa can no longer influence
- Given that there is no evidence that daa's level of risk has reduced since 2009, CAR's reduction in beta is out of line with the approach of the CAA which has increased betas for Heathrow and Gatwick airports both of which have significantly lower risk profiles than Dublin Airport.

10.2 Return of Capital

10.2.1 **T2-Box 2**

daa believes that there is an outstanding issue remaining relating to the sizing of T2 and its remuneration which still needs to be addressed. In the 2007 Interim review decision, CAR introduced its Box1/Box2 approach to the remuneration of T2 whereby T2 was deemed to be oversized and a significant portion of investment in T2 was placed in Box 2 and the associated costs were not deemed to be recoverable until a passenger volume trigger of 33 million per annum should be met. While daa has consistently disputed CAR's methodological approach to this issue, it is now apparent that even based on the CAR methodology there is no justification for use of this two box approach and daa recommends that it should be abandoned at this juncture.

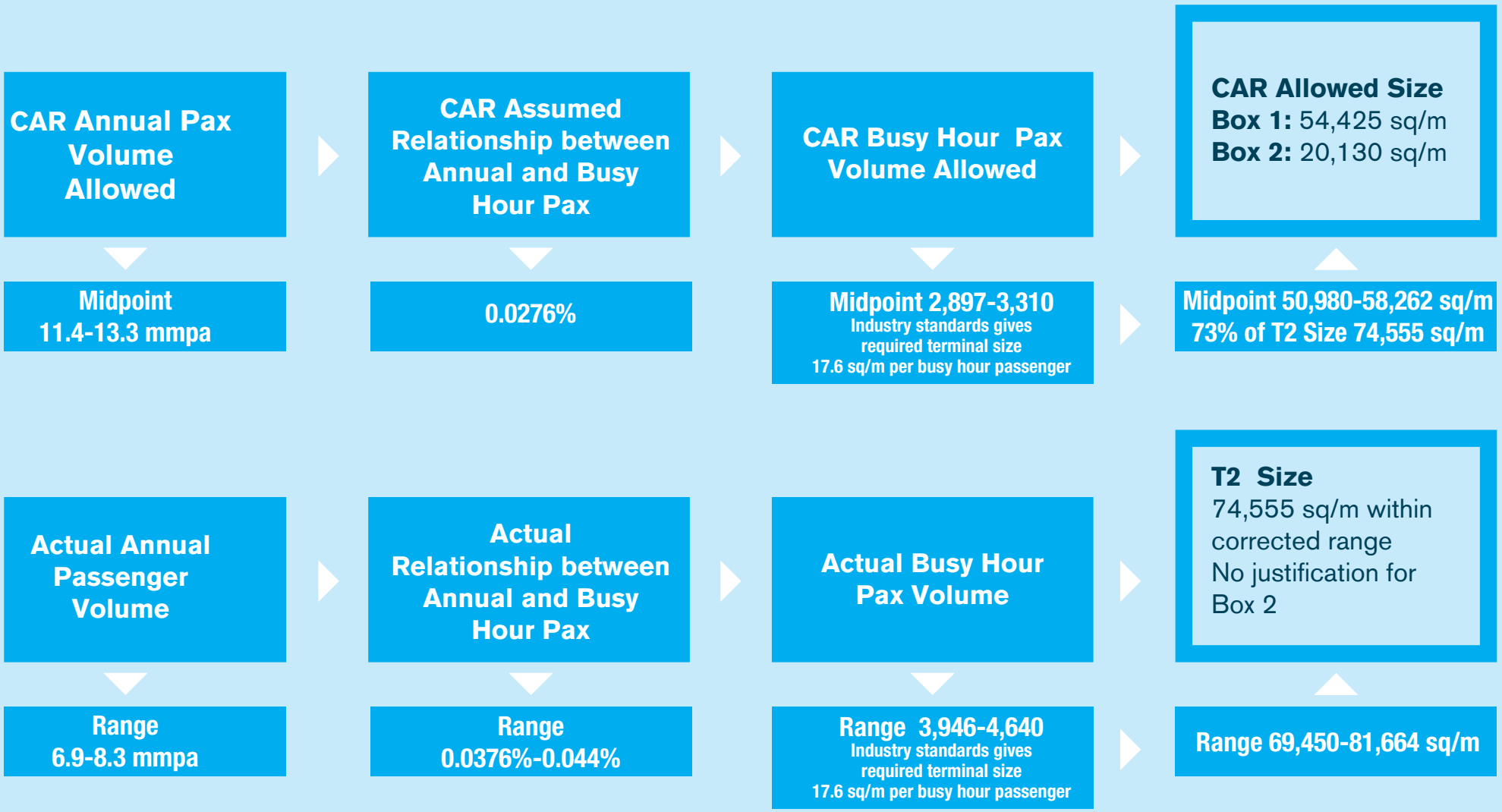
Methodological Approach

CAR consultants Rogerson Reddan & Vector (RR&V) reviewed the sizing of T2 and made the following assumptions:

- It suggested that a typical busy hour of 2,897 would be appropriate for a terminal building handling 10.5m EI passengers per annum (and 10.4mppa in total in T2).
- Similarly, it held that a typical busy hour of 3,310 would be appropriate for a terminal building handling 12m EI passengers per annum (or 13.3mppa in total in T2[1]).
- It then converted these hourly figures into a 'terminal size' using industry standard ratios (i.e. in this case a ratio of 17.6 sq/m per busy hour passenger was applied). This results in a 50,980 sq/m terminal for a typical busy hour of 2,897 and a 58,262 sq/m terminal for a typical busy hour of 3,310.

CAR adopted the RR&V assumptions and used them as the basis for its Box1/Box2 definition where CAR's approach to Box 1 and Box 2 can be summarised as follows: *'The mid-point of the two RRV estimates of T2-sizing (50,980 sq/m and 58,262 sq/m) divided by the daa's proposed sizing (74,555 sq/m) is 73%. This is the proportion of T2 costs that the Commission will include in box one.'*

Exhibit 10.4 T2 Two Box Approach



It should be noted If the typical busy hours generated by RR&V were too low then its estimate of the size of T2 would be equally so, which means that the derived 73% figure would also be too low. In other words, generating an appropriate typical busy hour is key.

Actual Typical Busy Hour data from T2

Now that T2 is open, the actual handling throughput of the facility on both hourly and annual bases can be directly observed.

In the case of 2013, as can be seen in Exhibit 10.5, the ratio between the 2013 annual throughput and the typical busy hour is 0.03758% (3062/6.9m). As RR&V did in its initial analysis, daa can convert the historic relationship between the busy hour throughput and annual throughput into an estimate of future busy hour throughput by applying the historic ratio to the forecast annual demand. In Exhibit 10.5, daa took the 0.03758% ratio and applied it to the forecast demand of 10.5mppa to get an estimated typical busy hour demand at that level of annual demand (i.e. 3,946). A similar analysis is done for 2011 and 2012.

Exhibit 10.5: Calculating actual busy hour throughput from annual throughput

Year	EI annual throughput in T2 → T2 Busy Hour Throughput[4]	Generate busy hour throughput by applying the yearly ratio to 10.5mppa
2011	6.9m → 3,062	10.5m → 4,640
2012	7.6m → 2,877	10.5m → 3,953
2013	8.3m → 3,103	10.5m → 3,946

While the 2013 performance generates a figure slightly lower than 4,200, if 2011 is examined, the typical busy hour to annual ratio gave a typical busy hour throughput of 4,640 (much higher than the 4,200 figure). Thus, based on actual performance in 2011 to 2013, the appropriate typical busy hour values for a terminal handling 10.5m EI passengers would be between 3,946 and 4,640, with 4200 falling neatly in this range.

However, RR&V suggested that a typical busy hour throughput of 2,897 would be appropriate for a 10.5mppa terminal (handling 10.5m EI passengers) while 3,310 would be appropriate for a 13.3mppa terminal (handling 12m EI passengers). In fact, T2 is already handling more than 3,000 passengers in a typical busy hour despite handling much less than 13mppa. This highlights the misconceptions RR&V had about how T2 was going to operate, which led to the inappropriate Box 1, Box 2 structure.

Since T2 is already operating between the typical busy hour levels suggested by RR&V as appropriate design hours for the terminal (2,897 and 3,310), there is no basis for the continued use of the Box 1 / Box 2 structure. The actual operational statistics debunk the idea that a much smaller terminal, handling a smaller busy hour throughput, was able to handle circa 10.5mppa (or 10.5m EI passengers per annum).

For the purpose of clarity, the rationale for T2 sizing is illustrated in Exhibit 10.4. daa proposes no change to this rationale simply a correction of the assumptions to reflect actual outturn.

10.2.2 T2 -Reprofiling

In relation to the remuneration of T2 and its associated projects CAR has applied a unitised approach where it sets out to equalise the remuneration of T2 not by year (annuitised approach), but by T2 passengers (T2 passengers in this context meaning not actual T2 passengers, but passengers incremental to the designated capacity of T1). In effect the return on T2 is therefore based on an assumed profile of passenger growth over the life of the asset.

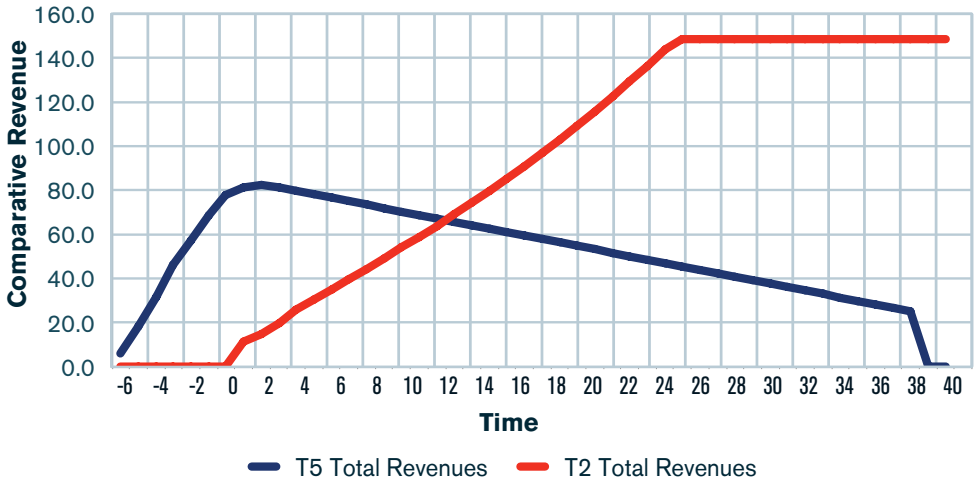
The impact of this approach is that it significantly backloads the return on the investment in T2 and its associated projects. The unitised approach pushes remuneration into the future, linking it with future passenger growth, which is uncertain. This level of uncertainty would be unacceptable to a privately-owned utility, and was only tenable in this case because daa is wholly-owned by the State and was under instruction from the Government to deliver the infrastructure.

