

# Bottom-Up Efficiency Assessment of DAA/Dublin Airport OPEX

Preliminary Emerging Findings for Draft  
Determination

Report to the

Commission for Aviation Regulation

# Presentation Structure

- Introductory Remarks
- Recap on Terms of Reference and Scope
- Summary of Work Programme and Outputs
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- Summary of Draft Emerging Bottom-Up OPEX Projections
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- Overall Preliminary Conclusions for Draft Determination

# Introductory Remarks

- Indecon-Jacobs team very happy with progress to date on this efficiency assessment of Dublin Airport operations
- Would like to acknowledge the extensive inputs to date from both the Commission and DAA
- This document presents the consultancy team's emerging findings from our first-round examination of OPEX efficiency at Dublin Airport
- Purpose of emerging conclusions is to inform Draft Determination and team would like to emphasise the preliminary nature of these conclusions at this juncture

# Recap on Terms of Reference and Scope

- **Indecon-Jacobs were appointed by CAR to undertake:**
  - “a ‘bottom-up’ review of DAA’s operational activities at Dublin Airport in order to assess the operational efficiency of the DAA in providing services to both passengers and airlines”
- **Required Outputs:**
  - 1st Phase (Draft Determination): preliminary emerging outputs from assessment in the form of one or both of (a) opex projections for the 2010–14 period by cost category, if available; (b) projected annual efficiency savings, expressed in percentage terms, to be targeted over the 2010–14 period
  - 2nd Phase (Final Determination): detailed conclusions from assessment, consisting of one or both of: (a) annual opex projections by cost category for 2010-14 period; (b) projected aggregate annual efficiency savings, expressed in % terms, to be targeted over the 2010-14 period
- **Scope of Assessment:** it should be noted that, in terms of scope, CAR have specified that the current assessment should focus on DAA’s existing operations at Dublin Airport and therefore exclude the impact of Terminal 2

# Summary of Work Programme and Outputs

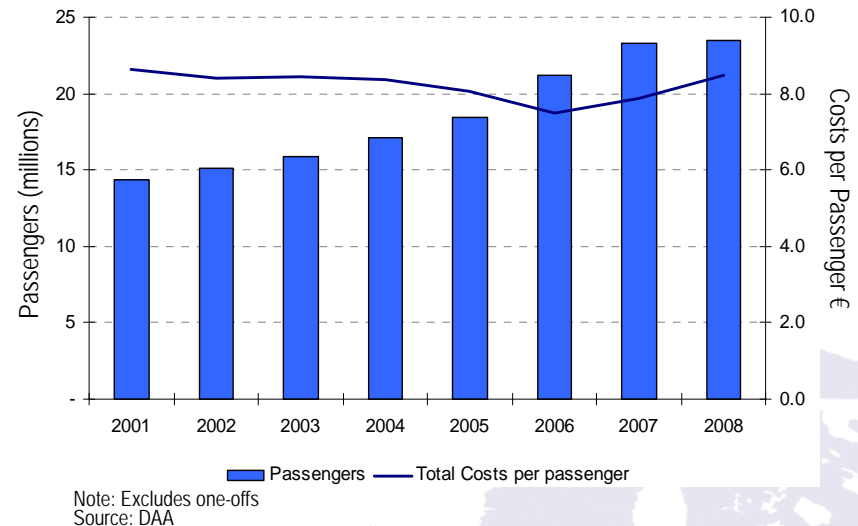
- Work programme to date focused on yielding preliminary outputs/conclusions for Draft Determination
- Programme has consisted of the following elements:
  - Initial discussions with CAR and review of available evidence and material supplied by Commission
  - Formulation of detailed structured Data/Information Request to DAA, issued by CAR in April 2009
  - Review of DAA response to Data/Information Request and organisation of Site Visit by consultancy team to DAA/Dublin Airport
  - Completion of Site Visit (19th May)
  - Issue of supplementary Data/Information Request on 20th May
  - Detailed preliminary assessment and modelling
  - Preparation/formulation of preliminary emerging outputs (presented in this document)

# Overview of Dublin Airport OPEX Performance To-Date

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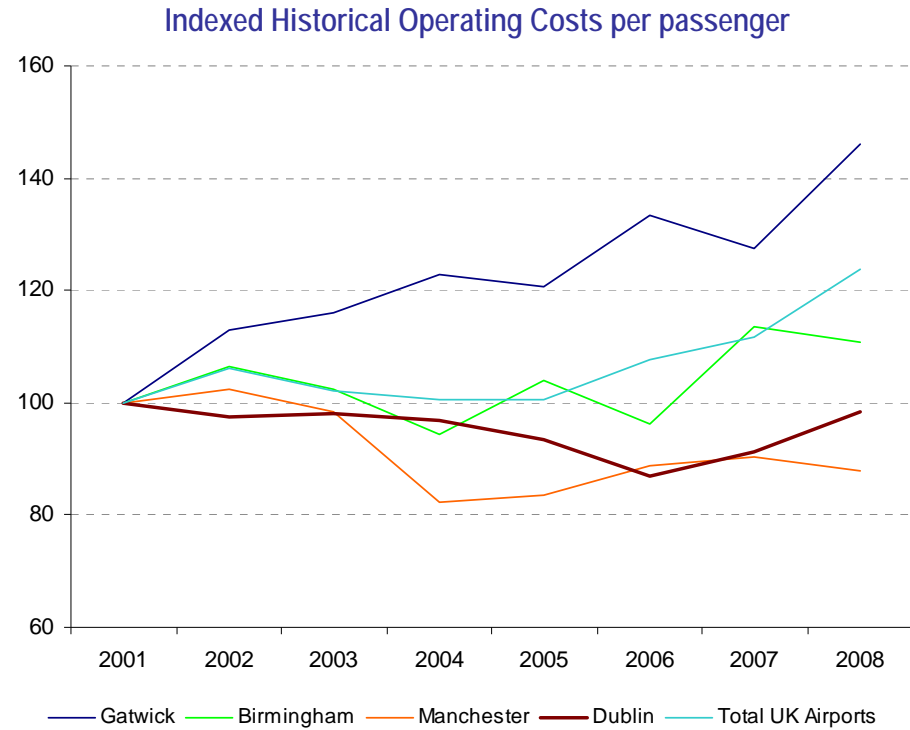
- The graph shows historic total operating cost per passenger (2001 to 2008 outturn price). Over the 8 year period, operating costs per passenger have decreased from €8.63 per passenger to €8.49 per passenger, an average annual decrease of 0.2% per year
  - From 2007 to 2008 operating costs per passenger increased from €7.88 to €8.49 per passenger (excluding one offs)
- Operating costs increased by 7.1% between 2001 and 2008, relative to a passenger growth of 7.3%. This implies an elasticity of operating costs to passenger growth of 0.97x
- Over same 8 year period, there has been limited increase to capacity at the Airport. The most significant expansion in this period followed the completion of Pier D in Nov 2007 and the opening of Area 14 in May 2007, in total adding 15,500sqm of floor space at the very end of the period
  - Prior to this, the last major capacity increments were completed by 2001 (Pier C phases 1 and 11, the extension to Terminal 1 and apron expansion)
- It should be noted that in these and subsequent comparisons staff and non staff costs include corporate staff and costs
- The information received from DAA on which the analysis has been based includes 100% of the corporate cost base
- In other analysis prepared by DAA, including the regulatory accounts, corporate costs have been allocated between Dublin and the other two airports in the group (Cork and Shannon) on various bases:
  - Some projects, activities and costs are directly attributable to Dublin
  - Other projects, activities and costs are shared between the airports in the group. These costs are split on several bases, primarily traffic
- On an allocated basis, we understand that Dublin accounts for around 90% of total corporate costs

Historical Operating costs per passenger vs. Total passengers



# Comparison with UK airports

- As discussed above, relative to 7.3% passenger growth, operating costs at Dublin grew by 7.1%, or an implied elasticity of operating costs to passenger growth of 0.97x in real terms. Over the period 2001 to 2008, operating costs per passenger decreased by a CAGR of (0.2%)
- The chart below sets out the trend in operating costs per passenger for Dublin over the period in comparison with total UK airports and three UK airports with broadly comparable levels of passenger throughput and operating in a similar legislative and security environment – Gatwick, Birmingham and Manchester
- On this basis Dublin appears to be in line with total UK airports. However, given that each of Gatwick, Birmingham and Manchester have added more significant increments of capacity over the period than Dublin, this may make comparison with Dublin more difficult