The contrast in the effect of the unitisation approach to remuneration for T2 and the impact of the more orthodox approach to the remuneration of T5 at Heathrow Airport is illustrated in Exhibit 10.6.

4 Exhibit 10.5A

Year	T2 Passengers	T2 Passengers (EI only)
2011	7.8m	6.9m
2012	8.8m	7.6m
2013	9.6m	8.3m

Exhibit 10.6: T2 versus T5 Remuneration



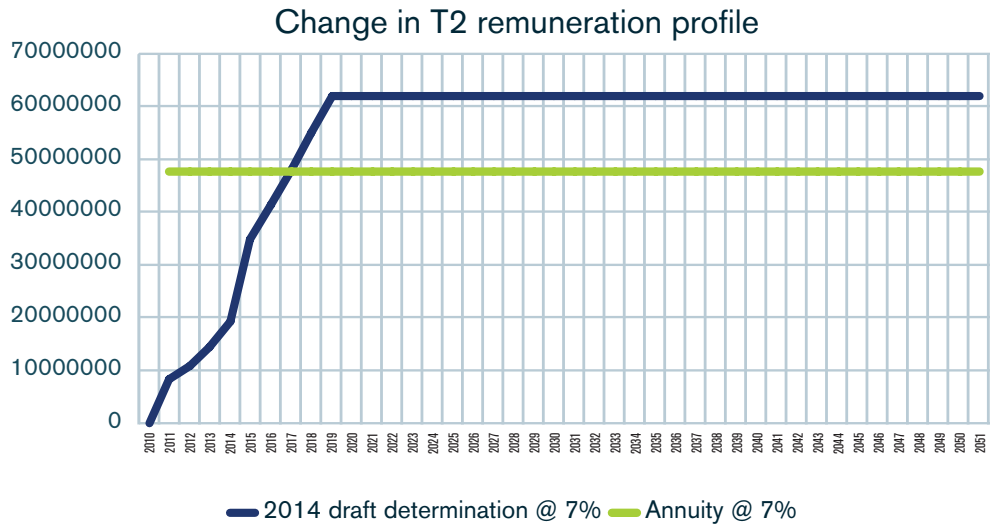
Note: The figures in the graph above have been adjusted to make a like for like comparison using a ratio of remuneration to cost. The T5 Remuneration has been scaled to a T2 level, i.e. $\frac{\text{T5 remuneration}}{\text{T5 value}}$ x T2 value.

Exhibit 10.6 shows that BAA received 10% of the total remuneration for T5 before it was opened (revenue advancement) and it had received 50% of total remuneration by year 12. In contrast, daa received no remuneration before the opening of T2 and will not have received 50% of total remuneration until year 27 (based on passenger profile as per 2009 Determination).

Notionally, the regulated entity is indifferent to unitisation because the NPV for the streams of remuneration under the different depreciation scenarios is identical. However, the regulated entity is not indifferent, because its immediate return is suppressed and because the future is inherently uncertain. Regulatory variables and regimes change. Economic circumstances are subject to dramatic cyclical and structural variations. Moreover, the regulated entity's actual discount rate for its own decision-making varies from the discount rate allowed by the regulator. In summary, unitisation is an unorthodox device to delay remuneration for a large piece of infrastructure. Not only is remuneration delayed, but the profile of remuneration remains uncertain (linked as it is with long-term passenger forecasts – problematical in themselves).

Our objection to unitisation which was restated in our regulatory proposition document – was twofold: (i) we object in principle for the reasons set out above and (ii) we believe there is an error or logical flaw in the manner in which CAR has applied unitisation, namely unitising the return over the passenger band from 18m to 43m rather than from 18m to 33m, which latter value was the value CAR designated as the total capacity of T1 and T2. In the Draft Determination, CAR has not engaged with these arguments. CAR has adjusted the unitisation profile, which has the effect of reducing the extent of the problem, but does not remove it. The return of capital on T2 remains back-loaded, as illustrated in Exhibit 10.7.

Exhibit 10.7: T2 Remuneration Profile



The cost to Dublin Airport versus CAR's other preferred method of depreciation, annuitisation, is circa €8m per annum. We submit that CAR should fully undo the unitised approach, the change in the Draft Determination indicating that CAR recognises that the approach is problematic.

Section 11: Implications for financial viability

11. Implications for financial viability

CAR's Draft Determination has negative implications for Dublin Airport's ability to generate a return on equity invested and raise debt to refinance existing debt facilities and fund future growth.

CAR's arbitrary selection of notional RAB, net debt and finance costs (all lower than regulatory accounts actual/ projected rates) and its resultant proposed price cap determination has the effect of:

- Negating Dublin Airport's ability to achieve a sustainable business and generate appropriate profit
- Reducing future capital investment to drive and support growth
- Inhibiting daa's ability to pay a dividend to its shareholder
- Endangering daa's ability to renew its Revolving Credit Facility ("RCF") (€150m maturing in December 2016) and refinance its Eurobond (€550m maturing in July 2018)

We show that the regulated entity will not generate actual returns anywhere near sufficient to be considered "financeable" under common interpretations of the word in the regulatory context.

11.1 Return on equity and capacity to pay dividends

Dublin Airport is a commercial enterprise, required to be a vibrant and sustainable business by all stakeholders including passengers, airlines, employees, suppliers, investors and the State.

We provide excellent services and facilities and invest to grow our business. However, to maintain our ability to deliver, we must generate profit and cash and attract and remunerate capital, including payment of a dividend in accordance with international norms and national policy. Please refer to "Report of the Special Group on Public Service Numbers and Expenditure Programmes" and the draft National Aviation Policy.

CAR's Draft Determination claims to remunerate capital at between 5.7% and 6.0% annually between 2015 and 2019 (exhibit 11.2). Correctly calculated (adjusted for incorrect RAB, net debt, and other variables), the return on capital is nearer 3% annually during the regulatory period (exhibit 11.3) with only a 1% return on equity, a return similar to the yield on German government bonds and lower than CAR's risk free rate of return.

11.1.1 **The value of equity in Dublin Airport**

Equity is the sum of the shareholders' investment in a company inclusive of the profits of the company which have not been taken as dividends. This is represented as the assets of the company adding back previous exceptional costs (such as restructuring costs and pension liabilities) less the net debt of the company.

CAR has calculated a notional debt and equity figure for Dublin Airport based on the gearing used in its WACC calculation and ignoring assets outside of the RAB such as disallowed T2 spends. Exhibit 11.1 shows the difference between CAR's notional equity calculation and actual investment of equity in Dublin Airport.

Exhibit 11.1: Critique of CAR's calculation of Dublin Airport equity

	CAR	daa	Comment
	€m	€m	
Opening RAB 2015	1518.0	1518.0	
T2 Box 2		103.4	CAR has disallowed/postponed from the RAB €255m of T2 capex
T2 disallowed cost		152.0	
Total fixed assets	**1518.0**	**1773.4**	
Additional investment value			
Pension deficit		45.4	CAR has not included this
Restructuring costs		61.6	daa has incurred €62m of exceptional restructuring costs in order to bring its cost base to its current level (voluntary severance payments)
	1518.0	**1880.4**	
Net debt	-759.0	-871.0	CAR uses a notional 50% gearing. The €871m figure in the daa column corresponds exactly to the net debt of Dublin Airport in its audited regulated accounts. The latest published value was €892m for 2013
Equity	**759.0**	**1009.4**	

11.1.2 Return allowed in draft determination

CAR has allowed a pre-tax cost of capital of 5.8% in the draft determination. This is based on a cost of debt of 3%, a pre-tax cost of equity of 8.6% and gearing of 50%.

Exhibit 11.2 sets forth a return on equity and return on Capital (RAB) based on CAR's notional valuation of RAB, net debt and cost of capital.

CAR's interest cost is a function of CAR's calculation of net debt and the 3% cost of debt assumptions. The opening net debt position is calculated by applying the gearing assumption of 50% to the opening RAB value and evolves over the determination period by applying the "cash flow from operations" which is based on CAR's building block and interest assumptions.

Based on CAR's assumptions the draft determination delivers a Return on RAB of 5.7% to 6.0% and a return on equity of 8.1% to 7.1%.

Exhibit 11.2: CAR return on Capital and Equity

	2015	2016	2017	2018	2019
Average RAB	1505.6	1470.2	1431.8	1404.5	1367.8
Average net debt per CAR model	-718.9	-638.3	-554.9	-479.5	-405.5
Average equity per CAR Model	786.8	831.9	876.8	925.0	962.3
Return on Capital	**86.2**	**84.9**	**83.3**	**83.0**	**81.7**
Interest per CAR Model	-22.8	-20.4	-17.9	-15.4	-13.4
Profit before tax	**63.5**	**64.5**	**65.4**	**67.7**	**68.3**
Tax	-7.9	-8.1	-8.2	-8.5	-8.5
Profit after tax	**55.5**	**56.5**	**57.2**	**59.2**	**59.8**
% Return on Capital per CAR assumptions	**5.7%**	**5.8%**	**5.8%**	**5.9%**	**6.0%**
% Return on Equity per CAR assumptions (pre tax)	**8.1%**	**7.8%**	**7.5%**	**7.3%**	**7.1%**

However, daa will not actually receive this return due to the fact that CAR's assumptions are notional. Exhibit 11.3 sets out the impact CAR's assumptions have on the actual return earned.

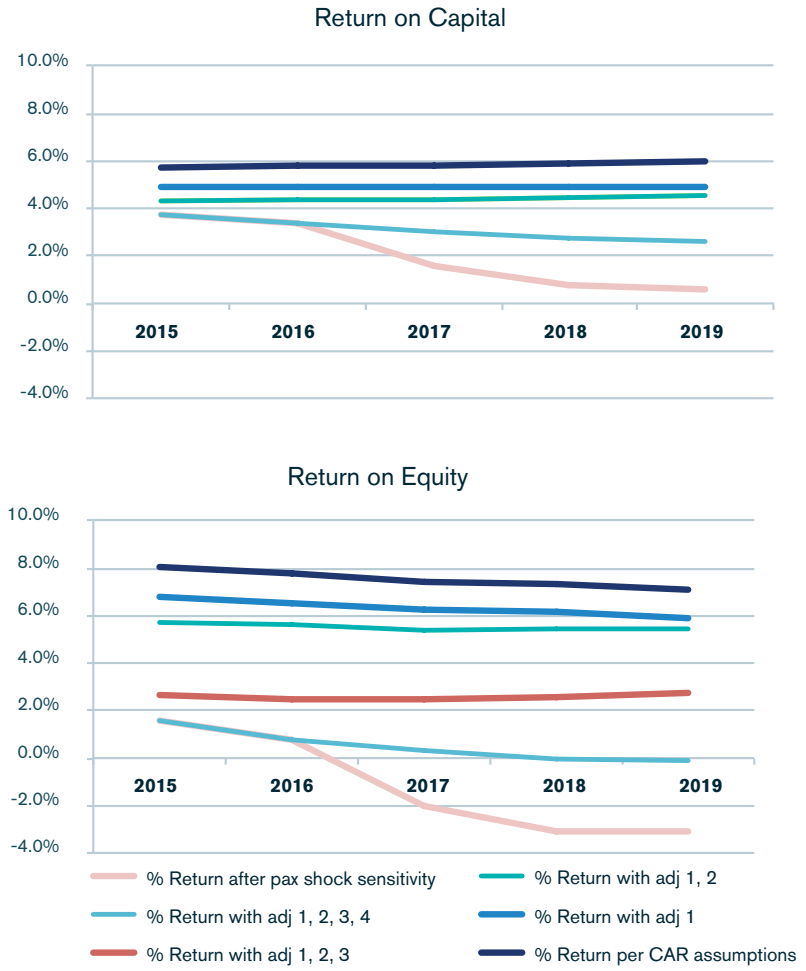
Exhibit 11.3: Impact of CAR assumptions on return on Capital and Equity

	2019 impact		
Adjustment	**Return on Capital**	**Return on equity**	
CAR return	**6.0%**	**7.1%**	**See exhibit 11.2**
1. Correct investment cost	-1.2%	-1.4%	As outlined above (exhibit 11.1), CAR has undervalued the investment that has been made in Dublin Airport. This results in the true return being earned reducing, i.e. denominator should be bigger
2. Difference in depreciation	-0.3%	-0.4%	CAR's depreciation assumption differs from the Regulated Entity's actual depreciation cost, due mainly to CAR's unitisation treatment of T2, deferral of T2 Box 2 and disallowance of some €250m of spend on T2. Following adjustments in the draft determination this difference averages at €8m per year.
3. Difference in interest	0.0%	-2.6%	CAR's interest assumption also differs from the actual cost firstly due to the difference in debt assumptions and secondly due to CAR's use of a real cost of debt of 3% compared to the actual nominal cost of debt of 5.6%. Also, CAR's model fails to assume a constant capital structure and instead reduces debt level from its notional starting figure of €719m to a notional figure of €406m. This represents a change in gearing from 50% in 2015 to 26% at the end of 2019.
4. Difference in building block	-1.9%	-2.8%	CAR's assumptions for both operating expenses and commercial revenue are higher than daa's proposition values and are regarded by daa as unachievable. This will reduced the actual return.
Net return	**2.6%**	**-0.1%**	**The probable outturn return drops to 2.6% on capital and -0.1% on equity in 2019**
Pax shock sensitivity adjustment	-2.0%	-2.9%	The return earned at Dublin Airport can also be impacted by economic shocks. daa has considered a passenger shock with a 5% reduction in 2017, followed by a 2.5% reduction in 2018.
Sensitivity return	**0.6%**	**-3.1%**	**Following pax demand sensitivity, returns fall further**

CAR's assumptions allow a theoretical Return on Capital of 5.7% to 6.0% (for 2015 to 2019) and Return on Equity of 7.4% to 8.7%. However, differences between CAR's assumptions for RAB, net debt, depreciation, interest, operating costs and commercial revenue and their actual outturn will reduce these to a Return on Capital of 3.8% to 2.6% (for 2015 and 2019)and a Return on Equity of 1.6% to -0.1%.

A further shock such as a reduction in passengers could further reduce these returns. In our sensitivity scenario, the shock reduces the Return on Capital to 3.8% to 0.6% and the Return on Equity to 1.6% to -3.1%.

Exhibit 11.4: Return on Capital & Equity allowed in draft determination



11.1.3 **Shareholder value allowed from regulated entity**

Shareholder value is derived from either dividend payments or growth in the enterprise value of the business.

Dividend capacity

Dividend capacity is driven by an entity's profitability. daa group has not paid a cash dividend since 2009 due to reduced dividend capacity. As has been demonstrated above, after taking into account the impact of CAR's assumptions compared to most likely outcomes, the Return on Equity for the upcoming period (i.e. without a pax shock) is likely to range from 1.6% to -0.1% with the regulated entity being borderline profit or loss making in most years. As such dividend capacity will remain negligible at best for the period 2015 to 2019.

Enterprise value

The enterprise value for a regulated entity is a function of its RAB. Exhibit 11.5 shows the evolution of the RAB over the period 2015 to 2019 with the RAB reducing from an opening value of €1,518m to €1,411m in 2019. This occurs due to capital investment of €308m, depreciation of €322m and extra depreciation, brought forward by CAR, apparently to support financeability reasons, of €92m.

Exhibit 11.5: RAB evolution for the period 2015 to 2019

	2015	2016	2017	2018	2019	Total
Opening RAB	1518.0	1493.3	1468.9	1440.2	1434.5	**1518.0**
Capex	55.6	57.6	55.0	78.8	61.1	308.0
Depreciation	-51.2	-57.9	-63.6	-70.4	-79.0	-322.1
Extra Depreciation	-29.1	-24.0	-20.1	-14.0	-5.4	-92.6
Closing RAB	1493.3	1468.9	1440.2	1434.5	**1411.2**	**1411.2**
Average RAB	1505.6	1470.2	1431.8	1404.5	1367.8	

The draft determination decreases the enterprise value of the business by reducing the RAB. The €107m reduction from €1,518m to €1,411m equates to 7.0% of RAB value.

It is also important to consider the proposed reduction by CAR of the WACC from 7% to 5.8%. As we have demonstrated in Section 10. Capital Remuneration, a WACC of 5.8% is below the level expected by investors. This results in a further reduction of enterprise value as an investor will further discount the RAB to earn their actual cost of capital. This reduction is much the same as the reduction in the value of sovereign bonds resulting from a differential between the market's required return and the return offered by the bond or asset. In simple terms a year bond with a face value of €100 paying a yield of 5.8% is worth less in the marketplace than €100 to investors with a required return of 7%.

By allowing capex below the "normal" deprecation level of €322m, CAR is not allowing daa to improve its business above its current condition and develop for growth. The capital investment allowed essentially maintains the existing asset base.

With the inclusion of the "extra depreciation" of €92m, CAR is essentially borrowing from the future to pay for a regulatory decision that is not financeable; this is not sustainable in the long term.

Bringing forward depreciation as a cure for financeability problems

Moody's discussed the sustainability and usefulness of bringing forward depreciation as a cure for financeability problems as part of its instructively named note "Speed of Money Cannot Address Potential Financeability Concerns" where it concludes that:

- "...ratios based on FFO and/or EBITDA can easily be influenced by different depreciation profiles, for example, and therefore have some limitations in terms of comparing financial strength of different companies"
- "Our assessment of companies' credit ratios will look through the effect on cash flows of (1) a different pace of expenditure recovery from the actual opex/capex split as reported in the financial accounts of (2) a faster depreciation rate than that represented in financial statements. The main purpose of Moody's Adjusted ICR (...) is to measure the interest coverage achievable based on the return on the RCV and reflecting companies' under/or out performance of regulatory targets. It should not be improved simply by the speed of money."

11.2 Dublin Airport debt financeability

daa competes for debt funding from the same investor pool as our European peers and seeks to achieve a credit rating of BBB+ against a backdrop of three credit rating downgrades since the last regulatory determination (despite achieving CAR's overall implicit EBITDA targets), from A to BBB which is unprecedented amongst our peers.

We have significant refinancing requirements during the regulatory period under review, with a RCF of €150m expiring in December 2016 and our Eurobond of €550m

maturing in 2018. Due to the near-term RCF and its importance to the Eurobond refinancing, we are highly dependent on 2015 financial results in securing this funding.

CAR's draft determination, which indicates FFO: Net Debt for Dublin Airport ranging from 20% in 2015 to 40% in 2019 is based on erroneous calculations and assumptions. Corrected calculations show a level of 12.8% in 2015 increasing to 16% in 2019.

The FFO: Net Debt metric for the next period (and in particular 2015) will not allow Dublin Airport achieve the required BBB+ credit rating and in fact a BBB- rating is more likely. In addition, CAR has not taken appropriate consideration of Business Risk Profile ("BRP") which may have a further deleterious effect on credit rating.

The Ministerial Direction to CAR of 27 October 2009 stated the following: "*I am directing you under section 10 of the Aviation Regulation Act 2001 to ensure that Dublin Airport Authority's financial viability is protected in order to implement Government policy on... [t]he operation of Dublin Airport Authority on a commercial basis without recourse to Exchequer funding or an equity injection by the State and in that context the need to secure lender confidence and raise debt financing on a cost efficient basis.*"

11.2.1 Introduction

daa welcomes CAR's specific focus on the financial viability and FFO:Debt ratio of Dublin Airport rather than daa Group. However daa disagrees with the level of credit rating targeted by CAR in the draft determination and the methodology used.

daa's position remains that BBB+ at a minimum should be the target rating in line with peer airports (exhibit 11.6) and to support future funding requirements.

Exhibit 11.6: Credit rating of peers

Credit rating of peers				
Heathrow	**Gatwick**	**Brussels**	**Schiphol**	**Aeroports de Paris**
A-	BBB+	Baa1	A+	A+

Note: All peers above rated by S&P except for Brussels which is rated by Moody's. Baa1 by Moody's is equivalent to BBB+ by Standard and Poor's.

daa has a debt refinancing in both 2015 and 2016/17 ahead of the €550m bond maturity in 2018 which is put at risk by from any deterioration in ratings less than BBB+, especially if there is a shock in passenger numbers over the period. CAR's proposed determination does not achieve FFO:Net Debt values that would correspond to BBB rating for Dublin Airport in the first years of the regulatory period when the refinancing requirement arises.

11.2.2 Importance of BBB+ credit rating

daa's advisors have indicated that a BBB+ rating is essential for refinancing the maturing debt facilities on optimal terms Bond investors have experienced significant volatility in their holdings of daa bonds, both in price and through a 3 notch downgrade to the credit rating since issue from A to BBB. They would expect to see greater certainty on credit ratings going forward prior to committing to purchase long dated bonds.

[redacted]

A further downgrade to BBB- would have severe negative consequences for daa in relation to its access to markets, ability to raise the target financing amount and terms of such financing (higher margins, shorter maturities and requirement for onerous financial covenants which would severely restrict the business). Therefore, a BBB rated bond will be considered significantly more volatile than a BBB+ rated bond in terms of price given the disproportionate impact of a further downgrade.

11.2.3 S&P Credit Rating Methodology

In analysing a corporate, S&P assesses risk, competitive position, published financials and forecast future financials to assign a Business Risk Profile ("BRP") and a Financial Risk Profile ("FRP") to the company.

BRP: Business Risk Profile incorporates such factors as country risk, environment, company position, business and geographic diversification, and management strategy.
FRP: Financial Risk Profile incorporates such factors as risk management, capitalization, earnings, funding and liquidity, accounting, and governance. The FRP is assigned based on financial ratios.

These profiles are then used to calculate an anchor credit rating for the corporate. This rating can be changed, positively or negatively, based on S&P's assessment of the effect of six modifiers.