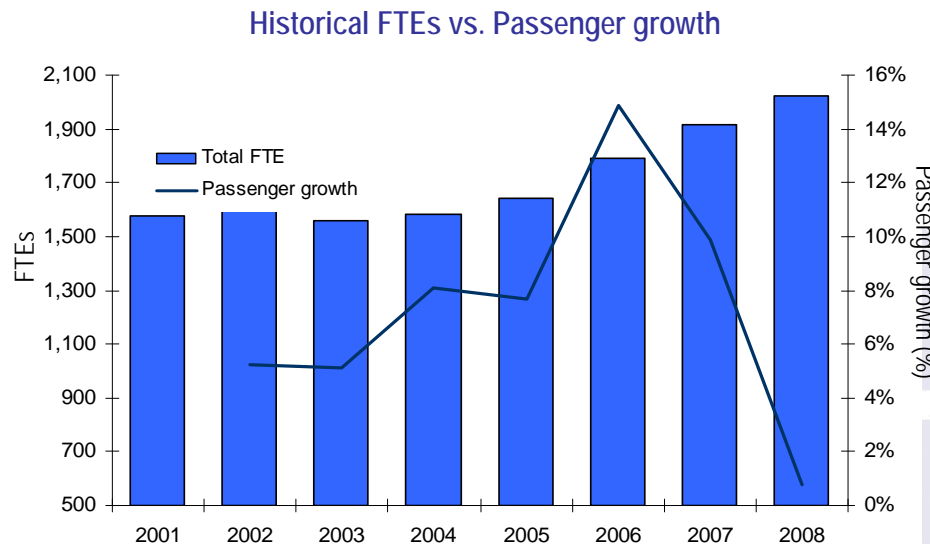


Source: CRI Airports Statistics, DAA



# Historical FTE development

- Staff costs represent the most significant area of costs, particularly for Dublin Airport, where more activities are insourced. In 2008, staff costs represented 63% of total costs
- The graph sets out historic FTE development over the period 2001 to 2008, together with passenger growth over the same period
- Over the period 2001 to 2004, FTEs were held approximately constant in the context of increasing passenger numbers
- Over the period 2004 to 2008, FTEs increased from 1,581 to 2,025 some 500 additions

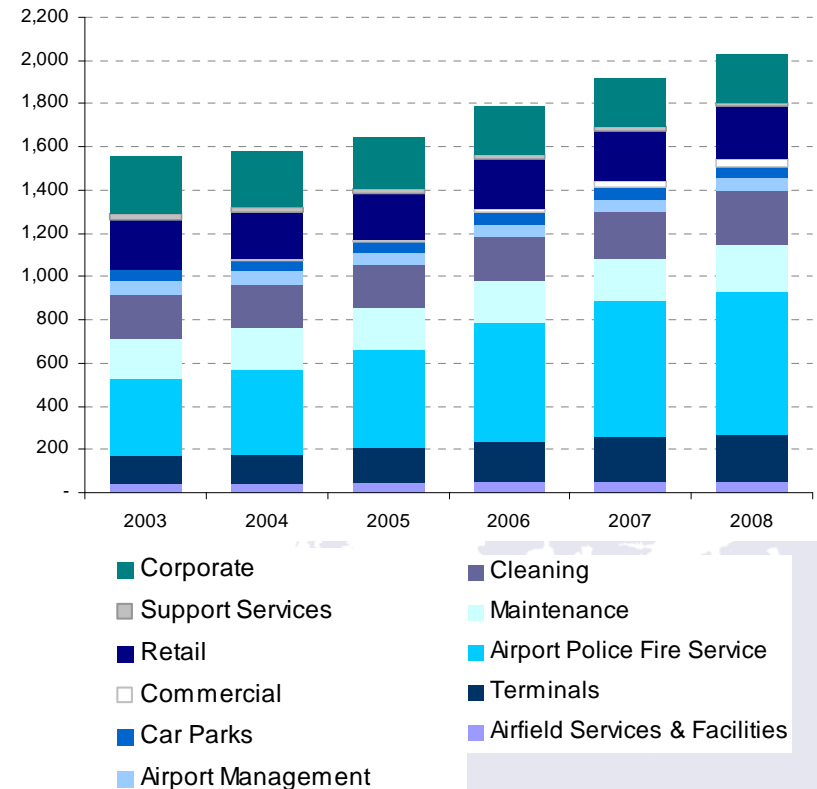


Source: DAA

# Increase in Staff numbers 2004 – 2008

- There are several areas accounting for the increase in staff numbers over this period
- A significant increase in security numbers:
  - Although a complete breakdown has not been provided an increase of around 200 occurred between 2004 and 2008. This arose as a result of the increase in need for manpower arising from the banning of liquids in hand luggage from 2006, together with other increases in security standards
- Cleaning staff increased by around 53 between 2004 and 2008
  - In discussion with DAA, it appears that this increase arose as a result of passenger congestion leading to need to change the scheduling of cleaning activities
- Similarly, passenger terminal staff increased by around 82
  - This was as a result of the need to provide additional staff to deal with highly congested conditions in the terminal
- The increase in different areas is set out in the graph

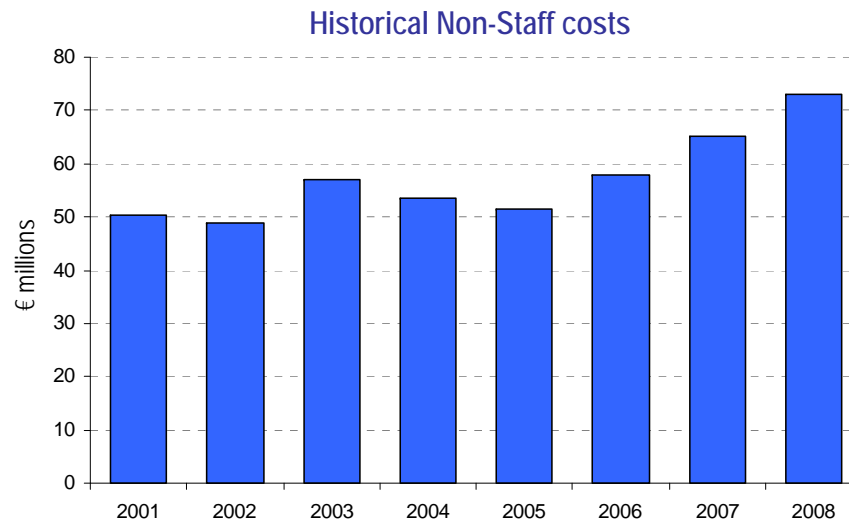
Historical FTEs by Category



Source: DAA

# Historical non staff costs

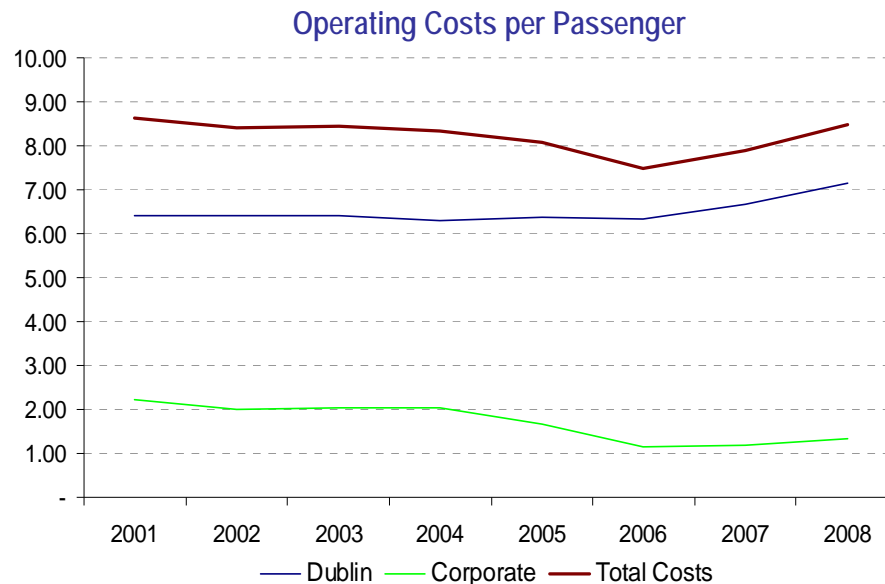
- Over the period 2001 to 2008, non staff costs increased from €50.4m to €73.0m, or a decrease from €3.52 per passenger to €3.11 per passenger
- It might have been expected that these cost areas would be relatively static in the context of increased passenger numbers as non staff costs are related to facilities rather than throughput (but it should be noted that the DAA's costs in the recent past should be seen in the context of the larger Irish economy which included rapid wage and cost rises)
- Cost increases have arisen in:
  - Cost areas where the scope for management control is comparatively limited (energy, rates, insurance)
  - Some areas such as professional fees which may well be related to the planning of Terminal 2



Source: DAA

# Historical costs (cont.)

- It should be noted that although operating costs per passenger appear to have decreased gradually over the period 2001 to 2006, it should be noted that the analysis in the previous slides is looking at total operating costs, including both Dublin Airport and corporate costs
- When we look at the Dublin Airport costs in isolation (see chart below), operating costs appear to have been kept largely flat
- Instead, the improvement appears to have been driven by the fall in operating cost per passenger at the corporate level
  - It should be noted that the fall in operating costs per passenger at the corporate level was less likely to have been driven by operational efficiency but instead could be the result of restructuring following the passage of the State Airports Act in 2004