S&P Credit Rating Methodology applied to daa Group

S&P rate daa PLC as being BBB. See exhibit 11.7 for an illustration of the S&P methodology and how it is applied to daa. Exhibit 11.8 shows the S&P credit rating matrix which gives the anchor credit ratings for the different combinations of FRP and BRP.

Exhibit 11.7: Component parts of a corporate credit rating

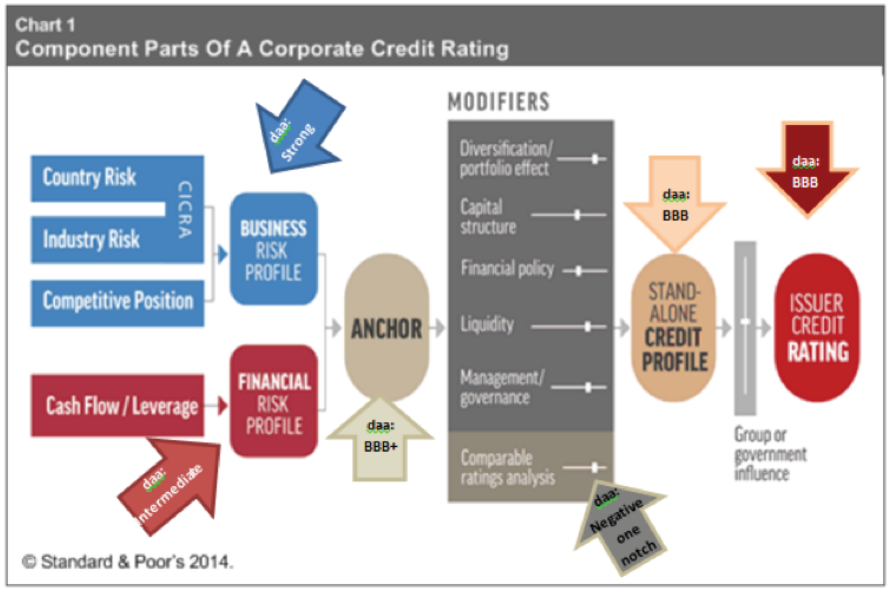


Exhibit 11.8: S&P credit rating matrix

	--Financial risk profile--					
Business risk profile	**1 (minimal)**	**2 (modest)**	**3 (intermediate)**	**4 (significant)**	**5 (aggressive)**	**6 (highly leveraged)**
1 (excellent)	aaa/aa+	aa	a+/a	a-	bbb	bbb-/bb+
2 (strong)	aa/aa-	a+/a	a-/bbb+	bbb	bb+	bb
3 (satisfactory)	a/a-	bbb+	bbb/bbb-	bbb-/bb+	bb	b+
4 (fair)	bbb/bbb-	bbb-	bb+	bb	bb-	b
5 (weak)	bb+	bb+	bb	bb-	b+	b/b-
6 (vulnerable)	bb-	bb-	bb-/b+	b+	b	b-

BRP: Corporate Industry and Country Risk Assessment ("CICRA") and Competitive Position scores give daa a BRP of Strong (S&P view daa at the low end of Strong – this is due to the Satisfactory score on Profitability).

Exhibit 11.9: S&P Financial Risk Profile matrix

	--Core ratios--		--Supplementary coverage ratios--		--Supplementary payback ratios--		
	FFO / debt (%)	**Debt / EBITDA (x)**	**FFO / cash interest (x)**	**EBITDA / interest (x)**	**CFO / debt (%)**	**FOCF / debt (%)**	**DCF / debt (%)**
Minimal	35+	Less than 2	More than 8.0	More than 13.0	More than 30	20+	11+
Modest	23-35	2-3	5.0-8.0	7.0-13.0	20-30	10-20	7-11
Intermediate	13-23	3-4	3.0-5.0	4.0-7.0	12-20	4-10	3-7
Significant	9-13	4-5	2.0-3.0	2.5-4.0	8-12	0-4	0-3
Aggressive	6-9	5-6	1.5-2.0	1.5-2.5	5-8	0-(10)	0-(20)
Highly leveraged	Less than 6	6+	Less than 1.5	Less than 1.5	Less than 5	(10) or less	(20) or less

FRP: Financial Risk Profile ratios give daa a FRP of Intermediate (as can be seen in exhibit 16.9, FFO: Net Debt must be greater than 23% to achieve BBB+ and between 13% and 23% for BBB).

daa is given an anchor rating of BBB+ but is then given a negative Comparable Ratings Analysis modifier to arrive at a Credit Rating of BBB, one notch lower due to their "view that the company has experienced high volatility in passenger traffic compared with other airports that (S&P) also assess as having a "Strong" business risk assessment."

daa's BRP is viewed by S&P as being at the low end of "Strong." This is influenced to some extent by the regulatory regime, i.e. the extent to which it is supportive. It will be important for CAR to consider explicitly how its ultimate decision might impact daa's BRP with the attendant consequences for refinancing.

11.2.4 How to calculate FFO:Net debt ratio

S&P refer to the daa Group annual accounts to obtain the relevant financial information (i.e. Gross debt and EBITDA) and then make the necessary adjustment to arrive at FFO and Debt to calculate the FFO:Debt ratio as outlined below.

FFO calculation

EBITDA
- Net interest expense
- Current tax expense
+ Dividends from equity investments

= Funds From Operations (FFO)

Net debt calculation

Gross debt
+ Post-retirement benefit obligations
- Surplus non-trapped cash

= Debt

Exhibit 11.10 gives S&P's calculation of the daa PLC FFO:Net Debt for 2013.

Exhibit 11.10: S&P FFO:Net Debt calculation for daa PLC

Reconciliation Of Dublin Airport Authority PLC Reported Amounts With Standard & Poor's Adjusted Amounts (Mil. €)	**--Fiscal year ended Dec. 31,**	
Dublin Airport Authority PLC reported amounts	**Debt**	**EBITDA**
Reported per 2013 annual audited accounts	1,151.7	161.0
Standard & Poor's adjustments	--	--
Interest expense (reported)	--	(56.7)
Interest income (reported)	--	8.6
Current tax expense (reported)	--	(1.3)
Operating leases	0.8	0.9
Postretirement benefit obligations/deferred compensation	24.6	(1.1)
Surplus cash	(520.7)	--
Capitalized interest	--	(0.2)
Dividends received from equity investments	--	23.4
Total adjustments	(495.3)	(26.4)
Standard & Poor's adjusted amounts	**Debt**	**Funds from operations (FFO)**
Adjusted	656.4	134.6
FFO to Debt		**20.5%**

Exhibit 11.11: Comparison of CAR FFO:Net debt calculation to correct S&P methodology

	2013 Per Regulatory Accounts €'m	2014 Forecast €'m	2015 CAR €'m	2015 Per S&P €'m	Commentary
Calculation of FFO					
EBITDA	152	153	167	167	EBITDA as stated by CAR for illustration purposes.
Less Interest	**(51)**	**(51)**	**(23)**	**(52)**	**Actual interest paid on loans that financed Dublin Airport development should be used. These include €550m bond @ 6.5872% and EIB loans (€200m @ 4.62%, €125m @ 5.12% and €260m at 0.8%). It is not correct to take an interest rate of 3%.**
Less Tax	-	(1)	(8)	(4)	Tax reduced due to increased interest cost.
FFO	**102**	**101**	**136**	**111**	**FFO is €21.6m lower than CAR calculates for Dublin Airport in 2015**
Calculation of Debt					
Opening debt	**(934)**	**(892)**	**(759)**	**(861)**	**Opening debt is per the audited regulated accounts calculated by reference to cashflows brought forward over the years. It is not correct to calculate opening debt by reference to RAB and amount of gearing assumed by the WACC.**
Add Funds from Operations	102	101	136	111	As per above
Less Capex spend	(49)	(55)	(56)	(56)	Capex as stated by CAR for illustration purposes.
Less Restructuring payments	(9)	(15)	-	(3)	Debt increases from previous restructuring payments.
Less Pension settlement	**-**	**-**	**-**	**(60)**	**Must include pension settlement.**
Closing debt	**(892)**	**(861)**	**(679)**	**(869)**	
Other adjustments					
- pension deficit	(17)	(60)	-	-	With the payment of the pension settlement, this adjustment is not required for 2015 onwards.
Debt	**(909)**	**(931)**	**(679)**	**(869)**	Adjusted Debt is some €260m lower in CAR model for 2015 versus S&P mainly due to the anomaly in opening debt (€132m) and failing to allow restructuring and pension payments in 2015 and onwards.
FFO to Debt	**11%**	**11%**	**20%**	**12.8%**	Combination of incorrect lower FFO and incorrect lower Adjusted Debt used by CAR gives a lower FFO to Adjusted Debt of some 8% versus the correct way that S&P would calculate.

The above does not reflect the impact of daa having higher investment costs than CAR has assumed (as demonstrated in exhibit 11.1). CAR has disallowed €180m (€36m per annum) of capital expenditure than daa will require in order to deliver the passenger growth that CAR has forecast. CAR has also used the centre point of the SDG high and low ambition cost forecast which requires the outsourcing and redundancy of 289 FTEs, this would cost a further €30m of severance payment to achieve. This additional €66m of investment would reduce the metric above from 12.8% to 11.9%.

CAR FFO: Net Debt inaccuracies

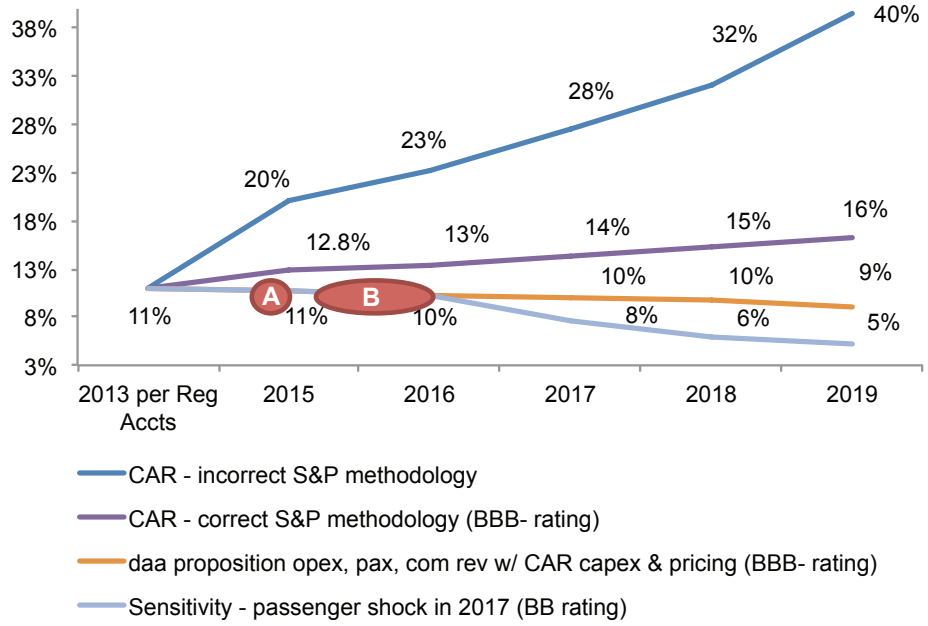
CAR's calculation for FFO:Debt has made the following errors:

- CAR has used the incorrect opening 2015 debt for Dublin Airport. CAR has calculated an arbitrary debt figure of €759m based on an arbitrary gearing (50%) of the Regulatory Asset Base (RAB) (€1,518m). S&P will use the audited Regulated Accounts to obtain the necessary information to calculate debt. daa calculates a difference of circa €120m between the CAR opening debt figure and the figure S&P will use to calculate FFO:Debt Ratio.
- CAR has used the incorrect interest rate for calculating interest applicable to Dublin Airport debt. CAR has taken the notional cost of future debt (3%) to determine the interest cost. S&P methodology takes interest cost based on embedded debt which daa predicts will remain unchanged until debt levels fall or are refinanced.
- CAR failed to incorporate the pension liability in its calculations which is a requirement under the S&P methodology.
- CAR fails to apply peer comparison. CAR correctly states that daa has a BRP of "Strong" and FRP of "Intermediate" which when combined give daa a possible anchor rating outcome of A- or BBB+. S&P takes an anchor rating of BBB+ due to daa's BRP being "at the lower end of the "strong" category." S&P then apply a one notch downgrade to give a BBB rating following a negative Comparative Rating Analysis modifier.

11.2.5 Impact of CAR draft determination on corrected FFO: Debt for Dublin Airport and corresponding credit rating associated with financial and business risk profiles

Exhibit 11.12 compares for illustrative purposes CAR's incorrect calculation of FFO: Debt for 2015 versus the S&P methodology. The FFO: Debt ratio for 2015 for Dublin Airport correctly calculated using the S&P methodology is 12.8%, some 7% lower than CAR has calculated. The graph also shows the most likely outcome for the ratio as daa will not achieve CAR's infeasible operating cost and commercial revenue targets and this will cause a further reduction in the ratio.

Exhibit 11.12: FFO: Net debt calculation for Dublin Airport



Impacts of above scenarios are additive i.e. the lower scenarios include the corrections for the preceding scenarios

The corrected FFO: Debt ratios under CAR's financial model see the FFO:Debt climbing from 11% today to 16% in 2019. In the years 2013 to 2015, FFO:Debt is below 13% and only reaches 13% at the end of 2016. Hence, for these years FRP would likely be "Significant" and due to deterioration in regulatory support, BRP would reduce to "Satisfactory." This combination of BRP and FRP would result in an implied BBB- rating. It is only in the latter years of the regulatory period that the FRP would rise to "Intermediate" and the rating to BBB. Senior debt coming to maturity will need to be refinanced by 2017. For this to occur, a strong full-year balance sheet will need to be presented in 2015 or 2016 at the latest (Point B) that reflects the previous year (Point A). It is at these two points in time that the FFO:Debt ratio is most important with the refinancing of this large portion of debt.

daa believes that a BBB+ rating for Dublin Airport is the minimum rating that CAR should target. This allows Dublin Airport to be rated equal to its peers, compensates investors for taking volume risk and allows Dublin Airport to absorb passenger shocks and be able to refinance and remain financially viable. A FFO: Debt metric of in excess of 23% is required to achieve this credit rating.

S&P rating for Dublin Airport from these metrics

Credit rating for Dublin Airport under CAR corrected ratios

BRP would fall to **Satisfactory** due to lower profitability v peers and loss of supportive regulatory regime

FRP would fall to **Significant** as ratios below 13% to 23% range on the lower volatility table for the first number of years of determination

BRP of Satisfactory and FRP of Intermediate gives a two Anchor outcome of BBB-/BB+

S&P look at comparative strength of DAA's BRP to determine which Anchor rating to take, hence **BBB-** as BRP is high satisfactory

S&P unlikely to change Anchor rating for Modifiers or Comparable Rating Analysis

Final rating of BBB-

Credit rating for Dublin Airport under CAR corrected ratios but with daa proposition opex and commercial revenues

BRP would fall to **Satisfactory** due to lower profitability v peers and loss of supportive regulatory regime.

FRP would fall to **Significant** as ratios are within the 9% to 13% range on the lower volatility table.

BRP of Satisfactory and FRP of Significant gives a two Anchor outcome of BBB-/BB+

S&P look at comparative strength of Dublin Airport's BRP to determine which Anchor rating to take, hence **BBB-** as BRP is high satisfactory

S&P unlikely to change Anchor rating for Modifiers or Comparable Rating Analysis

Final rating of BBB-

Credit rating for Dublin Airport under above scenario with a passenger shock in 2017

BRP would fall to Satisfactory due to lower profitability v peers, loss of supportive regulatory regime and fall in passengers.

FRP would change to Aggressive as ratios go below 9% level on the lower volatility table

BRP of Satisfactory and FRP of Aggressive gives an Anchor of **BB**

S&P unlikely to change Anchor rating for Modifiers or Comparable Rating Analysis

Final rating of BB

Rothschild opinion

Likely market conditions in 2015-19

Unlike the current regulatory period, where daa had no large scale financing requirements due to its pre-funding strategy adopted in 2008, daa has €700m of debt facilities, representing c.50% of its total debt facilities, maturing in the next regulatory period. The debt facilities falling due include the €550m Eurobond that matures in July 2018 and the €150m bank facility that expires in December 2016.

DAA has limited choice of funding options and access to the bond market is critical: it is critical that DAA is able to access the bond markets in order to meet its significant refinancing requirement. In our view, daa faces restricted access to other debt markets as described below:

- *Bank market*: Many European banks continue to limit exposure to Ireland and have embargoes on new lending to Irish corporates. It is not possible for this market to support such a large refinancing of debt. Bank lenders will rely upon the ability of daa to access the bond market to help support their assessment of refinancing risk
- *USPP market*: The US private placement market, which has traditionally offered Irish corporates an alternative financing source to the public bond market, is not yet open to Irish issuers as investors have not yet rediscovered their appetite for Irish issuers exposed to country risk
- *European Investment Bank*: while this lender has been a good source of funding for daa in the past, the EIB has informed daa that it has no credit appetite for additional daa exposure. Further, EIB will only lend for new project expenditure and is unable to directly fund refinancing transactions.

Bond market access is critical and a BBB+ rating is essential for DAA to refinance its maturing debt facilities on optimal terms

[redacted] daa's credit rating of BBB is below the rating of its regulated peers in the utilities and airports space. Debt investors have a large choice of stronger rated airports in 'core' Europe as demonstrated in exhibit 11.6.

[redacted] Therefore, a BBB rated bond will be considered significantly more volatile than a BBB+ rated bond in terms of price given the disproportionate impact of a further downgrade.

Standard and Poor's evaluate daa's business risk and financial risk to determine daa's credit rating. daa's business risk profile is a function of S&P's view of the transport infrastructure sector and the credit risks associated with operating in Ireland generally. It is also a function of daa's own competitive position (a function of its competitive advantage, scale, efficiency and profitability). As a result of its business risk assessment, daa needs to maintain FFO to debt of at least 23% (what S&P describes as a modest financial risk profile) in order to ensure a rating of BBB+.

11.3 Assessing risk to Dublin Airport financial viability

The analysis in the sections above has shown that the most likely outcome for Dublin Airport's FFO: Net debt metric is to be below the required 23% level for a BBB+ and even below the 13% threshold required for a BBB rating. In order to test the robustness of the projections daa has worked with its economic advisors, NERA, to develop a Monte Carlo simulation around the key risks within the Dublin Airport business. Risk modelling shows that a 29% increase in pricing from the Draft Determination is required in order to achieve a median FFO: net debt metric of 23% over the period 2015 to 2019.

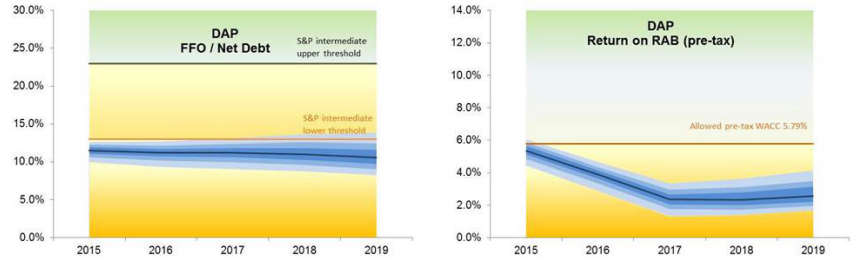
For the Monte Carlo simulation[1], the top nine risks within the business were identified with a low, high and base outcome and distribution range between these. The model then runs 1,000 random outcomes within these parameters and generates the range of likely outcomes and confidence levels. The risks areas identified for the exercise were:

- GDP
- CPI
- Passenger levels (excluding GDP affect)
- Operating cost levels (excluding GDP & CPI affects)
- Commercial revenue levels (excluding GDP & CPI affects)
- Service quality failures
- Capital investment requirement
- Capital investment cost variance
- Interest costs

Exhibit 11.13 shows the outcome of the risk modelling for Dublin Airport at the draft determination pricing. This shows that Dublin Airport likely to exceed the 13% FFO: Net debt threshold only in [redacted] 90% confidence level and is almost certain to fall below this. Exhibit 11.13 also shows again that the return on RAB will fall below the 5.8% that CAR has stated is required for Dublin Airport in all probable eventualities.

1 [redacted]

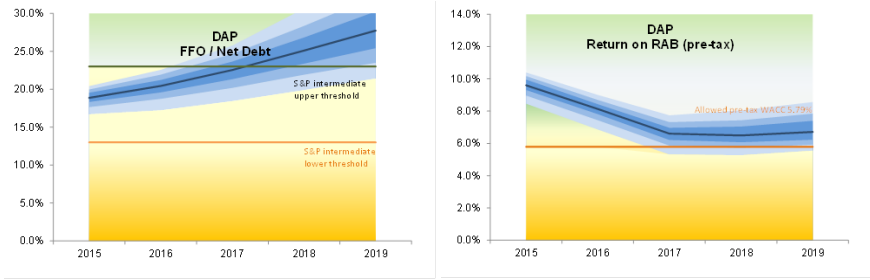
Exhibit 11.13: Dublin Airport FFO/Net Debt & Return on RAB at draft determination pricing



Confidence Levels: 50% - 75% - 90%

In order to achieve the necessary financial metrics required to deliver a BBB+ credit rating, a 29% increase of the real price cap is required to yield a median Dublin Airport FFO: Net debt of 23% with a range between 16.7% and 35.6%. Exhibit 11.14 shows the outcome ranges for Dublin Airport's key financial metrics with this increase in the price cap. This scenario would also be likely to achieve the allowed return on capital of 5.8%.