# Summary of historical results

- It is not clear that Dublin has performed as well as might be expected over the period in terms of operating cost efficiency
- Per passenger costs have fallen slightly over the period
- However, a larger fall would have been expected given the relatively low level of capacity addition at the Airport
- In any event, the fall in per passenger costs appears to have been at the corporate level rather than at the Dublin Airport level
- Limited infrastructure investments over the period has had two opposite effects:
  - Firstly from 2001 to 2005 it enabled operating expenditure to be held relatively constant as there was not a need to increase costs in proportion to additional space provided (cleaning, maintenance etc)
  - Over the period from 2005 to 2008 several areas of costs increased as a result of severe congestion in the terminal, as well as the need for enhanced security procedures

# Summary of Draft Emerging Bottom-Up OPEX Projections

# Methodology of Draft Emerging Bottom-Up Opex Projections

- Our overall approach has been to consider the efficiency of each area of the cost base of Dublin Airport, taking the base year as 2008
- We have used a mixture of assessment methodologies depending on the type of costs concerned
- Where appropriate we have combined staff and non staff costs for functional areas such as maintenance where there is a mixture of outsourced and in-sourced provision
- Where we feel it is appropriate based on our analysis we have proposed an adjustment to the base year cost level, expressed as a range

# Breakdown of 2008 cost areas

- For the purpose of this discussion, we have grouped the 2008 cost areas into the following categories (all categories originate from the DAA Financial Projections document):

2008 Costs	FTEs	Staff Costs (€m)	Non Staff Costs (€m)
Airport police fire service	668	36.6	
Retail (DAA & Corporate)	254	16.5	
Maintenance, Cleaning, Terminals	677	35.7	13.7
Airport management & Head Office	310	29.3	
Exogenous Costs (rent, rates, insurance and energy)	-	-	21.9
Other	116	8.1	36.6
<b>Total</b>	<b>2,025</b>	<b>126.4</b>	<b>72.2</b>



# Bridge between 2008 and 2009

DAA Forecasts (including Corporate costs)	2008	% Change	2009
FTEs	2,025	*	*
Staff Costs (€m)	126.4	*	*
Non Staff Costs (€m)	73.0	*	*
<b>Total Costs (excluding one-offs) (€m)</b>	<b>199.3</b>	*	*
* Redacted for confidentiality purposes			

- The attached table provides a bridge between the outturn costs for 2008 and those projected for 2009
- Total Costs in 2009 are forecast by DAA to increase from 2008 levels
- This is despite the fact that passengers are expected to decline by 10.5% in the same period
- The main area of change is in staff costs

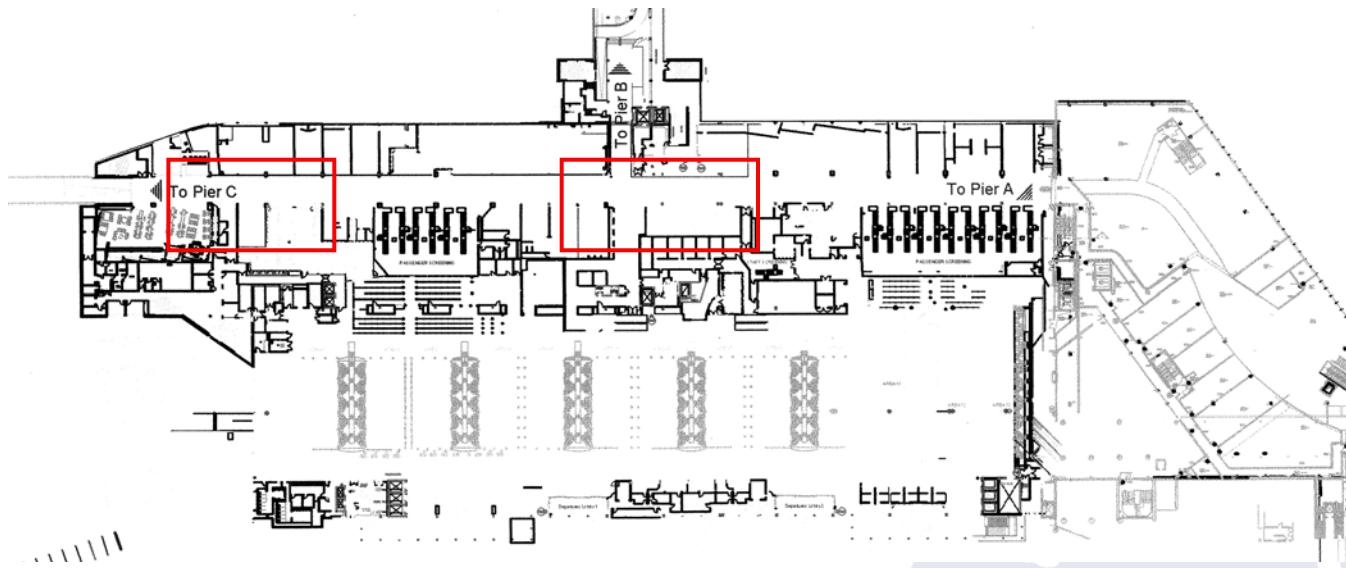
# Airport Police and Fire service

- The table below breaks down and comments on each of the components of this category which in 2008 accounted for 33% of total FTEs
- Security is discussed on the following page:

	FTEs	Comments
Fire service	*	Usually limited scope for rationalisation and determined by runway system. Comparator Airport 1 has 82 FTEs, Comparator Airport 2 has 70 FTES. The current level of staffing in this area is considered reasonable
Police	*	For Dublin the airport police force performs both perimeter security and other functions. Believed to be reasonable
Security	*	Given that perimeter security is provided by the police, the function of the 'Security' department is passenger security only. This staffing covers ASU's (security officers) together with supervisory staff. The staffing level is discussed on the following page
TOTAL	668	
* Data redacted for confidentiality reasons		

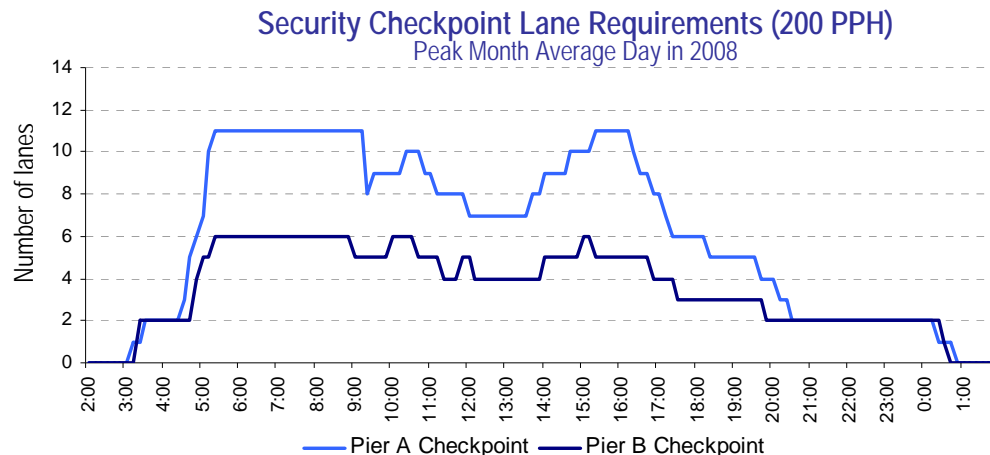
# Security

- Passenger security is operated by DAA staff
- Terminal 1 has two areas for security processing, consisting of 6 and 3 walk through metal detectors (WTMD) respectively
- DAA assess the planning capacity of the security processing areas at 510 per WTMD. In discussion with DAA management, it was stated that an average capacity was closer to 400 per WTMD



# Security (cont.)

- In order to assess the efficiency of this level of staffing, we have simulated the pattern of lane openings required to serve departing passenger demand at varying throughputs per single lane. At 200 per single lane (e.g., x-ray unit) per hour (e.g. 400 per WTMD) and using 2008 average schedules the pattern of lane openings is set out in the chart below
- Assuming a 39hr working week, the analysis suggested that the annual base FTE requirement was 300
- Multipliers must then be used to take into account holidays, sickness and training
  - Our analysis suggests that a multiplier of 1.6x would be appropriate
  - However, to reach the Dublin FTE figure for 2008 requires the use of a lower multiplier
  - We consider this figure to be on the low side. This suggests that the manning is quite tight and may bring into question the ability of the airport to be able to maintain its current service standards with this level of staff