Exhibit 11.14: Dublin Airport FFO/Net Debt & Return on RAB with a 29% increase from draft determination pricing



Confidence Levels: 50% - 75% - 90%

The risk modelling carried out has demonstrated that the draft determination will negatively impact on Dublin Airport's financeability and will not allow it to secure either the vital BBB+ or the floor requirement of BBB credit ratings. daa has demonstrated that an increase of 29% in the real price cap is necessary to ensure the financial security of Dublin Airport.

Section 12: Process flaws

12. Process Flaws

12.1 Approach to consultation

12.1.1 2010 – 2014 Interim Capex Consultations

During the period 2010-2014 daa initiated a number of interim capex consultations with airlines and other stakeholders. The projects subject to interim consultation were:

- Runway 16/34 CAT 1 Stopbars
- T1 Roof Repairs
- Pier 3 Refurbishment

CAR has allowed the investment in Runway 16/34 CAT 1 Stopbars, but disallowed the investment undertaken for the remaining projects based on a incorrect view on the outcome of the consultations.

For the T1 Roof Repairs and Pier 3 Refurbishment projects CAR states that no agreement was reached on these projects and hence the allowance will not be increased for these projects. This statement is incorrect. For the T1 roof repairs project daa received 4 responses to the consultation with 3 supporting the project and 1 which daa recorded as being not in support. For the Pier 3 Refurbishment there were 5 responses to the consultation with 4 supporting the project and again 1 response which daa recorded as being not in support.

daa points out that setting the bar for a successful consultation at unanimous agreement is unduly onerous, and likely to result in necessary investments at the airport being delayed to the subsequent regulatory determination process. In requiring unanimity CAR fails to consider that airlines can have an incentive to oppose projects which would allow their competitors to benefit, or may simply oppose all capex on principle.

12.1.2 Traffic Forecasting Consultation

CAR has chosen to employ its own methodology to produce a traffic forecast for Dublin Airport. We set out in Section 2 our response to the traffic forecasting methodology employed by CAR; here we concentrate on what this decision by CAR suggests regarding their approach to consultation.

In August 2013 daa initiated a consultation with airlines on traffic forecasting for Dublin Airport, with the methodology, inputs and sources of inputs opened for discussion and comment together with an opportunity for daa to elicit market intelligence from airlines as to their future growth plans at the airport and for airlines to comment on the model outputs. Five airlines attended the consultation meeting with six submitting written responses for a total of seven airlines engaging in the consultation to some extent. These seven airlines represent in excess of 90% of the passenger traffic at the airport.

Exhibit 12.1: Summary of traffic forecasting consultation responses

Topic	Respondents	Yes	No
Beneficial to produce an econometric forecast of traffic volume	6	5	1
Agreement with methodology	4	4	0
Agreement with inputs	4	4	0
Necessity for additional inputs	4	4*	0
Agreement with sources of inputs	4	4	0
Market intelligence provided	5	5	0

*See following discussion

In particular the responding airlines cited the following factors as impacting on traffic growth

- Airport charges
- Service Quality
- Route maturation
- Capacity constraints

As daa's proposition was for airport charges to remain flat over the period for which traffic was being forecast this factor would have a constant value and so not impact on the growth levels forecast. A similar argument also pertains to service quality.

The daa's model, by allowing modification for market intelligence, is implicitly capable of factoring route maturation into the forecast; CAR's model takes no account of this factor. The daa forecast can be adjusted to remove growth forecast by the model which cannot be accommodated in the current capacity of the airport; CAR gives no indication that they have or will sense-check their traffic forecast against available capacity in this way.

CAR has replaced a forecast based on a consultation process with one that it has produced independently subject neither to consultation nor independent review.

12.1.3 Issues Paper Consultation

One issue which was addressed in the response to CAR's Issues Paper (CP2/2013) by both Aer Lingus and daa was the appropriate sizing of Box 2 for Terminal 2, with daa calling for the immediate entry of Box 2 into the RAB and Aer Lingus requesting a review of the evidence.

It should be noted that in this case daa provided a detailed analysis comparing the actual passenger outturn in T2 against the assumptions which were made about likely passenger profile prior to the opening of T2, showing that, based on CAR's own rationale as set out in the 2007 Interim Review and replacing forecast assumptions with actual outturn, the immediate addition of Box 2 to the RAB is justified. Against this ,Aer Lingus stated only that it continues to believe that T2 was oversized. CAR, in making no change to the Box 2 treatment has ignored the evidence put forward by daa and can only do so on the basis of reliance on assumptions which have been shown not to have held true. This approach incorporates two serious process flaws:

- evidence and beliefs given equal weight in regulatory decisions
- reliance on assumptions which the passage of time shows to have been false to provide continued justification for regulatory decisions

Service Quality was also addressed by both daa and Aer Lingus in response to CAR's Issues Paper. Aer Lingus proposed alternative metrics for the security queue while considering the ACI ASQ metrics in place to be appropriate and appropriately targeted. daa's response included a proposal to stretch the security queue metric by extending the queue measurement to a new 'red line' and also indicated that the ACI ASQ metrics in place are appropriate and appropriately targeted. Service quality was also the subject of consultation as part of the capex consultation with airlines and other stakeholders preceding the submission of the Capital Investment Programme 2015-2019 – Proposals to CAR. At the consultation meeting airlines expressed support for the extension of the 'red line' as proposed by daa but no airline, either in the consultation meeting or in subsequent responses to the capex consultation, called for an increase in all or indeed any of the ACI ASQ metrics.

Exhibit 12.2 summaries the position of the different parties in relation to the service quality targets and the subsequent decisions taken by CAR in this regard. It is clear that CAR has not taken a consistent approach to views expressed on the various metrics – in some cases following the airlines' position (no change on baggage metrics) and in others disregarding airlines' position (increased ACI ASQ metric targets).

Exhibit 12.2: Summary of consultation re service quality targets

Party	Security Queue Metrics	Baggage Metrics	ACI ASQ Metrics
daa	Extend red line; no change to 30 minute target	No increase in targets	No increase in targets
Aer Lingus response to Issues Paper	Implement dual metrics on the security queue	No increase in targets	No increase in targets
Discussants at capex consultation meeting Q1 2014	Extend red line; no change to 30 minute target	No increase in targets	No increase in targets
CAR action	Extend red line; no change to 30 minute target	No increase in targets	All targets increased

As a proponent of consultation with airlines, it seems inappropriate that CAR would proposes changes not required by any airline in the consultation process.

12.1.4 Suggested Consultation in the Draft Determination

In disallowing CIP 15.4.003 CAR states in section 6.41 that "should DAA find itself in a situation where an upgrade [to T2 Hold Baggage Screening equipment] is mandatory, we would expect users to be receptive to supporting additional spend on this item". Such an expectation is unlikely to be realised as there is no benefit to T1 operators in supporting such an investment and in fact T1 operators would have positive incentives to oppose such additional spend as this additional spend would, all else equal, raise airport charges for all airlines while the benefit of the investment would accrue to T2 operators only.

A recommendation by CAR to rely on a future interim capex consultation process lacks credibility, given how CAR has treated the outcomes of the interim capex consultation processes undertaken in the current period.

12.2 Hangar investment contradiction

As part of the capex consultations for the 2009 – 2014 CIP, daa put forward an investment proposal for the hangars at Dublin Airport. This was rejected by the airlines and in CAR's final determination for the period 2010 - 2014, published in December 2009, CAR decided to exclude all amounts for hangar capex, "in the absence of user support for the project," and also to adjust its forecast for hangar revenue down by €1.6m per annum, reflecting the loss in projected commercial revenue as a result of forgoing the proposed investment from the till.

daa proceeded with this investment and in the second half of 2009 daa finalised an agreement with SRT to buy out the leasehold agreement with SRT and take full ownership of the hangars for a sum of €22m, including fees. Subsequent to this, daa spent €13m on refurbishing the hangars to bring the total investment to €35m. None of this €35m is included in the RAB.

The rental income for the hangars is €5.5m in 2013, and as the airlines chose not to support this project and the cost of investment is not in the RAB, this income should be removed from the commercial revenue forecasts.

In the 2009 final determination CAR stated that by not including the investment in the RAB it was "protecting the interests of current and prospective users since not allowing such an investment to enter the RAB means users do not bear the risk that future airport charges will have to be higher should the project prove less commercially attractive than the DAA envisages". As the project has been a commercial success it is fundamentally unjust to now include the revenues that are being earned on the mature project.

daa would point to this issue as an example of CAR's lack of clarity and certainty in its determinations. The most obvious conclusion to be drawn from the statements included in the 2009 final determination was that daa was to take this investment at its own risk, and accordingly earn the return itself. daa was given no indication that this was not the case. It is a great surprise therefore for the draft determination to now state that "*there was no proposal at the time to remove this revenue stream from the regulatory till.*" There was no reference to the requirement for an exit proposal in 2009 and to make this statement now is to move the goal posts after the event. Such a position is contrary to the normal risk/return relationship and considered a breach of the regulatory contract.

12.3 Lack of transparency

daa's ability to respond to the Draft Determination is severely hindered by a lack of transparency on the information CAR has relied upon to make its decisions. This lack of transparency restricts our ability to analyse the evidence CAR has employed to determine its forecasts of operating expenses and commercial revenues in particular.

12.3.1 **Operating expenses**

CAR has relied to a great extent on the work undertaken by SDG to arrive at a target for operating costs for Dublin Airport for the regulatory period ahead. For this reason the ability to understand the assumptions made by SDG and investigate their findings is of particular importance to daa. The following information has not been provided publicly, restricting our ability to assess the accuracy of the work undertaken and the conclusions drawn by SDG, and thus reducing our ability to respond comprehensively to the Draft Determination:

- Cork/Shannon allocation assumptions in historical cost data and projected costs is not disclosed anywhere in the SDG report or excel model.
- Calculation behind the design of SDG proposed rosters and also how these relate to holiday, training, absence and other requirements as well as fit with European working time directive requirements which is used in the analysis on pages 29 and 30 in the SDG report.
- Mapping from roster data submitted by daa to SDG roster graphs on pages 29 and 30 of the report.
- Derivation of major elasticity assumptions used in the excel model and disclosed on page 75 of the SDG report
- Derivation of outsourcing cost saving assumptions (30% for security, car parks and cleaning; 40% for retail) on page 26 of the SDG report
- Selection criteria of "efficient" airport operators and adjustments to enable comparison throughout the SDG report
- Comparison of staff groups and mix of grades included in average staff cost calculations on page 24 of the SDG report.
- Calculation behind the comment "Dublin Airport's unit gas price is approximately 25% higher than published seai values over 2011-2013, with a similar difference seen when compared to the London airports benchmark" on page 66 of SDG report.

12.3.2 **Commercial revenue**

There are two pieces of information relating to the CAR forecast of commercial revenue which have not been made available and which are critical to a reasoned assessment of the forecast proposed. These information items are:

- The amount of revenue that daa highlighted as being currently ex-till that CAR has included in their 2013 baseline figure
- The calculations for the uplift to revenues from capital investments proposed for allowance

12.4 Lack of engagement with arguments/evidence provided

Exhibit 12.3:

Reference	Lack of Engagement with Evidence/Arguments Provided by daa
Section 6.10	CAR does not refer to daa's evidence of the control budget for T2 being the inflation adjusted CAR allowance (excluding the contingency disallowance) nor does it refer to the detailed evidence supplied by daa of the buy out of construction sector inflation undertaken in the tendering of T2, being in line with industry-expert forecasts of construction sector inflation at that time and consistent with procurement guidelines set by the government.
Section 6.12	No engagement with the evidence from daa that, taking the actual passenger outturn in T2, and applying that to CAR's own rationale for remunerating T2 as set out in the Interim Review 2007 would result in T2 entering the RAB now. The continued reliance on inputs which are now known to be incorrect is not defensible.
Section 6.41	CAR are 'unpersuaded' by the need to upgrade the T2 HBS - no reference made to the EU legislation which explicitly lays down this requirement.
Section 6.41	No reference made to the impact of increased screening requirements (Liquids, Aerosols and Gels and Explosive Trace Detection) on the security processing rate (and hence the requirement for an Automatic Tray Return system to maintain the processing rate), as presented by daa.
Section 6.46	Pier 2 Segregation – CAR makes no reference to the requirement by Customs that a proposal to allow passenger segregation should be included daa's Capital Investment Programme.
Section 6.46	No reference in rejecting the Check-in and Security project to the evidence provided by daa on the processing capacity of the T1 security facility and how the requirement for additional lanes to accommodate 2019 traffic (T1 high growth) cannot be accommodated in the current space – this is even before considering that reducing the processing rate (by refusing the ATRS system) will cause additional lanes to be required sooner than if the processing rate was maintained at the current levels. CAR have provided no evidence that they have investigated the ability of the current security location to process the forecast 2019 at the reduced processing rate, nor have they stated that they disagree with the processing rate stated by daa.

Section 6.46	CAR ignores factors put forward by daa as impacting on the appropriate trigger point for the construction of the Northern Runway. CAR did not take account of analysis undertaken by daa to pinpoint this trigger based on traffic forecasts, aircraft type and load factor, traffic profile etc.
Section 6.62	CAR states evidence in support of country risk premium is weak but does not reference or attempt to rebut any of the evidence given by NERA for the existence of a country risk premium for Ireland (report submitted as appendix to Regulatory proposition)
Section 6.75	CAR ignores the case put forward by daa in support of a requirement for BBB+ rating to ensure access to the debt markets as referenced in the Regulatory Proposition document. CAR's starting position is to assume a BBB rating is sufficient without rebutting the arguments put forward in support of BBB+
Section 6.88	CAR ignores daa's arguments against unitisation approach to T2 depreciation, making a modification to the approach, but not addressing the fundamental issues raised by daa in the Regulatory Proposition.

Not only have CAR failed to engage with evidence put forward by daa in a number of important respects but they have also failed to provide evidence in support of their own assumptions and decisions or rationale for undertaking certain analyses. Process flaws within this category are listed in Exhibit 12.4

Exhibit 12.4: Lack of Evidence in the Draft Determination

Reference	Lack of evidence in support of CAR assumptions/decisions
Executive Summary	No evidence provided to support the assumption that operating costs will fall to levels experienced in 2006 simply because passenger numbers will rise to levels experienced in 2006-2008.
Section 2.3	No explanation of why CAR has ignored the one-off costs incurred by daa under the Voluntary Severance Scheme (€60m).
Section 5.7	CAR uses a completely different peer group of airlines for daa than in chart 4.4 with no explanation of why it has switched peer group.
Section 6.46	CAR sets the trigger for the Northern Runway at 25 mppa – no evidence provided for how this figure could be achieved without the additional line-up points on the existing runway or even how they calculated this figure other than to say that stakeholders have undertaken work to increase the capacity of runway 10/28. Additionally, CAR have chosen to trigger two additional projects associated with the Northern Runway – Design & Planning Fees and Advance Buy-Out at 25mppa also and again give no explanation for this decision.
Section 6.46	Pier 2 Segregation – CAR makes no reference to the requirement by Customs that a proposal to allow passenger segregation is required in daa's Capital Investment Programme. CAR states that this project 'seems an expensive option' however it does not seem to have considered the regulatory requirement from Customs.

12.5 Use of consultants

In arriving at the proposals set out in its Draft Determination CAR has drawn on work undertaken by consultants appointed by them to analyse a) daa's capex proposals costings (Ernst & Young were the appointed consultants) and b) current operating expenses for Dublin Airport proposals (Steer Davis Gleave (SDG) were the appointed consultants).

The Ernst & Young work was initiated using the cost proposals from daa as the baseline with interrogation of the assumptions employed by daa to arrive at the cost for each individual project. This approach, using the daa proposals as the initial base of the analysis, is appropriate. Prior to the finalisation of the Ernst & Young work no opportunity was afforded to daa to view and comment on assumptions made by Ernst & Young and we will challenge a number of the assumptions which they have made in regard to the costings of individual projects. The value of this consultancy work could have been greatly improved through the provision of a two-way information flow between the

consultants appointed and the daa, so that the challenge of assumptions could have been resolved prior to the Ernst & Young report being issued.

The operating expenses forecast proposed by daa in its Regulatory Proposition was based on the work of Booz & Company who, at the behest of the daa, undertook a review of the current operating expenses at Dublin Airport and investigation of potential efficiency gains. Additionally, CAR also appointed Steer Davis Gleave (SDG) to look at operating expenses at Dublin Airport. The brief given to SDG, based on the output of their work, appears to have differed from that given to Ernst & Young. SDG's work is not a review of the daa opex forecast but an attempt to produce an independent forecast from the raw data.

CAR has given no indication as to why, if commencing from the baseline of the daa's proposals was appropriate for the analysis of capex requirements, it was not considered necessary for the production of the opex or commercial revenue forecasts.

Further consultancy work was undertaken on the four sets of IT capex proposals in the CIP 2015-2019- Proposals (€41m). A steering group consisting of daa and airline representatives appointed KPMG to review the four sets of IT projects with the following tasks to be undertaken as part of the review:

- Examine the rationale of projects proposed for funding and make an assessment of the necessity for each project
- Assess the cost proposed for each project
- Quantify the opex savings arising from individual projects where appropriate, time permitting

KPMG found that a valid rationale existed for each proposal and that costings were broadly in line with their expectations for projects of their type, size and complexity.

The terms of reference for KPMG allowed them to form a view of the Business Innovation Investment proposal (€8m). The purpose of this funding is to allow daa to respond to changing industry trends and technological innovations over the timespan of the 5 year regulatory period to deliver:

- Lower operating costs
- Faster and more efficient passenger flows
- New revenue streams, driven by increased retail and services opportunities

To be responsive to emerging technologies requires that daa retain flexibility as to the exact projects it would fund in this area over the period. daa was able to define for EY the projects it proposed to fund in 2015, which EY costed and agreed with. There is greater difficulty in defining the projects daa would fund in the years towards the end of the period – such a list of projects could only be based on emerging technologies now known and would lack the responsiveness to innovation over the period required. As EY were not tasked with assessing the rationale for projects they could take no view of proposed funding for business innovation investment beyond 2015. CAR, knowing that there was as gap in the EY analysis, should have looked to the additional work carried out by KPMG on this project in considering the allowance proposed in the Draft Determination.

12.6 CAR's approach to forecasting commercial revenues is an outlier in regulatory practice

In general, the UK Civil Aviation Authority (CAA) and Competition Commission (CC) have not used elasticities similar to CAR's estimates to generate forecasts of future commercial revenues. Instead, for the last two reviews, the CAA has engaged consultants to carry out a detailed review of potential future commercial revenues:

- these reviews have considered a larger number of separate categories of revenue, rather than the very high level categories used by CAR;
- for many categories of revenue, the consultants have carried out a detailed review of recent trends in revenues per passenger, the specific factors that have affected these past trends, and
- considered a range of different possible reasons why revenues (per passenger) in the forthcoming control period may be higher or lower than those suggested by recent trends;
- the consultants have generally taken each airport's own forecasts as their starting point, and identified specific reasons for adopting more (or less) challenging assumptions;
- the consultants have also had detailed discussions with a range of stakeholders, including both the airport operator and those involved in commercial activities; and the regulators have explained the reasons for adopting particular assumptions in relation to specific revenue categories, and both airports and airlines have been able to comment on these.

As a result, the CAA and CC have been able to take full account of a wide range of different factors affecting commercial revenues, and adopt pragmatic assumptions that reflect the underlying business conditions relevant to each separate revenue stream. These reflect both demand side (e.g. macroeconomic conditions, changes in passenger mix) and supply side (e.g. redevelopment programmes, or the impact of security processing on the average time each passenger spends in retail areas) changes that may affect commercial revenues.

Other observations on the experience of recent UK reviews of airport charges are that:

- during the most recent review, the CAA's consultants (Steer Davies Gleave) reported that Heathrow has developed an econometric model that it uses to generate its own forecasts. However, unlike CAR's, this is a very detailed model which projects revenues for a large number of separate categories. Steer Davies Gleave reported that, on average, there are around 40 drivers for each category of revenue;
- under the CAA's "constructive engagement", the projections have already been subject to extensive consultation with airlines before they are reviewed by the CAA's consultants.

- In earlier reviews, the CAA and CC (or its predecessor, the Monopolies and Mergers Commission) have often taken the airport operator's own projections as the starting point for their own review.
- while these projections have generally been based on detailed forecasting models, we note that Manchester Airport appeared to have adopted a number of high level elasticity assumptions at the time of the Monopolies and Mergers Commission's 1997 review. Among other things, its forecasts were based on the following assumptions:
  - car parks – revenues grow in line with inflation plus two-thirds of forecast passenger increase (compared with CAR's elasticity of 1);
  - fuel, light and cleaning – revenues grow in line with inflation plus 50% of forecast passenger increase (compared with CAR's elasticity of 1.3 for other revenues);
  - property - revenues grow in line with inflation plus 50% of forecast passenger increase (compared with CAR's elasticities of 0.45 for property concessions, 0.0 for property rental and 0.8 for advertising);
  - concessions - revenues grow in line with inflation plus 2 per cent plus 100% of forecast passenger increase (compared with CAR's elasticity of 0.9 for retail, though as explained below we believe this should be 0.74).

CAR's approach to forecasting commercial revenues differs from the far more pragmatic approach adopted by airport regulators in the UK. There are many different factors that are likely to affect commercial revenues, and attempting to capture all of these in a single estimated elasticity seems a very unreliable approach.

12.7 Flawed use of econometrics

In this section we consider two aspects of CAR's econometric approach to forecasting commercial revenues

- review of the econometrics undertaken to estimate elasticities for individual categories of revenue;

and

- review of the application of the estimated elasticities in the generation of the forecast of commercial revenues.