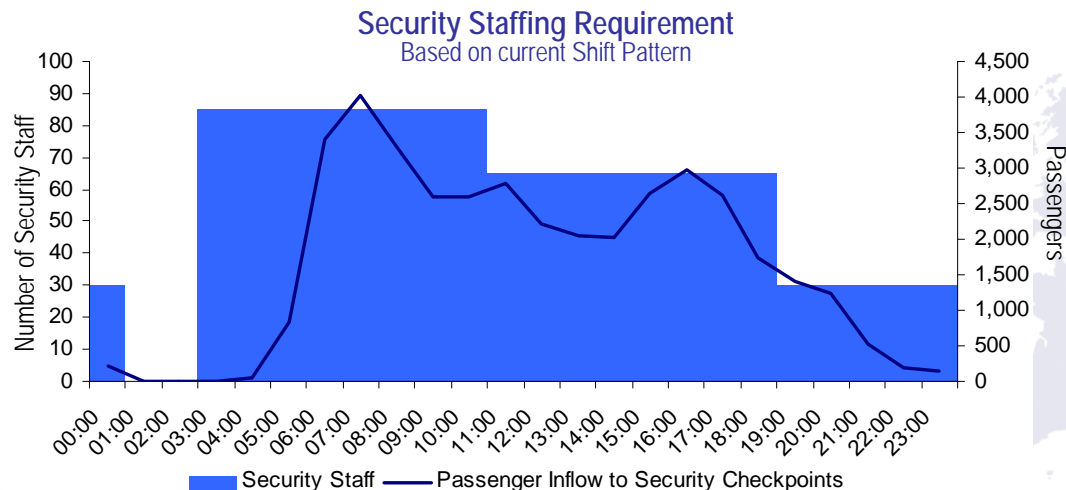
Multiplier	ASU FTEs*
*	*
1.6	*

\* Figures have been redacted for confidentiality purposes

- This analysis is indicative only and does not take into account for example the exact detail of the Dublin shift patterns
- However, it indicatively confirms that the total Dublin staffing in 2008 is not unreasonable

# Security (cont.)

- We have carried out sensitivities on this analysis:
  - The impact of a centralised checkpoint was observed: Keeping everything else equal (e.g. service standards), centralising the two checkpoints does not appear to yield any significant benefits. This combined with the shift pattern of 6, 8 and 8 hour shifts, the total scheduled staff hours for the day does not change. However, some optimisation could be achieved in supervising staff numbers
  - We also understand from discussions with DAA management that such a centralisation within Terminal 1 would be costly from a capex perspective and, given the layout of the terminal, difficult to implement
  - We also observed the impact of relaxing the existing rostering assumptions. Efficiencies could be achieved if more flexible shift patterns were introduced, for example a combination of 8, 6, 4 and 2 hour shifts, able to commence every half-hour. However, from discussions with DAA management we were advised that in their opinion such a change to shift patterns would not be acceptable from a union perspective
- Our overall conclusion from our operational simulation is that the current manning of security is broadly reasonable



# Security (cont.)

- An alternative approach to assessing the appropriateness of the staffing level is to benchmark against other airports. The table illustrates Dublin's security staffing per million passengers vs. other airports
- In general terms, security staffing efficiency tended to decline after 2006 when increased security standards were implemented (ban on liquids in hand luggage)
- In this context, Dublin's staffing efficiency for security is reasonable

Comparator	Staff per Million Passengers	Year of Observation
Dublin	*	2008
Airport 1**	31	2008
Airport 2	22	2006
Airport 3	18	2006
Airport 4	48	2006

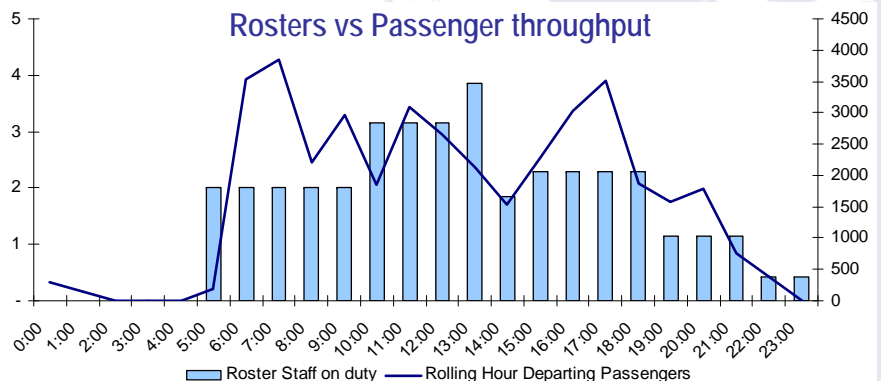
\* Dublin 2008 numbers have been redacted confidentiality purposes

\*\* Names allocated to each of the comparator airports remain consistent throughout the presentation. Please note that as data on all areas is not always available for each of the comparator airports, only airports for which we have the relevant data have been used in each section

- Our conclusion, is that on both bases, Dublin's security staffing appears reasonable. This is partly due to the constraints of the infrastructure provision
- Further reductions in staffing would be permissible if:
  - The service standard was relaxed
  - The staffing requirement per WTMD was relaxed
  - Further flexibility was obtained by DAA in rostering patterns
- **On the basis of the current operational and regulatory conditions, we would propose adopting the Dublin staffing per passenger assumption for our optimised base year – we therefore expect the number of security FTEs 2009 to fall at the same rate as passengers**

# Retail

- Most airports outsource retail activities to a concessionaire who runs the retail operation and provides the airport with a margin sales
- DAA insources the retail operation. The primary reason for this is that DAA (Aer Rianta) is a longstanding concessionaire in overseas markets. On this basis it is able to share favourable procurement margins and expertise beyond its Dublin business
- The insourced retail operation operates duty free shops in the Airport together with the stores, accounting and other backup. Non duty free shops are provided by concessionaires
- DAA employs 241 FTEs in the retail operation, together with 13 corporate staff
  - As discussed there are few analogous airports to compare this level of staffing. However at Airport 3, an insourced retail operation employs 182 FTEs. At Airport 3, total passengers are 33mppa against 23mppa at Dublin. Airport 3's retail operation earns a turnover of €83m against €110m at Dublin. On a sales/employee basis the two airports are in line. However, Airport 3 has lower duty rate, and a higher proportion of domestic traffic so it could be expected that Dublin should be performing some 5 – 10% better
- On this (limited) basis it appears that the DAA retail operation may have higher manpower levels than necessary
  - One reason for relative higher-manning could be the relative inflexibility of roster patterns to passenger throughput (illustrated in the table below)
- **Our view is that a reduction of between 5% and 10% of staff should be possible whilst retaining turnover, to bring sales revenue/staff in line with an expected level based on an analogous operation. Our optimised base case is based on staffing of between 214 and 226 FTEs**



# Maintenance

- As with most airports, maintenance at Dublin is carried out by a mixture of in-house employees and outsourced contracts. At Dublin, maintenance is contracted out for activities such as painting, and equipment maintenance
- The table below contrasts the maintenance costs (insourced and outsourced) for Dublin and two comparable airports
- In this analysis, Dublin pay rates have been used for the other airports to normalise for pay differentials
- Dublin spends a low amount per passenger. This is probably mostly a reflection of the congested nature of the Terminal 1 infrastructure (e.g. less infrastructure to maintain per passenger). However, congestion has a downside in that maintenance activities become more difficult (and expensive to schedule)
  - We also believe that the downturn in the commercial sector will likely put downward pressure on outsourced/maintenance contracts
- An alternative measure (although again potentially distorted by differential policies) is maintenance as a percentage of fixed assets. On this basis Dublin's maintenance costs would appear reasonable

	Dublin	Airport 1	Airport 4
FTEs	*	212	138
Staff Costs (based on Dublin rate) (€m)	*	12.7	8.3
Outsourced costs (€m)	*	23.1	47.1
<b>Total normalised costs (€m)</b>	*	<b>35.8</b>	<b>55.4</b>
Cost per passenger (€)	*	1.01	2.99
As a % of fixed assets	*	2.1%	3.6%

\* Dublin numbers have been redacted for confidentiality reasons



# Maintenance (cont.)

- We have conducted a brief review of the maintenance contracts (largest by value)
- The maintenance contracts we have examined tend to be on the basis of fixed price schedules and with 3/5/7 year terms. In the course of discussions with DAA, it was stated that changes in contractors through competition (e.g. an existing maintenance contractor being replaced by a new one through a tender process) had occurred in the recent past. Management stated that the scope for this was however limited by the comparatively limited pool of appropriately qualified contractors in the Dublin area
- However based on our review of the maintenance contracts, we believe there is scope for both more competitive processes and the redrawing of maintenance contracts to move towards arrangements where contractors are incentivised to find more effective ways of carrying out contractual tasks
- **On this basis, we have assumed that costs can be optimised through a reduction in costs of between 5% and 10% of total outsourced maintenance costs. This reduction takes into account our previous experience in involvement in renegotiation of maintenance contracts**