12.7.1 Review of CAR's Econometric Analysis

Using the dataset referenced in the Draft Determination and the information about the specific equations estimated by CAR, we have replicated the econometric results shown in Appendix 3 of the Draft Determination. For car parking, property rents, property concessions and other revenue (excluding US Preclearance), while we have found two possible rounding or typographical errors affecting some results in Appendix 3 that CAR did not use (i.e. models 1 and 2), we find that the estimated elasticities that CAR has used are reported correctly in Appendix 3. However, as described below, we have significant reservations about both the reliability of these estimates, given the very simple econometric models estimated by CAR, and the way that CAR has used these elasticities to forecast future revenues (see Section 4).

For retail revenues, moreover, we believe that CAR has made a serious error in its analysis. It has estimated an elasticity of 0.91 for retail revenues, which includes both direct retail and concession revenues. It has defined these revenues as:

total retail sales + total concessions revenues – cost of goods sold

However, it has not taken account of the fact that the cost of goods sold already appears as a negative entry in the dataset supplied by daa. Therefore, CAR has actually *added rather than subtracted* the cost of goods sold when calculating net retail revenues. If CAR had carried out this adjustment correctly, it would have estimated an elasticity for retail revenues of 0.74 rather than 0.91.(NERA have calculated the correction on daa's behalf).

Two further observations on CAR's analysis are that:

- its retail revenues elasticity is estimated over a shorter time period than the other commercial revenue elasticities (2005-13, rather than 2001-13), as the dataset does not include any cost of sales data for the period 2001-04. The estimated elasticity may therefore be less reliable than if it had been estimated from a larger dataset;
- CAR has estimated an elasticity of 1.3 for "other" activities (excluding US Preclearance). This is implausibly high. It is very unlikely indeed to reflect an underlying relationship between commercial revenues and passenger numbers. This category includes a number of different revenue streams, which exhibit quite different behaviour (and some of which are only present for part of the relevant period).

Elasticities derived from econometric analysis are potentially subject to inaccuracy due to the presence of "non-stationary" variables in time series analysis. Regressions which include such non-stationary series can lead to spurious conclusions, and may often indicate that a relationship exists between variables when it does not.

The relatively short time period covered by CAR's analysis, and the disruption caused during this period by the global financial crisis, makes the testing for non-stationary variables of increase importance. However, there is no indication that CAR has tested for the presence of such variables, which increases the risk of CAR's regressions identifying spurious correlations.

There is evidence to support the presence of autocorrelation (again, see Appendix 8) in some of the commercial revenue regressions (e.g. car parking, property concessions and other revenues). This suggests that the estimation is inefficient (i.e. the estimated standard errors are larger than they could be with a properly specified model), and could indicate that the model is poorly specified, for example if there are dynamic effects which CAR's simple regression has omitted. As far as we are aware, CAR has neither considered nor tested for such effects.

Appendix 8 contains actual vs. fitted charts for each category of revenue (except property rentals and US Preclearance revenues, for which CAR did not apply an elasticity). While they also raise questions about whether some data are outliers, the charts suggest that CAR's estimated relationship with passenger volumes is a rather poor predictor of future revenues, especially for property concessions and advertising revenues (but also for the other categories). This is not surprising, as CAR's analysis considers only a single explanatory variable, and therefore does not reflect the many other factors likely to influence each revenue stream. The problem of omitted variables can lead to biased estimates of coefficients for those variables that are included in the analysis.

12.7.2 CAR's Use of its Econometric Estimates

To forecast future commercial revenues, CAR has applied its estimated elasticities and its forecasts of future increases in passenger numbers. However, there are two inconsistencies in its methodology:

- it has applied elasticities that it estimated from equations including a time trend. But it has not taken account of these time trends when generating its forecasts of future revenues; and
- it has made additional allowances for "incremental commercial revenues" generated by future investments proposed by daa. But it has not attempted to isolate the impact of similar past investments that will have boosted commercial revenues in the period covered by its econometric analysis.

Even if CAR had adopted a consistent approach, however, we note that its estimated elasticities still suffer from the problems discussed in the previous section.

For retail, car parking and property concessions revenues, the time trend associated with the elasticity estimate used by CAR was negative. Exhibit 12.5 shows the annual trend estimated by CAR[1], and also the change in 2019 revenues that would result from including the trend in CAR's forecasts.

Exhibit 12.5: Time trend impact on 2019 commercial revenue forecast

CAR's Estimated Time Trends	Trend (% per year)	Impact on 2019 revenue (€m)
Retail	-2.4%	-8.3
Car parking	-6.0%	-9.1
Property concessions	-1.2%	-1.3
Other revenue	+4.8%	+2.3

In most cases, CAR does not explain or justify its apparent decision not to apply the time trends alongside the corresponding elasticities. However, for car park revenues, CAR suggests some specific reasons why the previous negative time trend might not continue (see paragraph 5.39 of the Draft Determination). In addition, while CAR has forecast an increase of 18.3 per cent in commercial revenues between 2013 and 2019, this includes an increase of 5.6 per cent (nearly a third of the total increase) that is generated by incremental investment projects rather than traffic growth. Since CAR's econometric analysis does not make any allowance for the incremental revenues generated by past investments, the estimated elasticities will attribute all such revenues to the impact of passenger growth (or time trends).

Concluding Comments

The following factors have all contributed to an overestimate of future commercial revenues in the Draft Determination:

- CAR's error in subtracting (already negative) cost of sales from retail revenues, which we believe leads to a higher elasticity than if CAR had carried out the correct adjustment;
- the omission of time trends from CAR's forecasts, even though these were included in the models that generated the elasticities used for the forecasts;
- the separate estimation of revenues from future investment projects, whereas previous revenue growth (captured by CAR's estimated elasticities) will also have benefited from past investment projects;
- the estimated elasticity for "other" revenue is implausibly high. Given the mix of activities included in this category, some of which only started part way through the period), it is highly unlikely that CAR's estimated elasticity reflects a genuine underlying relationship with passenger volumes.

12.8 Error in WACC spreadsheet formula 2015-2019

The methodology used by CAR to calculate the return on capex in the Draft Determination differs from the methodology used in the 2009 final determination. This change is unfavourable to daa. The

1 The trend coefficients shown in Appendix 3 of the Draft Determination are generated from monthly data, and therefore need to be multiplied by 12 to show the annual time trend.

impact for the 5 years for 2015 – 2019 on the €308m capex allowance in the Draft Determination is -€3.4m and the total impact over the full lives of these assets is -€13.1m.

The 2009 methodology used the simple "pmt" formula in excel which calculates the annuity payment required for a specified rate of return, number of periods and investment. This formula can be split into return **on** capital using the "ipmt" formula and return **of** capital using the "ppmt" formula.

The methodology used in the 2014 determination gives a lower return on and, over the life of the asset and does not deliver an IRR equal to the WACC allowed by CAR. Exhibit 12.6 illustrates the impact of this on the asset with a 5 year life as is calculated in the draft determination model, compared to what the revenue, NPV and IRR would be using the 2009 methodology.

Exhibit 12.6: Error in WACC spreadsheet formula

		Year 1	Year 2	Year 3	Year 4	Year 5
NPV calculation 2014 Draft Determination method						
WACC	5.79%					
Cash flow	-13,107,450	3,006,568	3,006,568	3,006,568	3,006,568	3,006,568
NPV	-348,364					
IRR	4.7%					
NPV calculation 2009 Final Determination method						
Cash flow	-13,107,450	3,093,544	3,093,544	3,093,544	3,093,544	3,093,544
NPV	0					
IRR	5.8%					

The revenues on the runway trigger are similarly lower by 0.5m per annum, giving a negative NPV over the life of the asset of -€8.0m and an IRR of 5.6% rather than the allowed 5.8%.

See Appendix 16 for 1) the worked illustration, 2) the impact on the remuneration for the draft determination allowed CIP 2015-2019 and 3) the remuneration of the runway trigger.

12.9 The 7% return on Box 2 T2 being discontinued in 2015-2019

In section 6.12 of the Draft Determination CAR states that 'in the 2007 interim review Box 2 was originally set at €108m, with daa allowed financing costs for it up to 2018'. There is no statement in the 2007 interim review that the allowance of financing costs for T2 would end after 2018. There is no sound basis for a decision to disallow financing costs on an asset, which through CAR's chosen methodology of unitisation for return of capital, has its return delayed, after 11 years without providing any reason why this should be the case. An investment we have shown in Section Essentially this unexplained decision means that CAR is ignoring the funding cost being borne by daa on this investment, an investment which we have shown in Section 10 to have been justified to meet demand for terminal facilities currently.

12.10 Omissions

SDG did not review the level of pension costs for daa (existing or proposed) which was an remarkable omission given the impact of pension costs on overall staff costs, and a different approach to pensions than was taken by SDG when carrying out a similar study for the CAA in the UK. CAR did not review pension costs separately and instead claims a point of principle for its decision not to allow any increase in pension costs. This position is contrary to its own precedent (see Section 3).

The existing pension rates are below market level and this has contributed to the existing deficit, and for this reason increased future contributions will be required into the new defined contribution scheme. It is therefore incorrect to both take the existing pension rates as a 'baseline' and to fail to account for future increases in forecasting opex.

Part 3: Appendices

Appendix Title	Source
Appendix 1 - Letter from Arthur Cox to daa RE: TUPE Confidential	Arthur Cox
Appendix 2A - Proposed Till Exit of Commercial Development Site at Dublin Airport	daa
Appendix 2B - Valuation Report of Dublin Airport Sites Confidential	CBRE Advisors
Appendix 3 - Report on Willingness to Pay for Improvements to Dublin Terminal 1	NERA Economic Consultants
Appendix 4 - Analysis of Airport Capacity at Dublin Airport	Ricondo & Associates Inc.
Appendix 5 - Capex - Latest Expected 2014 Confidential	daa
Appendix 6 - Report on CAR's Draft Determination: Cost of Capital	NERA Economic Consultants
Appendix 7 - Letter from Minister to daa RE: Dividend Requirement	DTTAS
Appendix 8 - Memo on CAR's Passenger and Commercial Revenue Forecasts	NERA Economic Consultants
Appendix 9 - Letter from IAA to daa RE: Safety & Security	IAA
Appendix 10 - Report on Costing Errors in EY Capex Review	daa
Appendix 11 - Review of IT Investment Programme	KPMG
Appendix 12 - Proposed IT Innovation Investments Confidential	daa
Appendix 13 - Letter from Customer to daa RE: Future Plans for Dublin Airport Confidential	Customer
Appendix 14 - Report on T2 Outturn Expenditure	ARUP
Appendix 15 - Report on daa Risk Modelling Confidential	NERA Economic Consultants
Appendix 16 - Explanation of CAR's Error RE: Capital Remuneration Application	daa
Appendix 17 - Project Costings for Customer Confidential	daa