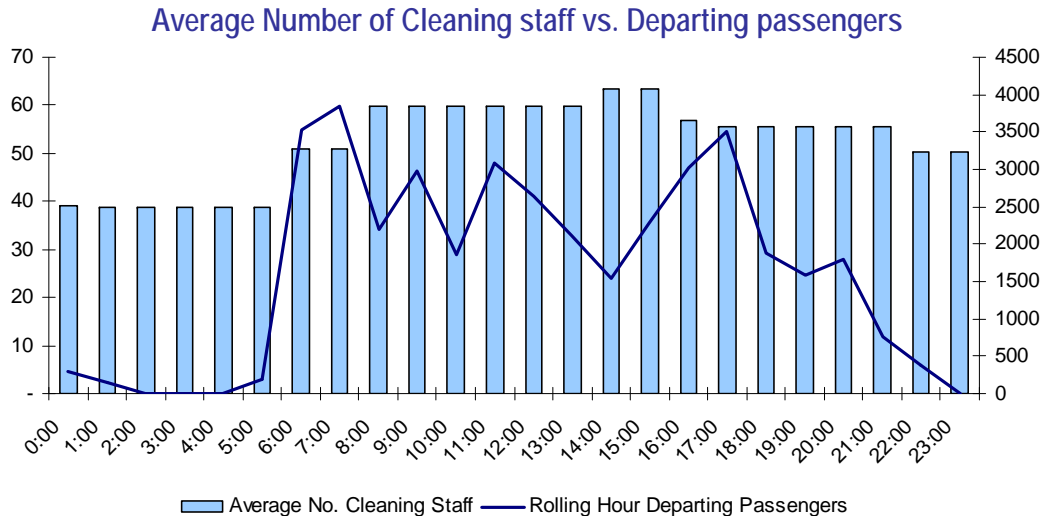
# Cleaning

- DAA carries out cleaning at Dublin Airport mainly using in-house staff
- The mezzanine (food court) area is cleaned by an outsourced company
- Comparison of cleaning costs at Dublin versus comparator airports indicate that Dublin's costs in this area appear very high. This is particular evident when one compares costs on a per square metre basis
- There appear to be several reasons for this level of cleaning costs (in Dublin):
  - Service standards suitable for different areas of the airport property (or indeed service standards at all) are not defined
  - The roster pattern for cleaning includes a high degree of overnight working (see chart on next slide). This will increase costs. Clearly, the high degree of congestion will constrain working hours to some extent. Once terminal 2 is open, the changed passenger profile of Terminal 1 is likely to facilitate rostering of more cleaning during daytime, which may benefit costs
  - The costs of insourced resources are much higher than outsourced ones. This is evident from the comparative costs of the outsourced contract

Comparator Airport	Total Costs €m	Costs/pax €	Costs/Sq metre
Dublin*	*	*	*
Airport 1	7.0	0.23	28.6
Airport 3	14.5	0.45	52.9

\* Dublin figures have been redacted for confidentiality purposes. Our analysis is based on a published floorspace for Dublin airport of 105,000 sqm. Our own calculations of the floorspace on the basis of plans indicate a lower area. If the lower floorspace figure were used, comparative unit cleaning costs at Dublin Airport would be higher

# Cleaning (cont.)



- We believe there is significant scope to reduce cleaning costs through:
  - Improved rostering
  - Better definition of cleaning service standards, differentiated by area
- On an optimised basis we would propose a reduction of between 25 and 50 FTEs in order to achieve a significant move (10 – 20% of the way) towards best practice. In the financial model, we show this as a reduction in FTEs. In practice though, to some extent this saving may be obtained through increasing the proportion of space either cleaned by an outsourced provider, or by concessionaires or other agencies

# Terminals

- Terminal staff include several functions that are not usually carried out by airport managements. Trolley services and Executive lounges are usually outsourced or carried out by third parties such as ground handlers
- The analysis below compares manning in the areas where comparison is possible with other airports
- On this basis, it appears that manning is high in the areas for which direct comparisons are possible
- In discussions with DAA, one explanation that was provided was that the higher number was the result of passenger congestion, with queue management likely to impose higher costs
- Whilst partially accepting this argument we believe that a relatively limited cut in staff of between 10 and 15 FTEs in the Information Centre could form the basis of an optimised staffing level, bringing the staffing of these areas overall into line with benchmarks**

	Dublin Airport	Comparator Airport 1	Comparator Airport 2
Duty landside	*		
Protocol	*		
Info centre	*		
Terminal service office	*		
Customer service	*		
Landside service	*		
<b>Sub total</b>	*	105	85
Trolley services	*		
Executive lounges	*		
<b>Total</b>	*	105	85
* Figures for Dublin Airport have been redacted for confidentiality reasons			

# Commercial

- The commercial department at DAA is responsible for property management, development and strategy
- Our assessment indicates that current manning levels are high in this area
- As a comparison:
  - Airport 4 has a department of 10 FTEs covering these areas
  - Airport 2 has 32 FTEs but the department also covers airline marketing
- We believe that reductions of between 5 and 12 FTEs would be achievable for this department (e.g. to bring Dublin closer in line with comparator airport 2)

# Airport management and Head Office

- Dublin Airport has a management and support function covering areas such as management, environment, IT&T, health and safety and local finance
- Head Office provides corporate services, HR, strategy and regulation communications and business support
- In some cases Head Office provides both a 'local' and 'corporate' function – for example HR where there is no Dublin Airport Management function
- In the information we have been provided with, 100% of the corporate function is included in the cost base for review. In the regulatory accounts and other presentations a lower proportion is included (approx. 90%)
- We believe the total staff complement in 'management' may offer scope to achieve some efficiencies
- The table overleaf sets out a comparison between Airport 2's corporate management staff complement and Dublin's (both local management and Head Office). The analysis below compares manning in the areas where comparison is possible
  - We accept that these levels may be impacted by the current development of Terminal 2

# Airport management and Head Office (cont.)

Airport 2		DAA - Head Office		Dublin Airport Management	
<b>Planning</b>					
Capital project managers	1	Director Infrastructure Development	*	Airport development	*
Engineering Admin./Capital Projects	7			Environment	*
Operational Planning	2			Operations planning	*
Planning & Environment	9			Contingency planning	*
Total	19		*		*
<b>External Relations</b>					
External relations	4	Director Corporate Affairs	*	Communications	*
Marketing commercial	7			Marketing	*
Total	11		*		*
<b>Finance</b>					
Administration	6	Group procurement	*	Business data	*
Purchasing/Stores	8	Group contracts	*	It & T	*
IT	10	IT	*	Finance	*
Finance	16	Finance	*		
Internal Audit	2	SSC	*		
		Internal audit	*		
Total	42		*		*
<b>HR</b>					
Personnel/Occupational Health	14	HR	*	Health & Safety	*
Health & Safety	3				
Total	17		*		*
<b>Legal</b>					
Total	3		*		*
<b>Senior Management</b>					
Senior Management	16	Corporate services	*	General Management	*
Chairman	1	Operations	*	Transport Admin	*
Executive Secretaries	3	Strategy and regulation	*		
Total	20		*		*
		Nursery	*		
<b>Total</b>	<b>112</b>		*		*

\* Dublin data redacted from this report for confidentiality reasons

# Airport management and Head Office (cont.)

- Comparisons are difficult because of differences in scope and lack of clarity on exact scope of roles
- However, the comparison does indicate areas where Dublin's corporate activity appears to have high levels of manning, particularly in 'planning' and 'finance'
- There are several reasons for the high staff component:
  - Temporary inflation of staff numbers while the Terminal 2 process is underway. Management stated that the tender process associated with Terminal 2 absorbed a considerable amount of time of staff, including those dedicated to operating the existing business
  - Requirements on DAA to carry out several functions, including the staff nursery that would not normally be part of a Head Office scope (not provided at Airport 2)
  - The high underlying level of non management staff
  - A certain element of overlap between Dublin Airport management and Head Office, partially resulting from a lack of clarity in the separation between the function of each entity
- However, it is not believed that these differences fully explain what appears to be a very significant staff complement
- Reductions can therefore be expected through:
  - The winding down of the Terminal 2 tendering process
  - A reduction of underlying FTEs
  - Restructuring of the Head Office function to be in line with comparable airport Head Office functions
- **Our assessment is that a reduction of between 30 and 70 FTEs could be feasible**
  - With a reduction of 70, the 'airport management and head office' complement would still be nearly twice the complement of Comparator Airport 2 and in our opinion more than adequate
  - We have included a reduction of between 30 and 70 FTEs in our financial projections, but a case could be made that it could be difficult to achieve these levels of staff reduction, and a more limited reduction of 20-60 might be more achievable



# Exogenous Costs – Rent and rates, Insurance, Energy

- Rent and Rates and Insurance are assumed to be exogenous and beyond the control of the DAA
- Energy “prices” are in general exogenous and beyond DAA’s control, but
- Energy “quantity” and efficiency may be within their control
- Energy quantity been rising in Terminal 1
- We have used the DAA’s price forecasts to decompose future energy cost rise projections into prices and quantities

# Energy

- Energy costs are an area of concern as they are showing a massive rise in previous years, but not clearly explained
- The current DAA projections for energy cost appear to assume unfounded price and quantity increase
- It seems that their volume of energy is rising at about 5% per year in the past
- There is no CLEAR breakdown of energy into prices and quantities for future. Assuming price inflation according to information given, yields the following quantity inflation in energy use for Terminal 1

(€000's Nominal)	2009	2010	2011	2012	2013	2014
<b>DAA Forecast</b>						
Energy Costs at Existing facilities	*	*	*	*	*	*
<i>Price - Inflation (on unhedged cost)</i>		*	*	*	*	*
<b>Indecon Forecast</b>						
Energy quantity (Indecon derived from DAA forecast)		5,079	5,958	6,511	6,844	7,190
<i>% rise quantity</i>		13%	17%	9%	5%	5%
quantity rise T1 @ 0%		5,079	5,079	5,079	5,079	5,079
<i>Proposed price rise</i>		4%	4%	4%	4%	4%
Indecon total T1 energy cost forecast	4,495	5,283	5,494	5,714	5,942	6,180
* DAA figures have been redacted for confidentiality purposes						

# Other costs

- The table sets out the remaining cost areas:

DAA 2008 (€m)	FTEs	Staff Costs	Non Staff Costs
Car Parking	*	*	*
Airfield Services	*	*	-
Support Services	*	*	-
Fees and professional services	-	-	*
IT non staff costs	-	-	*
Marketing and promotional	-	-	*
Overheads	-	-	*
Other	-	-	*
Total	*	*	*

\* Dublin data redacted from this report for confidentiality reasons

- Several of these areas (Employee Related Overheads, Telephone Print and Stationery, Other Overheads, Travel & Subsistence, Car Park Overheads) are directly related to the scale of the underlying FTE count. Assuming that these cost areas are proportional with staff, the total costs in these areas would decrease on a 1-for-1 basis with FTE numbers between 2008 and 2009
- Marketing and promotional costs largely consist of joint advertising and marketing activities with airlines to promote new routes. The quantum of this is relatively small. No change is proposed
- Professional fees: the quantum of this line is significant. We understand that a significant contributor to the current level of costs is the current CAR review, together with the Terminal 2 tender process. Both of these work streams should reduce over time
- Given the high degree of insourcing, we would expect the need for external advisors to be relatively low. At Airport 1, working in a highly complex regulatory and planning environment and undergoing a regulatory review, professional fees in 2008 were €2.1 million (which is substantially less than the 2008 level in Dublin Airport)
- We therefore propose a cut to professional fees of between €1m and €2m on 2008 levels, to approach the underlying level of costs at Airport 1**

# Summary of results - 2009

- The following table sets out DAA's budgeted 2009 operating costs and the two Optimised FY 2009 scenarios
- The optimised 2009 forecasts incorporate the following adjustments:
  - First, specific adjustments have been made where we believe inefficiencies exist (see slides above). One case incorporates a conservative level of cuts and the other a more ambitious level of cuts
  - Elasticities to passenger growth have been introduced in areas such as security. (Note DAA's passenger forecast has been used)
  - Finally, elasticities to FTE growth have been introduced, allowing for a fall in costs alongside the optimisation of FTE levels

2009 Costs (€m)	DAA 2009	Optimised 2009 (conservative case)	Optimised 2009 (ambitious case)
FTEs	*	1,857	1,808
Airport police fire service (including security)	*	35.6	35.6
Retail (DAA & Corporate)	*	13.9	13.2
Maintenance	*	24.0	24.0
Cleaning	*	15.0	13.6
Terminals	*	11.7	11.4
Commercial	*	3.1	2.4
Airport management & Head Office	*	21.8	21.8
Exogenous Costs (rent, rates, insurance and energy)	*	22.1	22.1
Other	*	42.9	41.8
<b>Total</b>	*	<b>190.2</b>	<b>185.9</b>

\* Dublin data redacted from this report for confidentiality reasons

- Overall we estimate optimised costs to be between 9.2% and 11.3% lower than DAA's 2009 budget. The principle areas of savings are achieved in the area of security, corporate, commercial, retail and cleaning staff costs
- Of this fall, approx. 5.8% of the savings achieved in the conservative case and 7.8% in the more ambitious case are driven by specific cuts to target existing inefficiencies, 1.7% in both cases is driven by the fall in passengers and the remaining 1.7% - 1.8% is driven by the resulting fall in FTEs (e.g in areas such as employee related overheads)

# 2010–14, Comparison with DAA estimates

- We have used a three step approach in order to project costs forward from 2009. Our approach is mindful of the limitations of making immediate changes to staff and non staff costs in the context of an environment in which labour flexibility is highly constrained

## 1. DAA Forecasts

In order to make a comparison between our estimates and DAA's cost projections, it is necessary to first adjust the forecasts provided by DAA to omit Terminal 2. To achieve this, the following approach was taken:

1. Take DAA total forecasts (including both Terminal 1 and 2) and use DAA's inflation forecast to convert from nominal to real
2. Terminal 2 costs where identifiable were subtracted
3. Further adjustments made to FTE or cost lines where efficiencies in the underlying base were dependent on the existence of Terminal 2. This included adjustments to:
  - Terminal, Airport Police Fire Service and Cleaning staff
  - CAR costs (had been split between the two terminals)

## 2. Jacobs Optimised Forecasts

The optimised 2009 FTE and non staff cost scenarios outlined on slide 36 were then projected forwards to 2014 using selected elasticities and cost drivers. These are detailed on the following slide

- NB: It should be noted that for the purposes of this analysis we have simplified the wages assumptions in the forecast. Two wage brackets are assumed based on average 2008 wages and these are then forecast forwards at a 3% real wage annual increase
- The overall 3% real wage increase broadly equates to what is used in the DAA cost projection. We would note that this assumption may be considered to be a high estimate and that the projection would be materially lower with, say, a 1% real increase assumption

# 2010–14, Drivers assumed in the Jacobs Forecast

- The table sets out the drivers we have used in our projections. The drivers are based on our experience of operating cost trends at other airports

Cost category	Driver
<b>Passenger Driven</b>	
Security Staff	100% elasticity to passenger growth
Terminal Staff	60% elasticity to passenger growth
Retail Staff	30% elasticity to passenger growth
Aviation customer support	95% elasticity to passenger growth
<b>Capacity Driven</b>	
Cleaning	No capacity increases assumed from 2009
Maintenance	"
Car Park	"
Commercial	"
<b>Driven by staff numbers</b>	
Overheads	100% elasticity to growth in Total FTEs
Car Park Direct Overheads	100% elasticity to growth in Car Park FTEs

# 2010–14, Phasing of Optimisation

## 3. Phasing in the difference

Rather than implementing all the savings identified in slide 36 in 2009, these changes could be phased in over a six year period. Under this approach, we still reach the same 2014 values as presented under the two optimised cases described on the previous slide, but the path to this optimised point is more gradual

The following approach was used to phase the costs:

- 2014 costs under the DAA forecast and Optimised forecasts (as described on slide 37) were compared and the difference noted
  - The difference in FTEs and non staff costs was then phased in equal stages over the six year period (2009-2014) and deducted from the DAA forecast
- This phasing results in an average annual reduction in staff numbers of between 1.1% and 0.7%. This is believed to be within the range of natural attrition rates at the airport and therefore is a level of reduction that minimises the need for staff redundancy. Similarly where it is suggested that contractual arrangements should be altered, the phasing allows for the fact that some contracts are for multi year periods

# Comparison with DAA estimates 2010–14 (cont.)

Cumulative difference to DAA (€m real)	2009	2010	2011	2012	2013	2014
Passengers (millions) (DAA projection)	21.0	21.0	21.1	21.6	22.2	23.1
<b>DAA Forecast (excl. T2)</b>						
FTE	*	*	*	*	*	*
Staff Costs	*	*	*	*	*	*
Non Staff Costs	*	*	*	*	*	*
<b>Total Costs</b>	*	*	*	*	*	*
<b>Indecon/Jacobs Optimised Case (Conservative)</b>						
FTEs	(14)	(28)	(42)	(56)	(69)	(83)
Staff Costs (€m)	(1.3)	(5.0)	(7.5)	(10.6)	(13.7)	(17.4)
Non Staff Costs (€m)	(1.1)	(2.2)	(3.3)	(4.4)	(5.5)	(6.6)
<b>Total Costs (€m)</b>	<b>(2.4)</b>	<b>(7.2)</b>	<b>(10.8)</b>	<b>(15.0)</b>	<b>(19.2)</b>	<b>(24.0)</b>
<b>Indecon/Jacobs Optimised Case (Ambitious)</b>						
FTEs	(22)	(44)	(67)	(89)	(111)	(133)
Staff Costs (€m)	(1.8)	(6.1)	(9.2)	(12.9)	(16.7)	(21.0)
Non Staff Costs (€m)	(1.3)	(2.6)	(3.9)	(5.2)	(6.5)	(7.8)
<b>Total Costs (€m)</b>	<b>(3.1)</b>	<b>(8.7)</b>	<b>(13.1)</b>	<b>(18.1)</b>	<b>(23.2)</b>	<b>(28.8)</b>
* Projections redacted for confidentiality reasons						



# Issues and Rationale re Draft Projections



# Issues and Rationale re Draft Projections

- The slides above summarise the methodology used to arrive at the optimised 2009 cost base and the cost projection
- The methodology takes the form of a line by line review of each cost item. An optimised level of costs has been proposed on the basis of analysis by Jacobs, information provided by DAA and experience from comparable airports
- The phasing of the cost optimisation has taken into account current labour inflexibilities at DAA, and has sought to approximate to natural staff attrition rates (and the multi year nature of some contracts)
- The optimisation and projections have been expressed as a range
- Further outsourcing would potentially lead to further reductions in areas such as cleaning, maintenance and retail
- There are several issues associated with the projections:
  - The cost savings have been postulated on the basis of the information we have received and the analysis we have conducted. We have not within the context of the project conducted a detailed operational audit of the airport
  - As set out in the terms of reference, the cost projections are set out on the basis of Terminal 1 only. Terminal 2 potential costs and synergies with Terminal 2 operations are disregarded
  - Based on comments by DAA management and historic data on attrition rates, we assume that the phasing of the cost efficiencies do not trigger redundancy payments. However, this assumption may not be valid based on existing and future labour agreements at DAA. It should also be noted the risk that natural attrition may not always occur in the same areas cuts are required
  - The projections assume the current mixture of outsourced and insourced activities

# Comparison with Top Down Benchmarking



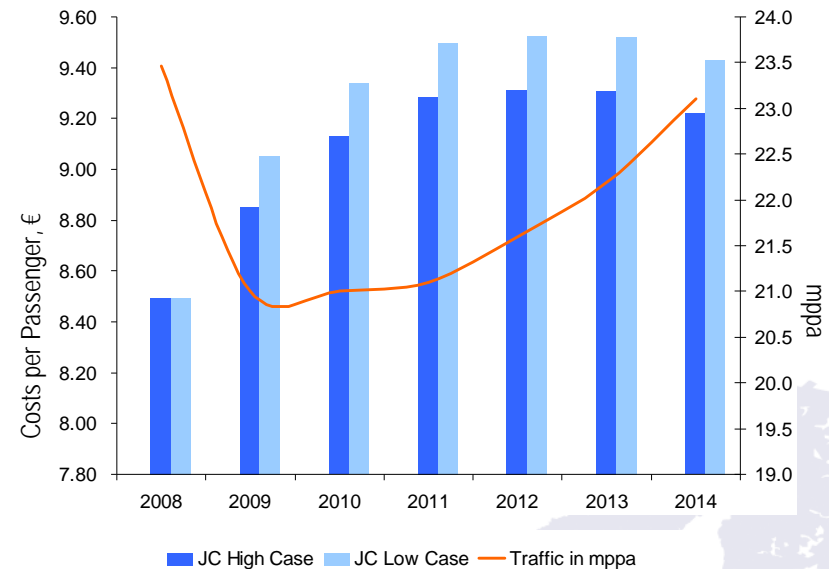
# Top Down Benchmarking – Scenario Comparison

- Top down benchmarking against a group of peer European airports has been carried out in order to provide a cross-check of the results of the detailed bottom-up work already described
- The analysis includes three different scenarios:
  - The historic results for 2008 and the regulator’s expectations for the review period
  - “Conservative Optimised Case”
  - “Ambitious Optimised Case”
- Traffic is constant for all scenarios
- Number of employees and operating costs differ between scenarios after 2008
- As discussed in the previous sections, both optimised cases assume significant changes to the Airport’s organisation
- The optimisation plans do not change the Airport’s operating capacity but facilitate increased operating efficiency
- The results of both optimised 2009 scenarios have been compared to the Airport’s actual performance in 2008 and several peer airports
- The following terminology has been used in figures and tables:
  - “DUB2009 Amb” refers to the more ambitious optimised 2009 scenario
  - “DUB2009 Cons” refers to the more conservative optimised 2009 scenario
  - “DUB2008” refers to the reported results of Dublin Airport in 2008

# Scenario Comparison – Total Cost per Passenger and Traffic Volume

- Same traffic scenario for all three cases
  - Traffic recovery by 2014
- All three scenarios indicate compound annual growth rates of more than 1%
  - DAA's forecast implies cost increases above inflation
  - The two scenarios assume a higher operating efficiency than the DAA case
- The compound annual growth rate of the "Conservative Optimised Case" is 0.4% lower than for the "Ambitious Optimised Case"
  - This equates to a difference of €0.21 per passenger in total costs in 2014 between the two cases

Total Costs per Pax Scenarios and Traffic at DUB  
(Indecon/Jacobs data)



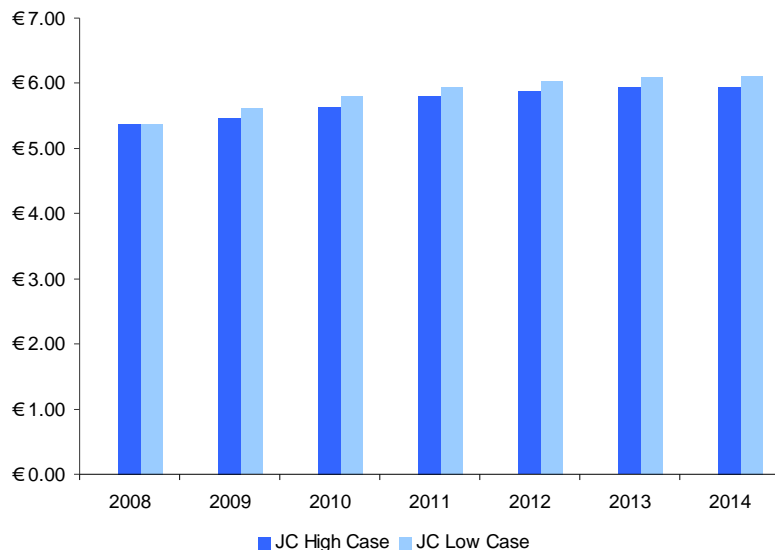
Costs per passenger (€real)	2008	2009	2010	2011	2012	2013	2014	CAGR 2008-14
DAA Case	8.49	*	*	*	*	*	*	*
"Ambitious Optimised Case"	8.49	8.85	9.13	9.29	9.31	9.31	9.22	1.4%
"Conservative Optimised Case"	8.49	9.06	9.34	9.50	9.52	9.52	9.43	1.8%
Traffic (mppa) (DAA projection)	23.5	21.0	21.0	21.1	21.6	22.2	23.1	(0.3%)

\* Projections redacted for confidentiality purposes

# Scenario Comparison – Staff and Non-Staff Costs per Pax

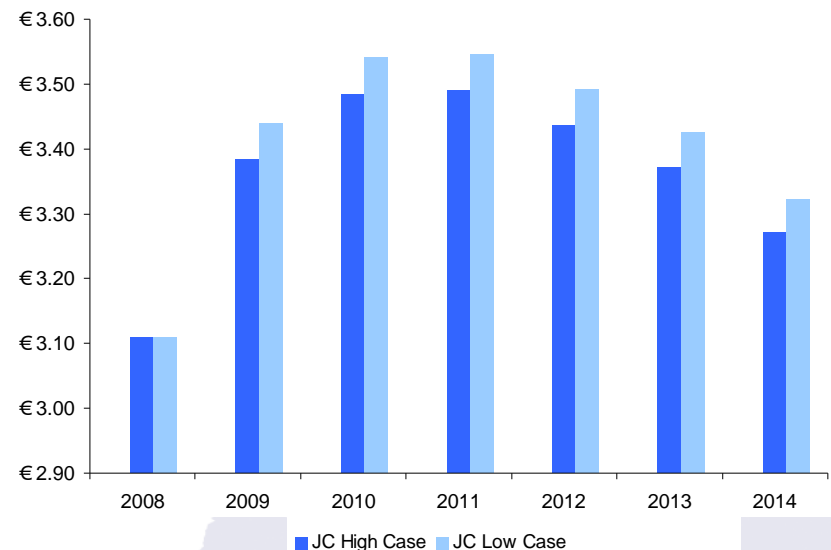
- Staff costs account for approximately two thirds of total operating costs in all three scenarios
- The staff costs CAGR is above that for total costs, indicating that staff costs are growing more quickly than non-staff costs

Staff Costs per Pax Scenarios and Traffic at DUB  
(Indecon/Jacobs Data\*)



\* Dublin numbers have been removed for confidentiality purposes

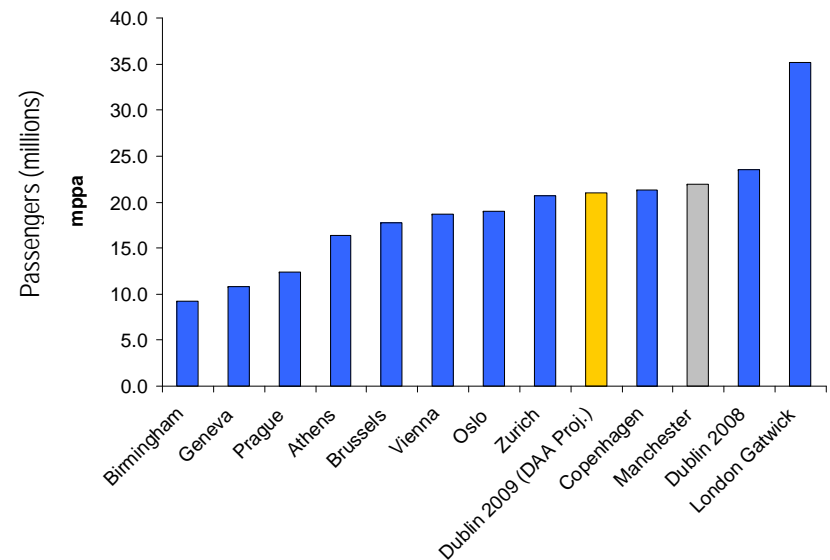
Non-Staff Costs per Pax Scenarios and Traffic at DUB  
(Indecon/Jacobs Data\*)



# Comparison with other Airports – Methodology

- Airport performance benchmarking needs to be based on a comparison of results taking account of core airport activities only (runway operations and terminal operations) to ensure like with like comparisons
- Non-core activities include ground handling, operation (including staffing) of car parks, own retail facilities, hotels, air traffic control operations
- For this comparison,
  - We excluded car parking, retail and cleaning activities
  - Cleaning staff costs were not subtracted but rather reallocated to non-staff costs, to represent outsourcing as practised at benchmark airports
- Dublin has been benchmarked against European peer airports with comparable passenger numbers
- The traffic at Dublin Airport is forecast to decline to 21mppa in 2009

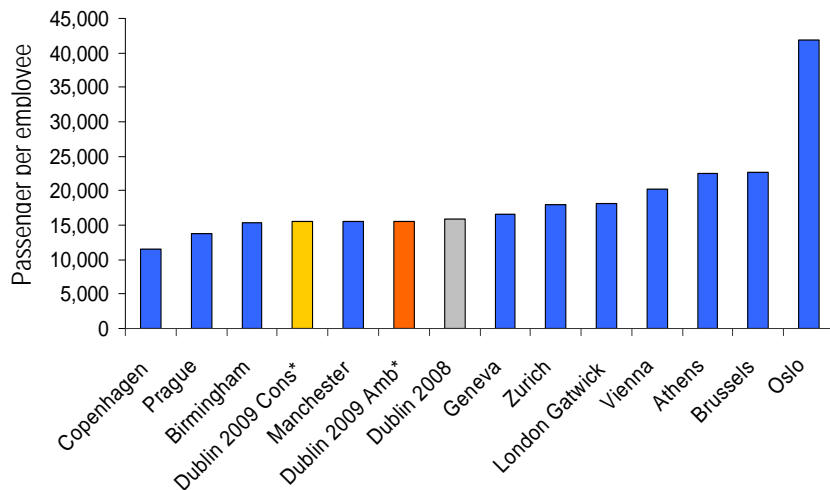
Total Passengers in millions at Sample Airport  
(Indecon/Jacobs Data\*)



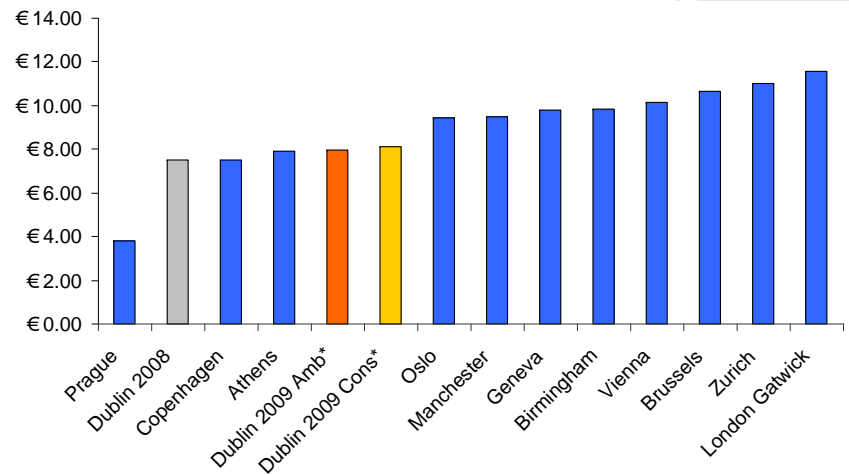
# Comparison with other Airports – Pax/Employee and Total Operating Costs/Pax

- In 2008 Dublin Airport was positioned in the mid to low end in a sample of European peer airports for passengers per employee and operating costs per passenger
- 2009 projections from DAA would push Dublin Airport further down the league table, increasing operating costs per passenger and reducing employee efficiency
- Both of the optimised scenarios presented in the previous section aim to improve Dublin's forecast performance in 2009 relative to its peers, bringing the Airport back towards its 2008 position

**Pax per Employee**  
(Indecon/Jacobs Data\*)



**Total Operating Costs per Pax**  
(Indecon/Jacobs Data\*)



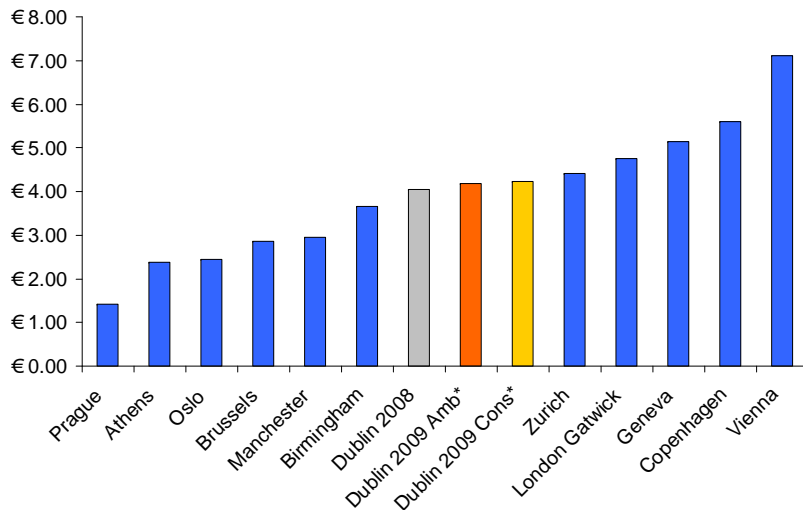
\* DAA Dublin 2009 forecast has been removed for confidentiality purposes



# Comparison with other Airports – Staff and Non-Staff Costs per Pax

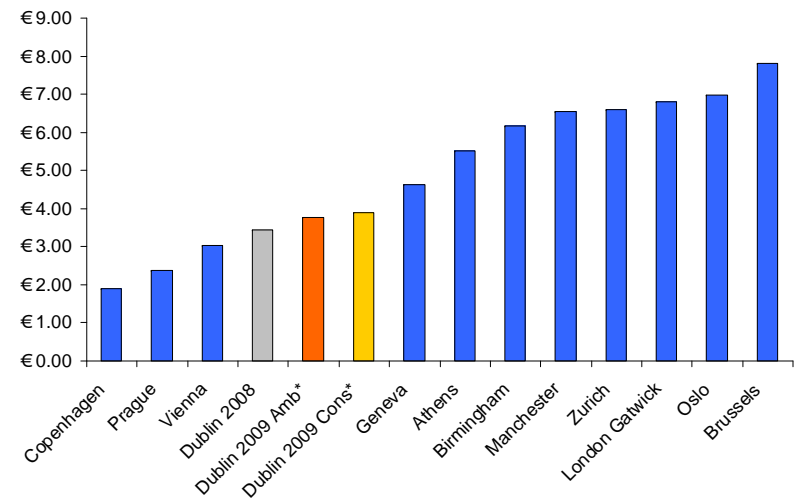
- In 2008, Dublin Airport was placed in the middle of the same sample of European Airports for levels of staff costs per and towards the low end for non-staff costs per passenger
- DAA's 2009 forecasts would worsen Dublin Airport's position relative to its peers\*
- As shown in the charts below, the two optimised scenarios for 2009 operating costs intend to restore Dublin Airport back towards its 2008 position

**Staff Costs per Pax**  
(Indecon/Jacobs Data\*)



\* DAA Dublin 2009 forecast has been removed for confidentiality purposes

**Non-Staff Costs per Pax**  
(Indecon/Jacobs Data\*)



\* DAA Dublin 2009 forecast has been removed for confidentiality purposes

# Summary of top-down benchmarking results

- The top-down benchmarking analysis indicates that in 2008:
  - Passengers per employee at Dublin Airport were below average in the benchmark sample of airports
  - Correspondingly, staff costs per passenger were above average
  - Non-staff costs were below average in the sample
  - Total operating costs were also below average
- Our bottom-up analysis identifies a number of areas (retail, cleaning, terminals, commercial, Head Office) where we believe that staff numbers and, correspondingly, staff costs could be reduced
- Conversely, our bottom-up analysis identifies only outsourced maintenance and professional fees as areas where non-staff cost reductions could be achieved
- The two approaches are therefore broadly consistent in suggesting that staff levels and costs could be reduced, but that the scope for non-staff cost reductions is relatively limited

# Overall Preliminary Conclusions for Draft Determination



# Overall Preliminary Conclusions for Draft Determination

- Historical costs showed rapid rise in opex as passengers also grew rapidly
  - In part evidence of inefficiency due to lack of investment and congestion
- Dublin Airport could achieve modest efficiency improvements
- By achieving optimised cost levels, levels at Dublin Airport/Terminal 1 could be improved by about 9 -11.3% from DAA's current 2009 forecast
  - Savings can be achieved through the targeting of specific areas of inefficiency and allowing greater flexibility to changes in passenger numbers
  - The principle savings could be achieved in the areas of security, corporate, commercial, retail and cleaning staff costs
- Overall for forecast 2010-2014 we estimate between 10-12% savings could be achieved relative to the DAA forecast
  - But some of these savings would require flexibility from the labour unions
- Top-Down benchmarking in general confirms these conclusions
  - Dublin Airport is above average in staff costs and slightly below average in non staff costs